The Ohio State University

Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

General Trial Information
Study Director: Anthony Dobbels
Investigator: Dr. Mark M. Loux

Trial Status: E established
ARM Trial Created On: Mar-25-2020
Initiation Date: May-13-2020

Trial Location
Address (Location): 7721 South Charleston Pike
City: South Charlesont **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368

Latitude of LL Corner °: 39.86082 N
Longitude of LL Corner °: -83.67106 W
Altitude of LL Corner: 1096.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts
Study Director: Anthony Dobbels

Investigator: Dr. Mark M. Loux

Crop Description
Crop 1: C GLXMA Glycine max Soybean **BBCH Scale:** BSOY
Entry Date: May-14-2020 **Stage Scale:** BBCH
Variety: Seed Consultants SC7370E
Attributes: 2,4-D Choline, Glyphosate, Glufosinate Tol
Planting Date: May-13-2020 **Planting Rate:** 160000 S/A
Depth: 2 IN
Rows per Plot: 8 **Planting Method:** PLANTD planted
Row Spacing: 15 IN **Planting Equipment:** FE field equipment
Seed Bed: MEDIUM medium
Soil Temperature: 62 F **Soil Moisture:** NORMAL normal, adequate
Emergence Date: May-25-2020

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Pest Description

Pest 1 Type: W **Code:** SETFA Setaria faberi
Common Name: foxtail, giant **Entry Date:** May-14-2020

Pest 2 Type: W **Code:** ECHCG Echinochloa crus-galli
Common Name: barnyardgrass **Entry Date:** Jun-16-2020

Pest 3 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: ragweed, giant **Entry Date:** Jun-16-2020

Pest 4 Type: W **Code:** POLPY Polygonum pensylvanicum
Common Name: smartweed, Pennsylvania **Entry Date:** Jun-16-2020

Pest 5 Type: W **Code:** CHEAL Chenopodium album
Common Name: lambsquarters, common **Entry Date:** Jun-16-2020

Pest 6 Type: W **Code:** HIBTR Hibiscus trionum
Common Name: mallow, Venice **Entry Date:** Jun-16-2020

Pest 7 Type: W **Code:** SOLPT Solanum ptychanthum
Common Name: Eastern black nightshade **Entry Date:** Jun-16-2020

Pest 8 Type: W **Code:** AMARE Amaranthus retroflexus
Common Name: pigweed, redroot **Entry Date:** Jun-16-2020

Pest 9 Type: W **Code:** VERAG Veronica agrestis
Common Name: speedwell, field **Entry Date:** Jun-16-2020

Pest10 Type: W **Code:** SIDSP Sida spinosa
Common Name: sida, prickly **Entry Date:** Jun-16-2020

Pest11 Type: W **Code:** AMBEL Ambrosia artemisiifolia
Common Name: ragweed, common **Entry Date:** Jun-16-2020

Pest12 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: velvetleaf **Entry Date:** Jun-16-2020

Pest13 Type: W **Code:** POLPE Persicaria maculosa
Common Name: ladysthumb **Entry Date:** Jun-22-2020

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 30 FT
Treated Plot Area: 200.1 FT2 **Treatments:** 20
Replications: 3
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	SOYBEAN	2019

Soil Description

Description Name: F-7 East
% Sand: 37 **% OM:** 2.8 **Texture:** SICL silty clay loam
% Silt: 48 **pH:** 5.7 **Soil Name:** Crosby
% Clay: 15 **CEC:** 11.8 **Fert. Level:** G good
Soil Drainage: G good

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Application Description

	A	B
Application Date	Jun-16-2020	Jun-18-2020
Appl. Start Time	7:54 AM	8:00 AM
Appl. Stop Time	8:30 AM	8:30 AM
Interval to Prev. Appl.		2 DAYS
Application Method	SPRAY	SPRAY
Application Timing	POST	POST
Application Placement	BROFOL	BROFOL
Applied By	Loux	Loux
Appl. Entry Date	Jun-16-2020	Jun-22-2020
Air Temperature Start, Stop	68 68 F	65 65 F
% Relative Humidity Start, Stop	71 71	79 79
Wind Velocity+Dir. Start	3 MPH E	3 MPH NE
Wind Velocity+Dir. Stop	3 MPH E	3 MPH NE
Wind Velocity+Dir. Max	3 MPH E	3 MPH NE
Wet Leaves (Y/N)	N no	N no
Soil Temperature	64 F	68 F
Soil Moisture	DRY	DRY
Soil Surface Condition	MEDIUM	MEDIUM
% Cloud Cover	10	70
Next Moisture Occurred On	Jun-18-2020	Jun-18-2020
Time to Next Moisture	2 DAY	5 HR
Moisture 6 Hours after Appl.	0 IN	0.05 IN
Moisture 1 Week after Appl.	0.88 IN	0.90 IN

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	GLXMA BSOY	GLXMA BSOY
Days after Emergence	22	24
Stage Majority, Percent	12 100	12 100
Height Average	6 IN	6 IN

