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Burcucumber control in corn

Trial ID: 03-PPAC-CORN-BURC
Location:

Study Dir.:
Investigator: Dr. Bill Johnson

GENERAL TRIAL INFORMATION

Investigator: Dr. Bill Johnson

TRIAL LOCATION

City: Wanatah
State/Prov.: IN
Postal Code: 46390
Country: USA

Unit: xx

COOPERATOR/LANDOWNER

Cooperator: Pinney Purdue Agricultural Center

Country: USA
Phone No: 219-733-2379
Fax No: call first

Address 1: 11402 South Co. Line Road
City: Wanatah
State/Prov: IN
Postal Code: 46390

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	ABUTH	VELVETLEAF	ABUTILON THEOPHRASTI MEDIK.
2.	AMBTR	RAGWEED, GIANT	AMBROSIA TRIFIDA L.
3.	CHEAL	LAMBSQUARTERS, COMMON	CHENOPODIUM ALBUM L.
4.	SETFA	FOXTAIL, GIANT	SETARIA FABERI HERRM.
5.	SIYAN	BURCUCUMBER	SICYOS ANGULATUS L.

Crop 1: ZEAMX CORN, FIELD

Variety: DK 60-09

Planting Date: 14/May/2003

Planting Method: JD 1650 Finger pickup

Rate: 30800 S/A

Depth: 1.5 IN

Perennial Age: 2 YEAR

Row Spacing: 30 IN

Seed Bed: tilled

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 50 FT

Reps: 4

Tillage Type: Conventional

Study Design: RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	Corn	FieldMaster (4 Qt/A)	2002

SOIL DESCRIPTION

% OM: 5.4

Texture: Loam / Muck

pH: 5.6

Soil Name: Edwards Shallow Muck / Sebewa Loam (high

CEC: 21.3

Fert. Level: Bray P - 128; Potassium - 230

Closest Weather Station: PPAC (National Weather Serv.)

Distance: 2000 Unit: FT

APPLICATION DESCRIPTION

	A	B	C
Application Date:	16/May/2003	27/Jun/2003	3/Jul/2003
Time of Day:		11:30 am	9:30 am
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PREPRE	POSPOS	LAPOWE
Applic. Placement:	SURFAC	BROFOL	BROFOL
Air Temp., Unit:	79 F	25 C	84 F
% Relative Humidity:	46	20	60
Wind Velocity, Unit:	3 MPH	8 MPH	6.5 MPH
Soil Temp., Unit:	16 C	25 C	22 C
% Cloud Cover:		0	10

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CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMX	ZEAMX V5	ZEAMX V5 / V6
Height, Unit:		20 IN	24 IN

WEED STAGE AT EACH APPLICATION

	A	B	C
Weed 1 Code, Stage:	ABUTH pre	ABUTH 10"	ABUTH 12"
Stage Scale:		7 nodes	8 nodes
Density, Unit:		1 FT2	1 FT2
Weed 2 Code, Stage:	AMBTR pre	AMBTR 10-12"	AMBTR 12-14"
Stage Scale:		5 nodes	6 nodes
Density, Unit:		1 YD2	1 YD2
Weed 3 Code, Stage:	CHEAL pre	CHEAL 8"	CHEAL 10"
Stage Scale:		9 nodes	10 nodes
Density, Unit:		1 YD2	1 YD2
Weed 4 Code, Stage:	SETFA pre	SETFA 14"	SETFA 6-8"
Stage Scale:		tillering	tillering
Density, Unit:		40 FT2	15 FT2
Weed 5 Code, Stage:	SIYAN pre	SIYAN 5-20"	SIYAN 5-20"
Stage Scale:		vines	vines
Density, Unit:		1 PLOT	1 PLOT

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Burcucumber control in corn

Trial ID: 03-PPAC-CORN-BURC
Location:

