University of Georgia

TTI-XRC-TTI60 NOZZLE TYPES FOR PEST CONTROL IN PEANUT

Trial ID: NZ-01-20 Study Dir.: BILL TYSON/GREG SIKES
Location: BULLOCH Investigator: Eric P. Prostko

Reps: 4 Plots: 6 by 25 feet
Appl. Amount: 15 GAL/AC Mix Size: 1.5 L (total for 4 plots; minimum=0.782 L)

Trt No.	Treatment Name	Amt Product to Measure	Diluent	Rep 1	2	3	4
1	TTI-11004-VP-CE		-	101	201	301	401
2	XRC-11004-VP		-	102	202	302	402
3	TTI60-11004VP		-	103	203	303	403

Sort Order: Treatment

Trial Comments

JD 4630 SPRAYER
90' BOOM LENGTH
15" NOZZLE SPACING
72 NOZZLES
13.6 MPH
13 GPA
41 PSI
BOOM HEIGHT: 41"

AIR TEMP: 67 F
WIND: WNW 16 MPH
RH: 46%

PLANTING DATE: MAY 1, 2020
VARIETY: GA-18RU
CROP ROTATION: COTTON - COTTON - PEANUT
STRIP-TILLED INTO WHEAT STUBBLE

PESTICIDE APPLICATIONS:
JUNE 9: GRAMOXONE @ 16 OZ/A + STORM @ 16 OZ/A + DUAL MAGNUM @ 16 OZ/A + 2,4-DB @ 16 OZ/A
JUNE 23: ELATUS @ 7.3 OZ/A + CADRE @ 3.2 OZ/A
JULY 17: ELATUS @ 7.3 OZ/A + 2,4-DB @ 12.8 OZ/A + PEG POWER + BORON
JULY 28: ECHO 720 @ 16 OZ/A + TEBUCONAZOL @ 10 OZ/A + DIMILIN @ 2 OZ/A + BORON + PEG POWER
AUGUST 14: ELATUS @ 7.3 OZ/A + BORON + PEG POWER + DIMILIN
AUGUST 25: CONVOY @ 24 OZ/A + APPROACH PRIMA

DIGGING DATE: SEPTEMBER 15
HARVEST DATE: SEPTEMBER 24
HARVEST MOISTURE: 13.3%
YIELDS ADJUSTED TO 10%
HARVEST PLOT SIZE WAS 6 ROWS (18') x (663'-1963')

SUMMARY:

1) Spray card analysis on May 1 indicated the following:

a) No differences in spray coverage (%) were observed between nozzle types.

b) XRC VMD_{50} was lower than TTI and TTI60 VMD_{50}. No differences in VMD_{50} between TTI and TTI60.

2) On August 5 (96 DAP), nozzle type had no effect on 3-CAH adults (P=0.7176).

3) On August 27 (118 DAP), nozzle type had no effect on leaf spot or above-ground white mold (P>0.73)

4) On September 17 (139 DAP), nozzle type had no effect on under-ground white mold (P=0.2610)

5) Peanut yields were not influenced by nozzle type (P=0.3234).

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Weed Code Crop Code Part Rated Rating Data Type Rating Unit Rating Date PRM Data Type # Subsamples, Dec.	TOTAL WEEDS #/2M2 Aug-5-20 1 -	DROPLET SIZE VMD50-1 MICRONS 1 -	DROPLET SIZE VMD50-2 MICRONS 1 -	DROPLET SIZE VMD50-3 MICRONS 1 -	DROPLET SIZE VMD50-4 MICRONS 1 -	DROPLET SIZE VMD50-5 MICRONS 1 -	DROPLET SIZE VMD50 - AVERAGE MICRONS T1 1 1	SPRAY CARD CVG-1 PERCENT 1 -	SPRAY CARD CVG-2 PERCENT 1 -
Trt Treatment No. Name	1	2	3	4	5	6	7	8	9
1 TTI-11004-VP-CE	1.0 a	509.347 a	488.753 a	513.863 a	513.233 a	556.620 a	516.4 a	4.443 a	5.103 a
2 XRC-11004-VP	0.0 a	302.223 b	266.930 b	297.453 b	273.937 b	271.593 b	282.4 b	4.410 a	5.730 a
3 TTI60-11004VP	1.8 a	472.490 a	496.637 a	544.210 a	489.657 a	474.517 a	495.5 a	4.620 a	7.150 a
LSD P=.10	1.87	39.1115	19.9303	72.2171	52.8152	154.0077	36.50	1.1451	2.6890
Standard Deviation	1.36	22.4695	11.4500	41.4887	30.3423	88.4774	20.97	0.6578	1.5448
CV	148.82	5.25	2.74	9.18	7.13	20.38	4.86	14.65	25.77
Grand Mean	0.92	428.0200	417.4400	451.8423	425.6089	434.2434	431.43	4.4911	5.9944
Bartlett's X2	0.00	0.959	2.015	4.115	2.623	12.566	1.291	1.387	2.742
P(Bartlett's X2)	.	0.619	0.365	0.128	0.269	0.002*	0.524	0.50	0.254

