



2024 Soybean Weed Control Update

Eric P. Prostko
Professor and Extension Weed Specialist
Dept. Crop & Soil Sciences



UNIVERSITY OF
GEORGIA
College of Agricultural &
Environmental Sciences

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
Syngenta	tendovo	metribuzin + s-metolachlor + chloransulam
UPL	TriCor	metribuzin
Corteva	Trivence	flumioxazin + chlorimuron + metribuzin

Metribuzin Tolerant Soybean Cultivars



GROUP IV	GROUP V	GROUP VI	GROUP VII	GROUP VIII
AgriGold G4190RX	AgriGold G5000RX	Asgrow AG64X8	AGS 758RR	Prichard RR
Asgrow AG47X6	AgriGold G5288RX	Asgrow AG6931	Asgrow AG7231	
Asgrow AG46X6	AGS 568RR	Asgrow AG69X0	Asgrow AG72XF0	
Asgrow AG48XFO	Asgrow AG55XFO	Asgrow AG69X6	Asgrow AG74X8	
GoSoy Leland	Asgrow AG56X8	Dyna-Gro S64LS95	Asgrow AG7535	
Pioneer P46A16R	Asgrow AG59X9	NC Dunphy	Benning	
Pioneer P46A35X	Hutcheson	Northrup King NK69-Q4XF	Dyna-Gro S72RS36	
Pioneer P46A57BX	Pioneer 95Y70	Pioneer P68A07SX	Northrup King NKS74-M3	
Pioneer P46A86X	Pioneer P51A61X	Vigoro V61N9	Northrup King NKS78-G6	
Pioneer P47A64X	Pioneer P52A05X		Pioneer P76T54R2	
Pioneer P48A99L	Pioneer P52A26R		Santee	
Pioneer P49A10S	Pioneer P55A49X		Southern Harvest 7418LL	
	Pioneer P55T81R		Stonewall	
	Pioneer P59A11SX		Vigoro V74N9	
			Woodruff	

Soybean Weed Control - 2023



NTC

SB-05-23
June 6
48 DAT



Tricor 4F @ 8 oz/A + Zidua 4.17SC @ 2.5 oz/A
(metribuzin + pyroxasulfone)

Valor in GA Soybeans?



- Effective, legal and labeled but.....
- Valor fb Reflex/Prefix/Warrant Ultra is a good weed control program but a **bad** resistance mgt plan!
 - *Unless you hand-weed escapes!*
- Weed control in cotton and peanut without Valor/Reflex?

But would be OK with



- **PRE**

- **Valor** or
- **Envive** (Valor + Classic + Harmony) or
- **Surveil** (Valor + FirstRate) or
- **Fierce** (Valor + Zidua)

- **POST**

- Roundup + Xtendimax/
Engenia + residual
(Xtend System) or
- Liberty + residual
(Liberty-Link or
XtendFlex System) or
- Liberty + Enlist One +
residual (Enlist System)

