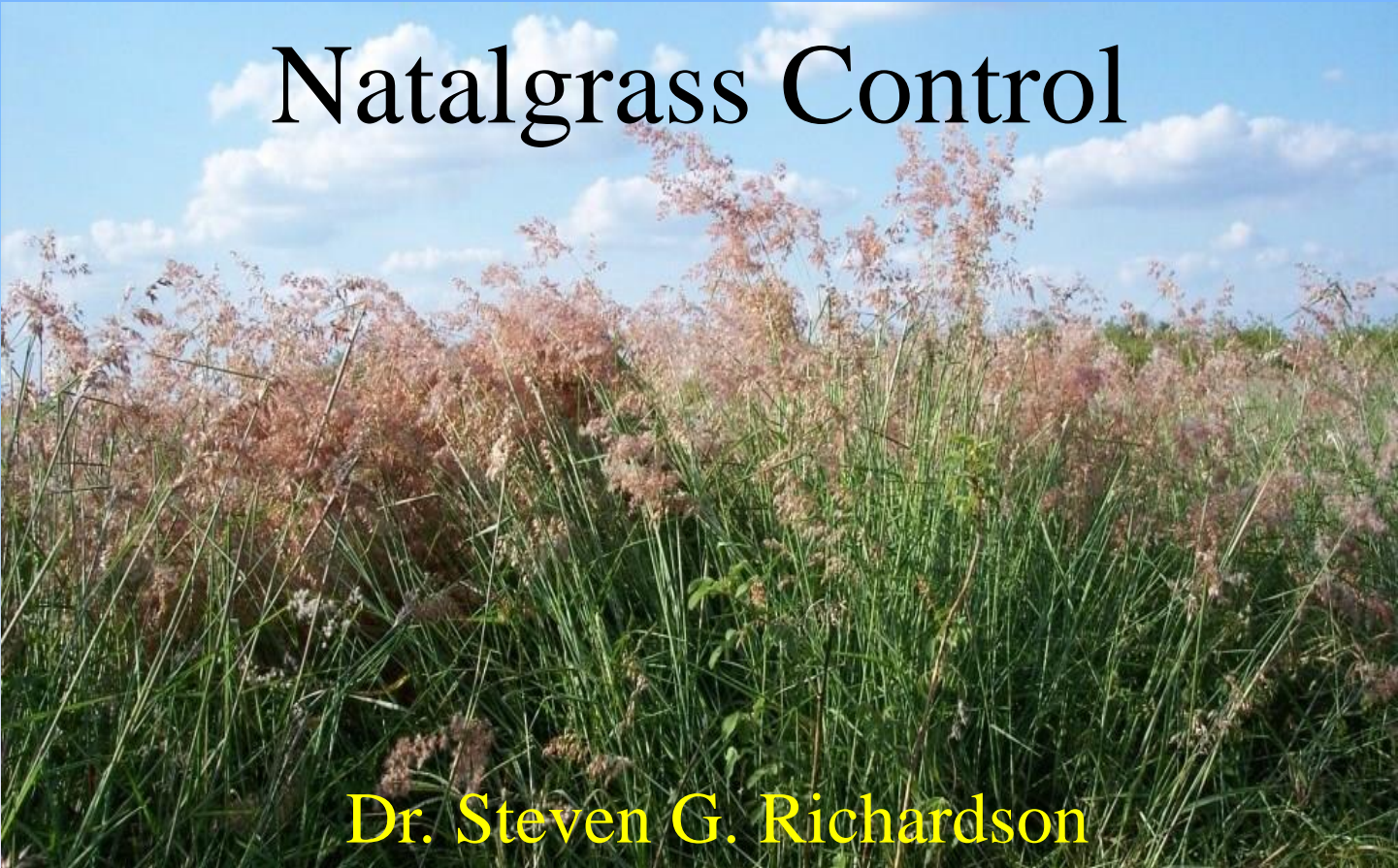


# Natalgrass Control



**Dr. Steven G. Richardson**













# Natalgrass - *Melinis repens* (formerly *Rhynchelytrum repens*)

- Annual grass from southern Africa
- May act like short-lived perennial
- Prolific seed producer
- Can root at stem nodes



