

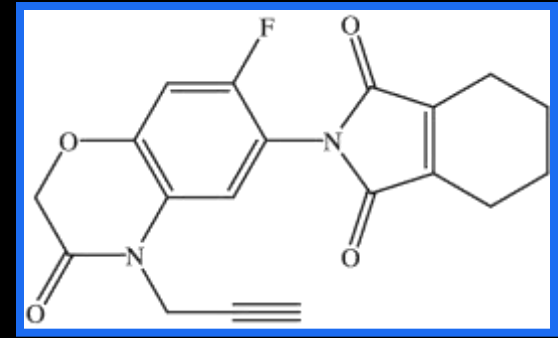
# New Products For Problem Weed Control

Patrick McCullough, Ph.D.

University of Georgia

April 24, 2012

# flumioxazin

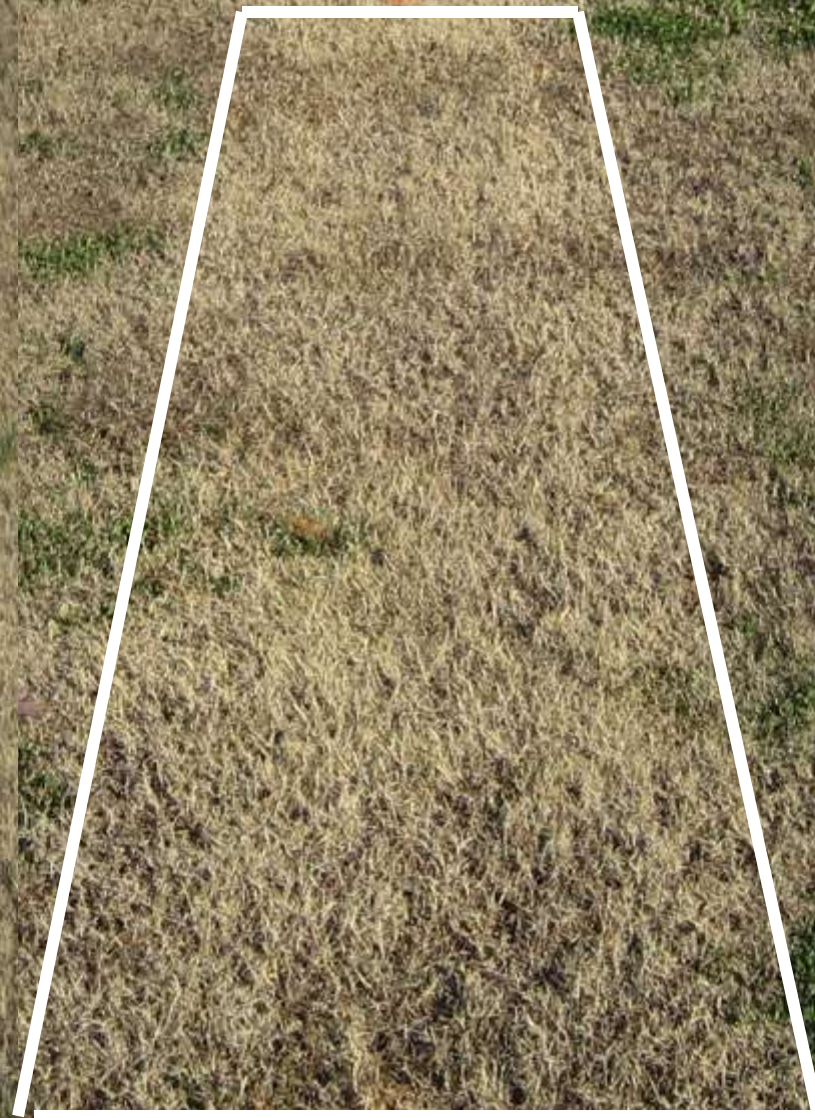


- Trade Name: SureGuard
  - Chlorophyll (PPO) synthesis inhibitor
  - Label amendment to include turf use in Dec. 2011
- Labeled Turfgrasses
  - Dormant bermudagrass only
- Weeds Controlled
  - Residual activity for 6 to 8 weeks
  - Early postemergence control of winter annuals





