FLORIDA MASTER GARDENER

Weeds
ID, Prevention, & Management

UF | IFAS Extension
UNIVERSITY of FLORIDA

Learning Objectives:

1. Define “weed” in the context of the lawn and landscape.
2. Distinguish between types of weeds (broadleaf, grass, sedge).
3. Understand weed life cycles (annual, biennial, perennial).
4. Describe how weeds are introduced and spread in a lawn and/or landscape.
5. Know the various strategies for managing weeds.
6. Differentiate between:
   - pre-emergent and post-emergent herbicides
   - contact and systemic herbicides
   - selective and non-selective herbicides

Discuss this Statement:

Weeds (compared to insects, diseases, and nematodes) are the most problematic pest in the home lawn and landscape.

Do you agree or disagree?

What is a Weed?

- A weed is a plant out of place.
- Weeds compete with desirable plants for nutrients, water, light, space.
- Weeds usually reduce aesthetics.
- Weeds may be poisonous (rosary pea) or have harmful thorns/spines (sandspur).

PART I - WEED CLASSIFICATION

Weed Classification

- It’s important to “categorize” weeds in order to manage them.
- There are different ways to classify weeds.
  - By type: broadleaf, grass, or sedge
  - By life cycle: annual, biennial, or perennial
  - By site condition: dry or wet; sun or shade

Weed Types

Broadleaf

- variable leaf shapes and arrangements
- dicots-2 seed leaves
- netted veins
- showy flowers

Erect Spurge

Weed Types

Grasses

- monocots-1 seed leaf
- parallel veins
- blades are longer than wide
- hollow, rounded stems with nodes

Crabgrass

Weed Types

Sedges

- monocots-1 seed leaf
- solid, triangular stems
- favor moist conditions

Globe Sedge

Weed Life Cycles- Annual

Annual weeds live one season and reproduce by seed.

- Summer Annuals (warm season):
  - Germinate in spring
  - Produce seeds in late summer-early fall
  - Die in fall
- Winter Annuals (cool season):
  - Germinate in fall-late winter
  - Produce seeds in late winter-early spring
  - Die in late spring-early summer

Weed Life Cycles- Biennial

Biennial weeds live two seasons

- 1st season
  - Vegetative growth
- 2nd season
  - Flowers & dies

Carolina False Dandelion

Weed Life Cycles- Perennial

Perennial weeds typically live for extended periods.

- Reproduce through seeds, stolons, rhizomes, corms, bulbs, and tubers

Torpedograss

Site Conditions – Indicator Weeds

- Compaction
  - Goosegrass
  - Annual Bluegrass
  - Knotweed
- Nematodes
  - Florida Pusley
  - Sedges
  - Spurges
- Wet areas
  - Sedges
  - Virginia Buttonweed
  - Dichondra
  - Dollarweed

Activity 1
Weed ID – Identifying Types of Weeds

Materials Needed:

- Student Manual (See Activity 1)
- Pen/Pencil

Instructions:

- The following weeds are commonly found in Florida lawns and landscapes.
- Identify each according to type: broadleaf, grass, or sedge.
- Note the other characteristics that will help you ID, prevent, and manage them.

1. Spurge

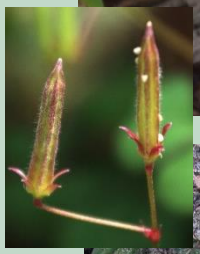
- Type?
- Summer annual
- White-milky sap
- Can indicate nematodes

2. Crabgrass

- Type?
- Summer annual
- Can root at the nodes
- Spreads by seed
- Common in thin turf areas

3. Oxalis (woodsorrel)

- Type?
- Perennial, grows best in spring and fall
- Can spread by seed, stolons, or bulbs (depending on species)
- Yellow or purple flowers
- Heart-shaped leaves, okra-shaped seed pots, often mistaken for “clover”



4. Doveweed

- Type?
- Summer annual (germinates late)
- Can be spread by stolons or seed
- Common in late summer, grows in patches
- Can indicate wet sites

5. Chamberbitter

- Type?
- Summer annual
- Spreads quickly by seed
- Seeds develop underneath stem

6. Florida pusley

- Type?
- Summer annual
- Develops a thick, deep tap root
- White, star-shaped flowers
- Hairy leaves and hairy reddish stem

7. Florida betony

- Type?
- Perennial, most commonly seen in fall and spring
- Spreads by rhizomes and tubers
- Serrated (toothed) leaves

8. Yellow and purple nutgrass

- Type?
- Perennials, growing mostly in summer
- Spreads by tubers and rhizomes
- Can indicate wet areas

9. Dollarweed

- Type?
- Perennial, common year-round
- Spreads by seed, tubers, but most often by rhizomes
- Often indicates wet areas

