Purdue Weed Science

FMC - Authority Programs in Xtend Soybean

Trial ID: 20S-TPAC-SOY-19 Location: TPAC Trial Year: 2020
Protocol ID: 20S-TPAC-SOY-19 Investigator (Creator): Dr. Bill Johnson
Project ID: Study Director: Brent Mansfield
Sponsor Contact: Nicholas Hustedde - FMC

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

Discipline: H herbicide
Trial Status: E established **Trial Reliability:** 1 usable data
ARM Trial Created On: 5/9/2020
Initiation Date: 5/7/2020

Trial Location
City: Lafayette **Country:** USA United States
State/Prov.: Indiana
Postal Code: 47909

Latitude of LL Corner °: 40.2917676 N
Longitude of LL Corner °: -86.9095856 W

Conducted Under GLP: No
Conducted Under GEP: No

Contacts
Role: STYDIR study director
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, IN **Postal Code:** 47907
Role: INVEST investigator
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, IN **Postal Code:** 47907
Role: SPONSR sponsor
Sponsor: Nicholas Hustedde - FMC

Crop Description
Crop 1: C GLXMA Glycine max Soybean **BBCH Scale:** BSOY
Entry Date: 1/25/2021 **Stage Scale:** BBCH
Variety: AG 29X9
Attributes: Gly-R and dicamba-R
Planting Date: 5/9/2020 **Planting Rate:** 387790 S/ha
Depth: 4.5 cm
Rows per Plot: 7 **Planting Method:** PLANTD planted
Row Spacing: 38.1 cm **Planting Equipment:** PP plot planter
Soil Temperature: 45 F **Soil Moisture:** DRY dry
Emergence Date: 5/18/2020

Pest Description
Pest 1 Type: W **Code:** AMBTR Ambrosia trifida **Entry Date:** 1/25/2021
Common Name: Giant ragweed **Stage Scale:** BBCH

Pest 2 Type: W **Code:** ECHCG Echinochloa crus-galli **Entry Date:** 1/25/2021
Common Name: Common barnyard grass **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:** 8 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOBL Randomized Complete Block (RCB)

Soil Description
Description Name: Toronto-Millbrook complex
% Sand: 21 **% OM:** 3.4 **Texture:** SIL silt loam
% Silt: 54 **pH:** 5.8
% Clay: 25 **CEC:** 13.5

No.	Date	Moisture Total	Unit
1.	5/2/2020	0.025	CM
2.	5/3/2020	0.585	CM
3.	5/5/2020	0.481	CM
4.	5/6/2020	0.025	CM
5.	5/10/2020	0.101	CM
6.	5/14/2020	0.405	CM
7.	5/15/2020	0.279	CM
8.	5/17/2020	1.497	CM
9.	5/18/2020	0.914	CM
10.	5/19/2020	0.684	CM
11.	5/23/2020	0.178	CM
12.	5/27/2020	0.025	CM
13.	5/28/2020	0.331	CM
14.	6/4/2020	0.33	CM
15.	6/9/2020	0.787	CM
16.	6/20/2020	0.025	CM
17.	6/21/2020	0.075	CM
18.	6/22/2020	0.711	CM
19.	6/23/2020	0.203	CM
20.	6/27/2020	2.769	CM
21.	6/28/2020	0.229	CM
22.	6/29/2020	0.076	CM
23.	6/30/2020	1.829	CM
24.	7/10/2020	0.05	CM
25.	7/11/2020	0.914	CM
26.	7/12/2020	0.66	CM
27.	7/15/2020	0.127	CM
28.	7/16/2020	0.456	CM
29.	7/19/2020	0.051	CM
30.	7/21/2020	1.423	CM
31.	7/22/2020	0.329	CM
32.	7/23/2020	0.178	CM
33.	7/27/2020	1.295	CM
34.	7/30/2020	1.599	CM

