

Systems utilizing PPO inhibitors in glyphosate-resistant soybean

Trial ID: SOY02-09
Conducted: C-12

Study Dir.: Sprague, Powell
Investigator: Christy Sprague

Date Planted: 5/18/09
Variety: Pioneer 92M61 RR
Population: 156,000
Soil Type: Loam
Plot Size: 10 X 28 FT
Row Spacing: 30 IN
No. of Reps: 4
% OM: 3.4
pH: 7.3
Design: RANDOMIZED COMPLETE BLOCK

Tillage: Fall moldboard plow, spring soil finish twice
Fertilizer: None

Crop and Weed Description

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

Application Description

	A	B	C	D
Application Timing:	PRE	MPOS	POST	LPOS
Date Treated:	5/18/09	6/15/09	6/23/09	7/20/09
Time Treated:	4:15 pm	1:40 pm	11:45 am	8:45 am
% Cloud Cover:	10	10	20	5
Air Temp., Unit:	72 F	84 F	85 F	66 F
% Relative Humidity:	23	28	48	
Wind Speed/Unit/Dir:	5 mph SW	6 mph NE	2 mph W	0 mph W
Soil Temp., Unit:	62 F	78 F	76 F	65 F
Soil/Leaf Surface M:	5 5	5 5	4 5	5 5
Soil Moist (1=w 5=d):	3	4	3	5

Crop Stage at Each Application

	A	B	C	D
Crop Name:	GLXMA	GLXMA	GLXMA	GLXMA
Height (In.):	-	5-6	8	16
Stage (L):	-	V2	V3	R1

Weed Stage at Each Application

	A	B	C	D
Weed 1 Name:	AMBEL	AMBEL	AMBEL	AMBEL
Height (In.):	-	4	5	3
Stage (L):	-	6	12	6
Weed 2 Name:	ABUTH	ABUTH	ABUTH	ABUTH
Height (In.):	-	1	5	2
Stage (L):	-	1-3	6	3
Weed 3 Name:	ANGR	ANGR	ANGR	ANGR
Height (In.):	-	3	9	3
Stage (L):	-	3	4	4
Weed 4 Name:	AMAPO	AMAPO	AMAPO	AMAPO
Height (In.):	-	-	4	-
Stage (L):	-	-	6	-
Weed 5 Name:	CHEAL	CHEAL	CHEAL	CHEAL
Height (In.):	-	-	5	-
Stage (L):	-	-	8	-

Weed Density (plants/sq. ft.)

Weed Name:	1	2	3	4	5
ANGR	11	13	2	<1	<1

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	23"	20"	100"	19	Water	28
B	Cub	3.8	AirMix	11003	24"	20"	100"	19	Water	28
C	Cub	3.8	AirMix	11003	27"	20"	100"	19	Water	28
D	Cub	3.8	AirMix	11003	30"	20"	100"	19	Water1	28

Systems utilizing PPO inhibitors in glyphosate-resistant soybean

Trial ID: SOY02-09
 Conducted: C-12

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code								ANGR	CHEAL	AMAPO	AMBEL	ABUTH	GLXMA	GLXMA	ANGR	AMBEL	
Crop Code								GLXMA	control	control	control	control	control	GLXMA	GLXMA	control	control
Rating Data Type								injury	percent	percent	percent	percent	injury	injury	percent	percent	
Rating Unit								percent	percent	percent	percent	percent	percent	percent	percent	percent	percent
Rating Date								6/23/09	6/23/09	6/23/09	6/23/09	6/23/09	6/29/09	7/7/09	7/7/09	7/7/09	7/7/09
Tri-Eval Interval								0 DA-C	0 DA-C	0 DA-C	0 DA-C	0 DA-C	6 DA-C	14 DA-C	14 DA-C	14 DA-C	
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code										
1	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	20	97	99	99	57	96	11	6	93	10
1	Cadet	0.91	L	0.9	fl oz/a	MPOS	B										
1	Herbimax (COC)		L	1	% v/v	MPOS	B										
2	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	18	99	95	99	92	94	6	5	98	88
2	Flexstar	1.88	L	1	pt/a	MPOS	B										
2	Herbimax (COC)		L	1	% v/v	MPOS	B										
2	N-Pak Liquid AMS		L	5	% v/v	MPOS	B										
3	Prefix	5.52	L	2	pt/a	PRE	A	6	94	99	99	65	48	0	0	99	97
3	Touchdown Total	4.17	SL	24	fl oz/a	POST	C										
3	N-Pak Liquid AMS		L	5	% v/v	POST	C										
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	16	92	99	99	73	98	11	15	99	97
4	Touchdown Total	4.17	SL	24	fl oz/a	POST	C										
4	N-Pak Liquid AMS		L	5	% v/v	POST	C										
5	Boundary	6.5	L	1.5	pt/a	PRE	A	4	98	99	99	51	71	16	12	99	99
5	Flexstar GT	3.31	SL	3	pt/a	POST	C										
5	Activator 90		L	0.25	% v/v	POST	C										
5	N-Pak Liquid AMS		L	5	% v/v	POST	C										
6	Untreated							0	0	0	0	0	0	0	0	0	0
7	Cadet	0.91	L	0.6	fl oz/a	POST	C							11	10	99	92
7	Touchdown Total	4.17	SL	24	fl oz/a	POST	C										
7	N-Pak Liquid AMS		L	5	% v/v	POST	C										
8	Flexstar GT	3.31	SL	3	pt/a	POST	C							19	14	99	98
8	Activator 90		L	0.25	% v/v	POST	C										
8	N-Pak Liquid AMS		L	5	% v/v	POST	C										
9	Touchdown Total	4.17	SL	24	fl oz/a	POST	C							20	18	99	98
9	Prefix	5.52	L	2	pt/a	POST	C										
9	N-Pak Liquid AMS		L	5	% v/v	POST	C										
9	Touchdown Total	4.17	SL	24	fl oz/a	LPOS	D										
9	N-Pak Liquid AMS		L	5	% v/v	LPOS	D										
10	Touchdown Total	4.17	SL	24	fl oz/a	POST	C							3	4	99	97
10	N-Pak Liquid AMS		L	5	% v/v	POST	C										
10	Touchdown Total	4.17	SL	24	fl oz/a	LPOS	D										
10	N-Pak Liquid AMS		L	5	% v/v	LPOS	D										
LSD (P=.05)								5.4	6.1	3.2	0.0	9.1	6.2	4.3	4.5	1.9	4.8
Standard Deviation								3.6	4.1	2.1	0.0	6.0	4.1	3.0	3.1	1.3	3.3
CV								33.92	5.11	2.59	0.0	10.71	6.04	30.83	37.33	1.5	4.26

