Purdue University

MSO and Tank-Mix Products with Sharpen

Trial ID: 11S-THP-NTS-72 Protocol ID: 11S-THP-NTS-02

Location: Throckmorton Study Director: White/Marquardt

Project ID: Investigator: Dr. Bill Johnson

Sponsor Contact: Winfield Solutions - George Watters

General Trial Information

Study Director: White/Marquardt **Title:** Research Associate

Investigator: Dr. Bill Johnson **Title:** Professor

Discipline: H herbicide

Trial Status: E established

Initiation Date: 4-9-2011

Trial Location

City: Lafayette

State/Prov.: IN

Postal Code: 47909

Country: USA

Personnel

Study Director: White/Marquardt **Title:** Research Associate

Affiliation: Purdue University

Address: 915 W State Street

Location: West Lafayette, IN, USA

Postal Code: 47907 **E-mail:** mdwhite@purdue.edu

Phone No.: 765-494-0891

Investigator: Dr. Bill Johnson **Title:** Professor

Affiliation: Purdue University

Address: 915 W State Street

Location: West Lafayette, IN, USA

Postal Code: 47907 **E-mail:** wgi@purdue.edu

Phone No.: 765-494-4656 **Mobile No.:** 765-404-9801

Cooperator/Landowner

Cooperator: Throckmorton Purdue Ag Center **Role:** Purdue Ag Center

Organization: Purdue University

Address 1: 8343 US 231 S

Phone No.: 765-538-3422

City: Lafayette **Fax No.:** 765-538-3423

State/Prov: IN

Postal Code: 47909 **E-mail:** jayyoung@purdue.edu

Country: USA United States

Crop Description

Crop 1: GLXMA Glycine max Soybean

Variety: Asgrow AG2931 **Description:** RR2

BBCH Scale: BSOY **Planting Date:** 5-11-2011

Planting Method: PLANTD planted **Rate, Unit:** 124000 S/A

Depth, Unit: 1 IN

Row Spacing, Unit: 30 IN

Emergence Date: 5-20-2011

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Pest Description

Pest 1 Type: W **Code:** LACSE Lactuca serriola
Common Name: Prickly lettuce

Pest 2 Type: W **Code:** CRUNU Carduus nutans
Common Name: Musk thistle

Pest 3 Type: W **Code:** THLSS Thlaspi sp.
Common Name: Pennycress

Pest 4 Type: W **Code:** COIMA Conium maculatum
Common Name: Poison hemlock

Pest 5 Type: W **Code:** LAMPU Lamium purpureum
Common Name: Purple deadnettel

Pest 6 Type: W **Code:** TAROF Taraxacum officinale
Common Name: Common dandelion

Pest 7 Type: W **Code:** BROTE Bromus tectorum
Common Name: Downy brome

Site and Design

Plot Width, Unit: 10 FT
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT2
Replications: 4
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: NOTILL no-till
Study Design: RACOBL Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: TPAC - Field 5
% OM: 2.3 **Texture:** SIL silt loam
pH: 6.6 **Soil Name:** Longlois
CEC: 9.9

Application Description

	A
Application Date:	5-4-2011
Time of Day:	9:50-10:4
Application Method:	SPRAY
Application Timing:	PREPLA
Application Placement:	FOLIAR
Applied By:	MH
Air Temperature, Unit:	48 F
% Relative Humidity:	66
Wind Velocity, Unit:	4 MPH
Wind Direction:	S
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	47 F
Soil Moisture:	DRY
% Cloud Cover:	60

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	GLXMA BSOY

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Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	LACSE W
Height, Unit:	4 IN
Height Minimum, Maximum:	1 7
Density, Unit:	10 YD2
Pest 2 Code, Type, Scale:	CRUNU W
Height, Unit:	4 IN
Density, Unit:	3 YD2
Pest 3 Code, Type, Scale:	THLSS W
Height, Unit:	10.5 IN
Height Minimum, Maximum:	1 20
Density, Unit:	45 YD2
Pest 4 Code, Type, Scale:	COIMA W
Height, Unit:	5 IN
Density, Unit:	5 YD2
Pest 5 Code, Type, Scale:	LAMPU W
Height, Unit:	3.5 IN
Height Minimum, Maximum:	2 5
Density, Unit:	15 YD2
Pest 6 Code, Type, Scale:	TAROF W
Height, Unit:	4 IN
Height Minimum, Maximum:	2 6
Density, Unit:	4 YD2
Pest 7 Code, Type, Scale:	BROTE W
Height, Unit:	6.5 IN
Height Minimum, Maximum:	4 9
Density, Unit:	70 YD2

