

Valent actives in Roundup Xtend System - No-till

Trial ID: 19 FIERCE NT Location: Western Branch B-5 Trial Year: 2019
Protocol ID: 19 FIERCE NT Investigator: Dr. Mark M. Loux
Project ID: 2019FIERCEMD6402 Study Director: Bryan Reeb
Sponsor Contact: Eric Ott, Valent

General Trial Information

Study Director: Bryan Reeb
Investigator: Dr. Mark M. Loux

Trial Status: E established
ARM Trial Created On: Apr-2-2019

Trial Location

City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368 **Climate Zone:** USWARM US Warm Continental
Latitude of LL Corner °: 39.86326 N
Longitude of LL Corner °: 83.67464 W
Altitude of LL Corner: 1121.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Study Director: Bryan Reeb

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: C GLXMA Glycine max Soybean **BBCH Scale:** BSOY
Entry Date: May-8-2019 **Stage Scale:** BBCH
Variety: Asgrow 38 x 8
Attributes: Round up/ Xtend
Planting Date: May-8-2019 **Planting Rate:** 170000 S/A
Depth: 1 IN
Rows per Plot: 8 **Planting Method:** SEEDED seeded
Row Spacing: 15 IN **Planting Equipment:** PP plot planter
Seed Bed: SMOTRA smooth/trashy
Soil Moisture: SLIWET slightly wet, moist
Emergence Date: May-22-2019
% Standard Moisture: 13 **Harvested Width:** 6.25 FT
Harvested Length: 30 FT

Pest Description

Pest 1 Type: W **Code:** ERICA *Erigeron canadensis*
Common Name: Canada horseweed **Entry Date:** Apr-24-2019
Pest 2 Type: W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed **Entry Date:** Jun-20-2019
Pest 3 Type: W **Code:** SETFA *Setaria faberi*
Common Name: Giant foxtail **Entry Date:** Jun-20-2019
Pest 4 Type: W **Code:** ECHCG *Echinochloa crus-galli*
Common Name: Common barnyard grass **Entry Date:** Jul-16-2019

Site and Design

Treated Plot Width: 10 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 1 PLOT plot
Treated Plot Area: 300 FT2 **Treatments:** 10 **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOB L Randomized Complete Block (RCB)

Previous

No. Crop Year
1. WHEAT 2018

Soil Description

Description Name: B-5
% OM: 0.7 **Texture:** SICL silty clay loam
pH: 6 **Soil Name:** Crosby
CEC: 7.4 **Fert. Level:** G good

Application Description

	A	B
Application Date	Apr-24-2019	Jun-21-2019
Appl. Start Time	1:15 PM	9:00 AM
Appl. Stop Time	2:15 PM	10:00 AM
Interval to Prev. Appl.		58 DAYS
Application Method	SPRAY	Spray
Application Timing	BURNDOWN	POST
Application Placement	BROADC	BROFOL
Applied By	REEB/ACKLEY/LAMB	ACKLEY
Appl. Entry Date	Apr-24-2019	Jun-21-2019
Air Temperature Start, Stop	55 F	65 68 F
% Relative Humidity Start, Stop	56	73 63
Wind Velocity+Dir. Start	1 MPH SSE	8 MPH NNW
Wind Velocity+Dir. Stop		6 MPH NNW
Wind Velocity+Dir. Max		8 MPH NNW
Wet Leaves (Y/N)	N no	N no
Soil Temperature	55 F	63 F
Soil Moisture	WET	DAMP
% Cloud Cover	100	0
Next Moisture Occurred On	Jul-25-2019	Jun-21-2019
Time to Next Moisture	1 DAY	2 HR
Moisture 6 Hours after Appl.	0 IN	0.01 IN
Moisture 1 Week after Appl.	1.46 IN	1.21 IN

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale	GLXMA BSOY	GLXMA BSOY
Days after Emergence	-28	-14
Stage Majority, Percent		V5 100
Height Average		12 IN
Height Minimum, Maximum		12 14

