Purdue Weed Science

Liberty + Cobra Tank Mixes for Control of Giant Ragweed in Conventional Till Soybean

Trial ID: 16S-TPAC-SOY-10 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-SOY-10 Investigator: Dr. Bill Johnson
Project ID: Cobra 64.02 Study Director: Joe Ikley
Sponsor Contact: Valent - Eric Ott

General Trial Information

Study Director: Joe Ikley **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Joe Ikley **Title:** Research Associate
Organization: Purdue University
Address: 915 West State Street **Phone No.:** 765-494-0891
City+State/Prov: West Lafayette **Mobile No.:** 410-596-9091
Postal Code: 47907 **E-mail:** jikley@purdue.edu

Investigator: Dr. Bill Johnson **Title:** Professor
Organization: Purdue University
Address: 915 West State Street **Phone No.:** 765-494-4656
City+State/Prov: West Lafayette **Mobile No.:** 765-404-9801
Postal Code: 47907 **E-mail:** wgj@purdue.edu

Cooperator/Landowner

Cooperator: Jay Young **Role:** Superintendent
Organization: Purdue University
Address 1: 8343 US 231 S
City: Lafayette **Phone No.:** 765-538-3422
State/Prov: IN **Fax No.:** 765-538-3423
Postal Code: 47909
Country: USA United States **E-mail:** jayyoung@purdue.edu

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: Beck's 29L84
Description: LL

Planting Date: May-16-2016
Planting Rate, Unit: 140000 S/A **Planting Method:** SEEDED seeded
Depth, Unit: 1.25 IN **Planting Equipment:** PP Plot Planter
Row Spacing, Unit: 15 IN **Emergence Date:** May-25-2016
Soil Temperature, Unit: 60 F
Soil Moisture: SLIWET slightly wet, moist

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 2 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 300 FT2 **Treatments:** 8 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Maintenance

No.	Date	Maintenance Product Name	Rate	Rate Unit
1.	May-18-2016	BOUNDARY	2	PT/A

Soil Description

Description Name: TPAC - Field 4B
% OM: 2.9 **Texture:** SIL silt loam
pH: 6.2 **Soil Name:** Toronto-Millbrook
CEC: 13.3

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Application Description

	A
Application Date:	Jun-13-2016
Appl. Start Time:	11:45 AM
Appl. Stop Time:	12:00 PM
Application Method:	SPRAY
Application Timing:	8" AMBTR
Application Placement:	BROADC
Applied By:	MZ
Air Temperature, Unit:	80 F
% Relative Humidity:	40
Wind Velocity, Unit:	3 MPH
Wind Direction:	S
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	83 F
Soil Moisture:	DRY
% Cloud Cover:	10

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY
Stage Scale Used:	BBCH
Stage Majority, Percent:	13
Stage Minimum, Percent:	13
Stage Maximum, Percent:	14
Height, Unit:	5.5 IN
Height Minimum, Maximum:	4.5 6

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	AMBTR W
Stage Majority, Percent:	33G
Stage Minimum, Percent:	32G
Stage Maximum, Percent:	33G
Height, Unit:	6 IN
Height Minimum, Maximum:	4 8
Density, Unit:	45 YD2
Pest 2 Code, Type, Scale:	SETFA W
Stage Majority, Percent:	13
Stage Minimum, Percent:	12
Stage Maximum, Percent:	15
Height, Unit:	3.5 IN
Height Minimum, Maximum:	3 4
Density, Unit:	15 YD2

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Application Equipment

	A
Appl. Equipment:	CO2 BACKPACK
Equipment Type:	BACSPR
Operation Pressure, Unit:	18 PSI
Nozzle Type:	FLAT FAN
Nozzle Size:	XR 11002
Nozzle Spacing, Unit:	15 IN
Nozzles/Row:	8
Boom Length, Unit:	10 FT
Boom Height, Unit:	17 IN
Ground Speed, Unit:	3 MPH
Carrier:	MEIGS
Spray Volume, Unit:	15 gal/ac
Mix Size, Unit:	1.8 liters
Propellant:	CO2

Trial Comments

Reps: 4 Plots: 10 by 30 feet
Spray vol: 15 GAL/AC Mix Size: 1.8 liters (calculated mix size 1.5642)