Application Equipment

	A
Appl. Equipment:	CO2 BKPK
Equipment Type:	SPRBAC
Operation Pressure, Unit:	17 PSI
Nozzle Type:	FLAT FAN
Nozzle Size:	XR 110 02
Nozzle Spacing, Unit:	15 IN
Nozzles/Row:	8
Boom Length, Unit:	10 FT
Boom Height, Unit:	18 IN
Ground Speed, Unit:	3 MPH
Carrier:	H20
Water Hardness (ppm CaCO3):	150
Spray Volume, Unit:	15 gal/ac
Mix Size, Unit:	1.8 liters
Propellant:	C02
Tank Mix (Y/N):	N no

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MSO and Tank-Mix Products with Sharpen

Trial ID: 11S-THP-NTS-72 Protocol ID: 11S-THP-NTS-02
Location: Throckmorton Study Director: White/Marquardt
Project ID: Investigator: Dr. Bill Johnson
Sponsor Contact: Winfield Solutions - George Watters

Trt No.	Treatment Name	Rate	Unit	Appl Code	1	2	3	4	5	6	7
	Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
	Pest Code				LACSE	THLSS	LAMPU	ERICA	TAROF	LACSE	ERICA
	Pest Scientific Name				Lactuca serrio>	Thlaspi sp.	Lamium purpure>	Conyza canaden>	Taraxacum offi>	Lactuca serrio>	Conyza canaden>
	Pest Name				Prickly lettuce	Pennycress	Purple deadnet>	Canada horsewe>	Common dandeli>	Prickly lettuce	Canada horsewe>
	Crop Code				GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
	BBCH Scale				BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
	Crop Scientific Name				Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
	Crop Name				Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
	Rating Date				5-12-2011	5-12-2011	5-12-2011	5-12-2011	5-12-2011	5-20-2011	5-20-2011
	Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
	Rating Unit				%	%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1	1
	Crop Stage Majority									VE	VE
	Pest Stage Majority									8 IN	6 IN
	Pest Density, Unit				3 YD2	5 YD2	6 YD2	1 YD2	1 YD2	3 YD2	2 YD2
	Assessed By				WJ	WJ	WJ	WJ	WJ		
	Days After First/Last Applic.				8 8	8 8	8 8	8 8	8 8	16 16	16 16
	Trt-Eval Interval				8 DA-A	8 DA-A	8 DA-A	8 DA-A	8 DA-A	16 DA-A	16 DA-A
	Plant-Eval Interval				1 DP-1	1 DP-1	1 DP-1	1 DP-1	1 DP-1	9 DP-1	9 DP-1
	Days After Emergence				-8 DE-1	-8 DE-1	-8 DE-1	-8 DE-1	-8 DE-1	0 DE-1	0 DE-1
1	Untreated Check				0.0 d	0.0 b	0.0 b	0.0 c	0.0 c	0.0 c	0.0 b
2	Sharpen 2.85 SC	0.0223	lb ai/a	A	78.5 ab	60.5 a	70.0 a	100.0 a	93.7 a	99.3 a	92.6 a
	MSO	1	% v/v	A							
	Class Act Flex	1	% v/v	A							
3	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	70.0 a	71.3 a	87.5 a	87.0 a	99.0 a	95.5 a
	Destiny HC	0.5	% v/v	A							
	Class Act Flex	1	% v/v	A							
4	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	62.5 a	62.5 a	100.0 a	90.3 a	99.0 a	99.0 a
	Destiny HC	0.75	% v/v	A							
	Class Act Flex	1	% v/v	A							
5	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	75.0 a	71.3 a	99.5 a	97.3 a	99.0 a	99.0 a
	Destiny HC	0.625	% v/v	A							
	Class Act Flex	1	% v/v	A							
6	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	65.0 a	60.0 a	98.8 a	96.0 a	99.0 a	99.0 a
	MSO	1	% v/v	A							
	Class Act Flex	1	% v/v	A							
7	Sharpen 2.85 SC	0.0223	lb ai/a	A	97.3 a	62.5 a	60.0 a	98.8 a	85.0 a	94.3 a	94.3 a
	Destiny HC	0.5	% v/v	A							
	Class Act Flex	1	% v/v	A							
8	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	71.3 a	67.5 a	99.5 a	95.3 a	99.0 a	74.3 a
	Destiny HC	0.75	% v/v	A							
	Class Act Flex	1	% v/v	A							
9	Sharpen 2.85 SC	0.0223	lb ai/a	A	96.0 a	60.0 a	66.3 a	100.0 a	97.3 a	99.0 a	96.8 a
	Destiny HC	0.625	% v/v	A							
	Class Act Flex	1	% v/v	A							
10	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	65.0 a	85.0 a	100.0 a	97.3 a	91.8 a	81.8 a
	Dimetric (75 DF)	0.25	lb ai/a	A							
	Destiny HC	0.75	% v/v	A							
	Class Act Flex	1	% v/v	A							