# Natalgrass Control

- Stop Seed Production
- Stop Seed Germination

Florida Industrial and Phosphate  
Research Institute



# Weed Management Techniques

- Tillage
- Mowing and/or grazing
- Biocontrol (insects or disease)
- Fire
- Soil fertility management
- Plant competition (shade, etc.)
- Herbicides – pre-emergent and selective or nonselective post-emergent

Pre-emergent herbicides  
work best on bare soil





# Soil Inversion to Bury Weed Seeds



# Pre-Emergent Herbicides

- Affect seed germination and emergence
- Best on bare soil (after burn or tillage)
- Best if rainfall washes it into soil
- Some can be sprayed over top of tubeling transplants or established vegetation
- Some have both pre- & post-emergent activity (Velpar, Plateau, Habitat)

# Herbicides for Natalgrass

## Pre-emergent only

- Pendimethalin (Pendulum, Prowl)
- Oryzalin (Surflan)
- Isoxaben (Gallery)
- Prodiamine (Barricade)

Minimal effect on established plants

Can be sprayed over-the-top of new transplants

**BASF**

The Chemical Company

# PROWL H<sub>2</sub>O

herbicide

### FOR USE IN SELECTED CROPS

<b>ACTIVE INGREDIENT*</b>	
pendimethalin [N-(1-ethoxypropyl)-3,4-dimethyl-2,6-dinitrobenzamide].....	88.7%
<b>INERT INGREDIENTS</b> .....	61.3%
<b>TOTAL</b> .....	100.0%

\*1 gallon contains 3.8 pounds of pendimethalin formulated as an aqueous capsule suspension.

EPA Reg. No. 241-418

EPA Est. No. 241-MO-01

**KEEP OUT OF REACH OF CHILDREN.  
CAUTION! / PRECAUCION!**

Si usted no entiende la etiqueta, busque a alguien por los detalles. Si usted no entiende la etiqueta, busque a alguien por los detalles.

In case of an emergency endangering life or property call or night 1-800-421-6242.

Also Pendulum

GROUP 3 HERBICIDE

# Surflan

AS SPECIALTY  
HERBICIDE

A selective preemergence surface-applied herbicide for control of annual grasses and many broadleaf weeds in: • Landscape Ornamentals • Container Grown Ornamentals • Field Grown Ornamentals • Drainage Areas Under Shadehouse Benches • Ornamental Bulbs • Ground Covers/Perennials • Christmas Tree Plantations • Non-bearing fruit and nut trees and non-bearing vineyards • Noncropland and Industrial Sites • Established Warm Season Turf (including Bahiagrass, Bermudagrass, Buffalograss, Centipedegrass, St. Augustinegrass and Zoysiagrass) • Tall Fescue (warm season areas)

<b>ACTIVE INGREDIENT:</b>		<b>BY WT.</b>
Chlorim: 1,1-dimethyl-3-(4-dimethylphenyl)-5-isoxazolinone.....		40.4%
<b>OTHER INGREDIENTS</b> .....		59.6%
<b>TOTAL</b> .....		100.0%

Contains 4.0 pounds of active ingredient per gallon.

EPA Reg. No. 70506-44

**KEEP OUT OF REACH OF CHILDREN  
CAUTION PRECAUCION**

Si usted no entiende la etiqueta, busque a alguien por los detalles.

Dow AgroSciences

# Gallery

75 Dry Flowable

### Herbicide

A preemergence herbicide for control of certain broadleaf weeds in:

- Established Turfgrass
- Landscape Ornamentals
- Container Grown Ornamentals
- Field Grown Ornamentals
- Groundcovers/Perennials
- Non-Cropland
- Ornamental Bulbs
- Non-Bearing Fruit and Nut Trees and Non-Bearing Vineyards
- Christmas Tree/Conifer Plantations

<b>Active ingredient:</b>	
isoxaben; N-[3-(1-ethyl-1-methylpropyl)-5-isoxazolyl]-2,6-dimethoxybenzamide and isomers.....	75%
<b>Other ingredients</b> .....	25%
<b>Total</b> .....	100%

Contains 0.75 lb active ingredient per pound.

**Keep Out of Reach of Children  
CAUTION**

### Agricultural Use Requirements

Use this product only in accordance with its labeling and with the directions for use on the label.

PEEL FILM HERE

GROUP 15 HERBICIDE

# Pennant Magnum

Herbicide

syngenta.

