

## Influence of Weed Removal Techniques on Competition in Soybean.

01-21S-E120

**OBJECTIVE:** Determine the influence of the speed of weed removal on soybean yield using immediate removal (handweeding), a fast acting herbicide program (Basagran plus Blazer plus Poast Plus), and a slow acting herbicide program (Roundup Ultra).

**SUMMARY:** Soybean yield was reduced when handweeding was delayed until weeds were 6 inches in height. Soybean yield was not affected by the speed of weed removal (or weed removal method) at any application timing.

### HERBICIDES

BASAGRAN 4 SL  
BLAZER 2 EC  
DUAL II MAGNUM 7.64 EC  
FIRSTRATE 84 WG  
POAST PLUS 1 EC  
ROUNDUP ULTRA 3 SL

### WEEDS

cocklebur, common  
grasses, annual  
lambsquarters, common  
milkweed, honeyvine  
morningglory, species  
nutsedge, yellow  
ragweed, common  
sida, prickly  
velvetleaf  
waterhemp, common

### CROP

soybean

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

## Influence of Weed Removal Techniques on Competition in Soybean.

Project Code: 01-21S-E120 Location: Belleville Research Center

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA  
Trial Status: Final Initiation Date: 4-4-00**Objective:**

Determine the influence of the speed of weed removal on soybean yield using immediate removal (handweeding), a fast acting herbicide program (Basagran plus Blazer plus Poast Plus), and a slow acting herbicide program (Roundup Ultra).

Weed Code	Common Name	Scientific Name
1.	GGGAN grasses, annual	
2.	XANST cocklebur, common	Xanthium strumarium L.
3.	IPOSS morningglory, species	Ipomoea sp.
4.	AMBEL ragweed, common	Ambrosia artemisiifolia L.
5.	CYPES nutsedge, yellow	Cyperus esculentus L.
6.	ABUTH velvetleaf	Abutilon theophrasti Medicus
7.	AMATA waterhemp, common	Amaranthus rudis Sauer
8.	CHEAL lambsquarters, common	Chenopodium album L.
9.	SIDSP sida, prickly	Sida spinosa L.
10.	AMPAL milkweed, honeyvine	Ampelamus albidus (Nutt.) Britt.

Crop 1: GLXMA soybean Variety: B-T 369CR  
 Planting Method: SEEDED Planting Date: 5-14-01  
 Rate: 75 LB/A Depth: 1.0 IN  
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 30 FT Reps: 4  
 Tillage Type: Reduced-Till Study Design: Randomized complete block  
 Previous Crop, Year: ZEAMX, 2000  
 Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 150 LB/A

Soil Name: Ebbert % OM: 1.4 pH: 5.7 CEC: 14  
 Texture: Silt loam Fert. Level: P1: 97 LB/A, K: 291 LB/A

**APPLICATION DESCRIPTION**

	A	B	C	D	E	F
Application Date:	5-16-01	6-4-01	6-11-01	6-18-01	6-26-01	7-3-01
Time of Day:	7:30	17:00	12:30	10:30	11:30	12:30
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	2"W-A+B	4"W-A+B	6"W-A+B	8"W-A+B	12"W-A+B
Applic. Placement:	BROSOI	BROFOL	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	74 F	68 F	88 F	88 F	84 F	90 F
% Relative Humidity:	70	84	50	46	40	60
Wind Velocity, Unit:	5-6 MPH	5-10 MPH	5 MPH	0-2 MPH	0-2 MPH	2-5 MPH
Soil Moisture:	BELNOR	ABONOR	NORMAL	BELNOR	NORMAL	BELNOR
% Cloud Cover:	10	60	20	HAZY	0	50

**CROP STAGE AT EACH APPLICATION**

	A	B	C	D	E	F
Crop 1 Code, Stage:	GLXMA PRE	GLXMA V1	GLXMA V1-V2	GLXMA V2-V3	GLXMA V4	GLXMA V5
Height, Unit:	NA NA	2-3 IN	3-4 IN	4-6 IN	5-7 IN	7-10 IN

