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Glyphosate Resistant Giant Ragweed Dose Response - 2005

Trial ID: 05-LPORT-GRW-DOSE

Study Dir.:

Location: Logansport/Bunker Hill

Investigator: Dr. William G. Johnson

GENERAL TRIAL INFORMATION

Study Director: Vince Davis **Title:** Research Associate
Affiliation: Purdue University
Postal Code: 47907
Investigator: Dr. William G. Johnson **Title:** Associate Professor
Affiliation: Purdue University
Postal Code: 47907

TRIAL LOCATION

City: Bunker Hill
State/Prov.: IN
Country: USA

COOPERATOR/LANDOWNER

Cooperator: Jim Wilson

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

Objective: The objective of this study was to investigate a suspect population of giant ragweed for glyphosate tolerance.

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	AMBTR	Giant Ragweed	Ambrosia trifida
2.	CHEAL	Lambsquarters, common	Chenopodium album

Crop 1: GLXMA SOYBEAN

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 30 FT **Reps:** 4

Site Type: FIELD

Tillage Type: CONVENTIONAL-TILL **Study Design:** RANDOMIZED COMPLETE BLOCK

APPLICATION DESCRIPTION

	A	B
Application Date:	8/Jun/2005	15/Jun/2005
Time of Day:	8-9:00am	8-9:00am
Application Method:	SPRAY	SPRAY
Application Timing:	6 inch	12 inch
Applic. Placement:	BROFOL	BROFOL
Air Temp., Unit:	88 F	74 F
% Relative Humidity:	50.8	67.2
Wind Velocity, Unit:	4 MPH	9 MPH
Soil Temp., Unit:	82 F	70 F
Soil Moisture:	Dry	Moist
% Cloud Cover:	40	99

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA	GLXMA
Stage Scale:	V2	V4
Height, Unit:	5 IN	

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	AMBTR	AMBTR
Stage Scale:	.5-12"	.5-18"
Density, Unit:	17.5 YD2	1-20 YD2
Weed 2 Code, Stage:	CHEAL	CHEAL
Stage Scale:	1-3"	1-6"
Density, Unit:	10.5 YD2	10.5 YD2

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APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO2 Backp	CO2 Backp
Operating Pressure:	28 psi	28 psi
Nozzle Type:	XR11002VS	XR11002VS
Nozzle Size:	02	02
Nozzle Spacing, Unit:	20 IN	20 IN
Boom Length, Unit:	10 FT	10 FT
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	water	water
Spray Volume, Unit:	15 gpa	15 gpa
Propellant:	CO2	CO2

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Glyphosate Resistant Giant Ragweed Dose Response - 2005

Trial ID: 05-LPORT-GRW-DOSE
 Location: Logansport/Bunker Hill

Study Dir.:
 Investigator: Dr. William G. Johnson

Weed Code								GLYMX	AMBTR	CHEAL	AMARE	GLYMX	
Crop Code								%	%	%	%	%	
Rating Unit								22/Jun/2005	22/Jun/2005	22/Jun/2005	22/Jun/2005	29/Jun/2005	
Rating Date													
Crop Stage								V5-V6					
Crop Stage Scale								10-14"					
Weed Stage									6-24"	2-10"	2-10"		
Weed Density, Unit									2-20YD2	5-25YD2	3-15YD2		
Assessed By								VMD	VMD	VMD	VMD		
Tri-Eval Interval								14 DA-A	14 DA-A	14 DA-A	14 DA-A	21 DA-A	
Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	1	2	3	4	5
1	UNTREATED CHECK							101	0	0	0	0	0
								210	0	0	0	0	0
								312	0	0	0	0	0
								419	0	0	0	0	0
								Mean =	0	0	0	0	0
2	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	102	5	60	80	100	0
	TOUCHDOWN TOTAL	0.195	lb ae/a	6	fl oz/a	6 INCH	A	215	5	95	100	100	0
								302	5	50	75	100	10
								415	0	80	90	100	0
								Mean =	4	71	86	100	3
3	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	103	5	85	98	100	0
	TOUCHDOWN TOTAL	0.39	lb ae/a	12	fl oz/a	6 INCH	A	219	3	100	100	100	0
								301	5	75	90	100	10
								406	10	85	100	100	20
								Mean =	6	86	97	100	8
4	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	104	8	98	100	100	10
	TOUCHDOWN TOTAL	0.78	lb ae/a	24	fl oz/a	6 INCH	A	217	5	98	100	100	0
								311	5	95	100	100	0
								413	5	95	100	100	0
								Mean =	6	97	100	100	3
5	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	105	8	100	100	100	0
	TOUCHDOWN TOTAL	1.56	lb ae/a	48	fl oz/a	6 INCH	A	209	10	100	100	100	0
								313	3	98	100	100	0
								407	5	98	100	100	15
								Mean =	7	99	100	100	4
6	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	106	5	100	100	100	0
	TOUCHDOWN TOTAL	3.13	lb ae/a	96	fl oz/a	6 INCH	A	205	5	100	100	100	0
								308	5	100	100	100	0
								412	5	95	100	100	0
								Mean =	5	99	100	100	0
7	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	107	5	98	100	100	2
	TOUCHDOWN TOTAL	6.26	lb ae/a	192	fl oz/a	6 INCH	A	211	10	100	100	100	10
								316	0	100	100	100	0
								410	10	93	100	100	10
								Mean =	6	98	100	100	6
8	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	108	15	100	100	100	15
	TOUCHDOWN TOTAL	9.4	lb ae/a	288	fl oz/a	6 INCH	A	203	10	100	100	100	0
								309	5	100	100	100	10
								401	15	100	100	100	15
								Mean =	11	100	100	100	10
9	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	109					10
	TOUCHDOWN TOTAL	0.195	lb ae/a	6	fl oz/a	12 INCH	B	213					0
								318					10
								417					0
								Mean =	5

