

Ohio State University
Horticulture and Crop Science

VALUE OF EARLY SEASON SOYBEAN RESIDUAL IN NO-TILL SOYBEANS

Trial ID: 08NTSYLD Study Dir.: Anthony F. Dobbels
Location: WESTERN BRANCH F-9 W Investigator: Dr. Mark M. Loux

GENERAL TRIAL INFORMATION

Study Director: Anthony F. Dobbels
Investigator: Dr. Mark M. Loux

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed Code	Common Name	Scientific Name
1. STEME	Common chickweed	Stellaria media
2. LAMPU	Purple deadnettel	Lamium purpureum
3. ERICA	Horseweed	Conyza canadensis
4. SETFA	Giant foxtail	Setaria faberi
5. CHEAL	Common lambsquarters	Chenopodium album
6. AMBTR	Giant ragweed	Ambrosia trifida
7. AMBEL	Common ragweed	Ambrosia artemisiifolia elatio

Crop 1: GLXMA SOYBEAN Variety: ASGROW AG3705
Planting Date: May/01/2008 Planting Method: KINZE 2000
Rate: 177642 SEED/A Depth: 0.5 IN
Row Spacing: 15 IN Seed Bed: NO-TILL

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 40 FT Reps: 4
Tillage Type: NO-TILL Study Design: RANDOMIZED COMPLETE BLOCK

SOIL DESCRIPTION

% OM: 2.8 Texture: SILTY CLAY LOAM
pH: 5.7 Soil Name: KOKOMO
CEC: 20.7 Fert. Level: GOOD

APPLICATION DESCRIPTION

	A	B	C
Application Date:	Apr/16/2008	Jun/17/2008	Aug/04/2008
Time of Day:	9:00 A.M.	9:00 A.M.	9:00 A.M.
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	14 EPP	POST	R3
Applic. Placement:	BROADCAST	BROADCAST	BROADCAST
Air Temp., Unit:	54 F	60 F	78 F
% Relative Humidity:	40	50	67
Wind Velocity, Unit:	10 S	8 WNW	1 w
Soil Temp., Unit:	44 F	60 F	72 F
Soil Moisture:	DRY/MOIST	DRY/MOIST	DRY/dry
% Cloud Cover:	2	35	5

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	GLXMA	GLXMA V3	GLXMA R3
Stage Scale:	DESC	DESC	
Height, Unit:	4	IN 26	in

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	STEME 8-12"	STEME	STEME
Stage Scale:	>12 LVS		
Density, Unit:	12 M2		
Weed 2 Code, Stage:	LAMPU 4-6"	LAMPU	LAMPU
Stage Scale:	>12 LVS		
Density, Unit:	12 M2		
Weed 3 Code, Stage:	ERICA 1-2"	ERICA 4-6"	ERICA
Stage Scale:	>12 LVS	>12 LVS	
Density, Unit:	9 M2	9 M2	
Weed 4 Code, Stage:	SETFA	SETFA 8-12"	SETFA
Stage Scale:		7 LVS	
Density, Unit:		520 M2	
Weed 5 Code, Stage:	CHEAL	CHEAL 8"	CHEAL
Stage Scale:		16 LVS	
Density, Unit:		12 M2	
Weed 6 Code, Stage:	AMBTR	AMBTR 7-13"	AMBTR
Stage Scale:		12-20 LVS	
Density, Unit:		10 M2	
Weed 7 Code, Stage:	AMBEL	AMBEL 4-7"	AMBEL
Stage Scale:		8-12 LVS	
Density, Unit:		17 M2	

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APPLICATION EQUIPMENT

	A		B		C	
Appl. Equipment:	BACKPACK		BACKPACK		BACKPACK	
Operating Pressure:	53		53		53	
Nozzle Type:	DG		DG		DG	
Nozzle Size:	11002		11002		11002	
Nozzle Spacing, Unit:	18	IN	18	IN	18	IN
Ground Speed, Unit:	3	MPH	3	MPH	3	MPH
Carrier:	WATER		WATER		WATER	
Spray Volume, Unit:	20	GPA	20	GPA	20	GPA
Propellant:	CO2		CO2		CO2	