Systems utilizing PPO inhibitors in glyphosate-resistant soybean

Trial ID: SOY02-09
 Conducted: C-12

Study Dir.: Sprague, Powell
 Investigator: Christy Sprague

Weed Code	ABUTH	GLXMA	ANGR	CHEAL	AMBEL	AMAPO	ABUTH	GLXMA	GLXMA
Crop Code	control	injury	control	control	control	control	control	moisture	yield
Rating Data Type	percent	percent	percent	percent	percent	percent	percent	percent	bu/acre
Rating Unit	7/7/09	7/21/09	7/21/09	7/21/09	7/21/09	7/21/09	7/21/09	10/13/09	10/13/09
Rating Date	14 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	148 DA-A	at 13% M
Trt-Eval Interval									

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Grow Stg	Appl Code	14 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	28 DA-C	148 DA-A	at 13% M
1	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	95	0	91	93	33	99	99	21.0	44.2
1	Cadet	0.91	L	0.9	fl oz/a	MPOS	B									
1	Herbimax (COC)		L	1	% v/v	MPOS	B									
2	Dual II Magnum	7.64	L	1.33	pt/a	PRE	A	75	0	94	90	92	99	91	17.7	73.2
2	Flexstar	1.88	L	1	pt/a	MPOS	B									
2	Herbimax (COC)		L	1	% v/v	MPOS	B									
2	N-Pak Liquid AMS		L	5	% v/v	MPOS	B									
3	Prefix	5.52	L	2	pt/a	PRE	A	94	0	99	99	98	99	98	17.9	81.2
3	Touchdown Total	4.17	SL	24	fl oz/a	POST	C									
3	N-Pak Liquid AMS		L	5	% v/v	POST	C									
4	Valor XLT	40.3	WG	3	oz/a	PRE	A	98	13	99	99	99	99	99	18.9	78.4
4	Touchdown Total	4.17	SL	24	fl oz/a	POST	C									
4	N-Pak Liquid AMS		L	5	% v/v	POST	C									
5	Boundary	6.5	L	1.5	pt/a	PRE	A	96	0	99	99	99	99	99	18.5	77.4
5	Flexstar GT	3.31	SL	3	pt/a	POST	C									
5	Activator 90		L	0.25	% v/v	POST	C									
5	N-Pak Liquid AMS		L	5	% v/v	POST	C									
6	Untreated							0	0	0	0	0	0	0	18.7	33.1
7	Cadet	0.91	L	0.6	fl oz/a	POST	C	98	8	95	99	84	99	97	17.2	75.7
7	Touchdown Total	4.17	SL	24	fl oz/a	POST	C									
7	N-Pak Liquid AMS		L	5	% v/v	POST	C									
8	Flexstar GT	3.31	SL	3	pt/a	POST	C	99	4	98	99	99	99	97	17.0	76.0
8	Activator 90		L	0.25	% v/v	POST	C									
8	N-Pak Liquid AMS		L	5	% v/v	POST	C									
9	Touchdown Total	4.17	SL	24	fl oz/a	POST	C	96	9	94	99	95	99	92	18.3	76.0
9	Prefix	5.52	L	2	pt/a	POST	C									
9	N-Pak Liquid AMS		L	5	% v/v	POST	C									
9	Touchdown Total	4.17	SL	24	fl oz/a	LPOS	D									
9	N-Pak Liquid AMS		L	5	% v/v	LPOS	D									
10	Touchdown Total	4.17	SL	24	fl oz/a	POST	C	94	0	97	98	94	99	94	17.4	80.2
10	N-Pak Liquid AMS		L	5	% v/v	POST	C									
10	Touchdown Total	4.17	SL	24	fl oz/a	LPOS	D									
10	N-Pak Liquid AMS		L	5	% v/v	LPOS	D									

LSD (P=.05)	4.8	3.0	3.2	3.2	4.8	0.2	5.2	3.11	7.43
Standard Deviation	3.3	2.1	2.2	2.2	3.3	0.2	3.6	2.14	5.12
CV	3.94	63.74	2.58	2.52	4.16	0.18	4.12	11.72	7.37