

Purdue Weed Science

Evaluation of KFD-464-01 Tankmixes

Trial ID: 21S-TPAC-SOY-08 Location: TPAC Trial Year: 2021
 Protocol ID: 21S-TPAC-SOY-08 Investigator (Creator): Dr. Bill Johnson
 Project ID: Study Director: Brent Mansfield
 Sponsor Contact: Ryan Henry - UPL

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: 5/15/2021
Initiation Date: 5/15/2021

Trial Location

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

Latitude of LL Corner °: 40.29176 N
Longitude of LL Corner °: -86.90661 W

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

Crop Description

Crop 1: C GLXMA Glycine max Soybean
Variety: AG29XF1 **Stage Scale:** BBCH
Attributes: XtendFlex: Gly-R, Glu-R, Dicamba-R
Planting Date: 5/15/2021 **Planting Rate:** 140000 S/A
Depth: 1.75 IN
Rows per Plot: 7 **Planting Method:** PLANTD planted
Row Spacing: 15 IN **Planting Equipment:** PP plot planter
Soil Temperature: 60 F **Soil Moisture:** NORMAL normal, adequate
Emergence Date: 5/23/2021
Harvest Date: 9/29/2021
Harvested Width: 8.75 FT
Harvested Length: 27 FT
% Standard Moisture: 13

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida **Entry Date:** 1/7/2022
Common Name: Giant ragweed **Stage Scale:** BBCH
Pest 2 Type: W **Code:** ECHCG Echinochloa crus-galli **Entry Date:** 1/7/2022
Common Name: common barnyardgrass **Stage Scale:** BBCH
Pest 3 Type: W **Code:** CHEAL Chenopodium album **Entry Date:** 1/7/2022
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:** 21 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

Soil Description**Description Name:** TPAC- Field 4AE**% Sand:** 21**% OM:** 2.8**Texture:** SIL

silt loam

% Silt: 54**pH:** 6.7**Soil Name:** Toronto-Millbrook Complex**% Clay:** 25**CEC:** 10.9**Fert. Level:** G good

No.	Date	Moisture Total	Unit	Min Temp	Max Temp	Temp Unit
1.	5/1/2021	0	IN	40	63	F
2.	5/2/2021	0	IN	49	74	F
3.	5/3/2021	0.26	IN	56	78	F
4.	5/4/2021	0.01	IN	55	66	F
5.	5/5/2021	0.04	IN	43	59	F
6.	5/6/2021	0	IN	42	61	F
7.	5/7/2021	0.25	IN	38	58	F
8.	5/8/2021	0	IN	32	63	F
9.	5/9/2021	1.43	IN	40	57	F
10.	5/10/2021	0.37	IN	37	47	F
11.	5/11/2021	0.09	IN	39	59	F
12.	5/12/2021	0	IN	36	61	F
13.	5/13/2021	0	IN	38	60	F
14.	5/14/2021	0	IN	41	66	F
15.	5/15/2021	0	IN	46	70	F
16.	5/16/2021	0	IN	53	71	F
17.	5/17/2021	0.35	IN	55	71	F
18.	5/18/2021	0.12	IN	58	63	F
19.	5/19/2021	0	IN	59	72	F
20.	5/20/2021	0	IN	64	75	F
21.	5/21/2021	0	IN	64	84	F
22.	5/22/2021	0	IN	63	83	F
23.	5/23/2021	0	IN	63	85	F
24.	5/24/2021	0	IN	68	85	F
25.	5/25/2021	0	IN	67	88	F
26.	5/26/2021	0.32	IN	66	87	F
27.	5/27/2021	0.19	IN	58	81	F
28.	5/28/2021	0.08	IN	60	80	F
29.	5/29/2021	0.47	IN	43	61	F
30.	5/30/2021	0	IN	41	63	F
31.	5/31/2021	0	IN	43	71	F
32.	6/1/2021	0	IN	57	71	F
33.	6/2/2021	0.04	IN	58	74	F
34.	6/3/2021	0.03	IN	59	87	F
35.	6/4/2021	0	IN	61	82	F
36.	6/5/2021	0	IN	63	88	F
37.	6/6/2021	0	IN	66	86	F
38.	6/7/2021	0.01	IN	69	83	F
39.	6/8/2021	0.1	IN	69	83	F
40.	6/9/2021	0	IN	70	85	F
41.	6/10/2021	0	IN	67	85	F
42.	6/11/2021	0	IN	69	85	F
43.	6/12/2021	0	IN	67	90	F
44.	6/13/2021	0	IN	69	93	F
45.	6/14/2021	0	IN	63	86	F
46.	6/15/2021	0	IN	57	83	F
47.	6/16/2021	0	IN	53	81	F
48.	6/17/2021	0	IN	53	82	F
49.	6/18/2021	0.01	IN	61	86	F
50.	6/19/2021	0.47	IN	67	93	F
51.	6/20/2021	0	IN	67	81	F
52.	6/21/2021	0.1	IN	70	86	F