Study Dir.:
Investigator: Dr. Bill Johnson

Weed Code	ZEAMX stunting	ZEAMX chlorosis	ZEAMX stunting	SETFA	ABUTH	CHEAL				
Crop Code										
Rating Data Type										
Rating Unit										
Rating Date	3/Jul/2003	3/Jul/2003	10/Jul/2003	10/Jul/2003	10/Jul/2003	10/Jul/2003				
Crop Stage	V5 / V6	V5 / V6	V7							
Crop Stage Scale			36-42"							
Weed Stage				24"	12-18"	6-30"				
Weed Density, Unit				40 FT2	2-3 M2	2-3 M2				
Assessed By	Bill / Earl	Bill / Earl	Reece & Jeff	Reece & Jeff	Reece & Jeff	Reece & Jeff				
Trt-Eval Interval	6 DA-B	6 DA-B	7 DA-C	13 DA-B	7 DA-C	7 DA-C				
# Subsamples, Dec.	0	0	0	0	0	0				
Trt No.	Treatment Name	Rate	Grow Unit	Stg	1	2	3	4	5	6
1	Untreated				0 a	0 b	0 a	0 b	0 c	0 b
2	Option Methylated Seed Oil Nitrogen 28%		epost epost epost		11 a	7 ab	7 a	43 a	69 ab	63 a
3	Equip Methylated Seed Oil Nitrogen 28%		epost epost epost		9 a	6 ab	6 a	41 a	70 ab	73 a
4	Option Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		10 a	11 a	3 a	45 a	73 ab	91 a
5	Equip Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		10 a	6 ab	9 a	40 a	86 ab	99 a
6	Option Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost epost		6 a	8 ab	8 a	33 a	100 a	100 a
7	Equip Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost epost		9 a	5 ab	9 a	45 a	100 a	100 a
8	Degree Beacon COC AMS		pre 24" corn 24" corn 24" corn		0 a	0 b	0 a	62 a	68 ab	80 a
9	Degree Callisto COC AMS		pre 24" corn 24" corn 24" corn		0 a	0 b	0 a	38 a	56 b	88 a
10	Degree Clarity NIS AMS		pre 24" corn 24" corn 24" corn		0 a	0 b	0 a	41 a	75 ab	99 a
11	Degree Celebrity Plus NIS AMS		pre 24" corn 24" corn 24" corn		0 a	0 b	0 a	54 a	70 ab	94 a
12	Degree Buctril		pre 24" corn		0 a	0 b	0 a	40 a	80 ab	88 a
13	Degree Distinct NIS AMS		pre 24" corn 24" corn 24" corn		0 a	0 b	0 a	35 a	91 ab	89 a

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Weed Code				SETFA	ABUTH	CHEAL
Crop Code	ZEAMX	ZEAMX	ZEAMX			
Rating Data Type	stunting	chlorosis	stunting			
Rating Unit						
Rating Date	3/Jul/2003	3/Jul/2003	10/Jul/2003	10/Jul/2003	10/Jul/2003	10/Jul/2003
Crop Stage	V5 / V6	V5 / V6	V7			
Crop Stage Scale			36-42"			
Weed Stage				24"	12-18"	6-30"
Weed Density, Unit				40 FT2	2-3 M2	2-3 M2
Assessed By	Bill / Earl	Bill / Earl	Reece & Jeff	Reece & Jeff	Reece & Jeff	Reece & Jeff
Trt-Eval Interval	6 DA-B	6 DA-B	7 DA-C	13 DA-B	7 DA-C	7 DA-C
# Subsamples, Dec.	0	0	0	0	0	0
Trt Treatment	Rate	Grow				
No. Name	Rate Unit	Stg	1	2	3	4
14 Degree		pre	0 a	0 b	0 a	54 a
Spirit		24" corn				66 ab
COC		24" corn				84 a
AMS		24" corn				
15 Degree		pre	0 a	0 b	0 a	39 a
Yukon		24" corn				70 ab
COC		24" corn				83 a
AMS		24" corn				
LSD (P=.05)	6.5	4.4	6.4	22.6	23.4	22.0
Standard Deviation	4.5	3.1	4.5	15.8	16.4	15.4
CV	123.87	109.06	165.25	39.0	22.86	18.83
Grand Mean	3.67	2.85	2.72	40.55	71.6	81.83
Bartlett's X2	1.569	3.127	3.387	7.39	7.03	26.695
P(Bartlett's X2)	0.905	0.68	0.641	0.881	0.797	0.005*
Replicate F	5.276	3.848	7.241	32.301	2.699	1.706
Replicate Prob(F)	0.0035	0.0161	0.0005	0.0001	0.0578	0.1804
Treatment F	4.391	5.977	2.736	2.977	8.231	10.517
Treatment Prob(F)	0.0001	0.0001	0.0059	0.0031	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.

