

Purdue Weed Science

Volatility Reduction Adjuvant Effect on Dicamba plus Glyphosate Efficacy

Trial ID: 21S-TPAC-SOY-20 Location: TPAC Trial Year: 2021
 Protocol ID: 21S-TPAC-SOY-20 Investigator (Creator): Dr. Bill Johnson
 Project ID: Study Director: Brent Mansfield
 Sponsor Contact:

General Trial Information

Study Director: Brent Mansfield **Title:** Research Associate
Investigator: Dr. Bill Johnson **Title:** Professor

Trial Status: E established
ARM Trial Created On: 6/11/2021
Initiation Date: 6/11/2021

Trial Location

City: Lafayette **Country:** USA United States
State/Prov.: Indiana
Postal Code: 47907

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Brent Mansfield **Title:** Research Associate
Organization: Purdue University
Address 1: 915 W. State Street
Country: USA United States **E-mail:** brentmansfield@purdue.edu
City: West Lafayette **State/Prov:** IN **Postal Code:** 47907
Investigator: Dr. Bill Johnson **Title:** Professor
Organization: Purdue University
Address 1: 915 W. State Street
Country: USA United States **E-mail:** wgj@purdue.edu
City: West Lafayette **State/Prov:** IN **Postal Code:** 47907

Crop Description

Crop 1: C GLXMA Glycine max Soybean **Stage Scale:** BBCH
Variety: AG29XF1
Attributes: XtendFlex: Gly-R, Glu-R, Dicamba-R
Planting Date: 5/26/2021 **Planting Rate:** 140000 S/A
Depth: 1.75 IN
Rows per Plot: 4 **Planting Method:** PLANTD planted
Row Spacing: 30 IN **Planting Equipment:** PP plot planter
Soil Temperature: 60 F **Soil Moisture:** NORMAL normal, adequate
Emergence Date: 6/3/2021

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida **Entry Date:** 1/5/2022
Common Name: Giant ragweed **Stage Scale:** BBCH
Pest 2 Type: W **Code:** ECHCG Echinochloa crus-galli **Entry Date:** 1/5/2022
Common Name: common barnyardgrass **Stage Scale:** BBCH
Pest 3 Type: W **Code:** SETFA Setaria faberi **Entry Date:** 1/5/2022
Common Name: Giant foxtail **Stage Scale:** BBCH
Pest 4 Type: W **Code:** CHEAL Chenopodium album **Entry Date:** 1/5/2022
Common Name: common lambsquarters **Stage Scale:** BBCH

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: 300.0 FT2 **Treatments:** 10 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

Application Description

	A
Application Date	6/11/2021
Appl. Start Time	12:30 PM
Appl. Stop Time	1:10 PM
Application Method	SPRAY
Application Timing	POSPOS
Application Placement	BROFOL
Applied By	L. MAIA
Air Temperature Start, Stop	90.5, 90.5 F
% Relative Humidity Start, Stop	43, 43
Wind Velocity+Dir. Start	4 MPH, N
Wet Leaves (Y/N)	N, no
Soil Temperature	85 F
Soil Moisture	DRY
% Cloud Cover	30

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale	GLXMA, BSOY
Days after Emergence	8
Stage Majority, Percent	10, -
Stage Minimum, Percent	10, -
Stage Maximum, Percent	11, -
Height Average	3 IN
Height Minimum, Maximum	2, 4

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale	AMBTR, W, BBCH
Stage Majority, Percent	19, -
Stage Minimum, Percent	18, -
Stage Maximum, Percent	19, -
Height Average	8 IN
Height Minimum, Maximum	6, 12
Density Average	15 FT2
Pest 2 Code, Type, Scale	ECHCG, W, BBCH
Stage Majority, Percent	13, -
Stage Minimum, Percent	12, -
Stage Maximum, Percent	15, -
Height Average	2 IN
Height Minimum, Maximum	1, 3
Density Average	5 FT2
Pest 3 Code, Type, Scale	SETFA, W, BBCH
Stage Majority, Percent	13, -
Stage Minimum, Percent	12, -
Stage Maximum, Percent	15, -
Height Average	2 IN
Height Minimum, Maximum	1, 3
Density Average	5 FT2
Pest 4 Code, Type, Scale	CHEAL, W, BBCH
Stage Majority, Percent	18, -
Stage Minimum, Percent	15, -
Stage Maximum, Percent	19, -
Height Average	2 IN
Height Minimum, Maximum	2, 3
Density Average	1 FT2