Soybean Weed Control - 2023

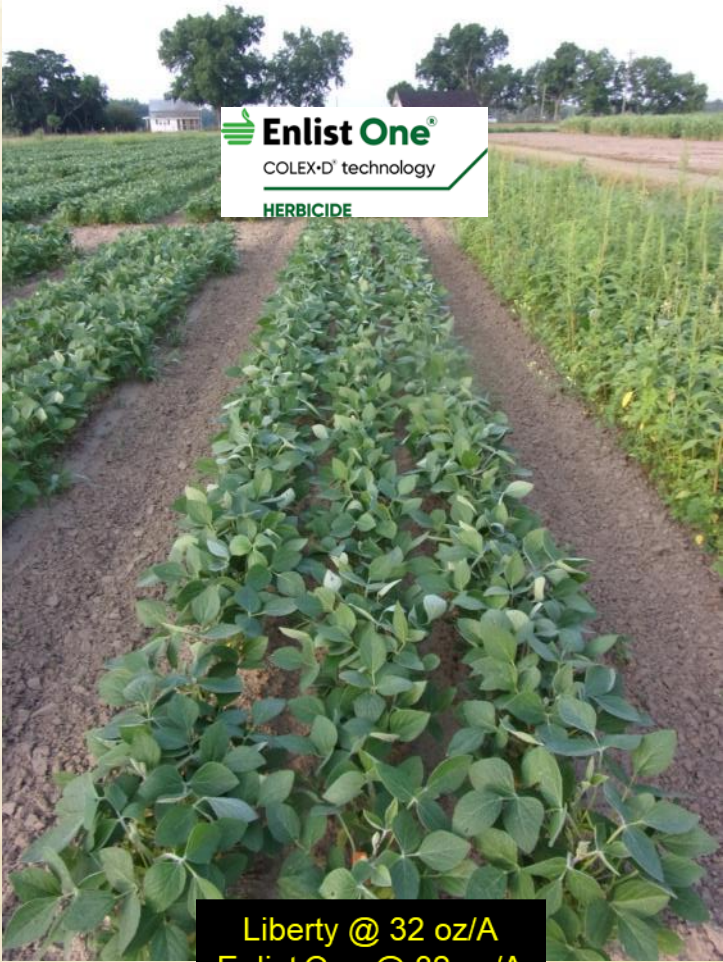


SB-05-23
June 6
48 DAT

NTC

Valor EZ 4SC @ 2 oz/A
Zidua 4.17SC @ 2.5 oz/A
PRE

Enlist Soybeans - 2023



NTC

Liberty @ 32 oz/A
Enlist One @ 32 oz/A
Everprex @ 16 oz/A
15 GPA - AIXR11002

SB-04-23
June 6
29 DAT

Dicamba Soybeans Hooded Sprayers



SAVE UP TO 70% On 2024 Redball® Hooded Broadcast Sprayers 



REDBALL®
has it covered.



Reduce Drift and Buffers with Redball® Spray Hood Technology
Redball Broadcast Spray Hoods are designed to shield pesticide from exposure to wind gusts and changes in wind direction that can lead to drift into non-target areas.

GOLD OFFER

Buy a minimum of **40 units** of Bayer® traited soybean seed
- OR -
8 units of Bayer® traited cotton seed
- OR -
7.5 gallons of XtendiMax® herbicide with VaporGrip® Technology

PLATINUM OFFER

Buy a minimum of **80 units** of Bayer® traited soybean seed
- OR -
16 units of Bayer® traited cotton seed
- OR -
15 gallons of XtendiMax® herbicide with VaporGrip® Technology

Offer valid through March 1, 2024, or while supplies last.

Qualifying Redball Broadcast Hooded Sprayers

Model	SPK 72'		642E 40'		645T 90'	
	GOLD	PLATINUM	GOLD	PLATINUM	GOLD	PLATINUM
Regular Price	\$22,000	\$22,000	\$33,000	\$33,000	\$105,000	\$105,000
Bayer Discount	\$11,000	\$16,000	\$9,000	\$14,000	\$20,000	\$25,000
Customer Cost	\$11,000*	\$6,000*	\$24,000*	19,000*	\$85,000*	\$80,000*

For special pricing on other boom sizes, please call 877-865-5884. F.O.B. Benson, MN.
*For best price, place orders within the months of July, August, and September. Beginning in October, customer cost will increase 2% each month that follows through March 1, 2024.



Scan to watch this testimonial from Reading, MI!

DISCOUNT QUALIFICATIONS

- To qualify, refer to Gold and Platinum Offers above. Purchase required Bayer chemical or seed between July 1, 2023 - March 1, 2024.
- Submit proof of purchase to Willmar Fabrication to receive equipment discount or rebate.
- Qualifying Redball broadcast sprayer must be purchased directly from Willmar Fabrication between July 1, 2023 - March 1, 2024.