## Herbicide

For weed control in nurseries, turf, and landscape plantings

<b>Active Ingredient:</b>	
S-metolachlor (CAS No. 87392-12-9):.....	83.7%
<b>Other Ingredients:</b> .....	16.3%
<b>Total:</b> .....	100.0%

Pennant Magnum contains 7.62 lb active ingredient per gallon.

Pennant Magnum is formulated as an emulsifiable concentrate (EC).

1 gallon

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

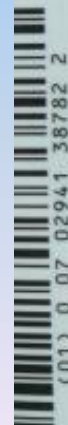
Not for Homeowner Use

See additional precautionary statements and directions inside booklet.

EPA Reg. No. 100-950  
EPA Est. 070989-IA-00

Formulated in the USA

SCP 950A-L1J 05  
4053320





**Greenhouse Tests**



**Untreated Check**

# Herbicides Providing 100% Pre-emergent Control for 6 Weeks in Greenhouse

<u>Chemical</u>	<u>Rate (lb a.i./acre)</u>
Pendimethalin	1.0
Oryzalin	1.5
Norflurazon	1.5
Diuron	0.6
Hexazinone	1.7

# Herbicides Providing 90-100% Pre-emergent Control for 6 Weeks in Greenhouse

<u>Chemical</u>	<u>Rate (lb a.i./acre)</u>
Sulfometuron	0.1
Oxyfluorfen	0.2
Prodiamine	0.3
Isoxaben	0.3
Hexazinone	1.0
Imazapic	0.2
<u>Imazapyr</u>	<u>0.3</u>

