Preemergence Weed Control

Before Weeds Emerge

-- more importantly --

Before Weeds Germinate
Preemergence weed control options

- **Mulches** prevent germination and establishment by excluding light
- **Preemergence Herbicides** prevent seedling establishment
Mulches: #1 defense against annual weeds

Bare ground

Mulched
Mulches

- Control many annual weeds from seed
- Do not control perennial weeds from roots, tubers or rhizomes
- Must be replenished yearly

Horsenettle: a perennial weed not controlled by mulches

Pigweed: an annual weed controlled by mulches
Mulches

Types: organic, inorganic, geotextile

Function: exclude light to prevent seed germination and seedling establishment

Also, holds moisture and improves aesthetics
Kinds of mulches
What makes a good Mulch?

- Coarse texture to dry out
- Aesthetically pleasing
- Will not wash
- Relatively weed free
- Not phytotoxic

Lava rock – some like it, some don’t

Bark nuggets wash easily
Phytotoxic mulch?

- Anaerobic mulches can burn tender plants. Make sure mulches are properly composted and stored.
- Pine straw can stunt pansy growth.
Pansy beds

Use a fine textured mulch around the plants – composts will do fine because they will be rototilled into the bed the following spring

Edge the bed with pine straw to prevent washing
Most annual beds are done this way
How much mulch is enough?

Source: Greenley and Rakow, 1991
Mulches -- How Much?

- Organic mulches: ~ 3-4 in
- Inorganic mulches: ~ 3 in
- With a geotextile: ~ 2 in
How Much Mulch Do You Need?

Bark mulch: 1 cu yd covers ~ 100 sq ft to a depth of 3 inches

Pine Straw: 1 bale covers about 35 sq ft.
Geotextile fabrics

- Woven or spun-bonded plastic fabrics
- Allow water and air to penetrate
- Often sold at “weed mats” or “weed fabrics”
Geotextile fabrics -- Advantages

- Long term annual weed control
- Soil stabilization
- Holds moisture
- Possible add-on service $$
Geotextile fabrics -- Disadvantages

- Cost – materials and installation
- Site preparation: eliminate perennial weeds
- Must cover with mulch
- Perennial weeds can penetrate

- Annual weeds grow on top
- Mulches slip off
- In heavy soils, it may hold too much moisture
- Decomposing organic mulches create a humus layer where weeds can germinate
Geotextile fabrics do not control perennial weeds

Vegetatively propagated perennial weeds can emerge through geotextile fabrics

- Bermudagrass
- Nutsedge
- Mugwort
Many perennial weeds can growth through geotextile fabric mulches

Equisetum will emerge through geotextiles
Weeds germinating on top can grow through the mulch

Roots penetrate the fabric more easily than shoots

Weeds growing through the mulch damage the geotextile
Biggest problem with geotextiles is proper installation

Not installed correctly:
Edges come up, mulch washes off.

Unsightly and ineffective.
Steps in proper installation

- Dig trench around perimeter of bed
Step 2: place geotextile over bed

- Install geotextile over plants. Don’t try to plant through the bed.
- Dirt on top of the fabric leads to weeds.
Step 3: Anchor edges in SOIL (not mulch)

- Bury edges in soil. [remember, roots will grow through the fabric]
- Mulch-only will allow edges to come up
Step 4: Cover with enough mulch to prevent light degradation
Types of Geotextile fabrics

Lots of different types:
- Spun bonded
- Woven
- Needle punched

Yes, between consumer and professional grade products.

Smooth vs. textured can make a difference on slopes. Mulches slip off smooth more easily. Install with fiber side up.
Advice: if you use a geotextile

- Control perennial weeds before planting
- Use shallow layers of mulch
- Keep geotextiles totally covered
- Remove / kill emerged weeds when small
- Consider using inorganic mulches
- Consider preemergence herbicide with geotextile when weeds become abundant or for yellow nutsedge control
Relative Weed Control Costs

2 in. bark  4 in. bark  Geotex. + Herb + bark bark
Biobarrier: An Alternative?

- Geotextile fabric impregnated with trifluralin
- Prevents most weeds from growing through the fabric
Some Weeds Like Growing in Mulches

Herbicides are sometimes needed