

University of Georgia

PEANUT TOLERANCE TO POST APPLIED PYROXASULFONE WEED FREE

Trial ID: PE-05-10 Study Dir.:
Location: PONDER FARM Investigator: Eric P. Prostko

Reps: 3 Plots: 6 by 25 feet
Spray vol: 15 gal/ac Mix size: 1.5 liters (min. 58658)

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Amt Product to Measure	Rep 1	2	3
1	9 DAP NO KIH 485					101	203	308
2	9 DAP KIH-485 NIS	85 WG		4.0 oz/a 0.25 % v/v	2.996 g/mx 3.75 ml/mx	102	212	303
3	9 DAP KIH-485 NIS	85 WG		8.0 oz/a 0.25 % v/v	5.991 g/mx 3.75 ml/mx	103	206	310
4	30 DAP NO KIH 485					104	207	311
5	30 DAP KIH-485 NIS	85 WG		4.0 oz/a 0.25 % v/v	2.996 g/mx 3.75 ml/mx	105	201	307
6	30 DAP KIH-485 NIS	85 WG		8.0 oz/a 0.25 % v/v	5.991 g/mx 3.75 ml/mx	106	204	305
7	60 DAP NO KIH 485					107	205	302
8	60 DAP KIH-485 NIS	85 WG		4.0 oz/a 0.25 % v/v	2.996 g/mx 3.75 ml/mx	108	211	306
9	60 DAP KIH-485 NIS	85 WG		8.0 oz/a 0.25 % v/v	5.991 g/mx 3.75 ml/mx	109	208	309
10	90 DAP NO KIH 485					110	202	312
11	90 DAP KIH-485 NIS	85 WG		4.0 oz/a 0.25 % v/v	2.996 g/mx 3.75 ml/mx	111	210	301
12	90 DAP KIH-485 NIS	85 WG		8.0 oz/a 0.25 % v/v	5.991 g/mx 3.75 ml/mx	112	209	304

Sort Order: Treatment

Trial Comments

NIS = 80/20
WEED-FREE TEST
PROWL H20 @ 34 OZ/A + VALOR @ 1 OZ/A + STRONGARM @ 0.45 OZ/A (PRE)
CLETHODIM 2EC @ 16 OZ/A + AGRIDEX @ 1% V/V (JUNE 17)
CADRE @ 4 OZ/A + AGRIDEX @ 1% V/V (JUNE 22)

EMERGENCE DATE: MAY 17, 2010
DIGGING DATE: SEPTEMBER 20
HARVEST DATE: SEPTEMBER 24
HARVEST MOISTURE: 9.0%
YIELD ADJUSTED TO 10% MOISTURE

SUMMARY:

- 1) PYROXASULFONE (KIH-485) CAUSED SIGNIFICANT CROP INJURY WHEN APPLIED AT 9 DAP. 8 OZ/A WAS MORE INJURIOUS THAN 4 OZ/A.
- 2) PEANUT INJURY FROM LATER APPLICATIONS OF PYROXASULFONE WAS MINIMAL (<7%).
- 3) PYROXASULFONE HAD NO EFFECT ON THE INCIDENCE OF TSWV.
- 4) FOR PEANUT YIELD, THERE WAS NO INTERACTION BETWEEN TIME OF APPLICATION AND PYROXASULFONE RATE. NEITHER FACTOR INFLUENCED PEANUT YIELD.

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CROP AND PEST DESCRIPTION

Weed 1. _____ 2. _____

Crop 1: ARAHY PEANUT Variety: GA-06G Planting Date: May-11-10
Planting Method: MONOSEM TWIN ROW Rate: 3.1 SEED/FT Depth: 2 IN
Perennial Age: _____ Row Spacing: _____ Seed Bed: _____
Soil Temperature: _____ Soil Moisture: OPTIMUM Emergence Date: _____

