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Glyphosate Resistant Horseweed Efficacy - Postemergence Corn Treatments

Trial ID: 04-SEPAC-GRH-CPST
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 °: 274.479470 N-Latitude of LL Corner °: 39.034280
Altitude of LL Corner: 770.00 Unit: feet
Directions: Field S10 (center study)

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.	ERICA	HORSEWEED	ERIGERON CANADENSIS L.

Crop 1: ZEAMX CORN, FIELD Variety: DKC 60-09 RR/YGCB
Planting Date: 5/Jun/2004 Planting Method: No-Till planted
Rate: 29000 S/A Depth: 1 IN
Row Spacing: 30 IN

SITE AND DESIGN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 4
Tillage Type: No-Till Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	soybean	glyphosate	

MAINTENANCE

Field Prep./Maintenance:

May 24, 2004 - Field prep / maintenance: SEPAC farm crew applied Fusion (20 oz/acre) to the study area to get rid of the false timothy and annual bluegrass. Most of the winter annuals are gone, and this will provide a fairly pure culture of horseweed.

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

APPLICATION DESCRIPTION

	A
Application Date:	8/Jul/2004
Time of Day:	0815-0915
Application Method:	SPRAY
Application Timing:	Late POST
Applic. Placement:	BROFOL
Air Temp., Unit:	66 F
% Relative Humidity:	90
	calm
Soil Temp., Unit:	72 F
Soil Moisture:	dry surf
% Cloud Cover:	60

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CROP STAGE AT EACH APPLICATION

A	
Crop 1 Code, Stage:	ZEAMX
Stage Scale:	V5-V6
Height, Unit:	18 IN

WEED STAGE AT EACH APPLICATION

A	
Weed 1 Code, Stage:	ERICA
Stage Scale:	6-12"
Density, Unit:	100+ M2

APPLICATION EQUIPMENT

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

Trt No	Treatment Application Comment
4	Plot 1106 may have been mis-sprayed due improper flushing of the boom

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				ZEAMX PLAQUA C PHYGEN %injury 26/Jul/2004 48-60" V8	ERICA PLAQUA P CONTRO %control 26/Jul/2004 1-48" 9-99M2	ZEAMX PLAQUA C PHYGEN %injury 9/Aug/2004 108" R2	ERICA PLAQUA P CONTRO %control 9/Aug/2004 to 72" 9-99M2	ERICA PLAQUA P CONTRO %control 5/Oct/2004 to 72" 5-99M2	
				Earl & Reece 18 DA-A 0	Earl & Reece 18 DA-A 0	Reece & Vince 32 DA-A 0	Reece & Vince 32 DA-A 0	Reece & Vince 89 DA-A 0	
Trt	Treatment	Rate	Unit	Grow Stg	1	2	3	4	5
1	Untreated Check				0 b	0 e	0 b	0 d	0 c
2	Atrazine Crop Oil Conc	1 lb ai/a	post post		4 b	76 ab	0 b	87 ab	91 a
3	Callisto Crop Oil Conc AMS	0.094 lb ai/a	post post post		8 b	41 cd	0 b	58 bc	50 b
4	Callisto Crop Oil Conc AMS	0.047 lb ai/a	post post post		3 b	41 cd	0 b	53 c	50 b
5	Atrazine Callisto Crop Oil Conc AMS	1 lb ai/a 0.094 lb ai/a	post post post post		1 b	96 a	0 b	97 a	95 a
6	2,4-D Ester	0.5 lb ae/a	post		6 b	55 bcd	0 b	78 abc	81 ab
7	Distinct NIS AMS	0.175 lb ae/a	post post post		3 b	67 abc	0 b	91 a	96 a
8	Roundup Weathermax AMS	0.77 lb ae/a	post post		3 b	44 cd	0 b	73 abc	74 ab
9	Roundup Weathermax AMS	1.12 lb ae/a	post post		1 b	35 d	0 b	72 abc	69 ab
10	Northstar Crop Oil Conc AMS	0.16 lb ai/a	post post post		4 b	68 abc	0 b	83 ab	96 a
11	Celebrity Plus NIS AMS	0.221 lb ai/a	post post post		1 b	61 bcd	0 b	85 ab	99 a
12	Steadfast ATZ Methylated seed oil AMS	0.78 lb ai/a	post post post		4 b	64 bcd	0 b	84 ab	85 a
13	Untreated check				0 b	0 e	0 b	0 d	0 c
14	Option Atrazine Methylated seed oil AMS	0.0328 lb ai/a 0.75 lb ai/a	post post post post		6 b	54 bcd	0 b	66 abc	60 ab
15	Spirit Crop Oil Conc AMS	0.0356 lb ai/a	post post post		5 b	78 ab	1 b	89 ab	95 a
16	Permit Crop Oil Conc AMS	0.047 lb ai/a	post post post		8 b	62 bcd	0 b	77 abc	82 ab
17	Yukon Crop Oil Conc AMS	0.253 lb ai/a	post post post		6 b	83 ab	0 b	96 a	100 a
18	Marksman	1.2 lb ai/a	post		8 b	86 ab	1 b	96 a	98 a