Application Equipment	
	A
Appl. Equipment	CO2 BACKPACK
Equipment Type	BACSPR
Operation Pressure	30 PSI
Nozzle Model	TTI
Nozzle Type	TEEJAI
Nozzle TradeName	TEEJET
Nozzle Tip Size, Color	110015, GREEN
Nozzle Spacing	15 IN
Nozzles/Row	8
Boom Length	10 FT
Boom Height	25 IN
Ground Speed	3 MPH
Carrier	WATER
Application Amount	15 GAL/AC
Mix Overage	0 mL
Mix Size	1.8 L
Propellant	COMCO2

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Pest Type		W, Weed	W, Weed
Pest Code		AMBTR	AMBTR
Pest Name		Giant ragweed	Giant ragweed
Rating Date		6/25/2021	7/9/2021
Rating Type		CONTRO	CONTRO
Rating Unit/Min/Max		%, 0, 100	%, 0, 100
Number of Subsamples		1	1
Data Entry Date		1/5/2022	1/5/2022
Rating Timing		14 DAT	28 DAT
Days After First/Last Applic.		14, 14	28, 28
Trt-Eval Interval		14 DA-A	28 DA-A
Days After Emergence		22 DE-1	36 DE-1
Trt Treatment	Rate	Appl	
No. Name	Rate Unit	Code	
1 Nontreated		1	2
2 Engenia	12.8 FL OZ/A A	97.0 a	100.0 -
3 Engenia	12.8 FL OZ/A A	97.0 a	100.0 -
Sentris	8 FL OZ/A A		
4 Engenia	12.8 FL OZ/A A	97.0 a	100.0 -
VaporGrip Xtra	20 FL OZ/A A		
5 Roundup PowerMax II	32 FL OZ/A A	93.0 b	100.0 -
6 Roundup PowerMax II	32 FL OZ/A A	92.5 b	100.0 -
Sentris	8 FL OZ/A A		
7 Roundup PowerMax II	32 FL OZ/A A	92.5 b	100.0 -
VaporGrip Xtra	20 FL OZ/A A		
8 Engenia	12.8 FL OZ/A A	97.0 a	100.0 -
Roundup PowerMax II	32 FL OZ/A A		
9 Engenia	12.8 FL OZ/A A	97.5 a	100.0 -
Roundup PowerMax II	32 FL OZ/A A		
Sentris	8 FL OZ/A A		
10 Engenia	12.8 FL OZ/A A	97.0 a	100.0 -
Roundup PowerMax II	32 FL OZ/A A		
VaporGrip Xtra	20 FL OZ/A A		
LSD P=.05		2.48	.
Standard Deviation		1.70	0.00
CV		1.77	0.0
Grand Mean		95.61	100.00
Levene's F^		8.711	.
Levene's Prob(F)		0.00*	.
Rank X2		.	.
P(Rank X2)		.	.
Skewness^		0.0485	.
Kurtosis^		-0.3051	.
Replicate F		2.534	0.000
Replicate Prob(F)		0.0808	1.0000
Treatment F		6.839	0.000
Treatment Prob(F)		0.0001	1.0000

Pest Type
 W, Weed = Weed or volunteer crop
Pest Code
 AMBTR, Ambrosia trifida, Giant ragweed = US
Rating Type
 CONTRO = control / burndown or knockdown
Rating Unit/Min/Max
 %, 0, 100 = percent

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Untreated treatment(s) 1 excluded from analysis.
 Could not calculate LSD (% mean diff) for columns 2 because error mean square = 0.
 ^Calculated from residual.