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 15 because error mean square = 0.

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Trial ID: NZ-01-20 Study Dir.: BILL TYSON/GREG SIKES
Location: BULLOCH Investigator: Eric P. Prostko

Weed Code	SPRAY	SPRAY	SPRAY	SPRAY	3CAH	-----	ABOVE	UNDER	-----
Crop Code	CARD	CARD	CARD	CARD	ADULTS	LEAF	GROUND	GROUND	ARAHY
Part Rated				AVG -		SPOT -	WHITE -	WHITE -	PLOT -
Rating Data Type	CVG-3	CVG-4	CVG-5	COVERAGE			MOLD	MOLD	YIELD-WE
Rating Unit	PERCENT	PERCENT	PERCENT	PERCENT	#/10 SWP	1-10	PERCENT	PERCENT	LB/A13.3
Rating Date					Aug-5-20	Aug-27-20	Aug-27-20	Sep-17-20	Sep-24-20
PRM Data Type				T2					
# Subsamples, Dec.	1 -	1 -	1 -	1 1	1 -	1 -	1 -	1 1	1 -
Trt Treatment No. Name	10	11	12	13	14	15	16	17	18
1 TTI-11004-VP-CE	4.223 a	4.810 a	6.330 a	5.0 a	4.3 a	1.0 a	4.8 a	21.1 a	4698.8 a
2 XRC-11004-VP	4.600 a	5.807 a	4.537 a	5.0 a	5.5 a	1.0 a	5.8 a	11.5 a	4842.5 a
3 TTI60-11004VP	9.227 a	6.347 a	5.283 a	6.5 a	5.8 a	1.0 a	3.3 a	20.3 a	4958.0 a
LSD P=.10	5.3169	2.8508	3.0185	1.57	3.73	.	6.13	11.24	304.88
Standard Deviation	3.0546	1.6378	1.7341	0.90	2.71	0.00	4.46	8.18	221.88
CV	50.77	28.96	32.21	16.42	52.51	0.0	97.3	46.4	4.59
Grand Mean	6.0167	5.6544	5.3833	5.51	5.17	1.00	4.58	17.63	4833.08
Bartlett's X2	8.702	0.39	5.403	0.92	3.469	0.00	0.352	0.739	2.149
P(Bartlett's X2)	0.013*	0.823	0.067	0.631	0.176	.	0.839	0.691	0.341

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 15 because error mean square = 0.

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Trial ID:	NZ-01-20	Study Dir.:	BILL TYSON/GREG SIKES
Location:	BULLOCH	Investigator:	Eric P. Prostko

Weed Code	-----
Crop Code	ARAHY
Part Rated	PLOT -
Rating Data Type	YIELD
Rating Unit	LB/A 10%
Rating Date	Sep-24-20
PRM Data Type	T3
# Subsamples, Dec.	1 0

Trt No.	Treatment Name	19
1	TTI-11004-VP-CE	4526 a
2	XRC-11004-VP	4665 a
3	TTI60-11004VP	4776 a

LSD P=.10	293.7
Standard Deviation	213.7
CV	4.59
Grand Mean	4655.9
Bartlett's X2	2.149
P(Bartlett's X2)	0.341

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 15 because error mean square = 0.

