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## Smutgrass Control in Pastures

Brent Sellers  
UF-IFAS Range Cattle REC and Agronomy Department,  
Ona, FL

UF IFAS Extension  
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## Overview

- Basic smutgrass information
- Past experiments
  - Rate titration
  - Use of adjuvants
  - Sequential programs
- Current experiments
  - Wiping studies (already covered)
  - Rainfall studies
  - Glyphosate

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## Smutgrass

- Two species in Florida
  - Small smutgrass
  - Giant Smutgrass
- Control
  - 3-4 pt Velpar/Tide Hexar-rainy season
  - No surfactant is required
- Grazing restriction = 0; 38 d haying restriction



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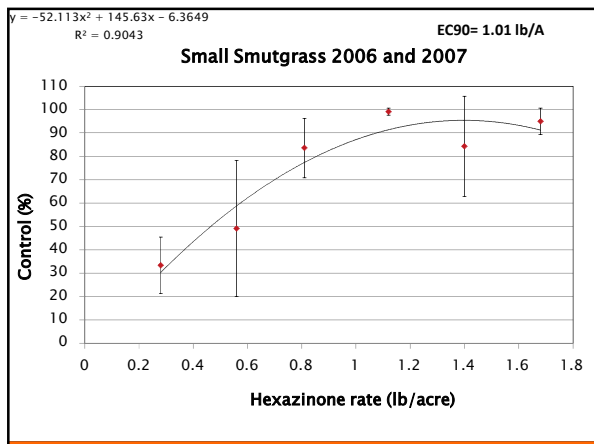
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## Rate Titration Summary

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- Rate titration data:
  - Giant smutgrass EC<sub>90</sub>=0.65-0.99, mean 0.83 lb/acre
  - Small smutgrass EC<sub>90</sub>=1.01 lb/acre
- Recommended rate for both varieties is 1.0 lb/acre

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## Adjuvants

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- Different rates of Optima and different adjuvants
- Conducted in Clewiston, Florida in 2005 and in Ona, Florida in 2006, 2007
- Hexazinone applied at 3 or 4 pt/acre
- Optima: 0.125, 0.25, 0.5, 0.75, 1% v/v
- 1 pt of MSO, Optima 0.5, Kinetic 0.1, Dyne-Amic 0.5, Induce 0.25% v/v

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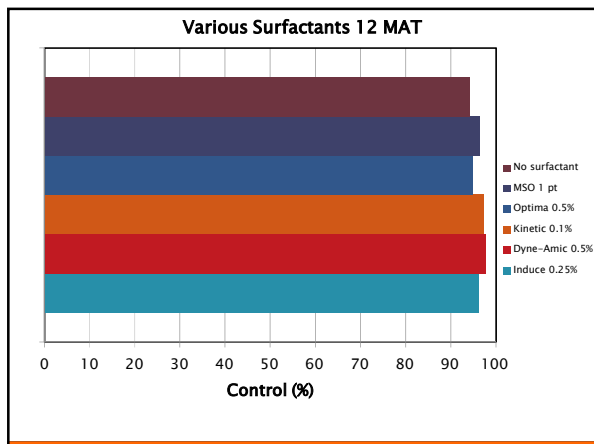
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### Field Experiment 1

Treatments		Year			
2008	2009	2008	2009	2010	2011
-----No. of plants/m <sup>2</sup> -----					
Velpar 2 qt/A	Velpar 1 qt/A	2.80 a	0.48 bc	0.13 cd	0.18 bc
Glyphosate 4 qt/A	Velpar 1 qt/A	2.88 a	5.53 a	0.23 bc	0.60 b
Fall roller chopping	Velpar 1 qt/A	2.93 a	0.33 bc	0.03 d	0.39 b

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### Field Experiment 2

Treatments			2008	2009	2010	2011
2008	2009					
Velpar	Velpar	Nitrogen	-----No./m <sup>2</sup> -----			
2 qt/A	0 qt/A	0 lb/A	2	0.2	0.2	0.6
2 qt/A	0 qt/A	50 lb/A	2	0.1	0.2	0.8
2 qt/A	1 qt/A	0 lb/A	2	0.1	0.1	0.7
2 qt/A	1 qt/A	50 lb/A	2	0.1	0	0.3