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

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	LACSE	THLSS	LAMPU	ERICA	TAROF	LACSE	ERICA
Pest Scientific Name	Lactuca serrio>	Thlaspi sp.	Lamium purpure>	Conyza canaden>	Taraxacum offi>	Lactuca serrio>	Conyza canaden>
Pest Name	Prickly lettuce	Pennycress	Purple deadnet>	Canada horsewe>	Common dandeli>	Prickly lettuce	Canada horsewe>
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
Rating Date	5-12-2011	5-12-2011	5-12-2011	5-12-2011	5-12-2011	5-20-2011	5-20-2011
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%	%
Number of Subsamples	1	1	1	1	1	1	1
Crop Stage Majority						VE	VE
Pest Stage Majority						8 IN	6 IN
Pest Density, Unit	3 YD2	5 YD2	6 YD2	1 YD2	1 YD2	3 YD2	2 YD2
Assessed By	WJ	WJ	WJ	WJ	WJ		
Days After First/Last Applic.	8 8	8 8	8 8	8 8	8 8	16 16	16 16
Trt-Eval Interval	8 DA-A	8 DA-A	8 DA-A	8 DA-A	8 DA-A	16 DA-A	16 DA-A
Plant-Eval Interval	1 DP-1	1 DP-1	1 DP-1	1 DP-1	1 DP-1	9 DP-1	9 DP-1
Days After Emergence	-8 DE-1	-8 DE-1	-8 DE-1	-8 DE-1	-8 DE-1	0 DE-1	0 DE-1
Trt No. Treatment Name Rate Unit Appl Code	1	2	3	4	5	6	7
11 Sharpen 2.85 SC 0.0223 lb ai/a A	97.3 a	72.5 a	75.0 a	87.5 a	79.5 a	91.8 a	82.0 a
Dimetric (75 DF) 0.25 lb ai/a A							
Destiny HC 0.5 % v/v A							
Class Act Flex 1 % v/v A							
12 Dimetric (75 DF) 0.25 lb ai/a A	47.5 bc	42.5 a	57.5 a	58.8 ab	39.5 b	0.0 c	0.0 b
Destiny HC 0.5 % v/v A							
13 Dimetric (75 DF) 0.375 lb ai/a A	41.3 c	37.5 a	60.0 a	43.8 b	42.5 b	47.3 b	29.8 b
Destiny HC 0.5 % v/v A							
14 Dimetric (75 DF) 0.5 lb ai/a A	64.5 abc	60.0 a	77.5 a	68.8 ab	64.5 ab	69.5 ab	84.5 a
Destiny HC 0.5 % v/v A							
LSD (P=.05)	27.67	28.12	21.66	29.28	25.35	26.45	33.17
Standard Deviation	19.36	19.68	15.16	20.49	17.74	18.51	23.21
CV	24.41	34.25	24.02	25.1	23.32	23.82	31.6
Bartlett's X2	37.504	12.187	15.781	55.092	61.418	11.355	24.555
P(Bartlett's X2)	0.001*	0.431	0.201	0.001*	0.001*	0.023*	0.002*
Replicate F	0.233	0.850	3.155	0.754	0.609	0.943	0.050
Replicate Prob(F)	0.8728	0.4754	0.0358	0.5270	0.6131	0.4296	0.9852
Treatment F	9.841	3.968	6.802	8.380	10.969	15.203	9.568
Treatment Prob(F)	0.0001	0.0004	0.0001	0.0001	0.0001	0.0001	0.0001