Trt No.	Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit	Appl Code	Amt Product to Measure	Rep 1	2	3	4
1	Untreated Check								101	301	502	804
2	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	A	27.19 ml/mx	102	303	504	701
	DRY AMS	100	%	SG	3	lb/a	A	43.14 g/mx				
3	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	A	27.19 ml/mx	103	404	603	702
	COBRA	2	LB/GAL	EC	8	fl oz/a	A	7.5 ml/mx				
	DRY AMS	100	%	SG	3	lb/a	A	43.14 g/mx				
4	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	A	27.19 ml/mx	104	304	501	802
	COBRA	2	LB/GAL	EC	10	fl oz/a	A	9.375 ml/mx				
	DRY AMS	100	%	SG	3	lb/a	A	43.14 g/mx				
5	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	A	27.19 ml/mx	201	402	503	803
	COBRA	2	LB/GAL	EC	12.5	fl oz/a	A	11.72 ml/mx				
	DRY AMS	100	%	SG	3	lb/a	A	43.14 g/mx				
6	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	A	27.19 ml/mx	202	401	601	703
	COBRA	2	LB/GAL	EC	8	fl oz/a	A	7.5 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	pt/a	A	15.0 ml/mx				
	DRY AMS	100	%	SG	3	lb/a	A	43.14 g/mx				
7	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	A	27.19 ml/mx	203	302	604	801
	FLEXSTAR	1.88	LB/GAL	L	16	fl oz/a	A	15.0 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	pt/a	A	15.0 ml/mx				
	DRY AMS	100	%	SG	3	lb/a	A	43.14 g/mx				
8	LIBERTY 280 SL	2.34	LB/GAL	SL	29	fl oz/a	A	27.19 ml/mx	204	403	602	704
	ULTRA BLAZER	2	LB/GAL	SL	16	fl oz/a	A	15.0 ml/mx				
	PRIME OIL - COC	98.47	%	L	1	pt/a	A	15.0 ml/mx				
	DRY AMS	100	%	SG	3	lb/a	A	43.14 g/mx				

Sort Order: Replicate 1

Product quantities required for listed treatments and applications of trials included in this table:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
237.890	ml	LIBERTY 280 SL	2.34	SL	

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Product quantities required for listed treatments and applications of trials included in this table:

Amount*	Unit	Treatment Name	Form Conc	Form Type	Lot Code
377.451	g	DRY AMS	100	SG	
45.117	ml	COBRA	2	EC	
56.250	ml	PRIME OIL - COC	98.47	L	
18.750	ml	FLEXSTAR	1.88	L	
18.750	ml	ULTRA BLAZER	2	SL	

* 'Per area' calculations based on spray volume= 15 GAL/AC, mix size= 1.8 liters (mix size basis).
* Product amount calculations increased 25 % for overage adjustment.

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	1	2	3	4	5	6
	Pest Type						W Weed	W Weed		W Weed	W Weed
	Pest Code						AMBTR	SETFA		AMBTR	SETFA
	Pest Name						Giant ragweed	Giant foxtail		Giant ragweed	Giant foxtail
	Crop Code					GLXMA			GLXMA		
	Crop Name					Soybean			Soybean		
	Part Rated					PLOT C	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P
	Rating Date					Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-30-2016	Jun-30-2016	Jun-30-2016
	Rating Type					PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
	Rating Unit					%	%	%	%	%	%
	Number of Subsamples					1	1	1	1	1	1
	Days After First/Last Applic.					8 8	8 8	8 8	17 17	17 17	17 17
	Trt-Eval Interval					8 DA-A	8 DA-A	8 DA-A	17 DA-A	17 DA-A	17 DA-A
	Days After Emergence					27 DE-1	27 DE-1	27 DE-1	36 DE-1	36 DE-1	36 DE-1
	ARM Action Codes					P	P	P	P	P	P
	Number of Decimals					0	0	0	0	0	0
1	Untreated Check				101	0	0	0	0	0	0
					301	0	0	0	0	0	0
					502	0	0	0	0	0	0
					804	0	0	0	0	0	0
					Mean =	0	0	0	0	0	0
2	LIBERTY 280 SL	29	fl oz/a	A	102	0	95	100	0	95	95
	DRY AMS	3	lb/a	A	303	0	95	95	0	95	95
					504	0	95	95	0	95	95
					701	0	95	95	0	95	95
					Mean =	0	95	96	0	95	95
3	LIBERTY 280 SL	29	fl oz/a	A	103	5	95	100	5	95	95
	COBRA	8	fl oz/a	A	404	5	100	100	5	95	95
	DRY AMS	3	lb/a	A	603	10	95	100	5	95	95
					702	10	99	100	0	100	100
					Mean =	8	97	100	4	96	96
4	LIBERTY 280 SL	29	fl oz/a	A	104	10	95	95	5	90	90
	COBRA	10	fl oz/a	A	304	10	100	95	10	85	95
	DRY AMS	3	lb/a	A	501	5	95	95	5	95	95
					802	10	95	95	5	90	95
					Mean =	9	96	95	6	90	94
5	LIBERTY 280 SL	29	fl oz/a	A	201	10	95	95	0	95	95
	COBRA	12.5	fl oz/a	A	402	10	100	95	5	99	95
	DRY AMS	3	lb/a	A	503	15	100	95	10	90	95
					803	15	100	100	10	95	95
					Mean =	13	99	96	6	95	95
6	LIBERTY 280 SL	29	fl oz/a	A	202	5	100	100	0	99	100
	COBRA	8	fl oz/a	A	401	5	95	95	5	95	95
	PRIME OIL - COC	1	pt/a	A	601	10	100	95	5	95	95
	DRY AMS	3	lb/a	A	703	5	95	100	5	95	95
					Mean =	6	98	98	4	96	96
7	LIBERTY 280 SL	29	fl oz/a	A	203	5	95	100	5	95	95
	FLEXSTAR	16	fl oz/a	A	302	5	100	100	0	95	100
	PRIME OIL - COC	1	pt/a	A	604	5	100	100	5	100	100
	DRY AMS	3	lb/a	A	801	5	95	100	0	95	95
					Mean =	5	98	100	3	96	98