53.	6/22/2021	0	IN	49	72	F
54.	6/23/2021	0	IN	54	74	F
55.	6/24/2021	0	IN	60	77	F
56.	6/25/2021	1.19	IN	63	79	F
57.	6/26/2021	0.83	IN	70	81	F
58.	6/27/2021	1.05	IN	69	85	F
59.	6/28/2021	0.11	IN	69	86	F
60.	6/29/2021	0	IN	72	88	F
61.	6/30/2021	0	IN	72	89	F
62.	7/1/2021	0.35	IN	70	78	F
63.	7/2/2021	0	IN	55	82	F
64.	7/3/2021	0	IN	53	75	F
65.	7/4/2021	0	IN	57	78	F
66.	7/5/2021	0	IN	67	85	F
67.	7/6/2021	0	IN	68	86	F
68.	7/7/2021	0	IN	71	86	F
69.	7/8/2021	1.29	IN	67	86	F
70.	7/9/2021	0.05	IN	59	80	F
71.	7/10/2021	0.03	IN	61	73	F
72.	7/11/2021	0.1	IN	65	76	F
73.	7/12/2021	1.3	IN	66	76	F
74.	7/13/2021	0.4	IN	67	82	F
75.	7/14/2021	0.08	IN	65	79	F
76.	7/15/2021	0	IN	66	82	F
77.	7/16/2021	0.16	IN	69	86	F
78.	7/17/2021	0.1	IN	66	78	F
79.	7/18/2021	0.01	IN	66	80	F
80.	7/19/2021	0	IN	61	83	F
81.	7/20/2021	0	IN	61	82	F
82.	7/21/2021	0	IN	64	83	F
83.	7/22/2021	0	IN	64	79	F
84.	7/23/2021	0	IN	67	83	F
85.	7/24/2021	0	IN	71	86	F
86.	7/25/2021	0	IN	69	87	F
87.	7/26/2021	0	IN	65	88	F
88.	7/27/2021	0	IN	62	87	F
89.	7/28/2021	0	IN	66	86	F
90.	7/29/2021	0	IN	70	87	F
91.	7/30/2021	0	IN	65	88	F
92.	7/31/2021	0	IN	62	78	F

Application Description		
	A	B
Application Date	5/15/2021	6/11/2021
Appl. Start Time	4:56 PM	1:20 PM
Appl. Stop Time	5:52 PM	1:32 PM
Application Method	SPRAY	SPRAY
Application Timing	PREPRE	POSPOS
Application Placement	BROSOI	BROFOL
Applied By	J. HAARMANN	L. MAIA
Air Temperature Start, Stop	69, 69 F	90, 90 F
% Relative Humidity Start, Stop	32, 32	51, 51
Wind Velocity+Dir. Start	4.5 MPH, S	6.6 MPH, S
Wet Leaves (Y/N)	N, no	N, no
Soil Temperature	60 F	97 F
Soil Moisture	NORMAL	NORMAL
% Cloud Cover	85	40

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	GLXMA, BSOY	GLXMA, BSOY
Days after Emergence	-8	19
Stage Majority, Percent	00, -	12, -
Stage Minimum, Percent	00, -	12, -
Stage Maximum, Percent	00, -	12, -
Height Average	0 IN	5 IN
Height Minimum, Maximum		4, 6

