

University of Tennessee

COVER CROPS AND SOYBEAN TRAITS - FALL 2014

Trial ID: USBCOVERCROPSBTRAITS14-15 Location: Jackson, TN Trial Year: 2014
 Protocol ID: Investigator: Dr. Larry Steckel
 Project ID: Study Director: Mark Loux
 Sponsor Contact:

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	CULT NONE							101	207	303	415	
	VAR ROUNDUP READY											
	HERB VALOR SX	51	WG	2.0 oz/a		PRE	A					
	HERB ROUNDUP POWERMAX		SL	22 oz/a		21 DAP	B					
	HERB FLEXSTAR	1.88	SL	1.5 pt/a		21 DAP	B					
	HERB DUAL II MAGNUM	7.64	EC	1.3 pt/a		21 DAP	B					
	ADJ MSO		L	1 % v/v		21 DAP	B					
	FERT AMS		WG	2 lb/a		21 DAP	B					
2	CULT NONE							102	208	302	413	
	VAR ROUNDUP READY											
	HERB VALOR SX	51	WG	2.0 oz/a		PRE	A					
	HERB ROUNDUP POWERMAX	4.5	SL	22 oz/a		21 DAP	B					
	HERB FLEXSTAR	1.88	SL	1.5 pt/a		21 DAP	B					
	HERB DUAL II MAGNUM	7.64	EC	1.3 pt/a		21 DAP	B					
	ADJ MSO		L	1 % v/v		21 DAP	B					
	FERT AMS		WG	2 lb/a		21 DAP	B					
	HERB WARRANT	3	SL	1.5 qt/a		42 DAP	C					
3	CULT NONE							103	209	301	414	
	VAR ROUNDUP READY											
	CHK UNTREATED CHECK											
4	CULT NONE							104	212	304	418	
	VAR LIBERTY LINK											
	HERB VALOR SX	51	WG	2.0 oz/a		PRE	A					
	HERB LIBERTY	2.34	SL	32 oz/a		21 DAP	B					
	HERB DUAL II MAGNUM	7.64	EC	1.3 pt/a		21 DAP	B					
	FERT AMS		WG	2 lb/a		21 DAP	B					
5	CULT NONE							105	210	305	416	
	VAR LIBERTY LINK											
	HERB VALOR SX	51	WG	2.0 oz/a		PRE	A					
	HERB LIBERTY	2.34	SL	32 oz/a		21 DAP	B					
	HERB DUAL II MAGNUM	7.64	EC	1.3 pt/a		21 DAP	B					
	FERT AMS		WG	2 lb/a		21 DAP	B					
	HERB WARRANT	3	SL	1.5 qt/a		42 DAP	C					
6	CULT NONE							106	211	306	417	
	VAR LIBERTY LINK											
	CHK UNTREATED CHECK											
7	CULT CEREAL RYE							107	214	308	403	
	VAR ROUNDUP READY											
	HERB VALOR SX	51	WG	2.0 oz/a		PRE	A					
	HERB ROUNDUP POWERMAX	4.5	SL	22 oz/a		21 DAP	B					
	HERB FLEXSTAR	1.88	SL	1.5 pt/a		21 DAP	B					
	HERB DUAL II MAGNUM	7.64	EC	1.3 pt/a		21 DAP	B					
	ADJ MSO		L	1 % v/v		21 DAP	B					
	FERT AMS		WG	2 lb/a		21 DAP	B					
8	CULT CEREAL RYE							108	213	309	402	
	VAR ROUNDUP READY											
	HERB VALOR SX	51	WG	2.0 oz/a		PRE	A					
	HERB ROUNDUP POWERMAX	4.5	SL	22 oz/a		21 DAP	B					
	HERB FLEXSTAR	1.88	SL	1.5 pt/a		21 DAP	B					
	HERB DUAL II MAGNUM	7.64	EC	1.3 pt/a		21 DAP	B					
	ADJ MSO		L	1 % v/v		21 DAP	B					
	FERT AMS		WG	2 lb/a		21 DAP	B					
	HERB WARRANT	3	SL	1.5 qt/a		42 DAP	C					
9	CULT CEREAL RYE							109	215	307	401	
	VAR ROUNDUP READY											
	CHK UNTREATED CHECK											
10	CULT CEREAL RYE							110	218	312	405	
	VAR LIBERTY LINK											
	HERB VALOR SX	51	WG	2.0 oz/a		PRE	A					
	HERB LIBERTY	2.34	SL	32 oz/a		21 DAP	B					
	HERB DUAL II MAGNUM	7.64	EC	1.3 pt/a		21 DAP	B					
	FERT AMS		WG	2 lb/a		21 DAP	B					

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COVER CROPS AND SOYBEAN TRAITS - FALL 2014

Trial ID: USBCOVERCROPSBTRAITS14-15 Location: Jackson, TN Trial Year: 2014
 Protocol ID: Investigator: Dr. Larry Steckel
 Project ID: Study Director: Mark Loux
 Sponsor Contact:

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
11	CULT CEREAL RYE VAR LIBERTY LINK HERB VALOR SX HERB LIBERTY HERB DUAL II MAGNUM FERT AMS HERB WARRANT	51 2.34 7.64 WG 3	WG SL EC WG SL	2.0 oz/a 32 oz/a 1.3 pt/a 2 lb/a 1.5 qt/a	PRE 21 DAP 21 DAP 21 DAP 42 DAP	A B B B C		111	217	310	404	
12	CULT CEREAL RYE VAR LIBERTY LINK CHK UNTREATED CHECK							112	216	311	406	
13	CULT OATS VAR ROUNDUP READY HERB VALOR SX HERB ROUNDUP POWERMAX HERB FLEXSTAR HERB DUAL II MAGNUM ADJ MSO FERT AMS	51 4.5 1.88 7.64 L WG	WG SL SL EC L WG	2.0 oz/a 22 oz/a 1.5 pt/a 1.3 pt/a 1 % v/v 2 lb/a	PRE 21 DAP 21 DAP 21 DAP 21 DAP 21 DAP	A B B B B B		113	202	314	409	
14	CULT OATS VAR ROUNDUP READY HERB VALOR SX HERB ROUNDUP POWERMAX HERB FLEXSTAR HERB DUAL II MAGNUM ADJ MSO FERT AMS HERB WARRANT	51 4.5 1.88 7.64 L WG 3	WG SL SL EC L WG SL	2.0 oz/a 22 oz/a 1.5 pt/a 1.3 pt/a 1 % v/v 2 lb/a 1.5 qt/a	PRE 21 DAP 21 DAP 21 DAP 21 DAP 21 DAP 42 DAP	A B B B B B C		114	201	313	408	
15	CULT OATS VAR ROUNDUP READY CHK UNTREATED CHECK							115	203	315	407	
16	CULT OATS VAR LIBERTY LINK HERB VALOR SX HERB LIBERTY HERB DUAL II MAGNUM FERT AMS	51 2.34 7.64 WG	WG SL EC WG	2.0 oz/a 32 oz/a 1.3 pt/a 2 lb/a	PRE 21 DAP 21 DAP 21 DAP	A B B B		116	206	316	410	
17	CULT OATS VAR LIBERTY LINK HERB VALOR SX HERB LIBERTY HERB DUAL II MAGNUM FERT AMS HERB WARRANT	51 2.34 7.64 WG 3	WG SL EC WG SL	2.0 oz/a 32 oz/a 1.3 pt/a 2 lb/a 1.5 qt/a	PRE 21 DAP 21 DAP 21 DAP 42 DAP	A B B B C		117	204	318	412	
18	CULT OATS VAR LIBERTY LINK CHK UNTREATED CHECK							118	205	317	411	

Sort Order: Replicate 1

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COVER CROPS AND SOYBEAN TRAITS - FALL 2014

Trial ID: USBCOVERCROPSBTRAITS14-15 Location: Jackson, TN Trial Year: 2014
 Protocol ID: Investigator: Dr. Larry Steckel
 Project ID: Study Director: Mark Loux
 Sponsor Contact:

General Trial Information

Study Director: Vince Davis
Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Vince Davis

Investigator: Dr. Larry Steckel

	Crop Description
Crop 1: GLXMA Glycine max Variety: LL4650/ASGROW 4633 Description: LL/RR	BBCH Scale: BSOY Planting Date: 5-12-14 Planting Method: PLANTD planted Planting Equipment: PP Plot Planter Harvest Date: 10-5-14 Harvested Width, Unit: 5 FT Harvested Length, Unit: 30 FT
Planting Rate, Unit: 140000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 15 IN Spacing Within Row, Unit: 1.5 IN	
Soil Temperature, Unit: 72 F Soil Moisture: NORMAL normal, adequate Seed Bed: MEDIUM medium	
See Plotplan Variety: Cereal Rye and Oats	
Planting Rate, Unit: 60 LB/A Depth, Unit: 0.25 IN Row Spacing, Unit: 7 IN Soil Temperature, Unit: 67 F Soil Moisture: EXCELL excellent	Planting Date: 10-9-14 Planting Method: DRILLE drilled
Crop 3: GLXMA Glycine max Variety: LL4850/ Asgrow 4633RR Description: Liberty Link/Roundup Ready	BBCH Scale: BSOY Planting Date: 5-4-15 Planting Method: PLANTD planted Planting Equipment: PP Plot Planter
Planting Rate, Unit: 140000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 15 IN Spacing Within Row, Unit: 1.5 IN Soil Moisture: NORMAL normal, adequate	

Pest Description

Pest 1 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 18 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** SPLPLO Split-Plot

Field Prep./Maintenance:

Sept. 23,2013 Planted Cereal Rye and Oats 60 lbs/A for cover crops.
 Jan. 22, 2014 Fertilized 0-30-60
 March 20 - Touchdown Total 32 oz/A + Clarity 8 oz/A
 Sept. 8 - Gramoxone SL 48 oz/A + NIS 0.25%
 Planting covercrops October 9, 2014 Blanket application of Gramoxone SL 40 oz/A + NIS 1%.
 2015
 January 8 - 0-0-60 applied
 March 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%
 May 13 - Irrigated 0.5 inch
 May 22 - Select Max 16 oz/A + NIS 1%

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COVER CROPS AND SOYBEAN TRAITS - FALL 2014

Trial ID: USBCOVERCROPSBTRAITS14-15
 Protocol ID:
 Project ID:

Location: Jackson, TN Trial Year: 2014
 Investigator: Dr. Larry Steckel
 Study Director: Mark Loux
 Sponsor Contact:

Application Description

	A	B	C
Application Date:	5-5-15	5-26-15	
Appl. Start Time:	7:30 AM	10:25 AM	
Appl. Stop Time:	7:45 AM	10:58 AM	
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	21 DAP	42 DAP
Application Placement:	BROSOI	BROFOL	BROFOL
Applied By:	GM	JR	
Air Temperature, Unit:	63 F	72 F	
% Relative Humidity:	78	78	
Wind Velocity, Unit:	2 MPH	4 MPH	MPH
Wind Direction:	SE	WSW	
Dew Presence (Y/N):	N no	Y yes	
Soil Temperature, Unit:	60 F	70 F	F
Soil Moisture:	NORMAL	SLIWET	
% Cloud Cover:	2	100	

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	--	2 TRIF	5-7 TRIF
Height, Unit:		5 IN	
Height Minimum, Maximum:		5 6	
Stage Scale Used:	BBCH	BBCH	
Crop 3 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	BBCH	BBCH	

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMAPA W --	AMAPA W 2-8L	AMAPA W
Height, Unit:		5 IN	IN
Height Minimum, Maximum:		1 6	

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COVER CROPS AND SOYBEAN TRAITS - FALL 2014

Trial ID: USBCOVERCROPSBTRAITS14-15
 Protocol ID:
 Project ID:

Location: Jackson, TN Trial Year: 2014
 Investigator: Dr. Larry Steckel
 Study Director: Mark Loux
 Sponsor Contact:

Application Equipment			
	A	B	C
Appl. Equipment:	Tractor	BACKPACK	BACKPACK
Equipment Type:		BACCAI	BACCAI
Operation Pressure, Unit:	40 PSI	30 PSI	30 PSI
Nozzle Type:	AIR INDUC	AIXR	AIXR
Nozzle Size:	AI110015	11003	11003
Nozzle Spacing, Unit:	19 IN	20 IN	20 IN
Nozzles/Row:	2	2	2
Boom ID:		15GPA@4MPH	15GPA@4MPH
Boom Length, Unit:	10 FT	5 FT	5 FT
Boom Height, Unit:	15 IN	16 IN	16 IN
Ground Speed, Unit:	4 MPH	4 MPH	4 MPH
Hours to Incorp.:	MPH		
Incorp. Depth, Unit		0	0
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	11 GPA	15 GAL/AC	15 GAL/AC
Mix Size, Unit:		0.528 Gallons	0.528 Gallons
Propellant:		COMCO2	COMCO2
Tank Mix (Y/N):	N no	N no	N no

Date	By	Notes
5-12-14	PB	Each plot is composed of 7 - 15 inch rows. Stake is on row 4 and rows 3,4,and 5 were treated.

University of Tennessee

HPPD-Tolerant Soybeans: Evaluation of mesotrione-based weed management programs in medium soils

Trial ID: USSG0H1512015 Location: WTREC Trial Year: 2015
 Protocol ID: HMS051B4-2015US Investigator: James Holloway
 Project ID: Study Director: Don Porter
 Sponsor Contact: James Holloway

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Growth Stage	Appl Code	Rep 1	2	3	Notes
1	CHK Untreated						101	205	303	
2	HERB Callisto	4	SC	5 oz/a	PREPRE	A	102	203	306	
	HERB Dual Magnum	7.60833311	EC	26.7 oz/a	PREPRE	A				
	ADJ N-PAK AMS Liquid		SL	2.5 % v/v	POSPOS	B				
	HERB Flexstar	1.875	SL	17 oz/a	POSPOS	B				
	HERB Fusion	2.5583334	EC	10 oz/a	POSPOS	B				
	ADJ MSO		L	1 % v/v	POSPOS	B				
3	HERB Tricor	75	WG	5.33 oz/a	PREPRE	A	103	202	302	
	HERB Callisto	4	SC	5 oz/a	PREPRE	A				
	HERB Dual Magnum	7.60833311	EC	26.7 oz/a	PREPRE	A				
	ADJ N-PAK AMS Liquid		SL	2.5 % v/v	POSPOS	B				
	HERB Flexstar	1.875	SL	17 oz/a	POSPOS	B				
	HERB Fusion	2.5583334	EC	10 oz/a	POSPOS	B				
	ADJ MSO		L	1 % v/v	POSPOS	B				
4	HERB Boundary	6.47916651	EC	1.5 pt/a	PREPRE	A	104	204	305	
	ADJ N-PAK AMS Liquid		SL	2.5 % v/v	POSPOS	B				
	HERB Flexstar	1.875	SL	17 oz/a	POSPOS	B				
	HERB Fusion	2.5583334	EC	10 oz/a	POSPOS	B				
	ADJ MSO		L	1 % v/v	POSPOS	B				
5	HERB Broadaxe XC	7	EC	25 oz/a	PREPRE	A	105	201	304	
	ADJ N-PAK AMS Liquid		SL	2.5 % v/v	POSPOS	B				
	HERB Flexstar	1.875	SL	17 oz/a	POSPOS	B				
	HERB Fusion	2.5583334	EC	10 oz/a	POSPOS	B				
	ADJ MSO		L	1 % v/v	POSPOS	B				
6	HERB Valor	51	WG	2 oz/a	PREPRE	A	106	206	301	
	ADJ N-PAK AMS Liquid		SL	2.5 % v/v	POSPOS	B				
	HERB Prefix	5.26399994	EC	32 oz/a	POSPOS	B				
	HERB Touchdown Total	4.16666651	SL	32 oz/a	POSPOS	B				
	ADJ MSO		L	1 % v/v	POSPOS	B				

Sort Order: Replicate 1

University of Tennessee

HPPD-Tolerant Soybeans: Evaluation of mesotrione-based weed management programs in medium soils

Trial ID: USSG0H1512015 Location: WTREC Trial Year: 2015
 Protocol ID: HMS051B4-2015US Investigator: James Holloway
 Project ID: Study Director: Don Porter
 Sponsor Contact: James Holloway

General Trial Information

Study Director: Don Porter **Title:** OVPROW
Investigator: Rakesh Jain **Title:** FLDBLG

Discipline: H herbicide
Initiation Date: 3-17-15

Trial Location

Country: USA United States
State/Prov.: Tennessee
Postal Code: 38301

Latitude of LL Corner °: 35.618056 N
Longitude of LL Corner °: 88.844167 E
Altitude of LL Corner, Unit: 344.00

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

TX_RTF32 17.0.540.501;

Demonstrate the effectiveness of mesotrione-based herbicide programs for weed management in soybeans.