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Project ID: Cobra 64.02 Study Director: Joe Ikley
Sponsor Contact: Valent - Eric Ott

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	1	2	3	4	5	6
	Pest Type						W Weed	W Weed		W Weed	W Weed
	Pest Code						AMBTR	SETFA		AMBTR	SETFA
	Pest Name						Giant ragweed	Giant foxtail		Giant ragweed	Giant foxtail
	Crop Code					GLXMA			GLXMA		
	Crop Name					Soybean			Soybean		
	Part Rated					PLOT C	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P
	Rating Date					Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-30-2016	Jun-30-2016	Jun-30-2016
	Rating Type					PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
	Rating Unit					%	%	%	%	%	%
	Number of Subsamples					1	1	1	1	1	1
	Days After First/Last Applic.					8 8	8 8	8 8	17 17	17 17	17 17
	Trt-Eval Interval					8 DA-A	8 DA-A	8 DA-A	17 DA-A	17 DA-A	17 DA-A
	Days After Emergence					27 DE-1	27 DE-1	27 DE-1	36 DE-1	36 DE-1	36 DE-1
	ARM Action Codes					P	P	P	P	P	P
	Number of Decimals					0	0	0	0	0	0
8	LIBERTY 280 SL	29	fl oz/a	A	204	10	95	100	5	95	95
	ULTRA BLAZER	16	fl oz/a	A	403	5	95	95	5	95	95
	PRIME OIL - COC	1	pt/a	A	602	10	100	100	10	99	100
	DRY AMS	3	lb/a	A	704	10	95	100	5	90	95
					Mean =	9	96	99	6	95	96