DISCOUNT REDEMPTION

- If proof of purchase of Bayer chemical or seed is presented at the time of equipment purchase, discount will be applied toward the cost of the sprayer.
- If proof of purchase of Bayer chemical or seed is presented after equipment purchase, discount will be sent in the form of a rebate.
- Proof of purchase must be submitted to Willmar Fabrication no later than June 1, 2024.
- To submit proof of purchase to Willmar Fabrication:
 - Email to rebate@willmarfab.com
 - Fax to 320.843.1703
 - Mail to Willmar Fabrication, 2205 Hall Ave., Benson, MN 56215

Drift Reduction Technology

Requirements for Reduced Use Restrictions with Optional Hooded/Shielded Sprayer:

- ONLY qualified hooded/shielded sprayers listed below are eligible for reduced use restrictions when applying this product.
- ONLY approved nozzles listed [here](#) can be used with the Hooded/Shielded Sprayers listed.
- ONLY for use in soybean with Roundup Ready 2 Xtend® Technology or XtendFlex® Technology (dicamba-tolerant soybean).
- When using a qualified hooded/shielded sprayer, the applicator must always maintain a **minimum 110-foot downwind buffer** between the last treated row and the nearest downwind field edge.
- Consult [Endangered Species Protection Bulletins](#) for ESA counties and restrictions.

Below is a list of qualified Drift Reduction Technology (DRT).

<p>HOODED SPRAYER</p> <p>REDBALL 642 Three-Point Broadcast Hooded Sprayer</p> <p>Manufacturer/Distributor: Willmar Fabrication LLC</p> <p>More Info ></p>	<p>HOODED SPRAYER</p> <p>REDBALL 642E Three-Point Wheel Boom Broadcast Hooded Sprayer</p> <p>Manufacturer/Distributor: Willmar Fabrication LLC</p> <p>More Info ></p>	<p>HOODED SPRAYER</p> <p>REDBALL SPK645 Self-Propelled Broadcast Hooded Retrofit Kit</p> <p>Manufacturer/Distributor: Willmar Fabrication LLC</p> <p>More Info ></p>	<p>HOODED SPRAYER</p> <p>REDBALL 645 Tractor Mounted Suspended Boom Broadcast Hooded Sprayer</p> <p>Manufacturer/Distributor: Willmar Fabrication LLC</p> <p>More Info ></p>
<p>HOODED SPRAYER</p> <p>REDBALL 645T Broadcast Hooded Trailer Sprayer</p> <p>Manufacturer/Distributor: Willmar Fabrication LLC</p> <p>More Info ></p>	<p>HOODED SPRAYER</p> <p>REDBALL SP645 Self-Propelled Broadcast Hooded Boom</p> <p>Manufacturer/Distributor: Willmar Fabrication LLC</p> <p>More Info ></p>	<p>HOODED SPRAYER</p> <p>REDBALL ATV642 ATV Hooded Sprayer</p> <p>Manufacturer/Distributor: Willmar Fabrication LLC</p> <p>More Info ></p>	

****Reduction in downwind buffer from 240 ft to 110 ft**

To place an order, please call Willmar Fabrication toll-free: 877-865-5884

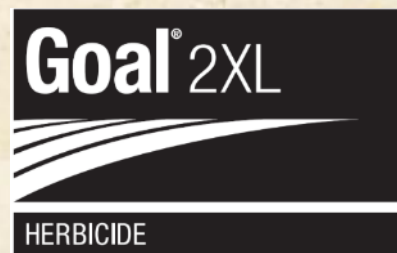
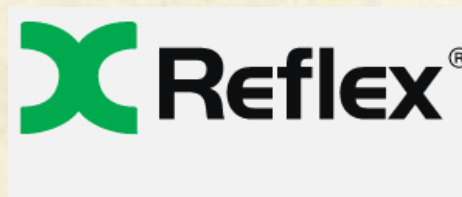
“Old School” *Conventional Systems*



Weed Control in Conventional Soybeans



- All depends upon the development and spread of PPO resistance (WSSA/HRAC MOA #14)!

