

Influence of Weed Management on Optimal Soybean Seed Rates - Site 2.

Trial ID: 11-HRC-WU12-SeedRate Location: Horticulture Res. Ctr

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu  
 City State Zip Country: Carbondale IL 62901 USA  
 Trial Status: SETUP

Objectives: Determine if crop management factors such as weed removal timing and disease/insect management influence the optimal seeding rate.

Crop 1: GLXMA Soybean

Planting Method: See treatment list

Depth, Unit: 1.0 IN

Row Spacing, Unit: 15 IN

Pest 1 Type: W Code: BRAPP Brachiaria platyphylla (Griseb.) signalgrass, broadleaf  
 Pest 2 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common  
 Pest 3 Type: W Code: IPOSS morningglory, species  
 Pest 4 Type: W Code: DIGSA Digitaria sanguinalis (L.) Scop. crabgrass, large

Plot Width, Unit: 10 FT Site Type: FIELD  
 Plot Length, Unit: 30 FT Tillage Type: REDUCED-TILL  
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year  
 1. NONE 2010

Field Prep./Maintenance: N 54 LB/A, P205 138 LB/A, K20 325 LB/A

% OM: 2.8 Texture: SILT LOAM  
 pH: 6.7  
 CEC: 10 Fert. Level: P1: 92 LB/A, K: 334 LB/A

Application Description

	A	B	C	D	E	F
Application Date:	6-9-11	6-23-11	7-8-11	7-19-11	7-26-11	7-19-11
Time of Day:	9:30	7:30	10:50	8:30	11:30	9:00
Application Method:	Spray	Spray	Spray	Spray	Spray	Spray
Application Timing:	PRE	4-6"W	8-12"W	>18"W	R2-3	IF-NEED
Application Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Applied By:	LAH	MJA	MJA	MJA	MJA	MJA
Air Temperature, Unit:	86 F	74 F	76 F	88 F	89 F	88 F
% Relative Humidity:	58	61	81	60	61	60
Wind Velocity, Unit:	2 MPH	2 MPH	3 MPH	3 MPH	2 MPH	3 MPH
Wind Direction:	SW	W	NW	W	N	W
Dew Presence (Y/N):	N	Y	Y	N	N	N
Soil Temperature, Unit:	81 F	67 F	77 F	84 F	87 F	84 F
Soil Moisture:	NORMAL	NORMAL	ABONOR	NORMAL	NORMAL	NORMAL
% Cloud Cover:	0	0	100	0	5	0

	6-9-11	6-23-11	7-8-11	7-19-11	7-26-11	7-19-11
Crop stage at application:	NA	VC V1 V4	V5 R1	R2 R2	R3 R1	R2
Height Min, Max (inch):		3 5 10	15 17	24 20	30 17	24

Pest Stage At Each Application

	6-9-11	6-23-11	7-8-11	7-19-11	7-26-11	7-19-11
Application Date:	6-9-11	6-23-11	7-8-11	7-19-11	7-26-11	7-19-11
Weed Code:	BRAPP	BRAPP	BRAPP	BRAPP	BRAPP	BRAPP
Stage Majority (leaves):	NA	2	5	6	NA	6
Stage Min, Max:		1 5	3 6	4 7		4 7
Height Majority:		3 IN	11 IN	18 IN		18 IN
Height Min, Max:		1 5	3 16	10 24		10 24
Density, Unit:		15 FT2	15 FT2	15 FT2		15 FT2
Weed Code:	AMATA	AMATA	AMATA	AMATA	AMATA	AMATA
Stage Majority (leaves):	NA	2	9	NA	NA	NA
Stage Min, Max:		coty 4	7 10			
Height Majority:		2 IN	8 IN			
Height Min, Max:		0.5 3	4 13			
Density, Unit:		1 FT2	0.1 FT2			
Weed Code:	IPOSS	IPOSS	IPOSS	IPOSS	IPOSS	IPOSS
Stage Majority (leaves):	NA	4	8	20	NA	20
Stage Min, Max:		coty 9	7 14	10 30		10 30
Height Majority:		4 IN	10 IN	18 IN		18 IN
Height Min, Max:		1 6	5 12	10 24		10 24
Density, Unit:		1 FT2	1 FT2	1 FT2		1 FT2
Weed Code:	DIGSA	DIGSA	DIGSA	DIGSA	DIGSA	DIGSA
Stage Majority (leaves):	NA	2	4	6	NA	6
Stage Min, Max:		1 3	3 5	4 8		4 8
Height Majority:		2 IN	4 IN	6 IN		6 IN
Height Min, Max:		1 2	2 5	3 8		3 8
Density, Unit:		0.5 FT2	0.5 FT2	0.5 FT2		0.5 FT2

Influence of Weed Management on Optimal Soybean Seed Rates - Site 2.