Plot Width, Unit: 6 FT Plot Length, Unit: 25 FT Reps: 3

Site Type: _____

Tillage Type: CONVENTIONAL

Study Design: FACTOR

Trial Initiation Comments: THIMET 20G INFR @ 3.5 LBS/A UNDER EACH TWIN; TWIN
ROW SPACING = 36"-9"

Previous: Crops Pesticides Year

1. _____

MAINTENANCE

Field Prep./Maintenance: _____

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

1. _____

SOIL DESCRIPTION

Texture: SAND % OM: 1.03 % Sand: 94 % Silt: 2 % Clay: 4

pH: 6.0 CEC: _____ Soil Name: _____ Fertility Level: _____

MOISTURE CONDITIONS

On: Date Time Amount Unit Type Interval Unit

1. _____

Overall Moisture Conditions: _____

Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A	B	C	D	E	F
Application Date:	May-20-10	Jun-11-10	Jul-12-10	Aug-12-10		
Time of Day:	8:00 AM	7:30 AM	7:30 AM	8:00 AM		
Application Method:	BROADCAST	BROADCAST	BROADCAST	BROADCAST		
Application Timing:	9 DAP	30 DAP	60 DAP	90 DAP		
Applic. Placement:	FOLIAGE	FOLIAGE	FOLIAGE	FOLIAGE		
Air Temp., Unit:	75 F	82 F	76 F	80 F		
% Relative Humidity:	68	85	94	96		
Wind Velocity, Unit:	1 MPH	0 MPH	0 MPH	1 MPH		
Dew Presence (Y/N):	Y	Y	Y	Y		
Water Hardness:	--	--	--	--		
Soil Temp., Unit:	71 F	83 F	82 F	81 F		
Soil Moisture:	OPTIMUM	DRY	OPTIMUM	OPTIMUM		
% Cloud Cover:	0	0	0	100		

CROP STAGE AT EACH APPLICATION

	A	B	C	D	E	F
Crop 1 Stage: ARAHY		7-8"WIDE				
Stage Scale:	V2-V3	R1	R5	R6		
Height, Unit:	2 IN	5 IN	9 IN	15 IN	2" W	

WEED STAGE AT EACH APPLICATION

	A	B	C	D	E	F
Weed 1 Stage:						
Stage Scale:						
Density, Unit:						

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		APPLICATION EQUIPMENT					
		A	B	C	D	E	F
Appl. Equipment:	BACKPACK	SAME		SAME	SAME		
Operating Pressure:	38						
Nozzle Type:	FLAT FAN						
Nozzle Size:	11002DG						
Nozzle Spacing, Unit:	20	IN					
Nozzles/Row:							
Band Width, Unit:							
Boom Length, Unit:	60	IN					
Boom Height, Unit:	16	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):							

