

No-Till Soybean Weed Control Studies

Southern Illinois University

BASF Soybean Demonstration.

Trial ID: 10-22-M150

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
City State Zip Country: Belleville IL 62221 USA
Trial Status: FINAL Initiation Date: 05-13-10

Objectives: Evaluate the performance of BASF soybean crop protection products.

Crop 1: GLXMA Soybean Variety: AG 4005 Description: RR
Planting Method: SEEDED Planting Date: 05-28-10
Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN
Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: SETFA Setaria faberi Herrm. foxtail, giant
Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
Pest 3 Type: W Code: ABUTH Abutilon theophrasti Medicus velvetleaf
Pest 4 Type: W Code: ERICA Conyza canadensis (L.) Crong. horseweed
Pest 5 Type: W Code: CHEAL Chenopodium album L. lambsquarters, common

Plot Width, Unit: 15 FT Site Type: FIELD
Plot Length, Unit: 50 FT Tillage Type: NO-TILL
Replications: 6 Study Design: Randomized Complete Block

Prior Crops, Year
1. GLXMA 2009

Field Prep./Maintenance: N 0 LB/A, P2O5 0 LB/A, K2O 0 LB/A

% OM: 2.1 Texture: SILT LOAM
pH: 6.5 Soil Name: CASEYVILLE
CEC: 8 Fert. Level: P1: 80 LB/A, K: 369 LB/A

	Application Description				
	A	B	C	D	E
Application Date:	05-13-10	05-19-10	06-10-10	07-21-10	06-18-10
Time of Day:	15:00	15:00	8:00	9:30	7:00
Application Method:	Spray	Spray	Spray	Spray	Spray
Application Timing:	7-10DBP	3-5DBP	3-4"W	R3	3-4"W
Application Placement:	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	RFK	RFK	RFK	DKP	RFK
Air Temperature, Unit:	80 F	70 F	74 F	79 F	80 F
% Relative Humidity:	78	74	92	87	92
Wind Velocity, Unit:	3 MPH	0 MPH	0 MPH	1 MPH	0 MPH
Wind Direction:				SW	
Soil Moisture:	ABONOR	ABONOR	NORMAL	ABONOR	ABONOR
	05-13-10	05-19-10	06-10-10	07-21-10	06-18-10
Crop stage at application:	NA	NA	V1	R2-R3	V2
Height Min, Max (inch):			3 4	34 39	4 6

	Pest Stage At Each Application				
	05-13-10	05-19-10	06-10-10	07-21-10	07-18-10
Application Date:	05-13-10	05-19-10	06-10-10	07-21-10	07-18-10
Weed Code:	SETFA	SETFA	SETFA	SETFA	SETFA
Stage Majority (leaves):	5	5	5	NA	5
Stage Min, Max:	3 5	3 5	3 5		3 5
Height Majority:	5 IN	5 IN	4 IN		4 IN
Height Min, Max:	1 6	1 6	3 5		3 5
Density, Unit:	1 FT2	1 FT2	1 FT2		1 FT2
Weed Code:	AMATA	AMATA	AMATA	AMATA	AMATA
Stage Majority (leaves):	NA	NA	5	NA	5
Stage Min, Max:			3 5		5 8
Height Majority:			3 IN		4 IN
Height Min, Max:			2 4		3 5
Density, Unit:			0.1 FT2		0.1 FT2
Weed Code:	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
Stage Majority (leaves):	NA	NA	5	NA	5
Stage Min, Max:			5 5		5 8
Height Majority:			3 IN		4 IN
Height Min, Max:			2 4		3 5
Density, Unit:			0.01 FT2		0.01 FT2
Weed Code:	ERICA	ERICA	ERICA	ERICA	ERICA
Stage Majority (leaves):	5	5	NA	NA	NA
Stage Min, Max:	5 8	5 8			
Height Majority:	2 IN	2 IN			
Height Min, Max:	2 3	2 3			
Density, Unit:	0.1 FT2	0.1 FT2			
Weed Code:	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
Stage Majority (leaves):	14	16	NA	NA	NA
Stage Min, Max:	12 15	14 19			
Height Majority:	6 IN	8 IN			
Height Min, Max:	4 10	4 12			
Density, Unit:	1 FT2	1 FT2			

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Application Equipment

Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	30 PSI	30 PSI	30 PSI	30 PSI	30 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	XR 8002	XR 8002	XR 8002	XR 8002	XR 8002
Boom Length, Unit:	10 FT	10 FT	10 FT	10 FT	10 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA	15 GPA	15 GPA

Location: Belleville Res. Center

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C	119	b	11.7	a	35	d	0	a
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C							0	a
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7-10DBP	A	119	b	11.0	b	45	c	0	a
2	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7-10DBP	A							0	a
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7-10DBP	A							0	b
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C								
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C								
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B	119	b	10.6	b	55	b	0	a
3	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B							0	a
3	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B							83	a
3	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B								
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B								
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E								
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E								
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B	129	a	10.7	b	64	a	0	a
4	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B							0	a
4	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B							90	a
4	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B								
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B								
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E								
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E								
4	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R3	D								
4	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R3	D								
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B	129	a	10.9	b	61	ab	0	a
5	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B							0	a
5	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B							89	a
5	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B								
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B								
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E								
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E								
5	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R3	D								
5	RESPECT	0.8	EC	0.02	lb ai/a	3.2	fl oz/a	R3	D								
5	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R3	D								

0.0 0.48 9.0 0.0 0.0 9.8 7.5

Replicate F	0.000	0.297	0.974	0.000	0.000	0.873	0.193
Replicate Prob(F)	1.0000	0.9086	0.4574	1.0000	1.0000	0.5163	0.9615
Treatment F	0.000	7.322	15.600	0.000	0.000	209.937	9.587
Treatment Prob(F)	1.0000	0.0008	0.0001	1.0000	1.0000	0.0001	0.0002

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

BASF Soybean Demonstration.