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	SETFA W	SETFA W
Stage Majority, Percent	14 80	15 80
Stage Minimum, Percent	12 10	12
Stage Maximum, Percent	16 10	19
Height Average	3 IN	5 IN
Height Minimum, Maximum	1 6	1 10
Density Average		153 PLA/m2
Density Min, Max		51 282
Pest 2 Code, Type, Scale	ECHCG W	ECHCG W
Stage Majority, Percent	14 80	
Stage Minimum, Percent	12 10	
Stage Maximum, Percent	16 10	
Height Average	3 IN	
Height Minimum, Maximum	1 6	
Density Average		22 PLA/m2
Density Min, Max		6 51
Pest 3 Code, Type, Scale	AMBTR W	AMBTR W
Stage Majority, Percent	14 80	19 90
Stage Minimum, Percent	12 10	14
Stage Maximum, Percent	16 10	19
Height Average	4 IN	18 IN
Height Minimum, Maximum	1 8	4 30
Density Average		5 PLA/m2
Density Min, Max		3 9
Pest 4 Code, Type, Scale	POLPY W	POLPY W
Stage Majority, Percent	16 80	
Stage Minimum, Percent	14 10	
Stage Maximum, Percent	18 10	
Height Average	3 IN	
Height Minimum, Maximum	2 7	
Pest 5 Code, Type, Scale	CHEAL W	CHEAL W
Stage Majority, Percent	17 80	17 80
Stage Minimum, Percent	14 10	14
Stage Maximum, Percent	21 10	19
Height Average	3 IN	4 IN
Height Minimum, Maximum	1 4	2 6
Density Average		18 PLA/m2
Density Min, Max		0 36
Pest 6 Code, Type, Scale	HIBTR W	HIBTR W
Stage Majority, Percent	13 80	17 80

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Stage Minimum, Percent	12	10	14	
Stage Maximum, Percent	14	10	19	
Height Average	3	IN	4	IN
Height Minimum, Maximum	1	4	2	6
Pest 7 Code, Type, Scale	SOLPT	W	SOLPT	W
Stage Majority, Percent	13	80		
Stage Minimum, Percent	12	10		
Stage Maximum, Percent	14	10		
Height Average	3	IN		
Height Minimum, Maximum	1	4		
Density Average			9	PLA/m2
Density Min, Max			0	21
Pest 8 Code, Type, Scale	AMARE	W	AMARE	W
Stage Majority, Percent	13	80	16	80
Stage Minimum, Percent	12	10	14	
Stage Maximum, Percent	14	10	19	
Height Average	2	IN	4	IN
Height Minimum, Maximum	1	3	2	6
Density Average			14	PLA/m2
Density Min, Max			0	27
Pest 9 Code, Type, Scale	VERAG	W	VERAG	W
Stage Majority, Percent	25	90		
Stage Minimum, Percent	19	10		
Stage Maximum, Percent	25	90		
Height Average	4	IN		
Height Minimum, Maximum	2	6		
Pest10 Code, Type, Scale	SIDSP	W	SIDSP	W
Stage Majority, Percent	13	80	16	80
Stage Minimum, Percent	12	10	14	
Stage Maximum, Percent	14	10	19	
Height Average	2	IN	5	IN
Height Minimum, Maximum	1	2	4	6
Density Average			3	PLA/m2
Density Min, Max			0	6
Pest11 Code, Type, Scale	AMBEL	W	AMBEL	W
Stage Majority, Percent	13	80		
Stage Minimum, Percent	12	10		
Stage Maximum, Percent	14	10		
Height Average	2	IN		
Height Minimum, Maximum	1	3		
Pest12 Code, Type, Scale	ABUTH	W	ABUTH	W
Stage Majority, Percent	13	80	16	80
Stage Minimum, Percent	12	10	14	
Stage Maximum, Percent	14	10	18	
Height Average	2	IN	4	IN
Height Minimum, Maximum	1	4	2	6
Pest13 Code, Type, Scale	POLPE	W	POLPE	W
Stage Majority, Percent			17	80
Stage Minimum, Percent			16	
Stage Maximum, Percent			19	
Height Average			5	IN
Height Minimum, Maximum			4	6
Density Average			46	PLA/m2
Density Min, Max			0	138

Application Equipment

	A	**B**
Appl. Equipment	6 FT 19 GPA	6 FT 19 GPA
Equipment Type	BACCAI	BACCAI
Operation Pressure	44 PSI	44 PSI
Nozzle Type	XR	XR
Nozzle Size	8002	8002
Nozzle Spacing	18 IN	18 IN
Boom Length	6.67 FT	6.67 FT
Boom Height	20 IN	20 IN
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Application Amount	19 GAL/AC	19 GAL/AC
Mix Size	2 L	2 L
Propellant	COMCO2	COMCO2

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Context	Date	By	Notes
STATUS	Mar-25-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Mar-25-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Mar-25-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Mar-27-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Mar-27-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	May-14-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.
STATUS	Jun-16-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Application Date entered.

Pest Type			W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code			SETFA	ECHCG	AMBTR	CHEAL	AMARE
Pest Scientific Name			Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
Pest Name			Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>	Redroot pigweed
Rating Date			Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020
Rating Type			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit			%	%	%	%	%
Number of Subsamples			1	1	1	1	1
Data Entry Date			Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
Days After First/Last Applic.			8 6	8 6	8 6	8 6	8 6
Trt-Eval Interval			8 DA-A	8 DA-A	8 DA-A		8 DA-A
Plant-Eval Interval			42 DP-1	42 DP-1	42 DP-1	42 DP-1	42 DP-1
Days After Emergence			30 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1
Number of Decimals			0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	1*	2*	3*	4*	5*
1	Untreated						0 g	0 g	0 c	0 i	0 f
2	Liberty	32	fl oz/a	656	g ai/ha	A	90 abc	87 abc	98 a	88 a-e	92 a-d
2	N Pak AMS	2.5	% v/v			A					
3	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A	97 ab	87 abc	88 b	83 def	83 d
3	N Pak AMS	2.5	% v/v			A					
4	Liberty	32	fl oz/a	656	g ai/ha	A	93 abc	89 abc	93 ab	93 abc	100 a
4	Roundup Powermax	11	fl oz/a	433	g ai/ha	A					
4	N Pak AMS	2.5	% v/v			A					
5	Liberty	32	fl oz/a	656	g ai/ha	A	89 abc	86 abc	99 a	95 ab	95 abc
5	Roundup Powermax	22	fl oz/a	870	g ai/ha	A					
5	N Pak AMS	2.5	% v/v			A					
6	Liberty	32	fl oz/a	656	g ai/ha	A	90 abc	87 abc	97 a	95 ab	95 abc
6	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A					
6	N Pak AMS	2.5	% v/v			A					
7	Select Max	9	fl oz/a	79	g ai/ha	A	17 f	17 f	0 c	0 i	0 f
7	NIS	0.25	% v/v			A					
7	N Pak AMS	2.5	% v/v			A					
8	Liberty	32	fl oz/a	656	g ai/ha	A	95 abc	92 abc	98 a	80 ef	90 a-d
8	Select Max	9	fl oz/a	79	g ai/ha	A					
8	N Pak AMS	2.5	% v/v			A					
9	Liberty	32	fl oz/a	656	g ai/ha	A	96 abc	89 abc	97 a	89 a-d	92 a-d
9	Select Max	12	fl oz/a	105	g ai/ha	A					
9	N Pak AMS	2.5	% v/v			A					
10	Volunteer	6	fl oz/a	105	g ai/ha	A	33 e	33 e	0 c	0 i	0 f
10	Superb HC	0.5	% v/v			A					
10	N Pak AMS	2.5	% v/v			A					
11	Liberty	32	fl oz/a	656	g ai/ha	A	92 abc	92 abc	100 a	70 gh	95 abc
11	Volunteer	6	fl oz/a	105	g ai/ha	A					
11	Superb HC	0.5	% v/v			A					
11	N Pak AMS	2.5	% v/v			A					

