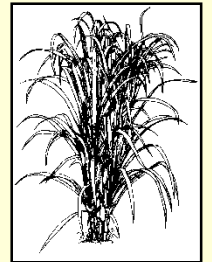


# **Sugarcane: Winter Weed Control, Herbicide Updates, and New Weed Problems**

**Jim Griffin**





# 2010 A Challenge

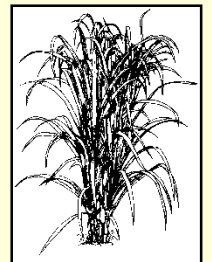


# Winter Weeds



# Weedmaster

- Nufarm Americas
- Weedmaster = dicamba (Clarity) + 2,4-D
- Rate 1 – 2 pt/A
- January – March application (air temperature above 65°)
- For large weeds use higher rate



# Gramoxone Inteon

- Contact herbicide and coverage essential
- Rate is 2 to 3 pt/A
- Always add surfactant or crop oil concentrate
- Controls ryegrass, rescuegrass, timothygrass, and annual bluegrass and many broadleaf weeds
- Can be applied with Weedmaster, Clarity or 2,4-D
- Apply on a sunny day – low temperature will increase time needed to kill weeds
- Can be applied to sugarcane with no more than 4 leaves
- Can be applied with Prowl, atrazine, Direx, or Sencor (PRE application in March) in a “one pass” program



# Winter Weed Control – 21 DAT (Avg. 4 Experiments)

Treatment	Rate/A	Italian	Spotted	Purslane	Spiny
		ryegrass 2 – 24"	burclover 6 – 14"	speedwell 1 - 3"	sowthistle 4 – 24"
-----%-----					
Atrazine	2 qt	2 cd	32 d	77 bc	29 f
Direx	3 lb	20 b	35 d	52 d	33 f
Dupont K4	4 lb	16 b	41 cd	74 c	49 de
Sencor	2 lb	8 bcd	39 cd	84 abc	46 e
Weedmaster	1 qt	14 bcd	68 b	89 a	63 abc
WM + atrazine	1 qt + 2 qt	15 bc	71 ab	85 ab	68 a
WM + Direx	1 qt + 3 lb	14 bcd	81 ab	86 ab	68 a
WM + Duont K4	1 qt + 4 lb	18 b	69 b	87 ab	70 a
WM + Sencor	1 qt + 2 lb	8 bcd	69 b	89 a	69 a
Gramoxone Inteon	2.5 pt	<b>92 a</b>	51 c	86 ab	48 e
GI + atrazine	2.5 pt + 2 qt	<b>84 a</b>	68 b	90 a	56 cde
GI + Direx	2.5 pt + 3 lb	<b>89 a</b>	67 b	87 ab	57 bcde
GI + Dupont K4	2.5 pt + 4 lb	<b>90 a</b>	77 ab	86 ab	61 abcd
GI + Sencor	2.5 pt + 2 lb	<b>93 a</b>	72 ab	88 ab	67 abc
WM + Gramoxone	1 qt + 2.5 pt	<b>91 a</b>	<b>84 a</b>	<b>87 ab</b>	<b>70 a</b>
Nontreated		0 d	0 e	0 e	0 g