10. Chickweed

- Type?
- Cool-season annual (fall, winter, early spring)
- Small white flowers, 5 petals deeply split (looks like 10 petals)
- Common in weak/thin turf areas

PART II – WEED PREVENTION

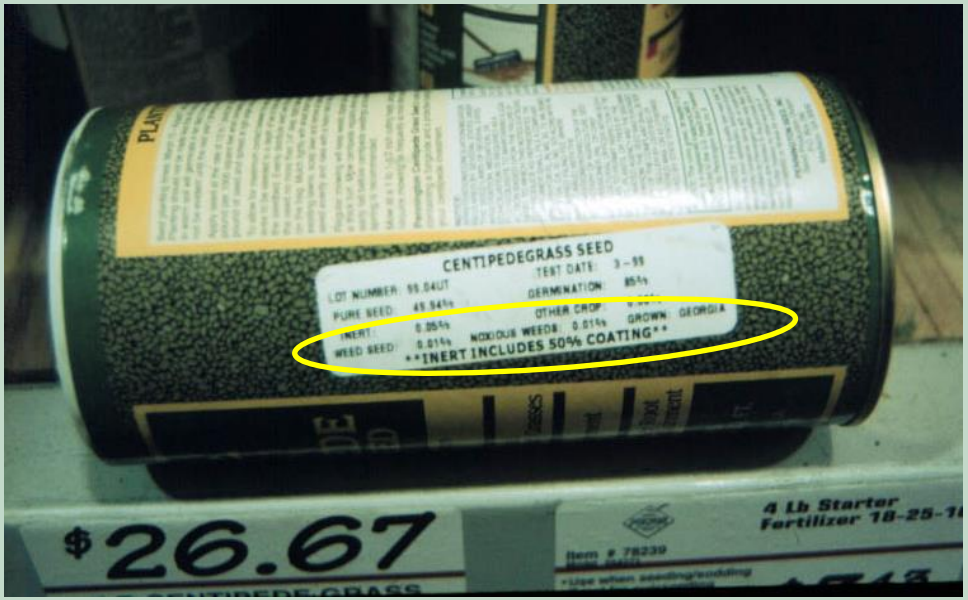
Don’t Introduce Weeds!

An ounce of prevention is worth a season of yanking!

Seeds in soil, compost and/or mulch

Contaminated Equipment

Infested Plant Material and Seed Sources



Animals and People

Movement from Weedy Areas (Wind, water, etc.)

Weeds are “Opportunists”

Give them an inch and they will take a yard.

- Don’t allow them to gain a foothold:
  - Right Plant /Right Place
    - Use turf / plants adapted to the site
  - Use proper cultural practices
    - Mow at the right height and frequency
    - Water, fertilize, and manage pests as needed
  - Control traffic (from foot, pets, or vehicles)

PART III – WEED MANAGEMENT

Weed Management Strategies

Now you got 'em; what can you do about 'em?

- Cultural
  - Improve site conditions
  - Adjust cultural practices
  - Apply mulch (organic or inorganic)
  - Remove weeds *before* they flower and reseed
- Mechanical
  - Hand pulling, hoeing, tilling, line trimming, etc.
- Chemical
  - Herbicides applied appropriately

What is an Herbicide?

- An **herbicide** is a chemical used to kill or inhibit the growth of plants.
- Herbicides are labeled based on the type of weed controlled (broadleaf, grass, or sedge)
- Weeds can be become resistant to the continued use of the same herbicide. Alternate the active ingredient.

Herbicides

Classified By:

- **Timing / When is it applied?**
  Preemergence - Applied to soil *before* weeds emerge
  Postemergence - Applied to plant *after* weeds emerge
- **How does it affect plants?**
  Contact - Affects only plant tissue contacted
  Systemic - Absorbed and translocated in plant
- **What does it control?**
  Selective - Only kills certain plant species (broadleaf, etc)
  Nonselective - Kills plants regardless of species

Timing of Herbicides

- **Pre**emergence
  - Applied *before* weed seed germinates
  - Applied to soil
  - Absorbed by germinating seedling

- **Post**emergence
  - Applied after weed appears
  - Applied to plant
  - Absorbed by leaves

Preemergence Herbicides

Soil applied

- Timing is critical and based on soil temperature.
- Rain or irrigation necessary to activate most.
- Effective for 6-12 weeks after application; may need to be reapplied.
- Do not use 2-4 months before seeding, overseeding, or sodding.

