

# Purdue University

## Glyphosate Resistant Horseweed Efficacy - Spring Applied Treatments [Syngenta - Revised Protocol (4/2/2004)]

Trial ID: 04-SEPAC-GRH-EFS2  
Location: SEPAC

Study Dir.:  
Investigator: Dr. Bill Johnson

### GENERAL TRIAL INFORMATION

**Investigator:** Dr. Bill Johnson

### TRIAL LOCATION

**City:** Butlerville  
**State/Prov.:** IN  
**Postal Code:** 47223  
**Country:** USA  
**E-Longitude of LL Corner °:** 274.479350      **N-Latitude of LL Corner °:** 39.034600  
**Altitude of LL Corner:** 778.00      **Unit:** feet  
**Directions:** Field S10 (north end)

### COOPERATOR/LANDOWNER

**Cooperator:** Southeast Purdue Ag Center      **Country:** USA  
**Address 1:** 4425 E Co Rd 350 N      **Phone No:** 812-458-6977  
**Address 2:** PO Box 216      **Fax No:** 812-458-6979  
**City:** Butlerville  
**State/Prov:** IN  
**Postal Code:** 47223

**Conducted Under GLP (Y/N):** N      **Conducted Under GEP (Y/N):** N

### CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	RANAB	BUTTERCUP, SMALLFLOWER	RANUNCULUS ABORTIVUS L.
2.	ERPVE	Whitlowgrass, spring	Draba verna L.
3.	SENGL	GROUNDSEL, CRESSLEAF	Senecio glabellus Poir.
4.	CERVU	CHICKWEED, MOUSEEAR	CERASTIUM VULGATUM L.
5.	VERAR	SPEEDWELL, CORN	VERONICA ARVENSIS L.
6.	POAAN	Bluegrass, Annual	Poa annua L.
7.	ERICA	HORSEWEED	ERIGERON CANADENSIS L.
8.	STEME	CHICKWEED, COMMON	STELLARIA MEDIA (L.) VILL./CYR.
9.	PANDI	PANICUM, FALL	PANICUM DICHOTOMIFLORUM (L.) MICHX.

**Crop 1:** GLXMA SOYBEAN      **Variety:** Harvest Residue  
**Planting Method:** DRILLED  
**Row Spacing:** 7.5 IN

**Crop 2:** GLXMA SOYBEAN      **Variety:** P93M80  
**Planting Date:** 11/May/2004      **Planting Method:** DRILLED  
**Rate:** 204500 S/A      **Depth:** 1 IN  
**Row Spacing:** 7.5 IN

### SITE AND DESIGN

**Plot Width, Unit:** 10 FT      **Plot Length, Unit:** 30 FT      **Reps:** 4  
**Tillage Type:** No-Till      **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	soybean	glyphosate	2003

### SOIL DESCRIPTION

**% OM:** 1.3      **Texture:** Silt Loam  
**pH:** 5.7      **Soil Name:** Clermont  
**CEC:** 5.5      **Fert. Level:** P - 29 ppm, K - 61 ppm

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## APPLICATION DESCRIPTION

	A	B
Application Date:	16/Apr/2004	21/Jun/2004
Time of Day:	1045-1150	0830-0900
Application Method:	SPRAY	SPRAY
Application Timing:	14 EPP	6 WAP
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	70 F	75 F
% Relative Humidity:		65
Wind Velocity, Unit:	9 MPH	4 MPH
Soil Temp., Unit:	55 F	70 F
Soil Moisture:	dry surf.	moist
% Cloud Cover:		5

## CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA	GLXMA
Stage Scale:		residue
Height, Unit:		25 %
Crop 2 Code, Stage:	GLXMA	GLXMA
Stage Scale:	na	V4-V6, R1
Height, Unit:		12 IN

## WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	RANAB	RANAB
Stage Scale:	2-8"	
Density, Unit:	2-4 FT2	
Weed 2 Code, Stage:	ERPVE	ERPVE
Stage Scale:	1-2"	
Density, Unit:	2-7 FT2	
Weed 3 Code, Stage:	SENGL	SENGL
Stage Scale:	1-8"	
Density, Unit:	1-3 FT2	
Weed 4 Code, Stage:	CERVU	CERVU
Stage Scale:	1-8"	
Density, Unit:	1-3 FT2	
Weed 5 Code, Stage:	VERAR	VERAR
Stage Scale:	1-2"	
Density, Unit:	0-2 FT2	
Weed 6 Code, Stage:	POAAN False Tim	POAAN
Stage Scale:	1-4"	
Density, Unit:	6-8 FT2	
Weed 7 Code, Stage:	ERICA	ERICA
Stage Scale:		1-8"
Density, Unit:		1-12 FT2
Weed 8 Code, Stage:	STEME	STEME
Weed 9 Code, Stage:	PANDI	PANDI
Stage Scale:		8-12"
Density, Unit:		2-3 FT2

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## APPLICATION EQUIPMENT

	A	B
<b>Appl. Equipment:</b>	CO2 Backp	CO2 Backp
<b>Operating Pressure:</b>	25 psi	25 psi
<b>Nozzle Type:</b>	VS	VS
<b>Nozzle Size:</b>	8002	8002
<b>Nozzle Spacing, Unit:</b>	20 IN	20 IN
<b>Boom Length, Unit:</b>	10 FT	10 FT
<b>Ground Speed, Unit:</b>	3 MPH	3 MPH
<b>Carrier:</b>	water	water
<b>Spray Volume, Unit:</b>	15 gpa	15 gpa
<b>Propellant:</b>	CO2	CO2

# Purdue University

## Glyphosate Resistant Horseweed Efficacy - Spring Applied Treatments

[Syngenta - Revised Protocol (4/2/2004)]

Trial ID: 04-SEPAC-GRH-EFS2

Study Dir.:

Location: SEPAC

Investigator: Dr. Bill Johnson

Weed Code		SENGL	POAAN	CERVU	ERICA	VERAR			
Part Rated		PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P			
Rating Data Type		CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit		%control	%control	%control	%control	%control			
Rating Date		7/May/2004	7/May/2004	7/May/2004	7/May/2004	7/May/2004			
Weed Stage		18", Fl.	8-12"	2-4"	.5"/3-lf	2-6"			
Weed Density, Unit		8 M2	76 M2	4 M2	28 M2	92 M2			
Assessed By		Bill & Reece	Bill & Reece	Bill & Reece	Bill & Reece	Bill & Reece			
Trt-Eval Interval		21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A			
# Subsamples, Dec.		0	0	0	0	0			
Trt No.	Treatment Name	Rate	Grow Unit	Stg	1	2	3	4	5
1	Untreated Check (post)				0 c	0 b	0 b	0 b	0 c
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						
2	Touchdown Total	0.75 lb ae/a	14 EPP		99 a	100 a	100 a	100 a	99 a
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						
3	Touchdown Total	0.75 lb ae/a	14 EPP		100 a	99 a	98 a	100 a	98 a
	2,4-D Ester	1 lb ae/a	14 EPP						
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	FirstRate	0.0157 lb ai/a	3-5 WAP						
	AMS		3-5 WAP						
4	Gramoxone Max	0.75 lb ai/a	14 EPP		99 a	93 a	100 a	100 a	85 b
	NIS		14 EPP						
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						
5	2,4-D Ester	0.5 lb ai/a	14 EPP		99 a	100 a	100 a	100 a	97 a
	Gramoxone Max	0.75 lb ai/a	14 EPP						
	NIS		14 EPP						
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						
6	2,4-D Ester	1 lb ai/a	14 EPP		96 b	93 a	100 a	100 a	97 a
	Gramoxone Max	0.75 lb ai/a	14 EPP						
	NIS		14 EPP						
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						
7	Sencor 75DF	0.187 lb ai/a	14 EPP		100 a	99 a	100 a	100 a	98 a
	Gramoxone Max	0.75 lb ai/a	14 EPP						
	NIS		14 EPP						
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						
8	Sencor 75DF	0.187 lb ai/a	14 EPP		100 a	100 a	100 a	100 a	100 a
	2,4-D Ester	0.5 lb ai/a	14 EPP						
	Gramoxone Max	0.75 lb ai/a	14 EPP						
	NIS		14 EPP						
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						
9	Sencor 75DF	0.187 lb ai/a	14 EPP		100 a	100 a	100 a	100 a	100 a
	2,4-D Ester	1 lb ai/a	14 EPP						
	Gramoxone Max	0.75 lb ai/a	14 EPP						
	NIS		14 EPP						
	AMS		14 EPP						
	Touchdown Total	0.75 lb ae/a	3-5 WAP						
	AMS		3-5 WAP						

