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Burcucumber control in corn

Trial ID: 04-PPAC-CORN-BURC
Location: PPAC

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
E-Longitude of LL Corner °: 86.960980 N-Latitude of LL Corner °: 41.454417
Altitude of LL Corner: 701.00 Unit: feet

Conducted Under GLP (Y/N): N

Conducted Under GEP (Y/N): N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	SIYAN	BURCUCUMBER	SICYOS ANGULATUS L.

Crop 1: ZEAMX CORN, FIELD

Variety: Pioneer 33G28 (LL)

Planting Date: 5/Jun/2004

Planting Method: planted

Row Spacing: 30 IN

SITE AND DESIGN

Plot Width, Unit: 10 FT

Plot Length, Unit: 30 FT Repts: 4

Tillage Type: conventional

Study Design: RANDOMIZED COMPLETE BLOCK

APPLICATION DESCRIPTION

	A	B
Application Date:	7/Jun/2004	28/Jun/2004
Time of Day:	0930-1030	0600-0715
Application Method:	SPRAY	SPRAY
Application Timing:	PREPRE	POSPOS
Applic. Placement:	BROSOI	BROFOL
Air Temp., Unit:	82 F	72 F
% Relative Humidity:	65	65
Wind Velocity, Unit:	8 MPH	1 MPH
Soil Temp., Unit:	70 F	77 F
Soil Moisture:	dry surf	dry surf
% Cloud Cover:	80	0

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	ZEAMX	ZEAMX
Stage Scale:	na - pre	V4-V5
Height, Unit:		12 IN

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	SIYAN	SIYAN
Stage Scale:	cracking	1-10 in
Density, Unit:		1-16 M2

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APPLICATION EQUIPMENT

	A	B
Appl. Equipment:	CO2 Backp	CO2 Backp
Operating Pressure:	25 psi	25 psi
Nozzle Type:	VS	VS
Nozzle Size:	8002	8002
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

Trt No	Treatment Application Comment
15	PRE application (plot 126 sprayed instead of plot 120)

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 Investigator: Dr. Bill Johnson

Weed Code			SIYAN		SIYAN		
Crop Code				ZEAMX		ZEAMX	
Part Rated			counts	injury	biomas	injury	
Rating Data Type			#/30" row				
Rating Unit				% injury	%control	% injury	
Rating Date			23/Jun/2004	12/Jul/2004	12/Jul/2004	27/Jul/2004	
Crop Stage			V3	V6	V6	V10-V11	
Crop Stage Scale			6-8"	36"	36"	72"	
Weed Stage			1-6"		1-36"		
Weed Density, Unit			75ft2		2-7 M2		
Assessed By			Earl, Reece, & Vince	Bill & Vince	Bill & Vince	Reece & Vince	
Trt-Eval Interval			16 DA-A	14 DA-B	14 DA-B	29 DA-B	
# Subsamples, Dec.			0	0	0	0	
Trt Treatment	Rate	Unit	Grow				
No. Name			Stg	1	2	3	
1 Untreated				11 a	0 a	0 d	0 a
2 Dual II Magnum	1.9	lb ai/a	pre	4 a	0 a	65 abc	0 a
3 Dual II Magnum Spirit	1.9	lb ai/a	pre	26 a	0 a	92 ab	0 a
Crop Oil Conc	0.0356	lb ai/a	V4-V5				
AMS			V4-V5				
4 Dual II Magnum Clarity	1.9	lb ai/a	pre	18 a	0 a	80 abc	0 a
UAN (28%)	0.25	lb ai/a	V4-V5				
5 Dual II Magnum Northstar	1.9	lb ai/a	pre	25 a	0 a	91 ab	0 a
NIS	0.16	lb ai/a	V4-V5				
AMS			V4-V5				
6 Dual II Magnum Atrazine	1.9	lb ai/a	pre	15 a	0 a	94 ab	0 a
Crop Oil Conc	2	lb ai/a	V4-V5				
7 Dual II Magnum Callisto	1.9	lb ai/a	pre	34 a	0 a	90 ab	0 a
Crop Oil Conc	0.094	lb ai/a	V4-V5				
AMS			V4-V5				
8 Dual II Magnum Balance Pro	1.9	lb ai/a	pre	14 a	1 a	52 c	0 a
	0.094	lb ai/a	pre				
9 Dual II Magnum Balance Pro	1.9	lb ai/a	pre	12 a	0 a	98 a	0 a
Spirit	0.094	lb ai/a	pre				
Crop Oil Conc	0.0356	lb ai/a	V4-V5				
AMS			V4-V5				
10 Dual II Magnum Balance Pro	1.9	lb ai/a	pre	14 a	0 a	90 ab	0 a
Clarity	0.094	lb ai/a	pre				
UAN (28%)	0.25	lb ai/a	V4-V5				
11 Dual II Magnum Balance Pro	1.9	lb ai/a	pre	2 a	0 a	98 a	0 a
Northstar	0.094	lb ai/a	pre				
NIS	0.16	lb ai/a	V4-V5				
AMS			V4-V5				
12 Dual II Magnum Balance Pro	1.9	lb ai/a	pre	19 a	0 a	94 ab	0 a
Atrazine	0.094	lb ai/a	pre				
Crop Oil Conc	2	lb ai/a	V4-V5				
13 Dual II Magnum Balance Pro	1.9	lb ai/a	pre	52 a	0 a	90 ab	0 a
Callisto	0.094	lb ai/a	pre				
Crop Oil Conc	0.094	lb ai/a	V4-V5				
AMS			V4-V5				
14 Untreated				50 a	0 a	0 d	0 a
15 Lumax	2.96	lb ai/a	pre	28 a	0 a	64 abc	0 a