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Weed Code	AMBTR	SIYAN	ZEAMX stunting	SETFA	ABUTH	CHEAL				
Crop Code										
Rating Data Type		number per plot								
Rating Unit										
Rating Date	10/Jul/2003	10/Jul/2003	24/Jul/2003	24/Jul/2003	24/Jul/2003	24/Jul/2003				
Crop Stage			V10							
Crop Stage Scale			4-8'							
Weed Stage	24-36"	5-24"		48"	12-30"	36"				
Weed Density, Unit	1 M2	1 PLOT		40 FT2	2-3 M2	2-3 M2				
Assessed By	Reece & Jeff	Reece & Jeff	JB & RD	JB & RD	JB & RD	JB & RD				
Trt-Eval Interval	7 DA-C	7 DA-C	21 DA-C	21 DA-C	21 DA-C	21 DA-C				
# Subsamples, Dec.	0	0	0	0	0	0				
Trt No.	Treatment Name	Rate	Grow Unit	Stg	7	8	9	10	11	12
1	Untreated				0 c		0 a	0 e	0 b	0 c
2	Option Methylated Seed Oil Nitrogen 28%		epost epost epost		49 ab	0 a	0 a	75 ab	95 a	62 b
3	Equip Methylated Seed Oil Nitrogen 28%		epost epost epost		55 ab	0 a	6 a	74 ab	95 a	88 a
4	Option Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		88 ab	0 a	8 a	69 abc	81 a	99 a
5	Equip Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		75 ab	0 a	6 a	70 abc	94 a	100 a
6	Option Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		96 a	0 a	8 a	55 a-d	100 a	100 a
7	Equip Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		90 ab	0 a	4 a	69 abc	100 a	100 a
8	Degree Beacon COC AMS		pre 24" corn 24" corn 24" corn		46 b	0 a	0 a	60 a-d	85 a	91 a
9	Degree Callisto COC AMS		pre 24" corn 24" corn 24" corn		85 ab	0 a	0 a	26 de	100 a	97 a
10	Degree Clarity NIS AMS		pre 24" corn 24" corn 24" corn		85 ab	1 a	0 a	40 bcd	89 a	100 a
11	Degree Celebrity Plus NIS AMS		pre 24" corn 24" corn 24" corn		71 ab	1 a	0 a	81 a	90 a	98 a
12	Degree Buctril		pre 24" corn		76 ab	0 a	0 a	34 cd	88 a	94 a
13	Degree Distinct NIS AMS		pre 24" corn 24" corn 24" corn		84 ab	0 a	0 a	47 a-d	95 a	98 a
14	Degree Spirit COC AMS		pre 24" corn 24" corn 24" corn		56 ab	2 a	0 a	52 a-d	81 a	94 a

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Weed Code	AMBTR	SIYAN	ZEAMX	SETFA	ABUTH	CHEAL		
Crop Code								
Rating Data Type		number	stunting					
Rating Unit		per plot						
Rating Date	10/Jul/2003	10/Jul/2003	24/Jul/2003	24/Jul/2003	24/Jul/2003	24/Jul/2003		
Crop Stage			V10					
Crop Stage Scale			4-8'					
Weed Stage	24-36"	5-24"		48"	12-30"	36"		
Weed Density, Unit	1 M2	1 PLOT		40 FT2	2-3 M2	2-3 M2		
Assessed By	Reece & Jeff	Reece & Jeff	JB & RD	JB & RD	JB & RD	JB & RD		
Trt-Eval Interval	7 DA-C	7 DA-C	21 DA-C	21 DA-C	21 DA-C	21 DA-C		
# Subsamples, Dec.	0	0	0	0	0	0		
Trt Treatment	Rate	Grow						
No. Name	Rate Unit	Stg	7	8	9	10	11	12
15 Degree		pre	61 ab	0 a	0 a	25 de	98 a	99 a
Yukon		24" corn						
COC		24" corn						
AMS		24" corn						
LSD (P=.05)	28.1	0.9	8.5	23.1	11.2	12.7		
Standard Deviation	19.7	0.6	6.0	16.2	7.8	8.9		
CV	29.02	252.17	287.01	31.28	9.08	10.14		
Grand Mean	67.83	0.25	2.08	51.7	85.95	87.87		
Bartlett's X2	13.885	10.561	4.512	23.024	15.773	42.234		
P(Bartlett's X2)	0.382	0.061	0.341	0.041*	0.106	0.001*		
Replicate F	10.626	2.935	5.170	15.440	0.973	0.640		
Replicate Prob(F)	0.0001	0.0452	0.0039	0.0001	0.4144	0.5937		
Treatment F	6.221	1.839	1.115	8.175	39.781	34.379		
Treatment Prob(F)	0.0001	0.0711	0.3733	0.0001	0.0001	0.0001		