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Weed Code				ZEAMX		ERICA		ERICA		ERICA	
Crop Code				PLAQUA C		PLAQUA P		PLAQUA P		PLAQUA P	
Part Rated				PHYGEN		CONTRO		CONTRO		CONTRO	
Rating Data Type				%injury		%control		%control		%control	
Rating Unit				26/Jul/2004		26/Jul/2004		9/Aug/2004		5/Oct/2004	
Rating Date				48-60"		108"		108"		108"	
Crop Stage				V8		R2		R2		R2	
Crop Stage Scale				V8		R2		R2		R2	
Weed Stage				V8		R2		R2		R2	
Weed Density, Unit				9-99M2		9-99M2		9-99M2		5-99M2	
Assessed By				Earl & Reece		Earl & Reece		Reece & Vince		Reece & Vince	
Trt-Eval Interval				18 DA-A		18 DA-A		32 DA-A		89 DA-A	
# Subsamples, Dec.				0		0		0		0	
Trt No.	Treatment Name	Rate	Unit	Grow Stg	1	2	3	4	5		
19	Sencor 75DF 2,4-D Ester	0.14 0.5	lb ai/a lb ae/a	post post	6 b	54 bcd	0 b	79 abc	91 a		
20	Python Crop Oil Conc	0.05	lb ai/a	post post	1 b	71 abc	0 b	86 ab	98 a		
21	Hornet WDG Crop Oil Conc AMS	0.128	lb ae/a	post post post	1 b	66 a-d	0 b	73 abc	96 a		
22	Liberty AMS	0.365	lb ae/a	post post	86 a	60 bcd	91 a	65 abc	19 c		
23	Exceed Crop Oil Conc AMS	0.0356	lb ai/a	post post post	4 b	85 ab	0 b	97 a	97 a		
24	Untreated check				0 b	0 e	0 b	0 d	0 c		
LSD (P=.05)					6.0	18.4	1.2	18.1	21.9		
Standard Deviation					4.2	13.0	0.8	12.8	15.5		
CV					60.4	23.24	21.62	18.27	21.62		
Grand Mean					6.98	55.95	3.91	70.04	71.65		
Bartlett's X2					18.42	38.341	0.0	46.708	98.588		
P(Bartlett's X2)					0.56	0.008*	0.001*	0.001*	0.001*		
Replicate F					12.878	8.285	3.286	7.944	6.966		
Replicate Prob(F)					0.0001	0.0001	0.0258	0.0001	0.0004		
Treatment F					65.605	16.475	1941.571	21.344	19.405		
Treatment Prob(F)					0.0001	0.0001	0.0001	0.0001	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.