

MSU Weed Science Research Program

No-till weed control systems with Engenia in Roundup Xtend soybean - "Regulated"

Trial ID: NTS03-14  
 Conducted: Campus T-18

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

**Date Planted:** May/22/2014      **Row Spacing:** 30 IN  
**Variety:** RR2 XTEND      **No. of Reps:** 4  
**Population:** 150,000 seeds/A      **% OM:** 3.3  
**Soil Type:** Loam      **pH:** 6.0  
**Plot Size:** 10 X 30 FT      **Design:** RANDOMIZED COMPLETE BLOCK

**Tillage:** No-till  
**Fertilizer:** None

**Crop and Weed Description**

Weed	Code	Common Name	Scientific Name
1.	STEME	CHICKWEED, COMMON	STELLARIA MEDIA (L.)
2.	ANGR	mainly foxtail species	SETARIA SP.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	AMBEL	RAGWEED, COMMON	AMBROSIA ARTEMISIIFOLIA L.
Crop	Code	Common Name	
1.	GLXMA	SOYBEAN	

**Application Description**

	A	B
<b>Application Timing:</b>	7 EPP	POST
<b>Date Treated:</b>	May/05/2014	Jun/27/2014
<b>Time Treated:</b>	11:18 AM	1:30 PM
<b>% Cloud Cover:</b>	100	50
<b>Air Temp., Unit:</b>	45 F	82 F
<b>% Relative Humidity:</b>	70	61
<b>Wind Speed/Unit/Dir:</b>	2 mph NE	4 mph S
<b>Soil Temp., Unit:</b>	40 F	70 F
<b>Soil/Leaf Surface M:</b>	4 3	4 5
<b>Soil Moist (1=w 5=d):</b>	4	3

**Crop Stage at Each Application**

	A	B
<b>Crop Name:</b>	GLXMA	GLXMA
<b>Height (In.):</b>	-	10"
<b>Stage (L):</b>	-	V3

**Weed Stage at Each Application**

	A	B
<b>Weed 1 Name:</b>	STEME	STEME
<b>Height (In.):</b>	0.5"	3"
<b>Stage (L):</b>	many	flowering
<b>Weed 2 Name:</b>	ANGR	ANGR
<b>Height (In.):</b>	-	3-14"
<b>Stage (L):</b>	-	4-10
<b>Weed 3 Name:</b>	CHEAL	CHEAL
<b>Height (In.):</b>	0.5"	5-8"
<b>Stage (L):</b>	coty-2	13-many
<b>Weed 4 Name:</b>	AMBEL	AMBEL
<b>Height (In.):</b>	-	2-7"
<b>Stage (L):</b>	-	4-many

**Weed Density (plants/sq. ft.)**

	1	2	3	4
<b>Date:</b>	Jul/17/2014	Jul/17/2014	Jul/17/2014	Jul/17/2014
<b>Weed Name:</b>	ANGR	CHEAL	AMBEL	STEME
<b>Density:</b>	2	4	<1	2

**Application Equipment**

Appl	Sprayer Type	Speed MPH	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom width	GPA	Carrier	PSI
A	Cub	3.8	TTI	11003	26"	20"	100'	19	Water	30
B	Cub	3.8	TTI	11003	30"	20"	100'	19	Water	30

