Ohio State University
Horticulture and Crop Science

MSO AND GPA WITH SHARPEN

Title No. 2:
Trial ID: 10NTS7 Protocol ID: 10NTS7
Location: WESTERN BRANCH 11-N Study Director:
Project ID: Investigator: Dr. Mark M. Loux
Sponsor Contact: John Smith, WinField Solutions

General Trial Information

Study Director: Anthony F. Dobbels **Title:** Research Specialist
Investigator: Dr. Mark M. Loux **Title:** Professor

Trial Location

City: South Charleston **Latitude of LL Corner °:** 39.86184 N
State/Prov.: Ohio **Longitude of LL Corner °:** 83.67694 W
Postal Code: 45368 **Altitude of LL Corner, Unit:** 1094.00 FT
Country: USA

Personnel

Study Director: Anthony F. Dobbels **Title:** Research Specialist
Affiliation: The Ohio State University
Address: 7721 South Charleston Pike
Location: South Charleston OH
Postal Code: 45368 **E-mail:** dobbels.1@osu.edu
Investigator: Dr. Mark M. Loux **Title:** Professor
Affiliation: The Ohio State University
Address: 222 Kottman Hall, 2021 Coffey Road
Location: Columbus OH
Postal Code: 43210 **E-mail:** loux.1@osu.edu

Crop Description

Crop 1: GLXMA Glycine max Soybean
Variety: ASGROW AG3803 **Description:** RR
BBCH Scale: BSOY **Planting Date:** Apr-29-2010
Planting Method: SEEDED seeded **Rate, Unit:** 196000 S/A
Depth, Unit: 1 IN
Row Spacing, Unit: 15 IN
Seed Bed: SMOTRA smooth/trashy **Soil Temperature, Unit:** 58 F
Soil Moisture: DRY dry **Emergence Date:** May-10-2010

Pest Description

Pest 1 Type: W **Code:** ERICA Conyza canadensis
Common Name: Canada horseweed

Pest 2 Type: W **Code:** TAROF Taraxacum officinale
Common Name: Common dandelion

Pest 3 Type: W **Code:** VERPG Veronica peregrina
Common Name: Purslane speedwell

Pest 4 Type: W **Code:** POAAN Poa annua
Common Name: Annual bluegrass

Pest 5 Type: W **Code:** STEME Stellaria media
Common Name: Common chickweed

Pest 6 Type: W **Code:** CAPBP Capsella bursa-pastoris
Common Name: Shepherd's purse

Pest 7 Type: W **Code:** SENGL Senecio glabellus
Common Name: Cressleaf groundsel

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 FT2 **Tillage Type:** NOTILL no-till
Replications: 3 **Study Design:** RACOBL Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: 11-N
% OM: 1.3 **Texture:** SIL silt loam
pH: 6.8 **Soil Name:** Crosby
CEC: 10.7 **Fert. Level:** G good
Soil Drainage: G good

Ohio State University
Horticulture and Crop Science

Application Description

	A	B
Application Date:	Apr-2-2010	Apr-2-2010
Time of Day:	10:00 A.M	10:00 A.M
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	PRE
Application Placement:	BROFOL	BROFOL
Applied By:	Ackley	McCormick
Air Temperature, Unit:	64 F	64 F
% Relative Humidity:	68	68
Wind Velocity, Unit:	8 MPH	8 MPH
Wind Direction:	S	S
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	52 F	52 F
Soil Moisture:	DRY	DRY
% Cloud Cover:	20	20
Next Rain Occurred On:	May-1-2010	May-1-2010