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Randomized Complete Block (RCB) AOV For TOTAL WEEDS #/2M2 Aug-5-20 1 (Data Column 1)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	11	22.916667			
Replicate	3	5.583333	1.861111	1.000	0.4547
Treatment	2	6.166667	3.083333	1.657	0.2674
Error	6	11.166667	1.861111		

Randomized Complete Block (RCB) AOV For DROPLET SIZE VMD50-1 MICRONS 1 (Data Column 2)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	75290.356800			
Replicate	2	21.608600	10.804300	0.021	0.9789
Treatment	2	73249.226867	36624.613433	72.541	0.0007
Error	4	2019.521333	504.880333		

Randomized Complete Block (RCB) AOV For DROPLET SIZE VMD50-2 MICRONS 1 (Data Column 3)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	103720.044000			
Replicate	2	1162.747467	581.373733	4.435	0.0966
Treatment	2	102032.890867	51016.445433	389.137	0.0001
Error	4	524.405667	131.101417		

Randomized Complete Block (RCB) AOV For DROPLET SIZE VMD50-3 MICRONS 1 (Data Column 4)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	122262.544156			
Replicate	2	6734.232156	3367.116078	1.956	0.2556
Treatment	2	108643.060822	54321.530411	31.558	0.0036
Error	4	6885.251178	1721.312794		

Randomized Complete Block (RCB) AOV For DROPLET SIZE VMD50-4 MICRONS 1 (Data Column 5)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	108722.210489			
Replicate	2	685.712156	342.856078	0.372	0.7107
Treatment	2	104353.872289	52176.936144	56.674	0.0012
Error	4	3682.626044	920.656511		

Randomized Complete Block (RCB) AOV For DROPLET SIZE VMD50-5 MICRONS 1 (Data Column 6)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	179380.977800			
Replicate	2	18908.968200	9454.484100	1.208	0.3887
Treatment	2	129159.037267	64579.518633	8.250	0.0381
Error	4	31312.972333	7828.243083		

Randomized Complete Block (RCB) AOV For DROPLET SIZE VMD50 AVERAGE MICRONS T1 1 1 (Data Column 7)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	103019.061409			
Replicate	2	698.242470	349.121235	0.794	0.5124
Treatment	2	100562.060900	50281.030450	114.356	0.0003
Error	4	1758.758039	439.689510		

Randomized Complete Block (RCB) AOV For SPRAY CARD CVG-1 PERCENT 1 (Data Column 8)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	2.696489			
Replicate	2	0.889089	0.444544	1.027	0.4365
Treatment	2	0.076422	0.038211	0.088	0.9172
Error	4	1.730978	0.432744		

Randomized Complete Block (RCB) AOV For SPRAY CARD CVG-2 PERCENT 1 (Data Column 9)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	25.457622			
Replicate	2	9.313489	4.656744	1.951	0.2562
Treatment	2	6.597956	3.298978	1.382	0.3496
Error	4	9.546178	2.386544		

Randomized Complete Block (RCB) AOV For SPRAY CARD CVG-3 PERCENT 1 (Data Column 10)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	119.117200			
Replicate	2	35.214200	17.607100	1.887	0.2647
Treatment	2	46.581267	23.290633	2.496	0.1979
Error	4	37.321733	9.330433		

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Randomized Complete Block (RCB) AOV For SPRAY CARD CVG-4 PERCENT 1 (Data Column 11)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	15.527422			
Replicate	2	1.152156	0.576078	0.215	0.8155
Treatment	2	3.646289	1.823144	0.680	0.5570
Error	4	10.728978	2.682244		

Randomized Complete Block (RCB) AOV For SPRAY CARD CVG-5 PERCENT 1 (Data Column 12)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	21.109400			
Replicate	2	4.211667	2.105833	0.700	0.5486
Treatment	2	4.869067	2.434533	0.810	0.5067
Error	4	12.028667	3.007167		

Randomized Complete Block (RCB) AOV For SPRAY CARD AVG COVERAGE PERCENT T2 1 1 (Data Column 13)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	8	10.842512			
Replicate	2	2.910368	1.455184	1.778	0.2802
Treatment	2	4.659155	2.329577	2.847	0.1703
Error	4	3.272989	0.818247		

Randomized Complete Block (RCB) AOV For 3CAH ADULTS #/10 SWP Aug-5-20 1 (Data Column 14)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	11	111.666667			
Replicate	3	62.333333	20.777778	2.823	0.1293
Treatment	2	5.166667	2.583333	0.351	0.7176
Error	6	44.166667	7.361111		

Randomized Complete Block (RCB) AOV For ----- LEAF SPOT 1-10 Aug-27-20 1 (Data Column 15)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	11	0.000000000000			
Replicate	3	0.000000000000	0.000000000000	0.000	1.0000
Treatment	2	0.000000000000	0.000000000000	0.000	1.0000
Error	6	0.000000000000	0.000000000000		

