

Purdue University

Residual corn herbicides and winter weed emergence

Trial ID: 03-ACRE-CORN-WINT
Location: ACRE

Study Dir.:
Investigator: Dr. Bill Johnson

GENERAL TRIAL INFORMATION

Investigator: Dr. Bill Johnson

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	CAPBP	Shepherd's purse	Capsella bursa-pastoris
2.	LAMAM	Henbit	Lamium amplexicaule
3.	LAMPU	Deadnettle, purple	Lamium purpurem
4.	STEME	Chickweed, common	Stellaria media
5.	TAROF	Dandelion, common	Taraxacum officinale
6.	ERICA	Horseweed (marestail)	Conyza canadensis
7.	SENGL	Butterweed	Packera glabellus
8.	VERAR	Wall speedwell	Veronica arvensis

Crop 1: ZEAMX CORN, FIELD

Variety: DK 60-09 RR

Planting Date: 26/May/2003

Rate: 30000 S/A

Row Spacing: 30 IN

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 50 FT

Reps: 4

Study Design: RANDOMIZED COMPLETE BLOCK

MAINTENANCE

Field Prep./Maintenance: 150# N knifed in by ACRE crew - (week of 06/16/2003 ??)

APPLICATION DESCRIPTION

	A	B	C
Application Date:	27/May/2003	25/Jun/2003	
Time of Day:	4:30 pm	11:00 am	
Application Method:	spray	SPRAY	
Air Temp., Unit:	75 F	88 F	
% Relative Humidity:	30	53	
Wind Velocity, Unit:	6 mph	6 MPH	
Soil Temp., Unit:	23 C	31 C	
% Cloud Cover:		0	

CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMX	ZEAMX v4/v5	ZEAMX
Stage Scale:		DESC	
Height, Unit:		8 IN	

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	CAPBP	CAPBP	CAPBP
Weed 2 Code, Stage:	LAMAM	LAMAM	LAMAM
Weed 3 Code, Stage:	LAMPU	LAMPU	LAMPU
Weed 4 Code, Stage:	STEME	STEME	STEME
Weed 5 Code, Stage:	TAROF	TAROF	TAROF
Weed 6 Code, Stage:	ERICA	ERICA	ERICA
Weed 7 Code, Stage:	SENGL	SENGL	SENGL
Weed 8 Code, Stage:	VERAR	VERAR	VERAR

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Trial ID: 03-ACRE-CORN-WINT
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Weed Code	CAPBP PLAEME P COUPLA /sq. m	LAMAM PLAEME P COUPLA /sq. m	LAMPU PLAEME P COUPLA /sq. m	STEME PLAEME P COUPLA /sq. m	TAROF PLAEME P COUPLA /sq. m	ERICA PLAEME P COUPLA /sq. m				
Part Rated										
Rating Data Type										
Rating Unit										
Rating Date	31/Dec/2003	31/Dec/2003	31/Dec/2003	31/Dec/2003	31/Dec/2003	31/Dec/2003				
Weed Stage	emerge	emerge	emerge	emerge	emerge	emerge				
Assessed By	group	group	group	group	group	group				
Trt-Eval Interval	189 DA-B	189 DA-B	189 DA-B	189 DA-B	189 DA-B	189 DA-B				
# Subsamples, Dec.	2 0	2 0	2 0	2 0	2 0	2 0				
Trt No.	Treatment Name	Rate	Grow Unit	Stg	1	2	3	4	5	6
1	Atrazine Degree Roundup Weathermax AMS		PRE PRE 12" corn 12" corn		2 a	0 a	0 a	1 a	0 a	1 a
2	Atrazine Degree Roundup Weathermax AMS		PRE PRE 12" corn 12" corn		2 a	0 a	0 a	1 a	0 a	1 a
3	Atrazine Degree Atrazine Roundup Weathermax AMS		PRE PRE 12" corn 12" corn 12" corn		3 a	1 a	0 a	1 a	0 a	0 a
4	Degree Atrazine Roundup Weathermax AMS		PRE 12" corn 12" corn 12" corn		2 a	1 a	0 a	1 a	0 a	0 a
5	Degree Princep Roundup Weathermax AMS		PRE PRE 12" corn 12" corn		3 a	0 a	0 a	1 a	1 a	0 a
6	Degree Princep Roundup Weathermax AMS		PRE PRE 12" corn 12" corn		3 a	1 a	0 a	1 a	1 a	0 a
7	Hornet Degree Roundup Weathermax AMS		PRE PRE 12" corn 12" corn		2 a	0 a	0 a	1 a	0 a	1 a
8	Degree Hornet Roundup Weathermax AMS		PRE 12" corn 12" corn 12" corn		2 a	1 a	0 a	1 a	0 a	0 a
9	Callisto Degree Roundup Weathermax AMS		PRE PRE 12" corn 12" corn		1 a	0 a	0 a	1 a	1 a	0 a
10	Degree Callisto Roundup Weathermax AMS		PRE 12" corn 12" corn 12" corn		2 a	0 a	0 a	2 a	1 a	0 a
11	Untreated Degree Roundup Weathermax AMS		PRE 12" corn 12" corn		1 a	0 a	0 a	1 a	0 a	0 a
LSD (P=.05)		2.0	0.4	0.4	1.0	0.8	0.6			
Standard Deviation		1.4	0.3	0.3	0.7	0.5	0.4			
CV		68.23	125.56	220.0	77.51	143.36	163.48			
Grand Mean		2.0	0.24	0.11	0.89	0.38	0.26			
Bartlett's X2		11.34	3.154	3.092	7.425	10.082	7.713			
P(Bartlett's X2)		0.332	0.87	0.876	0.593	0.259	0.359			