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Weed Code				SIYAN	ZEAMX	SIYAN	ZEAMX
Crop Code				counts	injury	biomas	injury
Part Rated				#/30" row	% injury	%control	% injury
Rating Data Type				23/Jun/2004	12/Jul/2004	12/Jul/2004	27/Jul/2004
Rating Unit				V3	V6	V6	V10-V11
Rating Date				6-8"	36"	36"	72"
Crop Stage				1-6"		1-36"	
Crop Stage Scale				75ft2		2-7 M2	
Weed Stage				Earl, Reece, & Vince	Bill & Vince	Bill & Vince	Reece & Vince
Weed Density, Unit				16 DA-A	14 DA-B	14 DA-B	29 DA-B
Assessed By				0	0	0	0
Trt-Eval Interval							
# Subsamples, Dec.							
Trt No.	Treatment Name	Rate	Grow Unit Stg	1	2	3	4
16	Lumax Spirit Crop Oil Conc AMS	2.96 lb ai/a 0.0356 lb ai/a	pre V4-V5 V4-V5 V4-V5	18 a	0 a	95 a	0 a
17	Lumax Clarity UAN (28%)	2.96 lb ai/a 0.25 lb ai/a	pre V4-V5 V4-V5	14 a	2 a	88 ab	0 a
18	Lumax Northstar NIS AMS	2.96 lb ai/a 0.16 lb ai/a	pre V4-V5 V4-V5 V4-V5	17 a	4 a	94 ab	0 a
19	Lumax Atrazine Crop Oil Conc	2.96 lb ai/a 1.75 lb ai/a	pre V4-V5 V4-V5	29 a	0 a	90 ab	0 a
20	Lumax Callisto Crop Oil Conc AMS	2.96 lb ai/a 0.094 lb ai/a	pre V4-V5 V4-V5 V4-V5	16 a	0 a	96 a	0 a
21	Keystone GF-1279 (IPA-salt glyph) AMS Starane (a.e.) Crop Oil Conc AMS	4.46 lb ai/a 0.375 lb ae/a 0.126 lb ae/a	pre pre pre V4-V5 V4-V5 V4-V5	39 a	7 a	55 bc	0 a
22	Keystone GF-1279 (IPA-salt glyph) AMS GF-1203 (Starane+Stinger) Crop Oil Conc AMS	4.46 lb ai/a 0.375 lb ae/a 0.25 lb ae/a	pre pre pre V4-V5 V4-V5 V4-V5	22 a	3 a	70 abc	0 a
23	Lumax Atrazine	2.47 lb ai/a 1 lb ai/a	pre pre	15 a	3 a	55 bc	0 a
24	A14244 (Lexar/Lumax LMF)	3.23 lb ai/a	pre	10 a	0 a	70 abc	0 a
25	Bicep II Magnum Callisto Atrazine Crop Oil Conc UAN (28%)	3.57 lb ai/a 0.094 lb ai/a 0.5 lb ai/a	pre V4-V5 V4-V5 V4-V5 V4-V5	13 a	0 a	94 ab	0 a
26	Balance Pro Liberty Atrazine AMS	0.094 lb ai/a 0.417 lb ai/a 1 lb ai/a	pre V4-V5 V4-V5 V4-V5	24 a	4 a	88 ab	0 a
27	Balance Pro Equip Distinct MSO UAN 28%	0.094 lb ai/a 0.03 lb ai/a 0.0875 lb ai/a	pre V4-V5 V4-V5 V4-V5 V4-V5	20 a	5 a	95 a	0 a
28	Atrazine Liberty AMS	2 lb ai/a 0.417 lb ai/a	pre V4-V5 V4-V5	46 a	0 a	85 abc	0 a