- What is the most effective program for weed management in HPPD-tolerant soybeans?

Compare mesotrione-based programs to the local competitor standard program for weed control and crop safety in soybeans.

Contacts

Study Director: Don Porter **Title:** OVPROW
Organization: Syngenta
Address: 410 Swing Rd. **Phone No.:** 336 632-7730
City+State/Prov: Greensboro, NC
Postal Code: 27409 **E-mail:** don.porter@syngenta.com

Investigator: Rakesh Jain **Title:** FLDBLG
Organization: Syngenta
Address: 872 Harts Bridge Rd. **Phone No.:** 731-423-0804
City+State/Prov: Jackson, TN **Mobile No.:** 731-803-1730
Postal Code: 38301 **E-mail:** james.holloway@syngenta.com

Cooperator: Larry Steckel **Role:** UNVCOP
Organization: UT **Org. Type:** COI
Address 1: 605 Airways Blvd
City: Jackson
State/Prov: TN
Postal Code: 38301 **Mobile No.:** 731.499.0120
Country: USA United States **E-mail:** lsteckel@utk.edu

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: 15SG902011/SYHTOH2 **BBCH Scale:** BSOY
Description: HPPD

Planting Rate, Unit: 140000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Spacing Within Row, Unit: 1.5 IN
Soil Moisture: NORMAL normal, adequate

Planting Date: 5-12-15
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT2 **Treatments:** 6 **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOB� Randomized Complete Block (RCB)

University of Tennessee

HPPD-Tolerant Soybeans: Evaluation of mesotrione-based weed management programs in medium soils

Trial ID: USSG0H1512015 Location: WTREC Trial Year: 2015
 Protocol ID: HMS051B4-2015US Investigator: James Holloway
 Project ID: Study Director: Don Porter
 Sponsor Contact: James Holloway

No.	Previous Crop	Year
1.	COTTON	2014

Field Prep./Maintenance:

Jan 8 - 0-0-60
 Mar 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%
 May 12 - Parazone 32 oz/A + COC 1%

Application Description

	A
Application Date:	5-12-15
Appl. Start Time:	3:00 PM
Appl. Stop Time:	3:10 PM
Application Method:	SPRAY
Application Timing:	PRE
Application Placement:	BROSOI
Applied By:	TB
Air Temperature, Unit:	74 F
% Relative Humidity:	44
Wind Velocity, Unit:	7 MPH
Wind Direction:	N
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	86 F
Soil Moisture:	NORMAL
% Cloud Cover:	55

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	BBCH
Stage Majority, Percent:	00 100

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	BACCAI
Operation Pressure, Unit:	40 PSI
Nozzle Type:	AIXR
Nozzle Size:	11002
Nozzle Spacing, Unit:	19 IN
Nozzles/Row:	2
Boom Length, Unit:	6.33 FT
Boom Height, Unit:	16 IN
Ground Speed, Unit:	4 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC
Propellant:	CO2
Tank Mix (Y/N):	Y yes

University of Tennessee

EVALUATION OF HERBICIDE PROGRAMS FOR SOYBEAN WITH BOLT TECHNOLOGY IN THE SOUTHERN US

Trial ID: JSBDUP174-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-174 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. SMITH/DUPONT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep				Notes
								1	2	3	4	
1	HERB VALOR	51	WG	2 oz/a		PRE	A	101	206	302	405	
	HERB ROUNDUP POWERMAX	5.5	SL	22.00 fl oz/a		POST	B					
	HERB SYNCHRONY XP	28.4	DF	0.387 oz/a		POST	B					
	FERT AMS	100	GR	17.00 lb/100 gal		POST	B					
2	HERB ENVIVE	41.3	DF	3.5 oz/a		PRE	A	102	202	306	403	
	HERB ROUNDUP POWERMAX	5.5	SL	22.00 fl oz/a		POST	B					
	HERB SYNCHRONY XP	28.4	DF	0.387 oz/a		POST	B					
	FERT AMS	100	GR	17.00 lb/100 gal		POST	B					
3	HERB LEADOFF	33.4	WG	1.5 oz/a		PRE	A	103	205	307	401	
	HERB ROUNDUP POWERMAX	5.5	SL	22.00 fl oz/a		POST	B					
	HERB SYNCHRONY XP	28.4	DF	0.387 oz/a		POST	B					
	FERT AMS	100	GR	17.00 lb/100 gal		POST	B					
4	HERB VALOR	51	WG	2 oz/a		PRE	A	104	203	301	402	
	HERB LEADOFF	33.4	WG	1.5 oz/a		PRE	A					
	HERB ROUNDUP POWERMAX	5.5	SL	22.00 fl oz/a		POST	B					
	HERB SYNCHRONY XP	28.4	DF	0.387 oz/a		POST	B					
	FERT AMS	100	GR	17.00 lb/100 gal		POST	B					
5	HERB DILIGENT	37.87	WP	4 oz/a		PRE	A	105	207	305	404	
	HERB ROUNDUP POWERMAX	5.5	SL	22.00 fl oz/a		POST	B					
	HERB SYNCHRONY XP	28.4	DF	0.387 oz/a		POST	B					
	FERT AMS	100	GR	17.00 lb/100 gal		POST	B					
6	HERB VALOR	51	WG	2 oz/a		PRE	A	106	201	303	407	
	HERB PREFIX	5.264	EC	1 qt/a		POST	B					
	HERB TOUCHDOWN TOTAL	4.1667	SL	24 oz/a		POST	B					
7	CHK NONTREATED							107	204	304	406	

Sort Order: Replicate 1

University of Tennessee

EVALUATION OF HERBICIDE PROGRAMS FOR SOYBEAN WITH BOLT TECHNOLOGY IN THE SOUTHERN US

Trial ID: JSBDUP174-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-174 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. SMITH/DUPONT

General Trial Information

Study Director: LARRY STECKEL
Investigator: Dr. Larry Steckel

Trial Location

Country: USA United States

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

1. Evaluate tolerance of BOLT soybeans to BOLT-based herbicide programs compared non-BOLT programs in the Southern US. 2. Evaluate weed control with BOLT-based herbicide programs compared to non-BOLT programs in the Southern US.

Contacts

Study Director: LARRY STECKEL

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max
Variety: PIONEER 47T36R
Description: BOLT technology

BBCH Scale: BSOY

Planting Date: 5-5-15
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter

Planting Rate, Unit: 140000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Spacing Within Row, Unit: 1.5 IN
Soil Moisture: NORMAL normal, adequate

Site and Design

Treated Plot Width: 10 FT

Treated Plot Length: 30 FT

Treated Plot Area: 300 FT² **Treatments:** 7
Replications: 3

Site Type: FIELD field

Tillage Type: NOTILL no-till
Study Design: RACOBL Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan. 8 - 0-0-60

March 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A

April 24 - Gramoxone SL 48 oz/A + COC 1%

May 13 - Irrigated 0.5 inch

Application Description

	A	B
Application Date:	5-5-15	
Appl. Start Time:	9:25 AM	
Appl. Stop Time:	9:37 AM	
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	BROSOI	
Applied By:	GM	
Air Temperature, Unit:	73 F	
% Relative Humidity:	60	
Wind Velocity, Unit:	3 MPH	
Wind Direction:	S	
Dew Presence (Y/N):	N no	
Soil Temperature, Unit:	69 F	
Soil Moisture:	NORMAL	
% Cloud Cover:	20	

University of Tennessee

EVALUATION OF HERBICIDE PROGRAMS FOR SOYBEAN WITH BOLT TECHNOLOGY IN THE SOUTHERN US

Trial ID: JSBDUP174-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-174 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. SMITH/DUPONT

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	--	

Application Equipment

	A	B
Appl. Equipment:	BACKPACK	
Equipment Type:	BACCAI	
Operation Pressure, Unit:	40 PSI	
Nozzle Type:	AIXR	
Nozzle Size:	11002	
Nozzle Spacing, Unit:	19 IN	
Nozzles/Row:	2	
Boom Length, Unit:	6.33 FT	
Boom Height, Unit:	16 IN	
Ground Speed, Unit:	4 MPH	
Carrier:	WATER	
Spray Volume, Unit:	15 GAL/AC	
Mix Size, Unit:	0.528 GAL/AC	
Propellant:	CO2	
Tank Mix (Y/N):	Y yes	

University of Tennessee

AFFORIA APPLIED IN THE SPRING FOR WINTER AND SPRING ANNUALS IN ROUNDUP READY SOYBEAN

Trial ID: JSBRR004-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-907 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. Smith/DuPont

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	HERB CANOPY EX	29.5	WG	2	oz/a	30	DBP A	101	206	305	402	
	HERB ABUNDIT EXTRA	4	SL	32	oz/a	30	DBP A					
	HERB 2,4-D ESTER	4	SC	2	pt/a	30	DBP A					
2	HERB AFFORIA	50.8	DG	2.5	oz/a	30	DBP A	102	204	306	404	
	HERB Tribenuron	50	DF	0.125	oz ai/a	30	DBP A					
	HERB Thifensulfuron (HarmonyGT 50)	50	WG	0.125	oz ai/a	30	DBP A					
	HERB Valor	51	WG	2	oz/a	30	DBP A					
	HERB ABUNDIT EXTRA	4	SL	32	fl oz/a	30	DBP A					
	HERB 2,4-D ESTER	4	SC	2	pt/a	30	DBP A					
3	HERB AFFORIA	50.8	DG	2.5	oz/a	30	DBP A	103	201	303	407	
	HERB Tribenuron	50	DF	0.125	oz ai/a	30	DBP A					
	HERB Thifensulfuron (HarmonyGT 50)	50	WG	0.125	oz ai/a	30	DBP A					
	HERB Valor	51	WG	2	oz/a	30	DBP A					
	HERB FIERCE	76	WG	3	oz/a	30	DBP A					
	HERB ABUNDIT EXTRA	4	SL	32	fl oz/a	30	DBP A					
	HERB 2,4-D ESTER	4	SC	2	pt/a	30	DBP A					
4	HERB AFFORIA	50.8	DG	2.5	oz/a	30	DBP A	104	202	304	406	
	HERB Tribenuron	50	DF	0.125	oz ai/a	30	DBP A					
	HERB Thifensulfuron (HarmonyGT 50)	50	WG	0.125	oz ai/a	30	DBP A					
	HERB Valor	51	WG	2	oz/a	30	DBP A					
	HERB ZIDUA	85	WG	2	oz/a	30	DBP A					
	HERB ABUNDIT EXTRA	4	SL	32	fl oz/a	30	DBP A					
	HERB 2,4-D ESTER	4	SC	2	pt/a	30	DBP A					
5	HERB AFFORIA	50.8	DG	2.5	oz/a	30	DBP A	105	207	301	405	
	HERB Tribenuron	50	DF	0.125	oz ai/a	30	DBP A					
	HERB Thifensulfuron (HarmonyGT 50)	50	WG	0.125	oz ai/a	30	DBP A					
	HERB Valor	51	WG	2	oz/a	30	DBP A					
	HERB CINCH	7.64	EC	1	pt/a	30	DBP A					
	HERB ABUNDIT EXTRA	4	SL	32	fl oz/a	30	DBP A					
	HERB 2,4-D ESTER	4	SC	2	pt/a	30	DBP A					
6	HERB AFFORIA	50.8	DG	2.5	oz/a	30	DBP A	106	205	302	401	
	HERB Tribenuron	50	DF	0.125	oz ai/a	30	DBP A					
	HERB Thifensulfuron (HarmonyGT 50)	50	WG	0.125	oz ai/a	30	DBP A					
	HERB Valor	51	WG	2	oz/a	30	DBP A					
	HERB SELECT	2	EC	12.8	oz/a	30	DBP A					
	HERB ABUNDIT EXTRA	4	SL	32	fl oz/a	30	DBP A					
	HERB 2,4-D ESTER	4	SC	2	pt/a	30	DBP A					
7	CHK NONTREATED							107	203	307	403	

Sort Order: Replicate 1

University of Tennessee

AFFORIA APPLIED IN THE SPRING FOR WINTER AND SPRING ANNUALS IN ROUNDUP READY SOYBEAN

Trial ID: JSBRR004-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-907 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. Smith/DuPont

General Trial Information

Study Director: LARRY STECKEL
Investigator: Dr. Larry Steckel

Trial Location

Country: USA United States

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

Compare current DuPont soybean herbicide programs to competitive programs in various trait technologies.