**WEED STAGE AT EACH APPLICATION**

	A	B	C	D	E	F
Weed 1 Code:	GGGAN	GGGAN	GGGAN	GGGAN	GGGAN	GGGAN
Stage(leaves):		2-3	3-5	4-5	3-7	6-9
Height(inches):		1-3	2-4	4-6	2-7	9-13
Density:		Medium	High	High	High	High
Weed 2 Code:	XANST	XANST	XANST	XANST	XANST	XANST
Stage(leaves):		3-4	4-6	6-8	4-10	8-12
Height(inches):		2-4	3-4	4-6	4-6	10-15
Density:		Medium	High	High	Low	High

<b>Weed 3 Code:</b>	IPOSS	IPOSS	IPOSS	IPOSS	IPOSS	IPOSS
<b>Stage(leaves):</b>		1-2	2-3	COT-4	6-10	2-6
<b>Height(inches):</b>		1-2	1-2	3-4	2-4	0-3
<b>Density:</b>		Medium	High	Medium	Medium	Low
<b>Weed 4 Code:</b>	AMBEL	AMBEL	AMBEL	AMBEL	AMBEL	AMBEL
<b>Stage(leaves):</b>					2-8	6-10
<b>Height(inches):</b>					2-4	9-12
<b>Density:</b>					Low	Medium
<b>Weed 5 Code:</b>	CYPES	CYPES	CYPES	CYPES	CYPES	CYPES
<b>Stage(leaves):</b>		3-4	4-6		4-10	6-8
<b>Height(inches):</b>		2-4	3-4		2-6	4-10
<b>Density:</b>		Low	Low		Low	Low
<b>Weed 6 Code:</b>	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH	ABUTH
<b>Stage(leaves):</b>			3-4	4-5	2-6	2-8
<b>Height(inches):</b>			2-3	4-6	2-8	2-6
<b>Density:</b>			Medium	Medium	Low	Low
<b>Weed 7 Code:</b>	AMATA	AMATA	AMATA	AMATA	AMATA	AMATA
<b>Stage(leaves):</b>					2-10	2-8
<b>Height(inches):</b>					3-4	0-3
<b>Density:</b>					Low	Low
<b>Weed 8 Code:</b>	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL	CHEAL
<b>Weed 9 Code:</b>	SIDSP	SIDSP	SIDSP	SIDSP	SIDSP	SIDSP
<b>Weed10 Code:</b>	AMPAL	AMPAL	AMPAL	AMPAL	AMPAL	AMPAL

## APPLICATION EQUIPMENT

	A	B	C	D	E	F
<b>Appl. Equipment:</b>	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
<b>Operating Pressure:</b>	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI	40 PSI
<b>Nozzle Type:</b>	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan	Flat fan
<b>Nozzle Size:</b>	8003	8003	8003	8003	8003	8003
<b>Boom Length, Unit:</b>	7.33 FT	7.33 FT	7.33 FT	7.33 FT	7.33 FT	7.33 FT
<b>Spray Volume, Unit:</b>	20.0 GPA	20.0 GPA	20.0 GPA	20.0 GPA	20.0 GPA	20.0 GPA

NOTES: HARVESTED 10-9-01, 2 ROWS X 27 FT.

For applications B-F, "Time of Day" was recorded for the second of the two applications.

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Project Code: 01-21S-E120 Location: Belleville Research Center