Trial ID: 11-HRC-WU12-SeedRate Location: Horticulture Res. Ctr

**Application Equipment**

<b>Appl. Equipment:</b>	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
<b>Operating Pressure:</b>	30 PSI	30 PSI	30 PSI	30 PSI	30 PSI	30 PSI
<b>Nozzle Type:</b>	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
<b>Nozzle Size:</b>	XR 8002	XR 8002	XR 8002	XR 8002	XR 8002	XR 8002
<b>Boom Length, Unit:</b>	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT	7.5 FT
<b>Spray Volume, Unit:</b>	15 GPA	15 GPA	15 GPA	15 GPA	15 GPA	15 GPA

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Trial ID: 11-HRC-WU12-SeedRate Location: Horticulture Res. Ctr

Pest Code								GLXMA	GLXMA	GLXMA	BRAPP	BRAPP	AMASS		
Crop Code								10-20-11	10-20-11	10-20-11	6-23-11	8-9-11	6-23-11		
Rating Date								Moisture	Test wt.	Yield	Control	Control	Control		
Rating Data Type								Percent	lb/bu	bu/A	Percent	Percent	Percent		
Rating Unit											0 DAB	21 DAD	0 DAB		
Rating Timing											14 DA-A	61 DA-A	14 DA-A		
Trt-Eval Interval															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	50,000 SEEDS/A									15.7 ab	54.4 a	41 efg	99 a	99 a	99 a
1	WEED FREE														
1	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A						
1	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A						
1	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F						
1	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F						
1	HANDWEED														
2	50,000 SEEDS/A									15.8 ab	54.4 a	43 b-g		97 bc	
2	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B						
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B						
3	50,000 SEEDS/A									15.7 ab	54.5 a	35 gh		99 a	
3	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C						
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C						
4	50,000 SEEDS/A									15.7 ab	54.5 a	23 i-l		99 a	
4	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D						
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D						
5	50,000 SEEDS/A									14.0 b	55.1 a	7 o		0 d	
5	NONTREATED														
6	100,000 SEEDS/A									15.3 ab	54.6 a	45 a-f	98 ab	99 a	99 a
6	WEED FREE														
6	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A						
6	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A						
6	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F						
6	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F						
6	HANDWEED														
7	100,000 SEEDS/A									15.4 ab	54.6 a	51 a		98 ab	
7	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B						
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B						
8	100,000 SEEDS/A									15.3 ab	54.6 a	42 c-g		99 a	
8	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C						
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C						
9	100,000 SEEDS/A									15.5 ab	54.5 a	29 hi		99 a	
9	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D						
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D						
10	100,000 SEEDS/A									16.7 a	53.9 a	11 mno		0 d	
10	NONTREATED														
11	150,000 SEEDS/A									15.2 ab	54.7 a	45 a-f	98 ab	99 a	99 a
11	WEED FREE														
11	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A						
11	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A						
11	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F						
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F						
11	HANDWEED														
12	150,000 SEEDS/A									15.7 ab	54.3 a	45 a-f		99 a	
12	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B						
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B						
13	150,000 SEEDS/A									15.1 ab	54.7 a	47 a-e		99 a	
13	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C						
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C						
14	150,000 SEEDS/A									15.1 ab	54.7 a	35 gh		99 a	
14	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D						
14	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D						
15	150,000 SEEDS/A									16.5 a	54.1 a	19 jkl		0 d	
15	NONTREATED														