Contacts

Study Director: LARRY STECKEL

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max	Crop Description: Soybean	
Variety: Asgrow 3931	BBCH Scale: BSOY	
Description: ROUNDUP READY		
Planting Rate, Unit: 140000 S/A	Planting Date: 4-28-15	
Depth, Unit: 1 IN	Planting Method: PLANTD planted	
Row Spacing, Unit: 30 IN	Planting Equipment: FE Field Equipment	
Spacing Within Row, Unit: 1.5 IN		
Soil Temperature, Unit: 60 F		
Soil Moisture: EXCELL excellent		
Seed Bed: MEDTRA medium/trashy		

Pest Description

Pest 1 Type: W **Code:** LAMAM Lamium amplexicaule
Common Name: Henbit

Pest 2 Type: W **Code:** STEME Stellaria media
Common Name: Common chickweed

Site and Design

Treated Plot Width: 10 FT	Site Type: FIELD field	
Treated Plot Length: 30 FT		
Treated Plot Area: 300 FT ²	Treatments: 7	Tillage Type: NOTILL no-till
Replications: 3		Study Design: RACOB Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan 8 -0-0-60
 Apr 28 - Gramoxone SL 48 oz/A + Canopy 6 oz/A + 0.25% NIS
 May 13 - Irrigated 0.5 inch

University of Tennessee

AFFORIA APPLIED IN THE SPRING FOR WINTER AND SPRING ANNUALS IN ROUNDUP READY SOYBEAN

Trial ID: JSBRR004-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-907 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. Smith/DuPont

Application Description

	A
Application Date:	3-30-15
Appl. Start Time:	10:55 AM
Appl. Stop Time:	11:06 AM
Application Method:	SPRAY
Application Timing:	30 DBP
Application Placement:	BROFOL
Applied By:	JR
Air Temperature, Unit:	72 F
% Relative Humidity:	41
Wind Velocity, Unit:	6 MPH
Wind Direction:	NE
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	52 F
Soil Moisture:	SLIWET
% Cloud Cover:	0

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	--

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	LAMAM W FLOW
Height, Unit:	7 IN
Height Minimum, Maximum:	6 8
Pest 2 Code, Type, Scale:	STEME W FLOW
Diameter, Unit:	9
Height, Unit:	4 IN
Height Minimum, Maximum:	3 5

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	BACCAI
Operation Pressure, Unit:	40 PSI
Nozzle Type:	AIXR
Nozzle Size:	11002
Nozzle Spacing, Unit:	19 IN
Nozzles/Row:	2
Boom Length, Unit:	6.33 FT
Boom Height, Unit:	16 IN
Ground Speed, Unit:	4 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC
Propellant:	CO2
Tank Mix (Y/N):	Y yes

University of Tennessee

EPP BURNDOWN AND PRE EFFICACY AND TOLERANCE IN SOYBEAN WITH SURVEIL AND SONIC

Trial ID: NA15R5K001 Location: Jackson, TN Trial Year: 2015
 Protocol ID: NA15R5K001 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: Haygood/DOW

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	HERB GRAMOXONE INTEON HERB PREFERENCE (NIS)	2 L	SL	32 oz/a 0.25 % v/v		14 EPP 14 EPP	ABC ABC	101	204	308	412	
2	HERB SONIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	70 2 L	WG SL	3 oz/a 32 oz/a 0.25 % v/v		14 EPP 14 EPP 14 EPP	A A A	102	208	305	406	
3	HERB SONIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	70 2 L	WG SL	4.5 oz/a 32 oz/a 0.25 % v/v		14 EPP 14 EPP 14 EPP	A A A	103	206	313	414	
4	HERB SURVEIL HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	48 2 L	WG SL	2.8 oz/a 32 oz/a 0.25 % v/v		14 EPP 14 EPP 14 EPP	A A A	104	203	314	404	
5	HERB VALOR HERB CLASSIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	51 25 2 L	WG WG SL	1.76 oz/a 1.24 oz/a 32 oz/a 0.25 % v/v		14 EPP 14 EPP 14 EPP 14 EPP	A A A A	105	211	312	411	
6	HERB SONIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	70 2 L	WG SL	3 oz/a 32 oz/a 0.25 % v/v		7 EPP 7 EPP 7 EPP	B B B	106	205	309	413	
7	HERB SONIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	70 2 L	WG SL	4.5 oz/a 32 oz/a 0.25 % v/v		7 EPP 7 EPP 7 EPP	B B B	107	201	303	405	
8	HERB SURVEIL HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	48 2 L	WG SL	2.8 oz/a 32 oz/a 0.25 % v/v		7 EPP 7 EPP 7 EPP	B B B	108	207	307	410	
9	HERB VALOR HERB CLASSIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	51 25 2 L	WG WG SL	1.76 oz/a 1.24 oz/a 32 oz/a 0.25 % v/v		7 EPP 7 EPP 7 EPP 7 EPP	B B B B	109	202	306	403	
10	HERB SONIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	70 2 L	WG SL	3 oz/a 32 oz/a 0.25 % v/v		PRE PRE PRE	C C C	110	209	301	402	
11	HERB SONIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	70 2 L	WG SL	4.5 oz/a 32 oz/a 0.25 % v/v		PRE PRE PRE	C C C	111	213	304	409	
12	HERB SURVEIL HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	48 2 L	WG SL	2.8 oz/a 32 oz/a 0.25 % v/v		PRE PRE PRE	C C C	112	214	311	408	
13	HERB VALOR HERB CLASSIC HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS)	51 25 2 L	WG WG SL	1.76 oz/a 1.24 oz/a 32 oz/a 0.25 % v/v		PRE PRE PRE PRE	C C C C	113	210	310	407	
14	HERB SURVEIL HERB GRAMOXONE INTEON ADJ PREFERENCE (NIS) HERB SURVEIL	48 2 L 48	WG SL L WG	1.4 oz/a 32 oz/a 0.25 % v/v 1.4 oz/a		14 EPP 14 EPP 14 EPP PRE	A A A C	114	212	302	401	

Sort Order: Replicate 1

University of Tennessee

EPP BURNDOWN AND PRE EFFICACY AND TOLERANCE IN SOYBEAN WITH SURVEIL AND SONIC

Trial ID: NA15R5K001 Location: Jackson, TN Trial Year: 2015
 Protocol ID: NA15R5K001 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: Haygood/DOW

General Trial Information

Study Director: Larry Steckel
Investigator: Dr. Larry Steckel

Planned Completion Date: 10-1-15

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

How does crop tolerance and efficacy compare between Surveil, Sonic, and key competitive products on key glyphosate-resistant broadleaf weeds in soybean when applied EPP and PRE?

Contacts

Study Director: Larry Steckel

Investigator: Dr. Larry Steckel

Crop 1: GLXMA Glycine max Variety: ASGROW 4633 Description: ROUNDUP READY	Crop Description Soybean BBCH Scale: BSOY	Planting Date: 5-4-15 Planting Method: PLANTD planted Planting Equipment: FE Field Equipment
Planting Rate, Unit: 140000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 30 IN Spacing Within Row, Unit: 1.5 IN Soil Moisture: NORMAL normal, adequate		

Pest Description

Pest 1 Type: W **Code:** ERICA Conyza canadensis
Common Name: Horseweed

Site and Design

Treated Plot Width: 5 FT Treated Plot Length: 30 FT Treated Plot Area: 150 FT ² Replications: 4 -1869F	Site Type: FIELD field Tillage Type: NOTILL no-till Study Design: RACOB Randomized Complete Block (RCB)	Treatments: 14
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Field Prep./Maintenance:

Jan. 8, 2015 - 0-0-60
 May 13 - Irrigated 0.5 inch

Application Description

	A	B	C
Application Date:	4-21-15	4-27-15	5-4-15
Appl. Start Time:	8:20 AM	11: 10 AM	1:33 PM
Appl. Stop Time:	8:29 AM	11:20 AM	1:44 PM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	14 EPP	7 EPP	PRE
Application Placement:	BROFOL	BROFOL	BROFOL
Applied By:	GM	JR	GM
Air Temperature, Unit:	54 F	58 F	88 F
% Relative Humidity:	67	49	35
Wind Velocity, Unit:	2 MPH	4 MPH	7 MPH
Wind Direction:	SSW	NE	SW
Dew Presence (Y/N):	Y yes	N no	N no
Soil Temperature, Unit:	56 F	61 F	74 F
Soil Moisture:	SLIWET	SLIWET	NORMAL
% Cloud Cover:	0	98	40

University of Tennessee

EPP BURNDOWN AND PRE EFFICACY AND TOLERANCE IN SOYBEAN WITH SURVEIL AND SONIC

Trial ID: NA15R5K001 Location: Jackson, TN Trial Year: 2015
 Protocol ID: NA15R5K001 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: Haygood/DOW

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	--	--	--

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	ERICA W 20+L	ERICA W 20+L	ERICA W 20+L
Diameter, Unit:		6 IN	
Height, Unit:	8 IN	9 IN	12 IN
Height Minimum, Maximum:	6 10	6 10	11 13

Application Equipment

	A	B	C
Appl. Equipment:	BACKPACK	BACKPACK	BACCAI
Equipment Type:	BACCAI	BACCAI	
Operation Pressure, Unit:	30 PSI	30 PSI	
Nozzle Type:	AIXR	AIXR	
Nozzle Size:	11003	11003	
Nozzle Spacing, Unit:	20 IN	20 IN	
Nozzles/Row:	2	2	
Boom Length, Unit:	5 FT	5 FT	
Boom Height, Unit:	16 IN	16 IN	
Ground Speed, Unit:	4 MPH	4 MPH	
Carrier:	WATER	WATER	
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC	
Mix Size, Unit:	0.528 GAL/AC	0.528 GAL/AC	
Spray pH:	0.528	0.528	
Propellant:	CO2	CO2	
Tank Mix (Y/N):	Y yes	Y yes	

University of Tennessee

SOYBEAN WEED CONTROL IN NO/MIN TILL - FINE SOILS

Trial ID: JSBRRBAS-15
 Protocol ID: MKD-H-2015-US-S32-A-01.0
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: LARRY STECKEL
 Sponsor Contact: Mark Oostlander/STAPLETON

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	Rep 2	Rep 3	Rep 4	Notes
1	CHK CHECK							101	208	307	408	
2	HERB SHARPEN	342	SC	1.0	fl oz/a	7	DBP A	102	209	301	406	
	HERB ZIDUA SC	500.0	SC	2.5	fl oz/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMS	21	SG	8.5	lb/100 gal	7	DBP A					
3	HERB OPTILL	68	WG	2.0	oz wt/a	7	DBP A	103	210	303	401	
	HERB OUTLOOK	720	EC	10.0	fl oz/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMS	21	SG	8.5	lb/100 gal	7	DBP A					
4	HERB OPTILL	68	WG	2.0	oz wt/a	7	DBP A	104	205	308	404	
	HERB ZIDUA	85	WG	2.0	oz wt/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMS	21	SG	8.5	lb/100 gal	7	DBP A					
5	HERB VERDICT	668	EC	5.0	fl oz/a	7	DBP A	105	204	306	411	
	HERB PROWL H2O	455	CS	32.0	fl oz/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	PROD AMMONIUM SULFATE	21	SG	8.5	lb/100 gal	7	DBP A					
6	HERB 2,4-D 700 ESTER	660	EC	16.0	fl oz/a	7	DBP A	106	201	304	402	
	HERB PROWL/SULFENTRAZONE											
	HERB BAS 96110H	420.0	CS	45.0	fl oz/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	PROD AMMONIUM SULFATE	21	SG	8.5	lb/100 gal	7	DBP A					
7	HERB 2,4-D 700 ESTER	660	EC	16.0	fl oz/a	7	DBP A	107	211	310	405	
	HERB FIERCE	76	WG	3.75	oz wt/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMMONIUM SULFATE	21	SG	8.5	lb/100 gal	7	DBP A					
8	HERB 2,4-D 700 ESTER	660	EC	16.0	fl oz/a	7	DBP A	108	207	302	403	
	HERB FIERCE XLT	62.4	WG	5.25	oz wt/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMS	21	SG	8.5	lb/100 gal	7	DBP A					
9	HERB 2,4-D 700 ESTER	660	EC	16.0	fl oz/a	7	DBP A	109	202	311	410	
	HERB PREFIX	634.8	ME	32.0	fl oz/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMS	21	SG	8.5	lb/100 gal	7	DBP A					
10	HERB 2,4-D 700 ESTER	660.0	EC	16.0	fl oz/a	7	DBP A	110	206	309	407	
	HERB VALOR XLT	40.3	WG	3.0	oz wt/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540.0	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMS	21.0	SG	8.5	lb/100 gal	7	DBP A					
11	HERB 2,4-D 700 ESTER	660	EC	16.0	fl oz/a	7	DBP A	111	203	305	409	
	HERB AUTHORITY XL	70	WG	4	oz wt/a	7	DBP A					
	HERB ROUNDUP POWERMAX	540	SL	22.0	fl oz/a	7	DBP A					
	ADJ MSO			1.0	% v/v	7	DBP A					
	FERT AMS	21	SG	8.5	lb/100 gal	7	DBP A					

Sort Order: Replicate 1

University of Tennessee

SOYBEAN WEED CONTROL IN NO/MIN TILL - FINE SOILS

Trial ID: JSBRRBAS-15
 Protocol ID: MKD-H-2015-US-S32-A-01.0
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: LARRY STECKEL
 Sponsor Contact: Mark Oostlander/STAPLETON

General Trial Information

Study Director: LARRY STECKEL
Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

Demonstrate BASF soybean herbicide portfolio effectiveness compared to current commercial standards.

Contacts

Study Director: LARRY STECKEL

Investigator: Dr. Larry Steckel

Crop 1: GLXMA	Glycine max	Crop Description	Soybean
Variety: ASGROW 4633		BBCH Scale: BSOY	
Description: Roundup Ready			
		Planting Date: 5-4-15	
Planting Rate, Unit: 140000 S/A		Planting Method: PLANTD planted	
Depth, Unit: 1 IN		Planting Equipment: FE	Field Equipment
Row Spacing, Unit: 30 IN			
Spacing Within Row, Unit: 1.5 IN			
Soil Moisture: NORMAL	normal, adequate		

Pest Description

Pest 1 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth

Pest 2 Type: W **Code:** ANNGR Annual Grasses

Pest 3 Type: W **Code:** CYPES *Cyperus esculentus*
Common Name: Yellow nutsedge

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 11 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan 8 - 0-0-60
 May 13 - Irrigated 0.5 inch

University of Tennessee

SOYBEAN WEED CONTROL IN NO/MIN TILL - FINE SOILS

Trial ID: JSBRRBAS-15
 Protocol ID: MKD-H-2015-US-S32-A-01.0
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: LARRY STECKEL
 Sponsor Contact: Mark Oostlander/STAPLETON

Application Description

	A
Application Date:	4-27-15
Appl. Start Time:	11:32 AM
Appl. Stop Time:	11:51 AM
Application Method:	SPRAY
Application Timing:	PRE
Application Placement:	BROFOL
Applied By:	JR
Air Temperature, Unit:	58 F
% Relative Humidity:	49
Wind Velocity, Unit:	5 MPH
Wind Direction:	NE
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	61 F
Soil Moisture:	SLIWET
% Cloud Cover:	98

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	--

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMAPA W 2-3L
Height, Unit:	0.5 IN
Height Minimum, Maximum:	0.5 1
Pest 2 Code, Type, Scale:	ANNGR W 1L
Height, Unit:	1 IN
Height Minimum, Maximum:	0.5 1
Pest 3 Code, Type, Scale:	CYPES W 2L
Height, Unit:	3 IN
Height Minimum, Maximum:	2 4

University of Tennessee

SOYBEAN WEED CONTROL IN NO/MIN TILL - FINE SOILS

Trial ID: JSBRRBAS-15
 Protocol ID: MKD-H-2015-US-S32-A-01.0
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: LARRY STECKEL
 Sponsor Contact: Mark Oostlander/STAPLETON

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	BACCAI
Operation Pressure, Unit:	40 PSI
Nozzle Type:	AIXR
Nozzle Size:	11002
Nozzle Spacing, Unit:	19 IN
Nozzles/Row:	2
Boom Length, Unit:	6.33 FT
Boom Height, Unit:	16 IN
Ground Speed, Unit:	4 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC
Propellant:	CO2
Tank Mix (Y/N):	Y yes