Weed Code																								
Crop Code																								
Rating Data Type																								
Rating Unit																								
Rating Date																								
Trt-Eval Interval																								
		GLXMA	GLXMA	GLXMA	GCGAN	XANST	IPOSS	AMBEL	XANST	IPOHE	GCGAN	CYPES	ABUTH	AMBEL	CHEAL	SIDSP								
		Yield	Injury	Injury	Control	Control	Control	Control	Plants	Plants	Plants	Plants	Plants	Plants	Plants	Plants								
		bu/A	Percent	Percent	Percent	Percent	Percent	Percent	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2								
		10-9-01	7 DAT	14 DAT	14 DAT	14 DAT	14 DAT	14 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code															
1	WEED FREE ALL SEASON									48	0	0	99	99	99	99								
1	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A															
1	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
2	NONTREATED									3	0	0	0	0	0	0								
3	HANDWEED							2"W-B	B	46	0	0	99	99	99	99	16.5	39.3	688.0	3.8	21.5	12.3	6.3	0.0
4	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	2"W-B	B	42	0	0	97	93	95	99								
5	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	2"W-A	B	44	28	20	98	97	99	99								
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	2"W-A	B															
5	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	2"W-B	B															
5	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	2"W-B	B															
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	2"W-B	B															
6	WEED FREE									50	0	0												
6	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A															
6	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
6	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	2"W-B	B															
7	WEED FREE									46	26	19												
7	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A															
7	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
7	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	2"W-A	B															
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	2"W-A	B															
7	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	2"W-B	B															
7	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	2"W-B	B															
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	2"W-B	B															
8	HANDWEED							4"W-B	C	45	0	0					17.5	28.8	1478.5	27.3	20.5	5.3	21.5	27.0
9	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	4"W-B	C	52	0	0	95	96	91	97								
10	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	4"W-A	C	49	33	4	95	96	90	93								
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	4"W-A	C															
10	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	4"W-B	C															
10	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	4"W-B	C															
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4"W-B	C															
11	WEED FREE									51	0	0												
11	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A															
11	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
11	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	4"W-B	C															
12	WEED FREE									50	36	3												
12	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A															
12	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A															
12	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	4"W-A	C															
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	4"W-A	C															
12	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	4"W-B	C															
12	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	4"W-B	C															
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4"W-B	C															

Weed Code	Crop Code	Rating Data Type	Rating Unit	Rating Date	Trt-Eval Interval	GLXMA Yield 10-9-01	GLXMA Injury Percent	GLXMA Injury Percent	GGGAN Control Percent	XANST Control Percent	IPOSS Control Percent	AMBEL Control Percent	XANST Plants 1.0 m2	IPOHE Plants 1.0 m2	GGGAN Plants 1.0 m2	CYPES Plants 1.0 m2	ABUTH Plants 1.0 m2	AMBEL Plants 1.0 m2	CHEAL Plants 1.0 m2	SIDSP Plants 1.0 m2		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	7 DAT	14 DAT	14 DAT	14 DAT	14 DAT	14 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	
13	HANDWEED							6"W-B	D	37	0	0			37.8	38.5	766.5	12.3	19.3	10.5	8.0	15.5
14	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	6"W-B	D	43	0	0	96	93	66	76						
15	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	6"W-A	D	38	19	9	95	86	66	85						
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	6"W-A	D													
15	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	6"W-B	D													
15	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	6"W-B	D													
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	6"W-B	D													
16	WEED FREE									51	0	0										
16	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A													
16	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
16	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	6"W-B	D													
17	WEED FREE									48	19	9										
17	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A													
17	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
17	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	6"W-A	D													
17	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	6"W-A	D													
17	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	6"W-B	D													
17	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	6"W-B	D													
17	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	6"W-B	D													
18	HANDWEED							8"W-B	E	40	0	0			59.8	23.0	734.0	45.8	15.0	4.8	5.8	24.8
19	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	8"W-B	E	45	0	0	99	99	71	94						
20	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	8"W-A	E	40	18	18	95	98	71	99						
20	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	8"W-A	E													
20	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	8"W-B	E													
20	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	8"W-B	E													
20	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	8"W-B	E													
21	WEED FREE									50	0	0										
21	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A													
21	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
21	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	8"W-B	E													
22	WEED FREE									47	15	15										
22	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A													
22	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A													
22	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	8"W-A	E													
22	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	8"W-A	E													
22	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	8"W-B	E													
22	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	8"W-B	E													
22	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	8"W-B	E													
23	HANDWEED							12"W-B	F	32					23.5	31.5	894.3	27.5	23.8	20.5	14.8	19.0
24	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	12"W-B	F	36	0	0	94	97	64	77						
25	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	12"W-A	F	28	16	16	90	90	68	99						
25	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	12"W-A	F													
25	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	12"W-B	F													
25	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	12"W-B	F													
25	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	12"W-B	F													

