

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



Pigweed: an annual weed controlled by mulches

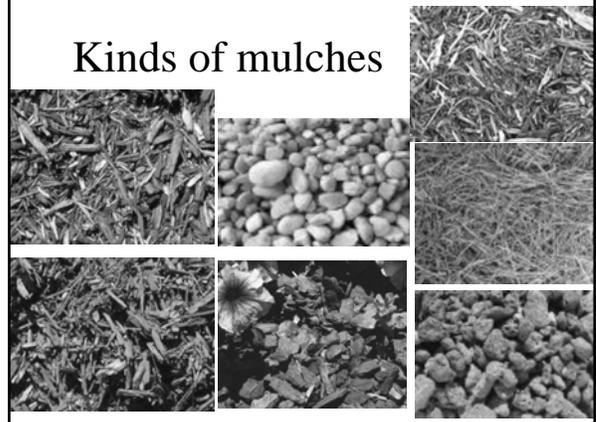


Horsenettle: a perennial weed not controlled by mulches

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



Hand Weeded



Pine Straw Mulch

Pansy beds

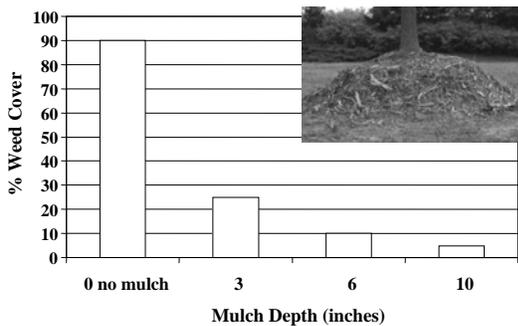


- ✦ Use a fine textured mulch around the plants – composts will do fine because they will be rototilled into the bed the following spring
- ✦ Edge the bed with pine straw to prevent washing

Most annual beds are done this way



How much mulch is enough?



Source: Greenley and Rakow, 1991

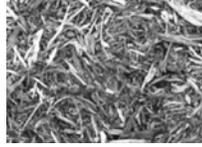
Mulches -- How Much?

- ✦ Organic mulches: ~ 3-4 in
- ✦ Inorganic mulches: ~ 3 in
- ✦ With a geotextile: ~ 2 in

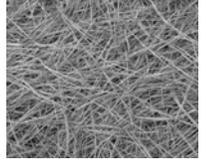


How Much Mulch Do You Need?

✦ 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

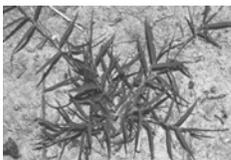
- ✦ Cost – materials and installation
- ✦ Annual weeds grow on top
- ✦ Site preparation: eliminate perennial weeds
- ✦ Mulches slip off
- ✦ Must cover with mulch
- ✦ In heavy soils, it may hold too much moisture
- ✦ Perennial weeds can penetrate
- ✦ Decomposing organic mulches create a humus layer where weeds can germinate

Geotextile fabrics do not control perennial weeds

✦ Vegetatively propagated perennial weeds can emerge through geotextile fabrics



Nutsedge



Bermudagrass



Mugwort

Many perennial weeds can grow 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



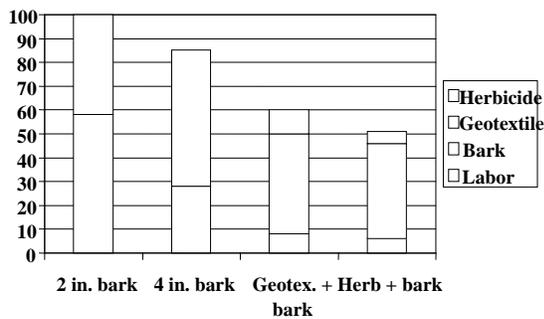
Types of Geotextile fabrics

- ✦ 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



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