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Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	7	8	9
	Pest Type						W Weed	W Weed
	Pest Code						AMBTR	SETFA
	Pest Name						Giant ragweed	Giant foxtail
	Crop Code					GLXMA		
	Crop Name					Soybean		
	Part Rated					PLOT C	PLOT P	PLOT P
	Rating Date					Jul-14-2016	Jul-14-2016	Jul-14-2016
	Rating Type					PHYGEN	CONTRO	CONTRO
	Rating Unit					%	%	%
	Number of Subsamples					1	1	1
	Days After First/Last Applic.					31 31	31 31	31 31
	Trt-Eval Interval					31 DA-A	31 DA-A	31 DA-A
	Days After Emergence					50 DE-1	50 DE-1	50 DE-1
	ARM Action Codes					P	P	P
	Number of Decimals					0	0	0
1	Untreated Check				101	0	0	0
					301	0	0	0
					502	0	0	0
					804	0	0	0
					Mean =	0	0	0
2	LIBERTY 280 SL	29	fl oz/a	A	102	0	99	100
	DRY AMS	3	lb/a	A	303	0	85	100
					504	0	85	100
					701	0	90	95
					Mean =	0	90	99
3	LIBERTY 280 SL	29	fl oz/a	A	103	0	90	95
	COBRA	8	fl oz/a	A	404	0	95	100
	DRY AMS	3	lb/a	A	603	0	90	100
					702	0	95	95
					Mean =	0	93	98
4	LIBERTY 280 SL	29	fl oz/a	A	104	0	90	95
	COBRA	10	fl oz/a	A	304	0	80	95
	DRY AMS	3	lb/a	A	501	0	95	100
					802	0	90	100
					Mean =	0	89	98
5	LIBERTY 280 SL	29	fl oz/a	A	201	0	90	100
	COBRA	12.5	fl oz/a	A	402	0	97	100
	DRY AMS	3	lb/a	A	503	0	85	100
					803	0	95	95
					Mean =	0	92	99
6	LIBERTY 280 SL	29	fl oz/a	A	202	0	99	100
	COBRA	8	fl oz/a	A	401	0	90	95
	PRIME OIL - COC	1	pt/a	A	601	0	90	100
	DRY AMS	3	lb/a	A	703	0	95	95
					Mean =	0	94	98
7	LIBERTY 280 SL	29	fl oz/a	A	203	0	85	100
	FLEXSTAR	16	fl oz/a	A	302	0	100	100
	PRIME OIL - COC	1	pt/a	A	604	0	100	100
	DRY AMS	3	lb/a	A	801	0	95	100
					Mean =	0	95	100

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Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	Plot	7	8	9
	Pest Type						W Weed	W Weed
	Pest Code						AMBTR	SETFA
	Pest Name						Giant ragweed	Giant foxtail
	Crop Code					GLXMA		
	Crop Name					Soybean		
	Part Rated					PLOT C	PLOT P	PLOT P
	Rating Date					Jul-14-2016	Jul-14-2016	Jul-14-2016
	Rating Type					PHYGEN	CONTRO	CONTRO
	Rating Unit					%	%	%
	Number of Subsamples					1	1	1
	Days After First/Last Applic.					31 31	31 31	31 31
	Trt-Eval Interval					31 DA-A	31 DA-A	31 DA-A
	Days After Emergence					50 DE-1	50 DE-1	50 DE-1
	ARM Action Codes					P	P	P
	Number of Decimals					0	0	0
8	LIBERTY 280 SL	29	fl oz/a	A	204	0	95	100
	ULTRA BLAZER	16	fl oz/a	A	403	0	90	100
	PRIME OIL - COC	1	pt/a	A	602	0	95	100
	DRY AMS	3	lb/a	A	704	0	85	100
					Mean =	0	91	100

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Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
AMBTR, Ambrosia trifida, = US
SETFA, Setaria faberi, = US
Crop Code
GLXMA, BSOY, Glycine max, = US
Part Rated
PLOT = plot
C = Crop is Part Rated
P = Pest is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
Rating Unit
% = percent
ARM Action Codes
P = Rating scale of 0 to 100 (e.g. % control or injury)

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5	6	7
Pest Type						W Weed	W Weed		W Weed	W Weed	
Pest Code						AMBTR	SETFA		AMBTR	SETFA	
Pest Name						Giant ragweed	Giant foxtail		Giant ragweed	Giant foxtail	
Crop Code					GLXMA			GLXMA			GLXMA
Crop Name					Soybean			Soybean			Soybean
Part Rated					PLOT C	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C
Rating Date					Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-30-2016	Jun-30-2016	Jun-30-2016	Jul-14-2016
Rating Type					PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN
Rating Unit					%	%	%	%	%	%	%
Number of Subsamples					1	1	1	1	1	1	1
Days After First/Last Applic.					8 8	8 8	8 8	17 17	17 17	17 17	31 31
Trt-Eval Interval					8 DA-A	8 DA-A	8 DA-A	17 DA-A	17 DA-A	17 DA-A	31 DA-A
Days After Emergence					27 DE-1	27 DE-1	27 DE-1	36 DE-1	36 DE-1	36 DE-1	50 DE-1
ARM Action Codes					P	P	P	P	P	P	P
Number of Decimals					0	0	0	0	0	0	0
1	Untreated Check				0 c	0 b	0 d	0 b	0 b	0 b	0 -
2	LIBERTY 280 SL	29	fl oz/a	A	0 c	95 a	96 bc	0 b	95 a	95 a	0 -
	DRY AMS	3	lb/a	A							
3	LIBERTY 280 SL	29	fl oz/a	A	8 b	97 a	100 a	4 ab	96 a	96 a	0 -
	COBRA	8	fl oz/a	A							
	DRY AMS	3	lb/a	A							
4	LIBERTY 280 SL	29	fl oz/a	A	9 b	96 a	95 c	6 a	90 a	94 a	0 -
	COBRA	10	fl oz/a	A							
	DRY AMS	3	lb/a	A							
5	LIBERTY 280 SL	29	fl oz/a	A	13 a	99 a	96 bc	6 a	95 a	95 a	0 -
	COBRA	12.5	fl oz/a	A							
	DRY AMS	3	lb/a	A							
6	LIBERTY 280 SL	29	fl oz/a	A	6 b	98 a	98 abc	4 ab	96 a	96 a	0 -
	COBRA	8	fl oz/a	A							
	PRIME OIL - COC	1	pt/a	A							
	DRY AMS	3	lb/a	A							
7	LIBERTY 280 SL	29	fl oz/a	A	5 b	98 a	100 a	3 ab	96 a	98 a	0 -
	FLEXSTAR	16	fl oz/a	A							
	PRIME OIL - COC	1	pt/a	A							
	DRY AMS	3	lb/a	A							