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Trial ID: 08NTSYLD Study Dir.: Anthony F. Dobbels
Location: WESTERN BRANCH F-9 W Investigator: Dr. Mark M. Loux

Weed Code		SETFA	BROTE	STEME	LAMPU	LAMAM	SETFA				
Crop Code		CONTROL	CONTROL	CONTROL	CONTROL	CONTROL	CONTROL				
Rating Data Type		PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT				
Rating Unit		Apr/28/2008	Apr/28/2008	Apr/28/2008	Apr/28/2008	Apr/28/2008	May/27/2008				
Rating Date											
Trt-Eval Interval		12 DA-A	12 DA-A	12 DA-A	12 DA-A	12 DA-A	41 DA-A				
# Subsamples, Dec.		0	0	0	0	0	0				
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5	6
1	ROUNDUP POWERMAX	22 oz/a		14 EPP	A	53 b	78 a	75 a	75 a	78 a	28 c
1	2,4-D	1 pt/a		14 EPP							
1	AMS	4 qt/a		14 EPP							
1	ROUNDUP POWERMAX	22 oz/a		POST	B						
1	AMS	4 qt/a		POST							
2	SCEPTER	2.8 oz/a		14 EPP	A	64 b	90 a	88 a	78 a	72 a	95 a
2	ROUNDUP POWERMAX	22 oz/a		14 EPP							
2	2,4-D	1 pt/a		14 EPP							
2	AMS	4 qt/a		14 EPP							
2	ROUNDUP POWERMAX	22 oz/a		POST	B						
2	AMS	4 qt/a		POST							
3	EXTREME	3 pt/a		14 EPP	A	86 a	78 a	89 a	75 a	73 a	96 a
3	ROUNDUP POWERMAX	22 oz/a		14 EPP							
3	2,4-D	1 pt/a		14 EPP							
3	AMS	4 qt/a		14 EPP							
3	ROUNDUP POWERMAX	22 oz/a		POST	B						
3	AMS	4 qt/a		POST							
3	HEADLINE	6 oz/a		R3	C						
3	NIS	6.4 oz/a		R3							
4	CANOPY	4 oz/a		14 EPP	A	58 b	100 a	88 a	96 a	88 a	61 b
4	ROUNDUP POWERMAX	22 oz/a		14 EPP							
4	2,4-D	1 pt/a		14 EPP							
4	AMS	4 qt/a		14 EPP							
4	ROUNDUP POWERMAX	22 oz/a		POST	B						
4	AMS	4 qt/a		POST							
LSD (P=.05)						20.0	33.2	16.9	19.8	16.9	9.1
Standard Deviation						12.5	20.7	10.4	12.4	10.6	5.7
CV						19.29	24.06	12.23	15.28	13.66	8.15
Bartlett's X2						4.422	0.263	0.615	4.056	7.044	4.243
P(Bartlett's X2)						0.219	0.877	0.893	0.255	0.071	0.236
Replicate F						4.660	0.523	2.654	1.236	4.414	4.009
Replicate Prob(F)						0.0314	0.6774	0.1199	0.3525	0.0360	0.0457
Treatment F						5.565	1.103	1.571	2.762	2.065	130.910
Treatment Prob(F)						0.0195	0.3972	0.2705	0.1037	0.1753	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.