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Trt No.	Treatment Name	Rate	Unit	Appl Code	8	9	10	11	12	13	14
	Pest Type				W Weed	W Weed	W Weed	W Weed	W Weed		W Weed
	Pest Code				THLSS	BROTE	COIMA	STEME	TAROF		LACSE
	Pest Scientific Name				Thlaspi sp.	Bromus tectorum	Conium maculat>	Stellaria media	Taraxacum offi>		Lactuca serrio>
	Pest Name				Pennycress	Downy brome	Poison hemlock	Common chickwe>	Common dandeli>		Prickly lettuce
	Crop Code				GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
	BBCH Scale				BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
	Crop Scientific Name				Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
	Crop Name				Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
	Rating Date				5-20-2011	5-20-2011	5-20-2011	5-20-2011	5-20-2011	6-1-2011	6-1-2011
	Rating Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO
	Rating Unit				%	%	%	%	%	%	%
	Number of Subsamples				1	1	1	1	1	1	1
	Crop Stage Majority				VE	VE	VE	VE	VE		
	Pest Stage Majority				14 IN	12 IN	12 IN	4 IN	5 IN		
	Pest Density, Unit				10 YD2	3 YD2	1 YD2	5 YD2	2 YD2		2.5 YD2
	Assessed By									WJ	WJ
	Days After First/Last Applic.				16 16	16 16	16 16	16 16	16 16	28 28	28 28
	Trt-Eval Interval				16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	28 DA-A	28 DA-A
	Plant-Eval Interval				9 DP-1	9 DP-1	9 DP-1	9 DP-1	9 DP-1	21 DP-1	21 DP-1
	Days After Emergence				0 DE-1	0 DE-1	0 DE-1	0 DE-1	0 DE-1	12 DE-1	12 DE-1
1	Untreated Check				0.0 b	0.0 a	0.0 a	0.0 c	0.0 c	0.0 a	0.0 c
2	Sharpen 2.85 SC	0.0223	lb ai/a	A	78.6 a	55.2 a	63.5 a	65.6 ab	43.3 abc	0.0 a	93.3 a
	MSO	1	% v/v	A							
	Class Act Flex	1	% v/v	A							
3	Sharpen 2.85 SC	0.0223	lb ai/a	A	80.0 a	57.3 a	67.0 a	77.0 ab	40.0 abc	2.5 a	88.0 a
	Destiny HC	0.5	% v/v	A							
	Class Act Flex	1	% v/v	A							
4	Sharpen 2.85 SC	0.0223	lb ai/a	A	77.5 a	64.5 a	57.3 a	20.0 bc	54.8 abc	0.0 a	88.5 a
	Destiny HC	0.75	% v/v	A							
	Class Act Flex	1	% v/v	A							
5	Sharpen 2.85 SC	0.0223	lb ai/a	A	84.8 a	57.3 a	47.3 a	79.3 ab	67.3 abc	0.0 a	96.5 a
	Destiny HC	0.625	% v/v	A							
	Class Act Flex	1	% v/v	A							
6	Sharpen 2.85 SC	0.0223	lb ai/a	A	83.5 a	47.5 a	64.5 a	89.3 ab	27.5 abc	0.0 a	91.8 a
	MSO	1	% v/v	A							
	Class Act Flex	1	% v/v	A							
7	Sharpen 2.85 SC	0.0223	lb ai/a	A	69.8 a	52.3 a	86.8 a	73.5 ab	52.3 abc	0.0 a	87.3 a
	Destiny HC	0.5	% v/v	A							
	Class Act Flex	1	% v/v	A							
8	Sharpen 2.85 SC	0.0223	lb ai/a	A	90.8 a	54.8 a	65.0 a	74.3 ab	25.0 abc	0.0 a	95.0 a
	Destiny HC	0.75	% v/v	A							
	Class Act Flex	1	% v/v	A							
9	Sharpen 2.85 SC	0.0223	lb ai/a	A	70.0 a	32.5 a	67.0 a	64.5 ab	12.5 bc	0.0 a	86.0 a
	Destiny HC	0.625	% v/v	A							
	Class Act Flex	1	% v/v	A							
10	Sharpen 2.85 SC	0.0223	lb ai/a	A	66.3 a	59.5 a	83.3 a	81.8 ab	44.8 abc	0.0 a	81.3 a
	Dimetric (75 DF)	0.25	lb ai/a	A							
	Destiny HC	0.75	% v/v	A							
	Class Act Flex	1	% v/v	A							