Application Description

	A	B	C
Application Date	5/9/2020	6/12/2020	6/25/2020
Appl. Start Time	10:40 AM	8:35 AM	12:30 PM
Appl. Stop Time	10:56 AM	8:38 AM	12:55 PM
Interval to Prev. Appl.		34 DAYS	13 DAYS
Application Method	SPRAY	SPRAY	SPRAY
Application Timing	A	B	C
Application Placement	BROSOI	BROFOL	BROFOL
Applied By	J. HAARMANN	M. ZIMMER	L. MAIA
Appl. Entry Date	1/25/2021	1/25/2021	1/25/2021
Air Temperature Start, Stop	53, 53 F	66, 66 F	86, 86 F
% Relative Humidity Start, Stop	34, 34	53, 53	50, 50
Wind Velocity+Dir. Start	7 MPH, W	1 MPH, SE	1 MPH, SW
Wet Leaves (Y/N)	N, no	N, no	N, no
Soil Temperature	49 F	66 F	80 F
Soil Moisture	DRY	NORMAL	NORMAL
% Cloud Cover	0	0	0

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale	GLXMA, BSOY	GLXMA, BSOY	GLXMA, BSOY
Days after Emergence	-9	25	38
Stage Majority, Percent	00, -	13, -	16, -
Stage Minimum, Percent	00, -	12, -	13, -
Stage Maximum, Percent	00, -	14, -	60, -
Height Average	0 IN	4 IN	6 IN
Height Minimum, Maximum	0, 0	3, 5	5, 8

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH	AMBTR, W, BBCH
Stage Majority, Percent	0, -	14, -	32, -
Stage Minimum, Percent	0, -	12, -	14, -
Stage Maximum, Percent	0, -	16, -	33, -
Height Average	0 IN	2 IN	16 IN
Height Minimum, Maximum	0, 0	1, 2	1, 24
Density Average	0 FT2	3 FT2	5 FT2
Pest 2 Code, Type, Scale	ECHCG, W, BBCH	ECHCG, W, BBCH	ECHCG, W, BBCH
Stage Majority, Percent	0, -	0, -	0, -
Stage Minimum, Percent	0, -	0, -	0, -
Stage Maximum, Percent	0, -	0, -	0, -
Height Average	0 IN	0 IN	0 IN
Height Minimum, Maximum	0, 0	0, 0	0, 0
Density Average	0 FT2	0 FT2	0 FT2

Application Equipment

	A	B	C
Appl. Equipment	CO2 BACKPACK	CO2 BACKPACK	CO2 BACKPACK
Equipment Type	BACSPR	BACSPR	BACSPR
Operation Pressure	23 PSI	24 PSI	24 PSI
Nozzle Model	TTI110015	TTI110015	TTI110015
Nozzle Type	TEEJAI	TEEJAI	TEEJAI
Nozzle Spacing	15.0 IN	15.0 IN	15.0 IN
Nozzles/Row	8.0	8.0	8.0
Boom Length	10.0 FT	10.0 FT	10.0 FT
Boom Height	17.0 IN	17.0 IN	17.0 IN
Ground Speed	3 MPH	3 MPH	3 MPH
Carrier	WATER	WATER	WATER
Application Amount	15 GAL/AC	15 GAL/AC	15 GAL/AC
Mix Overage	0 mL	0 mL	0 mL
Mix Size	1.8 L	1.8 L	1.8 L
Propellant	COMCO2	COMCO2	COMCO2

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Protocol ID: 20S-TPAC-SOY-19 Investigator (Creator): Dr. Bill Johnson
Project ID: Study Director: Brent Mansfield
Sponsor Contact: Nicholas Hustedde - FMC