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale	ERICA W	ERICA W
Stage Majority, Percent	19 100	19 100
Height Average	2.5 IN	3 IN
Height Minimum, Maximum	2 3	0.5 5
Density Average		66.6 m2
Density Min, Max		138 20
Pest 2 Code, Type, Scale	AMBTR W	AMBTR W
Stage Majority, Percent		19 100
Height Average		13 IN
Height Minimum, Maximum		12 15
Density Average		4 M2
Density Min, Max		4 4
Pest 3 Code, Type, Scale	SETFA W	SETFA W
Stage Majority, Percent		15 100
Height Average		12 IN
Height Minimum, Maximum		8 12
Density Average		89.1 M2
Density Min, Max		36 105
Pest 4 Code, Type, Scale	ECHCG W	ECHCG W
Stage Majority, Percent		13 100
Height Average		12 IN
Height Minimum, Maximum		12 15
Density Average		25 M2
Density Min, Max		13 43

Application Equipment

	A	B
Appl. Equipment	6' BACKPACK	6 foot TTI
Equipment Type	BACCAI	SPRBAC
Operation Pressure	44 PSI	48 PSI
Nozzle Type	TTI	TTI
Nozzle Size	11015	110015
Nozzle Spacing	18 IN	18 IN
Nozzles/Row	4	
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	15 gal/ac	15 GPA
Mix Size	1 liters	1 Liters
Propellant	COMCO2	COMCO2

Context	Date	By	Notes
STATUS	Apr-2-2019	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	May-8-2019	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.

SE Definitions

1.

Crop Type, Code C

Pest Type								
Pest Code								
Pest Scientific Name								
Pest Name								
Crop Type, Code	C	GLXMA	C	GLXMA	C	GLXMA	C	GLXMA
BBCH Scale		BSOY		BSOY		BSOY		BSOY
Crop Scientific Name		Glycine max		Glycine max		Glycine max		Glycine max
Crop Name		Soybean		Soybean		Soybean		Soybean
Rating Date	Oct-2-2019		Oct-2-2019		Oct-2-2019		Oct-2-2019	
Rating Type	WEIGHT		MOICON		YIELD		WIETES	
Rating Unit	LBS		%		BU		LBS	
Number of Subsamples	1		1		1		1	
Data Entry Date	Oct-4-2019		Oct-4-2019		Oct-4-2019		Oct-4-2019	
Rating Timing								
Days After First/Last Applic.	161	103	161	103	161	103	161	103
Trt-Eval Interval								
Plant-Eval Interval	147 DP-1		147 DP-1		147 DP-1		147 DP-1	
Days After Emergence	133 DE-1		133 DE-1		133 DE-1		133 DE-1	
ARM Action Codes					TY1			
Number of Decimals		2		2		1		2

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Appl Code	23*	24*	25*	26*
1	UTC						5.42 d	13.92 a	20.8 d	54.71 -
2	Roundup Power Max	1.13 lb ae/a		32 oz/a		A	12.28 abc	10.66 b	48.8 abc	55.01 -
	2 Xtendimax	0.5 lb ae/a		22 oz/a		A				
	2 Induce	0.25 % v/v		4.8 oz/a		A				
	2 On Target	0.5 % v/v		9.6 oz/a		A				
	2 Roundup Power Max	1.13 lb ae/a		32 oz/a		B				
	2 Select Max	0.07 lb ai/a		9 oz/a		B				
	2 Induce	0.25 % v/v		4.8 oz/a		B				
	2 N-pak ams	2.5 % v/v		1.5 qt/a		B				
3	Roundup Power Max	1.13 lb ae/a		32 oz/a		A	10.58 c	10.68 b	42.1 c	55.88 -
	3 Xtendimax	0.5 lb ae/a		22 oz/a		A				
	3 Induce	0.25 % v/v		4.8 oz/a		A				
	3 On Target	0.5 % v/v		9.6 oz/a		A				
	3 Roundup Power Max	1.13 lb ae/a		32 oz/a		B				
	3 Perpetuo	0.108 lb ai/a		6 oz/a		B				
	3 Select Max	0.07 lb ai/a		9 oz/a		B				
	3 Induce	0.25 % v/v		4.8 oz/a		B				
	3 N-pak ams	2.5 % v/v		1.5 qt/a		B				
4	Roundup Power Max	1.13 lb ae/a		32 oz/a		A	12.37 abc	10.35 b	49.3 abc	56.47 -
	4 Xtendimax	0.5 lb ae/a		22 oz/a		A				
	4 Fierce EZ	0.143 lb ai/a		6 oz/a		A				
	4 Induce	0.25 % v/v		4.8 oz/a		A				
	4 On Target	0.5 % v/v		9.6 oz/a		A				
	4 Roundup Power Max	1.13 lb ae/a		32 oz/a		B				
	4 Select Max	0.07 lb ai/a		9 oz/a		B				
	4 Induce	0.25 % v/v		4.8 oz/a		B				
	4 N-pak ams	2.5 % v/v		1.5 qt/a		B				
5	Roundup Power Max	1.13 lb ae/a		32 oz/a		A	12.81 abc	10.58 b	51.0 abc	57.26 -
	5 Xtendimax	0.5 lb ae/a		22 oz/a		A				
	5 Fierce MTZ	0.33 lb ai/a		1 pt/a		A				
	5 Induce	0.25 % v/v		4.8 oz/a		A				
	5 On Target	0.5 % v/v		9.6 oz/a		A				
	5 Roundup Power Max	1.13 lb ae/a		32 oz/a		B				
	5 Select Max	0.07 lb ai/a		9 oz/a		B				
	5 Induce	0.25 % v/v		4.8 oz/a		B				
	5 N-pak ams	2.5 % v/v		1.5 qt/a		B				