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

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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed		W Weed
Pest Code		THLSS	BROTE	COIMA	STEME	TAROF		LACSE
Pest Scientific Name		Thlaspi sp.	Bromus tectorum	Conium maculat>	Stellaria media	Taraxacum offi>		Lactuca serrio>
Pest Name		Pennycress	Downy brome	Poison hemlock	Common chickwe>	Common dandeli>		Prickly lettuce
Crop Code		GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale		BSOY	BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name		Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name		Soybean	Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
Rating Date		5-20-2011	5-20-2011	5-20-2011	5-20-2011	5-20-2011	6-1-2011	6-1-2011
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN	CONTRO
Rating Unit		%	%	%	%	%	%	%
Number of Subsamples		1	1	1	1	1	1	1
Crop Stage Majority		VE	VE	VE	VE	VE		
Pest Stage Majority		14 IN	12 IN	12 IN	4 IN	5 IN		
Pest Density, Unit		10 YD2	3 YD2	1 YD2	5 YD2	2 YD2		2.5 YD2
Assessed By							WJ	WJ
Days After First/Last Applic.		16 16	16 16	16 16	16 16	16 16	28 28	28 28
Trt-Eval Interval		16 DA-A	16 DA-A	16 DA-A	16 DA-A	16 DA-A	28 DA-A	28 DA-A
Plant-Eval Interval		9 DP-1	9 DP-1	9 DP-1	9 DP-1	9 DP-1	21 DP-1	21 DP-1
Days After Emergence		0 DE-1	0 DE-1	0 DE-1	0 DE-1	0 DE-1	12 DE-1	12 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	8	9	10	11	12	13	14
11	Sharpen 2.85 SC	0.0223	lb ai/a	A	85.0 a	75.8 a	94.3 a	78.3 ab	94.3 a	0.0 a	93.0 a
	Dimetric (75 DF)	0.25	lb ai/a	A							
	Destiny HC	0.5	% v/v	A							
	Class Act Flex	1	% v/v	A							
12	Dimetric (75 DF)	0.25	lb ai/a	A	24.8 b	49.5 a	49.5 a	24.8 abc	24.8 abc	0.0 a	42.5 b
	Destiny HC	0.5	% v/v	A							
13	Dimetric (75 DF)	0.375	lb ai/a	A	20.0 b	62.0 a	86.8 a	74.3 ab	57.0 abc	0.0 a	58.8 ab
	Destiny HC	0.5	% v/v	A							
14	Dimetric (75 DF)	0.5	lb ai/a	A	81.8 a	79.5 a	81.8 a	99.0 a	84.5 ab	0.0 a	85.8 a
	Destiny HC	0.5	% v/v	A							
LSD (P=.05)					31.61	47.64	48.45	43.19	42.91	1.93	26.47
Standard Deviation					22.12	33.34	33.90	30.22	30.02	1.35	18.53
CV					33.93	62.45	51.95	46.94	66.95	758.11	23.85
Bartlett's X2					25.373	2.194	11.14	7.808	22.811	0.0	30.942
P(Bartlett's X2)					0.013*	0.999	0.517	0.73	0.029*	.	0.002*
Replicate F					2.395	9.644	0.038	3.740	1.341	0.974	1.767
Replicate Prob(F)					0.0834	0.0001	0.9900	0.0189	0.2755	0.4149	0.1698
Treatment F					6.641	1.326	1.945	3.590	3.071	0.974	8.449
Treatment Prob(F)					0.0001	0.2412	0.0566	0.0010	0.0035	0.4927	0.0001