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Weed Code	AMBTR	SIYAN	ZEAMX	SETFA	ABUTH	CHEAL				
Crop Code										
Rating Data Type		number								
Rating Unit		per plot								
Rating Date	24/Jul/2003	24/Jul/2003	7/Aug/2003	7/Aug/2003	7/Aug/2003	7/Aug/2003				
Crop Stage			R1							
Crop Stage Scale			8-9'							
Weed Stage	6'	6-24"		5'	2-3'	36"				
Weed Density, Unit	1 M2	1 PLOT		40 FT2	2-3 M2	2-3 M2				
Assessed By	JB & RD	JB & RD	Reece & Earl	Reece & Earl	Reece & Earl	Reece & Earl				
Trt-Eval Interval	21 DA-C	21 DA-C	35 DA-C	35 DA-C	35 DA-C	35 DA-C				
# Subsamples, Dec.	0	0	0	0	0	0				
Trt No.	Treatment Name	Rate	Grow Unit	Stg	13	14	15	16	17	18
1	Untreated				0 b	0 a	0 a	0 e	0 b	0 c
2	Option Methylated Seed Oil Nitrogen 28%		epost epost epost		74 a	5 a	0 a	85 abc	71 a	65 b
3	Equip Methylated Seed Oil Nitrogen 28%		epost epost epost		83 a	1 a	0 a	87 ab	89 a	83 ab
4	Option Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		83 a	2 a	0 a	83 abc	85 a	96 a
5	Equip Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		91 a	0 a	0 a	79 a-d	88 a	95 a
6	Option Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		100 a	1 a	0 a	79 a-d	99 a	99 a
7	Equip Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost		98 a	0 a	0 a	82 a-d	99 a	99 a
8	Degree Beacon COC AMS		pre 24" corn 24" corn 24" corn		89 a	0 a	0 a	59 a-d	85 a	85 ab
9	Degree Callisto COC AMS		pre 24" corn 24" corn 24" corn		94 a	2 a	0 a	47 bcd	98 a	98 a
10	Degree Clarity NIS AMS		pre 24" corn 24" corn 24" corn		94 a	0 a	0 a	45 cd	91 a	96 a
11	Degree Celebrity Plus NIS AMS		pre 24" corn 24" corn 24" corn		94 a	3 a	0 a	95 a	99 a	100 a
12	Degree Buctril		pre 24" corn		90 a	1 a	0 a	54 bcd	85 a	86 ab
13	Degree Distinct NIS AMS		pre 24" corn 24" corn 24" corn		96 a	1 a	0 a	63 a-d	96 a	100 a
14	Degree Spirit COC AMS		pre 24" corn 24" corn 24" corn		91 a	4 a	0 a	65 a-d	80 a	90 a