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Weed Code									GLYMX	AMBTR	CHEAL	AMARE	GLYMX
Crop Code									%	%	%	%	%
Rating Unit									22/Jun/2005	22/Jun/2005	22/Jun/2005	22/Jun/2005	29/Jun/2005
Rating Date									V5-V6				
Crop Stage									10-14"				
Crop Stage Scale										6-24"	2-10"	2-10"	
Weed Stage										2-20YD2	5-25YD2	3-15YD2	
Weed Density, Unit									VMD	VMD	VMD	VMD	
Assessed By									14 DA-A	14 DA-A	14 DA-A	14 DA-A	21 DA-A
Tri-Eval Interval													
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	1	2	3	4	5
10	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	110					10
	TOUCHDOWN TOTAL	0.39	lb ae/a	12	fl oz/a	12 INCH	B	202					0
								305					0
								403					0
								Mean =	.	.	.	.	3
11	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	111					10
	TOUCHDOWN TOTAL	0.78	lb ae/a	24	fl oz/a	12 INCH	B	214					0
								319					0
								405					10
								Mean =	.	.	.	.	5
12	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	112					0
	TOUCHDOWN TOTAL	1.56	lb ae/a	48	fl oz/a	12 INCH	B	206					0
								310					0
								414					0
								Mean =	.	.	.	.	0
13	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	113					15
	TOUCHDOWN TOTAL	3.13	lb ae/a	96	fl oz/a	12 INCH	B	212					10
								315					10
								402					15
								Mean =	.	.	.	.	13
14	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	114					20
	TOUCHDOWN TOTAL	6.26	lb ae/a	192	fl oz/a	12 INCH	B	218					10
								307					10
								420					15
								Mean =	.	.	.	.	14
15	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	115					35
	TOUCHDOWN TOTAL	9.4	lb ae/a	288	fl oz/a	12 INCH	B	208					20
								303					20
								418					20
								Mean =	.	.	.	.	24
16	NIS	0.25	% v/v	0.25	% v/v	6 INCH	A	116	5	100	98	100	0
	FIRST RATE	.000158	lb ai/a	0.3	oz wt/a	6 INCH	A	201	5	95	40	100	0
								314	5	80	65	100	0
								409	5	80	95	100	20
								Mean =	5	89	75	100	5
17	NIS	0.25	% v/v	0.25	% v/v	6 INCH	A	117	5	90	98	100	0
	FIRST RATE	.000315	lb ai/a	0.6	oz wt/a	6 INCH	A	207	8	90	100	100	10
								306	10	90	100	100	0
								404	5	80	80	100	15
								Mean =	7	88	95	100	6
18	NIS	0.25	% v/v	0.25	% v/v	12 INCH	B	118					0
	FIRST RATE	.000158	lb ai/a	0.3	oz wt/a	12 INCH	B	204					0
								320					0
								416					0
								Mean =	0

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Weed Code										GLYMX	AMBTR	CHEAL	AMARE	GLYMX
Crop Code										%	%	%	%	%
Rating Unit										22/Jun/2005	22/Jun/2005	22/Jun/2005	22/Jun/2005	29/Jun/2005
Rating Date														
Crop Stage										V5-V6				
Crop Stage Scale										10-14"				
Weed Stage											6-24"	2-10"	2-10"	
Weed Density, Unit											2-20YD2	5-25YD2	3-15YD2	
Assessed By										VMD	VMD	VMD	VMD	
Tri-Eval Interval										14 DA-A	14 DA-A	14 DA-A	14 DA-A	21 DA-A
Tri	Treatment	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot		1	2	3	4	5
19	NIS	0.25	% v/v	0.25	% v/v	12 INCH	B	119						0
	FIRST RATE	.000315	lb ai/a	0.6	oz wt/a	12 INCH	B	220						0
								317						10
								411						0
								Mean =	.	.	.	.	.	3
20	UNTREATED CHECK							120	0	0	0	0	0	0
								216	0	0	0	0	0	0
								304	0	0	0	0	0	0
								408	0	0	0	0	0	0
								Mean =	0	0	0	0	0	0

