

MSU Weed Science Research Program

KIH-485 as a Residual Foundation in Glyphosate-Tolerant Soybean

Trial ID: SOY09-07
 Conducted: C-16E

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Date Planted: 5/8/07	Row Spacing: 30 IN
Variety: Pioneer 91M91	No. of Reps: 4
Population: 155,000 Seeds/Acre	% OM: 2.6
Soil Type: Sandy Clay Loam	pH: 6.3
Plot Size: 10 X 30 FT	Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall Chisel Plow, Spring Soil X2
Fertilizer: None at planting

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
2.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
3.	CHEAL	COMMON LAMBSQUARTERS	CHENOPODIUM ALBUM L.
4.	ANGR	mainly foxtail species	SETARIA SP.
5.	BRAKA	MUSTARD, WILD	BRASSICA KABER
6.	AMAPO	AMARANTH, POWELL	AMARANTHUS POWELLII S.WATS.
Crop	Code	Common Name	
1.	GLMXA	SOYBEAN	

Application Description

	A	B	C
Application Timing:	PRE	POST	L. POST
Date Treated:	5/8/07	6/14/07	7/2/07
Time Treated:	7:40 pm	5:45 pm	8:15 PM
% Cloud Cover:	60	50	70
Air Temp., Unit:	81 F	90 F	74 F
% Relative Humidity:	36	20	46
Wind Speed/Unit/Dir:	1 mph W	3 mph N	1 mph SW
Soil Temp., Unit:	75 F	90 F	79 F
Soil/Leaf Surface M:	5 5	5 5	5 5
Soil Moist (1=w 5=d):	5	5	5

Crop Stage at Each Application

	A	B	C
Crop Name:	GLMXA	GLMXA	GLMXA
Height (In.):	-	6-7"	13-17"
Stage (L):	-	V2-V3	R1

Weed Stage at Each Application

	A	B	C
Weed 1 Name:	AMBEL	AMBEL	AMBEL
Height (In.):	-	1-5"	3-9"
Stage (L):	-	4-many	4-many
Weed 2 Name:	ABUTH	ABUTH	ABUTH
Height (In.):	-	1-4"	3-14"
Stage (L):	-	2-4	4-8
Weed 3 Name:	CHEAL	CHEAL	CHEAL
Height (In.):	-	1-4"	2-3"
Stage (L):	-	4-10	4-8
Weed 4 Name:	ANGR	ANGR	ANGR
Height (In.):	-	4-7"	5-11"
Stage (L):	-	3-4	3-5
Weed 5 Name:	BRAKA	BRAKA	BRAKA
Height (In.):	-	8-16"	-
Stage (L):	-	flowering	-
Weed 6 Name:	AMAPO	AMAPO	AMAPO
Height (In.):	-	-	-
Stage (L):	-	-	-

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Weed Density (plants/sq. ft.)

	1	2	3	4	5	6
Date:	7/9/07	7/9/07	7/9/07	7/9/07	7/9/07	7/9/07
Weed Name:	CHEAL	ABUTH	ANGR	AMAPO	AMBEL	BRAKA
Density:	4	1	39	1	16	< 1

Application Equipment

Appl	Sprayer	Speed	Nozzle	Nozzle	Nozzle	Nozzle	Boom			
	Type	MPH	Type	Size	Height	Spacing	Width	GPA	Carrier	PSI
A	Cub	3.8	AirMix	11003	23"	20"	100"	19	Water	27
B	Cub	3.8	AirMix	11003	28"	20"	100"	19	Water	27
C	Cub	3.8	AirMix	11003	28"	20"	100"	19	Water	27

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Weed Code									ANGR	AMBEL	AMAPO	ABUTH	BRAKA	
Crop Code									GLXMA					GLXMA
Rating Data Type									injury	control	control	control	control	injury
Rating Unit									percent	percent	percent	percent	percent	percent
Rating Date									6/8/07	6/8/07	6/8/07	6/8/07	6/8/07	6/15/07
Trt-Eval Interval									31 DA-A	31 DA-A	31 DA-A	31 DA-A	31 DA-A	38 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	KIH-485	85	WG	1.4	oz/a	PRE	A	3	94	50	99	62	99	8
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
1	AMS		WG	17	lb/100 gal	POST	B							
2	KIH-485	85	WG	2	oz/a	PRE	A	3	95	71	99	97	99	8
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
2	AMS		WG	17	lb/100 gal	POST	B							
3	Dual Magnum	7.62	EC	1	pt/a	PRE	A	2	96	20	96	20	33	0
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
3	AMS		WG	17	lb/100 gal	POST	B							
4	KIH-485	85	WG	2.8	oz/a	PRE	A	22	98	83	99	94	99	12
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
4	AMS		WG	17	lb/100 gal	POST	B							
5	Dual Magnum	7.62	EC	1.33	pt/a	PRE	A	2	98	23	95	17	43	1
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
5	AMS		WG	17	lb/100 gal	POST	B							
6	Untreated							0	0	0	0	0	0	0
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	0	0	0	0	0	0	0
7	AMS		WG	17	lb/100 gal	POST	B							
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	0	0	0	0	0	0	0
8	AMS		WG	17	lb/100 gal	POST	B							
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C							
8	AMS		WG	17	lb/100 gal	LPOS	C							
LSD (P=.05)								4.5	5.0	10.8	4.4	6.3	5.6	4.0
Standard Deviation								3.0	3.4	7.4	3.0	4.2	3.8	2.7
CV								76.37	5.71	23.89	4.86	11.6	8.15	74.21