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5
	Pest Type						W, Weed	W, Weed	W, Weed
	Pest Code						AMBTR	ECHCG	AMBTR
	Pest Scientific Name						Ambrosia trifida	Echinochloa cru>	Ambrosia trifida
	Pest Name						Giant ragweed	Common barnyard>	Giant ragweed
	Crop Type, Code				C, GLXMA	C, GLXMA			
	BBCH Scale				BSOY	BSOY			
	Crop Scientific Name				Glycine max	Glycine max			
	Crop Name				Soybean	Soybean			
	Rating Date				5/24/2020	5/30/2020	5/30/2020	5/30/2020	6/11/2020
	Part Rated				PLANT, C	PLANT, C	PLANT, P	PLANT, P	PLANT, P
	Rating Type				PHYGEN	PHYGEN	CONTROL	CONTROL	COUPLA
	Rating Unit/Min/Max				%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	/m2, -, -
	Number of Subsamples				1	1	1	1	1
	Assessed By				B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD
	Data Entry Date				1/25/2021	1/25/2021	1/25/2021	1/25/2021	1/25/2021
	Rating Timing				6 DAE	21 DAA	21 DAA	21 DAA	0 DAB
	Days After First/Last Applic.				15, 15	21, 21	21, 21	21, 21	33, 33
	Plant-Eval Interval				15 DP-1	21 DP-1	21 DP-1	21 DP-1	33 DP-1
	Days After Emergence				6 DE-1	12 DE-1	12 DE-1	12 DE-1	24 DE-1
1	UNTREATED				0.0	0.0	0.0	0.0	30.8
2	AUTHORITY SUPREME	8	FL OZ/A	A	57.5 b	52.5 a	81.3 ab	100.0 -	
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
3	AUTHORITY EDGE	8	FL OZ/A	A	62.5 ab	55.0 a	75.0 b	100.0 -	
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
4	AUTHORITY EDGE	10	FL OZ/A	A	75.0 a	66.3 a	83.8 ab	100.0 -	
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
5	AUTHORITY EDGE	8	FL OZ/A	A	66.3 ab	57.5 a	81.3 ab	100.0 -	18.8
	ROUNDUP POWERMAX	32	FL OZ/A	B					
	XTENDIMAX	22	FL OZ/A	B					
	INTACT	0.5	% V/V	B					
	ANTHEM MAXX	2.5	FL OZ/A	C					
6	ZIDUA PRO	6	FL OZ/A	A	60.0 ab	57.5 a	90.0 a	100.0 -	
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
7	BOUNDARY	29	FL OZ/A	A	0.0 c	0.0 b	75.0 b	100.0 -	
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					

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 4,5,6,9,11,12,13,14,15,16,17 because error mean square = 0.
^Calculated from residual.

Pest Type					W, Weed	W, Weed	W, Weed
Pest Code					AMBTR	ECHCG	AMBTR
Pest Scientific Name					Ambrosia trifida	Echinochloa cru>	Ambrosia trifida
Pest Name					Giant ragweed	Common barnyard>	Giant ragweed
Crop Type, Code			C, GLXMA	C, GLXMA			
BBCH Scale			BSOY	BSOY			
Crop Scientific Name			Glycine max	Glycine max			
Crop Name			Soybean	Soybean			
Rating Date			5/24/2020	5/30/2020	5/30/2020	5/30/2020	6/11/2020
Part Rated			PLANT, C	PLANT, C	PLANT, P	PLANT, P	PLANT, P
Rating Type			PHYGEN	PHYGEN	CONTROL	CONTROL	COUPLA
Rating Unit/Min/Max			%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	/m2, -, -
Number of Subsamples			1	1	1	1	1
Assessed By			B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD
Data Entry Date			1/25/2021	1/25/2021	1/25/2021	1/25/2021	1/25/2021
Rating Timing			6 DAE	21 DAA	21 DAA	21 DAA	0 DAB
Days After First/Last Applic.			15, 15	21, 21	21, 21	21, 21	33, 33
Plant-Eval Interval			15 DP-1	21 DP-1	21 DP-1	21 DP-1	33 DP-1
Days After Emergence			6 DE-1	12 DE-1	12 DE-1	12 DE-1	24 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	1	2	3	4	5
8	AUTHORITY FIRST	6.4	OZ/A	A	63.8 ab	55.0 a	89.5 a	100.0 -	
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
LSD P=.05					15.27	19.17	9.76	.	.
Standard Deviation					10.28	12.91	6.57	0.00	.
CV					18.69	26.28	7.99	0.0	.
Grand Mean					55.00	49.11	82.25	100.00	18.75
Levene's F^					2.272	2.62	1.014	.	.
Levene's Prob(F)					0.076	0.047*	0.443	.	.
Rank X2					.	.	.	.	.
P(Rank X2)					.	.	.	.	.
Skewness^					0.2747	0.1093	-0.4565	.	-0.7528
Kurtosis^					-0.6603	-0.3031	-0.7823	.	0.3429
Replicate F					16.992	19.403	3.571	0.000	
Replicate Prob(F)					0.0001	0.0001	0.0347	1.0000	
Treatment F					23.445	11.716	3.429	0.000	
Treatment Prob(F)					0.0001	0.0001	0.0195	1.0000	

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Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 4,5,6,9,11,12,13,14,15,16,17 because error mean square = 0.
^Calculated from residual.