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Weed Code								AMBTR	GLYMX	AMBTR	GLYMX	AMBTR	
Crop Code													
Rating Unit								%	%	%	%	%	
Rating Date								29/Jun/2005	6/Jul/2005	6/Jul/2005	12/Jul/2005	12/Jul/2005	
Crop Stage									R1		R1		
Crop Stage Scale									16-18"		24"		
Weed Stage								1-30"		6-48"		30-50"	
Weed Density, Unit								5-25YD2		1-10YD2		1-10YD2	
Assessed By									VAM+EC	VAM+EC	VAM+EOTT	VAM+EOTT	
Tri-Eval Interval								21 DA-A	28 DA-A	28 DA-A	34 DA-A	34 DA-A	
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	6	7	8	9	10
1	UNTREATED CHECK							101	0	0	0	0	0
								210	0	0	0	0	0
								312	0	0	0	0	0
								419	0	0	0	0	0
								Mean =	0	0	0	0	0
2	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	102	70	0	90	0	93
	TOUCHDOWN TOTAL	0.195	lb ae/a	6	fl oz/a	6 INCH	A	215	93	0	95	0	95
								302	45	0	45	0	67
								415	85	0	95	0	98
								Mean =	73	0	81	0	88
3	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	103	90	0	98	0	98
	TOUCHDOWN TOTAL	0.39	lb ae/a	12	fl oz/a	6 INCH	A	219	100	0	100	0	100
								301	70	0	75	0	75
								406	80	0	85	0	90
								Mean =	85	0	90	0	91
4	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	104	97	0	100	0	99
	TOUCHDOWN TOTAL	0.78	lb ae/a	24	fl oz/a	6 INCH	A	217	99	0	100	0	96
								311	95	0	95	0	93
								413	98	0	85	0	85
								Mean =	97	0	95	0	93
5	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	105	100	0	100	0	100
	TOUCHDOWN TOTAL	1.56	lb ae/a	48	fl oz/a	6 INCH	A	209	99	0	100	0	100
								313	98	0	95	0	96
								407	98	0	90	0	93
								Mean =	99	0	96	0	97
6	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	106	100	0	100	0	100
	TOUCHDOWN TOTAL	3.13	lb ae/a	96	fl oz/a	6 INCH	A	205	100	0	100	0	99
								308	100	0	100	0	100
								412	90	0	75	0	65
								Mean =	98	0	94	0	91
7	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	107	98	0	90	0	95
	TOUCHDOWN TOTAL	6.26	lb ae/a	192	fl oz/a	6 INCH	A	211	99	0	95	0	98
								316	100	0	100	0	100
								410	95	0	80	0	75
								Mean =	98	0	91	0	92
8	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	6 INCH	A	108	100	0	96	0	98
	TOUCHDOWN TOTAL	9.4	lb ae/a	288	fl oz/a	6 INCH	A	203	100	0	95	0	96
								309	100	0	98	0	99
								401	100	0	92	0	98
								Mean =	100	0	95	0	98
9	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	109	40	0	70	0	75
	TOUCHDOWN TOTAL	0.195	lb ae/a	6	fl oz/a	12 INCH	B	213	65	0	85	0	90
								318	85	0	95	0	96
								417	90	0	90	0	97
								Mean =	70	0	85	0	90

