

Evaluation of Adjuvants for use with Glyphosate Tank-Mixtures

Trial ID: SB12-08
 Conducted: H6-H8 Campus

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: 4/29/08	Row Spacing: 30 IN
Variety: Hillshog 9027RR	No. of Reps: 4
Population: 4 3/8" seed spacing	% OM: 2.5
Soil Type: Sandy Loam	pH: 6.9
Plot Size: 10 X 30 FT	Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall chisel plow
 Fall soil finish
 Spring soil finish x2 on 4/29/08
Fertilizer: 200#/Acre Urea (92# N) broadcast on 3/16/08
 100#/Acre 19-19-19 applied with planter

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	AMASS	REDROOT PIGWEED, POWELL AMARANTH	AMARANTHUS SP.
4.	POLPE	LADYSTHUMB	POLYGONUM PERSICARIA L.
5.	CAPBP	SHEPHERDSPURSE	CAPELLA BURSA-PASTORIS (L.)
6.	ANGR	mainly foxtail species	SETARIA SP.
7.	STEME	CHICKWEED, COMMON	STELLARIA MEDIA (L.)
Crop	Code	Common Name	
1.	BETVU	BEET, SUGAR	

Application Description

A
Application Timing: 4" weeds
Date Treated: 6/12/08
Time Treated: 10:30 AM
% Cloud Cover: 80
Air Temp., Unit: 75 F
% Relative Humidity: 80
Wind Speed/Unit/Dir: 3 mph E
Soil Temp., Unit: 70 F
Soil/Leaf Surface M: 3 5
Soil Moist (1=w 5=d): 3

Crop Stage at Each Application

A
Crop Name: BETVU
Height (In.): 4-6
Stage (L): 6

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Weed Stage at Each Application

A
 Weed 1 Name: CHEAL
 Height (In.): 2-6
 Stage (L): 6-many
 Weed 2 Name: ABUTH
 Height (In.): 2-4
 Stage (L): 2-5
 Weed 3 Name: AMASS
 Height (In.): 2-6
 Stage (L): 4-many
 Weed 4 Name: POLPE
 Height (In.): 2-4
 Stage (L): many
 Weed 5 Name: CAPBP
 Height (In.): 2-6 dia
 Stage (L): rosette
 Weed 6 Name: ANGR
 Height (In.): 4-6
 Stage (L): 3-6
 Weed 7 Name: STEME
 Height (In.): 1-2
 Stage (L): many

Weed Density (plants/sq. ft.)

	1	2	3	4	5	6	7	8
Date:	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08	7/25/08
Weed Name:	CHEAL	LAMAM	ANGR	AMAPO	POROL	POLPE	STEME	CAPSP
Density:	2	1	1.375	2.625	0.75	1.125	3.375	2.375

Application Equipment

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	22	20	100	19	water	28

Comments: Previous Crop: Soybean

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								BEAVU	ANGR	CHEAL	AMAPO
								Injury	Control	Control	Control
								Percent	Percent	Percent	Percent
								6/19/08	6/19/08	6/19/08	6/19/08
								7 DA-A	7 DA-A	7 DA-A	7 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	5	99	99	99
1	Class Act NG		L	2.5	% v/v	4" weeds	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
1	Class Act NG		L	2.5	% v/v	+4" wds	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	10	99	99	99
2	Stinger	3	SL	4	fl oz/a	4" weeds	A				
2	Class Act NG		L	2.5	% v/v	4" weeds	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
2	Stinger	3	SL	4	fl oz/a	+4" wds	B				
2	Class Act NG		L	2.5	% v/v	+4" wds	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	6	99	99	99
3	Stinger	3	SL	4	fl oz/a	4" weeds	A				
3	AG 02013		L	4	fl oz/a	4" weeds	A				
3	Class Act NG		L	2.5	% v/v	4" weeds	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
3	Stinger	3	SL	4	fl oz/a	+4" wds	B				
3	AG 02013		L	4	fl oz/a	+4" wds	B				
3	Class Act NG		L	2.5	% v/v	+4" wds	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	3	98	99	99
4	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
4	Class Act NG		L	2.5	% v/v	4" weeds	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
4	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
4	Class Act NG		L	2.5	% v/v	+4" wds	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	4	96	99	99
5	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
5	Superb HC		L	0.5	% v/v	4" weeds	A				
5	Class Act NG		L	2.5	% v/v	4" weeds	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
5	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
5	Superb HC		L	0.5	% v/v	+4" wds	B				
5	Class Act NG		L	2.5	% v/v	+4" wds	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	5	99	99	99
6	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
6	AG 05006		L	0.5	% v/v	4" weeds	A				
6	Class Act NG		L	2.5	% v/v	4" weeds	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
6	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
6	AG 05006		L	0.5	% v/v	+4" wds	B				
6	Class Act NG		L	2.5	% v/v	+4" wds	B				

