



2022 Soybean Weed Control Update

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Soybean Weed Control Simplified



- Start clean
- Narrow rows (< 30")
- **PRE**
 - Metribuzin + Group 15 or Prowl
 - tolerant variety
 - Irrigation or rainfall
- **POST + Residual (weeds <3" tall)**
 - Post = Reflex or Prefix or Warrant Ultra or Liberty or Dicamba (Engenia/Tavium/ Xtendimax) or Enlist One (2,4-D choline) or Enlist Duo (glyphosate + 2,4-D choline)
 - Residual = Anthem Flexx/Max or Dual or Warrant or Outlook or Zidua
 - *Check tank-mix sites first*



Metribuzin Products



Manufacturer	Trade Name	Active Ingredients
FMC	Authority MTZ	sulfentrazone + metribuzin
Syngenta	Boundary	s-metolachlor + metribuzin
Corteva	Canopy Canopy Blend	chlorimuron (10.7%) + metribuzin (64.3%) chlorimuron (8.3%) + metribuzin (50%)
NuFarm	Cloak	chlorimuron (10.7%) + metribuzin (64.3%)
Valent	Fierce MTZ	flumioxazin + pyroxasulfone + metribuzin
Loveland	Intimidator	s-metolachlor + fomesafen + metribuzin
NuFarm	Panther MTZ	flumioxazin + metribuzin
NuFarm	Panther Pro	flumioxazin + imazethapyr + metribuzin
Valent	Mauler	metribuzin
UPL	TriCor	metribuzin
Corteva	Trivence	flumioxazin + chlorimuron + metribuzin

“Old School”

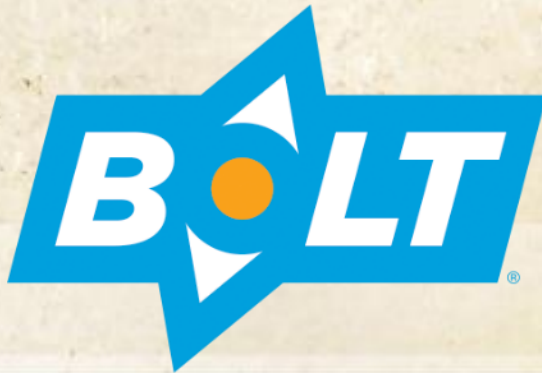


Conventional Soybeans



STS®

herbicide tolerant trait



- PPO resistant weeds = SOL (really!)
- Metribuzin – PRE
- Prowl or Group 15's
- Reflex, Cobra, Ultra Blazer, Prefix, Warrant Ultra
- Classic or FirstRate (sicklepod + MG)
 - STS® (1993) - single gene (non-GMO)
 - Bolt™ (2015) - 2 genes (non-GMO)

Soybean Weed Control - 2021



Soybean Weed Control - 2021



NTC



Reflex 2SL @ 24 oz/A
Classic 25DG @ 0.5 oz/A
2,4-DB 2SL @ 2 oz/A
Induce @ 0.25% v/v
Applied 17 DAP



SB-04-21
July 19
53 DAP

Reflex @ 24 oz/A + Classic @ 0.5
oz/A + 2,4-DB @ 2 oz/A - Applied 17
DAP (V2)



SB-04-21
June 16
30 DAP

Classic 25DG @ 0.67 oz/A + NIS Injury on Non-STS Soybeans

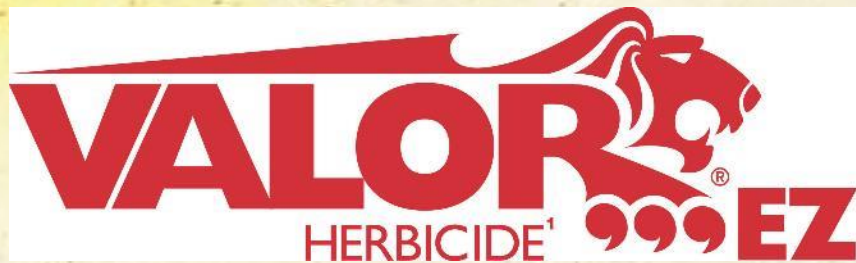


WT-01-21
July 19
6 DAT

PPO Injury on Soybean



Valor in GA Soybeans?