Trial ID: 10-22-M150

Location: Belleville Res. Center

										AMATA	AMATA	ABUTH	ABUTH	ERICA	ERICA	CHEAL	CHEAL
Pest Code																	
Crop Code																	
Rating Date																	
Rating Data Type										Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit										Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Timing										0 DA-C	21 DA-C	0 DA-C	21 DA-C	0 DA-C	21 DA-C	0 DA-C	21 DA-C
Trt-Eval Interval										0 DA-E	21 DA-E	0 DA-E	21 DA-E	0 DA-E	21 DA-E	0 DA-E	21 DA-E
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code								
1	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C	0 b	92 b	0 b	95 b	0 b	84 b	0 c	93 b
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C								
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7-10DBP	A	0 b	92 b	0 b	99 a	99 a	99 a	98 a	99 a
2	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7-10DBP	A								
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7-10DBP	A								
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C								
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C								
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B	98 a	99 a	99 a	99 a	99 a	99 a	92 b	99 a
3	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B								
3	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B								
3	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B								
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B								
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E								
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E								
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B	98 a	99 a	99 a	99 a	99 a	99 a	91 b	99 a
4	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B								
4	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B								
4	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B								
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B								
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E								
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E								
4	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R3	D								
4	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R3	D								
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B	97 a	99 a	99 a	99 a	99 a	99 a	93 b	99 a
5	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B								
5	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B								
5	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B								
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B								
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E								
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E								
5	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R3	D								
5	RESPECT	0.8	EC	0.02	lb ai/a	3.2	fl oz/a	R3	D								
5	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R3	D								
LSD (P=.05)										2.5	4.4	0.0	2.7	0.0	5.6	3.9	5.2
Replicate F										0.655	1.420	0.000	1.000	0.000	1.000	0.683	1.000
Replicate Prob(F)										0.6612	0.2597	1.0000	0.4430	1.0000	0.4430	0.6418	0.4430
Treatment F										3857.264	6.084	0.000	5.000	0.000	12.500	982.562	2.700
Treatment Prob(F)										0.0001	0.0023	1.0000	0.0059	1.0000	0.0001	0.0001	0.0601

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

BASF Soybean Demonstration.

Trial ID: 10-22-M150

Location: Belleville Res. Center

Pest Code		GLXMA	GLXMA
Crop Code		08-11-10	08-11-10
Rating Date		Incidence	Severity
Rating Data Type		Percent	Percent
Rating Unit			
Rating Timing			
Trt-Eval Interval		21 DA-D	21 DA-D

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C		0 a	0 a
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C			
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	7-10DBP	A		0 a	0 a
2	2,4-D LV 4	3.8	EC	0.475	lb ae/a	1	pt/a	7-10DBP	A			
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	7-10DBP	A			
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-1	C			
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-1	C			
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B		0 a	0 a
3	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B			
3	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B			
3	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B			
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B			
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E			
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E			
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B		0 a	0 a
4	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B			
4	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B			
4	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B			
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B			
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E			
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E			
4	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R3	D			
4	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R3	D			
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-5DBP	B		0 a	0 a
5	SHARPEN	2.85	SC	0.0223	lb ai/a	1	fl oz/a	3-5DBP	B			
5	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	3-5DBP	B			
5	MSO (DESTINY)	100	SL	1	% v/v	1	% v/v	3-5DBP	B			
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5DBP	B			
5	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	3-4"W-2	E			
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-4"W-2	E			
5	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R3	D			
5	RESPECT	0.8	EC	0.02	lb ai/a	3.2	fl oz/a	R3	D			
5	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R3	D			

LSD (P=.05)

0.0 0.0

Replicate F

0.000 0.000

Replicate Prob(F)

1.0000 1.0000

Treatment F

0.000 0.000

Treatment Prob(F)

1.0000 1.0000

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

Trial Comments

1. Protocol: BASF (Demo).
2. Ratings: CI/WC at 0 and 21 DA-C; DI/DS at 21 DA-D.
3. Harvest center two rows for yield data.
4. The planned 3-4"W application was split into 3-4"W-1 (burndown without residual) and 3-4"W-2 (burndown with residual).
Weed sizes and application timing at the 3-4"W-1 application (C) were based on treatment #2,
weeds in treatment #1 (without a burndown) were larger at 12 to 18 inch, especially SETFA, ERICA and CHEAL.
Soybeans were monitored for frog eye leaf spot and septoria brown spot,
but could not be rated due to very low disease pressure.
5. GLXMA Maturity, DAP = Days after planting until soybean plants were mature, no longer green.
6. Harvested 10-8-10, (2) 30 inch rows by 47 ft.