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Sponsor Contact:

Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		SETFA	ECHCG	AMBTR	CHEAL	AMARE
Pest Scientific Name		Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
Pest Name		Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>	Redroot pigweed
Rating Date		Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%
Number of Subsamples		1	1	1	1	1
Data Entry Date		Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
Days After First/Last Applic.		8 6	8 6	8 6	8 6	8 6
Trt-Eval Interval		8 DA-A	8 DA-A	8 DA-A		8 DA-A
Plant-Eval Interval		42 DP-1	42 DP-1	42 DP-1	42 DP-1	42 DP-1
Days After Emergence		30 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1
Number of Decimals		0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	1*	2*	3*	4*	5*
12	Roundup Powermax	11	fl oz/a	433	g ai/ha	A	100 a	99 a	100 a	85 c-f	98 ab
12	N Pak AMS	2.5	% v/v			A					
12	Liberty	32	fl oz/a	656	g ai/ha	B					
12	N Pak AMS	2.5	% v/v			B					
13	Roundup Powermax	22	fl oz/a	870	g ai/ha	A	100 a	98 ab	97 a	96 a	98 ab
13	N Pak AMS	2.5	% v/v			A					
13	Liberty	32	fl oz/a	656	g ai/ha	B					
13	N Pak AMS	2.5	% v/v			B					
14	Select Max	9	fl oz/a	79	g ai/ha	A	73 d	70 d	93 ab	63 h	53 e
14	NIS	0.25	% v/v			A					
14	N Pak AMS	2.5	% v/v			A					
14	Liberty	32	fl oz/a	656	g ai/ha	B					
14	N Pak AMS	2.5	% v/v			B					
15	Liberty	32	fl oz/a	656	g ai/ha	A	83 cd	82 cd	100 a	90 a-d	90 a-d
15	N Pak N Pak AMS	2.5	% v/v			A					
15	Roundup Powermax	11	fl oz/a	433	g ai/ha	B					
15	N Pak AMS	2.5	% v/v			B					
16	Liberty	32	fl oz/a	656	g ai/ha	A	89 abc	83 bcd	100 a	78 fg	86 cd
16	N Pak AMS	2.5	% v/v			A					
16	Roundup Powermax	22	fl oz/a	870	g ai/ha	B					
16	N Pak AMS	2.5	% v/v			B					
17	Liberty	32	fl oz/a	656	g ai/ha	A	85 bcd	85 a-d	99 a	82 def	90 a-d
17	N Pak AMS	2.5	% v/v			A					
17	Select Max	9	fl oz/a	79	g ai/ha	B					
17	NIS	0.25	% v/v			B					
17	N Pak AMS	2.5	% v/v			B					
18	Liberty	32	oz/a	656	g ai/ha	A	92 abc	90 abc	96 ab	67 h	93 a-d
18	Fusion	9	oz/a			A					
18	N Pak AMS	2.5	% v/v			A					
19	Liberty	32	oz/a			A	95 abc	93 abc	100 a	70 gh	97 ab
19	Fusilade DX	8	oz/a			A					
19	N Pak AMS	2.5	% v/v			A					

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Pest Type						W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code						SETFA	ECHCG	AMBTR	CHEAL	AMARE
Pest Scientific Name						Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>	Amaranthus ret>
Pest Name						Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>	Redroot pigweed
Rating Date						Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020	Jun-24-2020
Rating Type						CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit						%	%	%	%	%
Number of Subsamples						1	1	1	1	1
Data Entry Date						Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
Days After First/Last Applic.						8 6	8 6	8 6	8 6	8 6
Trt-Eval Interval						8 DA-A	8 DA-A	8 DA-A		8 DA-A
Plant-Eval Interval						42 DP-1	42 DP-1	42 DP-1	42 DP-1	42 DP-1
Days After Emergence						30 DE-1	30 DE-1	30 DE-1	30 DE-1	30 DE-1
Number of Decimals						0	0	0	0	0
Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	1*	2*	3*	4*	5*
20	Liberty	32	oz/a			A	88 abc	85 a-d	98 a	87 b-f	88 bcd
20	Assure II	8	oz/a			A					
20	N Pak AMS	2.5	% v/v			A					
LSD P=.05							12.9	15.0	7.5	9.1	10.3
Standard Deviation							7.8	9.1	4.6	5.5	6.2
CV							9.77	11.78	5.52	7.81	8.09
Grand Mean							79.9	77.1	82.7	70.6	76.8
Levene's F							0.808	0.862	0.805	0.641	0.566
Levene's Prob(F)							0.686	0.627	0.689	0.851	0.909
Rank X2							.	.	.	.	.
P(Rank X2)							.	.	.	.	.
Skewness							-1.9143*	-1.8389*	-1.9327*	-1.5377*	-1.6662*
Kurtosis							2.5335*	2.3996*	1.9189*	1.0793	1.2041
Replicate F							1.377	0.144	4.691	11.358	0.669
Replicate Prob(F)							0.2646	0.8667	0.0151	0.0001	0.5180
Treatment F							39.799	27.047	184.087	100.249	92.416
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	0.0001