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Weed Code	AMBTR	SIYAN	ZEAMX	SETFA	ABUTH	CHEAL
Crop Code						
Rating Data Type		number				
Rating Unit		per plot				
Rating Date	24/Jul/2003	24/Jul/2003	7/Aug/2003	7/Aug/2003	7/Aug/2003	7/Aug/2003
Crop Stage			R1			
Crop Stage Scale			8-9'			
Weed Stage	6'	6-24"		5'	2-3'	36"
Weed Density, Unit	1 M2	1 PLOT		40 FT2	2-3 M2	2-3 M2
Assessed By	JB & RD	JB & RD	Reece & Earl	Reece & Earl	Reece & Earl	Reece & Earl
Trt-Eval Interval	21 DA-C	21 DA-C	35 DA-C	35 DA-C	35 DA-C	35 DA-C
# Subsamples, Dec.	0	0	0	0	0	0
Trt Treatment	Rate	Grow				
No. Name	Rate	Unit	Stg			
15 Degree		pre				
Yukon		24" corn				
COC		24" corn				
AMS		24" corn				
LSD (P=.05)	16.0	4.8	0.0	23.8	18.6	16.7
Standard Deviation	11.2	3.3	0.0	16.7	13.0	11.7
CV	13.32	259.76	0.0	25.95	15.45	13.62
Grand Mean	84.12	1.28	0.0	64.23	84.1	86.0
Bartlett's X2	15.513	54.171	0.0	36.952	53.225	49.03
P(Bartlett's X2)	0.215	0.001*	.	0.001*	0.001*	0.001*
Replicate F	4.204	2.845	0.000	7.628	1.168	0.729
Replicate Prob(F)	0.0109	0.0500	1.0000	0.0004	0.3334	0.5406
Treatment F	18.714	0.887	0.000	8.605	14.422	19.095
Treatment Prob(F)	0.0001	0.5785	1.0000	0.0001	0.0001	0.0001

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

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Weed Code				AMBTR	SIYAN
Crop Code					
Rating Data Type					number
Rating Unit					per plot
Rating Date				7/Aug/2003	7/Aug/2003
Crop Stage					
Crop Stage Scale					
Weed Stage				6'	6-48"
Weed Density, Unit				1 M2	1 plot
Assessed By				Reece & Earl	Reece & Earl
Trt-Eval Interval				35 DA-C	35 DA-C
# Subsamples, Dec.				0	0
Trt No.	Treatment Name	Rate	Grow Unit Stg	19	20
1	Untreated			0 b	0 a
2	Option Methylated Seed Oil Nitrogen 28%		epost epost epost	89 a	6 a
3	Equip Methylated Seed Oil Nitrogen 28%		epost epost epost	89 a	1 a
4	Option Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost	96 a	2 a
5	Equip Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost	98 a	0 a
6	Option Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost epost	100 a	1 a
7	Equip Callisto Atrazine Methylated Seed Oil Nitrogen 28%		epost epost epost epost epost	100 a	1 a
8	Degree Beacon COC AMS		pre 24" corn 24" corn 24" corn	99 a	0 a
9	Degree Callisto COC AMS		pre 24" corn 24" corn 24" corn	100 a	1 a
10	Degree Clarity NIS AMS		pre 24" corn 24" corn 24" corn	99 a	0 a
11	Degree Celebrity Plus NIS AMS		pre 24" corn 24" corn 24" corn	99 a	4 a
12	Degree Buctril		pre 24" corn	98 a	1 a
13	Degree Distinct NIS AMS		pre 24" corn 24" corn 24" corn	100 a	0 a
14	Degree Spirit COC AMS		pre 24" corn 24" corn 24" corn	100 a	3 a

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Weed Code		AMBTR	SIYAN
Crop Code			
Rating Data Type			number
Rating Unit			per plot
Rating Date		7/Aug/2003	7/Aug/2003
Crop Stage			
Crop Stage Scale			
Weed Stage		6'	6-48"
Weed Density, Unit		1 M2	1 plot
Assessed By		Reece & Earl	Reece & Earl
Trt-Eval Interval		35 DA-C	35 DA-C
# Subsamples, Dec.		0	0
Trt Treatment	Rate	Grow	
No. Name	Rate Unit	Stg	
15 Degree		pre	
Yukon		24" corn	
COC		24" corn	
AMS		24" corn	
		19	20
		99 a	0 a
LSD (P=.05)		8.0	4.8
Standard Deviation		5.6	3.4
CV		6.19	275.47
Grand Mean		90.92	1.22
Bartlett's X2		23.275	48.928
P(Bartlett's X2)		0.003*	0.001*
Replicate F		2.118	2.700
Replicate Prob(F)		0.1122	0.0577
Treatment F		81.639	0.899
Treatment Prob(F)		0.0001	0.5656

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.