

Liberty AMS Replacements - United Suppliers.

Project Code: 07-21N-E150 Location: Belleville Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 1-23-08

Objective:

Evaluate the efficacy of Liberty applied with traditional ammonium sulfate (AMS) versus water conditioning adjuvants.

Weed Code	Common Name	Scientific Name
1. SETFA	foxtail, giant	Setaria faberi Herrm.
2. AMATA	waterhemp, common	Amaranthus rudis Sauer
3. XANST	cocklebur, common	Xanthium strumarium L.
4. ABUTH	velvetleaf	Abutilon theophrasti Medicus

Crop 1: ZEAMX corn, field Variety: 33K44
 Planting Method: Seeded Planting Date: 6-1-07
 Rate: 28000 S/A Depth: 1.5 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 30 FT Reps: 3
 Tillage Type: Reduced-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2006
 Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K20 100 LB/A

Soil Name: Ebbert % OM: 2.7 pH: 6.4 CEC: 14
 Texture: Silt loam Fert. Level: P1: 80 LB/A, K: 342 LB/A

APPLICATION DESCRIPTION

A
 Application Date: 6-22-07
 Time of Day: 8:00
 Application Method: Spray
 Application Timing: 6"W
 Applic. Placement: BROFOL
 Air Temp., Unit: 76 F
 % Relative Humidity: 92
 Wind Velocity, Unit: 3-6 MPH
 Dew Presence (Y/N): N
 Soil Moisture: NORMAL
 % Cloud Cover: 0

CROP STAGE AT EACH APPLICATION

A
 Crop 1 Code, Stage: ZEAMX V5
 Height, Unit: 15 IN

WEED STAGE AT EACH APPLICATION

A
Weed 1 Code: SETFA
 Stage(leaves): 4-7
 Height(inches): 5-7
 Density: High
Weed 2 Code: AMATA
 Stage(leaves): 8-12
 Height(inches): 4-7
 Density: Medium
Weed 3 Code: XANST
 Stage(leaves): 4-6
 Height(inches): 4-6
 Density: Medium
Weed 4 Code: ABUTH
 Stage(leaves): 4-5
 Height(inches): 4-6
 Density: Low

APPLICATION EQUIPMENT

A
 Appl. Equipment: CO2 sprayer
 Operating Pressure: 40 PSI
 Nozzle Type: Flat fan
 Nozzle Size: XR 8002
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 15 GPA

NOTES:

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Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	ZEAMX Injury Percent 6-29-07 7 DA-A	ZEAMX Injury Percent 7-6-07 14 DA-A	ZEAMX Injury Percent 7-20-07 28 DA-A	SETFA Control Percent 6-29-07 7 DA-A	SETFA Control Percent 7-6-07 14 DA-A	SETFA Control Percent 7-20-07 28 DA-A	AMATA Control Percent 6-29-07 7 DA-A	AMATA Control Percent 7-6-07 14 DA-A	AMATA Control Percent 7-20-07 28 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Prod Rate	Prod Unit	Grow Stg	Appl Code									
1	NONTREATED								0 a	0 a	0 a	0 c	0 c	0 d			
2	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	90 ab	97 a	96 abc			
2	FORMULA 1	100 LIQ	0.75 % v/v	3 qt/100 gal	6"W	A			0 a	0 a	0 a	90 ab	97 a	96 abc			
3	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	88 b	94 ab	95 abc			
3	SPEEDWAY	100 LIQ	0.25 % v/v	1 qt/100 gal	6"W	A			0 a	0 a	0 a	88 b	94 ab	95 abc			
4	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	90 ab	97 a	97 ab			
4	US333	100 LIQ	0.5 % v/v	4 pt/100 gal	6"W	A			0 a	0 a	0 a	90 ab	97 a	97 ab			
5	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	90 ab	98 a	98 a			
5	FASTRACK	100 LIQ	0.5 % v/v	2 qt/100 gal	6"W	A			0 a	0 a	0 a	90 ab	98 a	98 a			
6	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	92 ab	97 a	97 abc			
6	ULTRA SURF	100 LIQ	2.5 % v/v	2.5 gal/100 gal	6"W	A			0 a	0 a	0 a	92 ab	97 a	97 abc			
7	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	92 ab	98 a	98 a			
7	ULTRA SURF	100 LIQ	5 % v/v	5 gal/100 gal	6"W	A			0 a	0 a	0 a	92 ab	98 a	98 a			
8	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	89 ab	95 ab	94 abc			
8	AMS	100 DRY	2 % w/w	17 lb/100 gal	6"W	A			0 a	0 a	0 a	89 ab	95 ab	94 abc			
9	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	93 a	96 ab	97 abc			
9	AMS 2000	100 DRY	2 % w/w	17 lb/100 gal	6"W	A			0 a	0 a	0 a	93 a	96 ab	97 abc			
10	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	93 ab	96 ab	97 ab			
10	AMS 20/10	100 DRY	1.2 % w/w	10 lb/100 gal	6"W	A			0 a	0 a	0 a	93 ab	96 ab	97 ab			
11	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	90 ab	94 ab	95 abc			
11	PAYOFF PLUS	100 DRY	1.2 % w/w	10 lb/100 gal	6"W	A			0 a	0 a	0 a	90 ab	94 ab	95 abc			
12	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	91 ab	94 ab	96 abc			
12	AMSOL PLUS	100 LIQ	5 % v/v	5 gal/100 gal	6"W	A			0 a	0 a	0 a	91 ab	94 ab	96 abc			
13	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	90 ab	93 ab	94 abc			
13	DOUBLE DOWN	100 LIQ	2.5 % v/v	2.5 gal/100 gal	6"W	A			0 a	0 a	0 a	90 ab	93 ab	94 abc			
14	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	88 b	90 b	92 c			
14	SRN-28	100 LIQ	1.5 % v/v	1.5 gal/100 gal	6"W	A			0 a	0 a	0 a	88 b	90 b	92 c			
15	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	89 ab	92 ab	92 bc			
15	LIBERTY	1.67 EC	0.209 lb ai/a	16 fl oz/a	6"W	A			0 a	0 a	0 a	89 ab	92 ab	92 bc			
LSD (P=.05)									0.0	0.0	0.0	4.5	5.9	5.0	3.8	6.4	6.9
Replicate F									0.000	0.000	0.000	2.800	8.504	4.283	4.466	0.934	0.863
Replicate Prob(F)									1.0000	1.0000	1.0000	0.0779	0.0013	0.0238	0.0207	0.4048	0.4328
Treatment F									0.000	0.000	0.000	229.828	148.377	204.622	355.313	124.998	107.222
Treatment Prob(F)									1.0000	1.0000	1.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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Weed Code	XANST	XANST	XANST	ABUTH	ABUTH	ABUTH
Crop Code	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	6-29-07	7-6-07	7-20-07	6-29-07	7-6-07	7-20-07
Rating Date	7 DA-A	14 DA-A	28 DA-A	7 DA-A	14 DA-A	28 DA-A
Trt-Eval Interval						

Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code						
1	NONTREATED								0 c	0 c	0 b	0 e	0 b	0 c
2	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	93 a-d	97 a	95 ab
2	FORMULA 1	100	LIQ	0.75 % v/v	3	qt/100 gal	6"W	A						
3	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	98 b	97 a	92 bcd	89 a	90 ab
3	SPEEDWAY	100	LIQ	0.25 % v/v	1	qt/100 gal	6"W	A						
4	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	98 ab	98 a	94 abc	96 a	96 ab
4	US333	100	LIQ	0.5 % v/v	4	pt/100 gal	6"W	A						
5	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	98 a	99 a	99 a
5	FASTRACK	100	LIQ	0.5 % v/v	2	qt/100 gal	6"W	A						
6	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	98 ab	98 a	98 ab
6	ULTRA SURF	100	LIQ	2.5 % v/v	2.5	gal/100 gal	6"W	A						
7	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	98 ab	99 a	99 a
7	ULTRA SURF	100	LIQ	5 % v/v	5	gal/100 gal	6"W	A						
8	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	97 ab	96 a	97 ab
8	AMS	100	DRY	2 % w/w	17	lb/100 gal	6"W	A						
9	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	97 ab	95 a	95 ab
9	AMS 2000	100	DRY	2 % w/w	17	lb/100 gal	6"W	A						
10	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	98 a	99 a	99 a
10	AMS 20/10	100	DRY	1.2 % w/w	10	lb/100 gal	6"W	A						
11	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	98 ab	98 a	94 abc	98 a	96 ab
11	PAYOFF PLUS	100	DRY	1.2 % w/w	10	lb/100 gal	6"W	A						
12	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	95 abc	98 a	98 ab
12	AMSOL PLUS	100	LIQ	5 % v/v	5	gal/100 gal	6"W	A						
13	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	96 b	99 a	99 a	94 abc	94 a	95 ab
13	DOUBLE DOWN	100	LIQ	2.5 % v/v	2.5	gal/100 gal	6"W	A						
14	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	98 ab	99 a	99 a	90 cd	88 a	87 b
14	SRN-28	100	LIQ	1.5 % v/v	1.5	gal/100 gal	6"W	A						
15	LIBERTY	1.67	EC	0.209 lb ai/a	16	fl oz/a	6"W	A	99 a	99 a	99 a	87 d	89 a	88 b
LSD (P=.05)									2.4	0.9	1.7	6.4	11.2	11.0
Replicate F									2.154	0.318	0.812	1.061	2.604	1.970
Replicate Prob(F)									0.1349	0.7301	0.4542	0.3595	0.0918	0.1584
Treatment F									963.802	6991.307	1924.593	124.114	41.682	43.106
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: United Suppliers.
2. Ratings: CI/WC at 7, 14, + 28 DAT.
3. DA-A = Days after 6"W application.