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 Investigator: Christy Sprague

Weed Code		ANGR	CHEAL	AMAPO
Crop Code		BEAVU		
Rating Data Type		Injury	Control	Control
Rating Unit		Percent	Percent	Percent
Rating Date		6/19/08	6/19/08	6/19/08
Trt-Eval Interval		7 DA-A	7 DA-A	7 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	6	99	99	99
7	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
7	AG 05006		L	0.5	% v/v	4" weeds	A				
7	Class Act NG		L	2.5	% v/v	4" weeds	A				
7	AG 02013		L	4	fl oz/a	4" wds	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
7	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
7	AG 05006		L	0.5	% v/v	+4" wds	B				
7	Class Act NG		L	2.5	% v/v	+4" wds	B				
7	AG 02013		L	4	fl oz/a	+4" wds	B				
8	Untreated							0	0	0	0
LSD (P=.10)								4.2	3.2	0.0	0.0
Standard Deviation								3.5	2.6	0.0	0.0
CV								71.36	3.03	0.0	0.0

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								ABUTH	POLPE	BETVU	STEME
								Control	Control	Injury	Control
								Percent	Percent	Percent	Percent
								6/19/08	6/19/08	6/26/08	6/26/08
								7 DA-A	7 DA-A	14 DA-A	14 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	98	87	0	98
1	Class Act NG		L	2.5	% v/v	4" weeds	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
1	Class Act NG		L	2.5	% v/v	+4" wds	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	97	0	97
2	Stinger	3	SL	4	fl oz/a	4" weeds	A				
2	Class Act NG		L	2.5	% v/v	4" weeds	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
2	Stinger	3	SL	4	fl oz/a	+4" wds	B				
2	Class Act NG		L	2.5	% v/v	+4" wds	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	97	0	97
3	Stinger	3	SL	4	fl oz/a	4" weeds	A				
3	AG 02013		L	4	fl oz/a	4" weeds	A				
3	Class Act NG		L	2.5	% v/v	4" weeds	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
3	Stinger	3	SL	4	fl oz/a	+4" wds	B				
3	AG 02013		L	4	fl oz/a	+4" wds	B				
3	Class Act NG		L	2.5	% v/v	+4" wds	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	91	0	99
4	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
4	Class Act NG		L	2.5	% v/v	4" weeds	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
4	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
4	Class Act NG		L	2.5	% v/v	+4" wds	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	91	0	99
5	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
5	Superb HC		L	0.5	% v/v	4" weeds	A				
5	Class Act NG		L	2.5	% v/v	4" weeds	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
5	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
5	Superb HC		L	0.5	% v/v	+4" wds	B				
5	Class Act NG		L	2.5	% v/v	+4" wds	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	95	0	99
6	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
6	AG 05006		L	0.5	% v/v	4" weeds	A				
6	Class Act NG		L	2.5	% v/v	4" weeds	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
6	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
6	AG 05006		L	0.5	% v/v	+4" wds	B				
6	Class Act NG		L	2.5	% v/v	+4" wds	B				

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								ABUTH	POLPE	BETVU	STEME
								Control	Control	Injury	Control
								Percent	Percent	Percent	Percent
								6/19/08	6/19/08	6/26/08	6/26/08
								7 DA-A	7 DA-A	14 DA-A	14 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	96	0	98
7	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
7	AG 05006		L	0.5	% v/v	4" weeds	A				
7	Class Act NG		L	2.5	% v/v	4" weeds	A				
7	AG 02013		L	4	fl oz/a	4" wds	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
7	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
7	AG 05006		L	0.5	% v/v	+4" wds	B				
7	Class Act NG		L	2.5	% v/v	+4" wds	B				
7	AG 02013		L	4	fl oz/a	+4" wds	B				
8	Untreated							0	0	0	0
LSD (P=.10)								0.9	4.0	0.0	1.4
Standard Deviation								0.7	3.3	0.0	1.1
CV								0.82	4.03	0.0	1.31