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Weed Code								ANGR	AMBEL	ABUTH	AMAPO	GLXMA	ANGR	AMBEL
Crop Code														
Rating Data Type								control	control	control	control	injury	control	control
Rating Unit								percent	percent	percent	percent	percent	percent	percent
Rating Date								6/15/07	6/15/07	6/15/07	6/15/07	6/29/07	6/29/07	6/29/07
Trt-Eval Interval								38 DA-A	38 DA-A	38 DA-A	38 DA-A	52 DA-A	52 DA-A	52 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	KIH-485	85	WG	1.4	oz/a	PRE	A	95	45	82	99	0	97	92
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
1	AMS		WG	17	lb/100 gal	POST	B							
2	KIH-485	85	WG	2	oz/a	PRE	A	96	60	97	99	0	98	94
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
2	AMS		WG	17	lb/100 gal	POST	B							
3	Dual Magnum	7.62	EC	1	pt/a	PRE	A	98	25	48	98	0	98	89
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
3	AMS		WG	17	lb/100 gal	POST	B							
4	KIH-485	85	WG	2.8	oz/a	PRE	A	98	73	92	99	0	99	97
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
4	AMS		WG	17	lb/100 gal	POST	B							
5	Dual Magnum	7.62	EC	1.33	pt/a	PRE	A	99	33	55	99	0	99	90
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
5	AMS		WG	17	lb/100 gal	POST	B							
6	Untreated							0	0	0	0	0	0	0
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	0	0	0	0	1	98	94
7	AMS		WG	17	lb/100 gal	POST	B							
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	0	0	0	0	1	99	96
8	AMS		WG	17	lb/100 gal	POST	B							
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C							
8	AMS		WG	17	lb/100 gal	LPOS	C							
LSD (P=.05)								4.3	17.0	19.8	1.0	1.8	1.7	4.1
Standard Deviation								2.9	11.6	13.4	0.7	1.2	1.2	2.7
CV								4.84	39.35	28.82	1.15	389.33	1.36	3.37

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Weed Code								ABUTH	AMARE	ANGR	AMBEL	AMARE	ABUTH	GLXMA
Crop Code								control	control	control	control	control	control	moisture
Rating Data Type								percent	percent	percent	percent	percent	percent	percent
Rating Unit								6/29/07	6/29/07	7/13/07	7/13/07	7/13/07	7/13/07	9/30/07
Rating Date								52 DA-A	52 DA-A	66 DA-A	66 DA-A	66 DA-A	66 DA-A	145 DA-A
Trt-Eval Interval														
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code							
1	KIH-485	85	WG	1.4	oz/a	PRE	A	97	99	92	96	99	97	12.0
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
1	AMS		WG	17	lb/100 gal	POST	B							
2	KIH-485	85	WG	2	oz/a	PRE	A	99	99	95	96	99	97	11.9
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
2	AMS		WG	17	lb/100 gal	POST	B							
3	Dual Magnum	7.62	EC	1	pt/a	PRE	A	95	99	94	95	99	97	12.2
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
3	AMS		WG	17	lb/100 gal	POST	B							
4	KIH-485	85	WG	2.8	oz/a	PRE	A	99	99	95	97	99	98	11.7
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
4	AMS		WG	17	lb/100 gal	POST	B							
5	Dual Magnum	7.62	EC	1.33	pt/a	PRE	A	94	99	95	97	99	93	12.0
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B							
5	AMS		WG	17	lb/100 gal	POST	B							
6	Untreated							0	0	0	0	0	0	12.0
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	98	99	92	97	99	94	12.1
7	AMS		WG	17	lb/100 gal	POST	B							
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	96	99	99	99	99	99	11.7
8	AMS		WG	17	lb/100 gal	POST	B							
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C							
8	AMS		WG	17	lb/100 gal	LPOS	C							
LSD (P=.05)								3.9	0.0	3.9	2.6	0.5	4.1	0.30
Standard Deviation								2.7	0.0	2.6	1.8	0.4	2.8	0.21
CV								3.16	0.01	3.2	2.09	0.41	3.28	1.73

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Weed Code
 Crop Code GLXMA
 Rating Data Type yield
 Rating Unit bu/acre
 Rating Date 9/30/07
 Trt-Eval Interval at 13% M

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	
1	KIH-485	85	WG	1.4	oz/a	PRE	A	35.5
1	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	
1	AMS		WG	17	lb/100 gal	POST	B	
2	KIH-485	85	WG	2	oz/a	PRE	A	42.9
2	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	
2	AMS		WG	17	lb/100 gal	POST	B	
3	Dual Magnum	7.62	EC	1	pt/a	PRE	A	40.9
3	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	
3	AMS		WG	17	lb/100 gal	POST	B	
4	KIH-485	85	WG	2.8	oz/a	PRE	A	40.9
4	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	
4	AMS		WG	17	lb/100 gal	POST	B	
5	Dual Magnum	7.62	EC	1.33	pt/a	PRE	A	44.8
5	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	
5	AMS		WG	17	lb/100 gal	POST	B	
6	Untreated							7.5
7	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	44.2
7	AMS		WG	17	lb/100 gal	POST	B	
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	POST	B	43.0
8	AMS		WG	17	lb/100 gal	POST	B	
8	Roundup WeatherMax	4.5	SL	22	fl oz/a	LPOS	C	
8	AMS		WG	17	lb/100 gal	LPOS	C	

LSD (P=.05) 6.40
 Standard Deviation 4.35
 CV 11.61