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	AMBTR, W, BBCH	AMBTR, W, BBCH
Stage Majority, Percent	00, -	18, -
Stage Minimum, Percent	00, -	16, -
Stage Maximum, Percent	00, -	19, -
Height Average	0 IN	5 IN
Height Minimum, Maximum		4, 7
Density Average		7 FT2
Density Minimum, Maximum		1, 15
Pest 2 Code, Type, Scale	ECHCG, W, BBCH	ECHCG, W, BBCH
Stage Majority, Percent	00, -	14, -
Stage Minimum, Percent	00, -	11, -
Stage Maximum, Percent	00, -	14, -
Height Average	0 IN	3 IN
Height Minimum, Maximum		0.25, 4
Density Average		1 FT2
Density Minimum, Maximum		0.1, 2
Pest 3 Code, Type, Scale	CHEAL, W, BBCH	CHEAL, W, BBCH
Stage Majority, Percent	00, -	00, -
Stage Minimum, Percent	00, -	00, -
Stage Maximum, Percent	00, -	00, -
Height Average	0 IN	0 IN

Application Equipment

	A	B
Appl. Equipment	CO2 BACKPACK	CO2 BACKPACK
Equipment Type	BACSPR	BACSPR
Operation Pressure	19 PSI	17 PSI
Nozzle Model	XR	XR
Nozzle Type	FLAFXR	FLAFXR
Nozzle TradeName	TEEJET	TEEJET
Nozzle Tip Size, Color	11002, YELLOW	11002, YELLOW
Nozzle Spacing	15 IN	15 IN
Nozzles/Row	8	8
Boom Length	10 FT	10 FT
Boom Height	17 IN	24.0 IN
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Application Amount	15 GAL/AC	15 GAL/AC
Mix Size	1.8 L	1.8 L
Propellant	COMCO2	COMCO2

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Protocol ID: 21S-TPAC-SOY-08	Investigator (Creator): Dr. Bill Johnson	
Project ID:	Study Director: Brent Mansfield	
	Sponsor Contact: Ryan Henry - UPL	

Pest Type			W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR	W, Weed ECHCG			
Pest Code			Giant ragweed	common barnyard>	Giant ragweed	common barnyard>			
Pest Name									
Crop Type, Code	C, GLXMA	C, GLXMA							
Crop Name	Soybean	Soybean							
Rating Date	6/4/2021	6/11/2021	5/29/2021	5/29/2021	6/11/2021	6/11/2021			
Part Rated			PLANT, P	PLANT, P	PLANT, P	PLANT, P			
Rating Type	PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100			
Number of Subsamples	1	1	1	1	1	1			
Data Entry Date	1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022			
Rating Timing	12 DAE	19 DAE	14 DAA	14 DAA	27 DAA	27 DAA			
Days After First/Last Applic.	20, 20	27, 27	14, 14	14, 14	27, 27	27, 27			
Days After Emergence	12 DE-1	19 DE-1	6 DE-1	6 DE-1	19 DE-1	19 DE-1			
ARM Action Codes									
Number of Decimals									
Trt No.	Treatment Name	Rate	Appl Code	1	2	3	4	5	6
1	NONTREATED	0.0		0.0	0.0	0.0	0.0	0.0	0.0
2	KFD-464-01 INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	87.5 -	100.0 -	74.8 -	97.5 -
3	KFD-464-01 INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	91.3 -	100.0 -	91.5 -	100.0 -
4	AUTHORITY MTZ INTERLINE MOCCASIN AMSOL	14 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	75.0 -	100.0 -	56.8 -	97.5 -
5	KFD-464-01 FIRSTRATE INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.5 -	0.5 -	90.0 -	97.5 -	89.8 -	97.5 -
6	KFD-464-01 FIRSTRATE INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.5 -	0.5 -	93.8 -	100.0 -	82.8 -	99.3 -
7	AUTHORITY MTZ FIRSTRATE INTERLINE MOCCASIN AMSOL	14 OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		1.3 -	1.3 -	88.8 -	100.0 -	70.5 -	99.3 -
8	KFD-464-01 MOCCASIN INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 16 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	91.8 -	100.0 -	84.3 -	100.0 -
9	KFD-464-01 MOCCASIN INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 16 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		1.3 -	1.3 -	95.0 -	100.0 -	92.3 -	100.0 -
10	AUTHORITY MTZ MOCCASIN INTERLINE MOCCASIN AMSOL	14 OZ/A A 16 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	90.0 -	100.0 -	75.0 -	100.0 -

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.
 Missing data estimates are included in columns: Average=3,5
 Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
 ^Calculated from residual.