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								LAMAM	CAPBP	ANGR	CHEAL
Weed Code											
Crop Code											
Rating Data Type								Control	Control	Control	Control
Rating Unit								Percent	Percent	Percent	Percent
Rating Date								6/26/08	6/26/08	6/26/08	6/26/08
Trt-Eval Interval								14 DA-A	14 DA-A	14 DA-A	14 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	98	99	98	99
1	Class Act NG		L	2.5	% v/v	4" weeds	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
1	Class Act NG		L	2.5	% v/v	+4" wds	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	97	99	99	99
2	Stinger	3	SL	4	fl oz/a	4" weeds	A				
2	Class Act NG		L	2.5	% v/v	4" weeds	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
2	Stinger	3	SL	4	fl oz/a	+4" wds	B				
2	Class Act NG		L	2.5	% v/v	+4" wds	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	96	98	99	99
3	Stinger	3	SL	4	fl oz/a	4" weeds	A				
3	AG 02013		L	4	fl oz/a	4" weeds	A				
3	Class Act NG		L	2.5	% v/v	4" weeds	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
3	Stinger	3	SL	4	fl oz/a	+4" wds	B				
3	AG 02013		L	4	fl oz/a	+4" wds	B				
3	Class Act NG		L	2.5	% v/v	+4" wds	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	95	99	98	99
4	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
4	Class Act NG		L	2.5	% v/v	4" weeds	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
4	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
4	Class Act NG		L	2.5	% v/v	+4" wds	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	96	99	98	99
5	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
5	Superb HC		L	0.5	% v/v	4" weeds	A				
5	Class Act NG		L	2.5	% v/v	4" weeds	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
5	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
5	Superb HC		L	0.5	% v/v	+4" wds	B				
5	Class Act NG		L	2.5	% v/v	+4" wds	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	98	99	99	99
6	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
6	AG 05006		L	0.5	% v/v	4" weeds	A				
6	Class Act NG		L	2.5	% v/v	4" weeds	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
6	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
6	AG 05006		L	0.5	% v/v	+4" wds	B				
6	Class Act NG		L	2.5	% v/v	+4" wds	B				

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								LAMAM	CAPBP	ANGR	CHEAL
Weed Code											
Crop Code											
Rating Data Type								Control	Control	Control	Control
Rating Unit								Percent	Percent	Percent	Percent
Rating Date								6/26/08	6/26/08	6/26/08	6/26/08
Trt-Eval Interval								14 DA-A	14 DA-A	14 DA-A	14 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	98	99	99	99
7	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
7	AG 05006		L	0.5	% v/v	4" weeds	A				
7	Class Act NG		L	2.5	% v/v	4" weeds	A				
7	AG 02013		L	4	fl oz/a	4" wds	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
7	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
7	AG 05006		L	0.5	% v/v	+4" wds	B				
7	Class Act NG		L	2.5	% v/v	+4" wds	B				
7	AG 02013		L	4	fl oz/a	+4" wds	B				
8	Untreated							0	0	0	0
LSD (P=.10)								3.6	0.9	1.0	0.2
Standard Deviation								2.9	0.7	0.9	0.2
CV								3.48	0.86	0.99	0.2

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								AMAPO	ABUTH	POLPE	BETVU
Weed Code											
Crop Code											
Rating Data Type								Control	Control	Control	injury
Rating Unit								Percent	Percent	Percent	percent
Rating Date								6/26/08	6/26/08	6/26/08	7/11/08
Trt-Eval Interval								14 DA-A	14 DA-A	14 DA-A	29 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	99	98	1
1	Class Act NG		L	2.5	% v/v	4" weeds	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
1	Class Act NG		L	2.5	% v/v	+4" wds	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	99	99	3
2	Stinger	3	SL	4	fl oz/a	4" weeds	A				
2	Class Act NG		L	2.5	% v/v	4" weeds	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
2	Stinger	3	SL	4	fl oz/a	+4" wds	B				
2	Class Act NG		L	2.5	% v/v	+4" wds	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	99	99	0
3	Stinger	3	SL	4	fl oz/a	4" weeds	A				
3	AG 02013		L	4	fl oz/a	4" weeds	A				
3	Class Act NG		L	2.5	% v/v	4" weeds	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
3	Stinger	3	SL	4	fl oz/a	+4" wds	B				
3	AG 02013		L	4	fl oz/a	+4" wds	B				
3	Class Act NG		L	2.5	% v/v	+4" wds	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	99	99	1
4	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
4	Class Act NG		L	2.5	% v/v	4" weeds	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
4	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
4	Class Act NG		L	2.5	% v/v	+4" wds	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	99	99	0
5	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
5	Superb HC		L	0.5	% v/v	4" weeds	A				
5	Class Act NG		L	2.5	% v/v	4" weeds	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
5	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
5	Superb HC		L	0.5	% v/v	+4" wds	B				
5	Class Act NG		L	2.5	% v/v	+4" wds	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	99	99	0
6	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
6	AG 05006		L	0.5	% v/v	4" weeds	A				
6	Class Act NG		L	2.5	% v/v	4" weeds	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
6	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
6	AG 05006		L	0.5	% v/v	+4" wds	B				
6	Class Act NG		L	2.5	% v/v	+4" wds	B				