Pest Type					W, Weed		W, Weed	W, Weed	W, Weed
Pest Code					ECHCG		AMBTR	ECHCG	AMBTR
Pest Scientific Name					Echinochloa cru>		Ambrosia trifida	Echinochloa cru>	Ambrosia trifida
Pest Name					Common barnyard>		Giant ragweed	Common barnyard>	Giant ragweed
Crop Type, Code						C, GLXMA			
BBCH Scale						BSOY			
Crop Scientific Name						Glycine max			
Crop Name						Soybean			
Rating Date					6/11/2020	6/20/2020	6/20/2020	6/20/2020	6/25/2020
Part Rated					PLANT, P	PLANT, C	PLANT, P	PLANT, P	PLANT, P
Rating Type					COUPLA	PHYGEN	CONTROL	CONTROL	COUPLA
Rating Unit/Min/Max					/m2, -, -	%, 0, 100	%, 0, 100	%, 0, 100	/m2, -, -
Number of Subsamples					1	1	1	1	1
Assessed By					B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD
Data Entry Date					1/25/2021	1/25/2021	1/25/2021	1/25/2021	1/26/2021
Rating Timing					0 DAB	42 DAA	42 DAA	42 DAA	0 DAC
Days After First/Last Applic.					33, 33	42, 8	42, 8	42, 8	47, 13
Plant-Eval Interval					33 DP-1	42 DP-1	42 DP-1	42 DP-1	47 DP-1
Days After Emergence					24 DE-1	33 DE-1	33 DE-1	33 DE-1	38 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	6	7	8	9	10
1	UNTREATED				4.5	0.0	0.0	0.0	26.5
2	AUTHORITY SUPREME	8	FL OZ/A	A		17.5 ab	56.3 b	100.0 -	12.3 ab
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
3	AUTHORITY EDGE	8	FL OZ/A	A		25.0 a	51.3 b	100.0 -	12.0 ab
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
4	AUTHORITY EDGE	10	FL OZ/A	A		28.8 a	60.0 b	100.0 -	9.8 ab
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
5	AUTHORITY EDGE	8	FL OZ/A	A	0.0				
	ROUNDUP POWERMAX	32	FL OZ/A	B					
	XTENDIMAX	22	FL OZ/A	B					
	INTACT	0.5	% V/V	B					
	ANTHEM MAXX	2.5	FL OZ/A	C					
6	ZIDUA PRO	6	FL OZ/A	A		28.8 a	77.5 a	100.0 -	4.5 b
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
7	BOUNDARY	29	FL OZ/A	A		0.0 b	51.3 b	100.0 -	16.3 a
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					

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^Calculated from residual.