- Effective, legal and labeled but.....
- Are you worried about PPO resistance?
 - **13 species worldwide**
 - **4 species in US**
 - **1 species in GA**
- Weed control in cotton and peanut without Valor?
- Valor fb Reflex/Prefix is a good weed control program but a **bad** resistance mgt plan!

Liberty-Link® Soybeans



LIBERTYLINK® 

Liberty®
Herbicide



FORFEIT 280

- Liberty 2.34SL @ 32-43 oz/A or generics
- VE-R1 (beginning bloom)
- 2 applications (5 days apart)
 - (87 oz/A/year total)
- Tank-mixes with POST grass herbicides may reduce grass control
 - Assure (10-21%); Fusilade (8-12%); Poast (25-41%); Select (4-22%)
- Residuals still needed
- **15 GPA, medium-coarse droplet size, small weeds, 9 am - 6 pm**

Soybean Weed Control - 2021



Applied 17 DAP
Liberty @ 32 oz/A
Zidua 4.17SL @ 2.5 oz/A
Outlook @ 12.8 oz/A
Dual Magnum @ 16 oz/A
Warrant @ 48 oz/A
Roundup P-Max @ 32 oz/A

SB-04-21
July 19
53 DAP



- tolerant to glyphosate, glufosinate, isoxaflutole (Alite™ 27)
- Alite™ 27
 - Only labeled for use in these GA counties: Atkinson, Berrien, Clinch, Echols, Evans, Lanier, Lowndes
 - PPI or PRE
 - 1.5-2.0 oz/A
- No UGA-OVT variety data

SPECIMEN

RESTRICTED USE PESTICIDE

May injure susceptible non-target plants.
For retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification. Commercial and certified applicators must ensure that all persons involved in these activities are informed of the precautionary statements.

BASF

We create chemistry

ISOXAFLUTOLE GROUP 27 HERBICIDE

Alite™ 27

Herbicide

For: weed control in isoxaflutole-resistant soybean grown in select counties in certain states.

This product can only be used on GT27 or isoxaflutole-resistant soybean. Crops not containing a gene expressing an HPPD protein will not be tolerant to Alite 27 Herbicide

[In the state of MN and WI use is only allowed in accordance with the State Specific Product Bulletin.]

ACTIVE INGREDIENT(S):	40.50%
Isoxaflutole [5-cyclopropyl-4-(2-methylsulfonyl-4-trifluoromethylbenzoyl) isoxazole]	59.50%
OTHER INGREDIENTS:	100.00%
TOTAL:	100.00%

Contains 4.00 pounds isoxaflutole per U.S. gallon

EPA Reg. No. 7969-433

EPA Est.

KEEP OUT OF REACH OF CHILDREN

CAUTION

For MEDICAL and TRANSPORTATION Emergencies ONLY Call 24 Hours a Day 1-800-832-HELP (4357)

BASF
26 Davis Drive
Research Triangle Park, North Carolina 27709

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Enlist™ Soybeans



- China approval in Jan 2019
- **Enlist One®**
 - 2,4-D choline
- **Enlist Duo®**
 - 2,4-D choline + glyphosate
- POST up to R2 (full bloom)
- 2 apps (12 days)
- Enlist One can be tank-mixed with glufosinate (Liberty)
- Check label/web-sites for restrictions (nozzles, wind speed, buffers, etc.)
- Varieties for GA????

