



2023 Soybean Weed Control Update

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Dicamba Drift or Aminopyralid Carryover? Pierce Co - 2022



Original



Replant

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	chlorimuron (10.7%) + metribuzin (64.3%)
	Canopy Blend	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

Metribuzin in Soybeans - 2022



NTC
(~40-50 AMAPA/ft²)

SB-01-22
April 26
12 DAT



Tricor 4F
8 oz/A
PRE

NON-GMO Soybean Cultivars with STS and Metribuzin Tolerance????



- GoSoy 48C17S
 - *Root-knot susceptible*
- Virtue 4520S, 4921S, V4720S
 - *Root-knot susceptible*
 - Mixon Seed (Newton, GA)



Metribuzin Injury

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 management plan!
 - *Unless you hand-weed escapes!*
- Weed control in cotton and peanut without Valor/Reflex?

PPO-Resistance in US -Group 14 Herbicides



- 40 reported cases worldwide
 - *26 reported cases in US*
- first identified in US in 2002
 - *tall waterhemp (Illinois)*
- 6 weed species (US)
 - *tall waterhemp, Palmer amaranth, redroot pigweed, common ragweed, goosegrass, annual bluegrass*
- 1 recently confirmed case in GA



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 Injury Caused by Envive 41.3WG @ 3.5 oz/A 10 DAP



NTC



Envive

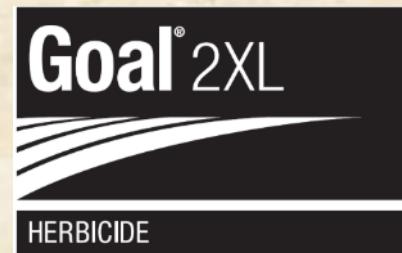
“Old School” *Conventional Systems*



Weed Control in Conventional Soybeans



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

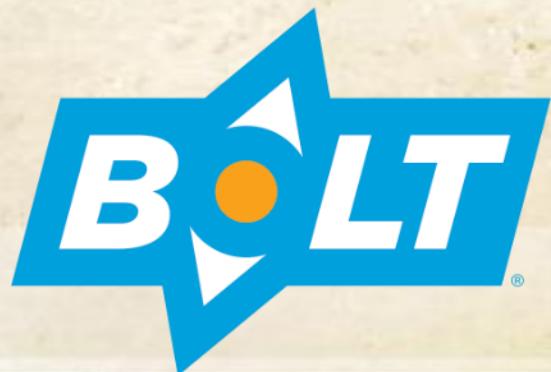


Conventional Soybeans



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)*

Metribuzin Tolerant Soybean Cultivars



GROUP IV	GROUP V	GROUP VI	GROUP VII	GROUP VIII
AgriGold G4190RX	AgriGold G5000RX	Asgrow AG64X8	AGS 758RR AGS 738RR	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	AGS 61G19 AGS 6777C	Pioneer P76T54R2	
Pioneer P48A99L	Pioneer P52A26R		Santee	
Pioneer P49A10S	Pioneer P55A49X		Southern Harvest 7418LL	
	Pioneer P55T81R		Stonewall	
	Pioneer P59A11SX		Vigoro V74N9	
	AGS 52G20			
	AGS V5422		Woodruff	

Soybean Weed Control Without New Technology - 2022



SB-01-22
August 1
110 DAP

Anthem Max, Dual, Warrant, Zidua, Outlook, Prowl????



Group 15's - Residuals



PPO Injury on Soybean -Group 14 Herbicides



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

-Group 2 Herbicide



WT-01-21
July 19
6 DAT

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



SB-02-22
May 9
7 DAT

Conventional Soybeans POST Grass Control



Poast®
Herbicide



PE-42-21
June 16
29 DAT
4'-5" weeds at application

Narrow Rows and Weed Control - Soybeans



- “A review of row spacing experiments in which an initial weed management practice had been accomplished revealed that in **64% of the cases (72 of 113 site-years)**, less late-season weed density and/or biomass, or greater late-season weed control, was achieved in narrow-row (< 30”) compared to wide-row soybean production systems.”
- *Bradley, K. W. 2006. A review of the effects of row spacing on weed management in corn and soybean. Online. Crop Management doi:10.1094/CM-2006-0227-02-RV.*



Row Spacing Effects on Soybean Yield In Georgia



- Carter and Boerma, 1979 (Athens, GA)
 - 38" to 19" = **11% yield increase**
- Parker et al., 1981 (Tifton, GA)
 - 36" to 18" = **4% increase**
- Boerma and Ashley, 1982 (Plains, GA)
 - 36" to 20" = **17% yield increase**
- Ethredge et al., 1989 (Plains, GA)
 - 30" to 20" = **8% yield increase**
 - 30" to 10" = **11% yield increase**
 - 20" to 10" = **3% yield increase**
- Woodruff, 2007-2008 (Camilla, GA)
 - 36" to 24" = **8% yield increase**



Washington County, GA (2008)

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



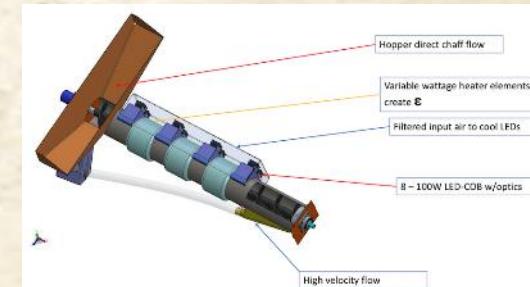
Roundup PowerMax3 5.88SL @ 25 oz/A
FirstRate 84WG @ 0.3 oz/A

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???????



Conventional Soybean Weed Control – Summary

(assuming no PPO resistance)



- start clean
- narrow rows (<30")
 - Unless cultivating?
- metribuzin + Group 15 or Prowl - PRE
- timely POST's
 - *Reflex, Prefix, Warrant Ultra, Cobra, Ultra Blazer, Classic, FirstRate*
- hand-weed escapes



Questions/Comments?



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