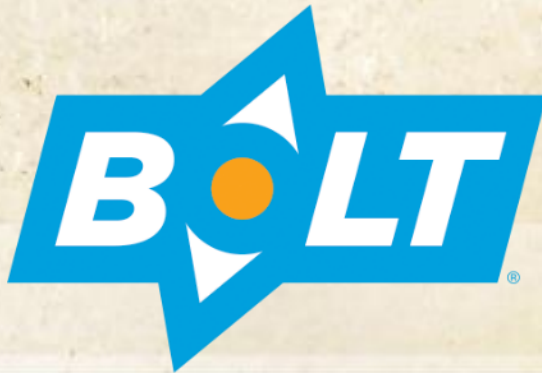


Conventional Soybeans



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)

Conventional Soybeans - 2023



NTC

SB-04-23
June 6
29 DAT



Reflex @ 24 oz/A
Classic @ 0.5 oz/A
Induce @ 0.25% v/v

New Stuff?



- **ZALO™ 2.57SL**
 - AMVAC
 - glufosinate (2.34 lbs/gal) + quizalofop (0.23 lbs/gal)
 - i.e. Liberty + Assure II
 - 32 oz/A = 0.585 lbs/A glufosinate + 0.0575 lbs/A quizalofop
 - **Liberty 2.34SL @ 32 oz/A + Assure II 0.88EC @ 8.4 oz/A**
 - Soybean, cotton, LL-canola
 - ProLease™ Technology formulation?
 - degradation/separation/compatibility issues

Weed Control in Soybeans - 2023



NTC



Zalo 2.57SL @ 29 oz/A
(glufosinate + quizalofop)
Prime Oil @ 1% v/v
AMS @ 3 lbs/A

SB-06-23
May 30
23 DAT

Liberty Ultra 1.76SL



- BASF
- Glu-L Technology
 - L-isomer (more active)
- 25% reduction in rate
 - 24 oz/A vs. 32 oz/A

Liberty[®] ULTRA

Herbicide – Powered by **Glu-L[™]** Technology

Coming to a field near you

Upon registration, Liberty[®] ULTRA herbicide with Glu-L Technology[®] will be the next generation of glufosinate herbicide technology from BASF. It will be available for use on glufosinate-enabled soybeans, cotton, corn and canola acres. As a group 10 herbicide, Liberty ULTRA herbicide will contain L-glufosinate-ammonium, along with a patented surfactant blend.



- tolerant to glyphosate, glufosinate, isoxaflutole (Alite™ 27)
- Alite™ 27
 - NOT labeled for use GA
 - PPI or PRE
 - 1.5-2.0 oz/A
- No UGA-OVT variety data
- I have conducted no research?

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 ISOXAFLUTOLE GROUP 27 HERBICIDE

We create chemistry

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):	
Isoxaflutole [5-cyclopropyl-4-(2-methylsulfonyl-4-trifluoromethylbenzoyl) isoxazole]	40.50%
OTHER INGREDIENTS:	59.50%
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

1

Tropical Spiderwort - 2022



Roundup PowerMax3 5.88SL @ 25 oz/A
Pursuit 2SL @ 4 oz/A



Roundup PowerMax3 5.88SL @ 25 oz/A
Classic 25DG @ 0.5 oz/A



Roundup PowerMax3 5.88SL @ 25 oz/A
FirstRate 84WG @ 0.3 oz/A

TSW-01-22
August 17
22 DAT

Other Options???

(Seedbank Mgt.)



- **Seed Mills**

- Integrated Harrington Seed Destructor
 - ~\$55,000
- Redekop Seed Control
 - ~\$70,000

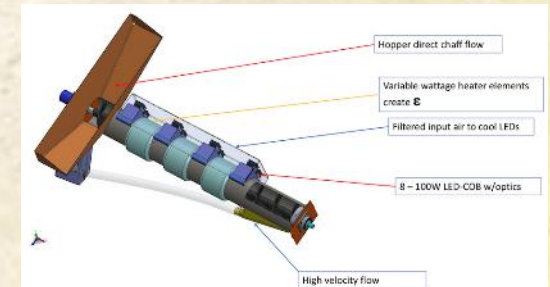


- **Chaff Lining**

- \$5000-\$6,000

- **Blue LED Light**

- Weed Seed Destroyer
 - heat + blue light
 - \$30,000



- **Weed Zapper**

- \$69,000-\$89,000

- **Crop Zone**

- Electrophysical weeder + Volt.fuel
- Cost????????