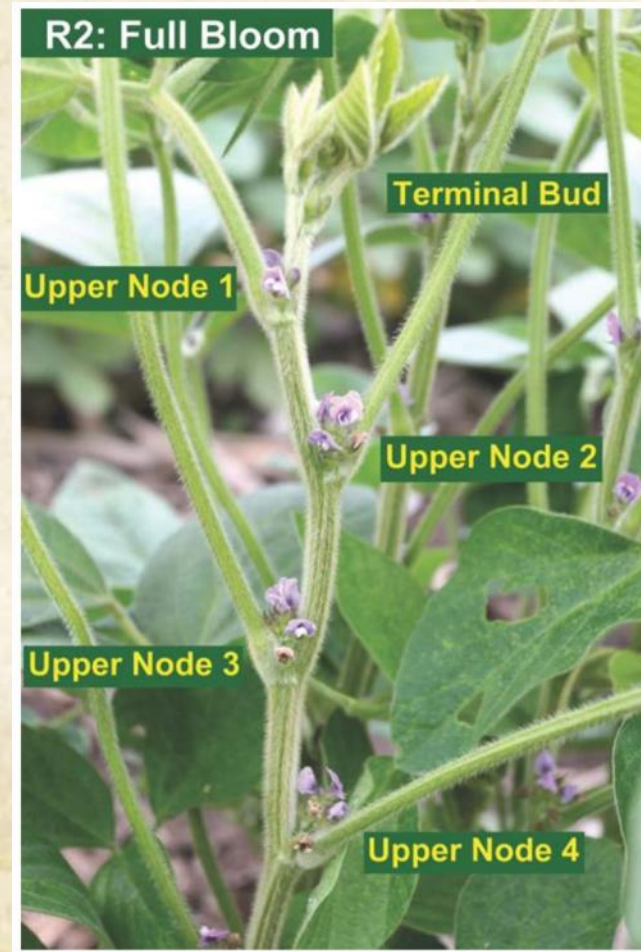


Photo: Dr. Shaun Casteel, Purdue Univ.

Enlist™ Soybean Varieties

UGA-OVT



- **2020 Tests (6 varieties)**
 - DM48E73 (+), DM59E01 (+), DM51E01 (=), AGS48E19 (+), AGS51E19 (-), MS4800E (+), MS5110E (-)
- **2021 Tests (4 varieties)**



~20% of US market in 2020
~35% of US market in 2021

Xtend[®]/XtendFlex[®] Soybeans



- **Xtendimax[®] 2.9SL, Engenia[®] 5SL**
 - Dicamba
 - POST up to R1 (beginning bloom) or June 30
 - 2 apps (7 days)
 - Add a residual
- **Tavium[®] 3.38SC**
 - dicamba (1.12 ae) + s-metolachlor (2.26 lb)
 - 56.5 oz/A
 - POST up to V4 or June 30
 - 1 PPLNT/PRE + 1 POST
 - tank-mixes
- Check Xtendimax label/web-sites for tank-mixes and restrictions (nozzles, wind speed, buffers, etc.)
- Engenia information

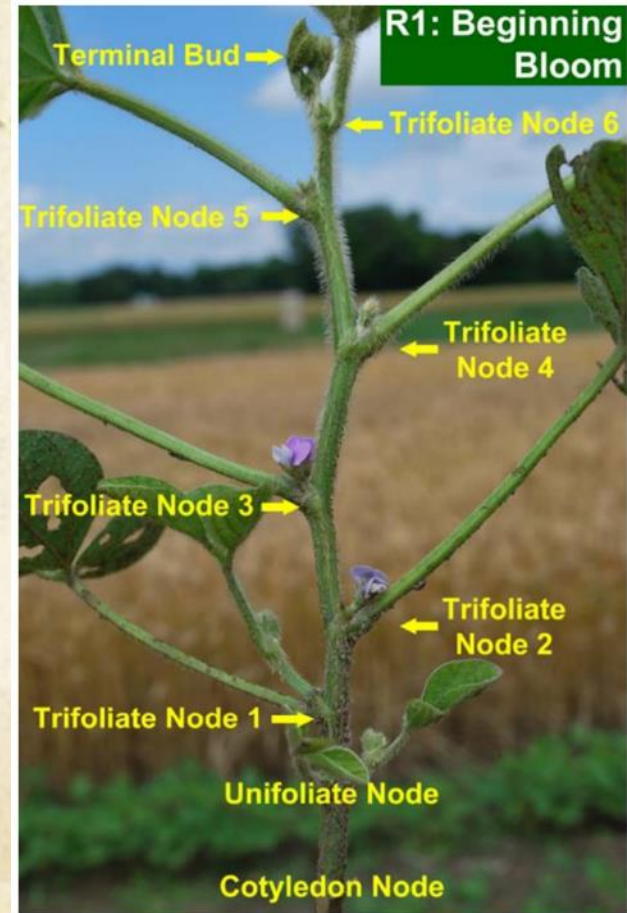
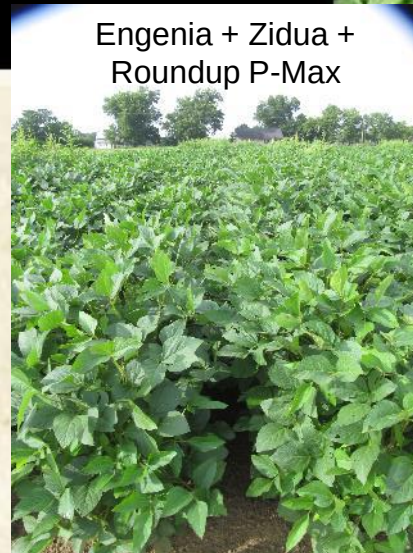


Photo: Dr. Shaun Casteel, Purdue Univ.