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Pest Code	Crop Code	Rating Date	Rating Data Type	Rating Unit	Rating Timing	Trt-Eval Interval	GLXMA	GLXMA	GLXMA	BRAPP	BRAPP	AMASS			
							10-20-11	10-20-11	10-20-11	6-23-11	8-9-11	6-23-11			
							Moisture	Test wt.	Yield	Control	Control	Control			
							Percent	lb/bu	bu/A	Percent	Percent	Percent			
										0 DAB	21 DAD	0 DAB			
										14 DA-A	61 DA-A	14 DA-A			
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
16	50,000 SEEDS/A									15.9 ab	54.4 a	40 efg	97 b	99 a	99 a
16	WEED FREE														
16	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A						
16	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A						
16	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F						
16	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F						
16	HANDWEED														
16	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
16	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
16	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
17	50,000 SEEDS/A									15.6 ab	54.5 a	42 d-g		97 c	
17	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B						
17	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B						
17	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
17	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
17	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
18	50,000 SEEDS/A									15.6 ab	54.5 a	40 efg		99 a	
18	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C						
18	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C						
18	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
18	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
18	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
19	50,000 SEEDS/A									16.2 ab	54.3 a	19 klm		99 a	
19	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D						
19	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D						
19	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
19	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
19	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
20	50,000 SEEDS/A									15.9 ab	54.2 a	9 no		0 d	
20	NONTREATED														
20	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
20	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
20	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
21	100,000 SEEDS/A									15.6 ab	54.4 a	47 a-e	98 ab	99 a	99 a
21	WEED FREE														
21	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A						
21	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A						
21	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F						
21	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F						
21	HANDWEED														
21	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
21	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
21	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
22	100,000 SEEDS/A									15.3 ab	54.6 a	50 abc		99 a	
22	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B						
22	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B						
22	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
22	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
22	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
23	100,000 SEEDS/A									15.2 ab	54.6 a	47 a-f		99 a	
23	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C						
23	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C						
23	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
23	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
23	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						
24	100,000 SEEDS/A									15.7 ab	54.4 a	27 ij		99 a	
24	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D						
24	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D						
24	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E						
24	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E						
24	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E						

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Pest Code					GLXMA	GLXMA	GLXMA	BRAPP	BRAPP	AMASS						
Crop Code					10-20-11	10-20-11	10-20-11	6-23-11	8-9-11	6-23-11						
Rating Date					Moisture	Test wt.	Yield	Control	Control	Control						
Rating Data Type					Percent	lb/bu	bu/A	Percent	Percent	Percent						
Rating Unit								0 DAB	21 DAD	0 DAB						
Rating Timing								14 DA-A	61 DA-A	14 DA-A						
Trt-Eval Interval																
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
25	100,000 SEEDS/A									15.5 ab	54.4 a	16 lmn				0 d
25	NONTREATED															
25	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E							
25	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E							
25	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E							
26	150,000 SEEDS/A									11.2 c	41.1 b	50 ab	98 ab	99 a	99 a	
26	WEED FREE															
26	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A							
26	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A							
26	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F							
26	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F							
26	HANDWEED															
26	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E							
26	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E							
26	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E							
27	150,000 SEEDS/A									15.1 ab	54.7 a	51 ab		99 a		
27	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B							
27	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B							
27	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E							
27	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E							
27	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E							
28	150,000 SEEDS/A									15.1 ab	54.7 a	50 a-d		99 a		
28	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C							
28	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C							
28	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E							
28	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E							
28	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E							
29	150,000 SEEDS/A									15.2 ab	54.6 a	39 fg		99 a		
29	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D							
29	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D							
29	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E							
29	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E							
29	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E							
30	150,000 SEEDS/A									16.2 ab	54.3 a	26 ijk		0 d		
30	NONTREATED															
30	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E							
30	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E							
30	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E							
LSD (P=.05)										2.30	7.11	8.0	1.2	1.2	0.0	
Replicate F										1.835	0.913	2.014	4.013	0.659	0.000	
Replicate Prob(F)										0.1468	0.4382	0.1181	0.0278	0.5794	1.0000	
Treatment F										1.325	0.957	23.315	1.359	8508.476	0.000	
Treatment Prob(F)										0.1598	0.5377	0.0001	0.2941	0.0001	1.0000	