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Location: PONDER FARM		Investigator: Eric P. Prostko							
Weed Code	-----	-----	-----	-----	-----	-----	-----	-----	-----
Crop Code	ARAHY	ARAHY	ARAHY	ARAHY	ARAHY	ARAHY	ARAHY	ARAHY	ARAHY
Part Rated	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -	PLANT -
Rating Data Type	STUNTING	STUNTING	STUNTING	STUNTING	STUNTING	STUNTING	TSWV	YIELD	YIELD
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	PERCENT	LBS/PLOT	LBS/A
Rating Date	May-21-10	Jun-8-10	Jul-1-10	Aug-2-10	Aug-19-10	Sep-20-10	Sep-24-10	Sep-24-10	Sep-24-10
Trt-Eval Interval	1 DA-A	19 DA-A	42 DA-A	74 DA-A	91 DA-A	123 DA-A	127 DA-A	127 DA-A	127 DA-A
PRM Data Type									
# Subsamples, Dec.							- 2		TY1 - 0
Trt Treatment	Form	Form	Form	Form	Form	Form	Form	Form	Form
No. Name	Conc	Type	Rate	Rate	Rate	Rate	Rate	Rate	Rate
	1	2	3	4	5	6	7	8	
TABLE OF R MEANS									
Replicate 1	6.7	5.8	3.3	1.7	1.7	3.8	20.42	5995	
Replicate 2	5.8	5.0	3.3	0.0	0.8	4.8	21.01	6169	
Replicate 3	7.5	6.7	3.3	1.7	3.3	6.4	20.90	6138	
TABLE OF A MEANS									
1 9 DAP	26.7	23.3	10.0	3.3	2.2	4.7	20.85	6122	
2 30 DAP	0.0	0.0	3.3	1.1	2.2	5.1	20.87	6127	
3 60 DAP	0.0	0.0	0.0	0.0	0.0	5.9	20.67	6070	
4 90 DAP	0.0	0.0	0.0	0.0	3.3	4.3	20.72	6083	
TABLE OF B MEANS									
1 NO KIH 485	0.0	0.0	0.0	0.0	0.0	5.3	21.18	6218	
2 KIH-485 85 WG 4.0 oz/a 2 NIS 0.25 % v/v	8.3	5.0	5.0	2.5	2.9	5.0	20.50	6018	
3 KIH-485 85 WG 8.0 oz/a 3 NIS 0.25 % v/v	11.7	12.5	5.0	0.8	2.9	4.7	20.66	6066	
TABLE OF AB MEANS									
1 9 DAP 1 NO KIH 485	0.0	0.0	0.0	0.0	0.0	6.3	21.12	6200	
2 30 DAP 1 NO KIH 485	0.0	0.0	0.0	0.0	0.0	3.0	22.07	6479	
3 60 DAP 1 NO KIH 485	0.0	0.0	0.0	0.0	0.0	7.3	20.50	6019	
4 90 DAP 1 NO KIH 485	0.0	0.0	0.0	0.0	0.0	4.7	21.02	6171	
1 9 DAP 2 KIH-485 85 WG 4.0 oz/a 2 NIS 0.25 % v/v	33.3	20.0	13.3	6.7	3.3	5.3	20.17	5921	
2 30 DAP 2 KIH-485 85 WG 4.0 oz/a 2 NIS 0.25 % v/v	0.0	0.0	6.7	3.3	3.3	4.3	19.60	5755	
3 60 DAP 2 KIH-485 85 WG 4.0 oz/a 2 NIS 0.25 % v/v	0.0	0.0	0.0	0.0	0.0	7.3	21.20	6225	
4 90 DAP 2 KIH-485 85 WG 4.0 oz/a 2 NIS 0.25 % v/v	0.0	0.0	0.0	0.0	5.0	3.0	21.02	6171	
1 9 DAP 3 KIH-485 85 WG 8.0 oz/a 3 NIS 0.25 % v/v	46.7	50.0	16.7	3.3	3.3	2.3	21.27	6244	
2 30 DAP 3 KIH-485 85 WG 8.0 oz/a 3 NIS 0.25 % v/v	0.0	0.0	3.3	0.0	3.3	8.0	20.93	6147	
3 60 DAP 3 KIH-485 85 WG 8.0 oz/a 3 NIS 0.25 % v/v	0.0	0.0	0.0	0.0	0.0	3.0	20.32	5966	
4 90 DAP 3 KIH-485 85 WG 8.0 oz/a 3 NIS 0.25 % v/v	0.0	0.0	0.0	0.0	5.0	5.3	20.12	5907	

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COMPLETE FACTORIAL AOV For ----- ARAHY PLANT STUNTING PERCENT May-21-10 1 DA-A (Data Column 1)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	8800.000000				
R	2	16.666667	8.333333	0.286	0.7564	3.9
A	3	4800.000000	1600.000000	192.000	0.0001	2.6
RA	6	50.000000	8.333333	0.286	0.9327	7.9
B	2	866.666667	433.333333	14.857	0.0141	4.7
RB	4	116.666667	29.166667	1.000	0.4449	6.8
AB	6	2600.000000	433.333333	14.857	0.0001	7.9
RAB	12	350.000000	29.166667			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY PLANT STUNTING PERCENT May-21-10 1 DA-A (Data Column 1)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	8800.000000				
R	2	16.666667	8.333333	0.355	0.7052	3.4
A	3	4800.000000	1600.000000	68.129	0.0001	3.9
B	2	866.666667	433.333333	18.452	0.0001	3.4
AB	6	2600.000000	433.333333	18.452	0.0001	6.8
ERROR	22	516.666667	23.484848			