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Weed Code				SENGL	POAAN	CERVU	ERICA	VERAR	
Part Rated				PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	
Rating Data Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit				%control	%control	%control	%control	%control	
Rating Date				7/May/2004	7/May/2004	7/May/2004	7/May/2004	7/May/2004	
Weed Stage				18", Fl.	8-12"	2-4"	.5"/3-lf	2-6"	
Weed Density, Unit				8 M2	76 M2	4 M2	28 M2	92 M2	
Assessed By				Bill & Reece	Bill & Reece	Bill & Reece	Bill & Reece	Bill & Reece	
Trt-Eval Interval				21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A	
# Subsamples, Dec.				0	0	0	0	0	
Trt	Treatment	Rate	Unit	Grow Stg	1	2	3	4	5
10	Gramoxone Max NIS AMS Touchdown Total AMS	1 0.75	lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	100 a	95 a	100 a	100 a	86 b
11	2,4-D Ester Gramoxone Max NIS AMS Touchdown Total AMS	0.5 1 0.75	lb ai/a lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	100 a	96 a	100 a	100 a	95 a
12	2,4-D Ester Gramoxone Max NIS AMS Touchdown Total AMS	1 1 0.75	lb ai/a lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	100 a	97 a	100 a	100 a	98 a
13	Sencor 75DF Gramoxone Max NIS AMS Touchdown Total AMS	0.187 1 0.75	lb ai/a lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	100 a	96 a	100 a	100 a	95 a
14	Sencor 75DF 2,4-D Ester Gramoxone Max NIS AMS Touchdown Total AMS	0.187 0.5 1 0.75	lb ai/a lb ai/a lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	100 a	100 a	100 a	100 a	100 a
15	Sencor 75DF 2,4-D Ester Gramoxone Max NIS AMS Touchdown Total AMS	0.187 1 1 0.75	lb ai/a lb ai/a lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	100 a	99 a	100 a	100 a	100 a
16	2,4-D Ester Boundary Gramoxone Max NIS AMS Touchdown Total AMS	0.5 1.7 1 0.75	lb ai/a lb ai/a lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	99 a	100 a	100 a	100 a	100 a
17	2,4-D Ester Boundary Gramoxone Max NIS AMS Touchdown Total AMS	1 1.7 1 0.75	lb ai/a lb ai/a lb ai/a lb ae/a	14 EPP 14 EPP 14 EPP 14 EPP 14 EPP 3-5 WAP 3-5 WAP	100 a	100 a	100 a	100 a	100 a

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Weed Code	SENGL	POAAN	CERVU	ERICA	VERAR			
Part Rated	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P			
Rating Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%control	%control	%control	%control	%control			
Rating Date	7/May/2004	7/May/2004	7/May/2004	7/May/2004	7/May/2004			
Weed Stage	18", Fl.	8-12"	2-4"	.5"/3-lf	2-6"			
Weed Density, Unit	8 M2	76 M2	4 M2	28 M2	92 M2			
Assessed By	Bill & Reece	Bill & Reece	Bill & Reece	Bill & Reece	Bill & Reece			
Trt-Eval Interval	21 DA-A	21 DA-A	21 DA-A	21 DA-A	21 DA-A			
# Subsamples, Dec.	0	0	0	0	0			
Trt Treatment	Rate	Unit	Grow Stg	1	2	3	4	5
18 2,4-D Ester	1 lb ai/a	14 EPP	100 a	100 a	100 a	100 a	100 a	100 a
Boundary	1.7 lb ai/a	14 EPP						
Gramoxone Max	1 lb ai/a	14 EPP						
NIS		14 EPP						
AMS		14 EPP						
Flexstar	0.294 lb ai/a	3-5 WAP						
Fusion	0.2 lb ai/a	3-5 WAP						
Crop Oil Conc		3-5 WAP						
UAN - 28%		3-5 WAP						
LSD (P=.05)		1.7	5.6	1.7	0.0	4.8		
Standard Deviation		1.2	3.9	1.2	0.0	3.4		
CV		1.24	4.24	1.27	0.0	3.71		
Grand Mean		93.85	92.54	94.26	94.44	91.53		
Bartlett's X2		24.738	15.549	16.811	0.0	38.46		
P(Bartlett's X2)		0.006*	0.049*	0.001*	.	0.001*		
Replicate F		2.373	0.910	0.782	0.000	1.710		
Replicate Prob(F)		0.0811	0.4429	0.5095	1.0000	0.1765		
Treatment F		1612.216	140.152	1539.648	0.000	187.281		
Treatment Prob(F)		0.0001	0.0001	0.0001	1.0000	0.0001		