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	ERICA W	ERICA W
Stage Majority, Percent:	19 100	19 100
Diameter, Unit:	3 IN	3 IN
Height, Unit:	4 IN	4 IN
Height Minimum, Maximum:	3 5	3 5
Density, Unit:	3 M2	3 M2
Pest 2 Code, Type, Scale:	TAROF W	TAROF W
Stage Majority, Percent:	65 100	65 100
Diameter, Unit:	12 IN	12 IN
Height, Unit:	3 IN	3 IN
Height Minimum, Maximum:	2 3	2 3
Density, Unit:	1 M2	1 M2
Pest 3 Code, Type, Scale:	VERPG W	VERPG W
Stage Majority, Percent:	65 100	65 100
Diameter, Unit:	3 IN	3 IN
Height, Unit:	7 IN	7 IN
Height Minimum, Maximum:	5 7	5 7
Density, Unit:	3 M2	3 M2
Pest 4 Code, Type, Scale:	POAAN W	POAAN W
Stage Majority, Percent:	40 100	40 100
Diameter, Unit:	8 IN	8 IN
Height, Unit:	2 IN	2 IN
Height Minimum, Maximum:	2 2	2 2
Density, Unit:	3 M2	3 M2
Pest 5 Code, Type, Scale:	STEME W	STEME W
Stage Majority, Percent:	65 100	65 100
Diameter, Unit:	10 IN	10 IN
Height, Unit:	4 IN	4 IN
Height Minimum, Maximum:	3 4	3 4
Density, Unit:	0.33 M2	0.33 M2
Pest 6 Code, Type, Scale:	CAPBP W	CAPBP W
Stage Majority, Percent:	65 100	65 100
Diameter, Unit:	6 IN	6 IN
Height, Unit:	20 IN	20 IN
Height Minimum, Maximum:	18 22	18 22
Density, Unit:	0.1 M2	0.1 M2
Pest 7 Code, Type, Scale:	SENGL W	SENGL W
Stage Majority, Percent:	55 100	55 100
Diameter, Unit:	6 IN	6 IN
Height, Unit:	12 IN	12 IN
Height Minimum, Maximum:	10 12	10 12
Density, Unit:	0.2 M2	0.2 M2

Ohio State University
Horticulture and Crop Science

Application Equipment

	A	B
Appl. Equipment:	6 foot boom	6 foot boom
Equipment Type:	SPRBAC	SPRBAC
Operating Pressure, Unit:	48 PSI	40 PSI
Nozzle Type:	XR	XR
Nozzle Size:	8002	8001
Nozzle Spacing, Unit:	18 IN	18 IN
Boom Length, Unit:	6 FT	6 FT
Boom Height, Unit:	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	20 GPA	10 GPA
Mix Size, Unit:	0.33 Gallons	0.33 Gallons
Propellant:	CO2	CO2

Ohio State University
Horticulture and Crop Science

MSO AND GPA WITH SHARPEN

Title No. 2:
Trial ID: 10NTS7 Protocol ID: 10NTS7
Location: WESTERN BRANCH 11-N Study Director:
Project ID: Investigator: Dr. Mark M. Loux
Sponsor Contact: John Smith, WinField Solutions

Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Rate Unit	Appl Code	1	2	3	4
	Pest Type						W Weed	W Weed	W Weed	W Weed
	Pest Code						STEME	ERICA	VERPG	TAROF
	Pest Scientific Name						Stellaria media	Conyza canaden>	Veronica pereg>	Taraxacum offi>
	Pest Name						Common chickwe>	Horseweed	Purslane speed>	Common dandeli>
	Rating Date						May-7-2010	May-7-2010	May-7-2010	May-7-2010
	Rating Type						CONTROL	CONTROL	CONTROL	CONTROL
	Rating Unit						%	%	%	%
	Number of Subsamples						1	1	1	1
	Days After First/Last Applic.						35 35	35 35	35 35	35 35
	Trt-Eval Interval						35 DA-A	35 DA-A	35 DA-A	35 DA-A
	Plant-Eval Interval						8 DP-1	8 DP-1	8 DP-1	8 DP-1
	Days After Emergence						-3 DE-	-3 DE-	-3 DE-	-3 DE-
	Number of Decimals						0	0	0	0
1	Sharpen	2.85	LBA/GAL	1	oz/a	A	53	88	63	77
1	MSO	100	%	0.4	qt/a					
2	Sharpen	2.85	LBA/GAL	1	oz/a	A	40	82	63	73
2	Destiny HC	100		0.2	qt/a					
3	Sharpen	2.85	LBA/GAL	1	oz/a	A	65	93	65	85
3	Destiny HC	100		0.3	qt/a					
4	Sharpen	2.85	LBA/GAL	1	oz/a	A	60	80	60	85
4	Destiny HC	100		0.4	qt/a					
5	Sharpen	2.85	LBA/GAL	1	oz/a	B	50	77	47	65
5	MSO	100	%	0.4	qt/a					
6	Sharpen	2.85	LBA/GAL	1	oz/a	B	47	55	40	53
6	Destiny HC	100		0.2	qt/a					
7	Sharpen	2.85	LBA/GAL	1	oz/a	B	50	78	57	77
7	Destiny HC	100		0.3	qt/a					
8	Sharpen	2.85	LBA/GAL	1	oz/a	B	73	85	63	85
8	Destiny HC	100		0.4	qt/a					
9	Sharpen	2.85	LBA/GAL	1	oz/a	A	78	90	65	75
9	Roundup PowerMax	4.5	LBAE/GAL	22	oz/a					
10	Untreated Check						0	0	0	0
	LSD (P=.05)						19.7	16.5	20.6	14.2
	Standard Deviation						11.4	9.6	11.9	8.3
	CV						22.12	13.24	22.82	12.23
	Bartlett's X2						8.882	8.572	5.63	3.436
	P(Bartlett's X2)						0.261	0.38	0.689	0.904
	Replicate F						3.242	2.267	0.050	7.630
	Replicate Prob(F)						0.0642	0.1324	0.9518	0.0040
	Treatment F						10.891	24.736	8.599	29.056
	Treatment Prob(F)						0.0001	0.0001	0.0001	0.0001