Pest Type				W, Weed		W, Weed	W, Weed	W, Weed
Pest Code				ECHCG		AMBTR	ECHCG	AMBTR
Pest Scientific Name				Echinochloa cru>		Ambrosia trifida	Echinochloa cru>	Ambrosia trifida
Pest Name				Common barnyard>		Giant ragweed	Common barnyard>	Giant ragweed
Crop Type, Code					C, GLXMA			
BBCH Scale					BSOY			
Crop Scientific Name					Glycine max			
Crop Name					Soybean			
Rating Date				6/11/2020	6/20/2020	6/20/2020	6/20/2020	6/25/2020
Part Rated				PLANT, P	PLANT, C	PLANT, P	PLANT, P	PLANT, P
Rating Type				COUPLA	PHYGEN	CONTROL	CONTROL	COUPLA
Rating Unit/Min/Max				/m2, -, -	%, 0, 100	%, 0, 100	%, 0, 100	/m2, -, -
Number of Subsamples				1	1	1	1	1
Assessed By				B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD
Data Entry Date				1/25/2021	1/25/2021	1/25/2021	1/25/2021	1/26/2021
Rating Timing				0 DAB	42 DAA	42 DAA	42 DAA	0 DAC
Days After First/Last Applic.				33, 33	42, 8	42, 8	42, 8	47, 13
Plant-Eval Interval				33 DP-1	42 DP-1	42 DP-1	42 DP-1	47 DP-1
Days After Emergence				24 DE-1	33 DE-1	33 DE-1	33 DE-1	38 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	6	7	8	9	10
8	AUTHORITY FIRST	6.4	OZ/A	A		21.3 a	81.3 a	100.0 -	4.5 b
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
LSD P=.05					.	17.74	16.64	.	8.10
Standard Deviation					.	11.77	11.04	0.00	5.37
CV					.	58.25	17.55	0.0	54.39
Grand Mean					0.00	20.21	62.92	100.00	9.88
Levene's F^					.	0.349	0.485	.	0.313
Levene's Prob(F)					.	0.876	0.783	.	0.899
Rank X2					.	.	.	.	.
P(Rank X2)					.	.	.	.	.
Skewness^					.	-0.1864	0.4451	.	-0.369
Kurtosis^					.	-1.2312	-0.0233	.	0.422
Replicate F						5.662	1.150	0.000	0.479
Replicate Prob(F)						0.0085	0.3611	1.0000	0.7017
Treatment F						3.382	5.733	0.000	3.011
Treatment Prob(F)						0.0304	0.0037	1.0000	0.0445

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^Calculated from residual.

Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	11	12	13	14	15
	Pest Type				W, Weed		W, Weed	W, Weed	
	Pest Code				ECHCG		AMBTR	ECHCG	
	Pest Scientific Name				Echinochloa cru>		Ambrosia trifida	Echinochloa cru>	
	Pest Name				Common barnyard>		Giant ragweed	Common barnyard>	
	Crop Type, Code					C, GLXMA			C, GLXMA
	BBCH Scale					BSOY			BSOY
	Crop Scientific Name					Glycine max			Glycine max
	Crop Name					Soybean			Soybean
	Rating Date				6/25/2020	7/16/2020	7/16/2020	7/16/2020	6/20/2020
	Part Rated				PLANT, P	PLANT, C	PLANT, P	PLANT, P	PLANT, C
	Rating Type				COUPLA	PHYGEN	CONTROL	CONTROL	PHYGEN
	Rating Unit/Min/Max				/m2, -, -	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
	Number of Subsamples				1	1	1	1	1
	Assessed By				B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD	B. MANSFIELD
	Data Entry Date				1/26/2021	1/25/2021	1/25/2021	1/25/2021	1/25/2021
	Rating Timing				0 DAC	21 DAC	21 DAC	21 DAC	42 DAC
	Days After First/Last Applic.				47, 13	68, 21	68, 21	68, 21	42, 8
	Plant-Eval Interval				47 DP-1	68 DP-1	68 DP-1	68 DP-1	42 DP-1
	Days After Emergence				38 DE-1	59 DE-1	59 DE-1	59 DE-1	33 DE-1
1	UNTREATED				5.3	0.0	0.0	0.0	0.0
2	AUTHORITY SUPREME	8	FL OZ/A	A	0.0 -	0.0 -	100.0 -	100.0 -	0.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
3	AUTHORITY EDGE	8	FL OZ/A	A	0.0 -	0.0 -	100.0 -	100.0 -	0.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
4	AUTHORITY EDGE	10	FL OZ/A	A	0.0 -	0.0 -	100.0 -	100.0 -	0.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
5	AUTHORITY EDGE	8	FL OZ/A	A		0.0 -	100.0 -	100.0 -	0.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	B					
	XTENDIMAX	22	FL OZ/A	B					
	INTACT	0.5	% V/V	B					
	ANTHEM MAXX	2.5	FL OZ/A	C					
6	ZIDUA PRO	6	FL OZ/A	A	0.0 -	0.0 -	100.0 -	100.0 -	0.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					
7	BOUNDARY	29	FL OZ/A	A	0.0 -	0.0 -	100.0 -	100.0 -	0.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C					
	XTENDIMAX	22	FL OZ/A	C					
	INTACT	0.5	% V/V	C					

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Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 4,5,6,9,11,12,13,14,15,16,17 because error mean square = 0.
^Calculated from residual.