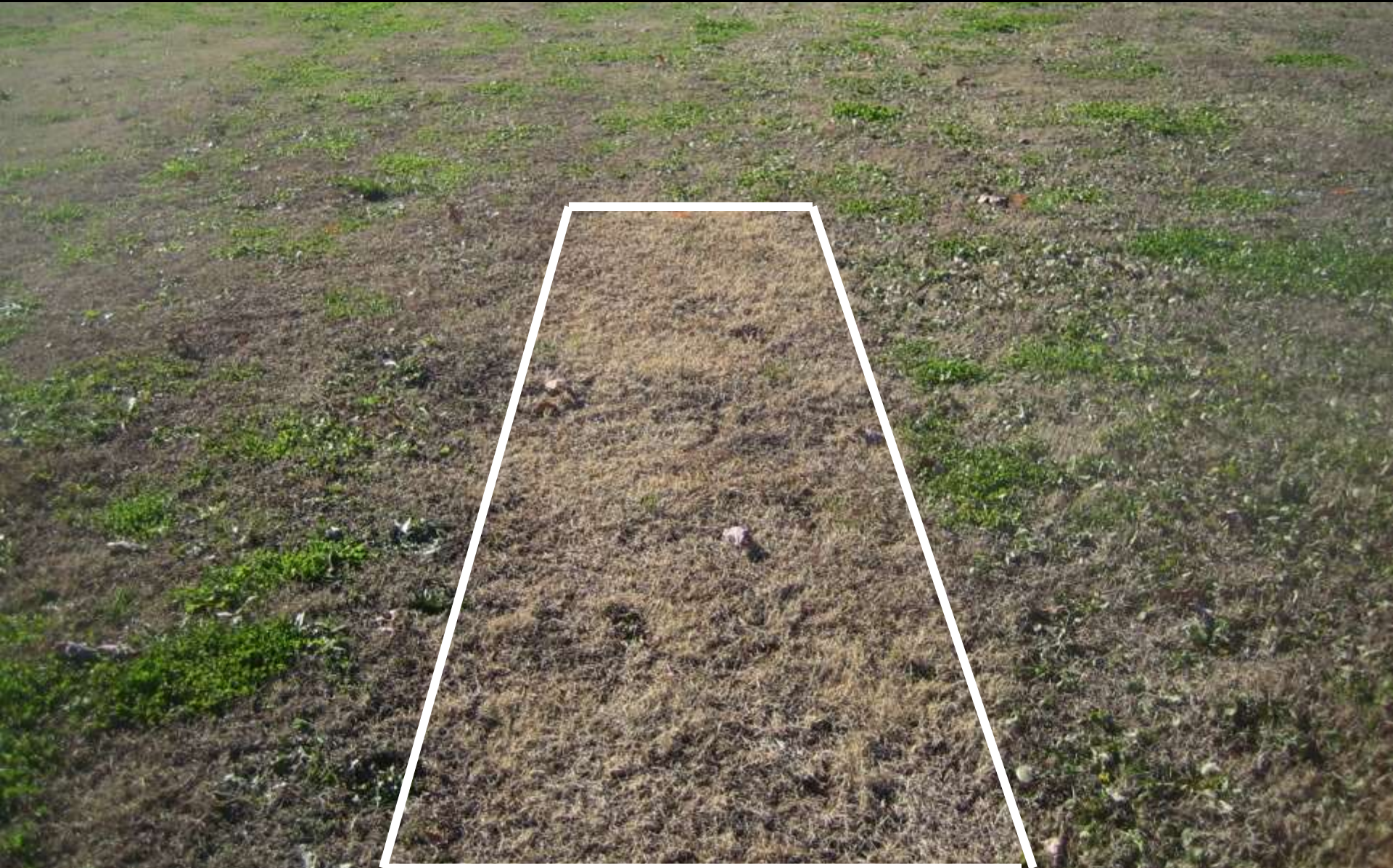
**Untreated**



**SureGuard 12 oz/acre  
+ NIS, (1 MAT)**



# SureGuard (flumioxazin) 12 oz/acre 1 Month After Treatment





# Sureguard Applied to Tifway Bermudagrass (1 WAT)



0.19 lb  
a.i./acre

0.38 lb a.i./acre

0.75 lb a.i./acre



# Sureguard Applied to Actively Growing TifBlair Centipedegrass Treated on 3/16/2012 (1 WAT)





Flumioxazin at 0.21 kg a.i./ha in November