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Weed Code									AMBTR	GLYMX	AMBTR	GLYMX	AMBTR
Crop Code													
Rating Unit									%	%	%	%	%
Rating Date									29/Jun/2005	6/Jul/2005	6/Jul/2005	12/Jul/2005	12/Jul/2005
Crop Stage										R1		R1	
Crop Stage Scale										16-18"		24"	
Weed Stage									1-30"		6-48"		30-50"
Weed Density, Unit									5-25YD2		1-10YD2		1-10YD2
Assessed By										VAM+EC	VAM+EC	VAM+EOTT	VAM+EOTT
Tri-Eval Interval									21 DA-A	28 DA-A	28 DA-A	34 DA-A	34 DA-A
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	6	7	8	9	10
10	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	110	70	0	85	0	90
	TOUCHDOWN TOTAL	0.39	lb ae/a	12	fl oz/a	12 INCH	B	202	85	0	80	0	85
								305	90	0	98	0	98
								403	80	0	90	0	95
								Mean =	81	0	88	0	92
11	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	111	80	0	85	0	93
	TOUCHDOWN TOTAL	0.78	lb ae/a	24	fl oz/a	12 INCH	B	214	90	0	98	0	98
								319	100	0	100	0	99
								405	85	0	90	0	93
								Mean =	89	0	93	0	96
12	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	112	90	0	100	0	99
	TOUCHDOWN TOTAL	1.56	lb ae/a	48	fl oz/a	12 INCH	B	206	95	0	95	0	96
								310	98	0	95	0	96
								414	100	0	100	0	99
								Mean =	96	0	98	0	98
13	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	113	95	0	100	0	100
	TOUCHDOWN TOTAL	3.13	lb ae/a	96	fl oz/a	12 INCH	B	212	98	0	95	0	95
								315	100	0	100	0	100
								402	100	0	100	0	98
								Mean =	98	0	99	0	98
14	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	114	99	0	100	0	100
	TOUCHDOWN TOTAL	6.26	lb ae/a	192	fl oz/a	12 INCH	B	218	99	0	100	0	99
								307	99	0	100	0	98
								420	100	0	95	0	98
								Mean =	99	0	99	0	99
15	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	115	100	0	100	0	100
	TOUCHDOWN TOTAL	9.4	lb ae/a	288	fl oz/a	12 INCH	B	208	99	0	100	0	100
								303	90	5	100	0	100
								418	100	10	100	10	100
								Mean =	97	4	100	3	100
16	NIS	0.25	% v/v	0.25	% v/v	6 INCH	A	116	100	0	100	0	100
	FIRST RATE	.000158	lb ai/a	0.3	oz wt/a	6 INCH	A	201	90	0	95	0	98
								314	80	0	80	0	85
								409	85	0	85	0	92
								Mean =	89	0	90	0	94
17	NIS	0.25	% v/v	0.25	% v/v	6 INCH	A	117	90	0	95	0	95
	FIRST RATE	.000315	lb ai/a	0.6	oz wt/a	6 INCH	A	207	80	0	80	0	75
								306	95	0	90	0	90
								404	85	0	90	0	92
								Mean =	88	0	89	0	88
18	NIS	0.25	% v/v	0.25	% v/v	12 INCH	B	118	70	0	75	0	88
	FIRST RATE	.000158	lb ai/a	0.3	oz wt/a	12 INCH	B	204	97	0	95	0	98
								320	70	0	95	0	96
								416	90	0	100	0	100
								Mean =	82	0	91	0	96

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Weed Code									AMBTR	GLYMX	AMBTR	GLYMX	AMBTR
Crop Code													
Rating Unit									%	%	%	%	%
Rating Date									29/Jun/2005	6/Jul/2005	6/Jul/2005	12/Jul/2005	12/Jul/2005
Crop Stage										R1		R1	
Crop Stage Scale										16-18"		24"	
Weed Stage									1-30"		6-48"		30-50"
Weed Density, Unit									5-25YD2		1-10YD2		1-10YD2
Assessed By										VAM+EC	VAM+EC	VAM+EOTT	VAM+EOTT
Tri-Eval Interval									21 DA-A	28 DA-A	28 DA-A	34 DA-A	34 DA-A
Tri	Treatment	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	6	7	8	9	10
19	NIS	0.25	% v/v	0.25	% v/v	12 INCH	B	119	80	0	90	0	98
	FIRST RATE	.000315	lb ai/a	0.6	oz wt/a	12 INCH	B	220	97	0	100	0	97
								317	100	0	100	0	100
								411	40	0	50	0	53
								Mean =	79	0	85	0	87
20	UNTREATED CHECK							120	0	0	0	0	0
								216	0	0	0	0	0
								304	0	0	0	0	0
								408	0	0	0	0	0
								Mean =	0	0	0	0	0

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Weed Code									GLYMX	AMBTR
Crop Code									%	%
Rating Unit									27/Jul/2005	27/Jul/2005
Rating Date									R3	
Crop Stage									36"	
Crop Stage Scale										48-72"
Weed Stage										1-10YD2
Weed Density, Unit									VAM+WGJ	VAM+WGJ
Assessed By									49 DA-A	49 DA-A
Tri-Eval Interval										
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	11	12
1	UNTREATED CHECK							101	0	0
								210	0	0
								312	0	0
								419	0	0
								Mean =	0	0
2	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	6 INCH 6 INCH	A A	102 215 302 415	0 0 0 0	86 97 70 98
								Mean =	0	88
3	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.39	lb ai/a lb ae/a	2.5 12	lb ai/a fl oz/a	6 INCH 6 INCH	A A	103 219 301 406	0 0 0 0	97 100 75 80
								Mean =	0	88
4	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.78	lb ai/a lb ae/a	2.5 24	lb ai/a fl oz/a	6 INCH 6 INCH	A A	104 217 311 413	0 0 0 0	99 100 93 83
								Mean =	0	94
5	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 1.56	lb ai/a lb ae/a	2.5 48	lb ai/a fl oz/a	6 INCH 6 INCH	A A	105 209 313 407	0 0 0 0	100 100 93 85
								Mean =	0	95
6	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 3.13	lb ai/a lb ae/a	2.5 96	lb ai/a fl oz/a	6 INCH 6 INCH	A A	106 205 308 412	0 0 0 0	100 100 100 70
								Mean =	0	93
7	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 6.26	lb ai/a lb ae/a	2.5 192	lb ai/a fl oz/a	6 INCH 6 INCH	A A	107 211 316 410	0 0 0 0	99 95 100 77
								Mean =	0	93
8	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 9.4	lb ai/a lb ae/a	2.5 288	lb ai/a fl oz/a	6 INCH 6 INCH	A A	108 203 309 401	0 0 0 0	99 96 100 93
								Mean =	0	97
9	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	12 INCH 12 INCH	B B	109 213 318 417	0 0 0 0	78 80 99 98
								Mean =	0	89