Pest Type				W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR	W, Weed ECHCG		
Pest Code				Giant ragweed	common barnyard>	Giant ragweed	common barnyard>		
Pest Name									
Crop Type, Code	C, GLXMA	C, GLXMA							
Crop Name	Soybean	Soybean							
Rating Date	6/4/2021	6/11/2021		5/29/2021	5/29/2021	6/11/2021	6/11/2021		
Part Rated				PLANT, P	PLANT, P	PLANT, P	PLANT, P		
Rating Type	PHYGEN	PHYGEN		CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit/Min/Max	%, 0, 100	%, 0, 100		%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100		
Number of Subsamples	1	1		1	1	1	1		
Data Entry Date	1/7/2022	1/7/2022		1/7/2022	1/7/2022	1/7/2022	1/7/2022		
Rating Timing	12 DAE	19 DAE		14 DAA	14 DAA	27 DAA	27 DAA		
Days After First/Last Applic.	20, 20	27, 27		14, 14	14, 14	27, 27	27, 27		
Days After Emergence	12 DE-1	19 DE-1		6 DE-1	6 DE-1	19 DE-1	19 DE-1		
ARM Action Codes									
Number of Decimals									
Trt No.	Treatment Name	Rate Rate Unit	Appl Code	1	2	3	4	5	6
11	KFD-464-01 KFD-308-01 INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 32 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.5 -	0.5 -	73.8 -	100.0 -	66.8 -	100.0 -
12	KFD-464-01 KFD-308-01 INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 32 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	91.3 -	100.0 -	93.0 -	100.0 -
13	AUTHORITY MTZ KFD-308-01 INTERLINE MOCCASIN AMSOL	14 OZ/A A 32 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	78.3 -	100.0 -	71.7 -	100.0 -
14	KFD-464-01 MOCCASIN FIRSTRATE INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 16 FL OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	91.3 -	100.0 -	87.8 -	100.0 -
15	KFD-464-01 MOCCASIN FIRSTRATE INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 16 FL OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	85.0 -	100.0 -	73.0 -	100.0 -
16	KFD-464-01 SATELLITE HYDROCAP FIRSTRATE INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 3 PT/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	92.5 -	100.0 -	83.0 -	100.0 -
17	KFD-464-01 SATELLITE HYDROCAP FIRSTRATE INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 3 PT/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	100.0 -	100.0 -	97.0 -	100.0 -
18	KFD-464-01 PREFIX INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 3 PT/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	98.8 -	100.0 -	97.3 -	100.0 -
19	KFD-464-01 PREFIX INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 3 PT/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B		0.0 -	0.0 -	100.0 -	100.0 -	98.5 -	100.0 -

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.
Missing data estimates are included in columns: Average=3,5
Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
^Calculated from residual.

Pest Type			W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR	W, Weed ECHCG		
Pest Code			Giant ragweed	common barnyard>	Giant ragweed	common barnyard>		
Pest Name								
Crop Type, Code	C, GLXMA	C, GLXMA						
Crop Name	Soybean	Soybean						
Rating Date	6/4/2021	6/11/2021	5/29/2021	5/29/2021	6/11/2021	6/11/2021		
Part Rated			PLANT, P	PLANT, P	PLANT, P	PLANT, P		
Rating Type	PHYGEN	PHYGEN	CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100		
Number of Subsamples	1	1	1	1	1	1		
Data Entry Date	1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022		
Rating Timing	12 DAE	19 DAE	14 DAA	14 DAA	27 DAA	27 DAA		
Days After First/Last Applic.	20, 20	27, 27	14, 14	14, 14	27, 27	27, 27		
Days After Emergence	12 DE-1	19 DE-1	6 DE-1	6 DE-1	19 DE-1	19 DE-1		
ARM Action Codes								
Number of Decimals								
Trt Treatment	Rate	Appl	1	2	3	4	5	6
No. Name	Rate Unit	Code						
20 KFD-464-01	14.3 FL OZ/A	A	0.0 -	0.0 -	98.8 -	100.0 -	96.8 -	100.0 -
TORMENT	1 PT/A	A						
INTERLINE	32 FL OZ/A	B						
MOCCASIN	16 FL OZ/A	B						
AMSOL	3 LB AI/A	B						
21 KFD-464-01	21.4 FL OZ/A	A	0.0 -	0.0 -	95.0 -	100.0 -	91.5 -	100.0 -
TORMENT	1 PT/A	A						
INTERLINE	32 FL OZ/A	B						
MOCCASIN	16 FL OZ/A	B						
AMSOL	3 LB AI/A	B						
LSD P=.05	1.14	1.14	17.99	1.58	30.21	2.58		
Standard Deviation	0.80	0.80	12.70	1.12	21.33	1.83		
CV	402.3	402.3	14.05	1.12	25.49	1.83		
Grand Mean	0.20	0.20	90.38	99.88	83.68	99.55		
Levene's F^	0.436	0.436	1.698	0.853	1.086	0.446		
Levene's Prob(F)	0.976	0.976	0.063	0.639	0.388	0.973		
Rank X2	.	.	.	.	.	.
P(Rank X2)	.	.	.	.	.	.
Skewness^	2.2218*	2.2218*	-0.6954*	-4.8599*	-0.911*	-2.051*		
Kurtosis^	9.9195*	9.9195*	1.7571*	41.7617*	1.3376*	7.5272*		
Replicate F	4.943	4.943	0.356	1.000	0.603	4.863		
Replicate Prob(F)	0.0040	0.0040	0.7853	0.3995	0.6158	0.0044		
Treatment F	1.000	1.000	1.418	1.000	1.244	1.000		
Treatment Prob(F)	0.4750	0.4750	0.1561	0.4750	0.2579	0.4750		