Flumioxazin at 0.42 kg a.i./ha in November



Flumioxazin at 0.21 kg a.i./ha in December



Flumioxazin at 0.42 kg a.i./ha in December





# Flumioxazin at 0.42 kg a.i./ha in January

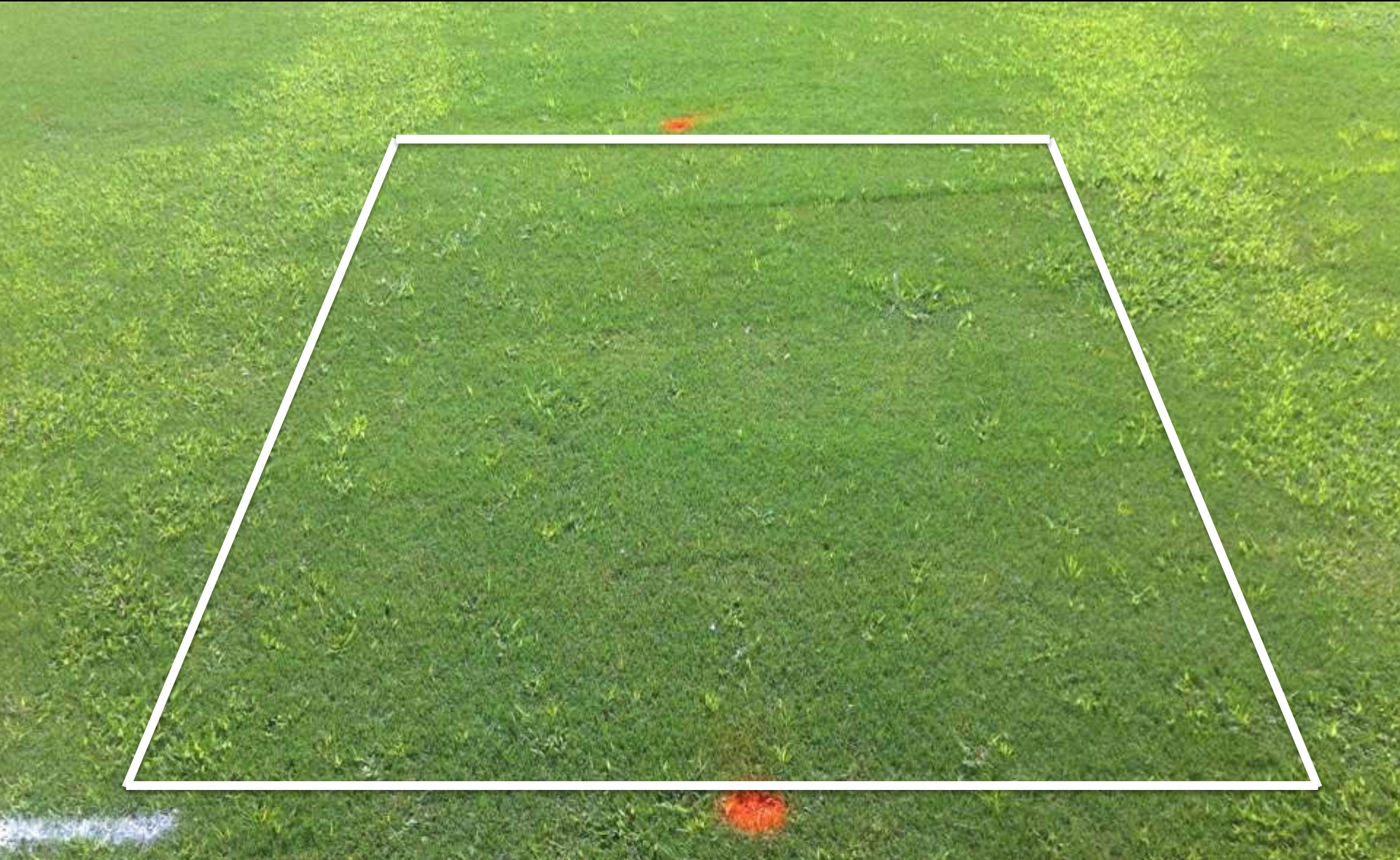


Picture taken 1/22/2011



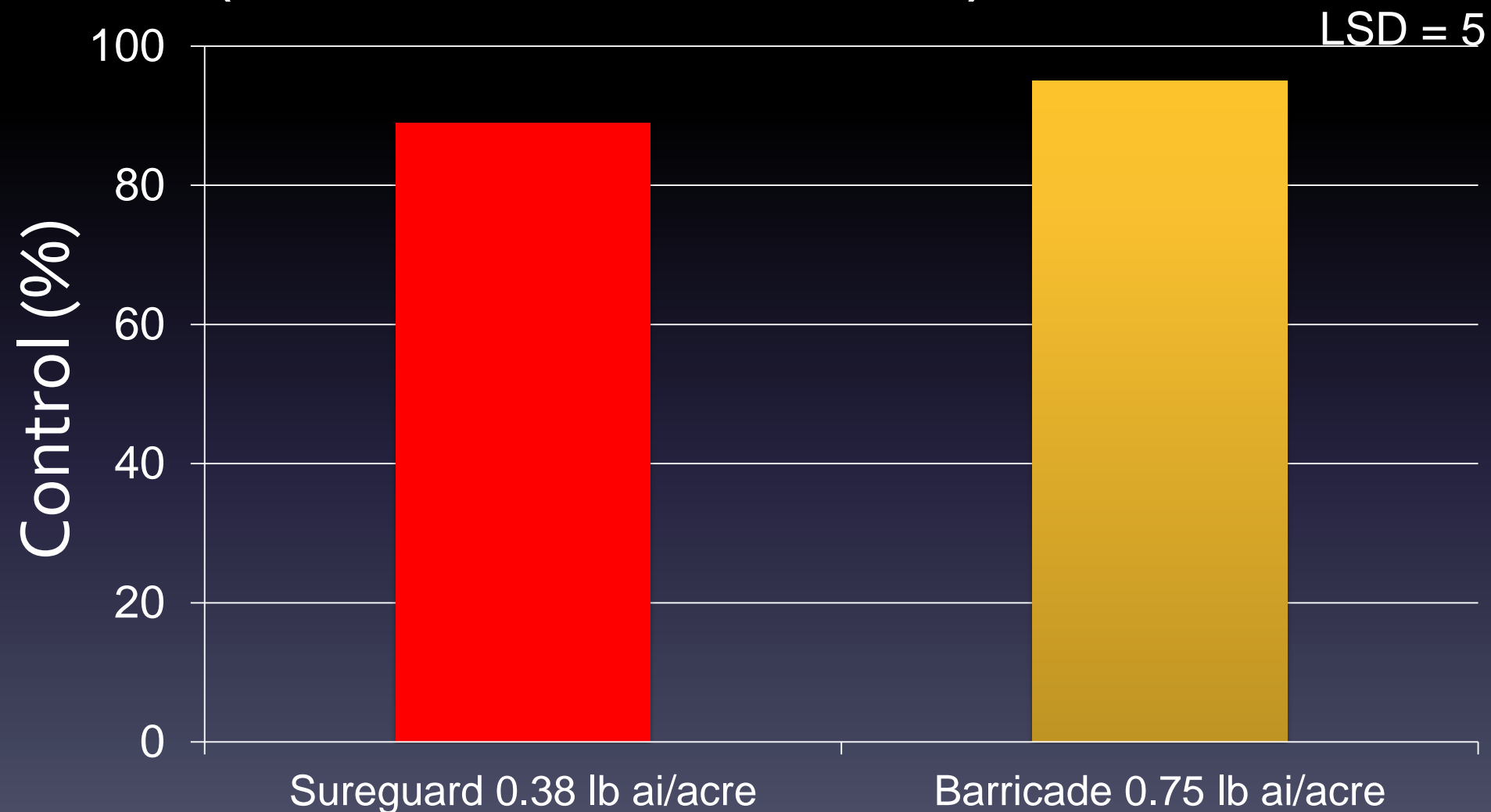
**Flumioxazin** at 0.43 kg a.i./ha, Mar. 7, 2011