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Weed Code									GLYMX	AMBTR
Crop Code									%	%
Rating Unit									27/Jul/2005	27/Jul/2005
Rating Date									R3	
Crop Stage									36"	
Crop Stage Scale										48-72"
Weed Stage										1-10YD2
Weed Density, Unit									VAM+WGJ	VAM+WGJ
Assessed By									49 DA-A	49 DA-A
Tri-Eval Interval										
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	11	12
10	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	110	0	97
	TOUCHDOWN TOTAL	0.39	lb ae/a	12	fl oz/a	12 INCH	B	202	0	96
								305	0	100
								403	0	93
								Mean =	0	97
11	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	111	0	100
	TOUCHDOWN TOTAL	0.78	lb ae/a	24	fl oz/a	12 INCH	B	214	0	100
								319	0	99
								405	0	90
								Mean =	0	97
12	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	112	0	100
	TOUCHDOWN TOTAL	1.56	lb ae/a	48	fl oz/a	12 INCH	B	206	0	100
								310	0	98
								414	0	100
								Mean =	0	100
13	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	113	0	100
	TOUCHDOWN TOTAL	3.13	lb ae/a	96	fl oz/a	12 INCH	B	212	0	96
								315	0	100
								402	0	98
								Mean =	0	99
14	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	114	0	100
	TOUCHDOWN TOTAL	6.26	lb ae/a	192	fl oz/a	12 INCH	B	218	0	100
								307	0	98
								420	0	100
								Mean =	0	100
15	AMMONIUM SULFATE	2.5	lb ai/a	2.5	lb ai/a	12 INCH	B	115	0	100
	TOUCHDOWN TOTAL	9.4	lb ae/a	288	fl oz/a	12 INCH	B	208	0	100
								303	10	100
								418	0	100
								Mean =	3	100
16	NIS	0.25	% v/v	0.25	% v/v	6 INCH	A	116	0	100
	FIRST RATE	.000158	lb ai/a	0.3	oz wt/a	6 INCH	A	201	0	85
								314	0	75
								409	0	90
								Mean =	0	88
17	NIS	0.25	% v/v	0.25	% v/v	6 INCH	A	117	0	98
	FIRST RATE	.000315	lb ai/a	0.6	oz wt/a	6 INCH	A	207	0	75
								306	0	88
								404	0	88
								Mean =	0	87
18	NIS	0.25	% v/v	0.25	% v/v	12 INCH	B	118	0	98
	FIRST RATE	.000158	lb ai/a	0.3	oz wt/a	12 INCH	B	204	0	98
								320	0	97
								416	0	100
								Mean =	0	98

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Weed Code										GLYMX	AMBTR
Crop Code										%	%
Rating Unit										27/Jul/2005	27/Jul/2005
Rating Date										R3	
Crop Stage										36"	
Crop Stage Scale											48-72"
Weed Stage											1-10YD2
Weed Density, Unit										VAM+WGJ	VAM+WGJ
Assessed By										49 DA-A	49 DA-A
Tri-Eval Interval											
Tri	Treatment	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	Plot	11	12	
19	NIS	0.25	% v/v	0.25	% v/v	12 INCH	B	119	0	100	
	FIRST RATE	.000315	lb ai/a	0.6	oz wt/a	12 INCH	B	220	0	97	
								317	0	97	
								411	0	50	
								Mean =	0	86	
20	UNTREATED CHECK							120	0	0	
								216	0	0	
								304	0	0	
								408	0	0	
								Mean =	0	0	

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Glyphosate Resistant Giant Ragweed Dose Response - 2005