MSU Weed Science Research Program

Evaluation of Adjuvants for use with Glyphosate Tank-Mixtures

Trial ID: SB12-08
 Conducted: H6-H8 Campus

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code	AMAPO	ABUTH	POLPE	
Crop Code				BETVU
Rating Data Type	Control	Control	Control	injury
Rating Unit	Percent	Percent	Percent	percent
Rating Date	6/26/08	6/26/08	6/26/08	7/11/08
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	29 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	AMAPO	ABUTH	POLPE	BETVU
7	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99	99	99	2
7	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
7	AG 05006		L	0.5	% v/v	4" weeds	A				
7	Class Act NG		L	2.5	% v/v	4" weeds	A				
7	AG 02013		L	4	fl oz/a	4" wds	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
7	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
7	AG 05006		L	0.5	% v/v	+4" wds	B				
7	Class Act NG		L	2.5	% v/v	+4" wds	B				
7	AG 02013		L	4	fl oz/a	+4" wds	B				
8	Untreated							0	0	0	13
LSD (P=.10)								0.0	0.0	0.8	3.0
Standard Deviation								0.0	0.0	0.7	2.4
CV								0.0	0.0	0.77	105.45

MSU Weed Science Research Program

Evaluation of Adjuvants for use with Glyphosate Tank-Mixtures

Trial ID: SB12-08
 Conducted: H6-H8 Campus

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

								ANGR	CHEAL	AMAPO	ABUTH
Weed Code											
Crop Code											
Rating Data Type								control	control	control	control
Rating Unit								percent	percent	percent	percent
Rating Date								7/11/08	7/11/08	7/11/08	7/11/08
Trt-Eval Interval								29 DA-A	29 DA-A	29 DA-A	29 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	93	77	98	99
1	Class Act NG		L	2.5	% v/v	4" weeds	A				
1	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
1	Class Act NG		L	2.5	% v/v	+4" wds	B				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	97	99	99	99
2	Stinger	3	SL	4	fl oz/a	4" weeds	A				
2	Class Act NG		L	2.5	% v/v	4" weeds	A				
2	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
2	Stinger	3	SL	4	fl oz/a	+4" wds	B				
2	Class Act NG		L	2.5	% v/v	+4" wds	B				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	95	99	99	99
3	Stinger	3	SL	4	fl oz/a	4" weeds	A				
3	AG 02013		L	4	fl oz/a	4" weeds	A				
3	Class Act NG		L	2.5	% v/v	4" weeds	A				
3	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
3	Stinger	3	SL	4	fl oz/a	+4" wds	B				
3	AG 02013		L	4	fl oz/a	+4" wds	B				
3	Class Act NG		L	2.5	% v/v	+4" wds	B				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	92	99	99	99
4	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
4	Class Act NG		L	2.5	% v/v	4" weeds	A				
4	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
4	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
4	Class Act NG		L	2.5	% v/v	+4" wds	B				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	97	99	98	99
5	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
5	Superb HC		L	0.5	% v/v	4" weeds	A				
5	Class Act NG		L	2.5	% v/v	4" weeds	A				
5	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
5	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
5	Superb HC		L	0.5	% v/v	+4" wds	B				
5	Class Act NG		L	2.5	% v/v	+4" wds	B				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	96	99	99	99
6	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
6	AG 05006		L	0.5	% v/v	4" weeds	A				
6	Class Act NG		L	2.5	% v/v	4" weeds	A				
6	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
6	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
6	AG 05006		L	0.5	% v/v	+4" wds	B				
6	Class Act NG		L	2.5	% v/v	+4" wds	B				