**Comments:** The fourth rep was not sprayed POST for field tour. Therefore the ratings for this rep were dropped.

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Weed Code							STEME	CHEAL	STEME	ANGR
Crop Code										
Rating Data Type							control	control	control	control
Rating Unit							percent	percent	percent	percent
Rating Date							May/14/2014	May/14/2014	May/28/2014	May/28/2014
Trt-Eval Interval							9 DA-A	9 DA-A	23 DA-A	23 DA-A
# Subsamples, Dec.										
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Grow Stg	Appl Code			
1	Valor	51	WG	2.5	oz/a	7 EPP	A	96	99	99
1	2,4-D ester	4	L	1	pt/a	7 EPP	A			
1	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A			
1	Preference		L	0.25	% v/v	7 EPP	A			
1	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B			
1	Preference		L	0.25	% v/v	POST	B			
2	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A	94	98	96
2	Preference		L	0.25	% v/v	7 EPP	A			
2	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B			
2	Engenia	5	SL	12.8	fl oz/a	POST	B			
2	Warrant	3	L	3	pt/a	POST	B			
2	Preference		L	0.25	% v/v	POST	B			
3	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	98	99	99
3	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A			
3	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A			
3	MSO		L	1	% v/v	7 EPP	A			
3	AMS		WG	8.5	lb/100 gal	7 EPP	A			
3	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B			
3	Engenia	5	SL	12.8	fl oz/a	POST	B			
3	Preference		L	0.25	% v/v	POST	B			
4	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	98	99	99
4	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A			
4	Engenia	5	SL	12.8	fl oz/a	7 EPP	A			
4	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A			
4	MSO		L	1	% v/v	7 EPP	A			
4	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B			
4	Preference		L	0.25	% v/v	POST	B			
5	Zidua	85	WG	2.5	oz/a	7 EPP	A	99	99	99
5	Sharpen	2.85	L	1	fl oz/a	7 EPP	A			
5	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A			
5	MSO		L	1	% v/v	7 EPP	A			
5	AMS		WG	8.5	lb/100 gal	7 EPP	A			
5	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B			
5	Engenia	5	SL	12.8	fl oz/a	POST	B			
5	Preference		L	0.25	% v/v	POST	B			
6	Zidua	85	WG	2.5	oz/a	7 EPP	A	98	99	96
6	Sharpen	2.85	L	1	fl oz/a	7 EPP	A			
6	Engenia	5	SL	12.8	fl oz/a	7 EPP	A			
6	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A			
6	MSO		L	1	% v/v	7 EPP	A			
6	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B			
6	Preference		L	0.25	% v/v	POST	B			
7	Optill	68	WG	2	oz/a	7 EPP	A	97	99	99
7	Zidua	85	WG	2	oz/a	7 EPP	A			
7	Engenia	5	SL	12.8	fl oz/a	7 EPP	A			
7	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A			
7	MSO		L	1	% v/v	7 EPP	A			
7	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B			

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 Investigator: Christy Sprague

Weed Code	STEME	CHEAL	STEME	ANGR
Crop Code				
Rating Data Type	control	control	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	May/14/2014	May/14/2014	May/28/2014	May/28/2014
Trt-Eval Interval	9 DA-A	9 DA-A	23 DA-A	23 DA-A

# Subsamples, Dec.

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
7	Outlook	6	L	10	fl oz/a	POST	B				
7	Preference		L	0.25	% v/v	POST	B				
8	Untreated							0	0	0	0
LSD (P=.05)								6.0	0.7	3.7	0.5
CV								4.77	0.59	2.95	0.39

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

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Weed Code	CHEAL	AMBEL	GLXMA	STEME
Crop Code				
Rating Data Type	control	control	injury	control
Rating Unit	percent	percent	percent	percent
Rating Date	May/28/2014	May/28/2014	Jun/27/2014	Jun/27/2014
Trt-Eval Interval	23 DA-A	23 DA-A	53 DA-A	53 DA-A
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	CHEAL	AMBEL	GLXMA	STEME
1	Valor	51	WG	2.5	oz/a	7 EPP	A	99	99	0	89
1	2,4-D ester	4	L	1	pt/a	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
1	Preference		L	0.25	% v/v	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
1	Preference		L	0.25	% v/v	POST	B				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A	97	96	0	71
2	Preference		L	0.25	% v/v	7 EPP	A				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
2	Engenia	5	SL	12.8	fl oz/a	POST	B				
2	Warrant	3	L	3	pt/a	POST	B				
2	Preference		L	0.25	% v/v	POST	B				
3	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	99	99	0	98
3	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
3	MSO		L	1	% v/v	7 EPP	A				
3	AMS		WG	8.5	lb/100 gal	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
3	Engenia	5	SL	12.8	fl oz/a	POST	B				
3	Preference		L	0.25	% v/v	POST	B				
4	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	99	99	0	96
4	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
4	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
4	MSO		L	1	% v/v	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
4	Preference		L	0.25	% v/v	POST	B				
5	Zidua	85	WG	2.5	oz/a	7 EPP	A	99	99	0	99
5	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
5	MSO		L	1	% v/v	7 EPP	A				
5	AMS		WG	8.5	lb/100 gal	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
5	Engenia	5	SL	12.8	fl oz/a	POST	B				
5	Preference		L	0.25	% v/v	POST	B				
6	Zidua	85	WG	2.5	oz/a	7 EPP	A	99	99	0	93
6	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
6	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
6	MSO		L	1	% v/v	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
6	Preference		L	0.25	% v/v	POST	B				
7	Optill	68	WG	2	oz/a	7 EPP	A	99	99	0	98
7	Zidua	85	WG	2	oz/a	7 EPP	A				
7	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
7	MSO		L	1	% v/v	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				