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Pest Type	W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR
Pest Code	Giant ragweed	common barnyard>	Giant ragweed	common barnyard>	Giant ragweed
Pest Name					
Crop Type, Code					
Crop Name					
Rating Date	6/18/2021	6/18/2021	6/25/2021	6/25/2021	7/2/2021
Part Rated	PLANT, P	PLANT, P	PLANT, P	PLANT, P	PLANT, P
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022
Rating Timing	7 DAB	7 DAB	14 DAB	14 DAB	21 DAB
Days After First/Last Applic.	34, 7	34, 7	41, 14	41, 14	48, 21
Days After Emergence	26 DE-1	26 DE-1	33 DE-1	33 DE-1	40 DE-1
ARM Action Codes					
Number of Decimals					
Trt Treatment	7	8	9	10	11
No. Name					
Rate					
Rate Unit					
Appl Code					
1 NONTREATED	0.0	0.0	0.0	0.0	0.0
2 KFD-464-01 INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	98.8 -	100.0 -	100.0 -
3 KFD-464-01 INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	100.0 -	100.0 -	100.0 -
4 AUTHORITY MTZ INTERLINE MOCCASIN AMSOL	14 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	98.8 -	100.0 -	100.0 -
5 KFD-464-01 FIRSTRATE INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	98.8 -	100.0 -	100.0 -
6 KFD-464-01 FIRSTRATE INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	98.8 -	100.0 -	100.0 -
7 AUTHORITY MTZ FIRSTRATE INTERLINE MOCCASIN AMSOL	14 OZ/A A 0.6 OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	98.8 -	100.0 -	100.0 -
8 KFD-464-01 MOCCASIN INTERLINE MOCCASIN AMSOL	14.3 FL OZ/A A 16 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	100.0 -	100.0 -	100.0 -
9 KFD-464-01 MOCCASIN INTERLINE MOCCASIN AMSOL	21.4 FL OZ/A A 16 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	100.0 -	100.0 -	100.0 -
10 AUTHORITY MTZ MOCCASIN INTERLINE MOCCASIN AMSOL	14 OZ/A A 16 FL OZ/A A 32 FL OZ/A B 16 FL OZ/A B 3 LB AI/A B	95.0 -	100.0 -	100.0 -	100.0 -

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.
Missing data estimates are included in columns: Average=3,5
Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
^Calculated from residual.