**Picture: August 5, 2011 (151 DAIT)**





# Smooth Crabgrass Control (189 DAA, 132 DAB) 9/12/11





# Tribute Total

- Postemergence herbicide from Bayer
  - Release: 2012
- Active Ingredients
  - Thiencazone
  - Foramsulfuron
  - Halosulfuron
- Turfgrasses: Bermudagrass and Zoysiagrass



# Tribute Total

- Weeds controlled
  - Thienencarbazone (*Paspalums*, crabgrass, others)
  - Foramsulfuron (Goosegrass, *Poa annua*, ryegrass)
  - Halosulfuron (Sedges, broadleaf weeds)
- **Advantages:** Potential MSMA replacement
- **Disadvantages:** Three ALS inhibitors



# Celsius 68WDG (Bayer)

- **Active Ingredients**

- Thiencarbazone-methyl 8.7%
- Iodosulfuron 1.9%
- Dicamba 57.4%

- **Turfgrass Uses:** Warm-season turfgrasses

- **Weeds Controlled:** Broadleaf and grassy weeds.

# Virginia Buttonweed



Photo: Lee Burpee, UGA



Celsius at 4 oz/acre (3 WAT)

Photo: Lee Burpee, UGA



# Untreated

March 31, 2010 - 10 WAIT Griffin, GA

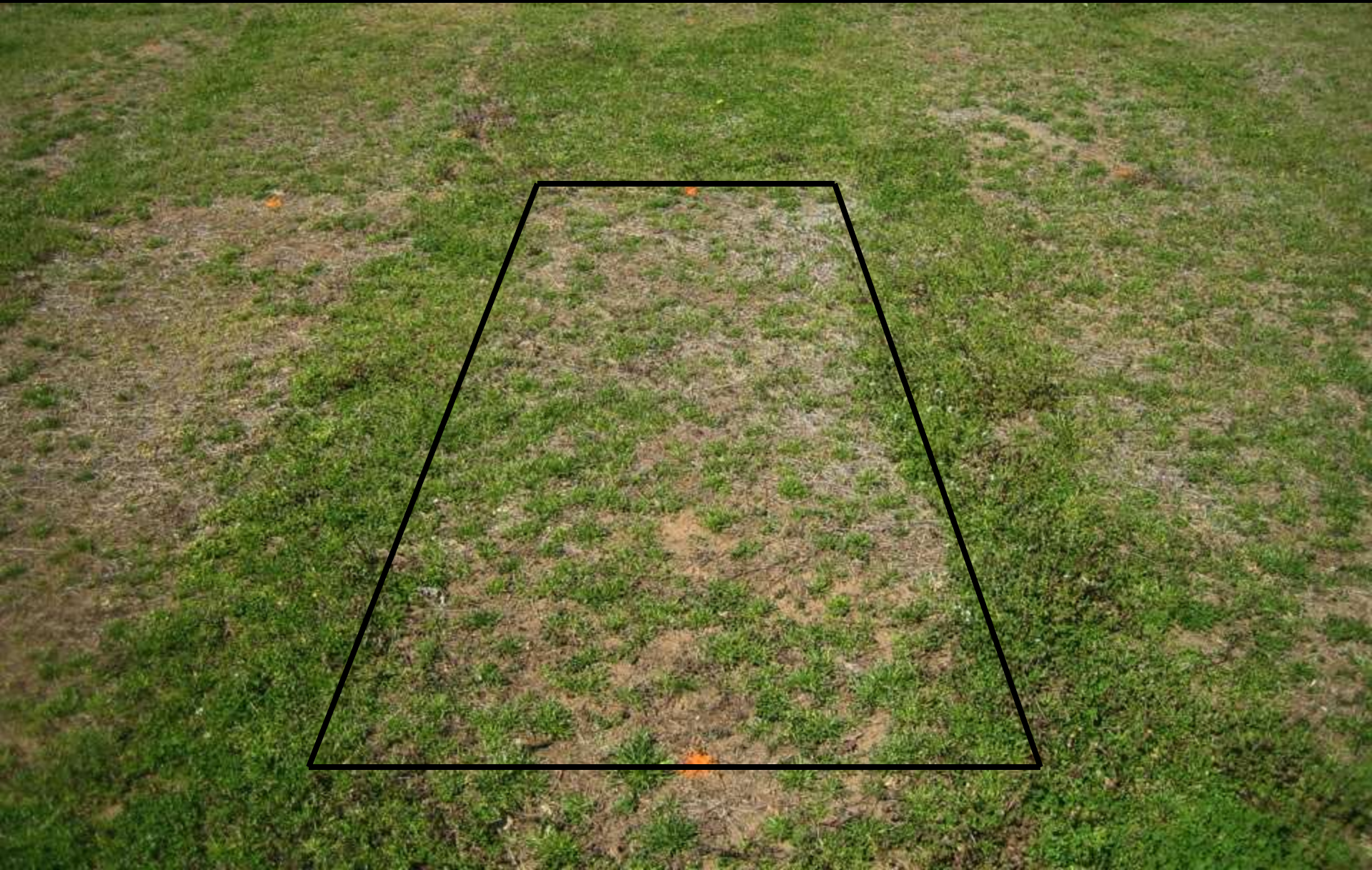
## Weeds Present:

Annual Bluegrass  
Henbit  
Parsley-piert  
Sticky Chickweed  
Swinecress  
White Clover





**Celsius (68 WG) at 4.9 oz/acre (1x)**  
**10 WAIT of January Applications**



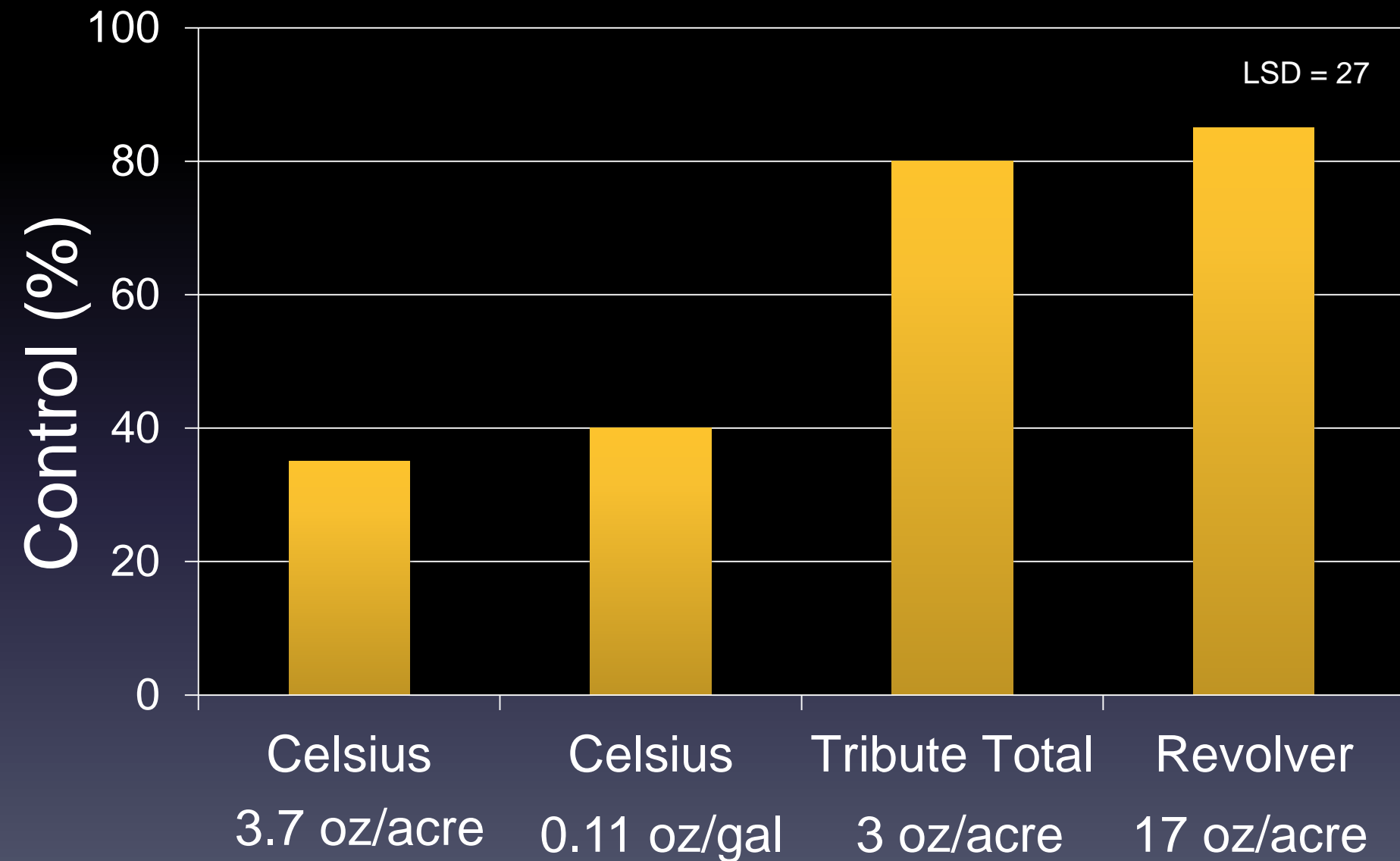


**Celsius (68 WG) at 3.7 oz/acre (2x)**  
**10 WAIT of January Applications**





# *Poa annua* Control (6 WAT) Spring 2012



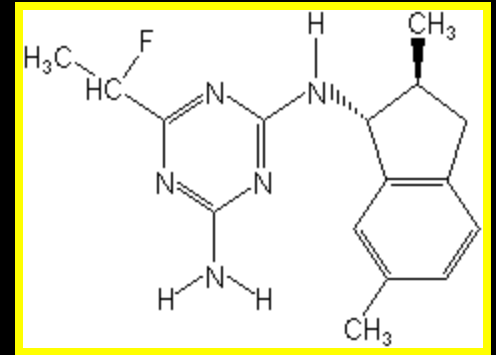
# Celsius Use for *Poa annua* Control

- Seedling *Poa annua*
  - Potential for early POST control in fall
- Mature *Poa annua*
  - Growth suppression, but not control
- Tank-mixtures in fall
  - Celsius + Specticle
  - Celsius + Revolver or other SU's