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Crop Code				
Rating Data Type	control	control	injury	control
Rating Unit	percent	percent	percent	percent
Rating Date	May/28/2014	May/28/2014	Jun/27/2014	Jun/27/2014
Trt-Eval Interval	23 DA-A	23 DA-A	53 DA-A	53 DA-A
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
7	Outlook	6	L	10	fl oz/a	POST	B				
7	Preference		L	0.25	% v/v	POST	B				
8	Untreated							0	0	0	0
LSD (P=.05)								1.0	1.4	0.0	9.6
CV								0.78	1.13	0.0	8.1

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

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Weed Code	ANGR	CHEAL	AMBEL	
Crop Code				GLXMA
Rating Data Type	control	control	control	injury
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/27/2014	Jun/27/2014	Jun/27/2014	Jul/03/2014
Trt-Eval Interval	53 DA-A	53 DA-A	53 DA-A	6 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Valor	51	WG	2.5	oz/a	7 EPP	A	95	93	81	4
1	2,4-D ester	4	L	1	pt/a	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
1	Preference		L	0.25	% v/v	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
1	Preference		L	0.25	% v/v	POST	B				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A	58	55	59	4
2	Preference		L	0.25	% v/v	7 EPP	A				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
2	Engenia	5	SL	12.8	fl oz/a	POST	B				
2	Warrant	3	L	3	pt/a	POST	B				
2	Preference		L	0.25	% v/v	POST	B				
3	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	94	94	89	3
3	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
3	MSO		L	1	% v/v	7 EPP	A				
3	AMS		WG	8.5	lb/100 gal	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
3	Engenia	5	SL	12.8	fl oz/a	POST	B				
3	Preference		L	0.25	% v/v	POST	B				
4	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	94	98	93	3
4	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
4	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
4	MSO		L	1	% v/v	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
4	Preference		L	0.25	% v/v	POST	B				
5	Zidua	85	WG	2.5	oz/a	7 EPP	A	98	90	93	4
5	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
5	MSO		L	1	% v/v	7 EPP	A				
5	AMS		WG	8.5	lb/100 gal	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
5	Engenia	5	SL	12.8	fl oz/a	POST	B				
5	Preference		L	0.25	% v/v	POST	B				
6	Zidua	85	WG	2.5	oz/a	7 EPP	A	99	97	97	4
6	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
6	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
6	MSO		L	1	% v/v	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
6	Preference		L	0.25	% v/v	POST	B				
7	Optill	68	WG	2	oz/a	7 EPP	A	97	99	99	7
7	Zidua	85	WG	2	oz/a	7 EPP	A				
7	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
7	MSO		L	1	% v/v	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				

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Weed Code	ANGR	CHEAL	AMBEL	GLXMA
Crop Code				
Rating Data Type	control	control	control	injury
Rating Unit	percent	percent	percent	percent
Rating Date	Jun/27/2014	Jun/27/2014	Jun/27/2014	Jul/03/2014
Trt-Eval Interval	53 DA-A	53 DA-A	53 DA-A	6 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
7	Outlook	6	L	10	fl oz/a	POST	B				
7	Preference		L	0.25	% v/v	POST	B				
8	Untreated							0	0	0	0
LSD (P=.05)								4.5	9.9	13.4	2.1
CV								3.87	8.63	11.96	31.98

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

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Weed Code	GLXMA	STEME	ANGR	CHEAL
Crop Code	injury	control	control	control
Rating Data Type	percent	percent	percent	percent
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/11/2014	Jul/11/2014	Jul/11/2014	Jul/11/2014
Trt-Eval Interval	14 DA-B	14 DA-B	14 DA-B	14 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Unit	Grow Stg	Appl Code				
1	Valor	51	WG	2.5	oz/a	7 EPP	A	0	99	99	99
1	2,4-D ester	4	L	1	pt/a	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
1	Preference		L	0.25	% v/v	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
1	Preference		L	0.25	% v/v	POST	B				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A	0	99	99	99
2	Preference		L	0.25	% v/v	7 EPP	A				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
2	Engenia	5	SL	12.8	fl oz/a	POST	B				
2	Warrant	3	L	3	pt/a	POST	B				
2	Preference		L	0.25	% v/v	POST	B				
3	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	0	99	99	99
3	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
3	MSO		L	1	% v/v	7 EPP	A				
3	AMS		WG	8.5	lb/100 gal	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
3	Engenia	5	SL	12.8	fl oz/a	POST	B				
3	Preference		L	0.25	% v/v	POST	B				
4	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	0	99	99	99
4	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
4	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
4	MSO		L	1	% v/v	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
4	Preference		L	0.25	% v/v	POST	B				
5	Zidua	85	WG	2.5	oz/a	7 EPP	A	0	99	99	99
5	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
5	MSO		L	1	% v/v	7 EPP	A				
5	AMS		WG	8.5	lb/100 gal	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
5	Engenia	5	SL	12.8	fl oz/a	POST	B				
5	Preference		L	0.25	% v/v	POST	B				
6	Zidua	85	WG	2.5	oz/a	7 EPP	A	0	99	99	99
6	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
6	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
6	MSO		L	1	% v/v	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
6	Preference		L	0.25	% v/v	POST	B				
7	Optill	68	WG	2	oz/a	7 EPP	A	0	99	99	99
7	Zidua	85	WG	2	oz/a	7 EPP	A				
7	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
7	MSO		L	1	% v/v	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				