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Weed Code	CAPBP	LAMAM	LAMPU	STEME	TAROF	ERICA
Part Rated	PLAEME P					
Rating Data Type	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit	/sq. m					
Rating Date	31/Dec/2003	31/Dec/2003	31/Dec/2003	31/Dec/2003	31/Dec/2003	31/Dec/2003
Weed Stage	emerge	emerge	emerge	emerge	emerge	emerge
Assessed By	group	group	group	group	group	group
Trt-Eval Interval	189 DA-B					
# Subsamples, Dec.	2 0	2 0	2 0	2 0	2 0	2 0
Replicate F	1.277	0.907	1.333	0.594	1.173	1.525
Replicate Prob(F)	0.2999	0.4492	0.2820	0.6239	0.3364	0.2283
Treatment F	1.289	2.570	0.491	1.045	0.822	1.332
Treatment Prob(F)	0.2806	0.0223	0.8825	0.4321	0.6109	0.2590

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	ERICA ??	SENGL	CAPBP	LAMAM	LAMPU	STEME				
Part Rated	PLAEME P	PLAEME P	PLAEME P	PLAEME P	PLAEME P	PLAEME P				
Rating Data Type	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA				
Rating Unit	/sq. m	/sq. m	/sq. m	/sq. m	/sq. m	/sq. m				
Rating Date	31/Dec/2003	31/Dec/2003	19/Apr/2004	19/Apr/2004	19/Apr/2004	19/Apr/2004				
Weed Stage	emerge	emerge	emerge	emerge	emerge	emerge				
Assessed By	group	group	group	group	group	group				
Trt-Eval Interval	189 DA-B	189 DA-B	299 DA-B	299 DA-B	299 DA-B	299 DA-B				
# Subsamples, Dec.	2 0	2 0	2 0	2 0	2 0	2 0				
Trt No.	Treatment Name	Rate	Grow Unit	Stg	7	8	9	10	11	12
1	Atrazine Degree Roundup Weathermax AMS	PRE PRE 12" corn 12" corn			1 a	0 a	2 a	0 a	0 a	0 a
2	Atrazine Degree Roundup Weathermax AMS	PRE PRE 12" corn 12" corn			1 a	0 a	2 a	0 a	0 a	0 a
3	Atrazine Degree Atrazine Roundup Weathermax AMS	PRE PRE 12" corn 12" corn 12" corn			0 a	0 a	3 a	0 a	0 a	1 a
4	Degree Atrazine Roundup Weathermax AMS	PRE 12" corn 12" corn 12" corn			0 a	0 a	1 a	0 a	0 a	1 a
5	Degree Princep Roundup Weathermax AMS	PRE PRE 12" corn 12" corn			0 a	0 a	3 a	1 a	0 a	1 a
6	Degree Princep Roundup Weathermax AMS	PRE PRE 12" corn 12" corn			1 a	0 a	3 a	1 a	0 a	1 a
7	Hornet Degree Roundup Weathermax AMS	PRE PRE 12" corn 12" corn			2 a	0 a	3 a	0 a	0 a	1 a
8	Degree Hornet Roundup Weathermax AMS	PRE 12" corn 12" corn 12" corn			0 a	0 a	2 a	1 a	0 a	1 a
9	Callisto Degree Roundup Weathermax AMS	PRE PRE 12" corn 12" corn			1 a	0 a	1 a	0 a	0 a	0 a
10	Degree Callisto Roundup Weathermax AMS	PRE 12" corn 12" corn 12" corn			0 a	0 a	4 a	0 a	0 a	1 a
11	Untreated Degree Roundup Weathermax AMS	PRE 12" corn 12" corn			1 a	0 a	2 a	0 a	0 a	1 a
LSD (P=.05)					1.1	0.2	2.4	0.6	0.2	1.1
Standard Deviation					0.8	0.1	1.7	0.4	0.1	0.7
CV					131.83	395.53	72.65	120.02	260.87	96.53
Grand Mean					0.59	0.03	2.33	0.32	0.06	0.77
Bartlett's X2					22.389	0.0	13.951	7.335	0.094	5.206
P(Bartlett's X2)					0.008*	0.001*	0.175	0.602	0.993	0.877