University of Tennessee

AUTHORITY BRANDS / ANTHEM MAXX / MARVEL / SOYBEAN PRE/POST PROGRAMS

Trial ID: JSBRRAUTH15 Location: Jackson, TN Trial Year: 2014
 Protocol ID: ANTHEM/AUTHORITY Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: R. Mitchell

General Trial Information

Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Larry Steckel

Crop 1: GLXMA Glycine max Variety: ASGROW 4633 Description: ROUNDUP READY	Crop Description Soybean BBCH Scale: BSOY	Planting Date: 5-4-15 Planting Method: PLANTD planted Planting Equipment: PP Plot Planter
Planting Rate, Unit: 140000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 30 IN Spacing Within Row, Unit: 1.5 IN Soil Moisture: NORMAL normal, adequate Seed Bed: MEDIUM medium		

Site and Design

Treated Plot Width: 10 FT Treated Plot Length: 30 FT Treated Plot Area: 300 FT2 Replications: 4	Site Type: FIELD field Tillage Type: NOTILL no-till Study Design: RACOBL Randomized Complete Block (RCB)	Treatments: 12
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Field Prep./Maintenance:

Jan 8 - 0-0-60
 Mar 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC
 May 13 - Irrigated 0.5 inch

Application Description

	A	B	C
Application Date:	5-4-15		
Appl. Start Time:	1:51 PM		
Appl. Stop Time:	2:14 PM		
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	POST
Application Placement:	BROS0I		
Applied By:	GM		
Air Temperature, Unit:	88 F		
% Relative Humidity:	35		
Wind Velocity, Unit:	7 MPH		
Wind Direction:	SW		
Dew Presence (Y/N):	N no		
Soil Temperature, Unit:	74 F		
Soil Moisture:	NORMAL		
% Cloud Cover:	40		

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	--		

University of Tennessee

AUTHORITY BRANDS / ANTHEM MAXX / MARVEL / SOYBEAN PRE/POST PROGRAMS

Trial ID: JSBRRAUTH15 Location: Jackson, TN Trial Year: 2014
 Protocol ID: ANTHEM/AUTHORITY Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: R. Mitchell

Application Equipment

	A	B	C
Appl. Equipment:	BACKPACK		
Equipment Type:	BACCAI		
Operation Pressure, Unit:	40 PSI		
Nozzle Type:	AIXR		
Nozzle Size:	11002		
Nozzle Spacing, Unit:	19 IN		
Nozzles/Row:	2		
Boom Length, Unit:	6.33 FT		
Boom Height, Unit:	16 IN		
Ground Speed, Unit:	4 MPH		
Carrier:	WATER		
Spray Volume, Unit:	15 GAL/AC		
Mix Size, Unit:	0.528 GAL/AC		
Propellant:	CO2		
Tank Mix (Y/N):	Y yes		

University of Tennessee

LIBERTY / SOY / EFFICACY / RESIDUAL

Trial ID: JSBLLBAY-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HP15USAWGB Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: Cotie, Arlene/Starkey

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate Unit	Growth Stage	Appl Code	Rep				Notes
							1	2	3	4	
1	CHK						101	202	303	410	
2	HERB AUTHORITY FIRST	70	WG	6.5 oz/a	PREPRE A		102	208	311	408	
	HERB LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
	HERB LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
3	HERB FIERCE	76	WG	3.5 oz/a	PREPRE A		103	207	302	412	
	HERB LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
	HERB LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
4	HERB VALOR XLT	40.3	WG	3.5 oz/a	PREPRE A		104	204	312	405	
	HERB LIBERTY 280	2.34	SL	29 oz/a	EAPOCR B						
	HERB ZIDUA	85	WG	2 oz/a	EAPOCR B						
	FERT AMS	100	SG	8.5 lb/100 gal	EAPOCR B						
	HERB LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
5	HERB LIBERTY 280	2.34	SL	29 oz/a	EAPOCR B		105	201	307	403	
	HERB PREFIX	5.264	EC	32 oz/a	EAPOCR B						
	FERT AMS	100	SG	8.5 lb/100 gal	EAPOCR B						
	HERB LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	HERB WARRANT	3	CS	48 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
6	HERB OPTILL	68	WG	2 oz/a	PREPRE A		106	205	306	406	
	HERB OUTLOOK	6	EC	10 oz/a	PREPRE A						
	HERB LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
	PROD LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
7	HERB ENVIVE	41.3	WG	4 oz/a	PREPRE A		107	206	301	411	
	HERB LIBERTY 280	2.34	SL	29 oz/a	EAPOCR B						
	HERB OUTLOOK	6	EC	14 oz/a	EAPOCR B						
	FERT AMS	100	SG	8.5 lb/100 gal	EAPOCR B						
	HERB LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
8	HERB LIBERTY 280	2.34	SL	29 oz/a	EAPOCR B		108	209	310	402	
	HERB OUTLOOK	6	EC	14 oz/a	EAPOCR B						
	FERT AMS	100	SG	8.5 lb/100 gal	EAPOCR B						
	HERB LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	HERB WARRANT	3	CS	48 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
9	HERB VERDICT	5.57	EC	5 oz/a	PREPRE A		109	212	309	407	
	PROD LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
	PROD LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
10	HERB SHARPEN	2.85	EC	1 oz/a	PREPRE A		110	210	305	401	
	PROD LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
	PROD LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
11	HERB ZIDUA	85	WG	2 oz/a	PREPRE A		111	203	304	404	
	HERB LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	HERB PREFIX	5.264	EC	1 qt/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
	HERB LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						
12	HERB METRIBUZIN	75	DF	4 oz/a	PREPRE A		112	211	308	409	
	HERB LIBERTY 280	2.34	SL	29 oz/a	MIPOWE C						
	HERB ZIDUA	85	WG	2 oz/a	MIPOWE C						
	FERT AMS	100	SG	8.5 lb/100 gal	MIPOWE C						
	HERB LIBERTY 280	2.34	SL	29 oz/a	LAPOCR D						
	FERT AMS	100	SG	8.5 lb/100 gal	LAPOCR D						

University of Tennessee

LIBERTY / SOY / EFFICACY / RESIDUAL

Trial ID: JSBLLBAY-15
Protocol ID: HP15USAWGB
Project ID:

Location: Jackson, TN Trial Year: 2015
Investigator: Dr. Larry Steckel
Study Director: Larry Steckel
Sponsor Contact: Cotie, Arlene/Starkey

Sort Order: Replicate 1

University of Tennessee

LIBERTY / SOY / EFFICACY / RESIDUAL

Trial ID: JSBLLBAY-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HP15USAWGB Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: Cotie, Arlene/Starkey

General Trial Information

Study Director: Larry Steckel
Investigator: Dr. Larry Steckel

Planned Completion Date: 10-15-15

Trial Location

Country: USA United States

Conducted Under GLP: No
Conducted Under GEP: Yes

Objectives:

1. Did a residual herbicide improve weed control?
2. Was the residual herbicide needed as a PRE or EPOST?
3. Was there any crop response with residuals?

Contacts

Study Director: Larry Steckel

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA	Glycine max	BBCH Scale: BSOY
Variety: LL4850		
Description: LIBERTY LINK		
Planting Rate, Unit: 140000 S/A		Planting Date: 5-5-15
Depth, Unit: 1 IN		Planting Method: PLANTD planted
Row Spacing, Unit: 30 IN		Planting Equipment: PP Plot Planter
Spacing Within Row, Unit: 1.5 IN		
Soil Moisture: NORMAL normal, adequate		
Seed Bed: MEDIUM medium		

Pest Description

Pest 1 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth
Description: RHGY

Site and Design

Treated Plot Width: 7.5 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 225 FT2 **Treatments:** 12 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RACOB L Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan. 8 - 0-0-60
 March 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%
 May 13 - Irrigated 0.5 inch

University of Tennessee

LIBERTY / SOY / EFFICACY / RESIDUAL

Trial ID: JSBLLBAY-15
 Protocol ID: HP15USAWGB
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: Larry Steckel
 Sponsor Contact: Cotie, Arlene/Starkey

Application Description

	A	B	C	D
Application Date:	5-5-15	5-27-15		
Appl. Start Time:	10:01 AM	7:34 AM		
Appl. Stop Time:	10:15 AM	7:44 AM		
Application Method:	SPRAY	SPRAY		
Application Timing:	PREPRE	EAPOCR	MIPOWE	LAPOCR
Application Placement:	BROSOI	BROFOL		
Applied By:	GM	GM		
Air Temperature, Unit:	76 F	76 F		
% Relative Humidity:	60	74		
Wind Velocity, Unit:	3 MPH	2 MPH		
Wind Direction:	SW	W		
Dew Presence (Y/N):	N no	Y yes		
Soil Temperature, Unit:	66 F	69 F		
Soil Moisture:	NORMAL	EXCELL		
% Cloud Cover:	20	25		

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	--	V2-V3		
Height, Unit:		5 IN		
Height Minimum, Maximum:		5 6		

Pest Stage At Each Application

	A	B	C	D
Pest 1 Code, Type, Scale:	AMAPA W --	AMAPA W 4-8L	AMAPA W	AMAPA W
Height, Unit:		3 IN		
Height Minimum, Maximum:		2 4		

Application Equipment

	A	B	C	D
Appl. Equipment:	BACKPACK	BACKPACK		
Equipment Type:	BACCAI	BACCAI		
Operation Pressure, Unit:	30 PSI	30 PSI		
Nozzle Type:	AIXR	AIXR		
Nozzle Size:	11003	11003		
Nozzle Spacing, Unit:	20 IN	20 IN		
Nozzles/Row:	2	2		
Boom Length, Unit:	5 FT	5 FT		
Boom Height, Unit:	16 IN	16 IN		
Ground Speed, Unit:	4 MPH	4 MPH		
Carrier:	WATER	WATER		
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC		
Mix Size, Unit:	0.528 GAL/AC	0.528 GAL/AC		
Spray pH:	0.528	0.528		
Propellant:	CO2	CO2		
Tank Mix (Y/N):	Y yes	Y yes		

University of Tennessee

TO DETERMINE THE EFFICACY & SELECTIVITY OF CHA-2745 WHEN APPLIED PRE ALONE AND IN TANK MIX TO SOYBEAN IN 2015

Trial ID: JSBCHM502-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HGLXMAPET1502 Investigator: Dr. Larry Steckel
 Project ID: HGLXAMPET1502 Study Director: LARRY STECKEL
 Sponsor Contact: ANDY KENDIG

Trt No.	Treatment Type Name	Form Conc	Form Type	Rate	Growth Unit	Stage	Appl Code	Rep 1	2	3	4	Notes
1	HERB CHA-2745	5	EC	25.6	oz/a	PREMCR	A	101	205	311	409	
2	HERB CHA-2745	5	EC	32	oz/a	PREMCR	A	102	201	307	401	
3	HERB CHA-2745	5	EC	38.4	oz/a	PREMCR	A	103	206	305	406	
4	HERB CHA-2745 HERB DAWN	5 2	EC AS	32 19.2	oz/a oz/a	PREMCR PREMCR	A A	104	207	301	407	
5	HERB CHA-2745 HERB CHA-060	5 25	EC WG	32 1.66	oz/a oz/a	PREMCR PREMCR	A A	105	212	309	404	
6	HERB CHA-2745 HERB SPARTAN	5 4	EC F	32 4.5	oz/a oz/a	PREMCR PREMCR	A A	106	210	302	408	
7	HERB CHA-2745 HERB CHA-060 HERB DAWN	5 25 2	EC WG AS	25.6 1.47 18	oz/a oz/a oz/a	PREMCR PREMCR PREMCR	A A A	107	204	308	402	
8	HERB CHA-2745 HERB CHA-060 HERB SPARTAN	5 25 4	EC WG F	25.6 1.28 5.1	oz/a oz/a oz/a	PREMCR PREMCR PREMCR	A A A	108	202	310	412	
9	HERB DUAL MAGNUM	7.62	EC	16.8	oz/a	PREMCR	A	109	211	306	410	
10	HERB SPARTAN	4	F	4.5	oz/a	PREMCR	A	110	209	312	403	
11	HERB AUTHORITY ELITE	7	L	25	oz/a	PREMCR	A	111	203	304	405	
12	CHK UNTREATED							112	208	303	411	

Sort Order: Replicate 1

University of Tennessee

TO DETERMINE THE EFFICACY & SELECTIVITY OF CHA-2745 WHEN APPLIED PRE ALONE AND IN TANK MIX TO SOYBEAN IN 2015

Trial ID: JSBCHM502-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HGLXMAPET1502 Investigator: Dr. Larry Steckel
 Project ID: HGLXAMPET1502 Study Director: LARRY STECKEL
 Sponsor Contact: ANDY KENDIG

General Trial Information

Study Director: LARRY STECKEL
Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Keywords: CHA-2735 4 EC, PETHOXAMID, DAWN, FOMESAFEN, DUAL MAGNUM, S-METOLACHLOR, CHA-060, CHLORIMURON, SULFENTRAZONE, SOYBEAN, PRE, SELECTIVITY, EFFICACY

Objectives:

DETERMINE SAFETY OF CHA-2735 TO SOYBEAN APPLIED PRE
 DETERMINE WEED SPECTRUM OF CHA-2735 APPLIED PRE
 DETERMINE IF EITHER DAWN, CHLORIMURON, OR SULFENTRAZONE WILL BROADEN WEED SPECTRUM

Contacts

Study Director: LARRY STECKEL

Investigator: Dr. Larry Steckel

Crop 1: GLXMA	Glycine max	Crop Description: Soybean
Variety: LL4850		BBCH Scale: BSOY
Description: Liberty Link		
Planting Rate, Unit: 140000 S/A		Planting Date: 4-28-15
Depth, Unit: 1 IN		Planting Method: PLANTD planted
Row Spacing, Unit: 30 IN		Planting Equipment: PP Plot Planter
Spacing Within Row, Unit: 1.5 IN		
Soil Moisture: NORMAL normal, adequate		
Seed Bed: MEDIUM medium		

Site and Design

Treated Plot Width: 7.5 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 225 FT² **Treatments:** 12 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RACOB L Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan. 8 - 0-0-60
 March 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%
 May 13 - Irrigated 0.5 inch

University of Tennessee

TO DETERMINE THE EFFICACY & SELECTIVITY OF CHA-2745 WHEN APPLIED PRE ALONE AND IN TANK MIX TO SOYBEAN IN 2015

Trial ID: JSBCHM502-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HGLXMAPET1502 Investigator: Dr. Larry Steckel
 Project ID: HGLXAMPET1502 Study Director: LARRY STECKEL
 Sponsor Contact: ANDY KENDIG

Application Description

	A
Application Date:	5-5-15
Appl. Start Time:	9:41 AM
Appl. Stop Time:	9:56 AM
Application Method:	SPRAY
Application Timing:	PRE
Application Placement:	BROSOI
Applied By:	GM
Air Temperature, Unit:	74 F
% Relative Humidity:	60
Wind Velocity, Unit:	3 MPH
Wind Direction:	S
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	65 F
Soil Moisture:	NORMAL
% Cloud Cover:	20