COMPLETE FACTORIAL AOV For ----- ARAHY PLANT STUNTING PERCENT Jun-8-10 19 DA-A (Data Column 2)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	7675.000000				
R	2	16.666667	8.333333	1.000	0.3966	2.1
A	3	3675.000000	1225.000000	147.000	0.0001	2.6
RA	6	50.000000	8.333333	1.000	0.4682	4.2
B	2	950.000000	475.000000	57.000	0.0011	2.5
RB	4	33.333333	8.333333	1.000	0.4449	3.6
AB	6	2850.000000	475.000000	57.000	0.0001	4.2
RAB	12	100.000000	8.333333			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY PLANT STUNTING PERCENT Jun-8-10 19 DA-A (Data Column 2)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	7675.000000				
R	2	16.666667	8.333333	1.000	0.3840	2.0
A	3	3675.000000	1225.000000	147.000	0.0001	2.3
B	2	950.000000	475.000000	57.000	0.0001	2.0
AB	6	2850.000000	475.000000	57.000	0.0001	4.0
ERROR	22	183.333333	8.333333			

COMPLETE FACTORIAL AOV For ----- ARAHY PLANT STUNTING PERCENT Jul-1-10 42 DA-A (Data Column 3)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	1800.000000				
R	2	0.000000	0.000000	0.000	1.0000	4.4
A	3	600.000000	200.000000	9.000	0.0122	4.3
RA	6	133.333333	22.222222	0.615	0.7148	8.7
B	2	200.000000	100.000000	4.000	0.1111	4.4
RB	4	100.000000	25.000000	0.692	0.6114	7.6
AB	6	333.333333	55.555556	1.538	0.2471	8.7
RAB	12	433.333333	36.111111			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY PLANT STUNTING PERCENT Jul-1-10 42 DA-A (Data Column 3)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	1800.000000				
R	2	0.000000	0.000000	0.000	1.0000	3.9
A	3	600.000000	200.000000	6.600	0.0024	4.5
B	2	200.000000	100.000000	3.300	0.0558	3.9
AB	6	333.333333	55.555556	1.833	0.1387	7.7
ERROR	22	666.666667	30.303030			

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COMPLETE FACTORIAL AOV For ----- ARAHY PLANT STUNTING PERCENT Aug-2-10 74 DA-A (Data Column 4)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	355.555556				
R	2	22.222222	11.111111	2.000	0.1780	1.7
A	3	66.666667	22.222222	2.000	0.2156	3.1
RA	6	66.666667	11.111111	2.000	0.1445	3.4
B	2	38.888889	19.444444	1.750	0.2844	2.9
RB	4	44.444444	11.111111	2.000	0.1586	3.0
AB	6	50.000000	8.333333	1.500	0.2586	3.4
RAB	12	66.666667	5.555556			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY PLANT STUNTING PERCENT Aug-2-10 74 DA-A (Data Column 4)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	355.555556				
R	2	22.222222	11.111111	1.375	0.2737	2.0
A	3	66.666667	22.222222	2.750	0.0670	2.3
B	2	38.888889	19.444444	2.406	0.1135	2.0
AB	6	50.000000	8.333333	1.031	0.4318	4.0
ERROR	22	177.777778	8.080808			