Pest Type				W, Weed		W, Weed		W, Weed		
Pest Code				ECHCG		AMBTR		ECHCG		
Pest Scientific Name				Echinochloa cru>		Ambrosia trifida		Echinochloa cru>		
Pest Name				Common barnyard>		Giant ragweed		Common barnyard>		
Crop Type, Code					C, GLXMA				C, GLXMA	
BBCH Scale					BSOY				BSOY	
Crop Scientific Name					Glycine max				Glycine max	
Crop Name					Soybean				Soybean	
Rating Date				6/25/2020	7/16/2020	7/16/2020		7/16/2020	6/20/2020	
Part Rated				PLANT, P	PLANT, C	PLANT, P		PLANT, P	PLANT, C	
Rating Type				COUPLA	PHYGEN	CONTROL		CONTROL	PHYGEN	
Rating Unit/Min/Max				/m2, -, -	%, 0, 100	%, 0, 100		%, 0, 100	%, 0, 100	
Number of Subsamples				1	1	1		1	1	
Assessed By				B. MANSFIELD	B. MANSFIELD	B. MANSFIELD		B. MANSFIELD	B. MANSFIELD	
Data Entry Date				1/26/2021	1/25/2021	1/25/2021		1/25/2021	1/25/2021	
Rating Timing				0 DAC	21 DAC	21 DAC		21 DAC	42 DAC	
Days After First/Last Applic.				47, 13	68, 21	68, 21		68, 21	42, 8	
Plant-Eval Interval				47 DP-1	68 DP-1	68 DP-1		68 DP-1	42 DP-1	
Days After Emergence				38 DE-1	59 DE-1	59 DE-1		59 DE-1	33 DE-1	
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	11	12	13	14	15	
8	AUTHORITY FIRST	6.4	OZ/A	A	0.0 -	0.0 -	100.0 -	100.0 -	0.0 -	
	ROUNDUP POWERMAX	32	FL OZ/A	C						
	XTENDIMAX	22	FL OZ/A	C						
	INTACT	0.5	% V/V	C						
LSD P=.05					.	.	.	.	.	
Standard Deviation					0.00	0.00	0.00	0.00	0.00	
CV					0.0	0.0	0.0	0.0	0.0	
Grand Mean					0.00	0.00	100.00	100.00	0.00	
Levene's F^					.	.	.	.	.	
Levene's Prob(F)					.	.	.	.	.	
Rank X2					.	.	.	.	.	
P(Rank X2)					.	.	.	.	.	
Skewness^					.	.	.	.	.	
Kurtosis^					.	.	.	.	.	
Replicate F					0.000	0.000	0.000	0.000	0.000	
Replicate Prob(F)					1.0000	1.0000	1.0000	1.0000	1.0000	
Treatment F					0.000	0.000	0.000	0.000	0.000	
Treatment Prob(F)					1.0000	1.0000	1.0000	1.0000	1.0000	

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^Calculated from residual.