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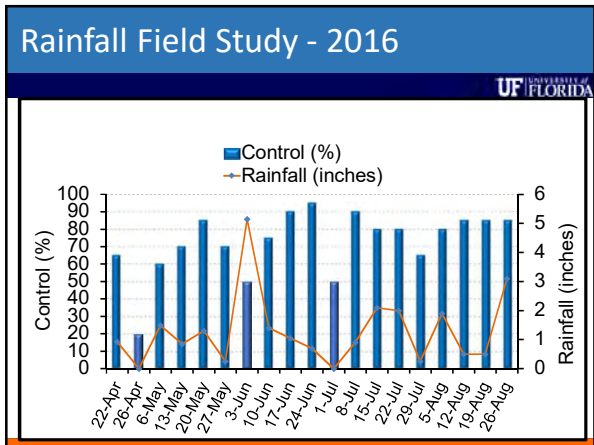
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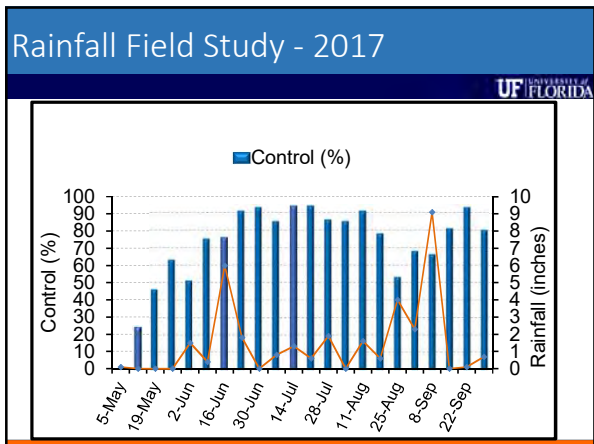
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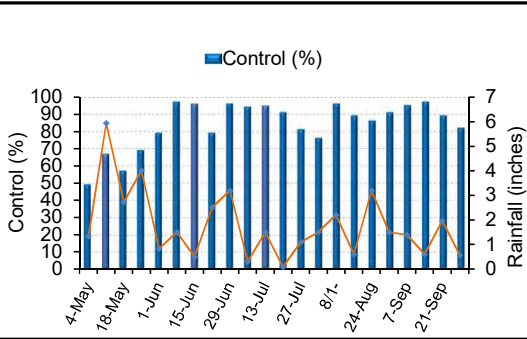
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### Rainfall Field Study - 2018



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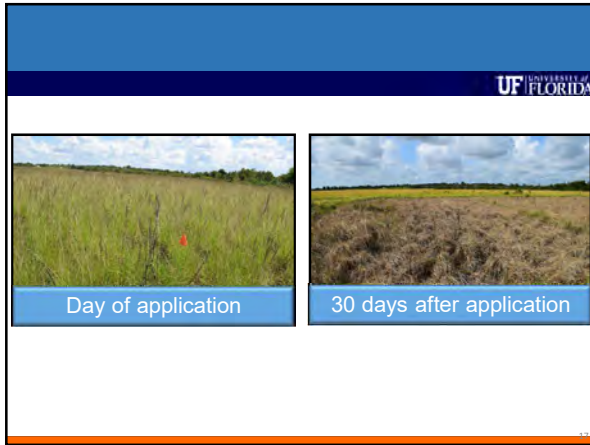
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### Use of Hexazinone on Forages



- Bahiagrass
- Bermudagrass
  
- BUT NOT:
  - Limpograss
  - Stargrass
  - Mulato

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## Is Glyphosate an Option for Selective Control of Smutgrass in Bahiagrass Pastures in Florida?

Brent A. Sellers and Jose L.C.S. Dias



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### Calculation Example

- Convert Gly Star Plus (3 lb ae) to Roundup PowerMax (4.5 lb ae)

$$\frac{32 \text{ oz}}{A} \times \frac{3 \text{ lb ae}}{128 \text{ oz/A}} = \frac{0.75 \text{ lb ae}}{A}$$

$$\frac{0.75 \text{ lb ae}}{A} \times \frac{128 \text{ oz/A}}{4.5 \text{ lb ae}} = \frac{21.3 \text{ oz}}{A}$$


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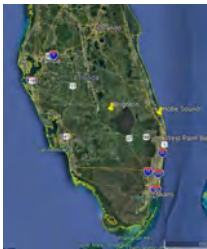
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### Methods-Smutgrass