Soybean Weed Control - 2021

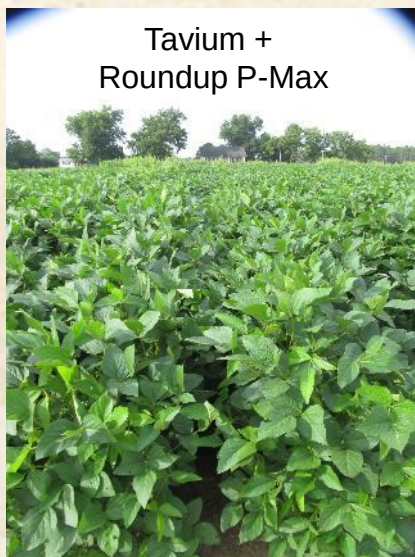


NTC



Engenia + Zidua +
Roundup P-Max

Applied 17 DAP
Engenia @ 12.8 oz/A
Zidua 4.17SL @ 2.5 oz/A
Tavium @ 56.5 oz/A
Xtendimax @ 22 oz/A
Warrant @ 48 oz/A
Roundup P-Max @ 32 oz/A
+
Sentris @ 8 oz/A
Induce @ 0.25% v/v



Tavium +
Roundup P-Max



Xtendimax + Warrant
+ Roundup P-Max

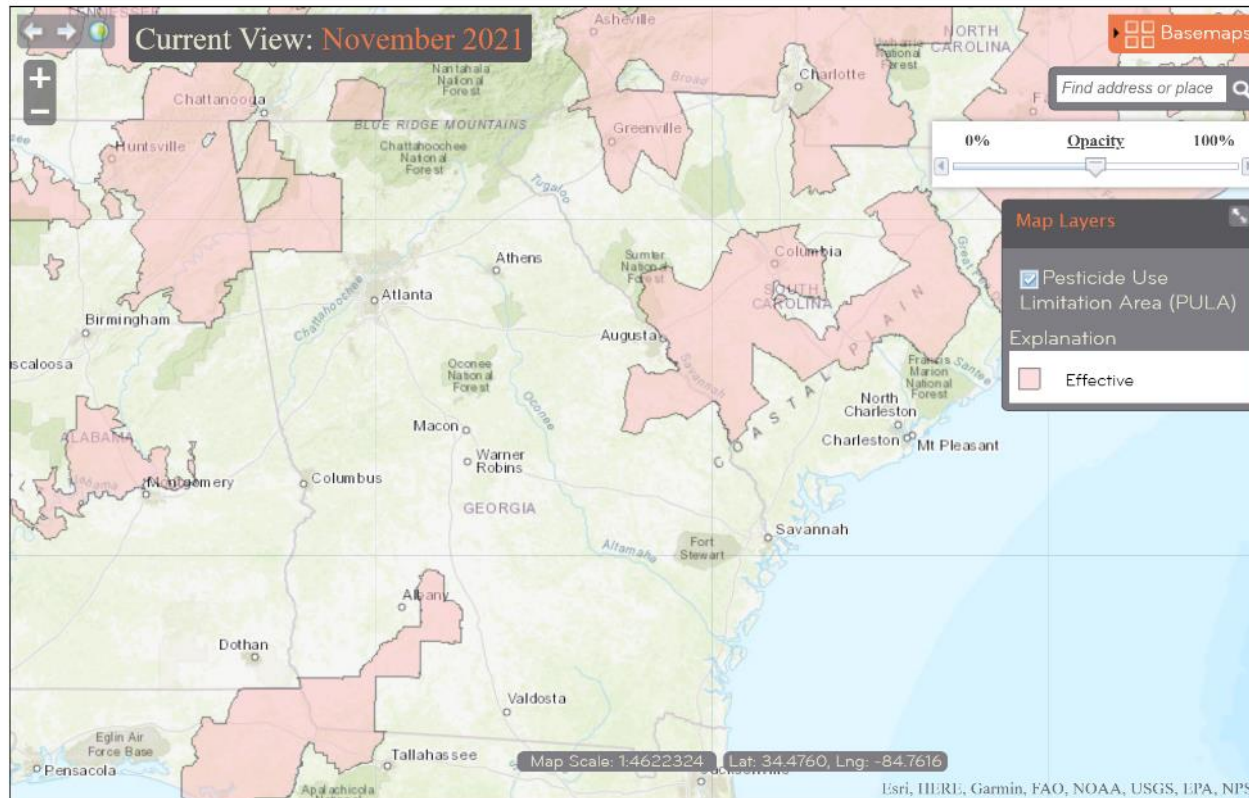
SB-04-21
July 19
53 DAP

GA Endangered Species Concerns for DT Soybeans



Bulletins Live! Two -- View the Bulletins

For assistance in using Bulletins Live! Two, [view the tutorial](#). Also see [background, notes and a quick start guide for BLT](#).



- 310' downwind buffer

- 57' omni buffer

- **South**

- Burke
- Seminole
- Decatur
- Mitchell
- Worth

- **North**

- Floyd
- Bartow
- Gordon
- Walker