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				SIYAN	ZEAMX	SIYAN	ZEAMX	
				counts	injury	biomas	injury	
				#/30" row	% injury	%control	% injury	
				23/Jun/2004	12/Jul/2004	12/Jul/2004	27/Jul/2004	
				V3	V6	V6	V10-V11	
				6-8"	36"	36"	72"	
				1-6"		1-36"		
				75ft2		2-7 M2		
				Earl, Reece, & Vince	Bill & Vince	Bill & Vince	Reece & Vince	
				16 DA-A	14 DA-B	14 DA-B	29 DA-B	
				0	0	0	0	
Trt	Treatment	Rate	Grow					
No.	Name	Rate	Unit	Stg	1	2	3	4
29	Balance Pro	0.094	lb ai/a	pre	9 a	0 a	97 a	0 a
	Liberty	0.365	lb ai/a	V4-V5				
	Callisto	0.0312	lb ai/a	V4-V5				
	AMS			V4-V5				
30	Define SC	0.656	lb ai/a	pre	24 a	4 a	93 ab	0 a
	Atrazine	1	lb ai/a	pre				
	Buctril+Atrazine	0.75	lb ai/a	V4-V5				
	Callisto	0.0312	lb ai/a	V4-V5				
31	Define SC	0.375	lb ai/a	V4-V5	34 a	0 a	95 a	0 a
	Atrazine	1	lb ai/a	V4-V5				
	Liberty	0.417	lb ai/a	V4-V5				
	Callisto	0.0312	lb ai/a	V4-V5				
	AMS			V4-V5				
32	Untreated				25 a	0 a	21 d	0 a
LSD (P=.05)				30.8	4.6	21.1	0.0	
Standard Deviation				22.0	3.3	15.1	0.0	
CV				101.22	337.39	19.46	0.0	
Grand Mean				21.73	0.96	77.42	0.0	
Bartlett's X2				56.173	5.559	116.159	0.0	
P(Bartlett's X2)				0.004*	0.697	0.001*	.	
Replicate F				0.445	1.317	0.931	0.000	
Replicate Prob(F)				0.7214	0.2745	0.4290	1.0000	
Treatment F				1.249	1.206	12.704	0.000	
Treatment Prob(F)				0.2066	0.2488	0.0001	1.0000	