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Weed Code	ERICA ??	SENGL	CAPBP	LAMAM	LAMPU	STEME
Part Rated	PLAEME P					
Rating Data Type	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit	/sq. m					
Rating Date	31/Dec/2003	31/Dec/2003	19/Apr/2004	19/Apr/2004	19/Apr/2004	19/Apr/2004
Weed Stage	emerge	emerge	emerge	emerge	emerge	emerge
Assessed By	group	group	group	group	group	group
Trt-Eval Interval	189 DA-B	189 DA-B	299 DA-B	299 DA-B	299 DA-B	299 DA-B
# Subsamples, Dec.	2 0	2 0	2 0	2 0	2 0	2 0
Replicate F	3.321	0.313	1.732	4.571	2.328	0.408
Replicate Prob(F)	0.0329	0.8162	0.1816	0.0094	0.0946	0.7481
Treatment F	2.288	0.750	1.227	1.488	1.345	1.052
Treatment Prob(F)	0.0390	0.6733	0.3140	0.1922	0.2528	0.4272

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	TAROF	ERICA	VERAR	SENGL				
Part Rated	PLAEME P	PLAEME P	PLAEME P	PLAEME P				
Rating Data Type	COUPLA	COUPLA	COUPLA	COUPLA				
Rating Unit	/sq. m	/sq. m	/sq. m	/sq. m				
Rating Date	19/Apr/2004	19/Apr/2004	19/Apr/2004	19/Apr/2004				
Weed Stage	emerge	emerge	emerge	emerge				
Assessed By	group	group	group	group				
Trt-Eval Interval	299 DA-B	299 DA-B	299 DA-B	299 DA-B				
# Subsamples, Dec.	2 0	2 0	2 0	2 0				
Trt No.	Treatment Name	Rate	Grow Unit	Stg	13	14	15	16
1	Atrazine Degree Roundup Weathermax AMS			PRE PRE 12" corn 12" corn	0 a	1 a	4 a	0 a
2	Atrazine Degree Roundup Weathermax AMS			PRE PRE 12" corn 12" corn	0 a	1 a	5 a	0 a
3	Atrazine Degree Atrazine Roundup Weathermax AMS			PRE PRE 12" corn 12" corn 12" corn	0 a	1 a	1 a	0 a
4	Degree Atrazine Roundup Weathermax AMS			PRE 12" corn 12" corn 12" corn	0 a	1 a	4 a	0 a
5	Degree Princep Roundup Weathermax AMS			PRE PRE 12" corn 12" corn	0 a	0 a	2 a	0 a
6	Degree Princep Roundup Weathermax AMS			PRE PRE 12" corn 12" corn	1 a	0 a	2 a	0 a
7	Hornet Degree Roundup Weathermax AMS			PRE PRE 12" corn 12" corn	1 a	1 a	4 a	0 a
8	Degree Hornet Roundup Weathermax AMS			PRE 12" corn 12" corn 12" corn	0 a	1 a	3 a	0 a
9	Callisto Degree Roundup Weathermax AMS			PRE PRE 12" corn 12" corn	0 a	1 a	3 a	0 a
10	Degree Callisto Roundup Weathermax AMS			PRE 12" corn 12" corn 12" corn	0 a	1 a	3 a	0 a
11	Untreated Degree Roundup Weathermax AMS			PRE 12" corn 12" corn	1 a	1 a	4 a	0 a
LSD (P=.05)					0.8	0.9	4.3	0.2
Standard Deviation					0.5	0.6	3.0	0.1
CV					158.01	88.38	95.16	476.79
Grand Mean					0.34	0.72	3.11	0.02
Bartlett's X2					17.831	8.89	22.498	0.0
P(Bartlett's X2)					0.037*	0.543	0.013*	0.001*

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Weed Code	TAROF	ERICA	VERAR	SENGL
Part Rated	PLAEME P	PLAEME P	PLAEME P	PLAEME P
Rating Data Type	COUPLA	COUPLA	COUPLA	COUPLA
Rating Unit	/sq. m	/sq. m	/sq. m	/sq. m
Rating Date	19/Apr/2004	19/Apr/2004	19/Apr/2004	19/Apr/2004
Weed Stage	emerge	emerge	emerge	emerge
Assessed By	group	group	group	group
Trt-Eval Interval	299 DA-B	299 DA-B	299 DA-B	299 DA-B
# Subsamples, Dec.	2 0	2 0	2 0	2 0
Replicate F	0.914	1.187	1.618	0.645
Replicate Prob(F)	0.4460	0.3312	0.2060	0.5921
Treatment F	0.650	0.939	0.694	0.871
Treatment Prob(F)	0.7596	0.5127	0.7220	0.5690

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

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