Turf and Weed Grasses
Identification and Management

206 Turf Pest Control
Pest Management Workshop
February 19, 2013

Identifying Grasses

- Grasses are monocots
- 644 genera
- ~10,000 species
- Cover 1/3 of land on earth

The parts are often very small

World consumption
Wheat, Corn & Rice

Identifying Grasses

- Grasses have their own vocabulary
- Flowers and roots are helpful for identification

Tools of the trade

Diagnistic microscope
Magnifies to 45 x

Compound microscope
Magnifies to 400 x
Identifying Grasses

The area where the leaf blade joins the sheath contains a lot of information.

Identifying Grasses

Note the leaf shape, color, texture, width, and rib. Note any pinching, ruffling, or other features.

Identifying Grasses

- Vernation: folded or rolled shoot tip
- Auricles: lobes at corners of sheath — may be clasping, short, or absent
- Ligule: structure at inner junction of blade and sheath. May be membranous, fringed, or hairy; tall, short, or absent
- Collar: band at junction of blade and sheath — may be broad, narrow, or divided. Usually lighter in color

Vernation

Rolled

Folded

Vernation: Rolled or Folded Shoot Tips

Identifying Grasses

- Auricles, ligules, and collars provide additional clues.
Identifying Grasses

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**Identifying Grasses**

- **Roots:** are rhizomes or stolons present?
- **Leaf blades:** is the leaf tip acuminate, acute, or boat-shaped?
- **Leaf cross section:** flat, V-shaped, involute, etc.?
- **Sheath margin:** open, closed, overlapping?

**Identifying Grasses**

- **Seedheads:**
  - **Raceme:**
  - **Panicle:**
  - **Spike:**

**Identifying Grasses**

- **Panicle:** The spikelets are on branches (pedicels) off the rachis.
Identifying Grasses

- **Awn:**
  A slender, bristle-like appendage
  May be SHARP!

**Downy brome**

Identifying Grasses: Roots

- **Rhizomatous**
- **Stoloniferous**

Cool Season Grasses

- **Kentucky bluegrass**
  - Folded vernation
  - Auricles absent
  - Boat shaped leaf tip
  - Transparent lines on either side of midrib
  - Rhizomatous

**KBG – easy to ID**

- **Boat tip**
- **Transparent lines on either side of midrib**

**Perennial ryegrass**

- Folded vernation
- Short auricles
- Leaf surface matte
- Underside of leaf glossy
- May be red at base
- Bunching root system
Tall fescue
- Rolled vernation
- Short, hairy auricles
- Membranous ligule
- Leaf edges rough
- May be red at base
- Bunching roots

Warm Season Grasses

Zoysiagrass
- Rolled vernation
- Rhizomes and stolens
- Hairy ligule
- Auricles absent
- Wide blades, hairs present

Buffalograss
- Rolled vernation
- Auricles absent
- Stolons, dense roots
- Gray-green foliage
- Separate male & female plants (dioecious)

Blue grama
- Folded to slightly rolled vernation
- Auricles absent
- Ligule short fringe of hairs
- Bunch w short rhizomes
- “Eyelash” seedhead
- State grass of Colorado

Weed Grasses
- Most important question?

Is it an annual or a perennial?
### Annuals
- Cheatgrass
- Foxtails
- Annual bluegrass
- Barnyardgrass
- Goosegrass
- Italian ryegrass
- Crabgrass
- Many others...

### IPM for Annuals in Lawns
- Mow as high as practical to minimize seed germination
- Mow often enough to remove no more than one-third of the blade
- Water deeply and infrequently

### IPM for Annuals
- Most are not strong competitors
- Common in disturbed soils
- Typically seed heavily
- Common in newly seeded or weak turf

### Annuals
- Crabgrass:
  - Need to treat when young
  - MSMA - bluegrass has good tolerance
  - Fescue, bentgrass may be sensitive – no more than one application per season

### Perennials
- Look for strong, sturdy roots
- Stolons or rhizomes may be present
  - Bermuda
  - Creeping bentgrass
  - Quackgrass
  - Saltgrass
  - Fescue
  - Etc.

- What’s this one?
IPM for Perennials

- Plant weed-free seed or sod
- Remove small clumps before they spread
- Maintain healthy turf as above

Bentgrass

IPM for Perennials

- Use non-selective herbicide; repeat as needed
- Continue good maintenance; don’t drought-stress
- Re-seed or sod treated areas as needed

Tall fescue

Bermuda Grass

- *Cynodon dactylon*
- Easily recognized:
  - Digitate inflorescence
  - Prominent stolons

Bermuda grass

Saltgrass

Bermuda Grass

- **Bermuda grass killer?**
  - Triclopyr
    - Provides some suppression only
  - Fenoxaprop-p-ethyl
    - Acclaim 4.95%
    - Bermudagrass Control for Lawns CTC 0.41%
  - What has been your experience?

Triclopyr Damage

Ailanthus in KBG lawn
Bermuda Grass

- Bermuda grass control
  - 2,4-D label:
  - “Creeping grasses such as zoysiagrass, bermudagrass,… may be injured by this product.”

About the Pesticide Label

“You may legally apply a pesticide against a pest not specified on the labeling if the application is to a crop, an animal, or a site that the labeling is approved for.”


“To control weeds in established lawns and other ornamental turfgrass such as bluegrass, perennial ryegrass, and fescue”

- The 2,4-D label

Bermuda Grass Trials

- 2,4-D
- 2,4-D + glyphosate
- Glyphosate
- Control
- Three applications of 2,4-D at two week intervals, beginning 8-28-12

Bermuda Grass Trials

**After one week:**

- Glyphosate
- 2,4-D

Bermuda Grass Trials

**After one week:**

- Glyphosate + 2,4-D
- Control

Bermuda Grass Trials

**Two weeks:**

- 2,4-D
- Control
Bermuda Grass Trials

Five weeks:

2,4-D Control

Three weeks:

Fenoxaprop Control

Bermuda Grass Trials

Give it a try!

Web Resources

http://www.cdms.net
http://csuturf.colostate.edu
http://www.westernslopegardening.org
http://www.weedalert.com