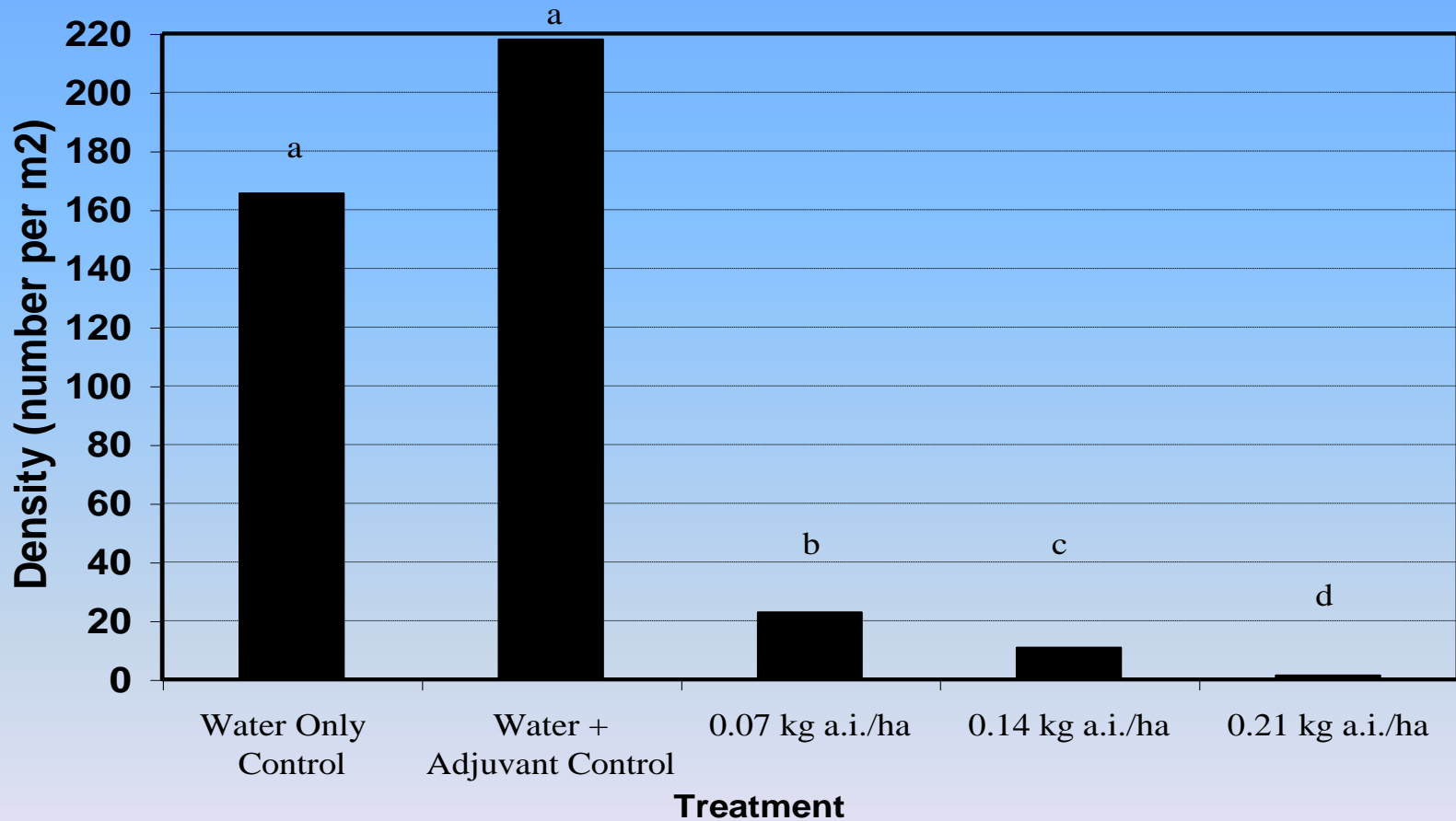
# Herbicides for Natalgrass

## Pre- and post-emergent

- Hexazinone (Velpar)
- Imazapyr (Arsenal or Habitat)
- Imazapic (Plateau)
- Imazamox (Clearcast)
- Sulfometuron methyl (Oust)

Tolerance of native or other desirable plants important

# Natalgrass Seedling Density in May after Treatment with Imazapic in November (0, 4, 8, 12 oz Plateau /Acre)



# Imazapic Tolerant – Post-emergent

- *Andropogon ternarius*
- *Aristida stricta*
- *Eragrostis spp*
- *Galactia spp*
- *Helianthus angustifolius*
- *Liatris spp*
- *Pityopsis graminifolia*

Also Imazapyr tolerant (12 to 16 oz Habitat/acre)

Natalgrass prior to burn



Burned 3-15-17

Pre-emergent Herbicide 3-21-17

Photo 4-18-17



Natalgrass prior to burn



Burned June 2009



# Percent Natalgrass Cover on August 18, 2010

<u>Treatment (rate per acre)</u>	<u>% Cover</u>
Untreated Check	63.3 (3.3)
Pendulum (3 qt)	6.0 (2.6)
Velpar L (1.5 qt)	2.9 (1.2)
Plateau (12 fl oz)	6.7 (2.0)
Habitat (12 fl oz)	6.0 (2.1)

Means of three replicates (standard error in parentheses).

**Site burned 6-16-09.**

**Pendulum and Velpar 6/23/09. Plateau and Arsenal  
7/9/09.**

Photo 10-6-09



Check



Plateau (Imazapic)



Photo 10-6-09

Pendulum (Pendimethalin)