Weed Code	GGGAN XANST IPOSS AMBEL XANST IPOHE GGGAN CYPES ABUTH AMBEL CHEAL SIDSP																								
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA	GLXMA									
Rating Data Type	Yield	Injury	Injury	Control	Control	Control	Control	Plants	Plants	Plants	Plants	Plants	Plants	Plants	Plants										
Rating Unit	bu/A	Percent	Percent	Percent	Percent	Percent	Percent	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2	1.0 m2										
Rating Date	10-9-01																								
Trt-Eval Interval	7 DAT	14 DAT	14 DAT	14 DAT	14 DAT	14 DAT	14 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT	0 DAT										
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code																	
26	WEED FREE								49	0	0														
26	DUAL II MAGNUM	7.64	EC	1.59 LB A/A	1.66	PT/A	PRE	A																	
26	FIRSTRATE	84	WG	0.031 LB A/A	0.59	OZ/A	PRE	A																	
26	ROUNDUP ULTRA	3	SL	0.75 LB AE/A	2.0	PT/A	12"W-B	F																	
27	WEED FREE								48	17	17														
27	DUAL II MAGNUM	7.64	EC	1.59 LB A/A	1.66	PT/A	PRE	A																	
27	FIRSTRATE	84	WG	0.031 LB A/A	0.59	OZ/A	PRE	A																	
27	POAST PLUS	1	EC	0.281 LB A/A	2.25	PT/A	12"W-A	F																	
27	PRIME OIL COC	100	LIQ	1.0 % V/V	1.0	%V/V	12"W-A	F																	
27	BASAGRAN	4	SL	1.0 LB A/A	2.0	PT/A	12"W-B	F																	
27	BLAZER	2	EC	0.25 LB A/A	1.0	PT/A	12"W-B	F																	
27	PRIME OIL COC	100	LIQ	1.0 % V/V	1	%V/V	12"W-B	F																	
LSD (P=.05)		6.5	2.4	2.9	2.6	3.6	9.0	9.6	55.48	17.37	684.42	53.71	22.20	29.11	17.64	20.15									
Replicate F		1.586	0.275	2.133	1.405	2.029	1.125	1.636	0.224	2.438	0.739	1.545	0.910	0.658	2.260	1.751									
Replicate Prob(F)		0.1995	0.8431	0.1031	0.2573	0.1271	0.3520	0.1981	0.8776	0.1149	0.5487	0.2537	0.4649	0.5935	0.1338	0.2100									
Treatment F		18.943	204.886	52.448	885.819	449.957	72.275	64.985	1.019	1.468	2.150	0.857	0.203	0.458	1.397	2.659									
Treatment Prob(F)		0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.4363	0.2724	0.1369	0.5166	0.9319	0.7649	0.2931	0.0848									

Weed Code AMATA TTTTT  
 Crop Code  
 Rating Data Type Plants DRYPLA  
 Rating Unit 1.0 m2 Grams  
 Rating Date  
 Trt-Eval Interval 0 DAT 0 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code		
1	WEED FREE ALL SEASON										
1	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
1	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
2	NONTREATED										
3	HANDWEED							2"W-B	B	0.0	35.9
4	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	2"W-B	B		
5	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	2"W-A	B		
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	2"W-A	B		
5	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	2"W-B	B		
5	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	2"W-B	B		
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	2"W-B	B		
6	WEED FREE										
6	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
6	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
6	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	2"W-B	B		
7	WEED FREE										
7	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
7	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
7	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	2"W-A	B		
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	2"W-A	B		
7	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	2"W-B	B		
7	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	2"W-B	B		
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	2"W-B	B		
8	HANDWEED							4"W-B	C	3.5	43.4
9	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	4"W-B	C		
10	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	4"W-A	C		
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	4"W-A	C		
10	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	4"W-B	C		
10	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	4"W-B	C		
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4"W-B	C		
11	WEED FREE										
11	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
11	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
11	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	4"W-B	C		
12	WEED FREE										
12	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
12	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
12	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	4"W-A	C		
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	4"W-A	C		
12	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	4"W-B	C		
12	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	4"W-B	C		
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	4"W-B	C		
13	HANDWEED							6"W-B	D	2.5	316.0
14	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	6"W-B	D		

Weed Code  
 Crop Code  
 Rating Data Type  
 Rating Unit  
 Rating Date  
 Trt-Eval Interval

