

University of Georgia

FIELD CORN RESPONSE TO POST APPLIED DIURON
 YEAR 2
 Trial ID: CN-05-23 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	Grow Unit	Appl Stg 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: Replicate 1

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Trial Comments

MAINTAINED WEED-FREE

ATRAZINE @ 32 OZ/A + DUAL MAGNUM @ 16 OZ/A - PRE (03/03/23)
ROUNDUP P-MAX3 @ 22 OZ/A + ATRAZINE @ 48 OZ/A + ZIDUA @ 2 OZ/A - POST (04/26/23)

HARVEST DATE: 09/06/23
HARVEST MOISTURE: 14.925%
YIELDS ADJUSTED TO 15.5%

SUMMARY

- 1) POST APPLICATIONS OF DIURON CAUSED CORN STUNTING AND LEAF NECROSIS. MORE CORN INJURY WAS OBSERVED AT HIGHER RATES.
- 2) FIELD CORN YIELD WAS ONLY REDUCED WHEN DIURON 4L WAS APPLIED AT 8 OZ/A OR 16 OZ/A (~10-11% YIELD LOSS)

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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: DYNAGRO D58VC65
 Planting Date: Mar-30-23 Planting Method: MONOSEM VACUUM
 Rate: 33880 SEED/A Depth: 2 IN Perennial Age: _____
 Row Spacing: 36 IN Spacing Within Row: _____ Seed Bed: _____
 Soil Temperature: _____ Soil Moisture: OPTIMUM Emergence Date: _____

SITE AND DESIGN

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

Trial Initiation Comments:

	Previous Crops	Previous Pesticides	Year
1.	PEANUT	2022	

MAINTENANCE

Field Prep./Maintenance: 1 TON/A LIME - PREPLANT
 800 LBS/A 5-15-30 - PREPLANT
 2 SIDEDRESS APPLICATIONS OF 122-0-0-15
 AXILO BMZ @ 2 LBS/A (MICRONUTRIENTS) - APRIL 20
 PONCHO/VOTIVO SEED TREATMENT

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

SOIL DESCRIPTION

% Sand: 94 % OM: 0.61 Texture: SAND
 % Silt: 4 pH: 6.0 Soil Name: TIFTON
 % Clay: 2 CEC: 2.2 Fert. Level: GOOD

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ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	Apr-3-23		0.83	IN	RAINFALL		
2.	Apr-7-23		0.45	IN	SPRINKLER - LATERAL MOVE		
3.	Apr-8-23		0.42	IN	RAINFALL		
4.	Apr-14-23		0.11	IN	RAINFALL		
5.	Apr-25-23		0.25	IN	SPRINKLER - LATERAL MOVE		
6.	Apr-27-23		1.0	IN	RAINFALL		
7.	Apr-29-23		0.65	IN	RAINFALL		
8.	May-11-23		0.5	IN	SPRINKLER - LATERAL MOVE		
9.	May-12-23		2.5	IN	RAINFALL		
10.	May-19-23		0.5	IN	SPRINKLER - LATERAL MOVE		
11.	May-20-23		0.1	IN	RAINFALL		
12.	May-22-23		0.75	IN	RAINFALL		

Overall Moisture Conditions: _____
 Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A
Application Date:	Apr-19-23
Time of Day:	7:45 AM
Application Method:	BROADCAST
Application Timing:	POST
Applic. Placement:	FOLIAGE
Air Temp., Unit:	51 F
% Relative Humidity:	85
Wind Velocity, Unit:	0 MPH
Dew Presence (Y/N):	Y
Water Hardness:	
Soil Temp., Unit:	62 F
Soil Moisture:	OPTIMUM
% Cloud Cover:	0

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	ZEAMA,
Stage Scale:	V3-V4
Height, Unit:	6, IN