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Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5	6	7
Pest Type						W Weed	W Weed		W Weed	W Weed	
Pest Code						AMBTR	SETFA		AMBTR	SETFA	
Pest Name						Giant ragweed	Giant foxtail		Giant ragweed	Giant foxtail	
Crop Code					GLXMA			GLXMA			GLXMA
Crop Name					Soybean			Soybean			Soybean
Part Rated					PLOT C	PLOT P	PLOT P	PLOT C	PLOT P	PLOT P	PLOT C
Rating Date					Jun-21-2016	Jun-21-2016	Jun-21-2016	Jun-30-2016	Jun-30-2016	Jun-30-2016	Jul-14-2016
Rating Type					PHYGEN	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO	PHYGEN
Rating Unit					%	%	%	%	%	%	%
Number of Subsamples					1	1	1	1	1	1	1
Days After First/Last Applic.					8 8	8 8	8 8	17 17	17 17	17 17	31 31
Trt-Eval Interval					8 DA-A	8 DA-A	8 DA-A	17 DA-A	17 DA-A	17 DA-A	31 DA-A
Days After Emergence					27 DE-1	27 DE-1	27 DE-1	36 DE-1	36 DE-1	36 DE-1	50 DE-1
ARM Action Codes					P	P	P	P	P	P	P
Number of Decimals					0	0	0	0	0	0	0
8	LIBERTY 280 SL	29	fl oz/a	A	9 b	96 a	99 ab	6 a	95 a	96 a	0 -
	ULTRA BLAZER	16	fl oz/a	A							
	PRIME OIL - COC	1	pt/a	A							
	DRY AMS	3	lb/a	A							
LSD P=.05					3.0	3.3	2.5	3.8	4.2	3.1	.
Standard Deviation					2.0	2.2	1.7	2.6	2.9	2.1	0.0
CV					33.05	2.63	1.98	72.21	3.47	2.52	0.0
Bartlett's X2					0.142	0.141	0.093	2.347	2.126	0.098	0.0
P(Bartlett's X2)					0.998	1.00	0.993	0.799	0.831	0.999	.
Skewness					0.0902	-2.3574*	-2.3563*	0.423	-2.3374*	-2.3606*	.
Kurtosis					-0.8828	3.844*	3.8398*	-0.7358	3.7836*	3.8533*	.
Replicate F					1.734	1.477	2.455	1.354	0.313	0.467	0.000
Replicate Prob(F)					0.1907	0.2496	0.0914	0.2841	0.8157	0.7086	1.0000
Treatment F					18.688	941.632	1669.987	4.094	545.671	1027.200	0.000
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0056	0.0001	0.0001	1.0000

Purdue Weed Science

Liberty + Cobra Tank Mixes for Control of Giant Ragweed in Conventional Till Soybean

Trial ID: 16S-TPAC-SOY-10 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-SOY-10 Investigator: Dr. Bill Johnson
Project ID: Cobra 64.02 Study Director: Joe Ikley
Sponsor Contact: Valent - Eric Ott