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	BACCAI
Operation Pressure, Unit:	30 PSI
Nozzle Type:	AIXR
Nozzle Size:	11003
Nozzle Spacing, Unit:	20 IN
Nozzles/Row:	2
Boom Length, Unit:	5 FT
Boom Height, Unit:	16 IN
Ground Speed, Unit:	4 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC
Spray pH:	0.528
Propellant:	CO2
Tank Mix (Y/N):	Y yes

University of Tennessee

TO DETERMINE RESIDUAL EFFICACY AND SELECTIVITY OF CHA-2745 WHEN APPLIED POST TO SOYBEAN IN 2015

Trial ID: JSBCHM503-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HGLXMAPET1503 Investigator: Dr. Larry Steckel
 Project ID: HGLXMAPET1503 Study Director: LARRY STECKEL
 Sponsor Contact:

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	CHK	UNTREATED						101	202	301	402	
2	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A	102	216	312	407	
3	HERB	CHA-2745	5	EC	25.6	oz/a	POSPOS A	103	213	304	415	
	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A					
4	HERB	DAWN	2	AS	19.2	oz/a	POSPOS A	104	201	302	411	
	ADJ	CROP OIL CONC			1.25	% v/v	POSPOS A					
5	HERB	CHA-2745	5	EC	25.6	oz/a	POSPOS A	105	215	316	408	
	HERB	DAWN	2	AS	19.2	oz/a	POSPOS A					
	ADJ	CROP OIL CONC			1.25	% v/v	POSPOS A					
6	HERB	PREFIX	5.29	EC	32	oz/a	POSPOS A	106	209	308	414	
	ADJ	CROP OIL CONC			1.25	% v/v	POSPOS A					
7	HERB	CHA-2745	5	EC	25.6	oz/a	POSPOS A	107	208	309	401	
	HERB	DAWN	2	AS	19.2	oz/a	POSPOS A					
	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A					
8	HERB	PREFIX	5.29	EC	32	oz/a	POSPOS A	108	203	315	406	
	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A					
9	HERB	HARASS	75	WDG	0.107	oz/a	POSPOS A	109	212	313	416	
	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A					
10	HERB	CHA-2745	5	EC	25.6	oz/a	POSPOS A	110	214	305	412	
	HERB	HARASS	75	WDG	0.107	oz/a	POSPOS A					
	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A					
11	HERB	CHA-060	25	WDG	0.51	oz/a	POSPOS A	111	207	311	403	
	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A					
12	HERB	CHA-2745	5	EC	25.6	oz/a	POSPOS A	112	211	314	409	
	HERB	CHA-060	25	WDG	0.51	oz/a	POSPOS A					
	HERB	LIBERTY	2.34	SL	29	oz/a	POSPOS A					
13	HERB	DAWN	2	AS	19.2	oz/a	POSPOS A	113	206	310	405	
	HERB	CLETHODIM	2	EC	12	oz/a	POSPOS A					
	ADJ	CROP OIL CONC			1.25	% v/v	POSPOS A					
14	HERB	CHA-2745	5	EC	25.6	oz/a	POSPOS A	114	210	306	410	
	HERB	DAWN	2	AS	19.2	oz/a	POSPOS A					
	HERB	CLETHODIM	2	EC	12	oz/a	POSPOS A					
	ADJ	CROP OIL CONC			1.25	% v/v	POSPOS A					
15	HERB	COBRA	2	EC	12.8	oz/a	POSPOS A	115	205	303	404	
	HERB	CLETHODIM	2	EC	12	oz/a	POSPOS A					
	ADJ	CROP OIL CONC			1.25	% v/v	POSPOS A					
16	HERB	CHA-2745	5	EC	25.6	oz/a	POSPOS A	116	204	307	413	
	HERB	COBRA	2	EC	12.8	oz/a	POSPOS A					
	HERB	CLETHODIM	2	EC	12	oz/a	POSPOS A					
	ADJ	CROP OIL CONC			1.25	% v/v	POSPOS A					

Sort Order: Replicate 1

University of Tennessee

TO DETERMINE RESIDUAL EFFICACY AND SELECTIVITY OF CHA-2745 WHEN APPLIED POST TO SOYBEAN IN 2015

Trial ID: JSBCHM503-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HGLXMAPET1503 Investigator: Dr. Larry Steckel
 Project ID: HGLXMAPET1503 Study Director: LARRY STECKEL
 Sponsor Contact:

General Trial Information

Study Director: LARRY STECKEL
Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Keywords: PETHOXAMID, CHA-2735, DAWN, HARASS, COBRA, FOMESAFEN, CHLORIMURON, THIFENSULFURON, LACTOFEN, CLETHODIM, POST, SOYBEAN, EFFICACY, SELECTIVITY, REDISUAL

Objectives:

COMPARE THE ACTIVITY OF CHA-2735 WHEN APPLIED POST IN COMBO WITH SEVERAL HERBICIDES TO SOYBEAN & COMPARE PERFORMANCE WHEN APPLIED WITH EITHER GLYFOS X-TRA OR LIBERTY

Contacts

Study Director: LARRY STECKEL

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max
Variety: LL4850
Description: Liberty Link

BBCH Scale: BSOY

Soybean

Planting Rate, Unit: 140000 S/A
Depth, Unit: 1 IN

Row Spacing, Unit: 30 IN

Spacing Within Row, Unit: 1.5 IN

Soil Moisture: NORMAL normal, adequate

Seed Bed: MEDIUM medium

Planting Date: 5-5-15

Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter

Pest Description

Pest 1 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth

Site and Design

Treated Plot Width: 7.5 FT

Treated Plot Length: 30 FT

Treated Plot Area: 225 FT² **Treatments:** 16
Replications: 4

Site Type: FIELD field

Tillage Type: NOTILL no-till

Study Design: RACOB Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan. 8 - 0-0-60

March 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A

April 24 - Gramoxone SL 48 oz/A + COC 1%

May 13 - Irrigated 0.5 inch

University of Tennessee

TO DETERMINE RESIDUAL EFFICACY AND SELECTIVITY OF CHA-2745 WHEN APPLIED POST TO SOYBEAN IN 2015

Trial ID: JSBCHM503-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: HGLXMAPET1503 Investigator: Dr. Larry Steckel
 Project ID: HGLXMAPET1503 Study Director: LARRY STECKEL
 Sponsor Contact:

Application Description

	A
Application Date:	5-27-15
Appl. Start Time:	6:59 AM
Appl. Stop Time:	7:24 AM
Application Method:	SPRAY
Application Timing:	POSPOS
Application Placement:	BROFOL
Applied By:	GM
Air Temperature, Unit:	76 F
% Relative Humidity:	74
Wind Velocity, Unit:	1 MPH
Wind Direction:	W
Dew Presence (Y/N):	Y yes
Soil Temperature, Unit:	69 F
Soil Moisture:	EXCELL
% Cloud Cover:	20

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	V3
Height, Unit:	5 IN
Height Minimum, Maximum:	4 6

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMAPA W 4-8L
Height, Unit:	4 IN
Height Minimum, Maximum:	3 6

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	BACCAI
Operation Pressure, Unit:	30 PSI
Nozzle Type:	AIXR
Nozzle Size:	11003
Nozzle Spacing, Unit:	20 IN
Nozzles/Row:	2
Boom Length, Unit:	5 FT
Boom Height, Unit:	16 IN
Ground Speed, Unit:	4 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC
Spray pH:	0.528
Propellant:	CO2
Tank Mix (Y/N):	Y yes

University of Tennessee

EFFICACY OF VALOR, FIERCE COMBINATIONS WITH CLARITY FOR WEED CONTROL / BAREGROUND

Trial ID: JSBVAL15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: MD64.06 Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: M. Everett/ Valent

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	CHK NONTREATED					A	101	202	304	406	
2	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	PREPOS A		102	205	308	404	
	HERB CLARITY	4 L		1 pt/a	PREPOS A						
	ADJ NIS	100 SL		0.25 % v/v	PREPOS A						
	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	POST B						
	HERB CLARITY	4 L		1 pt/a	POST B						
	ADJ NIS	100 SL		0.25 % v/v	POST B						
3	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	PREPOS A		103	206	303	401	
	HERB CLARITY	4 L		1 pt/a	PREPOS A						
	HERB VALOR SX	51 WG		2.5 oz/a	PREPOS A						
	ADJ NIS	100 SL		0.25 % v/v	PREPOS A						
	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	POST B						
	HERB CLARITY	4 L		1 pt/a	POST B						
	ADJ NIS	100 SL		0.25 % v/v	POST B						
4	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	PREPOS A		104	207	301	403	
	HERB CLARITY	4 L		1 pt/a	PREPOS A						
	ADJ NIS	100 SL		0.25 % v/v	PREPOS A						
	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	POST B						
	HERB CLARITY	4 L		1 pt/a	POST B						
	HERB COBRA	2 EC		12.5 oz/a	POST B						
	ADJ COC	100 SL		1 pt/a	POST B						
5	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	PREPOS A		105	203	305	407	
	HERB CLARITY	4 L		1 pt/a	PREPOS A						
	HERB VALOR SX	51 WG		2.5 oz/a	PREPOS A						
	ADJ NIS	100 SL		0.25 % v/v	PREPOS A						
	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	POST B						
	HERB CLARITY	4 L		1 pt/a	POST B						
	HERB COBRA	2 EC		12.5 fl oz/a	POST B						
	ADJ COC	100 SL		1 pt/a	POST B						
6	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	PREPOS A		106	201	306	408	
	HERB CLARITY	4 L		1 pt/a	PREPOS A						
	HERB FIERCE	76 WG		3 oz wt/a	PREPOS A						
	ADJ NIS	100 SL		0.25 % v/v	PREPOS A						
	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	POST B						
	HERB CLARITY	4 L		1 pt/a	POST B						
	ADJ NIS	100 SL		0.25 % v/v	POST B						
7	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	PREPOS A		107	208	302	405	
	HERB CLARITY	4 L		1 pt/a	PREPOS A						
	HERB FIERCE	76 WG		3 oz wt/a	PREPOS A						
	ADJ NIS	100 SL		0.25 % v/v	PREPOS A						
	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	POST B						
	HERB CLARITY	4 L		1 pt/a	POST B						
	HERB COBRA	2 EC		12.5 fl oz/a	POST B						
	ADJ NIS	100 SL		0.25 % v/v	POST B						
8	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	PREPOS A		108	204	307	402	
	HERB V-10404	3.02 L		30 oz/a	PREPOS A						
	ADJ NIS	100 SL		0.25 % v/v	PREPOS A						
	HERB ROUNDUP POWERMAX	5.5 L		32 fl oz/a	POST B						
	HERB CLARITY	4 L		1 pt/a	POST B						

Sort Order: Replicate 1

University of Tennessee

EFFICACY OF VALOR, FIERCE COMBINATIONS WITH CLARITY FOR WEED CONTROL / BAREGROUND

Trial ID: JSBVAL15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: MD64.06 Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: M. Everett/ Valent

General Trial Information

Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: NONE

Pest Description

Pest 1 Type: W **Code:** ERICA *Conyza canadensis*
Common Name: Horseweed

Pest 2 Type: W **Code:** POAAN *Poa annua*
Common Name: Annual bluegrass

Pest 3 Type: W **Code:** CAPBP *Capsella bursa-pastoris*
Common Name: Shepherd's purse

Pest 4 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth

Site and Design

Treated Plot Width: 10 FT

Treated Plot Length: 20 FT

Treated Plot Area: 200 FT² **Treatments:** 8
Replications: 4

Site Type: FIELD field

Tillage Type: NOTILL no-till
Study Design: RACOB Randomized Complete Block (RCB)

Application Description

	A	B
Application Date:	3-23-15	5-5-15
Appl. Start Time:	11:00 AM	3:00 PM
Appl. Stop Time:	11:27 AM	3:30 PM
Application Method:	SPRAY	SPRAY
Application Timing:	PREPOS	POST
Application Placement:	BROFOL	BROFOL
Applied By:	JR	TB
Air Temperature, Unit:	72 F	87 F
% Relative Humidity:	43	43
Wind Velocity, Unit:	2.5 MPH	3 MPH
Wind Direction:	NE	SW
Dew Presence (Y/N):	Y yes	N no
Soil Temperature, Unit:	53 F	89 F
Soil Moisture:	SLIWET	NORMAL
% Cloud Cover:	0	40

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	NONE	NONE

University of Tennessee

EFFICACY OF VALOR, FIERCE COMBINATIONS WITH CLARITY FOR WEED CONTROL / BAREGROUND

Trial ID: JSBVAL15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: MD64.06 Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: M. Everett/ Valent

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	ERICA W 10+L	ERICA W 2--
Diameter, Unit:	2 IN	
Height, Unit:	3 IN	
Height Minimum, Maximum:	2 4	
Pest 2 Code, Type, Scale:	POAAN W SEED	POAAN W --
Diameter, Unit:	3 IN	
Height, Unit:	2 IN	
Height Minimum, Maximum:	2 4	
Pest 3 Code, Type, Scale:	CAPBP W FLOW	CAPBP W --
Height, Unit:	8 IN	
Height Minimum, Maximum:	7 9	
Pest 4 Code, Type, Scale:	AMAPA W --	AMAPA W 2-4L
Height, Unit:		3 IN
Height Minimum, Maximum:		2 4

Application Equipment

	A	B
Appl. Equipment:	BACKPACK	BACKPACK
Equipment Type:	BACCAI	BACCAI
Operation Pressure, Unit:	40 PSI	40 PSI
Nozzle Type:	AIXR	AIXR
Nozzle Size:	11002	11002
Nozzle Spacing, Unit:	19 IN	19 IN
Nozzles/Row:	2	2
Boom Length, Unit:	6.33 FT	6.33 FT
Boom Height, Unit:	16 IN	16 IN
Ground Speed, Unit:	4 MPH	4 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC	0.528 GAL/AC
Propellant:	CO2	CO2
Tank Mix (Y/N):	Y yes	Y yes

University of Tennessee

TRICOR FOUNDATION PROGRAM FOR SOYBEAN (WFFT)

Trial ID: JSBRRUPI-15
 Protocol ID: TRCR 6 US TN 15 01CS
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: Larry Steckel
 Sponsor Contact: Clyde Smith/UPI

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Growth Unit	Appl Stage	Code	Rep 1	2	3	4	Notes
1	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	101	205	307	402	
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					
2	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	102	207	308	403	
	HERB ULTRA BLAZER	2	L	24	oz/a	POST	B					
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					
3	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	103	204	301	408	
	HERB TRICOR	75	DF	8	oz/a	PRE	A					
	HERB COBRA	2	EC	12.5	oz/a	POST	B					
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					
4	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	104	206	303	405	
	HERB TRICOR	75	DF	8	oz/a	PRE	A					
	HERB ULTRA BLAZER	2	L	24	oz/a	POST	B					
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					
5	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	105	201	304	401	
	HERB STORM	4	EC	24	oz/a	POST	B					
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					
6	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	106	208	302	407	
	HERB TRICOR	75	DF	8	oz/a	PRE	A					
	HERB FLEXSTAR	1.88	L	16	oz/a	POST	B					
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					
7	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	107	203	306	404	
	HERB TRICOR	75	DF	8	oz/a	PRE	A					
	HERB STORM	4	EC	24	oz/a	POST	B					
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					
8	HERB DUAL II MAGNUM	7.64	L	16	oz/a	PRE	A	108	202	305	406	
	HERB TRICOR	75	DF	8	oz/a	PRE	A					
	HERB ROUNDUP POWERMAX	5.5	L	24	oz/a	POST	B					
	ADJ N-PAK AMS LIQUID	3.4	L	6	pt/a	POST	B					