Pest Type	W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR		
Pest Code							
Pest Name	Giant ragweed	common barnyard>	Giant ragweed	common barnyard>	Giant ragweed		
Crop Type, Code							
Crop Name							
Rating Date	6/18/2021	6/18/2021	6/25/2021	6/25/2021	7/2/2021		
Part Rated	PLANT, P	PLANT, P	PLANT, P	PLANT, P	PLANT, P		
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100		
Number of Subsamples	1	1	1	1	1		
Data Entry Date	1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022		
Rating Timing	7 DAB	7 DAB	14 DAB	14 DAB	21 DAB		
Days After First/Last Applic.	34, 7	34, 7	41, 14	41, 14	48, 21		
Days After Emergence	26 DE-1	26 DE-1	33 DE-1	33 DE-1	40 DE-1		
ARM Action Codes							
Number of Decimals							
Trt Treatment	Rate	Appl	7	8	9	10	11
No. Name	Rate Unit	Code					
11 KFD-464-01	14.3 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
KFD-308-01	32 FL OZ/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
12 KFD-464-01	21.4 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
KFD-308-01	32 FL OZ/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
13 AUTHORITY MTZ	14 OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
KFD-308-01	32 FL OZ/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
14 KFD-464-01	14.3 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
MOCCASIN	16 FL OZ/A	A					
FIRSTRATE	0.6 OZ/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
15 KFD-464-01	21.4 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
MOCCASIN	16 FL OZ/A	A					
FIRSTRATE	0.6 OZ/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
16 KFD-464-01	14.3 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
SATELLITE HYDROCAP	3 PT/A	A					
FIRSTRATE	0.6 OZ/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
17 KFD-464-01	21.4 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
SATELLITE HYDROCAP	3 PT/A	A					
FIRSTRATE	0.6 OZ/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
18 KFD-464-01	14.3 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
PREFIX	3 PT/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					
19 KFD-464-01	21.4 FL OZ/A	A	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
PREFIX	3 PT/A	A					
INTERLINE	32 FL OZ/A	B					
MOCCASIN	16 FL OZ/A	B					
AMSOL	3 LB AI/A	B					

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Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns: Average=3,5
Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
^Calculated from residual.

Pest Type	W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR	W, Weed ECHCG	W, Weed AMBTR
Pest Code	Giant ragweed	common barnyard>	Giant ragweed	common barnyard>	Giant ragweed
Pest Name					
Crop Type, Code					
Crop Name					
Rating Date	6/18/2021	6/18/2021	6/25/2021	6/25/2021	7/2/2021
Part Rated	PLANT, P	PLANT, P	PLANT, P	PLANT, P	PLANT, P
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100	%, 0, 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	1/7/2022	1/7/2022	1/7/2022	1/7/2022	1/7/2022
Rating Timing	7 DAB	7 DAB	14 DAB	14 DAB	21 DAB
Days After First/Last Applic.	34, 7	34, 7	41, 14	41, 14	48, 21
Days After Emergence	26 DE-1	26 DE-1	33 DE-1	33 DE-1	40 DE-1
ARM Action Codes					
Number of Decimals					
Trt Treatment	7	8	9	10	11
No. Name					
Rate					
Rate Unit					
Appl Code					
20 KFD-464-01	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
TORMENT					
INTERLINE					
MOCCASIN					
AMSOL					
21 KFD-464-01	95.0 -	100.0 -	100.0 -	100.0 -	100.0 -
TORMENT					
INTERLINE					
MOCCASIN					
AMSOL					
LSD P=.05	.	1.57	.	.	.
Standard Deviation	0.00	1.11	0.00	0.00	0.00
CV	0.0	1.11	0.0	0.0	0.0
Grand Mean	95.00	99.69	100.00	100.00	100.00
Levene's F^	.	0.263	.	.	.
Levene's Prob(F)	.	0.999	.	.	.
Rank X2	.	.	.	.	.
P(Rank X2)	.	.	.	.	.
Skewness^	.	-1.3589*	.	.	.
Kurtosis^	.	2.6833*	.	.	.
Replicate F	0.000	6.333	0.000	0.000	0.000
Replicate Prob(F)	1.0000	0.0009	1.0000	1.0000	1.0000
Treatment F	0.000	1.000	0.000	0.000	0.000
Treatment Prob(F)	1.0000	0.4750	1.0000	1.0000	1.0000

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Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns: Average=3,5
Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
^Calculated from residual.