Double-Cropped Soybean Behind Field Corn



- **What herbicides are safe?**
 - *Roundup, Liberty, Group 15's, Atrazine (?)*
- **What about the HPPD herbicides?**
 - *Callisto = 10 months*
 - *Impact = 9 months*
 - *Laudis = 8 months*
 - *Shieldex = 9 months*
- **What about south Georgia?**
 - *Irrigation, sandier soils, low OM*
 - *less carryover potential (?)*

HPPD/Soybean Test - 2023

Planted 92 DAT



SB-03-23
September 7
67 DAP

HPPD/Soybean Test - 2023

Planted 92 DAT



Impact



Callisto



NTC



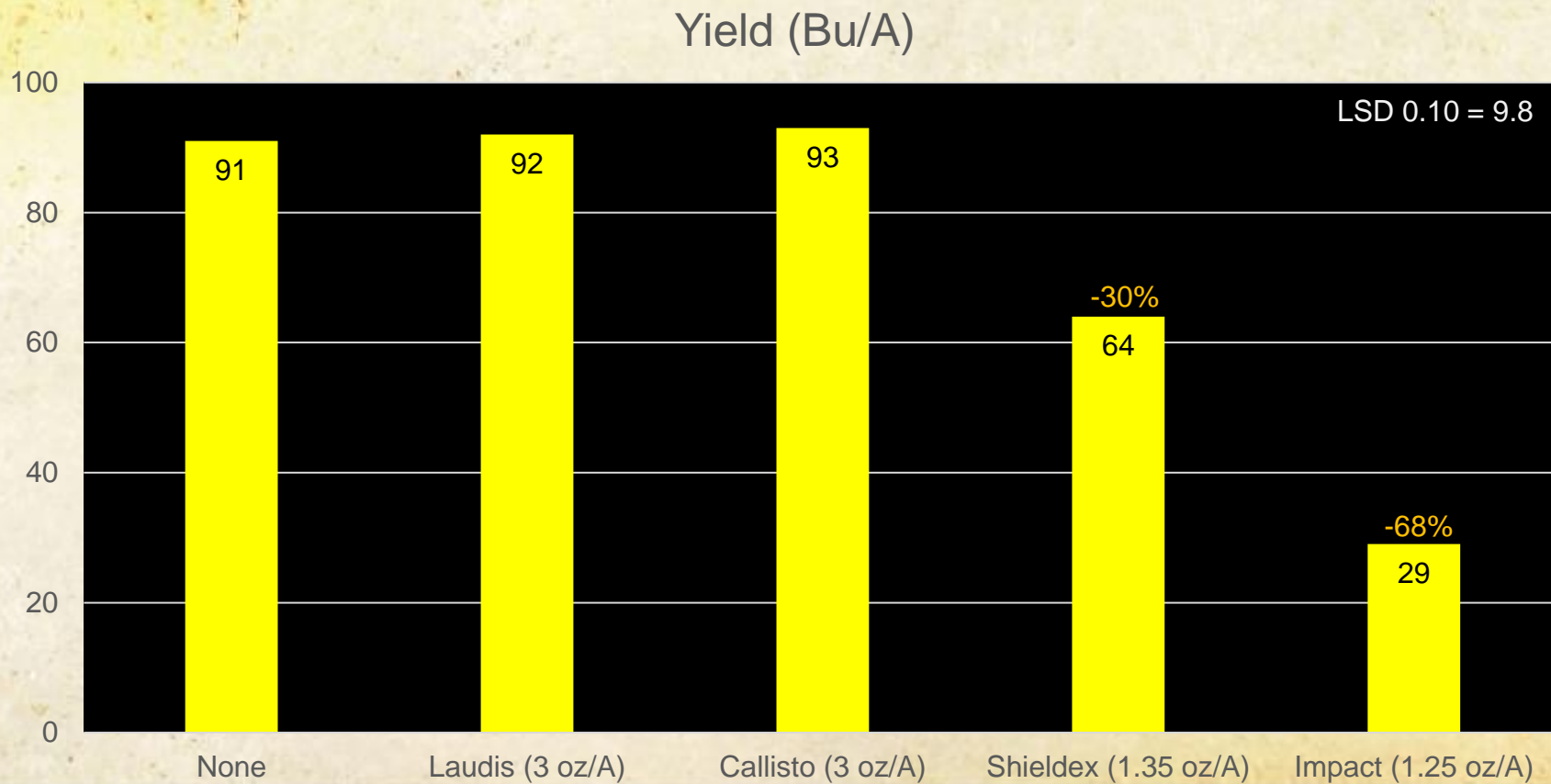
Shieldex



Laudis