Preemergence Herbicides

Application Times (warm season weeds):
Feb 1 – South FL
Feb 15 – Central FL
Mar 1 – North FL
(Before if day temps reach 65°-70°F for 4-5 days)

Application Times (cool season weeds):
Late Oct-Early Nov – Central and South FL
Early Oct – North FL
(Or when night temps drop to 55°-60°F for several consecutive days)

Postemergence Herbicides

Plant applied – Effectiveness reduced when:

- Weed is mature (seedlings easiest to control).
- Weed is stressed (by drought or cold).
- Weed has begun to produce seed.
- Weed is mowed before chemical has several days to work.

Selective or Non-selective – Plant species affected?

Contact or Systemic – Plant parts affected?

Postemergence Herbicides

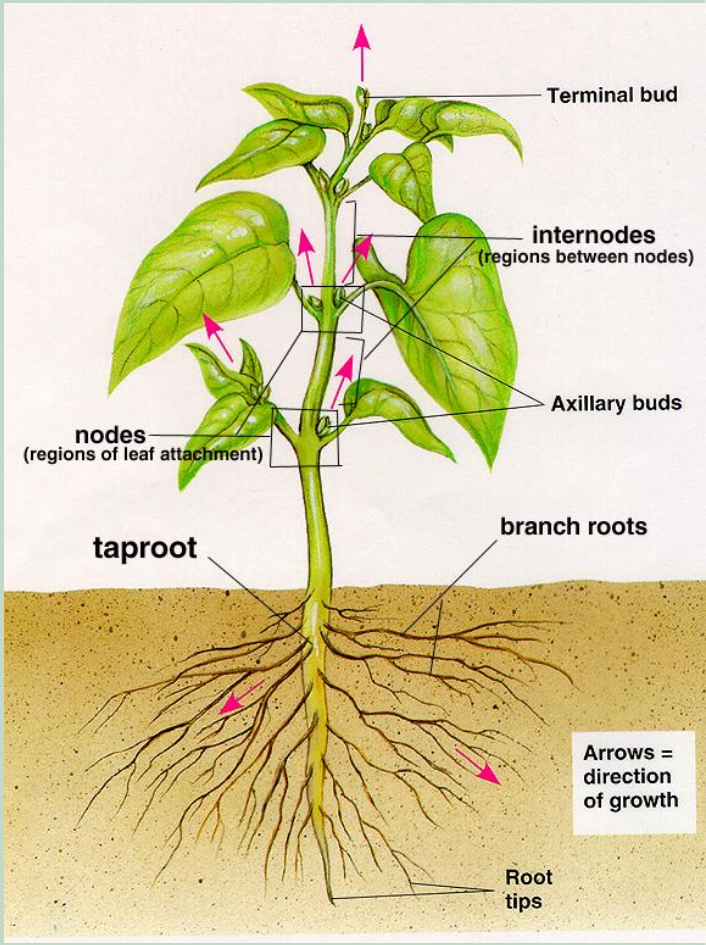
- *Selective*
  - Controls certain plant species without affecting others (Ex: broadleaf weeds in turfgrass)
  - Most herbicides are selective

- *Non-selective*
  - Kills most plants
  - Ex: Glyphosate, diquat

Postemergence Herbicides

- *Contact* (ex: Diquat)
  - Affect only what is sprayed; good coverage is required
  - Underground plant parts not killed…
  - …so repeated sprays necessary to kill regrowth.

- *Systemic* (ex: Glyphosate)
  - Translocated throughout plant
  - Slower acting



Fertilizer/Herbicide Mixtures
Lawn "Weed-n-Feed" Products

- Application rate should meet nutrient need of turf *and* herbicide requirement for weed control – tricky!
- Use only when weeds are problematic on the *entire* lawn.
- If not, spot-treat with herbicides where needed.
- Don't apply over the root zone of ornamentals. (Dicamba, Metsulfuron, Atrazine injure roots)

Herbicide Safety

Herbicides, like other pesticides, may present some level of toxicity to other organisms.

<u>Observe and follow:</u>

- All directions, restrictions, and precautions.
- The restricted-entry interval (REI) for children and pets.
- Wear PPE (personal protective equipment) as stated on the label (gloves, eye protection, long pants, and long-sleeved shirts).

It is dangerous, wasteful, and illegal to do otherwise!

Herbicide Safety

For some herbicides, the label specifies that the herbicide is not intended for use by homeowners.

In those cases, a licensed pesticide applicator should spray the herbicide.

Activity 2
Weed Management Scenarios

<u>Materials Needed:</u>

- Student Manual
  - Activity 2 worksheet
  - EDIS pub: *Weed Management Guide for Florida Lawns*
- Pen/Pencil
- Herbicide products (if provided)

Activity 2
Weed Management Scenarios

Instructions:

- Group Activity or Individual Homework Assignment.
- Each group (or individual) will be given a real-life scenario of a weed problem in a homeowner's lawn.
- Use your references and what you have learned to develop a management plan.
- Each group/individual will share their scenario and management plan with the class (if time allows).

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