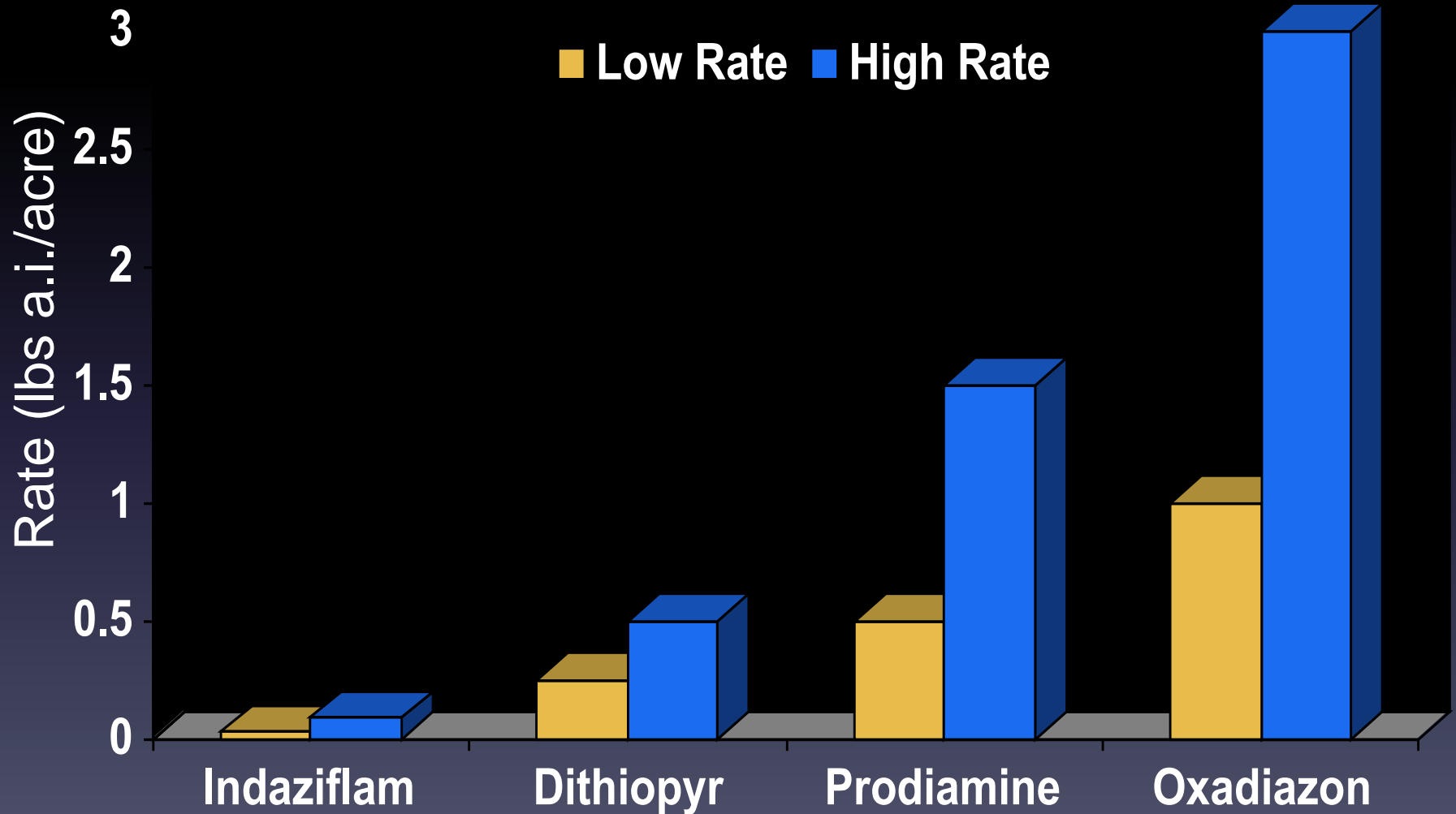


# Indaziflam

- **Trade Name:** Specticle
  - Cellulose synthesis inhibitor
  - Chemical class: alkylazines
- Use
  - Preemergence
  - Warm-season grasses only
- Excellent activity on *Poa annua*, crabgrass, goosegrass, and broadleaf weeds