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Weed Code						BROTE	STEME	LAMPU	LAMAM	GLYMX	ERICA
Crop Code						CONTROL	CONTROL	CONTROL	CONTROL	PHYTO	CONTROL
Rating Data Type						PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT
Rating Unit						May/27/2008	May/27/2008	May/27/2008	May/27/2008	Jun/17/2008	Jun/17/2008
Rating Date						41 DA-A	41 DA-A	41 DA-A	41 DA-A	AT POST	AT POST
Trt-Eval Interval						0	0	0	0	0	0
# Subsamples, Dec.						0	0	0	0	0	0
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	7	8	9	10	11	12
1	ROUNDUP POWERMAX	22 oz/a		14 EPP	A	100 a	100 a	100 a	100 a	0 a	0 c
1	2,4-D	1 pt/a		14 EPP							
1	AMS	4 qt/a		14 EPP							
1	ROUNDUP POWERMAX	22 oz/a		POST	B						
1	AMS	4 qt/a		POST							
2	SCEPTER	2.8 oz/a		14 EPP	A	100 a	100 a	100 a	100 a	0 a	95 a
2	ROUNDUP POWERMAX	22 oz/a		14 EPP							
2	2,4-D	1 pt/a		14 EPP							
2	AMS	4 qt/a		14 EPP							
2	ROUNDUP POWERMAX	22 oz/a		POST	B						
2	AMS	4 qt/a		POST							
3	EXTREME	3 pt/a		14 EPP	A	100 a	100 a	100 a	100 a	0 a	48 b
3	ROUNDUP POWERMAX	22 oz/a		14 EPP							
3	2,4-D	1 pt/a		14 EPP							
3	AMS	4 qt/a		14 EPP							
3	ROUNDUP POWERMAX	22 oz/a		POST	B						
3	AMS	4 qt/a		POST							
3	HEADLINE	6 oz/a		R3	C						
3	NIS	6.4 oz/a		R3							
4	CANOPY	4 oz/a		14 EPP	A	100 a	100 a	100 a	100 a	0 a	100 a
4	ROUNDUP POWERMAX	22 oz/a		14 EPP							
4	2,4-D	1 pt/a		14 EPP							
4	AMS	4 qt/a		14 EPP							
4	ROUNDUP POWERMAX	22 oz/a		POST	B						
4	AMS	4 qt/a		POST							
LSD (P=.05)						0.0	0.0	0.0	0.0	0.0	11.2
Standard Deviation						0.0	0.0	0.0	0.0	0.0	7.0
CV						0.0	0.0	0.0	0.0	0.0	11.58
Bartlett's X2						0.0	0.0	0.0	0.0	0.0	3.068
P(Bartlett's X2)						0.08
Replicate F						0.000	0.000	0.000	0.000	0.000	0.549
Replicate Prob(F)						1.0000	1.0000	1.0000	1.0000	1.0000	0.6611
Treatment F						0.000	0.000	0.000	0.000	0.000	177.930
Treatment Prob(F)						1.0000	1.0000	1.0000	1.0000	1.0000	0.0001

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Weed Code				SETFA		CHEAL		AMBTR		AMBEL		ERICA		SETFA	
Crop Code						CONTROL		CONTROL		CONTROL		CONTROL		CONTROL	
Rating Data Type						PERCENT		PERCENT		PERCENT		PERCENT		PERCENT	
Rating Unit						Jun/17/2008		Jun/17/2008		Jun/17/2008		Jun/17/2008		Jul/17/2008	
Rating Date						AT POST		AT POST		AT POST		AT POST		30 DA-B	
Trt-Eval Interval						0		0		0		0		0	
# Subsamples, Dec.						0		0		0		0		0	
Trt No.	Treatment Name	Product Rate	Product Rate Unit	Grow Stg	Appl Code	13	14	15	16	17	18				
1	ROUNDUP POWERMAX	22	oz/a	14	EPP A	0 b	0 b	0 b	0 b	95 a	95 a				
1	2,4-D	1	pt/a	14	EPP										
1	AMS	4	qt/a	14	EPP										
1	ROUNDUP POWERMAX	22	oz/a	POST	B										
1	AMS	4	qt/a	POST											
2	SCEPTER	2.8	oz/a	14	EPP A	71 a	100 a	75 a	96 a	100 a	97 a				
2	ROUNDUP POWERMAX	22	oz/a	14	EPP										
2	2,4-D	1	pt/a	14	EPP										
2	AMS	4	qt/a	14	EPP										
2	ROUNDUP POWERMAX	22	oz/a	POST	B										
2	AMS	4	qt/a	POST											
3	EXTREME	3	pt/a	14	EPP A	73 a	100 a	8 b	8 b	90 a	98 a				
3	ROUNDUP POWERMAX	22	oz/a	14	EPP										
3	2,4-D	1	pt/a	14	EPP										
3	AMS	4	qt/a	14	EPP										
3	ROUNDUP POWERMAX	22	oz/a	POST	B										
3	AMS	4	qt/a	POST											
3	HEADLINE	6	oz/a	R3	C										
3	NIS	6.4	oz/a	R3											
4	CANOPY	4	oz/a	14	EPP A	31 b	100 a	70 a	98 a	100 a	98 a				
4	ROUNDUP POWERMAX	22	oz/a	14	EPP										
4	2,4-D	1	pt/a	14	EPP										
4	AMS	4	qt/a	14	EPP										
4	ROUNDUP POWERMAX	22	oz/a	POST	B										
4	AMS	4	qt/a	POST											
LSD (P=.05)						33.2	0.0	32.5	13.2	8.8	4.6				
Standard Deviation						20.7	0.0	20.3	8.3	5.5	2.9				
CV						47.43	0.0	53.23	16.42	5.74	2.98				
Bartlett's X2						8.358	0.0	0.801	3.387	0.118	2.689				
P(Bartlett's X2)						0.015*	.	0.67	0.184	0.732	0.442				
Replicate F						0.648	0.000	0.460	1.489	2.455	2.500				
Replicate Prob(F)						0.6035	1.0000	0.7168	0.2825	0.1298	0.1255				
Treatment F						11.313	0.000	15.435	170.038	3.000	0.740				
Treatment Prob(F)						0.0021	1.0000	0.0007	0.0001	0.0877	0.5544				