Trial ID: 05-LPORT-GRW-DOSE
 Location: Logansport/Bunker Hill

Study Dir.:
 Investigator: Dr. William G. Johnson

Weed Code								GLYMX	AMBTR	CHEAL	AMARE	GLYMX
Crop Code								%	%	%	%	%
Rating Unit								22/Jun/2005	22/Jun/2005	22/Jun/2005	22/Jun/2005	29/Jun/2005
Rating Date								V5-V6				
Crop Stage								10-14"				
Crop Stage Scale									6-24"	2-10"	2-10"	
Weed Stage									2-20YD2	5-25YD2	3-15YD2	
Weed Density, Unit								VMD	VMD	VMD	VMD	
Assessed By								14 DA-A	14 DA-A	14 DA-A	14 DA-A	21 DA-A
Tri-Eval Interval												
Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5
1	UNTREATED CHECK							0 c	0 f	0 c	0 b	0 e
2	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	6 INCH 6 INCH	A A	4 bc	71 e	86 ab	100 a	3 de
3	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.39	lb ai/a lb ae/a	2.5 12	lb ai/a fl oz/a	6 INCH 6 INCH	A A	6 b	86 d	97 a	100 a	8 b-e
4	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.78	lb ai/a lb ae/a	2.5 24	lb ai/a fl oz/a	6 INCH 6 INCH	A A	6 b	97 a-d	100 a	100 a	3 de
5	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 1.56	lb ai/a lb ae/a	2.5 48	lb ai/a fl oz/a	6 INCH 6 INCH	A A	7 b	99 ab	100 a	100 a	4 de
6	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 3.13	lb ai/a lb ae/a	2.5 96	lb ai/a fl oz/a	6 INCH 6 INCH	A A	5 b	99 ab	100 a	100 a	0 e
7	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 6.26	lb ai/a lb ae/a	2.5 192	lb ai/a fl oz/a	6 INCH 6 INCH	A A	6 b	98 abc	100 a	100 a	6 cde
8	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 9.4	lb ai/a lb ae/a	2.5 288	lb ai/a fl oz/a	6 INCH 6 INCH	A A	11 a	100 a	100 a	100 a	10 bcd
9	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	12 INCH 12 INCH	B B					5 cde
10	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.39	lb ai/a lb ae/a	2.5 12	lb ai/a fl oz/a	12 INCH 12 INCH	B B					3 de
11	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.78	lb ai/a lb ae/a	2.5 24	lb ai/a fl oz/a	12 INCH 12 INCH	B B					5 cde
12	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 1.56	lb ai/a lb ae/a	2.5 48	lb ai/a fl oz/a	12 INCH 12 INCH	B B					0 e
13	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 3.13	lb ai/a lb ae/a	2.5 96	lb ai/a fl oz/a	12 INCH 12 INCH	B B					13 bc
14	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 6.26	lb ai/a lb ae/a	2.5 192	lb ai/a fl oz/a	12 INCH 12 INCH	B B					14 b
15	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 9.4	lb ai/a lb ae/a	2.5 288	lb ai/a fl oz/a	12 INCH 12 INCH	B B					24 a
16	NIS FIRST RATE	0.25 .000158	% v/v lb ai/a	0.25 0.3	% v/v oz wt/a	6 INCH 6 INCH	A A	5 b	89 bcd	75 b	100 a	5 cde
17	NIS FIRST RATE	0.25 .000315	% v/v lb ai/a	0.25 0.6	% v/v oz wt/a	6 INCH 6 INCH	A A	7 b	88 cd	95 a	100 a	6 b-e