Sort Order: Replicate 1

University of Tennessee

TRICOR FOUNDATION PROGRAM FOR SOYBEAN (WFFT)

Trial ID: JSBRRUPI-15
 Protocol ID: TRCR 6 US TN 15 01CS
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: Larry Steckel
 Sponsor Contact: Clyde Smith/UPI

General Trial Information

Study Director: Larry Steckel
Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Larry Steckel

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max
Variety: ASGROW 4633
Description: ROUNDUP READY

BBCH Scale: BSOY

Planting Date: 5-4-15
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter

Planting Rate, Unit: 140000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Spacing Within Row, Unit: 1.5 IN
Soil Moisture: NORMAL normal, adequate

Site and Design

Treated Plot Width: 10 FT
Treated Plot Length: 30 FT

Site Type: FIELD field

Treated Plot Area: 300 FT² **Treatments:** 8
Replications: 4

Tillage Type: NOTILL no-till
Study Design: RAOBL Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan 8 - 0-0-60

Mar 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A

April 24 - Gramoxone SL 48 oz/A + COC 1%

Application Description

	A
Application Date:	5-4-15
Appl. Start Time:	2:19 PM
Appl. Stop Time:	2:30 PM
Application Method:	SPRAY
Application Timing:	PRE
Application Placement:	BROSOL
Applied By:	GM
Air Temperature, Unit:	88 F
% Relative Humidity:	34
Wind Velocity, Unit:	6 MPH
Wind Direction:	SW
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	76 F
Soil Moisture:	NORMAL
% Cloud Cover:	35

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	--

University of Tennessee

TRICOR FOUNDATION PROGRAM FOR SOYBEAN (WFFT)

Trial ID: JSBRRUPI-15
 Protocol ID: TRCR 6 US TN 15 01CS
 Project ID:

Location: Jackson, TN Trial Year: 2015
 Investigator: Dr. Larry Steckel
 Study Director: Larry Steckel
 Sponsor Contact: Clyde Smith/UPI

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	BACCAI
Operation Pressure, Unit:	40 PSI
Nozzle Type:	AIXR
Nozzle Size:	11002
Nozzle Spacing, Unit:	19 IN
Nozzles/Row:	2
Boom Length, Unit:	6.33 FT
Boom Height, Unit:	16 IN
Ground Speed, Unit:	4 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC
Propellant:	CO2
Tank Mix (Y/N):	Y yes

University of Tennessee

DT SOYBEAN WEED CONTROL IN NO-TILLAGE OR MINIMUM TILLAGE SYSTEMS

Trial ID: MKD-H-2015-US-D03-A-0.01 Location: Jackson, TN Trial Year: 2015
 Protocol ID: MKD-H-2015-US-D03-A-0.01 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact:

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	CHK							101	207	306	404	
2	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		14 DPP A	A	102	201	308	402	
	HERB 2,4-D		L	32 fl oz/a		14 DPP A	A					
	HERB PREFIX	5.264	EC	32 fl oz/a		V2	C					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V2	C					
3	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		14 DPP A	A	103	206	309	407	
	HERB 2,4-D		L	32 fl oz/a		14 DPP A	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V2	C					
	HERB DGA Dicamba		L	16 fl oz/a		V2	C					
4	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		14 DPP A	A	104	203	307	405	
	HERB 2,4-D		L	32 fl oz/a		14 DPP A	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V4-V5	D					
	HERB DGA Dicamba		L	16 fl oz/a		V4-V5	D					
5	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		14 DPP A	A	105	210	301	403	
	HERB SHARPEN	2.85	EC	1.5 fl oz/a		14 DPP A	A					
	HERB ZIDUA	85	WG	2.5 oz wt/a		14 DPP A	A					
	ADJ MSO		L	16 oz/a		14 DPP A	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V2	C					
	HERB ENGENIA		L	12.8 fl oz/a		V2	C					
	HERB OUTLOOK	6	SC	16 fl oz/a		V2	C					
	ADJ NIS	100	SL	0.25 % v/v		V2	C					
6	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		14 DPP A	A	106	209	302	410	
	HERB VERDICT	5.57	EC	7.5 fl oz/a		14 DPP A	A					
	HERB ZIDUA	85	WG	2 oz wt/a		14 DPP A	A					
	ADJ MSO		L	16 oz/a		14 DPP A	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V2	C					
	HERB ENGENIA		L	12.8 fl oz/a		V2	C					
	HERB OUTLOOK	6	SC	16 fl oz/a		V2	C					
	ADJ NIS	100	SL	0.25 % v/v		V2	C					
7	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		14 DPP A	A	107	204	303	406	
	HERB DGA Dicamba		L	16 fl oz/a		14 DPP A	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V2	C					
	HERB DGA Dicamba		L	16 fl oz/a		V2	C					
	HERB WARRANT	3	SL	48 fl oz/a		V2	C					
8	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		14 DPP A	A	108	205	304	401	
	HERB DGA Dicamba		L	16 fl oz/a		14 DPP A	A					
	HERB ROWEL	51	WDG	2 oz wt/a		14 DPP A	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V4-V5	D					
	HERB DGA Dicamba		L	16 fl oz/a		V4-V5	D					
	HERB WARRANT	3	SL	48 fl oz/a		V4-V5	D					
9	HERB ROUNDUP POWERMAX	5	SL	32 fl oz/a		14 DPP A	A	109	202	310	408	
	HERB ZIDUA	85	WG	2 oz wt/a		14 DPP A	A					
	HERB VERDICT	5.57	EC	7.5 fl oz/a		14 DPP A	A					
	ADJ MSO		L	16 oz/a		14 DPP A	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V4-V5	D					
	HERB ENGENIA		L	12.8 fl oz/a		V4-V5	D					
	HERB OUTLOOK	6	SC	16 fl oz/a		V4-V5	D					
	ADJ NIS	100	SL	0.25 % v/v		V4-V5	D					
10	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		PRE	B	110	208	305	409	
	HERB ZIDUA	85	WG	2.5 oz wt/a		PRE	B					
	HERB SHARPEN	2.85	EC	1 fl oz/a		PRE	B					
	HERB ENGENIA		L	12.8 fl oz/a		PRE	B					
	ADJ MSO		L	16 oz/a		PRE	B					
	HERB ROUNDUP POWERMAX	5.5	SL	32 fl oz/a		V2	C					
	HERB ENGENIA		L	12.8 fl oz/a		V2	C					
	HERB OUTLOOK	6	SC	16 fl oz/a		V2	C					
	ADJ NIS	100	SL	0.25 % v/v		V2	C					

Sort Order: Replicate 1

University of Tennessee

DT SOYBEAN WEED CONTROL IN NO-TILLAGE OR MINIMUM TILLAGE SYSTEMS

Trial ID: MKD-H-2015-US-D03-A-0.01 Location: Jackson, TN Trial Year: 2015
 Protocol ID: MKD-H-2015-US-D03-A-0.01 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact:

General Trial Information

Study Director: Larry Steckel
Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Larry Steckel

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max
Variety: RM4.5RR2X/MON87708/MON89788
Description: Dicamba Tolerant

BBCH Scale: BSOY

Planting Rate, Unit: 140000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Spacing Within Row, Unit: 1.5 IN
Soil Temperature, Unit: 66 F
Soil Moisture: SLIDRY slightly dry

Planting Date: 5-14-15
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter

Pest Description

Pest 1 Type: W **Code:** ERICA *Conyza canadensis*
Common Name: Horseweed

Pest 2 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth

Pest 3 Type: W **Code:** ANNGR Annual Grasses

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT2 **Treatments:** 10 **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOB� Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Field Prep./Maintenance:

Jan 8 - 0-0-60

iNTERLOCK was added to all Engenia treatments at 4 oz/A rate.

Application Description

	A	B	C	D
Application Date:	4-27-15	5-14-15		
Appl. Start Time:	8:50 AM	7:55 AM		
Appl. Stop Time:	9:12 AM	7:58 AM		
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PREPLA	PREPRE	EAPOCR	LAPOCR
Application Placement:	BROADC	BROADC	BROADC	BROADC
Applied By:	JR	JR		
Air Temperature, Unit:	54 F	63 F		
% Relative Humidity:	64	64		
Wind Velocity, Unit:	5 MPH	2 MPH		
Wind Direction:	N	E		
Dew Presence (Y/N):	Y yes	Y yes		
Soil Temperature, Unit:	55 F	66 F		
Soil Moisture:	SLIWET	SLIDRY		
% Cloud Cover:	98	99		

University of Tennessee

DT SOYBEAN WEED CONTROL IN NO-TILLAGE OR MINIMUM TILLAGE SYSTEMS

Trial ID: MKD-H-2015-US-D03-A-0.01 Location: Jackson, TN Trial Year: 2015
 Protocol ID: MKD-H-2015-US-D03-A-0.01 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact:

Crop Stage At Each Application

	A	B	C	D
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	DESC	DESC	DESC	DESC
Stage Majority, Percent:	7-14 DPP	PRE	V2	V4-V5

Pest Stage At Each Application

	A	B	C	D
Pest 1 Code, Type, Scale:	ERICA W 20+L	ERICA W 20+L	ERICA W	ERICA W
Diameter, Unit:	6 IN	5 IN		
Height, Unit:	8 IN	10 IN		
Height Minimum, Maximum:	7 10	4 15		
Pest 2 Code, Type, Scale:	AMAPA W 2-3L	AMAPA W 2-4L	AMAPA W	AMAPA W
Height, Unit:	0.5 IN	2 IN		
Height Minimum, Maximum:	0.5 1	1 2		
Pest 3 Code, Type, Scale:	ANNGR W 1L	ANNGR W 2L	ANNGR W	ANNGR W
Height, Unit:	1 IN	1 IN		
Height Minimum, Maximum:	0.5 1	1 2		

Application Equipment

	A	B	C	D
Appl. Equipment:	BACKPACK	BACKPK		
Equipment Type:	BACCAI	BACSPR		
Operation Pressure, Unit:	32 PSI	47 PIS		
Nozzle Type:	TTI	TTI		
Nozzle Size:	015	11002		
Nozzle Spacing, Unit:	19 IN	19 IN		
Nozzles/Row:		2		
Boom Length, Unit:	6.33 FT	6.33 FT		
Boom Height, Unit:	16 IN	16 IN		
Ground Speed, Unit:	4 MPH	4 MPH		
Hours to Incorp.:	MPH			
Carrier:	WATER	WATER		
Spray Volume, Unit:	10 gal/ac	15 GAL/AC		
Mix Size, Unit:	0.528 gallons	0.528 gallons		
Propellant:	COMCO2	CO2		
Tank Mix (Y/N):	Y yes	Y yes		

University of Tennessee

NO-TILL DICAMBA PROGRAMS FOR RR2X SOYBEANS IN SOUTHERN US

Trial ID: JSBDUP156-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-156 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. SMITH/DUPONT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	HERB TRIVENGE		DG	8 oz/a		14 DBP	A	101	209	303	407	
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.02 oz ai/a		14 DBP	A					
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.32 oz ai/a		14 DBP	A					
	HERB METRIBUZIN 75DF (DF 75PC)	75	WG	3.56 oz ai/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		14 DBP	A					
	HERB CLARITY		L	22 oz/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		POST	B					
	HERB CLARITY		L	22 oz/a		POST	B					
2	HERB TRIVENGE		DF	8 oz/a		14 DBP	A	102	206	304	405	
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.02 oz ai/a		14 DBP	A					
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.32 oz ai/a		14 DBP	A					
	HERB METRIBUZIN 75DF (DF 75PC)	75	WG	3.56 oz ai/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		14 DBP	A					
	HERB CLARITY		L	22 oz/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		POST	B					
	HERB CINCH (7.64EC)	7.64	EC	1.00 pt/a		POST	B					
	HERB CLARITY		L	22 oz/a		POST	B					
3	HERB ENVIVE	41.3	DF	3.5 oz/a		14 DBP	A	103	208	307	409	
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.02 oz ai/a		14 DBP	A					
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.32 oz ai/a		14 DBP	A					
	HERB THIFENSULFURON (SG 50 PC)	50	SG	0.10 oz ai/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		14 DBP	A					
	HERB CLARITY		L	22 oz/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		POST	B					
	HERB CLARITY		L	22 oz/a		POST	B					
4	HERB ENVIVE	41.3	DF	3.5 oz/a		14 DBP	A	104	201	305	401	
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.02 oz ai/a		14 DBP	A					
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.32 oz ai/a		14 DBP	A					
	HERB THIFENSULFURON (SG 50 PC)	50	SG	0.10 oz ai/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		14 DBP	A					
	HERB CLARITY		L	22 oz/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		POST	B					
	HERB CLARITY		L	22 oz/a		POST	B					
	HERB CINCH (7.64EC)	7.64	EC	1.00 pt/a		POST	B					
5	HERB ENVIVE	41.3	DF	3.5 oz/a		14 DBP	A	105	207	302	408	
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.02 oz ai/a		14 DBP	A					
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.32 oz ai/a		14 DBP	A					
	HERB THIFENSULFURON (SG 50 PC)	50	SG	0.10 oz ai/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		14 DBP	A					
	HERB CLARITY		L	22 oz/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		POST	B					
	HERB PREFIX (EC 5.29 LG)	5.29	EC	2.00 pt/a		POST	B					
6	HERB CANOPY	75	DF	6 oz/a		14 DBP	A	106	204	306	403	
	HERB CINCH (7.64EC)	7.64	EC	1.00 pt/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		14 DBP	A					
	HERB CLARITY		L	22 oz/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		POST	B					
	HERB CLARITY		L	22 oz/a		POST	B					
7	HERB CANOPY	75	DF	6 oz/a		14 DBP	A	107	205	301	404	
	HERB CINCH (7.64EC)	7.64	EC	1.00 pt/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		14 DBP	A					
	HERB CLARITY		L	22 oz/a		14 DBP	A					
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00 fl oz/a		POST	B					
	HERB CLARITY		L	22 oz/a		POST	B					
	HERB CINCH (7.64EC)	7.64	EC	1.00 pt/a		POST	B					
8	HERB ROUNDUP POWERMAX	5.5	SL	32 oz/a		14 DBP	A	108	202	309	402	
	HERB CLARITY	4	SL	1 pt/a		14 DBP	A					
	HERB ROUNDUP POWERMAX	5.5	SL	32 oz/a		POST	B					
	HERB CLARITY	4	SL	1 pt/a		POST	B					
9	CHK NONTREATED							109	203	308	406	

Sort Order: Replicate 1

University of Tennessee

NO-TILL DICAMBA PROGRAMS FOR RR2X SOYBEANS IN SOUTHERN US

Trial ID: JSBDUP156-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-156 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. SMITH/DUPONT

General Trial Information

Study Director: LARRY STECKEL
Investigator: Dr. Larry Steckel

Trial Location

Country: USA United States

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

1. Evaluate tolerance of dicamba tolerant soybeans to dicamba based herbicides programs compared non-dicamba programs in the Southern US. 2. Evaluate weed control with dicamba based herbicide programs compared to non-dicamba programs in the Southern US.