MSU Weed Science Research Program

Evaluation of Adjuvants for use with Glyphosate Tank-Mixtures

Trial ID: SB12-08
 Conducted: H6-H8 Campus

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code	ANGR	CHEAL	AMAPO	ABUTH
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	7/11/08	7/11/08	7/11/08	7/11/08
Trt-Eval Interval	29 DA-A	29 DA-A	29 DA-A	29 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	ANGR	CHEAL	AMAPO	ABUTH
7	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	96	99	99	99
7	Upbeet	50	DF	0.5	oz/a	4" weeds	A				
7	AG 05006		L	0.5	% v/v	4" weeds	A				
7	Class Act NG		L	2.5	% v/v	4" weeds	A				
7	AG 02013		L	4	fl oz/a	4" wds	A				
7	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B				
7	Upbeet	50	DF	0.5	oz/a	+4" wds	B				
7	AG 05006		L	0.5	% v/v	+4" wds	B				
7	Class Act NG		L	2.5	% v/v	+4" wds	B				
7	AG 02013		L	4	fl oz/a	+4" wds	B				
8	Untreated							0	0	0	0
LSD (P=.10)								2.7	19.4	1.2	0.0
Standard Deviation								2.2	15.9	1.0	0.0
CV								2.65	19.04	1.19	0.0

MSU Weed Science Research Program

Evaluation of Adjuvants for use with Glyphosate Tank-Mixtures

Trial ID: SB12-08
 Conducted: H6-H8 Campus

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code POLPE
 Crop Code
 Rating Data Type control
 Rating Unit percent
 Rating Date 7/11/08
 Trt-Eval Interval 29 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
1	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	98
1	Class Act NG		L	2.5	% v/v	4" weeds	A	
1	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B	
1	Class Act NG		L	2.5	% v/v	+4" wds	B	
2	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	98
2	Stinger	3	SL	4	fl oz/a	4" weeds	A	
2	Class Act NG		L	2.5	% v/v	4" weeds	A	
2	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B	
2	Stinger	3	SL	4	fl oz/a	+4" wds	B	
2	Class Act NG		L	2.5	% v/v	+4" wds	B	
3	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99
3	Stinger	3	SL	4	fl oz/a	4" weeds	A	
3	AG 02013		L	4	fl oz/a	4" weeds	A	
3	Class Act NG		L	2.5	% v/v	4" weeds	A	
3	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B	
3	Stinger	3	SL	4	fl oz/a	+4" wds	B	
3	AG 02013		L	4	fl oz/a	+4" wds	B	
3	Class Act NG		L	2.5	% v/v	+4" wds	B	
4	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	98
4	Upbeet	50	DF	0.5	oz/a	4" weeds	A	
4	Class Act NG		L	2.5	% v/v	4" weeds	A	
4	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B	
4	Upbeet	50	DF	0.5	oz/a	+4" wds	B	
4	Class Act NG		L	2.5	% v/v	+4" wds	B	
5	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99
5	Upbeet	50	DF	0.5	oz/a	4" weeds	A	
5	Superb HC		L	0.5	% v/v	4" weeds	A	
5	Class Act NG		L	2.5	% v/v	4" weeds	A	
5	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B	
5	Upbeet	50	DF	0.5	oz/a	+4" wds	B	
5	Superb HC		L	0.5	% v/v	+4" wds	B	
5	Class Act NG		L	2.5	% v/v	+4" wds	B	
6	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99
6	Upbeet	50	DF	0.5	oz/a	4" weeds	A	
6	AG 05006		L	0.5	% v/v	4" weeds	A	
6	Class Act NG		L	2.5	% v/v	4" weeds	A	
6	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B	
6	Upbeet	50	DF	0.5	oz/a	+4" wds	B	
6	AG 05006		L	0.5	% v/v	+4" wds	B	
6	Class Act NG		L	2.5	% v/v	+4" wds	B	

MSU Weed Science Research Program

Evaluation of Adjuvants for use with Glyphosate Tank-Mixtures

Trial ID: SB12-08
 Conducted: H6-H8 Campus

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code POLPE
 Crop Code
 Rating Data Type control
 Rating Unit percent
 Rating Date 7/11/08
 Trt-Eval Interval 29 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
7	Roundup PowerMax	4.5	SL	22	fl oz/a	4" weeds	A	99
7	Upbeet	50	DF	0.5	oz/a	4" weeds	A	
7	AG 05006		L	0.5	% v/v	4" weeds	A	
7	Class Act NG		L	2.5	% v/v	4" weeds	A	
7	AG 02013		L	4	fl oz/a	4" wds	A	
7	Roundup PowerMax	4.5	SL	22	fl oz/a	+4" wds	B	0
7	Upbeet	50	DF	0.5	oz/a	+4" wds	B	
7	AG 05006		L	0.5	% v/v	+4" wds	B	
7	Class Act NG		L	2.5	% v/v	+4" wds	B	
7	AG 02013		L	4	fl oz/a	+4" wds	B	
8	Untreated							
LSD (P=.10)								1.1
Standard Deviation								0.9
CV								1.07