Pest Type						W, Weed	W, Weed
Pest Code						AMBTR	ECHCG
Pest Scientific Name						Ambrosia trifida	Echinochloa cru>
Pest Name						Giant ragweed	Common barnyard>
Crop Type, Code							
BBCH Scale							
Crop Scientific Name							
Crop Name							
Rating Date						6/20/2020	6/20/2020
Part Rated						PLANT, P	PLANT, P
Rating Type						CONTROL	CONTROL
Rating Unit/Min/Max						%, 0, 100	%, 0, 100
Number of Subsamples						1	1
Assessed By						B. MANSFIELD	B. MANSFIELD
Data Entry Date						1/25/2021	1/25/2021
Rating Timing						42 DAC	42 DAC
Days After First/Last Applic.						42, 8	42, 8
Plant-Eval Interval						42 DP-1	42 DP-1
Days After Emergence						33 DE-1	33 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code		16	17
1	UNTREATED					0.0	0.0
2	AUTHORITY SUPREME	8	FL OZ/A	A		100.0 -	100.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C			
	XTENDIMAX	22	FL OZ/A	C			
	INTACT	0.5	% V/V	C			
3	AUTHORITY EDGE	8	FL OZ/A	A		100.0 -	100.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C			
	XTENDIMAX	22	FL OZ/A	C			
	INTACT	0.5	% V/V	C			
4	AUTHORITY EDGE	10	FL OZ/A	A		100.0 -	100.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C			
	XTENDIMAX	22	FL OZ/A	C			
	INTACT	0.5	% V/V	C			
5	AUTHORITY EDGE	8	FL OZ/A	A		100.0 -	100.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	B			
	XTENDIMAX	22	FL OZ/A	B			
	INTACT	0.5	% V/V	B			
	ANTHEM MAXX	2.5	FL OZ/A	C			
6	ZIDUA PRO	6	FL OZ/A	A		100.0 -	100.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C			
	XTENDIMAX	22	FL OZ/A	C			
	INTACT	0.5	% V/V	C			
7	BOUNDARY	29	FL OZ/A	A		100.0 -	100.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C			
	XTENDIMAX	22	FL OZ/A	C			
	INTACT	0.5	% V/V	C			

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^Calculated from residual.

Pest Type				W, Weed	W, Weed
Pest Code				AMBTR	ECHCG
Pest Scientific Name				Ambrosia trifida	Echinochloa cru>
Pest Name				Giant ragweed	Common barnyard>
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date				6/20/2020	6/20/2020
Part Rated				PLANT, P	PLANT, P
Rating Type				CONTROL	CONTROL
Rating Unit/Min/Max				%, 0, 100	%, 0, 100
Number of Subsamples				1	1
Assessed By				B. MANSFIELD	B. MANSFIELD
Data Entry Date				1/25/2021	1/25/2021
Rating Timing				42 DAC	42 DAC
Days After First/Last Applic.				42, 8	42, 8
Plant-Eval Interval				42 DP-1	42 DP-1
Days After Emergence				33 DE-1	33 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	16	17
8	AUTHORITY FIRST	6.4	OZ/A	A	100.0 -	100.0 -
	ROUNDUP POWERMAX	32	FL OZ/A	C		
	XTENDIMAX	22	FL OZ/A	C		
	INTACT	0.5	% V/V	C		
LSD P=.05					.	.
Standard Deviation					0.00	0.00
CV					0.0	0.0
Grand Mean					100.00	100.00
Levene's F^					.	.
Levene's Prob(F)					.	.
Rank X2					.	.
P(Rank X2)					.	.
Skewness^					.	.
Kurtosis^					.	.
Replicate F					0.000	0.000
Replicate Prob(F)					1.0000	1.0000
Treatment F					0.000	0.000
Treatment Prob(F)					1.0000	1.0000

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.
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^Calculated from residual.

Purdue Weed Science

FMC - Authority Programs in Xtend Soybean

Trial ID: 20S-TPAC-SOY-19 Location: TPAC Trial Year: 2020
Protocol ID: 20S-TPAC-SOY-19 Investigator (Creator): Dr. Bill Johnson
Project ID: Study Director: Brent Mansfield
Sponsor Contact: Nicholas Hustedde - FMC

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
AMBTR, Ambrosia trifida, Giant ragweed = US
ECHCG, Echinochloa crus-galli, Common barnyard grass = US
Crop Type, Code
C = EPPO species (Bayer) codes
GLXMA, BSOY, Glycine max, Soybean = US
Part Rated
PLANT = plant
C = Crop is Part Rated
P = Pest is Part Rated
Rating Type
PHYGEN = phytotoxicity - general / injury
COUPLA = count - plant / emergence - objective
Rating Unit/Min/Max
%, 0, 100 = percent
/m2, , = per square meter
Plant-Eval Interval
15 DP-1 = 1 GLXMA 5/9/2020
21 DP-1 = 1 GLXMA 5/9/2020
33 DP-1 = 1 GLXMA 5/9/2020
42 DP-1 = 1 GLXMA 5/9/2020
47 DP-1 = 1 GLXMA 5/9/2020
68 DP-1 = 1 GLXMA 5/9/2020