Hooded Sprayer Reduces Downwind Dicamba Buffer Requirement (240' to 110' and 310' to 240')



642E



645



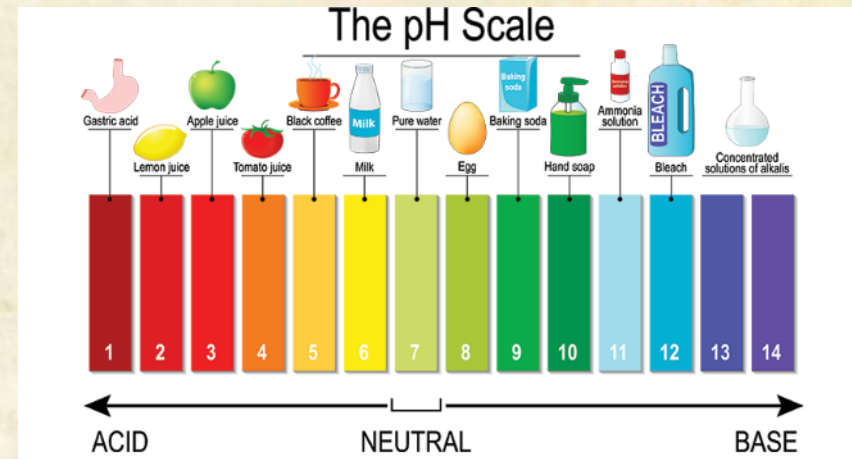
- Redball
 - 642
 - 642E
 - 645
 - 645T
 - ATV642
 - SP645
 - SPK645

Dicamba Soybeans

DRA, VRA, pH Buffers



- Drift Reduction Adjuvant (DRA)
- Volatility Reduction Adjuvant (VRA)
 - VaporGrip® Xtra Agent
 - potassium hydroxide/ethanoic acid
- pH Buffering Adjuvant
 - Sentris™ (BASF)
 - potassium carbonate



Glyphosate + Engenia + Sentris Issues??

- gas pressure buildup/foaming

- mixing order issues

What happens to pH?



Spray Solution pH Study Comparing Volatility Reduction Agents (aka pH Buffering Adjuvants) and Dicamba Products

MIXING ORDER AND RATE:

Volatility Reduction Agents (VRA):

- Sentris = 8 fl oz/a
- VaporGrip Xtra = 20 fl oz/a

Water Conditioner:

- Class Act Ridion = 1% v/v

Drift Reduction Agent (DRA):