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Weed Code								GLYMX	AMBTR	CHEAL	AMARE	GLYMX
Crop Code								%	%	%	%	%
Rating Unit								22/Jun/2005	22/Jun/2005	22/Jun/2005	22/Jun/2005	29/Jun/2005
Rating Date								V5-V6				
Crop Stage								10-14"				
Crop Stage Scale									6-24"	2-10"	2-10"	
Weed Stage									2-20YD2	5-25YD2	3-15YD2	
Weed Density, Unit								VMD	VMD	VMD	VMD	
Assessed By								14 DA-A	14 DA-A	14 DA-A	14 DA-A	21 DA-A
Tri-Eval Interval												
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	1	2	3	4	5
18	NIS FIRST RATE	0.25 .000158	% v/v lb ai/a	0.25 0.3	% v/v oz wt/a	12 INCH 12 INCH	B B					0 e
19	NIS FIRST RATE	0.25 .000315	% v/v lb ai/a	0.25 0.6	% v/v oz wt/a	12 INCH 12 INCH	B B					3 de
20	UNTREATED CHECK							0 c	0 f	0 c	0 b	0 e
LSD (P=.05)								3.9	10.5	14.1	0.0	7.6
Standard Deviation								2.7	7.3	9.8	0.0	5.4
CV								52.4	9.67	12.59	0.0	99.58
Grand Mean								5.11	75.07	77.48	81.82	5.4
Bartlett's X2								5.207	32.189	8.666	0.0	7.262
P(Bartlett's X2)								0.518	0.001*	0.034*	.	0.924
Replicate F								0.991	2.631	0.408	0.000	2.996
Replicate Prob(F)								0.4105	0.0682	0.7486	1.0000	0.0381
Treatment F								5.539	109.977	64.272	0.000	4.848
Treatment Prob(F)								0.0001	0.0001	0.0001	1.0000	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Weed Code							AMBTR	GLYMX	AMBTR	GLYMX	AMBTR	GLYMX	
Crop Code							%	%	%	%	%	%	
Rating Unit							29/Jun/2005	6/Jul/2005	6/Jul/2005	12/Jul/2005	12/Jul/2005	27/Jul/2005	
Rating Date								R1		R1		R3	
Crop Stage								16-18"		24"		36"	
Crop Stage Scale													
Weed Stage							1-30"		6-48"		30-50"		
Weed Density, Unit							5-25YD2		1-10YD2		1-10YD2		
Assessed By								VAM+EC	VAM+EC	VAM+EOTT	VAM+EOTT	VAM+WGJ	
Tri-Eval Interval							21 DA-A	28 DA-A	28 DA-A	34 DA-A	34 DA-A	49 DA-A	
Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	6	7	8	9	10	11
1	UNTREATED CHECK							0 f	0 b	0 d	0 a	0 c	0 a
2	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	6 INCH 6 INCH	A A	73 de	0 b	81 c	0 a	88 ab	0 a
3	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.39	lb ai/a lb ae/a	2.5 12	lb ai/a fl oz/a	6 INCH 6 INCH	A A	85 a-e	0 b	90 abc	0 a	91 ab	0 a
4	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.78	lb ai/a lb ae/a	2.5 24	lb ai/a fl oz/a	6 INCH 6 INCH	A A	97 ab	0 b	95 abc	0 a	93 ab	0 a
5	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 1.56	lb ai/a lb ae/a	2.5 48	lb ai/a fl oz/a	6 INCH 6 INCH	A A	99 a	0 b	96 ab	0 a	97 ab	0 a
6	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 3.13	lb ai/a lb ae/a	2.5 96	lb ai/a fl oz/a	6 INCH 6 INCH	A A	98 a	0 b	94 abc	0 a	91 ab	0 a
7	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 6.26	lb ai/a lb ae/a	2.5 192	lb ai/a fl oz/a	6 INCH 6 INCH	A A	98 a	0 b	91 abc	0 a	92 ab	0 a
8	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 9.4	lb ai/a lb ae/a	2.5 288	lb ai/a fl oz/a	6 INCH 6 INCH	A A	100 a	0 b	95 abc	0 a	98 ab	0 a
9	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	12 INCH 12 INCH	B B	70 e	0 b	85 bc	0 a	90 ab	0 a
10	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.39	lb ai/a lb ae/a	2.5 12	lb ai/a fl oz/a	12 INCH 12 INCH	B B	81 cde	0 b	88 abc	0 a	92 ab	0 a
11	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.78	lb ai/a lb ae/a	2.5 24	lb ai/a fl oz/a	12 INCH 12 INCH	B B	89 a-d	0 b	93 abc	0 a	96 ab	0 a
12	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 1.56	lb ai/a lb ae/a	2.5 48	lb ai/a fl oz/a	12 INCH 12 INCH	B B	96 abc	0 b	98 ab	0 a	98 ab	0 a
13	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 3.13	lb ai/a lb ae/a	2.5 96	lb ai/a fl oz/a	12 INCH 12 INCH	B B	98 a	0 b	99 ab	0 a	98 ab	0 a
14	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 6.26	lb ai/a lb ae/a	2.5 192	lb ai/a fl oz/a	12 INCH 12 INCH	B B	99 a	0 b	99 ab	0 a	99 ab	0 a
15	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 9.4	lb ai/a lb ae/a	2.5 288	lb ai/a fl oz/a	12 INCH 12 INCH	B B	97 ab	4 a	100 a	3 a	100 a	3 a
16	NIS FIRST RATE	0.25 .000158	% v/v lb ai/a	0.25 0.3	% v/v oz wt/a	6 INCH 6 INCH	A A	89 a-d	0 b	90 abc	0 a	94 ab	0 a
17	NIS FIRST RATE	0.25 .000315	% v/v lb ai/a	0.25 0.6	% v/v oz wt/a	6 INCH 6 INCH	A A	88 a-d	0 b	89 abc	0 a	88 ab	0 a
18	NIS FIRST RATE	0.25 .000158	% v/v lb ai/a	0.25 0.3	% v/v oz wt/a	12 INCH 12 INCH	B B	82 b-e	0 b	91 abc	0 a	96 ab	0 a
19	NIS FIRST RATE	0.25 .000315	% v/v lb ai/a	0.25 0.6	% v/v oz wt/a	12 INCH 12 INCH	B B	79 de	0 b	85 bc	0 a	87 b	0 a

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Weed Code	AMBTR	GLYMX	AMBTR	GLYMX	AMBTR	GLYMX
Crop Code						
Rating Unit	%	%	%	%	%	%
Rating Date	29/Jun/2005	6/Jul/2005	6/Jul/2005	12/Jul/2005	12/Jul/2005	27/Jul/2005
Crop Stage		R1		R1		R3
Crop Stage Scale		16-18"		24"		36"
Weed Stage	1-30"		6-48"		30-50"	
Weed Density, Unit	5-25YD2		1-10YD2		1-10YD2	
Assessed By		VAM+EC	VAM+EC	VAM+EOTT	VAM+EOTT	VAM+WGJ
Tri-Eval Interval	21 DA-A	28 DA-A	28 DA-A	34 DA-A	34 DA-A	49 DA-A
Tri Treatment	6	7	8	9	10	11
No. Name	0 f	0 b	0 d	0 a	0 c	0 a
20 UNTREATED CHECK						
LSD (P=.05)	15.6	1.5	14.4	1.6	12.7	1.6
Standard Deviation	11.0	1.1	10.2	1.1	9.0	1.1
CV	13.62	570.9	12.29	894.43	10.66	894.43
Grand Mean	80.88	0.19	82.94	0.13	84.31	0.13
Bartlett's X2	71.835	0.0	39.873	0.0	53.366	0.0
P(Bartlett's X2)	0.001*	.	0.001*	.	0.001*	.
Replicate F	0.987	1.000	1.142	1.000	1.299	1.000
Replicate Prob(F)	0.4054	0.3995	0.3401	0.3995	0.2838	0.3995
Treatment F	27.926	2.455	31.928	1.000	41.903	1.000
Treatment Prob(F)	0.0001	0.0047	0.0001	0.4750	0.0001	0.4750