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Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	6*	7*	8*	9*	10*
	Pest Type						W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code						POLPY	SETFA	ECHCG	AMBTR	CHEAL
	Pest Scientific Name						Persicaria pen>	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>
	Pest Name						annual smartwe>	Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>
	Rating Date						Jun-24-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
	Rating Type						CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit						%	%	%	%	%
	Number of Subsamples						1	1	1	1	1
	Data Entry Date						Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
	Days After First/Last Applic.						8 6	14 12	14 12	14 12	14 12
	Trt-Eval Interval						8 DA-A	14 DA-A	14 DA-A	14 DA-A	
	Plant-Eval Interval						42 DP-1	48 DP-1	48 DP-1	48 DP-1	48 DP-1
	Days After Emergence						30 DE-1	36 DE-1	36 DE-1	36 DE-1	36 DE-1
	Number of Decimals						0	0	0	0	0
1	Untreated						0 d	0 d	0 c	0 c	0 h
2	Liberty	32	fl oz/a	656	g ai/ha	A	97 ab	100 a	100 a	100 a	83 cd
2	N Pak AMS	2.5	% v/v			A					
3	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A	73 c	100 a	100 a	97 b	100 a
3	N Pak AMS	2.5	% v/v			A					
4	Liberty	32	fl oz/a	656	g ai/ha	A	90 ab	100 a	98 a	100 a	89 abc
4	Roundup Powermax	11	fl oz/a	433	g ai/ha	A					
4	N Pak AMS	2.5	% v/v			A					
5	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	100 a	100 a	98 ab	98 ab
5	Roundup Powermax	22	fl oz/a	870	g ai/ha	A					
5	N Pak AMS	2.5	% v/v			A					
6	Liberty	32	fl oz/a	656	g ai/ha	A	97 ab	100 a	100 a	100 a	97 ab
6	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A					
6	N Pak AMS	2.5	% v/v			A					
7	Select Max	9	fl oz/a	79	g ai/ha	A	0 d	87 c	83 b	0 c	0 h
7	NIS	0.25	% v/v			A					
7	N Pak AMS	2.5	% v/v			A					
8	Liberty	32	fl oz/a	656	g ai/ha	A	98 a	100 a	99 a	100 a	80 cde
8	Select Max	9	fl oz/a	79	g ai/ha	A					
8	N Pak AMS	2.5	% v/v			A					
9	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	100 a	100 a	100 a	82 cde
9	Select Max	12	fl oz/a	105	g ai/ha	A					
9	N Pak AMS	2.5	% v/v			A					
10	Volunteer	6	fl oz/a	105	g ai/ha	A	0 d	93 b	93 a	0 c	0 h
10	Superb HC	0.5	% v/v			A					
10	N Pak AMS	2.5	% v/v			A					
11	Liberty	32	fl oz/a	656	g ai/ha	A	98 a	100 a	100 a	100 a	70 efg
11	Volunteer	6	fl oz/a	105	g ai/ha	A					
11	Superb HC	0.5	% v/v			A					
11	N Pak AMS	2.5	% v/v			A					

The Ohio State University

Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Pest Type						W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code						POLPY	SETFA	ECHCG	AMBTR	CHEAL
Pest Scientific Name						Persicaria pen>	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>
Pest Name						annual smartwe>	Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>
Rating Date						Jun-24-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
Rating Type						CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit						%	%	%	%	%
Number of Subsamples						1	1	1	1	1
Data Entry Date						Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
Days After First/Last Applic.						8 6	14 12	14 12	14 12	14 12
Trt-Eval Interval						8 DA-A	14 DA-A	14 DA-A	14 DA-A	
Plant-Eval Interval						42 DP-1	48 DP-1	48 DP-1	48 DP-1	48 DP-1
Days After Emergence						30 DE-1	36 DE-1	36 DE-1	36 DE-1	36 DE-1
Number of Decimals						0	0	0	0	0

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	6*	7*	8*	9*	10*
12	Roundup Powermax	11	fl oz/a	433	g ai/ha	A	72 c	100 a	100 a	100 a	89 abc
12	N Pak AMS	2.5	% v/v			A					
12	Liberty	32	fl oz/a	656	g ai/ha	B					
12	N Pak AMS	2.5	% v/v			B					
13	Roundup Powermax	22	fl oz/a	870	g ai/ha	A	86 abc	100 a	100 a	100 a	98 ab
13	N Pak AMS	2.5	% v/v			A					
13	Liberty	32	fl oz/a	656	g ai/ha	B					
13	N Pak AMS	2.5	% v/v			B					
14	Select Max	9	fl oz/a	79	g ai/ha	A	83 bc	100 a	100 a	100 a	60 g
14	NIS	0.25	% v/v			A					
14	N Pak AMS	2.5	% v/v			A					
14	Liberty	32	fl oz/a	656	g ai/ha	B					
14	N Pak AMS	2.5	% v/v			B					
15	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	100 a	99 a	100 a	88 bc
15	N Pak N Pak AMS	2.5	% v/v			A					
15	Roundup Powermax	11	fl oz/a	433	g ai/ha	B					
15	N Pak AMS	2.5	% v/v			B					
16	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	100 a	98 a	100 a	73 def
16	N Pak AMS	2.5	% v/v			A					
16	Roundup Powermax	22	fl oz/a	870	g ai/ha	B					
16	N Pak AMS	2.5	% v/v			B					
17	Liberty	32	fl oz/a	656	g ai/ha	A	97 ab	100 a	100 a	100 a	80 cde
17	N Pak AMS	2.5	% v/v			A					
17	Select Max	9	fl oz/a	79	g ai/ha	B					
17	NIS	0.25	% v/v			B					
17	N Pak AMS	2.5	% v/v			B					
18	Liberty	32	oz/a	656	g ai/ha	A	93 ab	100 a	98 a	100 a	63 fg
18	Fusion	9	oz/a			A					
18	N Pak AMS	2.5	% v/v			A					
19	Liberty	32	oz/a			A	97 ab	100 a	100 a	100 a	73 def
19	Fusilade DX	8	oz/a			A					
19	N Pak AMS	2.5	% v/v			A					