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				SIYAN	SIYAN
Crop Code					
Part Rated				biomas	biomas
Rating Data Type					
Rating Unit				%control	%control
Rating Date				27/Jul/2004	19/Aug/2004
Crop Stage				V10-V11	pollinat
Crop Stage Scale				72"	9-10'
Weed Stage				1-96"	10' +
Weed Density, Unit				3-8 M2	3-8 M2
Assessed By				Reece & Vince	Bill & Reece
Trt-Eval Interval				29 DA-B	52 DA-B
# Subsamples, Dec.				0	0
Trt No.	Treatment Name	Rate	Grow Unit Stg	5	6
1	Untreated			0 d	0 h
2	Dual II Magnum	1.9 lb ai/a	pre	58 bc	48 c-g
3	Dual II Magnum Spirit Crop Oil Conc AMS	1.9 lb ai/a 0.0356 lb ai/a	pre V4-V5 V4-V5 V4-V5	96 ab	93 ab
4	Dual II Magnum Clarity UAN (28%)	1.9 lb ai/a 0.25 lb ai/a	pre V4-V5 V4-V5	72 abc	54 a-g
5	Dual II Magnum Northstar NIS AMS	1.9 lb ai/a 0.16 lb ai/a	pre V4-V5 V4-V5 V4-V5	93 ab	90 abc
6	Dual II Magnum Atrazine Crop Oil Conc	1.9 lb ai/a 2 lb ai/a	pre V4-V5 V4-V5	87 ab	80 a-e
7	Dual II Magnum Callisto Crop Oil Conc AMS	1.9 lb ai/a 0.094 lb ai/a	pre V4-V5 V4-V5 V4-V5	91 ab	88 abc
8	Dual II Magnum Balance Pro	1.9 lb ai/a 0.094 lb ai/a	pre pre	48 c	61 a-g
9	Dual II Magnum Balance Pro Spirit Crop Oil Conc AMS	1.9 lb ai/a 0.094 lb ai/a 0.0356 lb ai/a	pre pre V4-V5 V4-V5 V4-V5	94 ab	95 ab
10	Dual II Magnum Balance Pro Clarity UAN (28%)	1.9 lb ai/a 0.094 lb ai/a 0.25 lb ai/a	pre pre V4-V5 V4-V5	87 ab	73 a-g
11	Dual II Magnum Balance Pro Northstar NIS AMS	1.9 lb ai/a 0.094 lb ai/a 0.16 lb ai/a	pre pre V4-V5 V4-V5 V4-V5	99 a	99 a
12	Dual II Magnum Balance Pro Atrazine Crop Oil Conc	1.9 lb ai/a 0.094 lb ai/a 2 lb ai/a	pre pre V4-V5 V4-V5	92 ab	90 abc
13	Dual II Magnum Balance Pro Callisto Crop Oil Conc AMS	1.9 lb ai/a 0.094 lb ai/a 0.094 lb ai/a	pre pre V4-V5 V4-V5 V4-V5	92 ab	92 abc
14	Untreated			0 d	0 h
15	Lumax	2.96 lb ai/a	pre	50 c	41 efg
16	Lumax Spirit Crop Oil Conc AMS	2.96 lb ai/a 0.0356 lb ai/a	pre V4-V5 V4-V5 V4-V5	95 ab	90 abc

