

Ohio State University Horticulture and Crop Science

SHARPEN PRE WITH SPARTEN CLASSIC CADET POST, AND V-10206 POST APP EFFICACY

Title No. 2:

Trial ID: 10POS2 Protocol ID: 10POS2
 Location: Western Branch F-8 Study Director: Bryan Reeb
 Project ID: 10POS2 Investigator: Dr. Mark M. Loux
 Sponsor Contact: ERIC OTT, VALENT; JOSEPH REED, FMC

General Trial Information

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

Trial Location

City: South Charleston **Latitude of LL Corner** °: 39.86012 N
State/Prov.: Ohio **Longitude of LL Corner** °: 83.6707 W
Postal Code: 45368 **Altitude of LL Corner, Unit:** 1077.00 FT
Country: USA

Personnel

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

Crop Description

Crop 1: GLXMA Glycine max	Soybean
Variety: Pioneer 93Y20	Description: RR
BBCH Scale: BSOY	Planting Date: May-6-2010
Planting Method: SEEDED seeded	Rate, Unit: 196000 S/A
Depth, Unit: 0.75 IN	
Row Spacing, Unit: 15 IN	
Seed Bed: MEDIUM medium	
Soil Moisture: GOOD good	
Harvest Date: Sep-22-2010	Emergence Date: May-18-2010
Harvested Width, Unit: 6.25 FT	Harvest Equipment: MASSEY 8 XP
% Standard Moisture: 13.0	Harvested Length, Unit: 30 FT
Weighing Equipment: HARVEST MASTER 401	Moisture Meter: HARVEST MASTER

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 2 Type: W **Code:** CHEAL Chenopodium album
Common Name: Common lambsquarters

Pest 3 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 4 Type: W **Code:** POLPY Polygonum pensylvanicum
Common Name: Pennsylvania smartweed

Pest 5 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: Velvetleaf

Pest 6 Type: W **Code:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed

Pest 7 Type: W **Code:** AMBEL Ambrosia artemisiifolia
Common Name: Common ragweed

Pest 8 Type: W **Code:** SOLPT Solanum ptycanthum
Common Name: Eastern black nightshade

Site and Design

Plot Width, Unit: 6.67 FT	Site Type: FIELD field
Plot Length, Unit: 30 FT	Experimental Unit: 1 PLOT plot
Plot Area, Unit: 200.1 FT ²	Tillage Type: CONTIL conventional-till
Replications: 3	Study Design: RACOBL Randomized Complete Block (RCB)
	Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: F-8 East

% OM: 2.4	Texture: SICL silty clay loam
pH: 6.2	Soil Name: Kokomo
CEC: 16	Fert. Level: G good
	Soil Drainage: G good

Application Description

	A	B	C	D
Application Date:	May-6-2010	Jun-4-2010	Jun-10-2010	Jun-25-2010
Time of Day:	12:00 PM	8:30 AM	3:00 PM	9:00 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	MPO	MPO	POST
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Air Temperature, Unit:	62 F	72.4 F	80.5 F	71 F
% Relative Humidity:	58	85.5	58	75
Wind Velocity, Unit:	2.7 MPH	4 MPH	6 MPH	1 MPH
Wind Direction:	SW	SW	NW	NE
Dew Presence (Y/N):	N no	Y yes	N no	Y yes
Soil Temperature, Unit:	60 F	68 F	74 F	68 F
Soil Moisture:	GOOD	WET	GOOD	GOOD
% Cloud Cover:	2	0	5	0
Next Rain Occurred On:	May-8-2010	Jun-4-2010	Jun-11-2010	Jun-27-2010

Crop Stage At Each Application

	A		B		C		D	
Crop 1 Code, BBCH Scale:	GLXMA	BSOY	GLXMA	BSOY	GLXMA	BSOY	GLXMA	BSOY
Stage Scale Used:	BBCH		BBCH		BBCH		BBCH	
Stage Majority, Percent:	12	100	13	100	16	100		
Height, Unit:	6	IN	10	IN	14	IN		
Height Minimum, Maximum:	5	6	8	10	12	14		