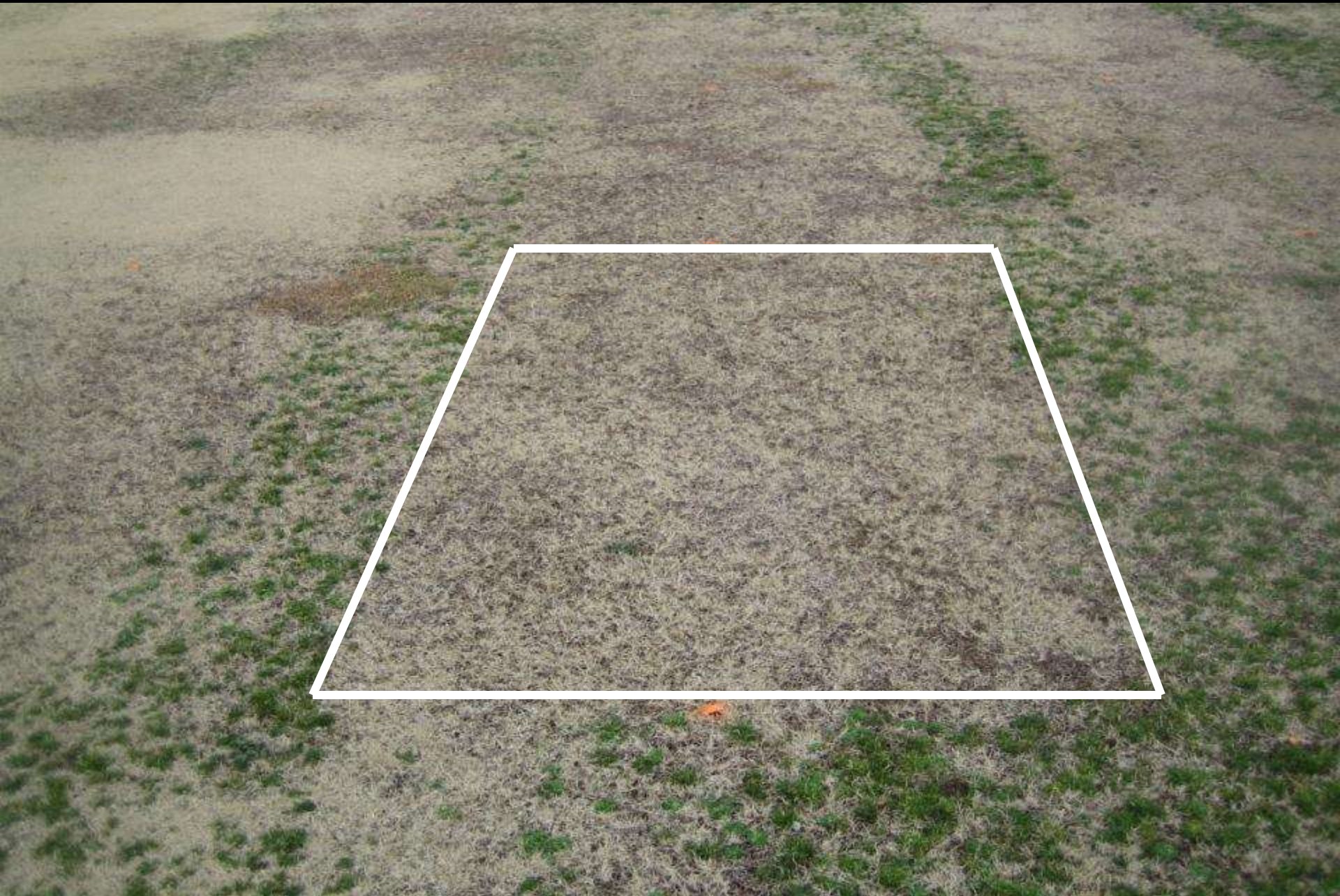


# Preemergence Herbicide Rates





**Specticle 2.5 oz/acre (Oct. App.)**





**Specticle 2.5 oz/acre  
(Oct. App.)**

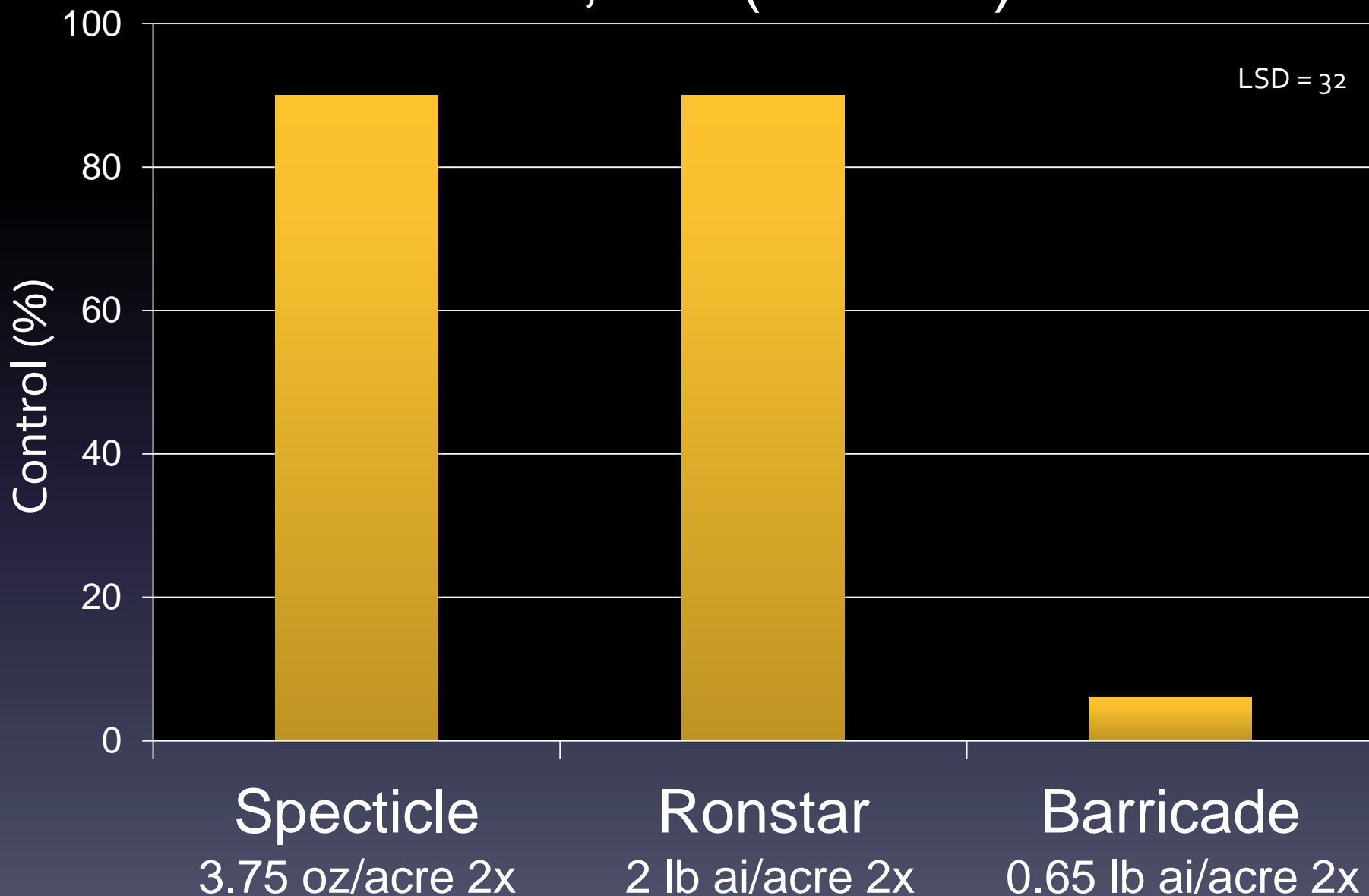
**Barricade 0.5 lb ai/a 2x  
(Sept. + Oct. App.)**