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

## Influence of Weed Management on Optimal Soybean Seed Rates - Site 2.

Trial ID: 11-HRC-WU12-SeedRate Location: Horticulture Res. Ctr

Pest Code				AMASS	IPOSS	IPOSS	DIGSA	DIGSA
Crop Code				8-9-11	6-23-11	8-9-11	6-23-11	8-9-11
Rating Date				Control	Control	Control	Control	Control
Rating Data Type				Percent	Percent	Percent	Percent	Percent
Rating Unit				21 DAD	0 DAB	21 DAD	0 DAB	21 DAD
Rating Timing				61 DA-A	14 DA-A	61 DA-A	14 DA-A	61 DA-A
Trt-Eval Interval								
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code
1	50,000 SEEDS/A							99 a
1	WEED FREE							99 a
1	SONIC	70	WG	0.28 lb ai/a	6.4	oz/a	PRE	A
1	PROWL H2O	3.8	CS	1.19 lb ai/a	2.5	pt/a	PRE	A
1	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	IF-NEED	F
1	N-PAK AMS	100	SL	5 % v/v	5	% v/v	IF-NEED	F
1	HANDWEED							
2	50,000 SEEDS/A							96 b
2	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	4-6"W	B
2	N-PAK AMS	100	SL	5 % v/v	5	% v/v	4-6"W	B
3	50,000 SEEDS/A							98 ab
3	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	C
3	N-PAK AMS	100	SL	5 % v/v	5	% v/v	8-12"W	C
4	50,000 SEEDS/A							99 a
4	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	>18"W	D
4	N-PAK AMS	100	SL	5 % v/v	5	% v/v	>18"W	D
5	50,000 SEEDS/A							0 d
5	NONTREATED							0 g
6	100,000 SEEDS/A							99 a
6	WEED FREE							99 a
6	SONIC	70	WG	0.28 lb ai/a	6.4	oz/a	PRE	A
6	PROWL H2O	3.8	CS	1.19 lb ai/a	2.5	pt/a	PRE	A
6	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	IF-NEED	F
6	N-PAK AMS	100	SL	5 % v/v	5	% v/v	IF-NEED	F
6	HANDWEED							
7	100,000 SEEDS/A							99 ab
7	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	4-6"W	B
7	N-PAK AMS	100	SL	5 % v/v	5	% v/v	4-6"W	B
8	100,000 SEEDS/A							99 ab
8	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	C
8	N-PAK AMS	100	SL	5 % v/v	5	% v/v	8-12"W	C
9	100,000 SEEDS/A							99 a
9	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	>18"W	D
9	N-PAK AMS	100	SL	5 % v/v	5	% v/v	>18"W	D
10	100,000 SEEDS/A							0 d
10	NONTREATED							0 g
11	150,000 SEEDS/A							99 a
11	WEED FREE							99 a
11	SONIC	70	WG	0.28 lb ai/a	6.4	oz/a	PRE	A
11	PROWL H2O	3.8	CS	1.19 lb ai/a	2.5	pt/a	PRE	A
11	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	IF-NEED	F
11	N-PAK AMS	100	SL	5 % v/v	5	% v/v	IF-NEED	F
11	HANDWEED							
12	150,000 SEEDS/A							98 ab
12	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	4-6"W	B
12	N-PAK AMS	100	SL	5 % v/v	5	% v/v	4-6"W	B
13	150,000 SEEDS/A							99 a
13	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	8-12"W	C
13	N-PAK AMS	100	SL	5 % v/v	5	% v/v	8-12"W	C
14	150,000 SEEDS/A							99 a
14	ROUNDUP POWERMAX	4.5	SL	0.77 lb ae/a	22	fl oz/a	>18"W	D
14	N-PAK AMS	100	SL	5 % v/v	5	% v/v	>18"W	D
15	150,000 SEEDS/A							0 d
15	NONTREATED							0 g

## Influence of Weed Management on Optimal Soybean Seed Rates - Site 2.

Trial ID: 11-HRC-WU12-SeedRate Location: Horticulture Res. Ctr

Pest Code	AMASS	IPOSS	IPOSS	DIGSA	DIGSA
Crop Code					
Rating Date	8-9-11	6-23-11	8-9-11	6-23-11	8-9-11
Rating Data Type	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent
Rating Timing	21 DAD	0 DAB	21 DAD	0 DAB	21 DAD
Trt-Eval Interval	61 DA-A	14 DA-A	61 DA-A	14 DA-A	61 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
16	50,000 SEEDS/A									99 a	99 a	99 a	99 a	99 a
16	WEED FREE													
16	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A					
16	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A					
16	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F					
16	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F					
16	HANDWEED													
16	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
16	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
16	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
17	50,000 SEEDS/A									92 c		76 ef		96 b
17	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B					
17	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B					
17	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
17	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
17	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
18	50,000 SEEDS/A									99 a		89 a-d		99 a
18	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C					
18	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C					
18	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
18	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
18	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
19	50,000 SEEDS/A									99 a		69 f		99 a
19	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D					
19	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D					
19	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
19	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
19	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
20	50,000 SEEDS/A									0 d		0 g		0 c
20	NONTREATED													
20	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
20	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
20	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
21	100,000 SEEDS/A									99 a	99 a	99 a	99 a	99 a
21	WEED FREE													
21	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A					
21	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A					
21	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F					
21	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F					
21	HANDWEED													
21	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
21	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
21	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
22	100,000 SEEDS/A									98 ab		94 abc		99 a
22	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B					
22	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B					
22	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
22	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
22	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
23	100,000 SEEDS/A									99 a		96 ab		99 a
23	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C					
23	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C					
23	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
23	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
23	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
24	100,000 SEEDS/A									99 ab		79 def		99 a
24	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D					
24	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D					
24	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
24	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
24	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					