Pest Type	W, Weed		
Pest Code	ECHCG		
Pest Name	common barnyard>		
Crop Type, Code	C, GLXMA	C, GLXMA	C, GLXMA
Crop Name	Soybean	Soybean	Soybean
Rating Date	7/2/2021	9/29/2021	9/29/2021
Part Rated	PLANT, P		
Rating Type	CONTRO	WEIGHT	YIELD
Rating Unit/Min/Max	%, 0, 100	LB, -, -	BU, -, -
Number of Subsamples	1	1	1
Data Entry Date	1/7/2022	1/7/2022	
Rating Timing	21 DAB	HARVEST	HARVEST
Days After First/Last Applic.	48, 21	137, 110	137, 110
Days After Emergence	40 DE-1	129 DE-1	129 DE-1
ARM Action Codes			TY1
Number of Decimals			1
Trt Treatment	Rate	Appl	12
No. Name	Rate Unit	Code	13
1 NONTREATED			14
			0.0
			12.350
			37.7
2 KFD-464-01	14.3 FL OZ/A A		100.0 -
INTERLINE	32 FL OZ/A B		22.760 -
MOCCASIN	16 FL OZ/A B		69.5 -
AMSOL	3 LB AI/A B		
3 KFD-464-01	21.4 FL OZ/A A		100.0 -
INTERLINE	32 FL OZ/A B		22.680 -
MOCCASIN	16 FL OZ/A B		69.2 -
AMSOL	3 LB AI/A B		
4 AUTHORITY MTZ	14 OZ/A A		100.0 -
INTERLINE	32 FL OZ/A B		20.575 -
MOCCASIN	16 FL OZ/A B		62.8 -
AMSOL	3 LB AI/A B		
5 KFD-464-01	14.3 FL OZ/A A		100.0 -
FIRSTRATE	0.6 OZ/A A		22.600 -
INTERLINE	32 FL OZ/A B		69.0 -
MOCCASIN	16 FL OZ/A B		
AMSOL	3 LB AI/A B		
6 KFD-464-01	21.4 FL OZ/A A		100.0 -
FIRSTRATE	0.6 OZ/A A		22.748 -
INTERLINE	32 FL OZ/A B		69.4 -
MOCCASIN	16 FL OZ/A B		
AMSOL	3 LB AI/A B		
7 AUTHORITY MTZ	14 OZ/A A		100.0 -
FIRSTRATE	0.6 OZ/A A		23.405 -
INTERLINE	32 FL OZ/A B		71.4 -
MOCCASIN	16 FL OZ/A B		
AMSOL	3 LB AI/A B		
8 KFD-464-01	14.3 FL OZ/A A		100.0 -
MOCCASIN	16 FL OZ/A A		23.198 -
INTERLINE	32 FL OZ/A B		70.8 -
MOCCASIN	16 FL OZ/A B		
AMSOL	3 LB AI/A B		
9 KFD-464-01	21.4 FL OZ/A A		100.0 -
MOCCASIN	16 FL OZ/A A		24.068 -
INTERLINE	32 FL OZ/A B		73.4 -
MOCCASIN	16 FL OZ/A B		
AMSOL	3 LB AI/A B		
10 AUTHORITY MTZ	14 OZ/A A		100.0 -
MOCCASIN	16 FL OZ/A A		20.898 -
INTERLINE	32 FL OZ/A B		63.8 -
MOCCASIN	16 FL OZ/A B		
AMSOL	3 LB AI/A B		

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Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns: Average=3,5
Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
^Calculated from residual.

Pest Type			W, Weed			
Pest Code			ECHCG			
Pest Name			common barnyard>			
Crop Type, Code				C, GLXMA	C, GLXMA	
Crop Name				Soybean	Soybean	
Rating Date			7/2/2021	9/29/2021	9/29/2021	
Part Rated			PLANT, P			
Rating Type			CONTRO	WEIGHT	YIELD	
Rating Unit/Min/Max			%, 0, 100	LB, -, -	BU, -, -	
Number of Subsamples			1	1	1	
Data Entry Date			1/7/2022	1/7/2022		
Rating Timing			21 DAB	HARVEST	HARVEST	
Days After First/Last Applic.			48, 21	137, 110	137, 110	
Days After Emergence			40 DE-1	129 DE-1	129 DE-1	
ARM Action Codes					TY1	
Number of Decimals					1	
Trt No.	Treatment Name	Rate	Appl Code	12	13	14
		Rate Unit				
11	KFD-464-01	14.3 FL OZ/A	A	100.0 -	21.020 -	64.1 -
	KFD-308-01	32 FL OZ/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
12	KFD-464-01	21.4 FL OZ/A	A	100.0 -	20.978 -	64.0 -
	KFD-308-01	32 FL OZ/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
13	AUTHORITY MTZ	14 OZ/A	A	100.0 -	17.710 -	54.0 -
	KFD-308-01	32 FL OZ/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
14	KFD-464-01	14.3 FL OZ/A	A	100.0 -	21.145 -	64.5 -
	MOCCASIN	16 FL OZ/A	A			
	FIRSTRATE	0.6 OZ/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
15	KFD-464-01	21.4 FL OZ/A	A	100.0 -	23.523 -	71.8 -
	MOCCASIN	16 FL OZ/A	A			
	FIRSTRATE	0.6 OZ/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
16	KFD-464-01	14.3 FL OZ/A	A	100.0 -	23.065 -	70.4 -
	SATELLITE HYDROCAP	3 PT/A	A			
	FIRSTRATE	0.6 OZ/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
17	KFD-464-01	21.4 FL OZ/A	A	100.0 -	26.103 -	79.7 -
	SATELLITE HYDROCAP	3 PT/A	A			
	FIRSTRATE	0.6 OZ/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
18	KFD-464-01	14.3 FL OZ/A	A	100.0 -	25.490 -	77.8 -
	PREFIX	3 PT/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			
19	KFD-464-01	21.4 FL OZ/A	A	100.0 -	22.495 -	68.7 -
	PREFIX	3 PT/A	A			
	INTERLINE	32 FL OZ/A	B			
	MOCCASIN	16 FL OZ/A	B			
	AMSOL	3 LB AI/A	B			