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Trt No.	Treatment Name	Rate	Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
Weed Code Crop Code Rating Unit Rating Date Crop Stage Crop Stage Scale Weed Stage Weed Density, Unit Assessed By Tri-Eval Interval								AMBTR % 27/Jul/2005 48-72" 1-10YD2 VAM+WGJ 49 DA-A
1	UNTREATED CHECK							12 0 d
2	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	6 INCH 6 INCH	A A	88 abc
3	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.39	lb ai/a lb ae/a	2.5 12	lb ai/a fl oz/a	6 INCH 6 INCH	A A	88 abc
4	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.78	lb ai/a lb ae/a	2.5 24	lb ai/a fl oz/a	6 INCH 6 INCH	A A	94 abc
5	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 1.56	lb ai/a lb ae/a	2.5 48	lb ai/a fl oz/a	6 INCH 6 INCH	A A	95 abc
6	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 3.13	lb ai/a lb ae/a	2.5 96	lb ai/a fl oz/a	6 INCH 6 INCH	A A	93 abc
7	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 6.26	lb ai/a lb ae/a	2.5 192	lb ai/a fl oz/a	6 INCH 6 INCH	A A	93 abc
8	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 9.4	lb ai/a lb ae/a	2.5 288	lb ai/a fl oz/a	6 INCH 6 INCH	A A	97 abc
9	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.195	lb ai/a lb ae/a	2.5 6	lb ai/a fl oz/a	12 INCH 12 INCH	B B	89 abc
10	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.39	lb ai/a lb ae/a	2.5 12	lb ai/a fl oz/a	12 INCH 12 INCH	B B	97 abc
11	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 0.78	lb ai/a lb ae/a	2.5 24	lb ai/a fl oz/a	12 INCH 12 INCH	B B	97 abc
12	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 1.56	lb ai/a lb ae/a	2.5 48	lb ai/a fl oz/a	12 INCH 12 INCH	B B	100 ab
13	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 3.13	lb ai/a lb ae/a	2.5 96	lb ai/a fl oz/a	12 INCH 12 INCH	B B	99 abc
14	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 6.26	lb ai/a lb ae/a	2.5 192	lb ai/a fl oz/a	12 INCH 12 INCH	B B	100 ab
15	AMMONIUM SULFATE TOUCHDOWN TOTAL	2.5 9.4	lb ai/a lb ae/a	2.5 288	lb ai/a fl oz/a	12 INCH 12 INCH	B B	100 a
16	NIS FIRST RATE	0.25 .000158	% v/v lb ai/a	0.25 0.3	% v/v oz wt/a	6 INCH 6 INCH	A A	88 abc
17	NIS FIRST RATE	0.25 .000315	% v/v lb ai/a	0.25 0.6	% v/v oz wt/a	6 INCH 6 INCH	A A	87 bc
18	NIS FIRST RATE	0.25 .000158	% v/v lb ai/a	0.25 0.3	% v/v oz wt/a	12 INCH 12 INCH	B B	98 abc
19	NIS FIRST RATE	0.25 .000315	% v/v lb ai/a	0.25 0.6	% v/v oz wt/a	12 INCH 12 INCH	B B	86 c

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Weed Code								AMBTR
Crop Code								
Rating Unit								%
Rating Date								27/Jul/2005
Crop Stage								
Crop Stage Scale								
Weed Stage								48-72"
Weed Density, Unit								1-10YD2
Assessed By								VAM+WGJ
Trt-Eval Interval								49 DA-A
Trt No.	Treatment Name	Rate	Rate Unit	Product Rate	Product Rate Unit	Grow Stg	Appl Code	
20	UNTREATED CHECK							12
								0 d
LSD (P=.05)								12.6
Standard Deviation								8.9
CV								10.54
Grand Mean								84.26
Bartlett's X2								56.1
P(Bartlett's X2)								0.001*
Replicate F								2.904
Replicate Prob(F)								0.0425
Treatment F								43.265
Treatment Prob(F)								0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Trial Comments

6-8-05
 Giant Ragweed
 20% less than 5"
 70% were 5-7"
 10% were 7-12"

6-15-05
 Giant Ragweed
 70% were 10-12"
 20% were 5-7"

No tunneling was observed either of these days