Check



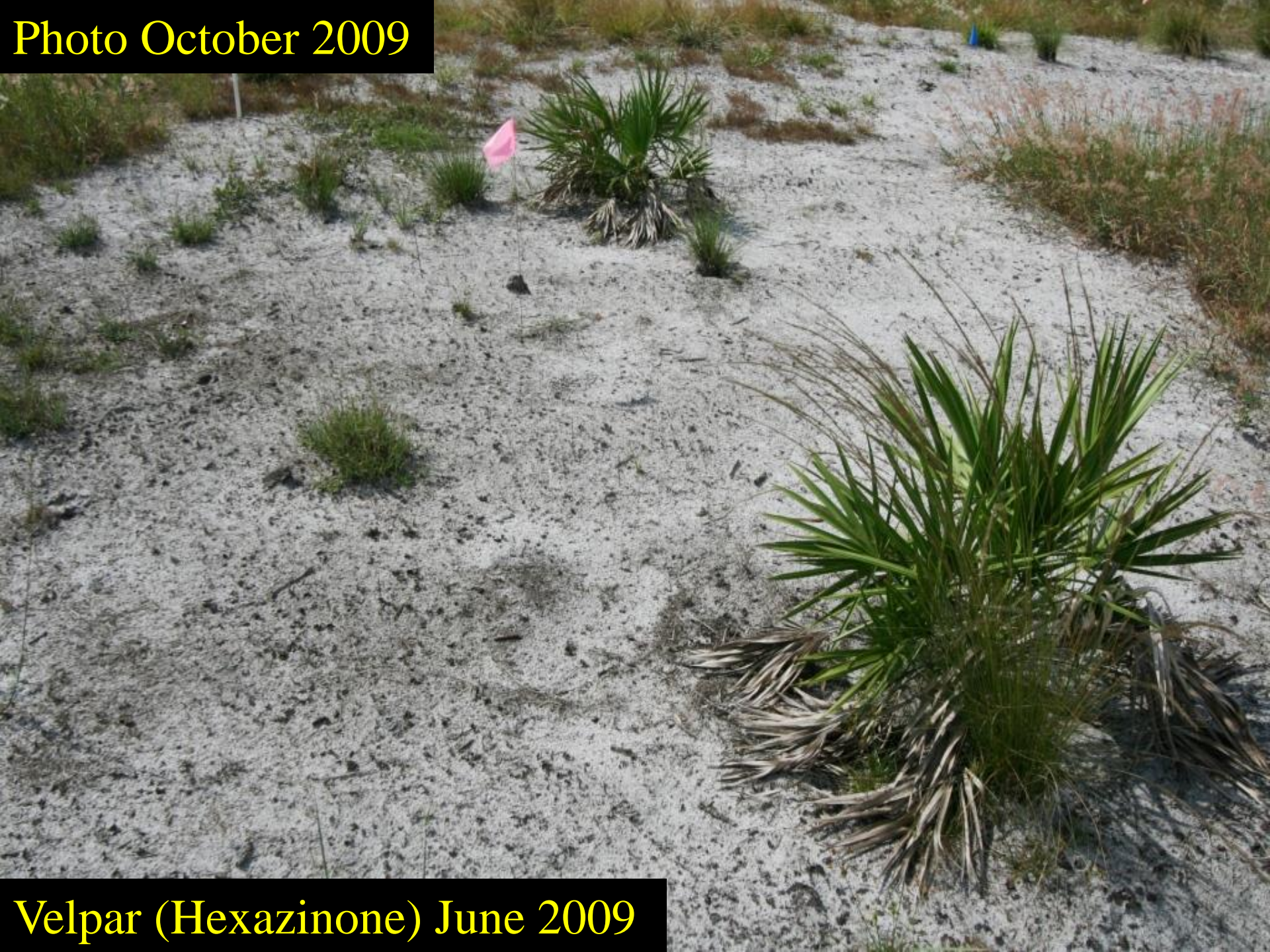
Pendimethalin June 2009



Photos August 2010



Photo October 2009



Velpar (Hexazinone) June 2009

Photo August 2010



Velpar June 2009



**Disked**



Control of natalgrass and other  
annual weeds with pre-emergent  
herbicide over top of tubeling plants

Planted  
9-15-15



No pre-emergent

Pre-emergent herbicide  
soon after planting

10-05-15

4-8-16



6-24-16



10-14-16



*Aristida purpurescens* filling-in alleyway



Planted August 2016  
Photo August 2017

Pre-emergent “wore off”  
Did not inhibit later seed  
germination

# Herbicides for Natalgrass

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## Post-emergent only

- Glyphosate (Round-up or Rodeo)
- Fluazifop-butyl (Fusilade)
  - Better on young grass early in growing season, Repeat
- Diquat (Reward)
  - Contact herbicide, requires complete coverage, perennials can recover after top kill

# Herbicides for Natalgrass

## Pre- and post-emergent

- Hexazinone (Velpar L 24-48 oz/acre)
- Imazapyr (Habitat 12-16 oz/acre selective)
- Imazapic (Plateau) better on young natalgrass or pre-emergent
- Sulfometuron methyl (Oust)

Some native plants tolerant of lower rates.

Can also spot-spray base with higher rates of soil active imazapyr and hexazinone to avoid overspray.

Directed application can still result in damage to adjacent plants via “overspray”

Try soil active herbicide (imazapyr, etc.) at base of bunchgrass or herbaceous weed



# Imazapic Tolerant – Post-emergent

- *Andropogon ternarius*
- *Aristida stricta*
- *Eragrostis spp*
- *Galactia spp*
- *Helianthus angustifolius*
- *Liatris spp*
- *Pityopsis graminifolia*

Also Imazapyr tolerant (12 to 16 oz Habitat/acre)