Pest Stage At Each Application

	A		B		C		D	
Pest 1 Code, Type, Scale:	AMBTR	W	AMBTR	W	AMBTR	W	AMBTR	W
Stage Majority, Percent:	16	100	14	100	13	100		
Height, Unit:	8	IN	9	IN	2	IN		
Height Minimum, Maximum:	7	8	7	9	1	4		
Density, Unit:	18.4 M2							
Pest 2 Code, Type, Scale:	CHEAL	W	CHEAL	W	CHEAL	W	CHEAL	W
Stage Majority, Percent:	14	100			14	100		
Height, Unit:	2	IN			2	IN		
Height Minimum, Maximum:	1	2			1	2		
Density, Unit:	26.4 M2							
Pest 3 Code, Type, Scale:	SETFA	W	SETFA	W	SETFA	W	SETFA	W
Stage Majority, Percent:	13	100	12	100				
Height, Unit:	6	IN	4	IN				
Height Minimum, Maximum:	5	6	3	4				
Density, Unit:	32 M2							
Pest 4 Code, Type, Scale:	POLPY	W	POLPY	W	POLPY	W	POLPY	W
Stage Majority, Percent:	14	100						
Height, Unit:	3	IN						
Height Minimum, Maximum:	2	3						
Density, Unit:	4 M2							
Pest 5 Code, Type, Scale:	ABUTH	W	ABUTH	W	ABUTH	W	ABUTH	W
Stage Majority, Percent:	13	100						
Height, Unit:	3	IN						
Height Minimum, Maximum:	2	3						
Pest 6 Code, Type, Scale:	AMARE	W	AMARE	W	AMARE	W	AMARE	W
Stage Majority, Percent:	14	100						
Height, Unit:	2	IN						
Height Minimum, Maximum:	1	2						
Density, Unit:	9.2 M2							
Pest 7 Code, Type, Scale:	AMBEL	W	AMBEL	W	AMBEL	W	AMBEL	W
Stage Majority, Percent:	14	100						
Height, Unit:	3	IN						
Height Minimum, Maximum:	2	3						
Density, Unit:	2.4 M2							
Pest 8 Code, Type, Scale:	SOLPT	W	SOLPT	W	SOLPT	W	SOLPT	W
Stage Majority, Percent:	12	100						
Height, Unit:	0.5	IN						
Height Minimum, Maximum:	0.5	1						

Application Equipment

	A	B	C	D
Appl. Equipment:	Backpack	Backpack	Backpack	Backpack
Equipment Type:	SPRBAC	SPRBAC	SPRBAC	SPRBAC
Operating Pressure, Unit:	52 PSI	52 PSI	52 PSI	52 PSI
Nozzle Type:	DG	DG	DG	DG
Nozzle Size:	8002	8002	8002	8002
Nozzle Spacing, Unit:	18 IN	18 IN	18 IN	18 IN
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT	6.67 FT
Boom Height, Unit:	18 IN	18 IN	18 IN	18 IN
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER	WATER
Spray Volume, Unit:	20 gal/ac	20 gal/ac	20 gal/ac	20 gal/ac
Mix Size, Unit:	0.33 gallons	0.33 gallons	0.33 gallons	0.33 gallons
Propellant:	COMCO2	COMCO2	COMCO2	COMCO2

Trt No Treatment Application Comment

plot 208 was sprayed with trt 9 Durango DMA and ams at the post timing

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Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	GLXMA	GLXMA	GLXMA	
BBCH Scale	BSOY	BSOY	BSOY	
Crop Scientific Name	Glycine max	Glycine max	Glycine max	
Crop Name	Soybean	Soybean	Soybean	
Rating Date	Sep-22-2010	Sep-22-2010	Sep-22-2010	
Rating Type	YIELD	MOICON	YIELD	
Rating Unit	lb/plot	%	BU	
Number of Subsamples	1	1	1	
Days After First/Last Applic.	139	89	139	89
Trt-Eval Interval				
Plant-Eval Interval	139 DP-1	139 DP-1	139 DP-1	
Days After Emergence	127 DE	127 DE	127 DE	
ARM Action Codes			TY1	
Number of Decimals	1	1	1	

Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Unit	Appl Code	19	20	21
1	Sharpen	2.85 LBA/GAL		1 oz/a		A	20.5 ab	10.8 b	81.4 ab
1	Spartan	4 LBA/GAL		4 oz/a		A			
1	Classic	25 %AW/W		1 oz/a		A			
1	Cadet	0.91 LBA/GAL		0.5 oz/a		C			
1	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		C			
1	Coc	100 %		0.8 qt/a		C			
1	N-pak ams	100 %		2.4 qt/a		C			
2	Sharpen	2.85 LBA/GAL		1 oz/a		A	20.3 ab	10.6 b	80.7 ab
2	Spartan	4 LBA/GAL		4 oz/a		A			
2	Classic	25 %AW/W		1 oz/a		A			
2	Cadet	0.91 LBA/GAL		0.7 oz/a		C			
2	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		C			
2	Coc	100 %		0.8 qt/a		C			
2	N-pak ams	100 %		2.4 qt/a		C			
3	Sharpen	2.85 LBA/GAL		1 oz/a		A	20.9 a	10.4 bc	83.1 a
3	Spartan	4 LBA/GAL		4 oz/a		A			
3	Classic	25 %AW/W		1 oz/a		A			
3	Cadet	0.91 LBA/GAL		0.9 oz/a		C			
3	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		C			
3	Coc	100 %		0.8 qt/a		C			
3	N-pak ams	100 %		2.4 qt/a		C			
4	Sharpen	2.85 LBA/GAL		1 oz/a		A	20.2 ab	10.4 bcd	80.6 ab
4	Spartan	4 LBA/GAL		4 oz/a		A			
4	Classic	25 %AW/W		1 oz/a		A			
4	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		C			
4	Resource	0.86 LBA/GAL		6 oz/a		C			
4	N-pak ams	100 %		2.4 qt/a		C			
5	Sharpen	2.85 LBA/GAL		1 oz/a		A	19.8 abc	9.9 bcd	79.5 abc
5	Spartan	4 LBA/GAL		4 oz/a		A			
5	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		C			
5	N-pak ams	100 %		2.4 qt/a		C			
6	Sonic	70 %AW/W		3 oz/a		A	19.5 a-d	9.1 d	78.7 abc
6	Durango DMA	4 LBAE/GAL		24 oz/a		C			
6	N-pak ams	100 %		1.6 qt/a		C			
7	Sonic	70 %AW/W		4.5 oz/a		A	19.2 a-e	9.6 bcd	77.2 a-d
7	Durango DMA	4 LBAE/GAL		24 oz/a		C			
7	N-pak ams	100 %		1.6 qt/a		C			
8	Durango DMA	4 LBAE/GAL		24 oz/a		B	17.7 a-f	9.9 bcd	70.8 a-e
8	Firstrate	84 %AW/W		0.3 oz/a		B			

Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
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BBCH Scale	BSOY	BSOY	BSOY	
Crop Scientific Name	Glycine max	Glycine max	Glycine max	
Crop Name	Soybean	Soybean	Soybean	
Rating Date	Sep-22-2010	Sep-22-2010	Sep-22-2010	
Rating Type	YIELD	MOICON	YIELD	
Rating Unit	lb/plot	%	BU	
Number of Subsamples	1	1	1	
Days After First/Last Applic.	139 89	139 89	139 89	
Trt-Eval Interval				
Plant-Eval Interval	139 DP-1	139 DP-1	139 DP-1	
Days After Emergence	127 DE	127 DE	127 DE	
ARM Action Codes			TY1	
Number of Decimals	1	1	1	

Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Unit	Appl Code	19	20	21
8	N-pak ams	100 %		1.6 qt/a		B			
8	Durango DMA	4 LBAE/GAL		24 oz/a		D			
8	N-pak ams	100 %		1.6 qt/a		D			
9	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		B	16.4 c-f	13.2 a	63.3 de
9	N-pak ams	100 %		4 qt/a		B			
10	Vida	100 %		0.75 oz/a		B	17.1 b-f	10.6 b	68.1 b-e
10	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		B			
10	N-pak ams	100 %		4 qt/a		B			
11	Aim	2 LB/GAL		0.5 oz/a		B	14.9 f	9.5 bcd	59.9 e
11	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		B			
11	N-pak ams	100 %		4 qt/a		B			
12	Cadet	0.91 LBA/GAL		0.6 oz/a		B	15.9 def	9.8 bcd	64.0 de
12	Roundup weathermax	4.5 LBAE/GAL		22 oz/a		B			
12	N-pak ams	100 %		4 qt/a		B			
13	Resource	0.86 LBA/GAL		3 oz/a		B	15.8 ef	10.2 bcd	63.2 de
13	Roundup Power Max	4.5 LBAE/GAL		22 oz/a		B			
13	N-pak ams	100 %		2.4 qt/a		B			
14	V-10206	85 %AW/W		1.5 oz/a		B	16.1 def	9.2 cd	65.1 cde
14	Resource	0.86 LBA/GAL		3 oz/a		B			
14	Roundup Power Max	4.5 LBAE/GAL		22 oz/a		B			
14	N-pak ams	100 %		2.4 qt/a		B			
15	Prefix	5.29 LBA/GAL		1 pt/a		B	17.4 a-f	9.2 cd	70.3 a-e
15	Roundup Power Max	4.5 LBAE/GAL		22 oz/a		B			
15	N-pak ams	100 %		2.4 qt/a		B			
16	UTC						0.9 g	9.9 bcd	3.5 f
LSD (P=.05)							3.65	1.29	14.51
Standard Deviation							2.19	0.77	8.70
CV							12.86	7.63	12.78
Bartlett's X2							19.165	10.588	19.004
P(Bartlett's X2)							0.206	0.781	0.214
Replicate F							2.183	13.253	1.634
Replicate Prob(F)							0.1302	0.0001	0.2120
Treatment F							13.982	4.711	14.157
Treatment Prob(F)							0.0001	0.0002	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Crop Code
GLXMA, BSOY, Glycine max, = US

Rating Type
YIELD = yield
MOICON = moisture content

Rating Unit
lb/plot = pounds per plot
% = percent
BU = bushel

Plant-Eval Interval
139 DP-1 = 1 May-6-2010

ARM Action Codes

$$TY1 = 3.872 \cdot 19 \cdot (100 - 20) / 87$$