Contacts

Study Director: LARRY STECKEL

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: NONE

Pest Description

Pest 1 Type: W **Code:** ERICA Conyza canadensis
Common Name: Horseweed

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 9 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RACOB L Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan. 8 , 2015 - 0-0-60

Application Description

	A	B
Application Date:	4-20-15	
Appl. Start Time:	9:35 AM	
Appl. Stop Time:	9:50 AM	
Application Method:	SPRAY	SPRAY
Application Timing:	14 DBP	POST
Application Placement:	BROFOL	BROFOL
Applied By:	JR	
Air Temperature, Unit:	58 F	
% Relative Humidity:	90	
Wind Velocity, Unit:	5 MPH	
Wind Direction:	SW	
Dew Presence (Y/N):	Y yes	
Soil Temperature, Unit:	62 F	
Soil Moisture:	WET	
% Cloud Cover:	100	

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	NONE	NONE

University of Tennessee

NO-TILL DICAMBA PROGRAMS FOR RR2X SOYBEANS IN SOUTHERN US

Trial ID: JSBDUP156-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-156 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. SMITH/DUPONT

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	ERICA W 20+L	ERICA W
Height, Unit:	9 IN	
Height Minimum, Maximum:	6 12	

Application Equipment

	A	B
Appl. Equipment:	BACKPK	BACKPK
Equipment Type:	BACSPR	
Operation Pressure, Unit:	47 PIS	
Nozzle Type:	TTI	
Nozzle Size:	11002	
Nozzle Spacing, Unit:	19 IN	
Nozzles/Row:	2	
Boom Length, Unit:	6.33 FT	
Boom Height, Unit:	16 IN	
Ground Speed, Unit:	4 MPH	
Carrier:	WATER	
Spray Volume, Unit:	15 GAL/AC	
Mix Size, Unit:	0.528 gallons	
Propellant:	CO2	
Tank Mix (Y/N):	Y yes	

University of Tennessee

SOYBEAN HERBICIDE PROGRAMS

Trial ID: JSBRR907-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-907 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. Smith/DuPont

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	Rep 2	Rep 3	Notes
1	HERB ENVIVE	41.3	DF	3.5	oz/a	PRE	A	101	206	304	
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.00	oz ai/a	PRE	A				
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.322	oz ai/a	PRE	A				
	HERB THIFENSULFURON (SG 50 PC)	50	SG	0.10	oz ai/a	PRE	A				
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00	fl oz/a	MPOST	C				
	HERB PREFIX (EC 5.29 LG)	5.29	EC	32.00	fl oz/a	MPOST	C				
2	HERB CANOPY (WG 75.00 PC)	75	WG	6.00	oz/a	PRE	A	102	204	305	
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00	fl oz/a	MPOST	C				
	HERB PREFIX (EC 5.29 LG)	5.29	EC	32.00	fl oz/a	MPOST	C				
3	HERB CANOPY (WG 75.00 PC)	75	WG	5.00	oz/a	PRE	A	103	207	309	
	HERB CINCH (EC 7.64 LG)	7.64	EC	16.00	fl oz/a	PRE	A				
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00	fl oz/a	MPOST	C				
	HERB PREFIX (EC 5.29 LG)	5.29	EC	32.00	fl oz/a	MPOST	C				
4	HERB TRIVENCE		DF	8	oz/a	PRE	A	104	201	302	
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.3125	oz ai/a	PRE	A				
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.00	oz ai/a	PRE	A				
	HERB SENCOR DF (75WG)	75	WG	3.56	oz ai/a	PRE	A				
	HERB ROUNDUP POWERMAX (SL 5.5 LG)	5.5	SL	22.00	fl oz/a	MPOST	C				
	HERB PREFIX (EC 5.29 LG)	5.29	EC	32.00	fl oz/a	MPOST	C				
5	HERB ENVIVE	41.3	DF	3.5	oz/a	PRE	A	105	208	307	
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.00	oz ai/a	PRE	A				
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.322	oz ai/a	PRE	A				
	HERB THIFENSULFURON (SG 50 PC)	50	SG	0.10	oz ai/a	PRE	A				
	HERB SEQUENCE (5.25EC)	5.25	EC	2.50	pt/a	EPOST	B				
	HERB CLASSIC (25WG)	25	WG	0.33	oz ai/a	EPOST	B				
6	HERB CANOPY (WG 75.00 PC)	75	WG	6.00	oz/a	PRE	A	106	209	306	
	HERB SEQUENCE (5.25EC)	5.25	EC	2.50	pt/a	EPOST	B				
	HERB CLASSIC (25WG)	25	WG	0.33	oz ai/a	EPOST	B				
7	HERB TRIVENCE		DG	8	oz/a	PRE	A	107	205	301	
	HERB CHLORIMURON (WG 25 PC)	25	WG	0.3125	oz ai/a	PRE	A				
	HERB FLUMIOXAZIN (WG 51 PC)	51	WG	1.00	oz ai/a	PRE	A				
	HERB SENCOR DF (75WG)	75	WG	3.56	oz ai/a	PRE	A				
	HERB SEQUENCE (5.25EC)	5.25	EC	2.50	pt/a	EPOST	B				
	HERB CLASSIC (25WG)	25	WG	0.33	oz ai/a	EPOST	B				
8	HERB BOUNDARY	6.5	EC	1.5	pt/a	PRE	A	108	202	303	
	HERB SEQUENCE	5.25	EW	2.5	pt/a	EPOST	B				
	HERB FLEXSTAR GT 3.5	3.22	SL	3.5	pt/a	MPOST	C				
9	CHK NONTREATED							109	203	308	

Sort Order: Replicate 1

University of Tennessee

SOYBEAN HERBICIDE PROGRAMS

Trial ID: JSBRR907-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-907 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. Smith/DuPont

General Trial Information

Study Director: LARRY STECKEL
Investigator: Dr. Larry Steckel

Trial Location

Country: USA United States

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

Compare current DuPont soybean herbicide programs to competitive programs in various trait technologies.

Contacts

Study Director: LARRY STECKEL

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max **Crop Description:** Soybean
Variety: ASGROW 4633 **BBCH Scale:** BSOY
Description: ROUNDUP READY

Planting Rate, Unit: 140000 S/A **Planting Date:** 5-12-15
Depth, Unit: 1 IN **Planting Method:** PLANTD planted
Row Spacing, Unit: 30 IN **Planting Equipment:** PP Plot Planter
Spacing Within Row, Unit: 1.5 IN
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

Site and Design

Treated Plot Width: 7.5 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 225 FT² **Treatments:** 9 **Tillage Type:** CONTIL conventional-till
Replications: 3 **Study Design:** RACOBL Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan 8 - 0-0-60
 Mar 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%
 May 12 - Parazone 32 oz/A + COC 1%
 May 13 - Irrigated 0.5 inch

Application Description

	A	B	C
Application Date:	5-13-15		
Appl. Start Time:	8:03 AM		
Appl. Stop Time:	8:20 AM		
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	MPOST
Application Placement:	BROSOI		
Applied By:	TB		
Air Temperature, Unit:	62 F		
% Relative Humidity:	60		
Wind Velocity, Unit:	3 MPH		
Wind Direction:	SE		
Dew Presence (Y/N):	N no		
Soil Temperature, Unit:	64 F		
Soil Moisture:	NORMAL		
% Cloud Cover:	5		

University of Tennessee

SOYBEAN HERBICIDE PROGRAMS

Trial ID: JSBRR907-15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: USA-15-907 Investigator: Dr. Larry Steckel
 Project ID: Study Director: LARRY STECKEL
 Sponsor Contact: D. Smith/DuPont

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	BBCH		
Stage Majority, Percent:	00 100		

Application Equipment

	A	B	C
Appl. Equipment:	BACKPACK		
Equipment Type:	BACCAI		
Operation Pressure, Unit:	30 PSI		
Nozzle Type:	AIXR		
Nozzle Size:	11003		
Nozzle Spacing, Unit:	20 IN		
Nozzles/Row:	2		
Boom Length, Unit:	5 FT		
Boom Height, Unit:	16 IN		
Ground Speed, Unit:	4 MPH		
Carrier:	WATER		
Spray Volume, Unit:	15 GAL/AC		
Mix Size, Unit:	0.528 GAL/AC		
Spray pH:	0.528		
Propellant:	CO2		
Tank Mix (Y/N):	Y yes		

University of Tennessee

MARKET DEVELOPMENT SOYBEAN

Trial ID: 2015-01-24-04 Location: Jackson, TN Trial Year: 2015
 Protocol ID: 2015-01-24-04 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: B. Montgomery/Monsanto

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	Notes
1	HERB ROWEL	51	WG	3	oz/a	PRE	A	101	210	310	
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB WARRANT	3	CS	48	oz/a	POST	B				
	HERB FLEXSTAR	1.88	SL	17	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
2	HERB ROWEL FX	40.3	WG	4	oz/a	PRE	A	102	209	304	
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB WARRANT	3	CS	48	oz/a	POST	B				
	HERB FLEXSTAR	1.88	SL	17	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
3	HERB ROWEL	51	WG	2	oz/a	PRE	A	103	202	309	
	HERB WARRANT	3	CS	48	oz/a	PRE	A				
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB WARRANT	3	CS	48	oz/a	POST	B				
	HERB FLEXSTAR	1.88	SL	17	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
4	HERB WARRANT	3	CS	48	oz/a	PRE	A	104	206	312	
	HERB REFLEX	2	EC	16	oz/a	PRE	A				
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB COBRA	2	EC	10	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
5	HERB WARRANT	3	CS	48	oz/a	PRE	A	105	201	306	
	HERB TRICOR DF	75	DF	5	oz/a	PRE	A				
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB FLEXSTAR	1.88	SL	17	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
6	HERB AUTHORITY FIRST DF	70	DF	5	oz/a	PRE	A	106	213	305	
	HERB WARRANT	3	CS	48	oz/a	PRE	A				
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB FLEXSTAR	1.88	SL	17	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
7	HERB AUTHORITY MAXX	66	WG	6.4	oz/a	PRE	A	107	212	302	
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB CADET	0.91	EC	0.8	oz/a	PRE	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
8	HERB FIERCE	76	WG	3.5	oz/a	PRE	A	108	205	308	
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB COBRA	2	EC	10	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
9	HERB ZIDUA	85	WG	2.75	oz/a	PRE	A	109	203	314	
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB ULTRA BLAZER	2	EC	16	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
10	HERB VERDICT	5.57	EC	5	oz/a	PRE	A	110	204	311	
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB ULTRA BLAZER	2	EC	16	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
11	HERB BROADAXE XC	75.8	EC	25	oz/a	PRE	A	111	214	313	
	HERB FLEXSTAR GT	3.29	SL	56	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
12	HERB BOUNDARY	72	EC	24	oz/a	PRE	A	112	207	307	
	HERB TOUCHDOWN TOTAL	4.17	SL	33.8	oz/a	POST	B				
	HERB PREFIX	5.29	EC	32	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				
13	HERB TRIVENCE	61.3	SG	7.26	oz/a	PRE	A	113	211	303	
	HERB ABUNDIT EXTRA	4	SL	32	oz/a	POST	B				
	HERB COBRA	2	EC	10	oz/a	POST	B				
	HERB WARRANT	3	CS	48	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				

University of Tennessee

MARKET DEVELOPMENT SOYBEAN

Trial ID: 2015-01-24-04 Location: Jackson, TN Trial Year: 2015
 Protocol ID: 2015-01-24-04 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: B. Montgomery/Monsanto

Trt No.	Treatment Type Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep			Notes
								1	2	3	
14	HERB WARRANT	3	CS	48	oz/a	PRE	A	114	208	301	
	HERB TRICOR	75	DF	5	oz/a	PRE	A				
	HERB ROUNDUP POWERMAX	4.5	SL	32	oz/a	POST	B				
	HERB WARRANT	3	CS	48	oz/a	POST	B				
	HERB FLEXSTAR	1.88	SL	17	oz/a	POST	B				
	ADJ CLASS ACT NEXT GENERATION	100	L	2.5	% v/v	POST	B				

Sort Order: Replicate 1

University of Tennessee

MARKET DEVELOPMENT SOYBEAN

Trial ID: 2015-01-24-04 Location: Jackson, TN Trial Year: 2015
 Protocol ID: 2015-01-24-04 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: B. Montgomery/Monsanto

General Trial Information

Study Director: Larry Steckel
Investigator: Dr. Larry Steckel

Trial Location

Country: USA United States

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

Crop Protection Market Development Protocol

Contacts

Study Director: Larry Steckel

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max
Variety: ASGROW 4633
Description: ROUNDUP READY

BBCH Scale: BSOY

Planting Date: 5-12-15
Planting Method: PLANTD planted
Planting Equipment: PP Plot Planter

Planting Rate, Unit: 140000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 30 IN
Spacing Within Row, Unit: 1.5 IN
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

Site and Design

Treated Plot Width: 5 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 150 FT² **Treatments:** 14 **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOB� Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan 8 - 0-0-60
 Mar 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%
 May 12 - Parazone 32 oz/A + COC 1%
 May 13 - Irrigated 0.5 inch

Application Description

	A	B
Application Date:	5-13-15	
Appl. Start Time:	8:25 AM	
Appl. Stop Time:	8:40 AM	
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	POST
Application Placement:	BROSOL	
Applied By:	GM	
Air Temperature, Unit:	65 F	
% Relative Humidity:	60	
Wind Velocity, Unit:	5 MPH	
Wind Direction:	SE	
Dew Presence (Y/N):	N no	
Soil Temperature, Unit:	63 F	
Soil Moisture:	NORMAL	
% Cloud Cover:	5	

University of Tennessee

MARKET DEVELOPMENT SOYBEAN

Trial ID: 2015-01-24-04 Location: Jackson, TN Trial Year: 2015
 Protocol ID: 2015-01-24-04 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: B. Montgomery/Monsanto

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	BBCH	
Stage Majority, Percent:	00 100	

Application Equipment

	A	B
Appl. Equipment:	BACKPACK	
Equipment Type:	BACCAI	
Operation Pressure, Unit:	30 PSI	
Nozzle Type:	AIXR	
Nozzle Size:	11003	
Nozzle Spacing, Unit:	20 IN	
Nozzles/Row:	2	
Boom Length, Unit:	5 FT	
Boom Height, Unit:	16 IN	
Ground Speed, Unit:	4 MPH	
Carrier:	WATER	
Spray Volume, Unit:	15 GAL/AC	
Mix Size, Unit:	0.528 GAL/AC	
Spray pH:	0.528	
Propellant:	CO2	
Tank Mix (Y/N):	Y yes	