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	W Weed AMBTR Giant ragweed	W Weed SETFA Giant foxtail
	Pest Type				W Weed	W Weed
	Pest Code				AMBTR	SETFA
	Pest Name				Giant ragweed	Giant foxtail
	Crop Code					
	Crop Name					
	Part Rated				PLOT P	PLOT P
	Rating Date				Jul-14-2016	Jul-14-2016
	Rating Type				CONTRO	CONTRO
	Rating Unit				%	%
	Number of Subsamples				1	1
	Days After First/Last Applic.				31 31	31 31
	Trt-Eval Interval				31 DA-A	31 DA-A
	Days After Emergence				50 DE-1	50 DE-1
	ARM Action Codes				P	P
	Number of Decimals				0	0
1	Untreated Check				0 b	0 b
2	LIBERTY 280 SL	29	fl oz/a	A	90 a	99 a
	DRY AMS	3	lb/a	A		
3	LIBERTY 280 SL	29	fl oz/a	A	93 a	98 a
	COBRA	8	fl oz/a	A		
	DRY AMS	3	lb/a	A		
4	LIBERTY 280 SL	29	fl oz/a	A	89 a	98 a
	COBRA	10	fl oz/a	A		
	DRY AMS	3	lb/a	A		
5	LIBERTY 280 SL	29	fl oz/a	A	92 a	99 a
	COBRA	12.5	fl oz/a	A		
	DRY AMS	3	lb/a	A		
6	LIBERTY 280 SL	29	fl oz/a	A	94 a	98 a
	COBRA	8	fl oz/a	A		
	PRIME OIL - COC	1	pt/a	A		
	DRY AMS	3	lb/a	A		
7	LIBERTY 280 SL	29	fl oz/a	A	95 a	100 a
	FLEXSTAR	16	fl oz/a	A		
	PRIME OIL - COC	1	pt/a	A		
	DRY AMS	3	lb/a	A		

Purdue Weed Science

Liberty + Cobra Tank Mixes for Control of Giant Ragweed in Conventional Till Soybean

Trial ID: 16S-TPAC-SOY-10
Protocol ID: 16S-TPAC-SOY-10
Project ID: Cobra 64.02

Location: TPAC Trial Year: 2016
Investigator: Dr. Bill Johnson
Study Director: Joe Ikley
Sponsor Contact: Valent - Eric Ott

Pest Type				W Weed	W Weed
Pest Code				AMBTR	SETFA
Pest Name				Giant ragweed	Giant foxtail
Crop Code					
Crop Name					
Part Rated				PLOT P	PLOT P
Rating Date				Jul-14-2016	Jul-14-2016
Rating Type				CONTRO	CONTRO
Rating Unit				%	%
Number of Subsamples				1	1
Days After First/Last Applic.				31 31	31 31
Trt-Eval Interval				31 DA-A	31 DA-A
Days After Emergence				50 DE-1	50 DE-1
ARM Action Codes				P	P
Number of Decimals				0	0
Trt No.	Treatment Name	Rate	Rate Unit / Appl Code	8	9
8	LIBERTY 280 SL	29	fl oz/a A	91 a	100 a
	ULTRA BLAZER	16	fl oz/a A		
	PRIME OIL - COC	1	pt/a A		
	DRY AMS	3	lb/a A		
LSD P=.05				8.0	3.0
Standard Deviation				5.5	2.0
CV				6.81	2.37
Bartlett's X2				2.629	0.137
P(Bartlett's X2)				0.854	0.998
Skewness				-2.2653*	-2.3613*
Kurtosis				3.5813*	3.8528*
Replicate F				0.102	2.000
Replicate Prob(F)				0.9581	0.1449
Treatment F				141.410	1167.000
Treatment Prob(F)				0.0001	0.0001

Purdue Weed Science

Liberty + Cobra Tank Mixes for Control of Giant Ragweed in Conventional Till Soybean

Trial ID: 16S-TPAC-SOY-10 Location: TPAC Trial Year: 2016
Protocol ID: 16S-TPAC-SOY-10 Investigator: Dr. Bill Johnson
Project ID: Cobra 64.02 Study Director: Joe Ikley
Sponsor Contact: Valent - Eric Ott

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
AMBTR, Ambrosia trifida, = US
SETFA, Setaria faberi, = US
Crop Code
GLXMA, BSOY, Glycine max, = US
Part Rated
PLOT = plot
C = Crop is Part Rated
P = Pest is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
CONTRO = control / burndown or knockdown
Rating Unit
% = percent
ARM Action Codes
P = Rating scale of 0 to 100 (e.g. % control or injury)