Ohio State University
Horticulture and Crop Science

Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Rate Unit	Appl Code	5	6	7	8
	Pest Type						W Weed	W Weed	W Weed	W Weed
	Pest Code						CAPBP	POAAN	STEME	ERICA
	Pest Scientific Name						Capsella bursa>	Poa annua	Stellaria media	Conyza canaden>
	Pest Name						Shepherd's pur>	Annual bluegra>	Common chickwe>	Canada horsewe>
	Rating Date						May-7-2010	May-7-2010	May-14-2010	May-14-2010
	Rating Type						CONTROL	CONTROL	CONTROL	CONTROL
	Rating Unit						%	%	%	%
	Number of Subsamples						1	1	1	1
	Days After First/Last Applic.						35 35	35 35	42 42	42 42
	Trt-Eval Interval						35 DA-A	35 DA-A	42 DA-A	42 DA-A
	Plant-Eval Interval						8 DP-1	8 DP-1	15 DP-1	15 DP-1
	Days After Emergence						-3 DE-	-3 DE-	4 DE-1	4 DE-1
	Number of Decimals						0	0	0	0
1	Sharpen	2.85	LBA/GAL	1	oz/a	A	65	0	37	65
1	MSO	100	%	0.4	qt/a					
2	Sharpen	2.85	LBA/GAL	1	oz/a	A	57	0	30	73
2	Destiny HC	100		0.2	qt/a					
3	Sharpen	2.85	LBA/GAL	1	oz/a	A	63	0	37	88
3	Destiny HC	100		0.3	qt/a					
4	Sharpen	2.85	LBA/GAL	1	oz/a	A	58	0	40	58
4	Destiny HC	100		0.4	qt/a					
5	Sharpen	2.85	LBA/GAL	1	oz/a	B	53	0	40	63
5	MSO	100	%	0.4	qt/a					
6	Sharpen	2.85	LBA/GAL	1	oz/a	B	50	0	37	40
6	Destiny HC	100		0.2	qt/a					
7	Sharpen	2.85	LBA/GAL	1	oz/a	B	53	0	20	68
7	Destiny HC	100		0.3	qt/a					
8	Sharpen	2.85	LBA/GAL	1	oz/a	B	57	10	34	83
8	Destiny HC	100		0.4	qt/a					
9	Sharpen	2.85	LBA/GAL	1	oz/a	A	60	31	100	84
9	Roundup PowerMax	4.5	LBAE/GAL	22	oz/a					
10	Untreated Check						0	0	0	0
	LSD (P=.05)						17.3	9.6	19.6	34.7
	Standard Deviation						10.1	5.6	11.3	20.2
	CV						19.53	136.24	30.32	32.44
	Bartlett's X2						4.942	0.0	1.897	4.02
	P(Bartlett's X2)						0.764	.	0.929	0.855
	Replicate F						0.818	1.181	0.787	0.506
	Replicate Prob(F)						0.4570	0.3311	0.4719	0.6113
	Treatment F						10.327	9.551	14.776	5.010
	Treatment Prob(F)						0.0001	0.0001	0.0001	0.0018

