

University of Georgia

FIELD CORN RESPONSE TO POST APPLIED DIURON

Trial ID: CN-10-22 Study Dir.:
Location: PONDER FARM Investigator: Eric P. Prostko

Reps: 3 Plots: 6 by 25 feet
Appl. Amount: 15 GAL/AC Mix Size: 1.5 L (total for 3 plots; minimum=0.5866 L)

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Grow Stg	Appl Code	Amt Product to Measure	Diluent	Rep 1	2	3
1	NTC							-	101	205	304
2	DIURON AGRIDEX	4 L		16.0 oz/a 1.0 % v/v	POST A POST A		12.5 mL/mx 15.0 mL/mx	1472.5 mL	102	203	301
3	DIURON AGRIDEX	4 L		8.0 oz/a 1.0 % v/v	POST A POST A		6.25 mL/mx 15.0 mL/mx	1478.8 mL	103	204	305
4	DIURON AGRIDEX	4 L		4.0 oz/a 1.0 % v/v	POST A POST A		3.125 mL/mx 15.0 mL/mx	1481.9 mL	104	206	302
5	DIURON AGRIDEX	4 L		2.0 oz/a 1.0 % v/v	POST A POST A		1.562 mL/mx 15.0 mL/mx	1483.4 mL	105	201	306
6	DIURON AGRIDEX	4 L		1.0 oz/a 1.0 % v/v	POST A POST A		0.7812 mL/mx 15.0 mL/mx	1484.2 mL	106	202	303

Sort Order: Treatment

Trial Comments

MAINTAINED WEED-FREE

ATRAZINE @ 32 OZ/A + DUAL MAGNUM @ 16 OZ/A - PRE - APRIL 12
ROUNDUP P-MAX3 @ 22 OZ/A + LIBERTY @ 22 OZ/A + ATRAZINE @ 32 OZ/A - POST - APRIL 26
CULTIVATED - 05/09/22

NO SYMPTOMS WERE OBSERVED @ 48 HAT. IT TOOK 3 DAYS FOR SYMPTOMS TO SHOW UP.

YIELD DATA WAS NOT COLLECTED DUE TO COMBINE/SCALE PROBLEMS.

SUMMARY

- 1) ALL RATES OF DIURON CAUSED VISUAL CORN STUNTING AND LEAF NECROSIS. GENERALLY, INJURY WAS RATE DEPENDANT.
- 2) AT 25 DAT, CORN PLANT HEIGHTS WERE REDUCED BY ALL RATES OF DIURON EXCEPT 1 OZ/A.

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GENERAL TRIAL INFORMATION

Study Director: _____ Title: _____
Affiliation: _____
Postal Code: _____

Investigator: Eric P. Prostko Title: _____
Affiliation: _____
Postal Code: _____

TRIAL LOCATION

City: _____ Trial Status: E
State/Prov.: _____ Trial Reliability: _____
Postal Code: _____ Initiation Date: _____
Country: _____ Planned Completion Date: _____
E-Longitude of LL Corner °: _____ N-Latitude of LL Corner °: _____
Altitude of LL Corner: _____ Unit: _____ Angle y-axis to North °: _____
Directions: _____

COOPERATOR/LANDOWNER

Cooperator: _____ Country: _____
Org: _____ Phone No: _____
Address 1: _____ Fax No: _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Conducted Under GLP (Y/N): N Conducted Under GEP (Y/N): N
Guidelines: _____ Guideline Description: _____

Objective: _____

Conclusions: _____

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.			

Crop 1: ZEAMA FIELD CORN Variety: PIONEER1847VYHR
Planting Date: Apr-11-22 Planting Method: MONOSEM VACUUM
Rate: 36300 SEED/A Depth: 2 IN Perennial Age: _____
Row Spacing: 36 IN Spacing Within Row: _____ Seed Bed: _____
Soil Temperature: _____ Soil Moisture: _____ Emergence Date: _____

SITE AND DESIGN

Plot Width, Unit: 6 FT Plot Length, Unit: 25 FT Reps: 3
Site Type: _____
Tillage Type: CONVENTIONAL Study Design: RACOB

Trial Initiation Comments: _____

	Previous Crops	Previous Pesticides	Year
1.	PEANUT		2021

MAINTENANCE

Field Prep./Maintenance: 1.5 TONS/A LIME PREPLANT
600 LBS/A 5-15-30 - PREPLANT
130-0-0-16 SIDEDRESS ON APRIL 16 AND MAY 5
AXILO BMZ @ 2 LBS/A - APRIL 26

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

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SOIL DESCRIPTION

% Sand: 92 % OM: 0.77 Texture: SAND
 % Silt: 6 pH: 6.0 Soil Name: TIFTON
 % Clay: 2 CEC: 2.6 Fert. Level: GOOD

ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	Apr-12-22		0.5	IN	SPRINKLER - LATERAL MOVE		
2.	Apr-17-22		0.16	IN	RAINFALL		
3.	Apr-18-22		0.53	IN	RAINFALL		
4.	Apr-27-22		0.75	IN	SPRINKLER - LATERAL MOVE		
5.	May-3-22		0.6	IN	SPRINKLER - LATERAL MOVE		
6.	May-5-22		0.5	IN	SPRINKLER - LATERAL MOVE		
7.	May-6-22		0.45	IN	RAINFALL		
8.	May-10-22		0.25	IN	SPRINKLER - LATERAL MOVE		
9.	May-12-22		0.4	IN	SPRINKLER - LATERAL MOVE		
10.	May-16-22		0.5	IN	SPRINKLER - LATERAL MOVE		
11.	May-23-22		0.5	IN	SPRINKLER - LATERAL MOVE		
12.	May-24-22		1.8	IN	RAINFALL		
13.	Jun-1-22		0.6	IN	SPRINKLER - LATERAL MOVE		
14.	Jun-8-22		0.5	IN	SPRINKLER - LATERAL MOVE		

Overall Moisture Conditions:

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A
Application Date:	May-8-22
Time of Day:	12:00 PM
Application Method:	BROADCAST
Application Timing:	POST
Applic. Placement:	FOLIAGE
Air Temp., Unit:	73 F
% Relative Humidity:	52
Wind Velocity, Unit:	3 MPH
Dew Presence (Y/N):	N
Water Hardness:	--
Soil Temp., Unit:	78 F
Soil Moisture:	OPTIMUM
% Cloud Cover:	5

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMA,
Stage Scale:	V6
Height, Unit:	12, IN

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WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	
Stage Scale:	
Density, Unit:	

APPLICATION EQUIPMENT

	A
Appl. Equipment:	BACKPACK
Operating Pressure:	35
Nozzle Type:	AIXR
Nozzle Size:	11002
Nozzle Spacing, Unit:	20 IN
Nozzles/Row:	
Band Width, Unit:	
Boom Length, Unit:	60 IN
Boom Height, Unit:	20 IN
Ground Speed, Unit:	3.5 MPH
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	WATER
Spray Volume, Unit:	15 GPA
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	

Trt No	Treatment Application Comment

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FIELD CORN RESPONSE TO POST APPLIED DIURON																			
Trial ID:		CN-10-22			Study Dir.:														
Location:		PONDER FARM			Investigator:			Eric P. Prostko											
Crop Code								Zeama Plant, -		Zeama Leaf, -		Zeama Plant, -		Zeama Leaf, -		Zeama Plant, -		Zeama Plant, -	
Part Rated								Stunting		Necrosis		Stunting		Necrosis		Ht1		Ht2	
Rating Data Type								%		%		%		%		In		In	
Rating Unit								May-13-22		May-13-22		May-19-22		May-19-22		Jun-2-22		Jun-2-22	
Rating Date																			
Trt-Eval Interval								5 DA-A		5 DA-A		11 DA-A		11 DA-A		25 DA-A		25 DA-A	
Trt No.		Treatment Name		Form Conc		Form Type		Rate Unit		Grow Stg		Appl Code		1		2		7	
1		NTC												0.0 d		0.0 f		0.0 e	
2		DIURON AGRIDEX		4 L		16.0 oz/a POST A		1.0 % v/v POST A		21.7 a		30.0 a		38.3 a		31.7 a		36.83 a	
3		DIURON AGRIDEX		4 L		8.0 oz/a POST A		1.0 % v/v POST A		21.7 a		25.0 b		25.0 b		25.0 b		44.67 a	
4		DIURON AGRIDEX		4 L		4.0 oz/a POST A		1.0 % v/v POST A		11.7 b		20.0 c		18.3 c		20.0 c		46.33 a	
5		DIURON AGRIDEX		4 L		2.0 oz/a POST A		1.0 % v/v POST A		6.7 bc		16.7 d		10.0 d		15.0 d		44.33 a	
6		DIURON AGRIDEX		4 L		1.0 oz/a POST A		1.0 % v/v POST A		1.7 cd		10.0 e		6.7 d		10.0 e		50.17 a	
LSD P=.10								5.35		1.74		6.29		1.74		9.365		11.203	
Standard Deviation								3.61		1.18		4.25		1.18		6.328		7.571	
CV								34.23		6.96		25.93		6.96		13.75		15.86	
Grand Mean								10.56		16.94		16.39		16.94		46.028		47.722	
Bartlett's X2^								6.117		10.779		8.539		10.779		5.891		1.267	
P(Bartlett's X2)								0.295		0.056		0.129		0.056		0.317		0.938	

Means followed by same letter or symbol do not significantly differ (P=.10, LSD).

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

^Calculated from residual.