WEED STAGE AT EACH APPLICATION

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

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APPLICATION EQUIPMENT	
	A
Appl. Equipment:	BACKPACK
Operating Pressure:	36
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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Weed Code		-----		-----		-----		-----		-----		-----		-----	
Crop Code		Zeama		Zeama		Zeama		Zeama		Zeama		ZEAMA		ZEAMA	
Part Rated		Stunting		Necrosis		Stunting		Necrosis		Chlorosis		Stunting		Chlorosis	
Rating Data Type		%		%		%		%		%		%		%	
Rating Unit		%		%		%		%		%		%		%	
Rating Date		Apr-24-23		Apr-24-23		May-4-23		May-4-23		May-4-23		May-19-23		May-19-23	
Trt-Eval Interval		5 DA-A		5 DA-A		15 DA-A		15 DA-A		15 DA-A		30 DA-A		30 DA-A	
Trt No.		1		2		3		4		5		6		7	
Treatment Name		NTC		DIURON		DIURON		DIURON		DIURON		DIURON		DIURON	
Form Conc		4 L		4 L		4 L		4 L		4 L		4 L		4 L	
Form Type		L		L		L		L		L		L		L	
Rate		16.0 oz/a		8.0 oz/a		4.0 oz/a		2.0 oz/a		1.0 oz/a		1.0 oz/a		1.0 oz/a	
Grow Stg		POST A		POST A		POST A		POST A		POST A		POST A		POST A	
Appl Code		A		A		A		A		A		A		A	
		0.0 d	0.0 f	0.0 f	0.0 e	0.0 d	0.0 d	0.0 d	0.0 -	0.0 -	0.0 -	0.0 -	49.0 ab	256 ab	
		43.3 a	30.0 a	46.7 a	16.7 a	13.3 a	28.3 a	8.3 -	0.0 -	0.0 -	0.0 -	43.7 c	228 c		
		33.3 b	26.7 b	38.3 b	13.3 b	11.7 a	20.0 b	6.7 -	0.0 -	0.0 -	0.0 -	44.3 c	231 c		
		23.3 c	21.7 c	28.3 c	15.0 ab	8.3 b	11.7 c	6.7 -	0.0 -	0.0 -	0.0 -	47.3 b	247 b		
		18.3 c	18.3 d	21.7 d	10.0 c	5.0 c	15.0 bc	5.0 -	0.0 -	0.0 -	0.0 -	46.3 bc	242 bc		
		6.7 d	10.0 e	11.7 e	5.0 d	5.0 c	1.7 d	3.3 -	0.0 -	0.0 -	0.0 -	51.3 a	268 a		
LSD P=.10		7.52	3.22	5.68	2.70	2.59	7.11	4.87	.	.	.	2.70	14.1		
Standard Deviation		5.08	2.17	3.84	1.83	1.75	4.80	3.29	0.00	0.00	0.00	1.83	9.5		
CV		24.4	12.22	15.7	18.26	24.2	37.58	65.83	0.0	0.0	0.0	3.88	3.88		
Grand Mean		20.83	17.78	24.44	10.00	7.22	12.78	5.00	0.00	0.00	0.00	47.00	245.4		

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.
 Could not calculate LSD (% mean diff) for columns 8 because error mean square = 0.
 ^Calculated from residual.

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FIELD CORN RESPONSE TO POST APPLIED DIURON YEAR 2						
Trial ID:	CN-05-23	Study Dir.:				
Location:	PONDER FARM	Investigator: Eric P. Prostko				
Randomized Complete Block (RCB) AOV For ----- Zeama Stunting % Apr-24-23 5 DA-A (Data Column 1)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	4212.500000				
Replicate	2	25.000000	12.500000	0.484	0.6301	
Treatment	5	3929.166667	785.833333	30.419	0.0001	
Error	10	258.333333	25.833333			
Randomized Complete Block (RCB) AOV For ----- Zeama Necrosis % Apr-24-23 5 DA-A (Data Column 2)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	1911.111111				
Replicate	2	2.777778	1.388889	0.294	0.7514	
Treatment	5	1861.111111	372.222222	78.824	0.0001	
Error	10	47.222222	4.722222			
Randomized Complete Block (RCB) AOV For ----- Zeama Stunting % May-4-23 15 DA-A (Data Column 3)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	4594.444444				
Replicate	2	36.111111	18.055556	1.226	0.3339	
Treatment	5	4411.111111	882.222222	59.925	0.0001	
Error	10	147.222222	14.722222			
Randomized Complete Block (RCB) AOV For ----- Zeama Necrosis % May-4-23 15 DA-A (Data Column 4)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	650.000000				
Replicate	2	0.000000	0.000000	0.000	1.0000	
Treatment	5	616.666667	123.333333	37.000	0.0001	
Error	10	33.333333	3.333333			
Randomized Complete Block (RCB) AOV For ----- Zeama Chlorosis % May-4-23 15 DA-A (Data Column 5)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	411.111111				
Replicate	2	19.444444	9.722222	3.182	0.0852	
Treatment	5	361.111111	72.222222	23.636	0.0001	
Error	10	30.555556	3.055556			
Randomized Complete Block (RCB) AOV For ----- Zeama Stunting % May-19-23 30 DA-A (Data Column 6)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	2011.111111				
Replicate	2	19.444444	9.722222	0.422	0.6671	
Treatment	5	1761.111111	352.222222	15.277	0.0002	
Error	10	230.555556	23.055556			
Randomized Complete Block (RCB) AOV For ----- Zeama Chlorosis % May-19-23 30 DA-A (Data Column 7)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	350.000000				
Replicate	2	108.333333	54.166667	5.000	0.0313	
Treatment	5	133.333333	26.666667	2.462	0.1057	
Error	10	108.333333	10.833333			
Randomized Complete Block (RCB) AOV For ----- Zeama Necrosis % May-19-23 30 DA-A (Data Column 8)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	0.000000000000				
Replicate	2	0.000000000000	0.000000000000	0.000	1.0000	
Treatment	5	0.000000000000	0.000000000000	0.000	1.0000	
Error	10	0.000000000000	0.000000000000			
Randomized Complete Block (RCB) AOV For ----- ZEAMA PLOT YIELD LBS/PLOT Sep-6-23 140 DA-A (Data Column 9)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	174.000000				
Replicate	2	16.000000	8.000000	2.400	0.1408	
Treatment	5	124.666667	24.933333	7.480	0.0037	
Error	10	33.333333	3.333333			
Randomized Complete Block (RCB) AOV For ----- ZEAMA PLOT YIELD BU/A Sep-6-23 140 DA-A (Data Column 10)						
Source	DF	Sum of Squares	Mean Square	F	Prob(F)	
Total	17	4743.041405				
Replicate	2	436.141738	218.070869	2.400	0.1408	
Treatment	5	3398.271045	679.654209	7.480	0.0037	
Error	10	908.628622	90.862862			
Rating Unit % = PERCENT ARM Action Codes TY1 = 5.22100169*[9]						