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Untreated treatment(s) 1 excluded from analysis.
Missing data estimates are included in columns: Average=3,5
Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
^Calculated from residual.

Pest Type	W, Weed		
Pest Code	ECHCG		
Pest Name	common barnyard>		
Crop Type, Code	C, GLXMA	C, GLXMA	C, GLXMA
Crop Name	Soybean	Soybean	Soybean
Rating Date	7/2/2021	9/29/2021	9/29/2021
Part Rated	PLANT, P		
Rating Type	CONTRO	WEIGHT	YIELD
Rating Unit/Min/Max	%, 0, 100	LB, -, -	BU, -, -
Number of Subsamples	1	1	1
Data Entry Date	1/7/2022	1/7/2022	
Rating Timing	21 DAB	HARVEST	HARVEST
Days After First/Last Applic.	48, 21	137, 110	137, 110
Days After Emergence	40 DE-1	129 DE-1	129 DE-1
ARM Action Codes			TY1
Number of Decimals			1
Trt Treatment	Rate	Appl	
No. Name	Rate Unit	Code	
20 KFD-464-01	14.3 FL OZ/A	A	12
TORMENT	1 PT/A	A	13
INTERLINE	32 FL OZ/A	B	14
MOCCASIN	16 FL OZ/A	B	
AMSOL	3 LB AI/A	B	
21 KFD-464-01	21.4 FL OZ/A	A	12
TORMENT	1 PT/A	A	13
INTERLINE	32 FL OZ/A	B	14
MOCCASIN	16 FL OZ/A	B	
AMSOL	3 LB AI/A	B	
LSD P=.05	.	4.3816	13.37
Standard Deviation	0.00	3.0944	9.44
CV	0.0	13.61	13.61
Grand Mean	100.00	22.7300	69.37
Levene's F^	.	0.573	0.573
Levene's Prob(F)	.	0.911	0.911
Rank X2	.	.	.
P(Rank X2)	.	.	.
Skewness^	.	-0.3338	-0.3338
Kurtosis^	.	0.6757	0.6757
Replicate F	0.000	8.440	8.440
Replicate Prob(F)	1.0000	0.0001	0.0001
Treatment F	0.000	1.757	1.757
Treatment Prob(F)	1.0000	0.0525	0.0525

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.
Missing data estimates are included in columns: Average=3,5
Could not calculate LSD (% mean diff) for columns 7,9,10,11,12 because error mean square = 0.
^Calculated from residual.

Purdue Weed Science

Evaluation of KFD-464-01 Tankmixes

Trial ID: 21S-TPAC-SOY-08	Location: TPAC	Trial Year: 2021
Protocol ID: 21S-TPAC-SOY-08	Investigator (Creator): Dr. Bill Johnson	
Project ID:	Study Director: Brent Mansfield	
	Sponsor Contact: Ryan Henry - UPL	

Pest Type

W, Weed = Weed or volunteer crop

Pest Code

AMBTR, Ambrosia trifida, Giant ragweed = US

ECHCG, Echinochloa crus-galli, common barnyardgrass = US

Crop Type Code

C = EPP0 species (Bayer) codes

GLXMA, BSOY, Glycine max, Soybean = US

Part Rated

PLANT = plant

P = Pest is Part Rated

Rating Type

PHYGEN = phytotoxicity - general / injury

CONTRO = control / burndown or knockdown

WEIGHT = weight

YIELD = yield

Rating Unit/Min/Max

%, 0, 100 = percent

LB, , = pound

BU, , = bushel

ARM Action Codes

TY1 = 3.05182266*[13]