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Trial ID: CN-10-22 Study Dir.:
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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Trt-Eval Interval							Zeama Plant, - Ht4 In Jun-2-22 25 DA-A	Zeama Plant, - Ht5 In Jun-2-22 25 DA-A	Zeama Plant, - HGT-AVG In Jun-2-22 25 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code	8	9	10
1	NTC						58.50 a	53.67 a	55.7 a
2	DIURON AGRIDEX	4 L		16.0 oz/a 1.0 % v/v	POST A POST A		39.83 e	41.50 b	39.1 d
3	DIURON AGRIDEX	4 L		8.0 oz/a 1.0 % v/v	POST A POST A		44.83 d	43.00 b	44.4 cd
4	DIURON AGRIDEX	4 L		4.0 oz/a 1.0 % v/v	POST A POST A		47.33 c	47.17 ab	47.4 bc
5	DIURON AGRIDEX	4 L		2.0 oz/a 1.0 % v/v	POST A POST A		52.00 b	48.33 ab	48.5 bc
6	DIURON AGRIDEX	4 L		1.0 oz/a 1.0 % v/v	POST A POST A		54.17 b	52.67 a	52.1 ab
LSD P=.10							2.185	6.941	5.63
Standard Deviation							1.477	4.690	3.81
CV							2.99	9.83	7.95
Grand Mean							49.444	47.722	47.88
Bartlett's X2^							1.333	5.194	2.509
P(Bartlett's X2)							0.932	0.393	0.775

Means followed by same letter or symbol do not significantly differ (P=.10, LSD).

Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

^Calculated from residual.

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Randomized Complete Block (RCB) AOV For Zeama Plant Stunting % May-13-22 5 DA-A (Data Column 1)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	1494.444444			
Replicate	2	2.777778	1.388889	0.106	0.9001
Treatment	5	1361.111111	272.222222	20.851	0.0001
Error	10	130.555556	13.055556		

Randomized Complete Block (RCB) AOV For Zeama Leaf Necrosis % May-13-22 5 DA-A (Data Column 2)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	1756.944444			
Replicate	2	2.777778	1.388889	1.000	0.4019
Treatment	5	1740.277778	348.055556	250.600	0.0001
Error	10	13.888889	1.388889		

Randomized Complete Block (RCB) AOV For Zeama Plant Stunting % May-19-22 11 DA-A (Data Column 3)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	3090.277778			
Replicate	2	19.444444	9.722222	0.538	0.5997
Treatment	5	2890.277778	578.055556	32.015	0.0001
Error	10	180.555556	18.055556		

Randomized Complete Block (RCB) AOV For Zeama Leaf Necrosis % May-19-22 11 DA-A (Data Column 4)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	1906.944444			
Replicate	2	2.777778	1.388889	1.000	0.4019
Treatment	5	1890.277778	378.055556	272.200	0.0001
Error	10	13.888889	1.388889		

Randomized Complete Block (RCB) AOV For Zeama Plant Ht1 In Jun-2-22 25 DA-A (Data Column 5)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	918.236111			
Replicate	2	15.527778	7.763889	0.194	0.8268
Treatment	5	502.236111	100.447222	2.508	0.1012
Error	10	400.472222	40.047222		

Randomized Complete Block (RCB) AOV For Zeama Plant Ht2 In Jun-2-22 25 DA-A (Data Column 6)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	1139.611111			
Replicate	2	66.194444	33.097222	0.577	0.5790
Treatment	5	500.277778	100.055556	1.746	0.2119
Error	10	573.138889	57.313889		

Randomized Complete Block (RCB) AOV For Zeama Plant Ht3 In Jun-2-22 25 DA-A (Data Column 7)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	972.736111			
Replicate	2	94.694444	47.347222	1.657	0.2391
Treatment	5	592.236111	118.447222	4.144	0.0267
Error	10	285.805556	28.580556		

Randomized Complete Block (RCB) AOV For Zeama Plant Ht4 In Jun-2-22 25 DA-A (Data Column 8)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	892.444444			
Replicate	2	183.861111	91.930556	42.159	0.0001
Treatment	5	686.777778	137.355556	62.991	0.0001
Error	10	21.805556	2.180556		

Randomized Complete Block (RCB) AOV For Zeama Plant Ht5 In Jun-2-22 25 DA-A (Data Column 9)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	780.611111			
Replicate	2	196.194444	98.097222	4.460	0.0413
Treatment	5	364.444444	72.888889	3.314	0.0505
Error	10	219.972222	21.997222		

Randomized Complete Block (RCB) AOV For Zeama Plant HGT-AVG In Jun-2-22 25 DA-A (Data Column 10)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	17	740.631111			
Replicate	2	88.954444	44.477222	3.071	0.0912
Treatment	5	506.864444	101.372889	7.000	0.0047
Error	10	144.812222	14.481222		