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code				STEME	CERVU	VERAR	ERICA	ERICA
Part Rated				PLAQUA P				
Rating Data Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit				%control	%control	%control	%control	%control
Rating Date				7/May/2004	21/May/2004	21/May/2004	21/May/2004	21/Jun/2004
Weed Stage				6-10"	1-4"	3-6"	0.5-8"	1-8"
Weed Density, Unit				20 M2	9-20M2	9-20M2	100+M2	100+M2
Assessed By				Bill & Reece	Earl & Reece	Earl & Reece	Earl & Reece	Earl & Reece
Trt-Eval Interval				21 DA-A	35 DA-A	35 DA-A	35 DA-A	66 DA-A
# Subsamples, Dec.				0	0	0	0	0
Trt Treatment	Rate	Rate Unit	Grow Stg	6	7	8	9	10
1 Untreated Check (post)				0 b	0 c	0 d	0 c	0 b
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
2 Touchdown Total AMS	0.75	lb ae/a	14 EPP	100 a	95 b	70 bc	72 b	19 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
3 Touchdown Total AMS	0.75	lb ae/a	14 EPP	100 a	100 a	97 a	96 a	34 ab
2,4-D Ester AMS	1	lb ae/a	14 EPP					
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
FirstRate AMS	0.0157	lb ai/a	3-5 WAP					
4 Gramoxone Max NIS AMS	0.75	lb ai/a	14 EPP	100 a	100 a	64 c	92 a	30 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
5 2,4-D Ester Gramoxone Max NIS AMS	0.5	lb ai/a	14 EPP	100 a	99 a	84 ab	91 a	13 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
6 2,4-D Ester Gramoxone Max NIS AMS	1	lb ai/a	14 EPP	100 a	100 a	96 a	96 a	15 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
7 Sencor 75DF Gramoxone Max NIS AMS	0.187	lb ai/a	14 EPP	100 a	100 a	96 a	97 a	29 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
8 Sencor 75DF 2,4-D Ester Gramoxone Max NIS AMS	0.187	lb ai/a	14 EPP	100 a	100 a	99 a	96 a	25 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
9 Sencor 75DF 2,4-D Ester Gramoxone Max NIS AMS	0.187	lb ai/a	14 EPP	100 a	100 a	100 a	97 a	25 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					
10 Gramoxone Max NIS AMS	1	lb ai/a	14 EPP	100 a	100 a	80 ab	97 a	41 ab
Touchdown Total AMS	0.75	lb ae/a	3-5 WAP					