The Ohio State University

Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	6*	7*	8*	9*	10*
	Pest Type						W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code						POLPY	SETFA	ECHCG	AMBTR	CHEAL
	Pest Scientific Name						Persicaria pen>	Setaria faberi	Echinochloa cr>	Ambrosia trifi>	Chenopodium al>
	Pest Name						annual smartwe>	Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>
	Rating Date						Jun-24-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
	Rating Type						CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit						%	%	%	%	%
	Number of Subsamples						1	1	1	1	1
	Data Entry Date						Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020	Jun-30-2020
	Days After First/Last Applic.						8 6	14 12	14 12	14 12	14 12
	Trt-Eval Interval						8 DA-A	14 DA-A	14 DA-A	14 DA-A	
	Plant-Eval Interval						42 DP-1	48 DP-1	48 DP-1	48 DP-1	48 DP-1
	Days After Emergence						30 DE-1	36 DE-1	36 DE-1	36 DE-1	36 DE-1
	Number of Decimals						0	0	0	0	0
20	Liberty	32	oz/a			A	90 ab	100 a	100 a	100 a	80 cde
20	Assure II	8	oz/a			A					
20	N Pak AMS	2.5	% v/v			A					
	LSD P=.05						14.4	6.2	7.5	2.3	12.3
	Standard Deviation						8.7	3.7	4.6	1.4	7.5
	CV						11.09	3.99	4.87	1.67	10.62
	Grand Mean						78.5	94.0	93.5	84.8	70.2
	Levene's F						0.822	0.947	1.527	0.958	0.816
	Levene's Prob(F)						0.67	0.535	0.128	0.524	0.677
	Rank X2						.	.	.	.	.
	P(Rank X2)						.	.	.	.	.
	Skewness						-1.6469*	-3.9954*	-3.9013*	-2.0046*	-1.3802*
	Kurtosis						1.156	14.9969*	14.377*	2.0981*	0.7862
	Replicate F						4.142	0.000	0.094	1.879	4.749
	Replicate Prob(F)						0.0236	1.0000	0.9105	0.1666	0.0144
	Treatment F						48.053	106.900	72.227	2006.714	56.023
	Treatment Prob(F)						0.0001	0.0001	0.0001	0.0001	0.0001

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Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	11*	12*	13*	14*	15*
	Pest Type						W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code						AMARE	POLPY	3WEEDT	SETFA	ECHCG
	Pest Scientific Name						Amaranthus ret>	Persicaria pen>	weeds	Setaria faberi	Echinochloa cr>
	Pest Name						Redroot pigweed	annual smartwe>	weeds	foxtail, giant	barnyardgrass
	Rating Date						Jun-30-2020	Jun-30-2020	Jul-1-2020	Jul-15-2020	Jul-15-2020
	Rating Type						CONTRO	CONTRO	BIOMASS	CONTRO	CONTRO
	Rating Unit						%	%	GRAMS/M2	%	%
	Number of Subsamples						1	1	1	1	1
	Data Entry Date						Jun-30-2020	Jun-30-2020	Jul-13-2020	Jul-15-2020	Jul-15-2020
	Days After First/Last Applic.						14 12	14 12	15 13	29 27	29 27
	Trt-Eval Interval						14 DA-A	14 DA-A	15 DA-A	29 DA-A	29 DA-A
	Plant-Eval Interval						48 DP-1	48 DP-1	49 DP-1	63 DP-1	63 DP-1
	Days After Emergence						36 DE-1	36 DE-1	37 DE-1	51 DE-1	51 DE-1
	Number of Decimals						0	0	2	0	0
1	Untreated						0 d	0 c	100.05 ab	0 b	0 d
2	Liberty	32	fl oz/a	656	g ai/ha	A	93 ab	100 a	2.19 c	100 a	89 abc
2	N Pak AMS	2.5	% v/v			A					
3	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A	100 a	95 ab	1.13 c	100 a	100 a
3	N Pak AMS	2.5	% v/v			A					
4	Liberty	32	fl oz/a	656	g ai/ha	A	97 a	97 a	1.48 c	100 a	83 c
4	Roundup Powermax	11	fl oz/a	433	g ai/ha	A					
4	N Pak AMS	2.5	% v/v			A					
5	Liberty	32	fl oz/a	656	g ai/ha	A	97 a	100 a	0.32 c	100 a	92 abc
5	Roundup Powermax	22	fl oz/a	870	g ai/ha	A					
5	N Pak AMS	2.5	% v/v			A					
6	Liberty	32	fl oz/a	656	g ai/ha	A	97 a	100 a	0.61 c	100 a	92 abc
6	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A					
6	N Pak AMS	2.5	% v/v			A					
7	Select Max	9	fl oz/a	79	g ai/ha	A	0 d	0 c	117.00 a	100 a	93 abc
7	NIS	0.25	% v/v			A					
7	N Pak AMS	2.5	% v/v			A					
8	Liberty	32	fl oz/a	656	g ai/ha	A	80 b	97 a	9.64 c	100 a	96 abc
8	Select Max	9	fl oz/a	79	g ai/ha	A					
8	N Pak AMS	2.5	% v/v			A					
9	Liberty	32	fl oz/a	656	g ai/ha	A	88 ab	100 a	2.77 c	100 a	100 a
9	Select Max	12	fl oz/a	105	g ai/ha	A					
9	N Pak AMS	2.5	% v/v			A					
10	Volunteer	6	fl oz/a	105	g ai/ha	A	0 d	0 c	80.56 b	100 a	100 a
10	Superb HC	0.5	% v/v			A					
10	N Pak AMS	2.5	% v/v			A					
11	Liberty	32	fl oz/a	656	g ai/ha	A	95 a	100 a	2.25 c	100 a	99 ab
11	Volunteer	6	fl oz/a	105	g ai/ha	A					
11	Superb HC	0.5	% v/v			A					
11	N Pak AMS	2.5	% v/v			A					