Soybean Yield Response to HPPD Herbicides Applied 92 DBP* - 2023



SB-03-23
Asgrow AG66XF2
PD: July 3
7.5" rows

■ HPPD Herbicide

*DBP = days before planting.

Questions/Comments





Seth McAllister, Terrell Co. (October 2022)

- **Weed Control in
Grain Sorghum –
2024**

- *Eric P. Prostko
Extension Weed
Specialist*

Grain Sorghum Weed Control

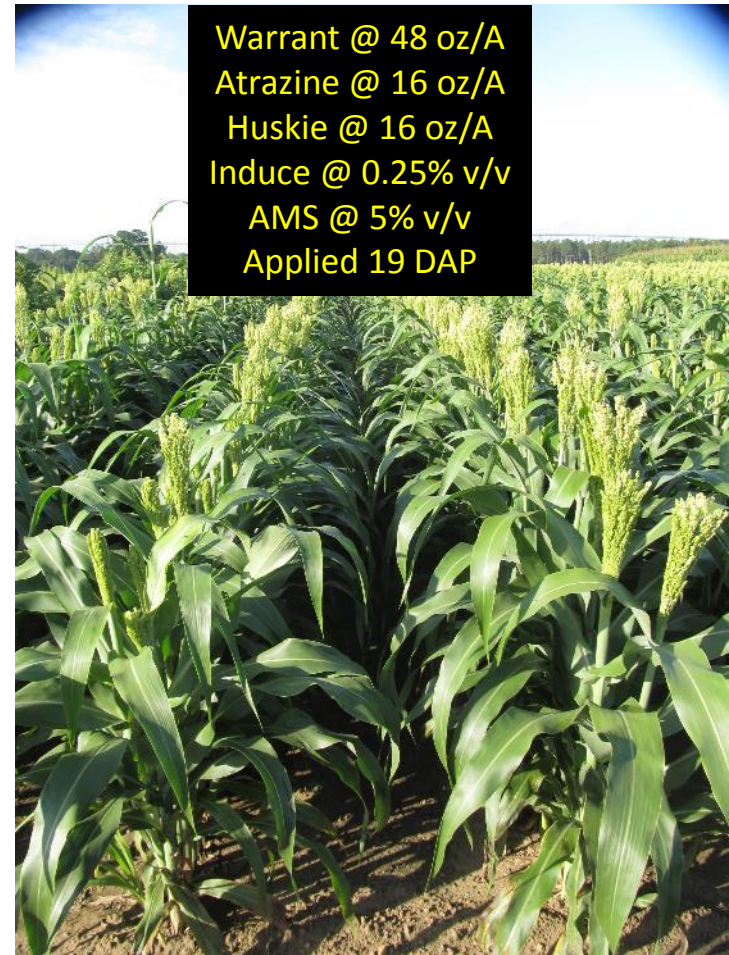
- 1) Start clean!
- 2) **Concep** treated seed
- 3) Dual Magnum or Outlook or Warrant (PRE)
- 4) Atrazine 4L @ 1.5 QT/A (EPOST)
 - 1) *Add Huskie if you have ATZ resistance*
- 5) Paraquat (Hooded sprayer)
- 6) Mechanical Cultivation