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Weed Code				STEME	CERVU	VERAR	ERICA	ERICA	
Part Rated				PLAQUA P					
Rating Data Type				CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	
Rating Unit				%control	%control	%control	%control	%control	
Rating Date				7/May/2004	21/May/2004	21/May/2004	21/May/2004	21/Jun/2004	
Weed Stage				6-10"	1-4"	3-6"	0.5-8"	1-8"	
Weed Density, Unit				20 M2	9-20M2	9-20M2	100+M2	100+M2	
Assessed By				Bill & Reece	Earl & Reece	Earl & Reece	Earl & Reece	Earl & Reece	
Trt-Eval Interval				21 DA-A	35 DA-A	35 DA-A	35 DA-A	66 DA-A	
# Subsamples, Dec.				0	0	0	0	0	
Trt	Treatment	Rate	Unit	Grow	6	7	8	9	10
No.	Name			Stg					
11	2,4-D Ester	0.5	lb ai/a	14 EPP	100 a	98 ab	90 a	97 a	45 a
	Gramoxone Max	1	lb ai/a	14 EPP					
	NIS			14 EPP					
	AMS			14 EPP					
	Touchdown Total	0.75	lb ae/a	3-5 WAP					
	AMS			3-5 WAP					
12	2,4-D Ester	1	lb ai/a	14 EPP	100 a	100 a	97 a	95 a	48 a
	Gramoxone Max	1	lb ai/a	14 EPP					
	NIS			14 EPP					
	AMS			14 EPP					
	Touchdown Total	0.75	lb ae/a	3-5 WAP					
	AMS			3-5 WAP					
13	Sencor 75DF	0.187	lb ai/a	14 EPP	100 a	100 a	96 a	96 a	25 ab
	Gramoxone Max	1	lb ai/a	14 EPP					
	NIS			14 EPP					
	AMS			14 EPP					
	Touchdown Total	0.75	lb ae/a	3-5 WAP					
	AMS			3-5 WAP					
14	Sencor 75DF	0.187	lb ai/a	14 EPP	100 a	100 a	98 a	95 a	20 ab
	2,4-D Ester	0.5	lb ai/a	14 EPP					
	Gramoxone Max	1	lb ai/a	14 EPP					
	NIS			14 EPP					
	AMS			14 EPP					
	Touchdown Total	0.75	lb ae/a	3-5 WAP					
	AMS			3-5 WAP					
15	Sencor 75DF	0.187	lb ai/a	14 EPP	100 a	100 a	97 a	94 a	18 ab
	2,4-D Ester	1	lb ai/a	14 EPP					
	Gramoxone Max	1	lb ai/a	14 EPP					
	NIS			14 EPP					
	AMS			14 EPP					
	Touchdown Total	0.75	lb ae/a	3-5 WAP					
	AMS			3-5 WAP					
16	2,4-D Ester	0.5	lb ai/a	14 EPP	100 a	100 a	100 a	97 a	33 ab
	Boundary	1.7	lb ai/a	14 EPP					
	Gramoxone Max	1	lb ai/a	14 EPP					
	NIS			14 EPP					
	AMS			14 EPP					
	Touchdown Total	0.75	lb ae/a	3-5 WAP					
	AMS			3-5 WAP					
17	2,4-D Ester	1	lb ai/a	14 EPP	100 a	100 a	100 a	96 a	29 ab
	Boundary	1.7	lb ai/a	14 EPP					
	Gramoxone Max	1	lb ai/a	14 EPP					
	NIS			14 EPP					
	AMS			14 EPP					
	Touchdown Total	0.75	lb ae/a	3-5 WAP					
	AMS			3-5 WAP					