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Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Pest Type						W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code						AMARE	POLPY	3WEEDT	SETFA	ECHCG
Pest Scientific Name						Amaranthus ret>	Persicaria pen>	weeds	Setaria faberi	Echinochloa cr>
Pest Name						Redroot pigweed	annual smartwe>	weeds	foxtail, giant	barnyardgrass
Rating Date						Jun-30-2020	Jun-30-2020	Jul-1-2020	Jul-15-2020	Jul-15-2020
Rating Type						CONTRO	CONTRO	BIOMASS	CONTRO	CONTRO
Rating Unit						%	%	GRAMS/M2	%	%
Number of Subsamples						1	1	1	1	1
Data Entry Date						Jun-30-2020	Jun-30-2020	Jul-13-2020	Jul-15-2020	Jul-15-2020
Days After First/Last Applic.						14 12	14 12	15 13	29 27	29 27
Trt-Eval Interval						14 DA-A	14 DA-A	15 DA-A	29 DA-A	29 DA-A
Plant-Eval Interval						48 DP-1	48 DP-1	49 DP-1	63 DP-1	63 DP-1
Days After Emergence						36 DE-1	36 DE-1	37 DE-1	51 DE-1	51 DE-1
Number of Decimals						0	0	2	0	0
Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	11*	12*	13*	14*	15*
12	Roundup Powermax	11	fl oz/a	433	g ai/ha	A	100 a	98 a	1.60 c	100 a	100 a
12	N Pak AMS	2.5	% v/v			A					
12	Liberty	32	fl oz/a	656	g ai/ha	B					
12	N Pak AMS	2.5	% v/v			B					
13	Roundup Powermax	22	fl oz/a	870	g ai/ha	A	100 a	100 a	0.00 c	100 a	100 a
13	N Pak AMS	2.5	% v/v			A					
13	Liberty	32	fl oz/a	656	g ai/ha	B					
13	N Pak AMS	2.5	% v/v			B					
14	Select Max	9	fl oz/a	79	g ai/ha	A	57 c	97 a	11.71 c	100 a	100 a
14	NIS	0.25	% v/v			A					
14	N Pak AMS	2.5	% v/v			A					
14	Liberty	32	fl oz/a	656	g ai/ha	B					
14	N Pak AMS	2.5	% v/v			B					
15	Liberty	32	fl oz/a	656	g ai/ha	A	96 a	100 a	1.52 c	100 a	88 abc
15	N Pak N Pak AMS	2.5	% v/v			A					
15	Roundup Powermax	11	fl oz/a	433	g ai/ha	B					
15	N Pak AMS	2.5	% v/v			B					
16	Liberty	32	fl oz/a	656	g ai/ha	A	93 ab	100 a	2.79 c	100 a	89 abc
16	N Pak AMS	2.5	% v/v			A					
16	Roundup Powermax	22	fl oz/a	870	g ai/ha	B					
16	N Pak AMS	2.5	% v/v			B					
17	Liberty	32	fl oz/a	656	g ai/ha	A	87 ab	100 a	3.45 c	100 a	87 bc
17	N Pak AMS	2.5	% v/v			A					
17	Select Max	9	fl oz/a	79	g ai/ha	B					
17	NIS	0.25	% v/v			B					
17	N Pak AMS	2.5	% v/v			B					
18	Liberty	32	oz/a	656	g ai/ha	A	97 a	100 a	1.13 c	100 a	96 abc
18	Fusion	9	oz/a			A					
18	N Pak AMS	2.5	% v/v			A					
19	Liberty	32	oz/a			A	98 a	97 a	0.68 c	100 a	99 ab
19	Fusilade DX	8	oz/a			A					
19	N Pak AMS	2.5	% v/v			A					