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Weed Code	CHEAL	AMBTR	AMBEL
Crop Code			
Rating Data Type	CONTROL	CONTROL	CONTROL
Rating Unit	PERCENT	PERCENT	PERCENT
Rating Date	Jul/17/2008	Jul/17/2008	Jul/17/2008
Trt-Eval Interval	30 DA-B	30 DA-B	30 DA-B
# Subsamples, Dec.	0	0	0

Trt No.	Treatment Name	Product Rate	Product Unit	Grow Stg	Appl Code	19	20	21
1	ROUNDUP POWERMAX	22 oz/a		14 EPP	A	100 a	98 a	100 a
1	2,4-D	1 pt/a		14 EPP				
1	AMS	4 qt/a		14 EPP				
1	ROUNDUP POWERMAX	22 oz/a		POST	B			
1	AMS	4 qt/a		POST				
2	SCEPTER	2.8 oz/a		14 EPP	A	100 a	71 a	100 a
2	ROUNDUP POWERMAX	22 oz/a		14 EPP				
2	2,4-D	1 pt/a		14 EPP				
2	AMS	4 qt/a		14 EPP				
2	ROUNDUP POWERMAX	22 oz/a		POST	B			
2	AMS	4 qt/a		POST				
3	EXTREME	3 pt/a		14 EPP	A	100 a	85 a	100 a
3	ROUNDUP POWERMAX	22 oz/a		14 EPP				
3	2,4-D	1 pt/a		14 EPP				
3	AMS	4 qt/a		14 EPP				
3	ROUNDUP POWERMAX	22 oz/a		POST	B			
3	AMS	4 qt/a		POST				
3	HEADLINE	6 oz/a		R3	C			
3	NIS	6.4 oz/a		R3				
4	CANOPY	4 oz/a		14 EPP	A	100 a	91 a	100 a
4	ROUNDUP POWERMAX	22 oz/a		14 EPP				
4	2,4-D	1 pt/a		14 EPP				
4	AMS	4 qt/a		14 EPP				
4	ROUNDUP POWERMAX	22 oz/a		POST	B			
4	AMS	4 qt/a		POST				
LSD (P=.05)						0.0	19.1	0.0
Standard Deviation						0.0	12.0	0.0
CV						0.0	13.87	0.0
Bartlett's X2						0.0	2.762	0.0
P(Bartlett's X2)						.	0.43	.
Replicate F						0.000	0.524	0.000
Replicate Prob(F)						1.0000	0.6764	1.0000
Treatment F						0.000	3.524	0.000
Treatment Prob(F)						1.0000	0.0618	1.0000

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