Weed Science Basics
Why so many weeds?

**Pigweed example:**

- 13,000 – 100,000 seed/year
- Dormancy allows survival for 30 years.
- Plan: Don’t allow seed production.
Weeds are great competitors for

- Water
- Nutrients
- Light
Types of Weeds

- **Broadleaves** –
  - Netted venation
  - 2 cotyledons
  - Taproot
  - Showy flowers

- **Grasses** –
  - Parallel
  - 1 cotyledon
  - Fibrous roots

- **Sedges** –
  - "nutgrass"
  - Triangular stems
  - Leaves in 3s
Options for Weed Control

- Encouraging ornamental growth – best management practices and mulching.

- Hand pulling/hoeing

✓ Herbicides
Which herbicide option?

Preemergence or Postemergence?
Types of Herbicides

- **Preemergence** – Weed preventor herbicides – controls weeds before you see them.
  - Residual type (short or long)

- **Postemergence** – kills weeds that are present and actively growing.
Preemergence Herbicide Information
Effective Preemergence Applications

- Apply materials before weeds germinate.
- Adequate rainfall or irrigation is needed to ‘activate’.
- Do not expect all season control – reapply
- Good preemergence program is essential since there may be few post options.
Preemergence Herbicides: basis of weed control in landscape beds.
How do preemergence herbicides work?

- These herbicides provide a lethal barrier at or just below soil surface.
Herbicide Options in Landscapes are complicated…

• Woody trees/shrubs – several PRE and directed Post herbicide options

• Perennial ground covers – several PRE/POST options

• Herbaceous perennial beds – some PRE/Post options

• Annual beds – fewer PRE/POST options

• Mixed plantings – complex – treat areas differently; group tolerant plants.
Common Landscape
Preemergence
Herbicides
Pendimethalin

- Pendulum, PRE-M, etc.
- For annual grasses and small seeded broadleaves before they emerge.
- Granular and sprayable formulations.
- Most annual and perennial ornamentals tolerant.
Treflan

- Trifluralin – sometimes sold as Preen
- Annual grasses and small seeded broadleaves before they emerge.
- Most annual and perennial ornamentals tolerant.
- May volatilize if not incorporated.
- Short residual
Barricade

- Prodiamine; also sold as FACTOR
- Crabgrass, annual bluegrass, goosegrass
  - before they emerge
- Henbit, chickweed, spurge; preE
- Longer residual than most
- Apply over the top of many annual and perennial ornamentals.
Gallery DF

- Isoxaben
- Kills most annual broadleaf weeds before they emerge.
- Must be sprayed; no granular.
- Excellent for winter broadleaf control and has some activity on chamberbitter.
- Several woody ornamentals, herbaceous perennials, flowers, and bulbs.
- Do not apply in annual beds.
Snapshot

- Isoxaben + trifluralin mixture
- Kills most annual broadleaf weeds plus grasses before they emerge.
- Good broad spectrum weed control.
- Use with several woody ornamentals, herbaceous perennials, flowers, and bulbs.
- Not for annual beds
- Performs better under the mulch
Ronstar

- Preemergence annual grasses and some broadleaves
- No postemerge activity with oxadiazon.
- Good alternative to yellow herbicides
  - Will not inhibit root growth
- Works best on top of mulch – needs light for action.
- Weak on chickweed; Has *Phyllanthus* activity; Preemergence control of stinging nettle.
- Rate: 2.25 to 4 lbs per 1000 sq.ft
- For established perennials
Herbicide Placement: on top of the mulch or under?
What Works Best?

- New beds – apply these **under** the mulch
  - Pennant
  - Snapshot
  - Treflan
  - Pendulum
  - Factor

- New beds – apply these **on top** of the mulch
  - Ronstar

- Apply on **either way**
  - OH II (pendimethalin + oxyfluorfen)
  - Rout (oryzalin + oxyfluorfen)
Postemergence Herbicides
Postemergence Facts

- Easier to control small actively growing weeds.
- Most applied as directed sprays.
- Post direct your non-selectives very carefully
  - sometimes impossible
- Consider wiping with non-selective herbicides.
- Grass killers over the top of most ornamentals.
- Overall few options – good preemergence program is a necessity.
Roundup Pro

- glyphosate
- Will kill or injure most plants.
- A systemic herbicide – needs active growth.
- Good on perennial weeds; weak on some vines; OK as 2% on poison ivy.
- Totally deactivated when it hits soil; no residual.
- Visual symptoms in 2-4 days in growing points; allow 1-2 weeks before disturbing target weeds.
- Find this everywhere – check for generics
Vantage/Poast

- Sethoxydim; follow directions for surfactants.
- Only kills true grasses.
- Weak on annual bluegrass and torpedograss.
- Excellent on most summer annual grasses.
- Good on bermudagrass with repeated applications.
- Can be used over the top of most non-grass ornamentals.
  - Including liriope, daylilies, etc.
Fusilade/Ornamec

- Fluazifop
- Only kills true grasses
- Seems to have better activity on perennial grasses than Vantage; weak on Zoysia.
- Can be used over the top of non-grass ornamentals
Envoy

- Clethodim

- Only kills true grasses.

- Fair activity on young annual bluegrass.
  - Poa spp.

- Can be used over the top of non grass ornamentals.
Pretty good on sedges (nutgrass)

Dollarweed control

Suppresses buttonweed (VBW)

Safe on all warm-season turf – mondo, liriope, hawthorne, hollies
Sedgehammer

• Halosulfuron
  – Formerly called Manage (Gowan Co.)

• Excellent on purple and yellow nutsedge.

• Most cases – do not apply over the top

• Somewhat expensive - relative

• May be applied around all established woody ornamentals.
Before you apply a Herbicide

Read the Label!

- Is your crop tolerant?
- Weed spectrum ID?
- Are you calibrated?
- Uniform coverage?
End of
Landscape Weed Control Basics & Herbicides