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Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Pest Type					W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code					AMARE	POLPY	3WEEDT	SETFA	ECHCG
Pest Scientific Name					Amaranthus ret>	Persicaria pen>	weeds	Setaria faberi	Echinochloa cr>
Pest Name					Redroot pigweed	annual smartwe>	weeds	foxtail, giant	barnyardgrass
Rating Date					Jun-30-2020	Jun-30-2020	Jul-1-2020	Jul-15-2020	Jul-15-2020
Rating Type					CONTRO	CONTRO	BIOMASS	CONTRO	CONTRO
Rating Unit					%	%	GRAMS/M2	%	%
Number of Subsamples					1	1	1	1	1
Data Entry Date					Jun-30-2020	Jun-30-2020	Jul-13-2020	Jul-15-2020	Jul-15-2020
Days After First/Last Applic.					14 12	14 12	15 13	29 27	29 27
Trt-Eval Interval					14 DA-A	14 DA-A	15 DA-A	29 DA-A	29 DA-A
Plant-Eval Interval					48 DP-1	48 DP-1	49 DP-1	63 DP-1	63 DP-1
Days After Emergence					36 DE-1	36 DE-1	37 DE-1	51 DE-1	51 DE-1
Number of Decimals					0	0	2	0	0
Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	11*	12*	13*	14*	15*
20	Liberty	32	oz/a			A	88 ab	90 b	0.32 c	100 a	90 abc
20	Assure II	8	oz/a			A					
20	N Pak AMS	2.5	% v/v			A					
LSD P=.05							14.2	6.2	28.414	.	13.1
Standard Deviation							8.6	3.7	17.190	0.0	7.9
CV							11.0	4.49	100.76	0.0	8.84
Grand Mean							78.2	83.5	17.060	95.0	89.7
Levene's F							0.694	1.232	2.892	0.00	0.843
Levene's Prob(F)							0.802	0.282	0.002*	.	0.647
Rank X2							.	.	.	.	.
P(Rank X2)							.	.	.	.	.
Skewness							-1.6107*	-1.9634*	2.5838*	-4.2361*	-3.2608*
Kurtosis							1.0465	1.9974*	5.7486*	16.4938*	10.7639*
Replicate F							1.541	0.000	0.298	0.000	6.980
Replicate Prob(F)							0.2272	1.0000	0.7442	1.0000	0.0026
Treatment F							49.937	278.181	13.169	0.000	22.612
Treatment Prob(F)							0.0001	0.0001	0.0001	1.0000	0.0001

The Ohio State University

Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	16*	17*	18*	19*
	Pest Type						W Weed	W Weed	W Weed	W Weed
	Pest Code						AMBTR	CHEAL	AMARE	POLPY
	Pest Scientific Name						Ambrosia trifi>	Chenopodium al>	Amaranthus ret>	Polygonum pens>
	Pest Name						ragweed, giant	lambsquarters,>	pigweed, redro>	smartweed, Pen>
	Rating Date						Jul-15-2020	Jul-15-2020	Jul-15-2020	Jul-15-2020
	Rating Type						CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit						%	%	%	%
	Number of Subsamples						1	1	1	1
	Data Entry Date						Jul-15-2020	Jul-15-2020	Jul-15-2020	Jul-15-2020
	Days After First/Last Applic.						29 27	29 27	29 27	29 27
	Trt-Eval Interval						29 DA-A		29 DA-A	29 DA-A
	Plant-Eval Interval						63 DP-1	63 DP-1	63 DP-1	63 DP-1
	Days After Emergence						51 DE-1	51 DE-1	51 DE-1	51 DE-1
	Number of Decimals						0	0	0	0
1	Untreated						0 c	0 g	0 e	0 c
2	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	72 bc	87 abc	83 b
2	N Pak AMS	2.5	% v/v			A				
3	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A	97 ab	90 a	100 a	100 a
3	N Pak AMS	2.5	% v/v			A				
4	Liberty	32	fl oz/a	656	g ai/ha	A	92 b	83 ab	93 ab	83 b
4	Roundup Powermax	11	fl oz/a	433	g ai/ha	A				
4	N Pak AMS	2.5	% v/v			A				
5	Liberty	32	fl oz/a	656	g ai/ha	A	97 ab	89 a	90 abc	100 a
5	Roundup Powermax	22	fl oz/a	870	g ai/ha	A				
5	N Pak AMS	2.5	% v/v			A				
6	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	87 ab	90 abc	100 a
6	Roundup Powermax	32	fl oz/a	1260	g ai/ha	A				
6	N Pak AMS	2.5	% v/v			A				
7	Select Max	9	fl oz/a	79	g ai/ha	A	0 c	7 g	7 de	0 c
7	NIS	0.25	% v/v			A				
7	N Pak AMS	2.5	% v/v			A				
8	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	70 bcd	67 c	100 a
8	Select Max	9	fl oz/a	79	g ai/ha	A				
8	N Pak AMS	2.5	% v/v			A				
9	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	72 bc	73 bc	100 a
9	Select Max	12	fl oz/a	105	g ai/ha	A				
9	N Pak AMS	2.5	% v/v			A				
10	Volunteer	6	fl oz/a	105	g ai/ha	A	0 c	0 g	0 e	0 c
10	Superb HC	0.5	% v/v			A				
10	N Pak AMS	2.5	% v/v			A				
11	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	47 ef	70 bc	100 a
11	Volunteer	6	fl oz/a	105	g ai/ha	A				
11	Superb HC	0.5	% v/v			A				
11	N Pak AMS	2.5	% v/v			A				