AMATA TTTTT  
 Plants DRYPLA  
 1.0 m2 Grams  
 0 DAT 0 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code		
15	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	6"W-A	D		
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	6"W-A	D		
15	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	6"W-B	D		
15	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	6"W-B	D		
15	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	6"W-B	D		
16	WEED FREE										
16	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
16	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
16	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	6"W-B	D		
17	WEED FREE										
17	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
17	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
17	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	6"W-A	D		
17	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	6"W-A	D		
17	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	6"W-B	D		
17	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	6"W-B	D		
17	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	6"W-B	D		
18	HANDWEED							8"W-B	E	8.3	486.0
19	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	8"W-B	E		
20	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	8"W-A	E		
20	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	8"W-A	E		
20	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	8"W-B	E		
20	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	8"W-B	E		
20	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	8"W-B	E		
21	WEED FREE										
21	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
21	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
21	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	8"W-B	E		
22	WEED FREE										
22	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A		
22	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A		
22	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	8"W-A	E		
22	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	8"W-A	E		
22	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	8"W-B	E		
22	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	8"W-B	E		
22	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	8"W-B	E		
23	HANDWEED							12"W-B	F	2.3	169.5
24	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	12"W-B	F		
25	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	12"W-A	F		
25	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	12"W-A	F		
25	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	12"W-B	F		
25	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	12"W-B	F		
25	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	12"W-B	F		



Weed Code AMATA TTTTT  
 Crop Code  
 Rating Data Type Plants DRYPLA  
 Rating Unit 1.0 m2 Grams  
 Rating Date  
 Trt-Eval Interval 0 DAT 0 DAT

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code
26	WEED FREE								
26	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A
26	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A
26	ROUNDUP ULTRA	3	SL	0.75	LB AE/A	2.0	PT/A	12"W-B	F
27	WEED FREE								
27	DUAL II MAGNUM	7.64	EC	1.59	LB A/A	1.66	PT/A	PRE	A
27	FIRSTRATE	84	WG	0.031	LB A/A	0.59	OZ/A	PRE	A
27	POAST PLUS	1	EC	0.281	LB A/A	2.25	PT/A	12"W-A	F
27	PRIME OIL COC	100	LIQ	1.0	% V/V	1.0	%V/V	12"W-A	F
27	BASAGRAN	4	SL	1.0	LB A/A	2.0	PT/A	12"W-B	F
27	BLAZER	2	EC	0.25	LB A/A	1.0	PT/A	12"W-B	F
27	PRIME OIL COC	100	LIQ	1.0	% V/V	1	%V/V	12"W-B	F
LSD (P=.05)						7.44		130.35	
Replicate F						0.255		1.513	
Replicate Prob(F)						0.8566		0.2613	
Treatment F						1.595		20.555	
Treatment Prob(F)						0.2388		0.0001	

Influence of Weed Removal Techniques on Competition in Soybean.

Project Code: 01-21S-E120      Location: Belleville Research Center

#### Trial Comments

1. Protocol: ISPOB, Aspects of Weed Competition in Soybean.
2. For each postemergence timing, Poast Plus and COC were applied 2 hours prior to broadleaf herbicides. The time for the second application was recorded.
3. DAT = days after postemergence application. 0 DAT = at postemergence application. 1.0m<sup>2</sup> = 1.0 square meter, taken as (2) 0.5 square meter samples per plot.  
TTTT = weeds generally. DRYPLA = dry weight of plants.  
0 days after 2"W-B, 4"W-B, 6"W-B, 8"W-B and 12"W-B was on 6-4-01, 6-11-01, 6-18-01, 6-26-01 and 7-3-01, respectively.  
7 days after 2"W-B, 4"W-B, 6"W-B, 8"W-B and 12"W-B was on 6-11-01, 6-18-01, 6-25-01, 7-3-01 and 7-10-01, respectively.  
14 days after 2"W-B, 4"W-B, 6"W-B, 8"W-B and 12"W-B was on 6-18-01, 6-25-01, 7-2-01, 7-10-01 and 7-17-01, respectively.
4. Study incomplete, additional data collection to be done.