Means followed by same letter do not significantly differ (P= 05, Student-Newman-Keuls)
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Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		ERICA	AMBTR	THLSS	LAMAM	STEME	TAROF
Pest Scientific Name		Conyza canaden>	Ambrosia trifi>	Thlaspi sp.	Lamium amplexi>	Stellaria media	Taraxacum offi>
Pest Name		Canada horsewe>	Giant ragweed	Pennycress	Henbit	Common chickwe>	Common dandeli>
Crop Code		GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale		BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name		Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name		Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
Rating Date		6-1-2011	6-1-2011	6-1-2011	6-1-2011	6-1-2011	6-1-2011
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%
Number of Subsamples		1	1	1	1	1	1
Crop Stage Majority							
Pest Stage Majority							
Pest Density, Unit		3 YD2	1 YD2	4 YD2	5 YD2	1 YD2	1 YD2
Assessed By		WJ	WJ	WJ	WJ	WJ	WJ
Days After First/Last Applic.		28 28	28 28	28 28	28 28	28 28	28 28
Trt-Eval Interval		28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A
Plant-Eval Interval		21 DP-1	21 DP-1	21 DP-1	21 DP-1	21 DP-1	21 DP-1
Days After Emergence		12 DE-1	12 DE-1	12 DE-1	12 DE-1	12 DE-1	12 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	15	16	17	18	19	20
1	Untreated Check				0.0 c	0.0 c	0.0 c	0.0 b	0.0 b	0.0 b
2	Sharpen 2.85 SC	0.0223	lb ai/a	A	89.8 a	86.8 a	98.8 a	96.8 a	62.3 a	85.4 a
	MSO	1	% v/v	A						
	Class Act Flex	1	% v/v	A						
3	Sharpen 2.85 SC	0.0223	lb ai/a	A	93.5 a	97.0 a	99.0 a	99.3 a	75.8 a	58.8 a
	Destiny HC	0.5	% v/v	A						
	Class Act Flex	1	% v/v	A						
4	Sharpen 2.85 SC	0.0223	lb ai/a	A	99.0 a	99.5 a	99.3 a	99.3 a	49.3 a	88.8 a
	Destiny HC	0.75	% v/v	A						
	Class Act Flex	1	% v/v	A						
5	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.3 a	99.0 a	99.0 a	99.0 a	74.8 a	75.0 a
	Destiny HC	0.625	% v/v	A						
	Class Act Flex	1	% v/v	A						
6	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	96.5 a	98.8 a	99.3 a	58.8 a	58.8 a
	MSO	1	% v/v	A						
	Class Act Flex	1	% v/v	A						
7	Sharpen 2.85 SC	0.0223	lb ai/a	A	97.5 a	99.3 a	99.0 a	99.0 a	73.5 a	47.5 a
	Destiny HC	0.5	% v/v	A						
	Class Act Flex	1	% v/v	A						
8	Sharpen 2.85 SC	0.0223	lb ai/a	A	96.5 a	96.5 a	99.0 a	96.8 a	68.8 a	56.3 a
	Destiny HC	0.75	% v/v	A						
	Class Act Flex	1	% v/v	A						
9	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.0 a	94.5 a	99.0 a	99.3 a	65.0 a	82.5 a
	Destiny HC	0.625	% v/v	A						
	Class Act Flex	1	% v/v	A						
10	Sharpen 2.85 SC	0.0223	lb ai/a	A	98.5 a	98.8 a	96.3 a	99.3 a	95.5 a	65.0 a
	Dimetric (75 DF)	0.25	lb ai/a	A						
	Destiny HC	0.75	% v/v	A						
	Class Act Flex	1	% v/v	A						