The Ohio State University

Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	16*	17*	18*	19*
	Pest Type						W Weed	W Weed	W Weed	W Weed
	Pest Code						AMBTR	CHEAL	AMARE	POLPY
	Pest Scientific Name						Ambrosia trifi>	Chenopodium al>	Amaranthus ret>	Polygonum pens>
	Pest Name						ragweed, giant	lambsquarters,>	pigweed, redro>	smartweed, Pen>
	Rating Date						Jul-15-2020	Jul-15-2020	Jul-15-2020	Jul-15-2020
	Rating Type						CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit						%	%	%	%
	Number of Subsamples						1	1	1	1
	Data Entry Date						Jul-15-2020	Jul-15-2020	Jul-15-2020	Jul-15-2020
	Days After First/Last Applic.						29 27	29 27	29 27	29 27
	Trt-Eval Interval						29 DA-A		29 DA-A	29 DA-A
	Plant-Eval Interval						63 DP-1	63 DP-1	63 DP-1	63 DP-1
	Days After Emergence						51 DE-1	51 DE-1	51 DE-1	51 DE-1
	Number of Decimals						0	0	0	0
12	Roundup Powermax	11	fl oz/a	433	g ai/ha	A	100 a	70 bcd	93 ab	100 a
12	N Pak AMS	2.5	% v/v			A				
12	Liberty	32	fl oz/a	656	g ai/ha	B				
12	N Pak AMS	2.5	% v/v			B				
13	Roundup Powermax	22	fl oz/a	870	g ai/ha	A	100 a	96 a	99 a	100 a
13	N Pak AMS	2.5	% v/v			A				
13	Liberty	32	fl oz/a	656	g ai/ha	B				
13	N Pak AMS	2.5	% v/v			B				
14	Select Max	9	fl oz/a	79	g ai/ha	A	100 a	43 f	30 d	100 a
14	NIS	0.25	% v/v			A				
14	N Pak AMS	2.5	% v/v			A				
14	Liberty	32	fl oz/a	656	g ai/ha	B				
14	N Pak AMS	2.5	% v/v			B				
15	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	63 cde	83 abc	100 a
15	N Pak N Pak AMS	2.5	% v/v			A				
15	Roundup Powermax	11	fl oz/a	433	g ai/ha	B				
15	N Pak AMS	2.5	% v/v			B				
16	Liberty	32	fl oz/a	656	g ai/ha	A	97 ab	57 c-f	72 bc	100 a
16	N Pak AMS	2.5	% v/v			A				
16	Roundup Powermax	22	fl oz/a	870	g ai/ha	B				
16	N Pak AMS	2.5	% v/v			B				
17	Liberty	32	fl oz/a	656	g ai/ha	A	100 a	60 c-f	73 bc	100 a
17	N Pak AMS	2.5	% v/v			A				
17	Select Max	9	fl oz/a	79	g ai/ha	B				
17	NIS	0.25	% v/v			B				
17	N Pak AMS	2.5	% v/v			B				
18	Liberty	32	oz/a	656	g ai/ha	A	100 a	43 f	87 abc	97 ab
18	Fusion	9	oz/a			A				
18	N Pak AMS	2.5	% v/v			A				
19	Liberty	32	oz/a			A	100 a	53 def	67 c	83 b
19	Fusilade DX	8	oz/a			A				
19	N Pak AMS	2.5	% v/v			A				

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Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Pest Type						W Weed	W Weed	W Weed	W Weed		
Pest Code						AMBTR	CHEAL	AMARE	POLPY		
Pest Scientific Name						Ambrosia trifi>	Chenopodium al>	Amaranthus ret>	Polygonum pens>		
Pest Name						ragweed, giant	lambsquarters,>	pigweed, redro>	smartweed, Pen>		
Rating Date						Jul-15-2020	Jul-15-2020	Jul-15-2020	Jul-15-2020		
Rating Type						CONTRO	CONTRO	CONTRO	CONTRO		
Rating Unit						%	%	%	%		
Number of Subsamples						1	1	1	1		
Data Entry Date						Jul-15-2020	Jul-15-2020	Jul-15-2020	Jul-15-2020		
Days After First/Last Applic.						29 27	29 27	29 27	29 27		
Trt-Eval Interval						29 DA-A		29 DA-A	29 DA-A		
Plant-Eval Interval						63 DP-1	63 DP-1	63 DP-1	63 DP-1		
Days After Emergence						51 DE-1	51 DE-1	51 DE-1	51 DE-1		
Number of Decimals						0	0	0	0		
Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	16*	17*	18*	19*	
20	Liberty	32	oz/a			A	100 a	57 c-f	70 bc	93 ab	
20	Assure II	8	oz/a			A					
20	N Pak AMS	2.5	% v/v			A					
LSD P=.05							6.6	17.4	24.8	13.7	
Standard Deviation							4.0	10.5	15.0	8.3	
CV							4.77	18.18	22.23	10.13	
Grand Mean							84.1	57.9	67.6	82.0	
Levene's F							0.881	0.449	0.635	1.117	
Levene's Prob(F)							0.607	0.968	0.856	0.372	
Rank X2							.	.	.	.	
P(Rank X2)							.	.	.	.	
Skewness							-1.9679*	-0.656*	-0.9294*	-1.7925*	
Kurtosis							2.0*	-0.1881	-0.327	1.4877*	
Replicate F							0.181	1.371	1.154	2.245	
Replicate Prob(F)							0.8348	0.2662	0.3261	0.1198	
Treatment F							245.920	22.143	13.814	55.827	
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	

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Weed control with glyphosate and glufosinate tank-mixtures

Trial ID: 20MSUSOY_2 Location: Western Branch F-8 East Trial Year: 2019
Protocol ID: SOY-19 Investigator: Dr. Mark M. Loux
Project ID: Study Director:
Sponsor Contact:

Pest Type
W, Weed = Weed or volunteer crop
Pest Code
SETFA, Setaria faberi, Giant foxtail = US
ECHCG, Echinochloa crus-galli, Common barnyard grass = US
AMBTR, Ambrosia trifida, Giant ragweed = US
CHEAL, Chenopodium album, common lambsquarters = US
AMARE, Amaranthus retroflexus, Redroot pigweed = US
POLPY, Persicaria pensylvanica, annual smartweed = US
3WEEDT, weeds, weeds = US
SETFA, Setaria faberi, foxtail, giant = US
ECHCG, Echinochloa crus-galli, barnyardgrass = US
AMBTR, Ambrosia trifida, ragweed, giant = US
CHEAL, Chenopodium album, lambsquarters, common = US
AMARE, Amaranthus retroflexus, pigweed, redroot = US
POLPY, Polygonum pensylvanicum, smartweed, Pennsylvania = US
Rating Type
CONTRO = control / burndown or knockdown
Rating Unit
% = percent
Plant-Eval Interval
42 DP-1 = 1 GLXMA May-13-2020
48 DP-1 = 1 GLXMA May-13-2020
49 DP-1 = 1 GLXMA May-13-2020
63 DP-1 = 1 GLXMA May-13-2020