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Weed Code				
Crop Code				
Rating Data Type	GLXMA	STEME	ANGR	CHEAL
Rating Unit	injury	control	control	control
Rating Date	percent	percent	percent	percent
Trt-Eval Interval	Jul/11/2014	Jul/11/2014	Jul/11/2014	Jul/11/2014
# Subsamples, Dec.	14 DA-B	14 DA-B	14 DA-B	14 DA-B

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
7	Outlook	6	L	10	fl oz/a	POST	B				
7	Preference		L	0.25	% v/v	POST	B				
8	Untreated							0	0	0	0
LSD (P=.05)								0.0	0.0	0.0	0.0
CV								0.0	0.0	0.0	0.0

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

MSU Weed Science Research Program

No-till weed control systems with Engenia in Roundup Xtend soybean - "Regulated"

Trial ID: NTS03-14  
 Conducted: Campus T-18

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

Weed Code	AMBEL	GLXMA	ANGR	CHEAL
Crop Code				
Rating Data Type	control	injury	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/11/2014	Jul/31/2014	Jul/31/2014	Jul/31/2014
Trt-Eval Interval	14 DA-B	34 DA-B	34 DA-B	34 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
1	Valor	51	WG	2.5	oz/a	7 EPP	A	99	0	99	99
1	2,4-D ester	4	L	1	pt/a	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
1	Preference		L	0.25	% v/v	7 EPP	A				
1	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
1	Preference		L	0.25	% v/v	POST	B				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A	99	0	99	99
2	Preference		L	0.25	% v/v	7 EPP	A				
2	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
2	Engenia	5	SL	12.8	fl oz/a	POST	B				
2	Warrant	3	L	3	pt/a	POST	B				
2	Preference		L	0.25	% v/v	POST	B				
3	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	99	0	99	99
3	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
3	MSO		L	1	% v/v	7 EPP	A				
3	AMS		WG	8.5	lb/100 gal	7 EPP	A				
3	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
3	Engenia	5	SL	12.8	fl oz/a	POST	B				
3	Preference		L	0.25	% v/v	POST	B				
4	Optill PRO - Optill	68	WG	2	oz/a	7 EPP	A	99	0	99	99
4	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP	A				
4	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
4	MSO		L	1	% v/v	7 EPP	A				
4	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
4	Preference		L	0.25	% v/v	POST	B				
5	Zidua	85	WG	2.5	oz/a	7 EPP	A	99	0	99	99
5	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
5	MSO		L	1	% v/v	7 EPP	A				
5	AMS		WG	8.5	lb/100 gal	7 EPP	A				
5	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
5	Engenia	5	SL	12.8	fl oz/a	POST	B				
5	Preference		L	0.25	% v/v	POST	B				
6	Zidua	85	WG	2.5	oz/a	7 EPP	A	99	0	99	99
6	Sharpen	2.85	L	1	fl oz/a	7 EPP	A				
6	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
6	MSO		L	1	% v/v	7 EPP	A				
6	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				
6	Preference		L	0.25	% v/v	POST	B				
7	Optill	68	WG	2	oz/a	7 EPP	A	99	0	99	99
7	Zidua	85	WG	2	oz/a	7 EPP	A				
7	Engenia	5	SL	12.8	fl oz/a	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP	A				
7	MSO		L	1	% v/v	7 EPP	A				
7	Roundup PowerMax	4.5	SL	28	fl oz/a	POST	B				

MSU Weed Science Research Program

No-till weed control systems with Engenia in Roundup Xtend soybean - "Regulated"

Trial ID: NTS03-14  
 Conducted: Campus T-18

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

Weed Code	AMBEL		ANGR	CHEAL
Crop Code		GLXMA		
Rating Data Type	control	injury	control	control
Rating Unit	percent	percent	percent	percent
Rating Date	Jul/11/2014	Jul/31/2014	Jul/31/2014	Jul/31/2014
Trt-Eval Interval	14 DA-B	34 DA-B	34 DA-B	34 DA-B
# Subsamples, Dec.				