- Intact = 0.5% v/v

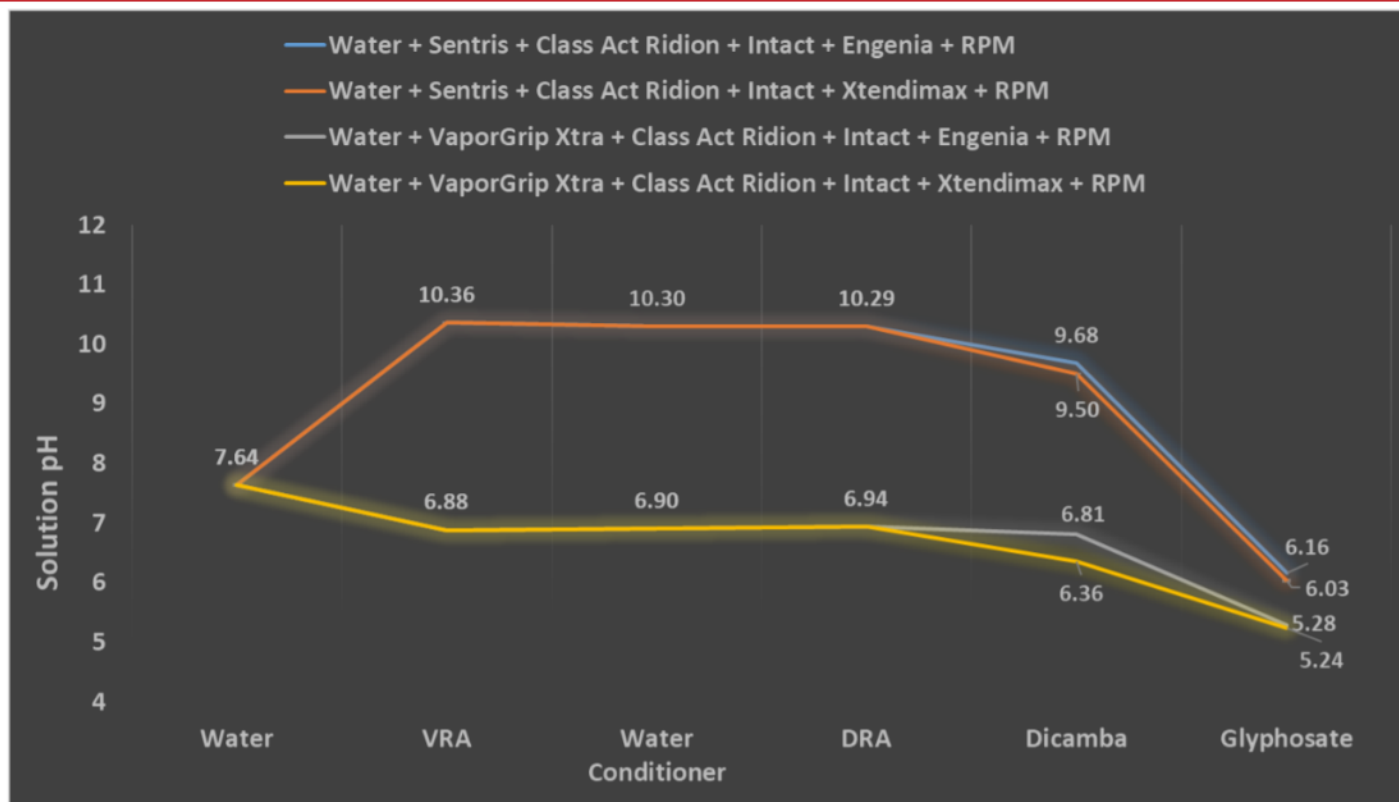
Dicamba:

- Engenia = 12.8 fl oz/a
- XtendiMax with VaporGrip = 22 fl oz/a

Glyphosate:

- Roundup PowerMAX = 32 fl oz/a

- ✓ 15 GPA
- ✓ 1L mix size
- ✓ 3 reps (bottles) per treatment
- ✓ 3 pH readings per rep



*Treatment means within each mixing step were always different ($P < 0.05$); standard errors of the means were ≤ 0.02



Questions/Comments



GRAIN SORGHUM WEED CONTROL UPDATE - 2022

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UNIVERSITY OF
GEORGIA

College of Agricultural &
Environmental Sciences

Grain Sorghum Weed Control

- 1) Start clean!
- 2) **Concep** treated seed
- 3) Dual Magnum or Outlook or Warrant (PRE)
- 4) Atrazine 4L @ 1.5 QT/A (EPOST)
 - 1) *Add Huskie if you have ATZ resistance*
- 5) Paraquat (Hooded sprayer)
- 6) Mechanical Cultivation

Conventional Sorghum Weed Control System - 2021



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Mocassin II Plus @ 16 oz/A (PRE)
Atrazine 4L @ 48 oz/A (26 DAP)
Prowl H₂O @ 32 oz/A (26 DAP)
Agridex @ 1% v/v (26 DAP)