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Weed Code				SIYAN	SIYAN
Crop Code					
Part Rated				biomas	biomas
Rating Data Type					
Rating Unit				%control	%control
Rating Date				27/Jul/2004	19/Aug/2004
Crop Stage				V10-V11	pollinat
Crop Stage Scale				72"	9-10'
Weed Stage				1-96"	10' +
Weed Density, Unit				3-8 M2	3-8 M2
Assessed By				Reece & Vince	Bill & Reece
Trt-Eval Interval				29 DA-B	52 DA-B
# Subsamples, Dec.				0	0
Trt No.	Treatment Name	Rate	Unit	Grow Stg	
5					6
17	Lumax Clarity UAN (28%)	2.96 0.25	lb ai/a lb ai/a	pre V4-V5 V4-V5	83 ab 78 a-e
18	Lumax Northstar NIS AMS	2.96 0.16	lb ai/a lb ai/a	pre V4-V5 V4-V5 V4-V5	92 ab 87 abc
19	Lumax Atrazine Crop Oil Conc	2.96 1.75	lb ai/a lb ai/a	pre V4-V5 V4-V5	87 ab 77 a-e
20	Lumax Callisto Crop Oil Conc AMS	2.96 0.094	lb ai/a lb ai/a	pre V4-V5 V4-V5 V4-V5	96 ab 90 abc
21	Keystone GF-1279 (IPA-salt glyph) AMS Starane (a.e.) Crop Oil Conc AMS	4.46 0.375 0.126	lb ai/a lb ae/a lb ae/a	pre pre pre V4-V5 V4-V5 V4-V5	44 c 34 g
22	Keystone GF-1279 (IPA-salt glyph) AMS GF-1203 (Starane+Stinger) Crop Oil Conc AMS	4.46 0.375 0.25	lb ai/a lb ae/a lb ae/a	pre pre pre V4-V5 V4-V5 V4-V5	59 bc 35 fg
23	Lumax Atrazine	2.47 1	lb ai/a lb ai/a	pre pre	49 c 43 d-g
24	A14244 (Lexar/Lumax LMF)	3.23	lb ai/a	pre	61 abc 50 b-g
25	Bicep II Magnum Callisto Atrazine Crop Oil Conc UAN (28%)	3.57 0.094 0.5	lb ai/a lb ai/a lb ai/a	pre V4-V5 V4-V5 V4-V5 V4-V5	93 ab 92 abc
26	Balance Pro Liberty Atrazine AMS	0.094 0.417 1	lb ai/a lb ai/a lb ai/a	pre V4-V5 V4-V5 V4-V5	87 ab 76 a-f
27	Balance Pro Equip Distinct MSO UAN 28%	0.094 0.03 0.0875	lb ai/a lb ai/a lb ai/a	pre V4-V5 V4-V5 V4-V5 V4-V5	91 ab 86 a-d
28	Atrazine Liberty AMS	2 0.417	lb ai/a lb ai/a	pre V4-V5 V4-V5	82 ab 75 a-f
29	Balance Pro Liberty Callisto AMS	0.094 0.365 0.0312	lb ai/a lb ai/a lb ai/a	pre V4-V5 V4-V5 V4-V5	95 ab 93 abc

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Crop Code					
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Rating Unit				%control	%control
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Crop Stage				V10-V11	pollinat
Crop Stage Scale				72"	9-10'
Weed Stage				1-96"	10' +
Weed Density, Unit				3-8 M2	3-8 M2
Assessed By				Reece & Vince	Bill & Reece
Trt-Eval Interval				29 DA-B	52 DA-B
# Subsamples, Dec.				0	0
Trt No.	Treatment Name	Rate	Unit	Grow Stg	
5					6
30	Define SC	0.656	lb ai/a	pre	88 ab
	Atrazine	1	lb ai/a	pre	
	Buctril+Atrazine	0.75	lb ai/a	V4-V5	
	Callisto	0.0312	lb ai/a	V4-V5	76 a-f
31	Define SC	0.375	lb ai/a	V4-V5	94 ab
	Atrazine	1	lb ai/a	V4-V5	
	Liberty	0.417	lb ai/a	V4-V5	
	Callisto	0.0312	lb ai/a	V4-V5	88 abc
	AMS			V4-V5	
32	Untreated				0 d
					0 h
LSD (P=.05)					21.3
Standard Deviation					15.2
CV					20.75
Grand Mean					73.44
Bartlett's X2					95.236
P(Bartlett's X2)					0.001*
Replicate F					0.023
Replicate Prob(F)					0.9952
Treatment F					14.650
Treatment Prob(F)					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.