**Photo: 1/22/11**



# Dinitroaniline Resistant Goosegrass Control Griffin, GA (9/19/11)











Roundup + Milestone



1 MAT

Roundup +  
Milestone+  
Esplanade



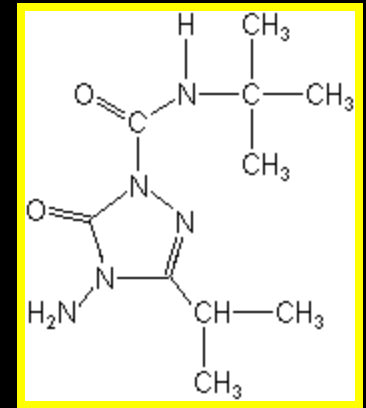


# Durazone 7 DAT

- DuraZone
  - Indaziflam + glyphosate
  - Homeowner product
- Esplanade
  - Indaziflam alone
  - Non-crop areas



# amicarbazone



- **Trade Name:** Xonerate
  - Developed by Arysta LifeScience
  - Photosystem II inhibitor
- **Postemergence Herbicide**
  - Tall fescue, perennial ryegrass, creeping bentgrass
  - All warm-season grasses (except St. Augustine)
  - Controls *Poa annua* and broadleaf weeds
- Introduction: February 28, 2012



# Annual Bluegrass Control in Bermudagrass

UGA Griffin, 2010

**Ami 10.0 oz/a**

**Ami 7.5 oz/a**

**Ami 5.0 oz/a**

Appl. Date: March 16, 2010

Photo: April 14, 2010





50° F



86° F

amicarbazone at 2 oz/acre 2x



# Summer Applications of Amicarbazone on Creeping Bentgrass



2008 7 21



# Amicarbazone at 4 oz/acre 2x in September at UGA on Tall Fescue





Source: Yelverton, NC  
State



**49 g/ha**

**Mar 31, Apr 9, Apr 16, and Apr 23**

**Photo taken early-June**

**Olde Point GC**



# Reseeding Intervals

Seeded Perennial Ryegrass and Tall Fescue

**2 and 4 oz/acre**

Safe when applied day of seeding, 2, 4, or 6 weeks before seeding

**8 oz/acre**

Safe when applied 2 weeks before seeding but not the day of seeding





**Methiozolin (PoaCure)**

**New active ingredient for bentgrass  
greens**

**Currently registered in S. Korea & Japan**

**Potential U.S. registration in 2015**



Methiozolin  
1 lb ai/acre 1x

Untreated







Untreated

Trimmit 0.16 lb ai/acre  
1 x

Methiozolin 1 lb ai/acre 1x



May 2011





**Untreated**



**Treated**







May 2011



February 2012





February 2012





February 2012













Untreated



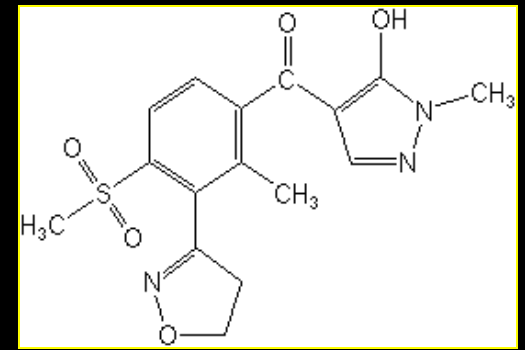
Methiozolin  
0.375 lb a.i./acre



Goosegrass control



# tompramezone



- Trade Name: none yet
  - HPPD inhibitor
  - Introduction in 2012 (BASF)
- Labeled in golf and non-residential turf
  - Tall fescue, ryegrass, centipedegrass
- Weeds Controlled
  - Crabgrass, bermudagrass, goosegrass, broadleaf weeds











# New Combination Products

- Blindside: metsulfuron + sulfentrazone
- Square One: quinclorac + carfentrazone
- Freehand: dimethenamid + pendimethalin



# Research Sites Needed

- Vaseygrass
- Centipedegrass with goosegrass
- St. Augustinegrass with dallisgrass or goosegrass



# My Contact Information

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- UGA Griffin Campus



Thanks