**Bermudagrass Control During the Fallow Period Directly Affects Weed Control in the Planted Sugarcane Crop**

**Sencor Applied at Planting**

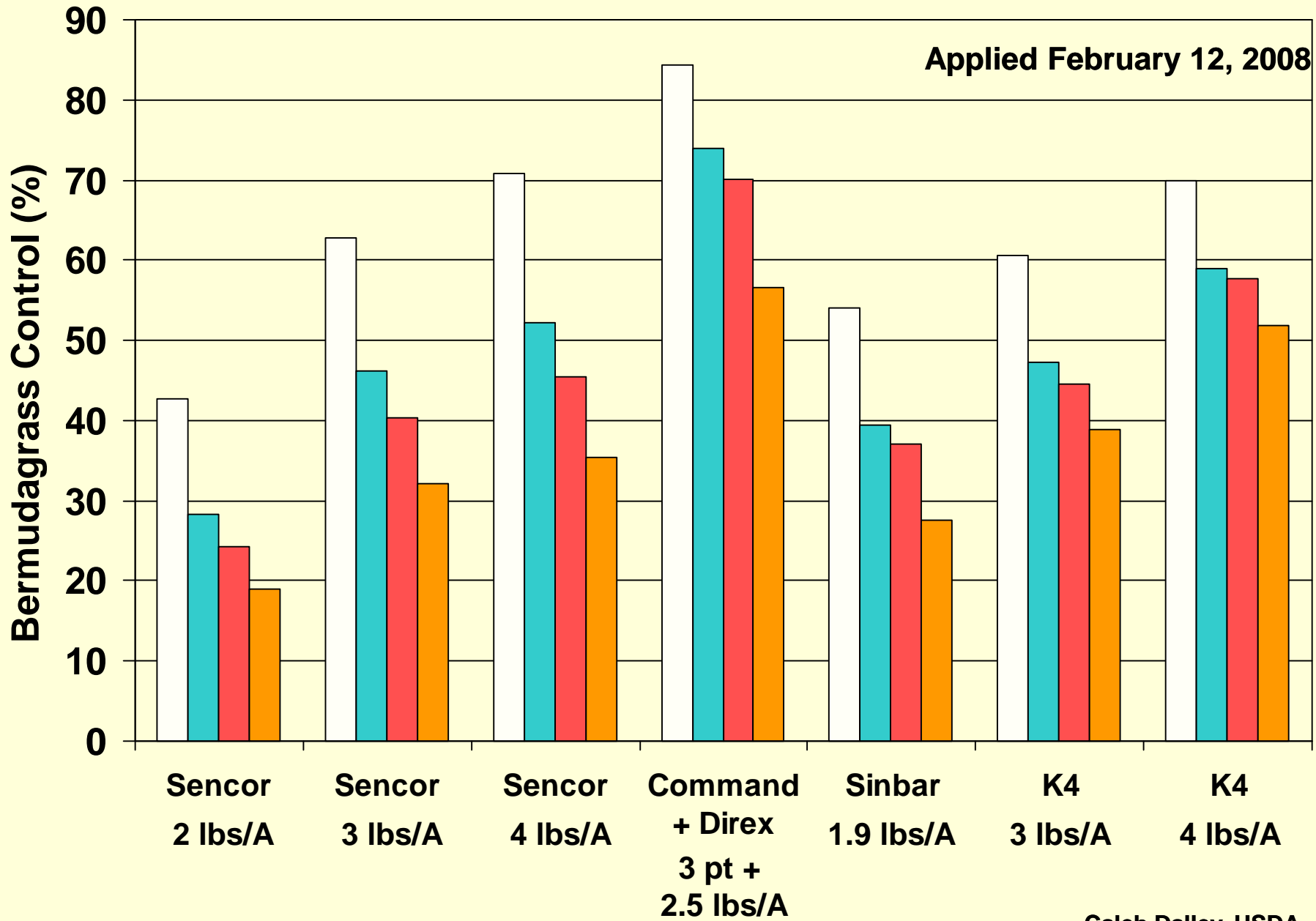
**Bermudagrass *not controlled* in Fallow**

**Sencor Applied at Planting**

**Bermudagrass *controlled* in Fallow**

4 WAT 5 WAT 6 WAT 7 WAT

Applied February 12, 2008







# Best Case Scenario for Bermudagrass Control

- Take an aggressive approach with 540
- Choose the most effective PRE herbicide; Don't skimp on the rate
- Apply when bermudagrass is dormant or right before a hard freeze (February or early March?)
- Need rain within 10 days after application of at least 0.25 inches



# 2010 - What to do?

- Remove harvest crop residue by burning; clip excessive sugarcane regrowth
- Look at fields for winter weeds, determine pressure, and urgency of application
  - Medics, clovers, vetch, ryegrass – remove early (Weedmaster or Gramoxone + Weedmaster)
  - Other winter weeds – may wait until “spring herbicides” are applied (mid-March)
- Note fields with history of bermudagrass
  - If old bermudagrass residue is present treat early (February/early March)

# Bermudagrass - Treflan Program

- Remove harvest crop residue by burning; clip excessive sugarcane regrowth
- Offbar and roll dirt (2-3 inches of soil) on stubble residue
- Pass Lilliston once
- Spray Treflan (2 qts / 36' band) and incorporate with Lilliston
- Lilliston will disrupt bermudagrass stolons and roots and assure herbicide incorporation (rainfall for activation not a concern)



# Other Bermudagrass Programs

- Remove plant cane growth or stubble regrowth
- Offbar? May want to spray first?
- Apply Sencor/Metribuzin product (At least 2.5 lb broadcast) or K4 (4 lb broadcast) or Sencor/Prowl (2.5 lb plus 3 qt broadcast)
- Need at least 0.25 inch rain within 10 days