- 2 Locations
  - Brighton, FL; July, 2017
  - Hobe Sound, FL; May, 2018
- Sites mowed to 6 inches; to regrow 2 weeks
- Glyphosate application
  - 0-0.94 lb ae/A (3 lb ae formulation)
    - 0-40 oz/A
  - ATV sprayer, 30 GPA
- Plot size: 20 x 50 ft
- Evaluations
  - Smutgrass height
  - Smutgrass seed-head counts
  - Smutgrass biomass




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## Methods-Bahiagrass



- Ona, FL; July, 2018
- Mowed to 6 inches, allowed to regrow 2 weeks
- Glyphosate application
  - 0-0.94 lb ae/A (0 to 40 oz/A of 3 lb ae formulation)
  - Handheld boom, 30 GPA
- Plot size: 5 x 5 ft plots
- Evaluations
  - Biomass 30 and 60 DAT

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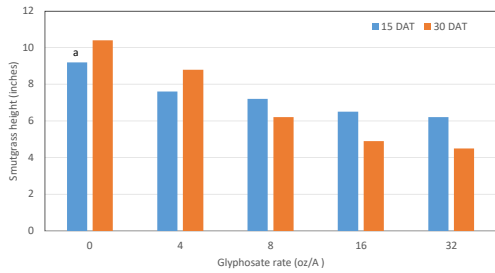
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## Smutgrass Height - Brighton



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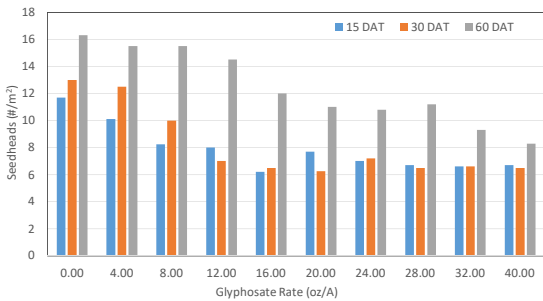
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## Smutgrass Height - Hobe Sound



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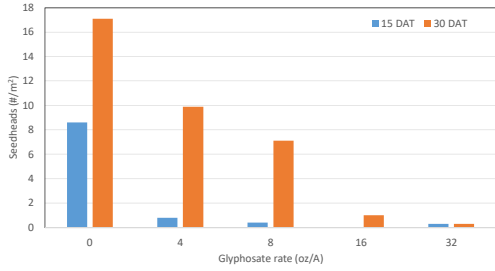
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### Smutgrass Seedhead - Brighton



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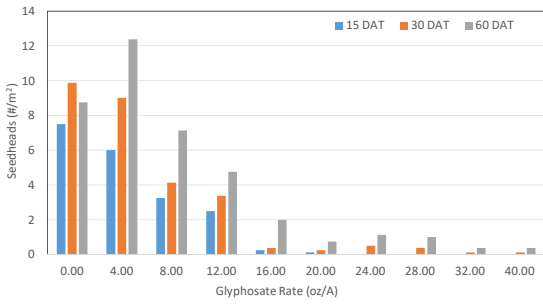
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### Smutgrass Seedhead - Hobe Sound



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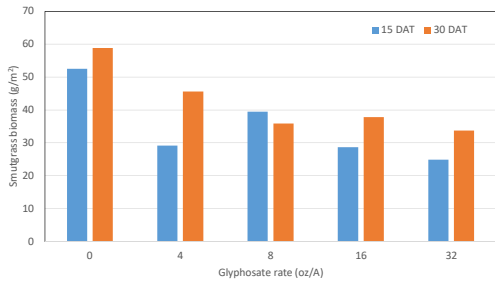
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### Smutgrass Biomass - Brighton



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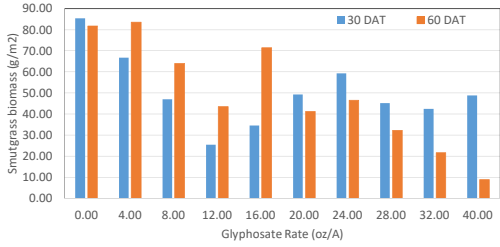
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### Smutgrass Biomass - Hobe Sound



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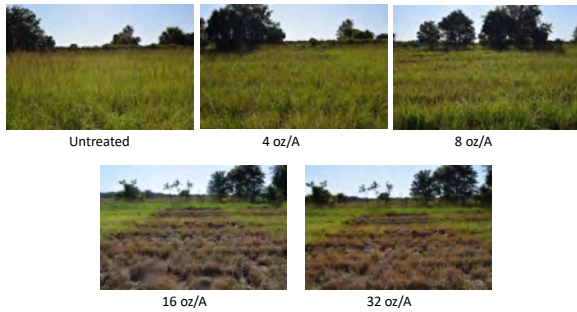
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### Brighton – 30 DAT