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



GS-04-21
July 16
58 DAP

Huskie Injury on Sorghum



Texas Panicum in Grain Sorghum



New Grain Sorghum Weed Control Technologies (Non-GMO)

- **Igrowth**[®]
 - Alta/UPL
 - **ImiFlex** (imazamox)
 - PRE/POST
- **DoubleTeam**[™]
 - S&W/Sorghum Partners/ADAMA
 - **FirstAct** (quizalofop)
 - POST
- **Inzen**[™]
 - Pioneer/Corteva
 - **Zest** (nicosulfuron)
 - POST



Grain Sorghum Weed Control – 2022

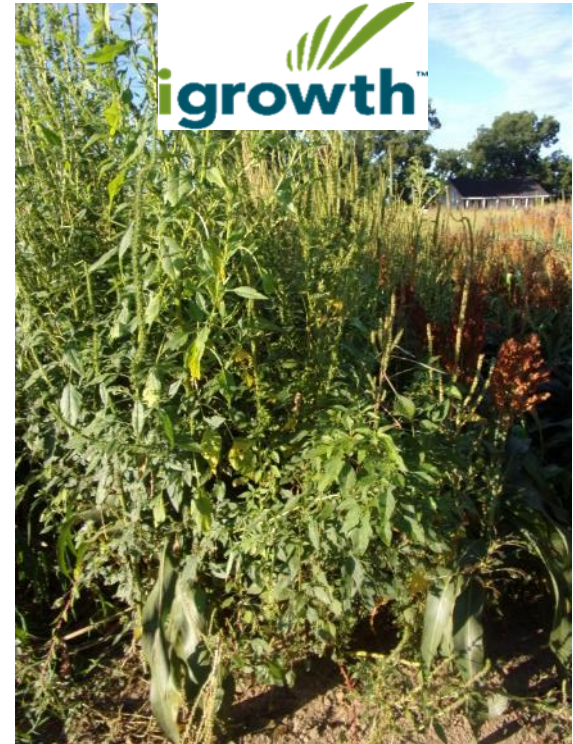
I-Growth



NTC





Mocassin II Plus 7.64EC @ 21 oz/A (PRE)
fb
Imiflex 1AS @ 6 oz/A
Agridex @ 1% v/v
POST (V7, 9-10" tall, 22 DAP)




Imiflex 1AS @ 4 oz/A
Agridex @ 1% v/v
EPOST (V3, 4" tall, 14 DAP)

Igrowth Grain Sorghum Hybrids

 igrowth HYBRID SUMMARY										CHARACTERISTIC RATINGS KEY M/E = Medium-Early S/O = Semi-Open M/L = Medium-Late S/C = Semi-Compact MED = Medium						CROP USE & ADAPTATION KEY HS = Highly Suitable MA = Manage Appropriately S = Suitable HT = High Tolerance X = Poor Suitability MT = Medium Tolerance						
	Relative Maturity	Yield for Maturity	Grain Color	Head Type	Approx. Seeds per Bag	Plant Height	Head Exertion	Plant Uniformity	Plant Color	Seeding Vigor	Root Lodging	Drought Tolerance	Test Weight	Threshability	Sugarcane Aphid*	Tough Dryland	High Yield Dryland	Limited Irrigation	Full Irrigation	Early Planting/ Cold Soils	Poorly Drained Soils	No-Till
ADV G1120IG	M/E	2	RED	S/C	600K	45-55"	3	2	RED	2	3	2	2	2	MT	HS	S	S	MA	MA	MA	HS
ADV G2132IG	MED	2	RED	S/C	600K	45-55"	3	2	PPL	2	3	2	2	2	MT	S	HS	HS	HS	MA	MA	HS
ADV G2168IG	M/E	2	RED	S/C	600K	36-44"	1	2	PPL	3	3	3	2	2		HS	HS	HS	S	MA	MA	HS
ADV G2193IG	MED	2	RED	S/O	600K	40-48"	1	2	PPL	3	3	3	2	2	HT	HS	HS	HS	S	MA	MA	HS