# New Weed Problems in Sugarcane



# Doveweed

## *Murdannia nudiflora*

- Problem in fallowed sugarcane fields
- Monocot (not a grass or a broadleaf plant)
- Member of dayflower family and poorly controlled with glyphosate
- Creeping stems with roots at nodes
- Purple or blue flowers
- Dense mat on the row can interfere with opening at planting
- Not competitive with sugarcane



# Doveweed Control in Fallowed Sugarcane Fields

- Roundup WeatherMax @ 70 oz – 43% control
- Weedmaster @ 6 pt – 53% control
- Valor @ 3 oz – 79% control
- Sencor @ 2 lb – 75% control
- Atrazine, Direx, Envoke, and Aim – 21 to 60% control
- Gramoxone Inteon @ 1.5 qt/A + 1% COC – 90% control
- Gramoxone Inteon @ 0.75 qt/A + 1% COC – 60-70% control



Data From Caleb Dalley - USDA



# Doveweed Control



# "Shandon" / Browntop Millet

## *Urochloa ramosa*

- Synonyms: *Brachiaria ramosa* or *Panicum ramosum*
- Annual weed problem in fallowed sugarcane fields and in-crop in southern parishes
- Problem where Sencor is used
- Roundup not effective on large established plants
- Closely related to broadleaf signalgrass



# “Shandon” / Browntop Millet

- A spreading summer annual that can grow erect or prostrate along the ground with tips ascending (decumbent growth habit).
- Leaf blades are short and widest near the base and taper to the apex. Leaves are rolled in the bud and without hairs on either leaf surface except on margins and in the collar region. The ligule is fringed with hairs.
- Nodes along the stem are minutely to shortly hairy, and *leaf sheaths are without hairs*. Sheath margins may be hairy



# Least Snout-Bean

## *Rhynchosia minima*

- Fabaceae family
- Perennial legume with vining growth habit
- Produces woody rhizomes
- 2,4-D and Weedmaster not effective on vining plants
- Problem in standing cane
- Thought initially to be a *Desmodium* spp. (Florida beggarweed-like)



# Least Snout-Bean



# Soybeans Grown in Fallowed Sugarcane Fields



# Dicamba-Resistant Soybeans Commercialization Target of 2013

Dicamba is an excellent broadleaf herbicide

***Concern*** - Dicamba drift to Non-transgenic Soybean



# Soybean Response to Drift Rates of Clarity

Clarity rate oz/A	% of x rate (16 oz/A)	Soybean yield (% reduction vs. nontreated)	
		V4 application	R1 application
1 oz	1/16	46	35
0.5 oz	1/32	27	39
0.25 oz	1/64	8	42
0.125 oz	1/128	3	36

Drift rates are most often 1/10<sup>th</sup> to 1/100<sup>th</sup> of the use rate.





## Soybean Response to Drift Rates of Clarity 4L vs. Weedmaster 3.87L

Clarity 4 lb ai/gal dicamba Rate (oz/A)	Clarity % of x rate (16 oz/A)	Equivalent rate of dicamba 1 lb ai/gal in Weedmaster 3.87 lb ai/gal	Soybean yield (% reduction vs. nontreated)	
			V4 application	R1 application
1 oz	1/16	1/4 (1.03 oz WM)	46	35
0.5 oz	1/32	1/8 (0.52 oz WM)	27	39
0.25 oz	1/64	1/16 (0.26 oz WM)	8	42
0.125 oz	1/128	1/32 (0.13 oz WM)	3	36
0.063 oz	1/256	1/64 (0.065 oz WM)	-	-
0.0313 oz	1/512	1/128 (0.032 oz WM)	-	-

**Drift rates are most often 1/10<sup>th</sup> to 1/100<sup>th</sup> of the use rate.**

# For 2010?



**May be a rough start but ....**

**with a little planning and good luck ....**

**The challenge can be met!**

# Questions??





















# Questions??

- New weed problems - Lesser snout bean and Shandon (millet)
- Burning down ryegrass and rescuegrass (Sencor not applied in fall)
  - Ryegrass taller than usual and dead growth from the newly planted cane is present; What to do?
    - Shred dead growth and spray (weed foliage is removed affecting coverage of weeds)
    - Spray first (dead growth will cover ryegrass, preventing contact; how much gramoxone will actually reach the weeds)
    - Burn - will the fire kill rye/rescue waiting under these strips? **Fire will not provide 100% control of winter weeds; get residue off now and worry about weeds later**
- What sort of post activity can one expect from Sencor, Direx, Atrazine, Velpar, etc. if a crop oil is added?
- Which broadleaf weeds will require phenoxies added to the pre/post herbicides? with gramoxone.