## Influence of Weed Management on Optimal Soybean Seed Rates - Site 2.

Trial ID: 11-HRC-WU12-SeedRate Location: Horticulture Res. Ctr

Pest Code						AMASS	IPOSS	IPOSS	DIGSA	DIGSA
Crop Code										
Rating Date						8-9-11	6-23-11	8-9-11	6-23-11	8-9-11
Rating Data Type						Control	Control	Control	Control	Control
Rating Unit						Percent	Percent	Percent	Percent	Percent
Rating Timing						21 DAD	0 DAB	21 DAD	0 DAB	21 DAD
Trt-Eval Interval						61 DA-A	14 DA-A	61 DA-A	14 DA-A	61 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
25	100,000 SEEDS/A									0 d		0 g		0 c
25	NONTREATED													
25	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
25	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
25	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
26	150,000 SEEDS/A									99 a		99 a		98 ab
26	WEED FREE													
26	SONIC	70	WG	0.28	lb ai/a	6.4	oz/a	PRE	A					
26	PROWL H2O	3.8	CS	1.19	lb ai/a	2.5	pt/a	PRE	A					
26	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	IF-NEED	F					
26	N-PAK AMS	100	SL	5	% v/v	5	% v/v	IF-NEED	F					
26	HANDWEED													
26	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
26	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
26	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
27	150,000 SEEDS/A									98 ab		94 abc		99 a
27	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	4-6"W	B					
27	N-PAK AMS	100	SL	5	% v/v	5	% v/v	4-6"W	B					
27	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
27	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
27	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
28	150,000 SEEDS/A									99 a		99 a		99 a
28	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	8-12"W	C					
28	N-PAK AMS	100	SL	5	% v/v	5	% v/v	8-12"W	C					
28	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
28	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
28	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
29	150,000 SEEDS/A									99 a		89 a-d		99 a
29	ROUNDUP POWERMAX	4.5	SL	0.77	lb ae/a	22	fl oz/a	>18"W	D					
29	N-PAK AMS	100	SL	5	% v/v	5	% v/v	>18"W	D					
29	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
29	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
29	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
30	150,000 SEEDS/A									0 d		0 g		0 c
30	NONTREATED													
30	HEADLINE	2.09	EC	0.098	lb ai/a	6	fl oz/a	R2-R3	E					
30	WARRIOR	1	CS	0.02	lb ai/a	2.56	fl oz/a	R2-R3	E					
30	NIS (ACTIVATOR 90)	100	SL	0.25	% v/v	0.25	% v/v	R2-R3	E					
LSD (P=.05)										2.3		0.4		11.8
Replicate F										0.306		0.625		2.473
Replicate Prob(F)										0.8208		0.6098		0.0670
Treatment F										2389.422		0.750		82.270
Treatment Prob(F)										0.0001		0.5988		0.0001

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

## Trial Comments

1. Protocol: ISA.
2. Ratings: WC at B timing and 21 da D.
3. Yield.
4. Consider weed counts or biomass per plot for data collection.
5. Blanket POST application of Roundup PowerMax (22 fl oz/A) + N-Pak AMS (5 %v/v), as needed, at 2-3 inch weed regrowth to maintain weed-free following the initial herbicide application, for all treatments except the nontreated weedy checks.
6. DAT = Days after various applications.  
Ratings at 0 days after the 4-6"W application was on 6-23-11.  
Ratings at 21 days after the >18"W application was on 8-9-11.



Influence of Weed Management on Optimal Soybean Seed Rates - Site 2.

Trial ID: 11-HRC-WU12-SeedRate Location: Horticulture Res. Ctr

7. Harvested 10-20-11, (2) 30 inch rows by 26.5 ft.