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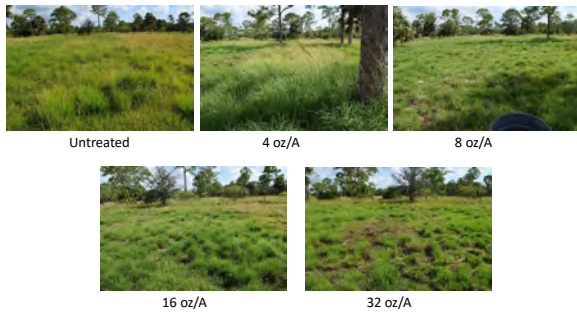
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### Hobe Sound – 30 DAT



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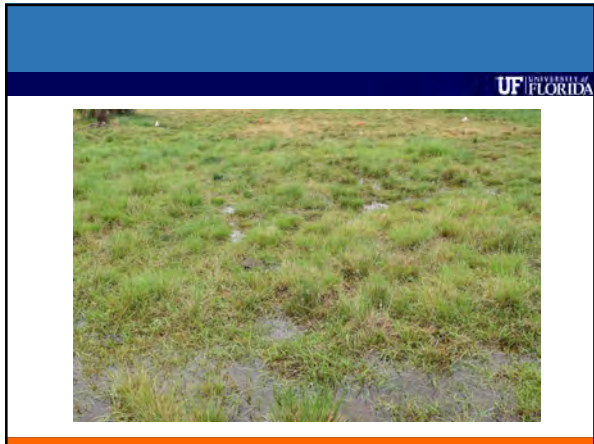
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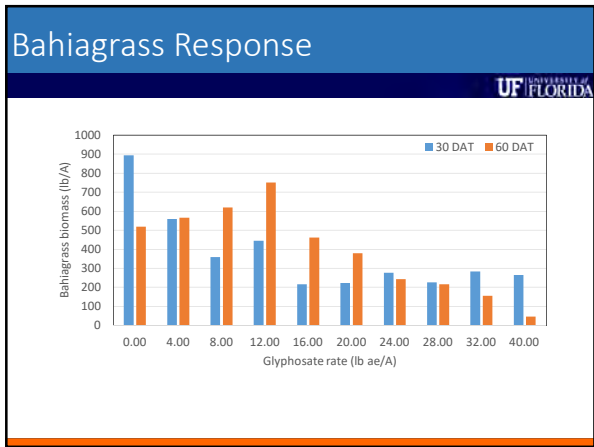
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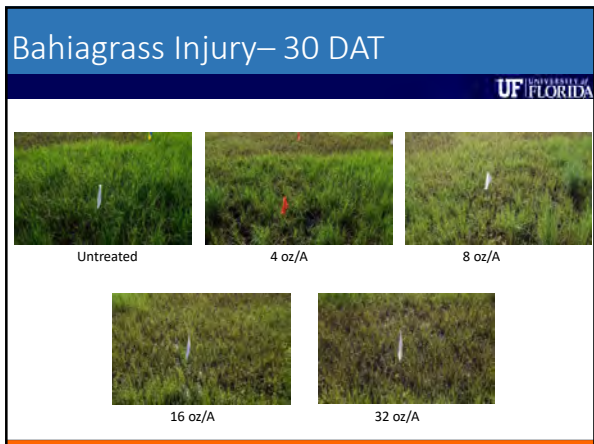
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### Research Continues.....



- Use of hexazinone with aminopyralid, pendimethalin, and indaziflam
- Impregnating dry fertilizer with hexazinone
- Continue work with glyphosate

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### Take Home



- Velpar our selective choice
  - Environment plays a big role
- Grazing management plays a large role in density
  - Less gaps = less smutgrass
  - Continuous grazing = more smutgrass
- Having a good grass stand may be our best management tool

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*“A recurring theme is the importance of a competitive, well managed pasture sward to minimise gaps within the pasture throughout the year thus preventing giant rats tail grass seedling establishment from the long-lived soil seed bank. Without a vigorous, competitive pasture being present, any attempts to control giant rats tail grass will be futile.”*

\*Slide from Dr. Wayne Vogler  
Tropical Weeds Research Centre  
Charters Towers, Queensland

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## Acknowledgements



- FCEB: Greenhouse and rainfall impacts on hexazinone activity.

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