Ohio State University
Horticulture and Crop Science

Pest Type					W Weed	W Weed	W Weed	W Weed
Pest Code					VERPG	TAROF	CAPBP	POAAN
Pest Scientific Name					Veronica pereg>	Taraxacum offi>	Capsella bursa>	Poa annua
Pest Name					Purslane speed>	Common dandeli>	Shepherd's pur>	Annual bluegra>
Rating Date					May-14-2010	May-14-2010	May-14-2010	May-14-2010
Rating Type					CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit					%	%	%	%
Number of Subsamples					1	1	1	1
Days After First/Last Applic.					42 42	42 42	42 42	42 42
Trt-Eval Interval					42 DA-A	42 DA-A	42 DA-A	42 DA-A
Plant-Eval Interval					15 DP-1	15 DP-1	15 DP-1	15 DP-1
Days After Emergence					4 DE-1	4 DE-1	4 DE-1	4 DE-1
Number of Decimals					0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Rate Unit	Appl Code	9	10	11	12
1	Sharpen	2.85	LBA/GAL	1	oz/a	A	57	33	55	0
1	MSO	100	%	0.4	qt/a					
2	Sharpen	2.85	LBA/GAL	1	oz/a	A	57	30	50	0
2	Destiny HC	100		0.2	qt/a					
3	Sharpen	2.85	LBA/GAL	1	oz/a	A	68	47	73	0
3	Destiny HC	100		0.3	qt/a					
4	Sharpen	2.85	LBA/GAL	1	oz/a	A	57	55	67	0
4	Destiny HC	100		0.4	qt/a					
5	Sharpen	2.85	LBA/GAL	1	oz/a	B	70	37	45	0
5	MSO	100	%	0.4	qt/a					
6	Sharpen	2.85	LBA/GAL	1	oz/a	B	57	23	67	0
6	Destiny HC	100		0.2	qt/a					
7	Sharpen	2.85	LBA/GAL	1	oz/a	B	57	50	65	0
7	Destiny HC	100		0.3	qt/a					
8	Sharpen	2.85	LBA/GAL	1	oz/a	B	66	52	73	0
8	Destiny HC	100		0.4	qt/a					
9	Sharpen	2.85	LBA/GAL	1	oz/a	A	80	69	75	50
9	Roundup PowerMax	4.5	LBAE/GAL	22	oz/a					
10	Untreated Check						0	0	0	0
LSD (P=.05)							16.0	24.6	28.1	0.0
Standard Deviation							9.2	14.3	16.4	0.0
CV							16.28	36.09	28.79	0.04
Bartlett's X2							2.902	7.458	12.512	0.0
P(Bartlett's X2)							0.94	0.488	0.13	.
Replicate F							2.560	0.475	4.122	14.276
Replicate Prob(F)							0.1085	0.6300	0.0336	0.0004
Treatment F							16.208	5.528	5.638	155122895.512
Treatment Prob(F)							0.0001	0.0013	0.0009	0.0001

Ohio State University
Horticulture and Crop Science

Pest Type					W Weed	W Weed	W Weed	W Weed
Pest Code					STEME	ERICA	VERPG	TAROF
Pest Scientific Name					Stellaria media	Conyza canaden>	Veronica pereg>	Taraxacum offi>
Pest Name					Common chickwe>	Canada horsewe>	Purslane speed>	Common dandeli>
Rating Date					May-24-2010	May-24-2010	May-24-2010	May-24-2010
Rating Type					CONTROL	CONTROL	CONTROL	CONTROL
Rating Unit					%	%	%	%
Number of Subsamples					1	1	1	1
Days After First/Last Applic.					52 52	52 52	52 52	52 52
Trt-Eval Interval					52 DA-A	52 DA-A	52 DA-A	52 DA-A
Plant-Eval Interval					25 DP-1	25 DP-1	25 DP-1	25 DP-1
Days After Emergence					14 DE-	14 DE-	14 DE-	14 DE-
Number of Decimals					0	0	0	0
Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Rate Unit	Appl Code	13	14	15	16
1	Sharpen	2.85	LBA/GAL	1	oz/a	A	0	70	27	10
1	MSO	100	%	0.4	qt/a					
2	Sharpen	2.85	LBA/GAL	1	oz/a	A	7	82	43	20
2	Destiny HC	100		0.2	qt/a					
3	Sharpen	2.85	LBA/GAL	1	oz/a	A	0	90	50	27
3	Destiny HC	100		0.3	qt/a					
4	Sharpen	2.85	LBA/GAL	1	oz/a	A	13	65	30	32
4	Destiny HC	100		0.4	qt/a					
5	Sharpen	2.85	LBA/GAL	1	oz/a	B	0	53	37	0
5	MSO	100	%	0.4	qt/a					
6	Sharpen	2.85	LBA/GAL	1	oz/a	B	0	32	20	20
6	Destiny HC	100		0.2	qt/a					
7	Sharpen	2.85	LBA/GAL	1	oz/a	B	0	53	40	33
7	Destiny HC	100		0.3	qt/a					
8	Sharpen	2.85	LBA/GAL	1	oz/a	B	15	78	47	27
8	Destiny HC	100		0.4	qt/a					
9	Sharpen	2.85	LBA/GAL	1	oz/a	A	100	85	100	68
9	Roundup PowerMax	4.5	LBAE/GAL	22	oz/a					
10	Untreated Check						0	0	0	0
LSD (P=.05)							18.2	32.4	22.8	20.6
Standard Deviation							10.5	18.9	13.3	12.0
CV							77.93	31.02	33.79	50.8
Bartlett's X2							0.878	12.416	5.189	6.536
P(Bartlett's X2)							0.645	0.134	0.637	0.479
Replicate F							0.026	0.381	3.642	0.455
Replicate Prob(F)							0.9739	0.6883	0.0470	0.6413
Treatment F							25.850	6.495	11.396	8.082
Treatment Prob(F)							0.0001	0.0004	0.0001	0.0001