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Weed Code						-----	-----	-----	-----	-----	-----	-----	-----	-----			
Crop Code						Zeama	Zeama	Zeama	Zeama	Zeama	Zeama	Zeama	ZEAMA	ZEAMA			
Part Rated						Stunting	Necrosis	Stunting	Necrosis	Chlorosis	Stunting	Chlorosis	Necrosis	YIELD			
Rating Data Type						%	%	%	%	%	%	%	LBS/PLOT	BU/A			
Rating Unit						Apr-24-23	Apr-24-23	May-4-23	May-4-23	May-4-23	May-19-23	May-19-23	May-19-23	Sep-6-23			
Rating Date						5 DA-A	5 DA-A	15 DA-A	15 DA-A	15 DA-A	30 DA-A	30 DA-A	30 DA-A	140 DA-A			
Trt-Eval Interval																	
Trt No.	Treatment Name	Form	Form	Rate	Grow	Appl	1	2	3	4	5	6	7	8	9	10	
		Conc	Type	Rate	Unit	Stg	Code	Plot									
1	NTC							101	0.0	0.0	0.0	0.0	0.0	0.0	48.0	251	
								205	0.0	0.0	0.0	0.0	0.0	0.0	51.0	266	
								304	0.0	0.0	0.0	0.0	0.0	0.0	48.0	251	
								Mean =	0.0	0.0	0.0	0.0	0.0	0.0	49.0	256	
2	DIURON	4 L		16.0 oz/a		POST A		102	50.0	30.0	50.0	15.0	10.0	30.0	10.0	44.0	230
	AGRIDEX			1.0 % v/v		POST A		203	40.0	30.0	50.0	20.0	15.0	25.0	5.0	44.0	230
								301	40.0	30.0	40.0	15.0	15.0	30.0	10.0	43.0	225
								Mean =	43.3	30.0	46.7	16.7	13.3	28.3	8.3	43.7	228
3	DIURON	4 L		8.0 oz/a		POST A		103	40.0	25.0	45.0	15.0	10.0	25.0	10.0	44.0	230
	AGRIDEX			1.0 % v/v		POST A		204	30.0	25.0	35.0	10.0	15.0	20.0	5.0	44.0	230
								305	30.0	30.0	35.0	15.0	10.0	15.0	5.0	45.0	235
								Mean =	33.3	26.7	38.3	13.3	11.7	20.0	6.7	44.3	231
4	DIURON	4 L		4.0 oz/a		POST A		104	30.0	25.0	30.0	15.0	5.0	5.0	10.0	43.0	225
	AGRIDEX			1.0 % v/v		POST A		206	20.0	20.0	25.0	15.0	10.0	10.0	0.0	50.0	261
								302	20.0	20.0	30.0	15.0	10.0	20.0	10.0	49.0	256
								Mean =	23.3	21.7	28.3	15.0	8.3	11.7	6.7	47.3	247
5	DIURON	4 L		2.0 oz/a		POST A		105	15.0	20.0	20.0	10.0	5.0	20.0	10.0	46.0	240
	AGRIDEX			1.0 % v/v		POST A		201	20.0	20.0	25.0	10.0	5.0	15.0	5.0	45.0	235
								306	20.0	15.0	20.0	10.0	5.0	10.0	0.0	48.0	251
								Mean =	18.3	18.3	21.7	10.0	5.0	15.0	5.0	46.3	242
6	DIURON	4 L		1.0 oz/a		POST A		106	0.0	10.0	10.0	5.0	5.0	5.0	10.0	49.0	256
	AGRIDEX			1.0 % v/v		POST A		202	10.0	10.0	15.0	5.0	5.0	0.0	0.0	52.0	271
								303	10.0	10.0	10.0	5.0	5.0	0.0	0.0	53.0	277
								Mean =	6.7	10.0	11.7	5.0	5.0	1.7	3.3	51.3	268

Rating Unit
% = PERCENT
ARM Action Codes
TY1 = 5.22100169*[9]