Part Rated

Plant = PLANT / PLANT BIOMASS (includes Shrub, Tree, Turf)

Leaf = LEAF / FOLIAGE

Rating Unit

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% = PERCENT		
In = INCH		
ARM Action Codes		
$T1 = ([C5] + [C6] + [C7] + [C8] + [C9]) / 5$		

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Crop Code Part Rated Rating Data Type Rating Unit Rating Date Trt-Eval Interval							Zeama Plant, - Stunting % May-13-22 5 DA-A	Zeama Leaf, - Necrosis % May-13-22 5 DA-A	Zeama Plant, - Stunting % May-19-22 11 DA-A	Zeama Leaf, - Necrosis % May-19-22 11 DA-A	Zeama Plant, - Ht1 In Jun-2-22 25 DA-A	Zeama Plant, - Ht2 In Jun-2-22 25 DA-A
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Grow Stg	Appl Code Plot	1	2	3	4	5	6
1	NTC					101	0.0	0.0	0.0	0.0	46.00	45.00
						205	0.0	0.0	0.0	0.0	65.00	68.00
						304	0.0	0.0	0.0	0.0	50.50	54.00
						Mean =	0.0	0.0	0.0	0.0	53.83	55.67
2	DIURON AGRIDEX	4 L	16.0 oz/a 1.0 % v/v	POST A POST A		102	25.0	30.0	40.0	30.0	42.50	42.50
						203	20.0	30.0	35.0	30.0	38.00	41.00
						301	20.0	30.0	40.0	35.0	30.00	32.00
						Mean =	21.7	30.0	38.3	31.7	36.83	38.50
3	DIURON AGRIDEX	4 L	8.0 oz/a 1.0 % v/v	POST A POST A		103	25.0	25.0	25.0	25.0	39.00	39.00
						204	20.0	25.0	25.0	25.0	45.50	41.00
						305	20.0	25.0	25.0	25.0	49.50	54.50
						Mean =	21.7	25.0	25.0	25.0	44.67	44.83
4	DIURON AGRIDEX	4 L	4.0 oz/a 1.0 % v/v	POST A POST A		104	10.0	20.0	25.0	20.0	45.00	44.00
						206	15.0	20.0	20.0	20.0	42.00	47.00
						302	10.0	20.0	10.0	20.0	52.00	54.00
						Mean =	11.7	20.0	18.3	20.0	46.33	48.33
5	DIURON AGRIDEX	4 L	2.0 oz/a 1.0 % v/v	POST A POST A		105	0.0	15.0	10.0	15.0	48.00	51.00
						201	10.0	20.0	5.0	15.0	41.00	43.00
						306	10.0	15.0	15.0	15.0	44.00	50.50
						Mean =	6.7	16.7	10.0	15.0	44.33	48.17
6	DIURON AGRIDEX	4 L	1.0 oz/a 1.0 % v/v	POST A POST A		106	0.0	10.0	5.0	10.0	49.50	49.00
						202	0.0	10.0	5.0	10.0	52.00	57.50
						303	5.0	10.0	10.0	10.0	49.00	46.00
						Mean =	1.7	10.0	6.7	10.0	50.17	50.83

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Trt	Treatment	Form	Form	Rate	Grow	Appl			
No.	Name	Conc	Type	Rate	Unit	Stg	Code	Plot	
1	NTC								
							101	50.50	55.50
							205	67.00	57.00
							304	53.50	63.00
							Mean =	57.00	58.50
2	DIURON	4 L		16.0 oz/a	POST A		102	36.00	35.00
	AGRIDEX			1.0 % v/v	POST A		203	40.00	42.00
							301	41.00	42.50
							Mean =	39.00	39.83
3	DIURON	4 L		8.0 oz/a	POST A		103	41.50	39.00
	AGRIDEX			1.0 % v/v	POST A		204	44.00	46.00
							305	48.50	49.50
							Mean =	44.67	44.83
4	DIURON	4 L		4.0 oz/a	POST A		104	42.00	44.00
	AGRIDEX			1.0 % v/v	POST A		206	45.50	47.00
							302	56.00	51.00
							Mean =	47.83	47.33
5	DIURON	4 L		2.0 oz/a	POST A		105	54.00	49.00
	AGRIDEX			1.0 % v/v	POST A		201	44.50	53.00
							306	50.00	54.00
							Mean =	49.50	52.00
6	DIURON	4 L		1.0 oz/a	POST A		106	48.00	49.00
	AGRIDEX			1.0 % v/v	POST A		202	55.00	55.50
							303	55.50	58.00
							Mean =	52.83	54.17

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Leaf = LEAF / FOLIAGE

Rating Unit

% = PERCENT

In = INCH

ARM Action Codes

T1 = ([C5]+[C6]+[C7]+[C8]+[C9])/5