Ohio State University
Horticulture and Crop Science

Pest Type	W Weed
Pest Code	POAAN
Pest Scientific Name	Poa annua
Pest Name	Annual bluegra>
Rating Date	May-24-2010
Rating Type	CONTROL
Rating Unit	%
Number of Subsamples	1
Days After First/Last Applic.	52 52
Trt-Eval Interval	52 DA-A
Plant-Eval Interval	25 DP-1
Days After Emergence	14 DE-
Number of Decimals	0

Trt No.	Treatment Name	Form Conc	Form Unit	Other Rate	Other Rate Unit	Appl Code	17
1	Sharpen	2.85	LBA/GAL	1	oz/a	A	0
1	MSO	100	%	0.4	qt/a		
2	Sharpen	2.85	LBA/GAL	1	oz/a	A	0
2	Destiny HC	100		0.2	qt/a		
3	Sharpen	2.85	LBA/GAL	1	oz/a	A	0
3	Destiny HC	100		0.3	qt/a		
4	Sharpen	2.85	LBA/GAL	1	oz/a	A	0
4	Destiny HC	100		0.4	qt/a		
5	Sharpen	2.85	LBA/GAL	1	oz/a	B	0
5	MSO	100	%	0.4	qt/a		
6	Sharpen	2.85	LBA/GAL	1	oz/a	B	0
6	Destiny HC	100		0.2	qt/a		
7	Sharpen	2.85	LBA/GAL	1	oz/a	B	0
7	Destiny HC	100		0.3	qt/a		
8	Sharpen	2.85	LBA/GAL	1	oz/a	B	0
8	Destiny HC	100		0.4	qt/a		
9	Sharpen	2.85	LBA/GAL	1	oz/a	A	85
9	Roundup PowerMax	4.5	LBAE/GAL	22	oz/a		
10	Untreated Check						0

LSD (P=.05)	8.1
Standard Deviation	4.7
CV	55.8
Bartlett's X2	0.0
P(Bartlett's X2)	.
Replicate F	1.000
Replicate Prob(F)	0.3874
Treatment F	96.333
Treatment Prob(F)	0.0001

Ohio State University
Horticulture and Crop Science

MSO AND GPA WITH SHARPEN

Title No. 2:
Trial ID: 10NTS7 Protocol ID: 10NTS7
Location: WESTERN BRANCH 11-N Study Director:
Project ID: Investigator: Dr. Mark M. Loux
Sponsor Contact: John Smith, WinField Solutions

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
STEME, Stellaria media, = US
ERICA, Conyza canadensis, = US
VERPG, Veronica peregrina, = US
TAROF, Taraxacum officinale, = US
CAPBP, Capsella bursa-pastoris, = US
POAAN, Poa annua, = US
Rating Unit
% = percent
Plant-Eval Interval
8 DP-1 = 1 Apr-29-2010
15 DP-1 = 1 Apr-29-2010
25 DP-1 = 1 Apr-29-2010