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code				
7	Outlook	6	L	10	fl oz/a	POST	B				
7	Preference		L	0.25	% v/v	POST	B				
8	Untreated							0	0	0	0
LSD (P=.05)								0.0	0.0	0.0	0.0
CV								0.0	0.0	0.0	0.0

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

MSU Weed Science Research Program

No-till weed control systems with Engenia in Roundup Xtend soybean - "Regulated"

Trial ID: NTS03-14  
 Conducted: Campus T-18

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

Weed Code AMBEL  
 Crop Code  
 Rating Data Type control  
 Rating Unit percent  
 Rating Date Jul/31/2014  
 Trt-Eval Interval 34 DA-B  
 # Subsamples, Dec.

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code	
1	Valor	51	WG	2.5	oz/a	7 EPP A		99
1	2,4-D ester	4	L	1	pt/a	7 EPP A		
1	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP A		
1	Preference		L	0.25	% v/v	7 EPP A		
1	Roundup PowerMax	4.5	SL	28	fl oz/a	POST B		
1	Preference		L	0.25	% v/v	POST B		
2	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP A		99
2	Preference		L	0.25	% v/v	7 EPP A		
2	Roundup PowerMax	4.5	SL	28	fl oz/a	POST B		
2	Engenia	5	SL	12.8	fl oz/a	POST B		
2	Warrant	3	L	3	pt/a	POST B		
2	Preference		L	0.25	% v/v	POST B		
3	Optill PRO - Optill	68	WG	2	oz/a	7 EPP A		99
3	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP A		
3	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP A		
3	MSO		L	1	% v/v	7 EPP A		
3	AMS		WG	8.5	lb/100 gal	7 EPP A		
3	Roundup PowerMax	4.5	SL	28	fl oz/a	POST B		
3	Engenia	5	SL	12.8	fl oz/a	POST B		
3	Preference		L	0.25	% v/v	POST B		
4	Optill PRO - Optill	68	WG	2	oz/a	7 EPP A		99
4	Optill PRO - Outlook	6	L	10	fl oz/a	7 EPP A		
4	Engenia	5	SL	12.8	fl oz/a	7 EPP A		
4	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP A		
4	MSO		L	1	% v/v	7 EPP A		
4	Roundup PowerMax	4.5	SL	28	fl oz/a	POST B		
4	Preference		L	0.25	% v/v	POST B		
5	Zidua	85	WG	2.5	oz/a	7 EPP A		99
5	Sharpen	2.85	L	1	fl oz/a	7 EPP A		
5	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP A		
5	MSO		L	1	% v/v	7 EPP A		
5	AMS		WG	8.5	lb/100 gal	7 EPP A		
5	Roundup PowerMax	4.5	SL	28	fl oz/a	POST B		
5	Engenia	5	SL	12.8	fl oz/a	POST B		
5	Preference		L	0.25	% v/v	POST B		
6	Zidua	85	WG	2.5	oz/a	7 EPP A		99
6	Sharpen	2.85	L	1	fl oz/a	7 EPP A		
6	Engenia	5	SL	12.8	fl oz/a	7 EPP A		
6	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP A		
6	MSO		L	1	% v/v	7 EPP A		
6	Roundup PowerMax	4.5	SL	28	fl oz/a	POST B		
6	Preference		L	0.25	% v/v	POST B		
7	Optill	68	WG	2	oz/a	7 EPP A		99
7	Zidua	85	WG	2	oz/a	7 EPP A		
7	Engenia	5	SL	12.8	fl oz/a	7 EPP A		
7	Roundup PowerMax	4.5	SL	28	fl oz/a	7 EPP A		
7	MSO		L	1	% v/v	7 EPP A		
7	Roundup PowerMax	4.5	SL	28	fl oz/a	POST B		

MSU Weed Science Research Program

No-till weed control systems with Engenia in Roundup Xtend soybean - "Regulated"

Trial ID: NTS03-14  
 Conducted: Campus T-18

Study Dir.: Sprague and Powell  
 Investigator: Christy Sprague

Weed Code AMBEL  
 Crop Code  
 Rating Data Type control  
 Rating Unit percent  
 Rating Date Jul/31/2014  
 Trt-Eval Interval 34 DA-B  
 # Subsamples, Dec.

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Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Grow Stg	Appl Code
7	Outlook	6	L	10	fl oz/a	POST	B
7	Preference		L	0.25	% v/v	POST	B
8	Untreated						0

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LSD (P=.05) 0.0  
 CV 0.0

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