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

Purdue University

Pest Type		W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code		ERICA	AMBTR	THLSS	LAMAM	STEME	TAROF
Pest Scientific Name		Conyza canaden>	Ambrosia trifi>	Thlaspi sp.	Lamium amplexi>	Stellaria media	Taraxacum offi>
Pest Name		Canada horsewe>	Giant ragweed	Pennycress	Henbit	Common chickwe>	Common dandeli>
Crop Code		GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale		BSOY	BSOY	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name		Glycine max	Glycine max	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name		Soybean	Soybean	Soybean	Soybean	Soybean	Soybean
Rating Date		6-1-2011	6-1-2011	6-1-2011	6-1-2011	6-1-2011	6-1-2011
Rating Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit		%	%	%	%	%	%
Number of Subsamples		1	1	1	1	1	1
Crop Stage Majority							
Pest Stage Majority							
Pest Density, Unit		3 YD2	1 YD2	4 YD2	5 YD2	1 YD2	1 YD2
Assessed By		WJ	WJ	WJ	WJ	WJ	WJ
Days After First/Last Applic.		28 28	28 28	28 28	28 28	28 28	28 28
Trt-Eval Interval		28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A
Plant-Eval Interval		21 DP-1	21 DP-1	21 DP-1	21 DP-1	21 DP-1	21 DP-1
Days After Emergence		12 DE-1	12 DE-1	12 DE-1	12 DE-1	12 DE-1	12 DE-1
Trt No.	Treatment Name	Rate	Rate Unit	Appl Code	15	16	17	18	19	20
11	Sharpen 2.85 SC	0.0223	lb ai/a	A	90.8 a	82.5 a	84.5 a	98.8 a	64.8 a	92.5 a
	Dimetric (75 DF)	0.25	lb ai/a	A						
	Destiny HC	0.5	% v/v	A						
	Class Act Flex	1	% v/v	A						
12	Dimetric (75 DF)	0.25	lb ai/a	A	30.0 b	20.0 bc	37.5 b	74.5 a	74.5 a	68.8 a
	Destiny HC	0.5	% v/v	A						
13	Dimetric (75 DF)	0.375	lb ai/a	A	66.3 a	42.5 b	68.5 a	74.3 a	69.5 a	66.3 a
	Destiny HC	0.5	% v/v	A						
14	Dimetric (75 DF)	0.5	lb ai/a	A	77.0 a	47.5 b	91.8 a	98.8 a	99.0 a	90.0 a
	Destiny HC	0.5	% v/v	A						
LSD (P=.05)					28.13	27.94	22.51	27.34	39.83	31.28
Standard Deviation					19.68	19.55	15.75	19.13	27.87	21.89
CV					24.32	25.82	18.85	21.7	41.9	32.76
Bartlett's X2					102.634	79.673	70.455	152.669	13.28	37.534
P(Bartlett's X2)					0.001*	0.001*	0.001*	0.001*	0.275	0.001*
Replicate F					1.966	0.731	0.783	0.551	1.354	6.801
Replicate Prob(F)					0.1354	0.5397	0.5106	0.6507	0.2710	0.0009
Treatment F					9.324	11.887	14.206	7.881	2.766	4.768
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	0.0070	0.0001

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

Purdue University

MSO and Tank-Mix Products with Sharpen

Trial ID: 11S-THP-NTS-72 Protocol ID: 11S-THP-NTS-02

Location: Throckmorton Study Director: White/Marquardt

Project ID: Investigator: Dr. Bill Johnson

Sponsor Contact: Winfield Solutions - George Watters

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

Pest Code

LACSE, Lactuca serriola, = US
THLSS, Thlaspi sp., = US
LAMPU, Lamium purpureum, = US
ERICA, Conyza canadensis, = US
TAROF, Taraxacum officinale, = US
BROTE, Bromus tectorum, = US
COIMA, Conium maculatum, = US
STEME, Stellaria media, = US
AMBTR, Ambrosia trifida, = US
LAMAM, Lamium amplexicaule, = US

Crop Code

GLXMA, BSOY, Glycine max, = US

Rating Type

CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury

Rating Unit

% = percent

YD2 = per square yard

Plant-Eval Interval

1 DP-1 = 1 GLXMA 5-11-2011
9 DP-1 = 1 GLXMA 5-11-2011
21 DP-1 = 1 GLXMA 5-11-2011