TRAIT RATINGS SCALE 1 = EXCELLENT 10 = POOR

*Sugarcane aphid tolerance rating conducted by the Agricultural Research Division of the USDA.

 EMPYR THE WORLD'S BEST SORGHUM						BD = Brachytic Dwarf NITROGEN FERTILIZATION RECOMMENDATION: 1 TO 1.25 LBS N PER GROWING DAY					
HYBRID	TYPE	BMR-6	TRAITS	EARLY SEASON SILAGE	MID-SEASON SILAGE	FULL SEASON SILAGE	SINGLE CUT, GRAZE REGROWTH	DOUBLE CROP	MULTIPLE CUTS	SINGLE CUT, HIGH YIELD	MULTIPLE CUT, RAPID DRY-DOWN
ADV F8484IG	Forage Sorghum		BD & 		●					●	

DoubleTeam Sorghum - 2022



NTC



Parallel Plus 5.5F @ 72 oz/A
PRE
FirstAct 0.88EC @ 10 oz/A
Agridex @ 1% v/v
POST (22 DAP)

GS-01-22
August 1
69 DAT (POST)

DoubleTeam™ System – First Act Off-Types



DoubleTeam Sorghum Hybrids



SP 30A30 DT®
EARLY MATURITY

SP 30A30 DT is a bronze grain, early maturity hybrid with high yield potential. The hybrid is ideally suited for dryland acres in the Great Plains where higher soil pH may be a problem. Can also be utilized as double crop in area with longer growing seasons.

- Tolerant to FirstAct™ Herbicide
- Over-the-top grass weed control
- High yield for maturity
- Excellent emergence
- Excellent for late planting or double crop



SP 45A45 DT®
MEDIUM EARLY MATURITY

SP 45A45 DT is a bronze grain, medium-early maturity hybrid with high yield potential. This hybrid is ideally suited for dryland or irrigated acres. Can also be utilized as a double crop hybrid behind wheat.

- Tolerant to FirstAct™ Herbicide
- Over-the-top grass weed control
- High yield for maturity
- Excellent emergence
- Excellent standability



SP 58M85 DT®
MEDIUM MATURITY

SP 58M85 DT is a medium maturity hybrid with bronze grain and moderate SCA tolerance. This hybrid has high levels of Staygreen for improved standability and excellent emergence in cool soils. An excellent choice throughout the Great Plains.

- Tolerant to FirstAct™ herbicide
- Over-the-top grass weed control
- High yield for maturity
- Moderately tolerant to SCA
- Staygreen for excellent standability
- Excellent emergence from cool soils



SP 65B21 DT® *New!*
MEDIUM MATURITY

SP 65B21 DT is a medium maturity hybrid with bronze grain and high SCA tolerance. This hybrid has high levels of Staygreen for improved standability and excellent emergence in cool soils. An excellent sorghum choice for high yielding dryland and irrigated fields.

- Tolerant to FirstAct™ herbicide
- Over-the-top grass weed control
- High yield for maturity
- High tolerance to SCA
- Staygreen for excellent standability
- High yields under favorable dryland or irrigated conditions



Disease/lodging issues in 2023?

Inzen Grain Sorghum - 2022



NTC

GS-01-22
August 1
69 DAT (POST)



Everprex 7.62EC @ 16 oz/A (PRE) fb
Zest 75DG @ 0.67 oz/A +
Aatrex 4L @ 48 oz/A + Agridex @ 1% v/v
(POST)

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



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