Pest Type	C	GLXMA	C	GLXMA	C	GLXMA	C	GLXMA		
Pest Code	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY		
Pest Scientific Name	Glycine max		Glycine max		Glycine max		Glycine max			
Pest Name	Soybean		Soybean		Soybean		Soybean			
Crop Type, Code	C	GLXMA	C	GLXMA	C	GLXMA	C	GLXMA		
BBCH Scale	WEIGHT	MOICON	YIELD	WIETES	WEIGHT	MOICON	YIELD	WIETES		
Crop Scientific Name	LBS		%		BU		LBS			
Crop Name	1		1		1		1			
Rating Date	Oct-2-2019		Oct-2-2019		Oct-2-2019		Oct-2-2019			
Rating Type	LBS		%		BU		LBS			
Rating Unit	1		1		1		1			
Number of Subsamples	1		1		1		1			
Data Entry Date	Oct-4-2019		Oct-4-2019		Oct-4-2019		Oct-4-2019			
Rating Timing	161 103		161 103		161 103		161 103			
Days After First/Last Applic.	161 103		161 103		161 103		161 103			
Trt-Eval Interval	147 DP-1		147 DP-1		147 DP-1		147 DP-1			
Plant-Eval Interval	133 DE-1		133 DE-1		133 DE-1		133 DE-1			
Days After Emergence	133 DE-1		133 DE-1		133 DE-1		133 DE-1			
ARM Action Codes					TY1					
Number of Decimals	2		2		1		2			
Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit	Code	23*	24*	25*	26*
6	Roundup Power Max	1.13 lb ae/a	32 oz/a		A		14.19 a	11.08 b	56.1 a	56.94 -
6	Xtendimax	0.5 lb ae/a	22 oz/a		A					
6	Authority MTZ	0.31 lb ai/a	11 oz/a		A					
6	Induce	0.25 % v/v	4.8 oz/a		A					
6	On Target	0.5 % v/v	9.6 oz/a		A					
6	Roundup Power Max	1.13 lb ae/a	32 oz/a		B					
6	Anthem Maxx	0.084 lb ai/a	2.5 oz/a		B					
6	Select Max	0.07 lb ai/a	9 oz/a		B					
6	Induce	0.25 % v/v	4.8 oz/a		B					
6	N-pak ams	2.5 % v/v	1.5 qt/a		B					
7	Roundup Power Max	1.13 lb ae/a	32 oz/a		A		13.39 ab	11.14 b	52.9 ab	55.42 -
7	Xtendimax	0.5 lb ae/a	22 oz/a		A					
7	Zidua Pro	0.192 lb ai/a	6 oz/a		A					
7	Induce	0.25 % v/v	4.8 oz/a		A					
7	On Target	0.5 % v/v	9.6 oz/a		A					
7	Roundup Power Max	1.13 lb ae/a	32 oz/a		B					
7	Perpetuo	0.108 lb ai/a	6 oz/a		B					
7	Select Max	0.07 lb ai/a	9 oz/a		B					
7	Induce	0.25 % v/v	4.8 oz/a		B					
7	N-pak ams	2.5 % v/v	1.5 qt/a		B					
8	Roundup Power Max	1.13 lb ae/a	32 oz/a		A		12.71 abc	10.71 b	50.5 abc	56.19 -
8	Xtendimax	0.5 lb ae/a	22 oz/a		A					
8	Fierce EZ	0.143 lb ai/a	6 oz/a		A					
8	Induce	0.25 % v/v	4.8 oz/a		A					
8	On Target	0.5 % v/v	9.6 oz/a		A					
8	Roundup Power Max	1.13 lb ae/a	32 oz/a		B					
8	Perpetuo	0.108 lb ai/a	6 oz/a		B					
8	Select Max	0.07 lb ai/a	9 oz/a		B					
8	Induce	0.25 % v/v	4.8 oz/a		B					
8	N-pak ams	2.5 % v/v	1.5 qt/a		B					
9	Roundup Power Max	1.13 lb ae/a	32 oz/a		A		14.53 a	11.51 b	57.2 a	55.70 -
9	Xtendimax	0.5 lb ae/a	22 oz/a		A					
9	Fierce MTZ	0.33 lb ai/a	1 pt/a		A					
9	Induce	0.25 % v/v	4.8 oz/a		A					
9	On Target	0.5 % v/v	9.6 oz/a		A					
9	Roundup Power Max	1.13 lb ae/a	32 oz/a		B					
9	Perpetuo	0.108 lb ai/a	6 oz/a		B					
9	Select Max	0.07 lb ai/a	9 oz/a		B					
9	Induce	0.25 % v/v	4.8 oz/a		B					
9	N-pak ams	2.5 % v/v	1.5 qt/a		B					

Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Type, Code	C GLXMA	C GLXMA	C GLXMA	C GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	Oct-2-2019	Oct-2-2019	Oct-2-2019	Oct-2-2019
Rating Type	WEIGHT	MOICON	YIELD	WIETES
Rating Unit	LBS	%	BU	LBS
Number of Subsamples	1	1	1	1
Data Entry Date	Oct-4-2019	Oct-4-2019	Oct-4-2019	Oct-4-2019
Rating Timing				
Days After First/Last Applic.	161 103	161 103	161 103	161 103
Trt-Eval Interval				
Plant-Eval Interval	147 DP-1	147 DP-1	147 DP-1	147 DP-1
Days After Emergence	133 DE-1	133 DE-1	133 DE-1	133 DE-1
ARM Action Codes			TY1	
Number of Decimals		2	1	2

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	23*	24*	25*	26*
10	Roundup Power Max	1.13 lb ae/a		32 oz/a	A	11.49 bc	10.86 b	45.6 bc	55.50 -
10	Xtendimax	0.5 lb ae/a		22 oz/a	A				
10	Fierce XLT @ 4.0 oz				A				
10	Valor SX	0.063 lb ai/a		1.98 oz/a	A				
10	Classic	0.021 lb ai/a		1.34 oz/a	A				
10	Zidua WG	0.054 lb ai/a		1.02 oz/a	A				
10	Induce	0.25 % v/v		4.8 oz/a	A				
10	On Target	0.5 % v/v		9.6 oz/a	A				
10	Roundup Power Max	1.13 lb ae/a		32 oz/a	B				
10	Perpetuo	0.108 lb ai/a		6 oz/a	B				
10	Select Max	0.07 lb ai/a		9 oz/a	B				
10	Induce	0.25 % v/v		4.8 oz/a	B				
10	N-pak ams	2.5 % v/v		1.5 qt/a	B				

LSD P=.05	2.360	1.355	9.14	2.590
Standard Deviation	1.376	0.790	5.33	1.510
CV	11.49	7.08	11.23	2.7
Grand Mean	11.977	11.150	47.43	55.907
Levene's F	0.648	0.538	0.569	0.66
Levene's Prob(F)	0.744	0.83	0.806	0.734
Skewness	-1.3947*	1.8813*	-1.5132*	-0.7627
Kurtosis	2.0302*	2.7228*	2.2776*	-0.1505
Replicate F	0.565	0.868	0.500	0.410
Replicate Prob(F)	0.5782	0.4368	0.6147	0.6698
Treatment F	10.560	5.087	11.379	0.874
Treatment Prob(F)	0.0001	0.0017	0.0001	0.5645

Crop Type, Code

C = EPPO species (Bayer) codes
 GLXMA, BSOY, Glycine max, Soybean = US

Rating Type

WEIGHT = weight
 MOICON = moisture content
 YIELD = yield

Rating Unit

% = percent
 BU = bushel

Plant-Eval Interval

147 DP-1 = 1 GLXMA May-8-2019

ARM Action Codes

TY1 = 3.872*[23]*(100-[24])/87