University of Tennessee

EFFICACY OF RANSOM HERBICIDE APPLIED PREEMERGE IN ROUNDUP READY SOYBEAN

Trial ID: JSBRRADAM15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: 2984215 Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: D. Reynolds/ADAMA

Trt No.	Treatment Type	Form Conc	Form Type	Rate	Growth Unit	Stage	Appl Code	Rep 1	2	3	Notes
1	HERB RANSOM		WG	8 oz/a	PRE	A		101	204	304	
2	HERB GLORY	75	DF	6 oz/a	PRE	A		102	206	307	
3	HERB VALOR	51	WG	2 oz/a	PRE	A		103	202	303	
4	HERB FIERCE	76	WG	3.5 oz/a	PRE	A		104	211	301	
5	HERB FIERCE XLT	62	WDG	3.75 oz/a	PRE	A		105	205	302	
6	HERB VALOR XLT	40	DF	3.5 oz/a	PRE	A		106	209	310	
7	HERB AUTHORITY MTZ	45	DF	14 oz/a	PRE	A		107	201	306	
8	HERB PUMMEL		L	2 pt/a	PRE	A		108	203	309	
9	HERB LATIR		WDG	3.2 oz/a	PRE	A		109	210	305	
10	HERB TORMENT		L	1 pt/a	PRE	A		110	208	311	
11	CHK NONTREATED							111	207	308	

Sort Order: Replicate 1

University of Tennessee

EFFICACY OF RANSOM HERBICIDE APPLIED PREEMERGE IN ROUNDUP READY SOYBEAN

Trial ID: JSBRRADAM15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: 2984215 Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: D. Reynolds/ADAMA

General Trial Information

Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: ASGROW 4633 **BBCH Scale:** BSOY
Planting Rate, Unit: 140000 S/A **Planting Date:** 5-12-15
Depth, Unit: 1 IN **Planting Method:** PLANTD planted
Row Spacing, Unit: 30 IN **Planting Equipment:** PP Plot Planter
Spacing Within Row, Unit: 1.5 IN
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

Site and Design

Treated Plot Width: 5 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 150 FT² **Treatments:** 11 **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOB� Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan 8 - 0-0-60
 Mar 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%
 May 12 - Parazone 32 oz/A + COC 1%
 May 13 - Irrigated 0.5 inch

Application Description

	A
Application Date:	5-12-15
Appl. Start Time:	3:00 PM
Appl. Stop Time:	3:20 PM
Application Method:	SPRAY
Application Timing:	PRE
Application Placement:	BROSOI
Applied By:	GM
Air Temperature, Unit:	74 F
% Relative Humidity:	44
Wind Velocity, Unit:	7 MPH
Wind Direction:	N
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	86 F
Soil Moisture:	NORMAL
% Cloud Cover:	55

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	BBCH
Stage Majority, Percent:	00 100

University of Tennessee

EFFICACY OF RANSOM HERBICIDE APPLIED PREEMERGE IN ROUNDUP READY SOYBEAN

Trial ID: JSBRRADAM15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: 2984215 Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: D. Reynolds/ADAMA

Application Equipment

	A
Appl. Equipment:	BACKPACK
Equipment Type:	BACCAI
Operation Pressure, Unit:	30 PSI
Nozzle Type:	AIXR
Nozzle Size:	11003
Nozzle Spacing, Unit:	20 IN
Nozzles/Row:	2
Boom Length, Unit:	5 FT
Boom Height, Unit:	16 IN
Ground Speed, Unit:	4 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC
Spray pH:	0.528
Propellant:	CO2
Tank Mix (Y/N):	Y yes

University of Tennessee

EFFICACY OF CHEETAH MAX - LIBERTY LINK SOYBEAN - TIME OF DAY

Trial ID: JSBNUF15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: H2015110TN Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: Bob Bruss

Trt No.	Treatment Type Name	Form Conc	Form Type	Rate	Growth Unit	Stage	Appl Code	Rep 1	Rep 2	Rep 3	Rep 4	Notes
1	CHK							101	203	307	403	
2	HERB CHEETAH MAX	3	SL	1	qt/a	DAWN	A	102	201	308	402	
3	HERB CHEETAH -GLUFOSINATE AMMONIUM	2.34 2.34	SL	29	oz/a	DAWN	A	103	209	304	406	
4	HERB CHEETAH MAX	3	SL	1	qt/a	9AM-3PM	B	104	206	303	409	
5	HERB CHEETAH -GLUFOSINATE AMMONIUM	2.34 2.34	SL	29	oz/a	9AM-3PM	B	105	210	305	401	
6	HERB CHEETAH MAX HERB DUAL MAGNUM	3 7.62	SL EC	1	qt/a pt/a	9AM-3PM 9AM-3PM	B B	106	207	306	405	
7	HERB CHEETAH -GLUFOSINATE AMMONIUM HERB DUAL MAGNUM	2.34 2.34 7.62	SL	29	oz/a pt/a	9AM-3PM 9AM-3PM	B B	107	205	310	404	
8	HERB CHEETAH -GLUFOSINATE AMMONIUM HERB DUAL MAGNUM	2.34 2.34 7.62	SL	29	oz/a pt/a	9AM-3PM 9AM-3PM	B B	108	202	309	410	
9	HERB CHEETAH MAX	3	SL	1	qt/a	1HRPRESUNSET	C	109	204	302	407	
10	HERB CHEETAH -GLUFOSINATE AMMONIUM	2.34 2.34	SL	29	oz/a	1HRPRESUNSET	C	110	208	301	408	

Sort Order: Replicate 1

University of Tennessee

EFFICACY OF CHEETAH MAX - LIBERTY LINK SOYBEAN - TIME OF DAY

Trial ID: JSBNUF15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: H2015110TN Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: Bob Bruss

General Trial Information

Investigator: Dr. Larry Steckel

Conducted Under GLP: No
Conducted Under GEP: No

Investigator: Dr. Larry Steckel

Crop 1: GLXMA Glycine max Variety: PIONEER48T67L Description: Liberty Link	Crop Description Soybean BBCH Scale: BSOY	Planting Date: 4-27-15 Planting Method: PLANTD planted Planting Equipment: PP Plot Planter
Planting Rate, Unit: 140000 S/A Depth, Unit: 1 IN Row Spacing, Unit: 30 IN Spacing Within Row, Unit: 1.5 IN Soil Temperature, Unit: 60 F Soil Moisture: EXCELL excellent Seed Bed: MEDIUM medium		

Pest Description

Pest 1 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth

Site and Design

Treated Plot Width: 7.5 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 225 FT² **Treatments:** 10 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RACOB Randomized Complete Block (RCB)

Field Prep./Maintenance:

Jan 8 - 0-0-60
 Apr 24 - Gramoxone SL 48 oz/A + COC 1%

Application Description

	A	B	C
Application Date:	5-27-15	5-27-15	5-27-15
Appl. Start Time:	5:58 AM	11:40 AM	7:16 PM
Appl. Stop Time:	6:00 AM	11:55 AM	7:19 PM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	DAWN	9AM-3PM	1HB SUNSET
Application Placement:	BROFOL	BROFOL	BROFOL
Applied By:	GM	JR	GM
Air Temperature, Unit:	65 F	75 F	76 F
% Relative Humidity:	88	78	74
Wind Velocity, Unit:	1 MPH	2 MPH	4 MPH
Wind Direction:	E	WSW	S
Dew Presence (Y/N):	Y yes	Y yes	N no
Soil Temperature, Unit:	69 F	73 F	71 F
Soil Moisture:	SLIWET	WET	WET
% Cloud Cover:	25	100	85

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	V3	V3	V3
Height, Unit:	5 IN	5 IN	5 IN
Height Minimum, Maximum:	4 6	4 6	4 6

University of Tennessee

EFFICACY OF CHEETAH MAX - LIBERTY LINK SOYBEAN - TIME OF DAY

Trial ID: JSBNUF15 Location: Jackson, TN Trial Year: 2015
 Protocol ID: H2015110TN Investigator: Dr. Larry Steckel
 Project ID: Study Director:
 Sponsor Contact: Bob Bruss

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMAPA W 3-6L	AMAPA W 3-6L	AMAPA W 3-6L
Height, Unit:	4 IN	4 IN	4 IN
Height Minimum, Maximum:	2 5	2 5	2 5

Application Equipment

	A	B	C
Appl. Equipment:	BACKPACK	BACKPACK	BACKPACK
Equipment Type:	BACCAI	BACCAI	BACCAI
Operation Pressure, Unit:	30 PSI	30 PSI	30 PSI
Nozzle Type:	AIXR	AIXR	AIXR
Nozzle Size:	11003	11003	11003
Nozzle Spacing, Unit:	20 IN	20 IN	20 IN
Nozzles/Row:	2	2	2
Boom Length, Unit:	5 FT	5 FT	5 FT
Boom Height, Unit:	16 IN	16 IN	16 IN
Ground Speed, Unit:	4 MPH	4 MPH	4 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC	15 GAL/AC
Mix Size, Unit:	0.528 GAL/AC	0.528 GAL/AC	0.528 GAL/AC
Spray pH:	0.528	0.528	0.528
Propellant:	CO2	CO2	CO2
Tank Mix (Y/N):	Y yes	Y yes	Y yes

University of Tennessee

ENLIST SOYBEAN /ENLIST DUO/ GLUFOSINATE / 2,4-D CHOLINE / AMAPA Program

Trial ID: NA15P2E004 Location: Jackson, TN Trial Year: 2015
 Protocol ID: NA15P2E004 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: B. Haygood/ Dow

Trt No. Type	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Rep 1	2	3	4	Notes
1	CHK	UNTREATED						101	214	305	411	
2	HERB SURVEIL		48 WG	2.83 oz/a		PRE	A	102	209	311	404	
3	HERB SURVEIL		48 WG	2.83 oz/a		PRE	A	103	202	306	405	
	HERB ENLIST DUO	3.33333325	SL	75 oz/a		<4"/28-30 DAA B						
	FERT AMS		L	2.5 % v/v		<4"/28-30 DAA B						
4	HERB SURVEIL		48 WG	2.83 oz/a		PRE	A	104	207	309	407	
	HERB ENLIST DUO	3.33333325	SL	75 oz/a		<4"/28-30 DAA B						
	FERT AMS		L	2.5 % v/v		<4"/28-30 DAA B						
	HERB ENLIST DUO	3.33333325	SL	75 oz/a		21 DAAB	C					
	FERT AMS		L	2.5 % v/v		21 DAAB	C					
5	HERB SURVEIL		48 WG	2.83 oz/a		PRE	A	105	210	314	413	
	HERB ENLIST DUO	3.33333325	SL	75 oz/a		<4"/28-30 DAA B						
	HERB PREFIX	5.26999998	EC	32 oz/a		<4"/28-30 DAA B						
	FERT AMS		L	2.5 % v/v		<4"/28-30 DAA B						
6	HERB SURVEIL		48 WG	2.83 oz/a		PRE	A	106	212	307	410	
	HERB ENLIST DUO	3.33333325	SL	75 oz/a		<4"/28-30 DAA B						
	HERB DUAL II MAGNUM	7.63333321	EC	16 oz/a		<4"/28-30 DAA B						
	FERT AMS		L	2.5 % v/v		<4"/28-30 DAA B						
7	HERB SURVEIL		48 WG	2.83 oz/a		PRE	A	107	208	312	415	
	HERB ENLIST DUO	3.33333325	SL	75 oz/a		<4"/28-30 DAA B						
	HERB PREFIX	5.26999998	EC	32 oz/a		<4"/28-30 DAA B						
	FERT AMS		L	2.5 % v/v		<4"/28-30 DAA B						
	HERB ENLIST DUO	3.33333325	SL	75 oz/a		21 DAAB	C					
	FERT AMS		L	2.5 % v/v		21 DAAB	C					

Sort Order: Replicate 1

University of Tennessee

ENLIST SOYBEAN /ENLIST DUO/ GLUFOSINATE / 2,4-D CHOLINE / AMAPA Program

Trial ID: NA15P2E004 Location: Jackson, TN Trial Year: 2015
 Protocol ID: NA15P2E004 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: B. Haygood/ Dow

General Trial Information

Study Director: Larry Steckel
Investigator: Dr. Larry Steckel

Planned Completion Date: 8-1-15

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:

What is the Performance of Enlist Duo herbicide program compared to competitive standards in the STAR Chart on the Efficacy of AMAPA?

Contacts

Study Director: Larry Steckel

Investigator: Dr. Larry Steckel

Crop Description

Crop 1: GLXMA Glycine max
Variety: Enlist RR2Y AM13598768 **BBCH Scale:** BSOY
Description: AAD-12/GLU/GLY-TOL Soybean

Planting Rate, Unit: 140000 S/A **Planting Date:** 5-4-15
Depth, Unit: 1 IN **Planting Method:** PLANTD planted
Row Spacing, Unit: 30 IN **Planting Equipment:** PP Plot Planter
Spacing Within Row, Unit: 1.5 IN
Soil Temperature, Unit: 68 F
Soil Moisture: NORMAL normal, adequate
Seed Bed: MEDIUM medium

Pest Description

Pest 1 Type: W **Code:** AMAPA *Amaranthus palmeri*
Common Name: Palmer amaranth
Description: GLY-RES

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT
Treated Plot Area: 300 FT² **Treatments:** 15 **Tillage Type:** NOTILL no-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Field Prep./Maintenance:

Jan 8 - 0-0-60
 Mar 17 - Roundup PowerMax 32 oz/A + Clarity 8 oz/A
 April 24 - Gramoxone SL 48 oz/A + COC 1%

University of Tennessee

ENLIST SOYBEAN /ENLIST DUO/ GLUFOSINATE / 2,4-D CHOLINE / AMAPA Program

Trial ID: NA15P2E004 Location: Jackson, TN Trial Year: 2015
 Protocol ID: NA15P2E004 Investigator: Dr. Larry Steckel
 Project ID: Study Director: Larry Steckel
 Sponsor Contact: B. Haygood/ Dow

Application Description

	A	B	C
Application Date:	5-4-15		
Appl. Start Time:	9:51 AM		
Appl. Stop Time:	10:07 AM		
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	28 DAA	21 DAB
Application Placement:	BROSOL		
Applied By:	GM		
Air Temperature, Unit:	78 F		
% Relative Humidity:	51		
Wind Velocity, Unit:	4 MPH		
Wind Direction:	S		
Dew Presence (Y/N):	N no		
Soil Temperature, Unit:	68 F		
Soil Moisture:	NORMAL		
% Cloud Cover:	40		

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMAPA W --	AMAPA W	AMAPA W

Application Equipment

	A	B	C
Appl. Equipment:	TRACTOR		
Equipment Type:	SPRAYE		
Operation Pressure, Unit:	40 PSI		
Nozzle Type:	AIR INDUC		
Nozzle Size:	AI110015		
Nozzle Spacing, Unit:	19 IN		
Nozzles/Row:	2		
Boom Length, Unit:	6.33 FT		
Boom Height, Unit:	16 IN		
Ground Speed, Unit:	4 MPH		
Carrier:	WATER		
Spray Volume, Unit:	11 GAL/AC		
Propellant:	PUMCEN		
Tank Mix (Y/N):	Y yes		