Treated just before flowering

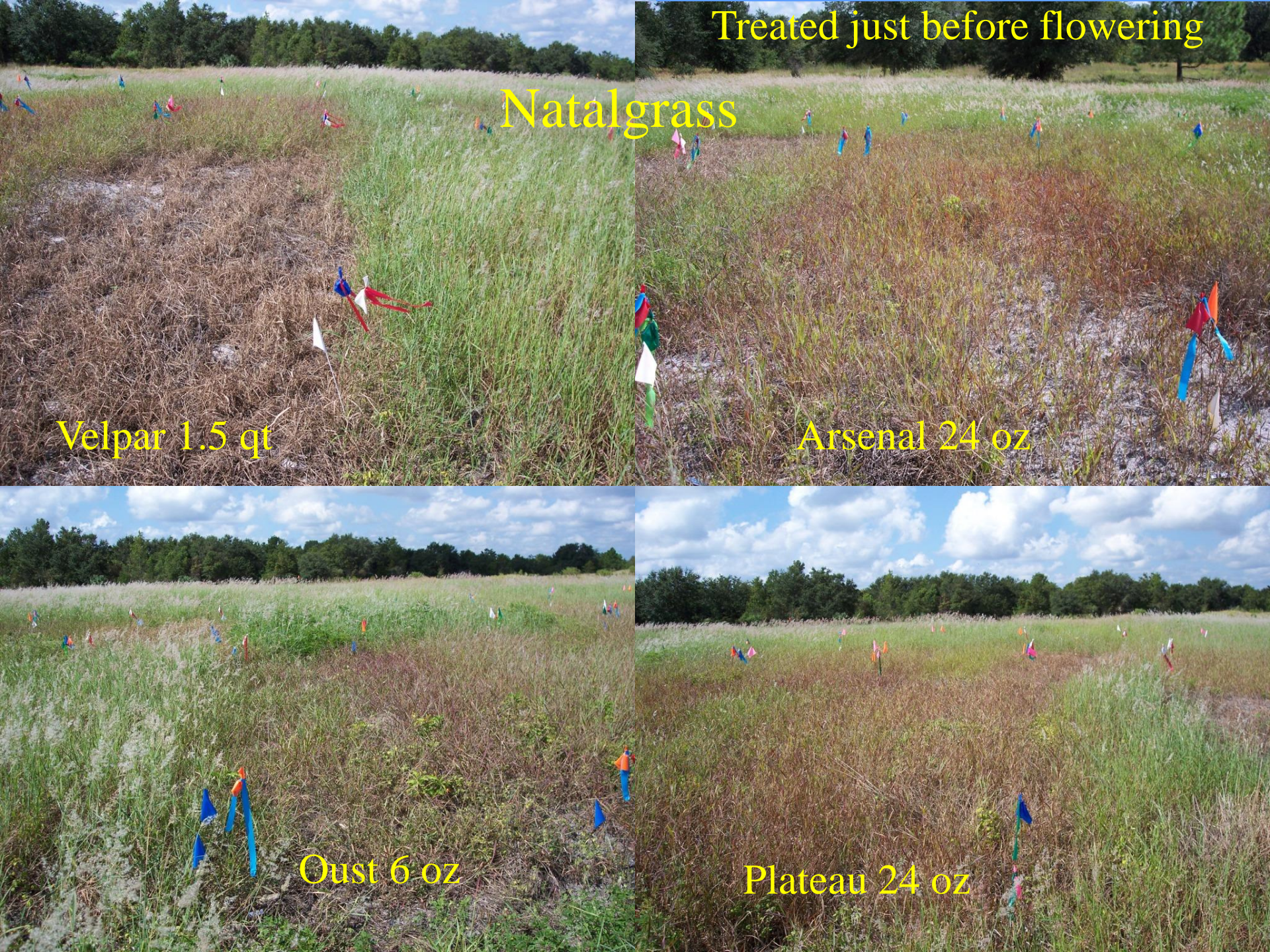
# Natalgrass

Velpar 1.5 qt

Arsenal 24 oz

Oust 6 oz

Plateau 24 oz





**Velpar sprayed 9-12-05**  
**Photo 11-18-05**

# Selective Control

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- Plant species/genotype
- Chemical type
- Additives (e.g., surfactants)
- Rate (requires calibration)
- Timing (season or growth stage)
- Directed application

# Directed Application

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- Point and spray (backpack)
  - Try basal application of soil active herbicide (imazapyr, etc.)
- Hack and squirt
- Basal bark
- Ropewick
- Wet glove