# Purdue University

Weed Code	STEME	CERVU	VERAR	ERICA	ERICA			
Part Rated	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P	PLAQUA P			
Rating Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit	%control	%control	%control	%control	%control			
Rating Date	7/May/2004	21/May/2004	21/May/2004	21/May/2004	21/Jun/2004			
Weed Stage	6-10"	1-4"	3-6"	0.5-8"	1-8"			
Weed Density, Unit	20 M2	9-20M2	9-20M2	100+M2	100+M2			
Assessed By	Bill & Reece	Earl & Reece	Earl & Reece	Earl & Reece	Earl & Reece			
Trt-Eval Interval	21 DA-A	35 DA-A	35 DA-A	35 DA-A	66 DA-A			
# Subsamples, Dec.	0	0	0	0	0			
Trt Treatment	Rate	Unit	Grow Stg	6	7	8	9	10
18 2,4-D Ester	1 lb ai/a	14 EPP	100 a	100 a	100 a	97 a	28 ab	
Boundary	1.7 lb ai/a	14 EPP						
Gramoxone Max	1 lb ai/a	14 EPP						
NIS		14 EPP						
AMS		14 EPP						
Flexstar	0.294 lb ai/a	3-5 WAP						
Fusion	0.2 lb ai/a	3-5 WAP						
Crop Oil Conc		3-5 WAP						
UAN - 28%		3-5 WAP						
LSD (P=.05)	0.0	2.6	12.6	8.0	24.1			
Standard Deviation	0.0	1.9	8.9	5.7	17.0			
CV	0.0	1.98	10.27	6.4	64.6			
Grand Mean	94.44	93.96	86.79	88.85	26.33			
Bartlett's X2	0.0	1.918	65.802	63.28	15.5			
P(Bartlett's X2)	.	0.383	0.001*	0.001*	0.488			
Replicate F	0.000	1.710	0.986	5.283	3.299			
Replicate Prob(F)	1.0000	0.1766	0.4066	0.0030	0.0276			
Treatment F	0.000	639.107	29.429	64.993	1.888			
Treatment Prob(F)	1.0000	0.0001	0.0001	0.0001	0.0415			

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

# Purdue University

Weed Code				ERICA	ERICA
Part Rated				PLAQUA P	PLAQUA P
Rating Data Type				CONTRO	CONTRO
Rating Unit				%control	%control
Rating Date				8/Jul/2004	5/Oct/2004
Weed Stage				2-12"	36-72"
Weed Density, Unit				100+M2	100+M2
Assessed By				Bill & Reece	Reece & Vince
Trt-Eval Interval				17 DA-B	106 DA-B
# Subsamples, Dec.				0	0
Trt	Treatment	Rate	Rate Unit	Grow Stg	
No.	Name				
1	Untreated Check (post)				
	Touchdown Total	0.75 lb ae/a	3-5 WAP	0 c	74 a
	AMS		3-5 WAP		
2	Touchdown Total	0.75 lb ae/a	14 EPP	29 abc	40 abc
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		
3	Touchdown Total	0.75 lb ae/a	14 EPP	68 a	65 ab
	2,4-D Ester	1 lb ae/a	14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	FirstRate	0.0157 lb ai/a	3-5 WAP		
	AMS		3-5 WAP		
4	Gramoxone Max	0.75 lb ai/a	14 EPP	27 abc	28 abc
	NIS		14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		
5	2,4-D Ester	0.5 lb ai/a	14 EPP	23 bc	23 bc
	Gramoxone Max	0.75 lb ai/a	14 EPP		
	NIS		14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		
6	2,4-D Ester	1 lb ai/a	14 EPP	23 bc	38 abc
	Gramoxone Max	0.75 lb ai/a	14 EPP		
	NIS		14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		
7	Sencor 75DF	0.187 lb ai/a	14 EPP	43 ab	48 abc
	Gramoxone Max	0.75 lb ai/a	14 EPP		
	NIS		14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		
8	Sencor 75DF	0.187 lb ai/a	14 EPP	53 ab	53 abc
	2,4-D Ester	0.5 lb ai/a	14 EPP		
	Gramoxone Max	0.75 lb ai/a	14 EPP		
	NIS		14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		
9	Sencor 75DF	0.187 lb ai/a	14 EPP	42 ab	46 abc
	2,4-D Ester	1 lb ai/a	14 EPP		
	Gramoxone Max	0.75 lb ai/a	14 EPP		
	NIS		14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		
10	Gramoxone Max	1 lb ai/a	14 EPP	58 ab	50 abc
	NIS		14 EPP		
	AMS		14 EPP		
	Touchdown Total	0.75 lb ae/a	3-5 WAP		
	AMS		3-5 WAP		