COMPLETE FACTORIAL AOV For ----- ARAHY PLANT STUNTING PERCENT Aug-19-10 91 DA-A (Data Column 5)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	413.888889				
R	2	38.888889	19.444444	2.471	0.1263	2.0
A	3	52.777778	17.592593	2.714	0.1377	2.3
RA	6	38.888889	6.481481	0.824	0.5730	4.1
B	2	68.055556	34.027778	1.441	0.3378	4.2
RB	4	94.444444	23.611111	3.000	0.0625	3.5
AB	6	26.388889	4.398148	0.559	0.7551	4.1
RAB	12	94.444444	7.870370			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY PLANT STUNTING PERCENT Aug-19-10 91 DA-A (Data Column 5)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	413.888889				
R	2	38.888889	19.444444	1.878	0.1766	2.3
A	3	52.777778	17.592593	1.699	0.1963	2.6
B	2	68.055556	34.027778	3.287	0.0564	2.3
AB	6	26.388889	4.398148	0.425	0.8545	4.5
ERROR	22	227.777778	10.353535			

COMPLETE FACTORIAL AOV For ----- ARAHY TSWV PERCENT Sep-20-10 123 DA-A (Data Column 6)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	278.000000				
R	2	41.166667	20.583333	3.428	0.0664	1.8
A	3	12.222222	4.074074	1.362	0.3409	1.6
RA	6	17.944444	2.990741	0.498	0.7983	3.6
B	2	2.666667	1.333333	0.241	0.7968	2.0
RB	4	22.166667	5.541667	0.923	0.4824	3.1
AB	6	109.777778	18.296296	3.047	0.0475	3.6
RAB	12	72.055556	6.004630			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY TSWV PERCENT Sep-20-10 123 DA-A (Data Column 6)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	278.000000				
R	2	41.166667	20.583333	4.037	0.0321	1.6
A	3	12.222222	4.074074	0.799	0.5076	1.8
B	2	2.666667	1.333333	0.262	0.7722	1.6
AB	6	109.777778	18.296296	3.589	0.0124	3.2
ERROR	22	112.166667	5.098485			

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COMPLETE FACTORIAL AOV For ----- ARAHY YIELD LBS/PLOT Sep-24-10 127 DA-A 2 (Data Column 7)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	42.207426				
R	2	2.394303	1.197152	1.177	0.3415	0.73
A	3	0.251876	0.083959	0.048	0.9849	1.21
RA	6	10.551251	1.758542	1.728	0.1977	1.47
B	2	3.018472	1.509236	2.327	0.2136	0.70
RB	4	2.594027	0.648507	0.637	0.6457	1.27
AB	6	11.187080	1.864513	1.832	0.1751	1.47
RAB	12	12.210417	1.017535			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY YIELD LBS/PLOT Sep-24-10 127 DA-A 2 (Data Column 7)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	42.207426				
R	2	2.394303	1.197152	1.039	0.3706	0.75
A	3	0.251876	0.083959	0.073	0.9739	0.87
B	2	3.018472	1.509236	1.309	0.2902	0.75
AB	6	11.187080	1.864513	1.618	0.1894	1.51
ERROR	22	25.355695	1.152532			

COMPLETE FACTORIAL AOV For ----- ARAHY YIELD LBS/A Sep-24-10 127 DA-A TY1 0 (Data Column 8)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	3638984.752624				
R	2	206429.251018	103214.625509	1.177	0.3415	215
A	3	21715.644771	7238.548257	0.048	0.9849	357
RA	6	909693.456931	151615.576155	1.728	0.1977	431
B	2	260243.255493	130121.627747	2.327	0.2136	206
RB	4	223648.258625	55912.064656	0.637	0.6457	373
AB	6	964513.707572	160752.284595	1.832	0.1751	431
RAB	12	1052741.178215	87728.431518			

FACTORIAL/POOLED ERROR AOV For ----- ARAHY YIELD LBS/A Sep-24-10 127 DA-A TY1 0 (Data Column 8)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)	LSD (.10)
Total	35	3638984.752624				
R	2	206429.251018	103214.625509	1.039	0.3706	221
A	3	21715.644771	7238.548257	0.073	0.9739	255
B	2	260243.255493	130121.627747	1.310	0.2902	221
AB	6	964513.707572	160752.284595	1.618	0.1894	442
ERROR	22	2186082.893770	99367.404262			

Part Rated

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

PRM Data Type

TY1 = 293.6267*[7]