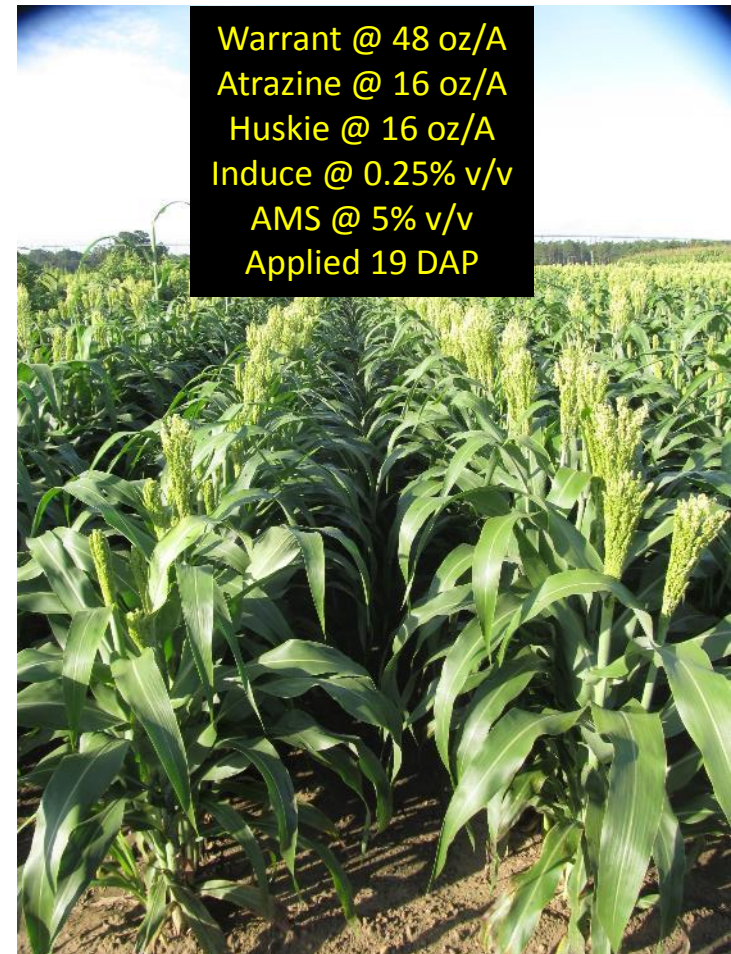


A New (er) Product to Consider?

- **Huskie 2.06EC**
- Bayer CropScience
- Buctril (1.75 lbs/gal) + pyrasulfotole (0.31 lbs/gal)
- MOA = 6 + 27
- Postemergence (13-16 oz/A)
- 3-leaf to 12" tall sorghum
- Broadleaf weeds, good on pigweed
- Tank-mix with atrazine (16 oz/A)
- **Huskie FX = Huskie + Starane**



Grain Sorghum Weed Control - 2021



Huskie Injury on Sorghum



New Grain Sorghum Weed Control Technologies (Non-GMO)

- **Igrowth™**
 - Alta/UPL
 - ImiFlex (imazamox)
 - PRE/POST
- **DoubleTeam™**
 - S&W Seed Partners/ADAMA
 - FirstAct (quizalofop)
 - POST
 - **Maybe** cultivars???
 - S&W Seeds
 - SP58M85DT/SP45A45DT
- **Inzen™**
 - Pioneer/Corteva
 - Zest (nicosulfuron)
 - POST



Igrowth™ System - 2021



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Mocassin II Plus @ 16 oz/A (PRE)

ImiFlex 1SL @ 6 oz/A (14 DAP)

AgriDex @ 1% v/v (14 DAP)

DoubleTeam™ System - 2021



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Dual II Magnum 7.64EC @ 16 oz/A (PRE)
FirstAct 0.88EC @ 10 oz/A
Agridex @ 1% v/v
Applied 26 DAP

DoubleTeam™ System – First Act Off-Types



Inzen™ System - 2021



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Everprex 7.62EC @ 16 oz/A (PRE)

Zest 75WG @ 0.67 oz/A

Agridex @ 1% v/v

AMSOL @ 2.5% v/v

Applied 26 DAP

Questions/Comments?
eprostko@uga.edu
gaweed.com



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