# Purdue University

Weed Code				ERICA	ERICA
Part Rated				PLAQUA P	PLAQUA P
Rating Data Type				CONTRO	CONTRO
Rating Unit				%control	%control
Rating Date				8/Jul/2004	5/Oct/2004
Weed Stage				2-12"	36-72"
Weed Density, Unit				100+M2	100+M2
Assessed By				Bill & Reece	Reece & Vince
Trt-Eval Interval				17 DA-B	106 DA-B
# Subsamples, Dec.				0	0
Trt No.	Treatment	Rate	Unit	Grow Stg	
11	2,4-D Ester	0.5	lb ai/a	14 EPP	53 ab
	Gramoxone Max	1	lb ai/a	14 EPP	45 abc
	NIS			14 EPP	
	AMS			14 EPP	
	Touchdown Total	0.75	lb ae/a	3-5 WAP	
	AMS			3-5 WAP	
12	2,4-D Ester	1	lb ai/a	14 EPP	54 ab
	Gramoxone Max	1	lb ai/a	14 EPP	53 abc
	NIS			14 EPP	
	AMS			14 EPP	
	Touchdown Total	0.75	lb ae/a	3-5 WAP	
	AMS			3-5 WAP	
13	Sencor 75DF	0.187	lb ai/a	14 EPP	45 ab
	Gramoxone Max	1	lb ai/a	14 EPP	38 abc
	NIS			14 EPP	
	AMS			14 EPP	
	Touchdown Total	0.75	lb ae/a	3-5 WAP	
	AMS			3-5 WAP	
14	Sencor 75DF	0.187	lb ai/a	14 EPP	24 abc
	2,4-D Ester	0.5	lb ai/a	14 EPP	34 abc
	Gramoxone Max	1	lb ai/a	14 EPP	
	NIS			14 EPP	
	AMS			14 EPP	
	Touchdown Total	0.75	lb ae/a	3-5 WAP	
	AMS			3-5 WAP	
15	Sencor 75DF	0.187	lb ai/a	14 EPP	38 abc
	2,4-D Ester	1	lb ai/a	14 EPP	33 abc
	Gramoxone Max	1	lb ai/a	14 EPP	
	NIS			14 EPP	
	AMS			14 EPP	
	Touchdown Total	0.75	lb ae/a	3-5 WAP	
	AMS			3-5 WAP	
16	2,4-D Ester	0.5	lb ai/a	14 EPP	41 ab
	Boundary	1.7	lb ai/a	14 EPP	35 abc
	Gramoxone Max	1	lb ai/a	14 EPP	
	NIS			14 EPP	
	AMS			14 EPP	
	Touchdown Total	0.75	lb ae/a	3-5 WAP	
	AMS			3-5 WAP	
17	2,4-D Ester	1	lb ai/a	14 EPP	52 ab
	Boundary	1.7	lb ai/a	14 EPP	36 abc
	Gramoxone Max	1	lb ai/a	14 EPP	
	NIS			14 EPP	
	AMS			14 EPP	
	Touchdown Total	0.75	lb ae/a	3-5 WAP	
	AMS			3-5 WAP	

# Purdue University

Weed Code				ERICA	ERICA
Part Rated				PLAQUA P	PLAQUA P
Rating Data Type				CONTRO	CONTRO
Rating Unit				%control	%control
Rating Date				8/Jul/2004	5/Oct/2004
Weed Stage				2-12"	36-72"
Weed Density, Unit				100+M2	100+M2
Assessed By				Bill & Reece	Reece & Vince
Trt-Eval Interval				17 DA-B	106 DA-B
# Subsamples, Dec.				0	0
Trt Treatment		Rate	Grow		
No. Name		Unit	Stg	11	12
18 2,4-D Ester		1 lb ai/a	14 EPP	16 bc	8 c
Boundary		1.7 lb ai/a	14 EPP		
Gramoxone Max		1 lb ai/a	14 EPP		
NIS			14 EPP		
AMS			14 EPP		
Flexstar		0.294 lb ai/a	3-5 WAP		
Fusion		0.2 lb ai/a	3-5 WAP		
Crop Oil Conc			3-5 WAP		
UAN - 28%			3-5 WAP		
LSD (P=.05)				24.6	27.4
Standard Deviation				17.4	19.3
CV				45.67	46.88
Grand Mean				38.08	41.26
Bartlett's X2				12.795	19.803
P(Bartlett's X2)				0.688	0.284
Replicate F				1.621	2.867
Replicate Prob(F)				0.1961	0.0455
Treatment F				3.907	2.474
Treatment Prob(F)				0.0001	0.0065

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.