Randomized Complete Block (RCB) AOV For ABOVE GROUND WHITE MOLD PERCENT Aug-27-20 1 (Data Column 16)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	11	148.916667			
Replicate	3	16.916667	5.638889	0.284	0.8359
Treatment	2	12.666667	6.333333	0.318	0.7389
Error	6	119.333333	19.888889		

Randomized Complete Block (RCB) AOV For UNDER GROUND WHITE MOLD PERCENT Sep-17-20 1 1 (Data Column 17)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	11	1103.062500			
Replicate	3	475.229167	158.409722	2.369	0.1697
Treatment	2	226.625000	113.312500	1.695	0.2610
Error	6	401.208333	66.868056		

Randomized Complete Block (RCB) AOV For ----- ARAHY PLOT YIELD-WE LB/A13.3 Sep-24-20 1 (Data Column 18)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	11	2383326.916667			
Replicate	3	1952976.916667	650992.305556	13.223	0.0047
Treatment	2	134953.166667	67476.583333	1.371	0.3234
Error	6	295396.833333	49232.805556		

Randomized Complete Block (RCB) AOV For ----- ARAHY PLOT YIELD LB/A 10% Sep-24-20 T3 1 0 (Data Column 19)

Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	11	2211753.860077			
Replicate	3	1812384.278410	604128.092803	13.223	0.0047
Treatment	2	125238.038146	62619.019073	1.371	0.3234
Error	6	274131.543520	45688.590587		

PRM Data Type
T1 = ([C2]+[C3]+[C4]+[C5]+[C6])/5
T2 = ([C8]+[C9]+[C10]+[C11]+[C12])/5
T3 = ([18]*0.867)/0.9

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Trt No.	Treatment Name	Plot	1	2	3	4	5	6	7	8	9
	Weed Code		TOTAL WEEDS	DROPLET SIZE	DROPLET SIZE	DROPLET SIZE	DROPLET SIZE	DROPLET SIZE	DROPLET SIZE	SPRAY CARD	SPRAY CARD
	Crop Code										
	Part Rated								VMD50 -		
	Rating Data Type			VMD50-1	VMD50-2	VMD50-3	VMD50-4	VMD50-5	AVERAGE	CVG-1	CVG-2
	Rating Unit		#/2M2	MICRONS	MICRONS	MICRONS	MICRONS	MICRONS	MICRONS	PERCENT	PERCENT
	Rating Date		Aug-5-20								
	PRM Data Type								T1		
	# Subsamples, Dec.		1 -	1 -	1 -	1 -	1 -	1 -	1 1	1 -	1 -
1	TTI-11004-VP-CE	101	1.0	512.430	508.100	543.250	507.500	458.100	505.9	4.210	7.450
		201	1.0	491.150	497.770	491.150	525.010	737.950	548.6	5.360	5.500
		301	1.0	524.460	460.390	507.190	507.190	473.810	494.6	3.760	2.360
		401	1.0	.	.	.	.	.	.	.	.
		Mean =	1.0	509.347	488.753	513.863	513.233	556.620	516.4	4.443	5.103
2	XRC-11004-VP	102	0.0	301.370	277.520	304.230	291.180	278.200	290.5	5.230	5.980
		202	0.0	291.180	259.350	278.870	247.760	263.920	268.2	3.860	7.150
		302	0.0	314.120	263.920	309.260	282.870	272.660	288.6	4.140	4.060
		402	0.0	.	.	.	.	.	.	.	.
		Mean =	0.0	302.223	266.930	297.453	273.937	271.593	282.4	4.410	5.730
3	TTI60-11004VP	103	0.0	465.860	506.580	623.500	444.560	467.640	501.6	4.890	7.620
		203	5.0	499.700	498.740	537.990	507.340	495.320	507.8	4.710	6.430
		303	2.0	451.910	484.590	471.140	517.070	460.590	477.1	4.260	7.400
		403	0.0	.	.	.	.	.	.	.	.
		Mean =	1.8	472.490	496.637	544.210	489.657	474.517	495.5	4.620	7.150

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Trt No.	Treatment Name	Plot	10	11	12	13	14	15	16	17
	Weed Code		SPRAY	SPRAY	SPRAY	SPRAY	3CAH	-----	ABOVE	UNDER
	Crop Code		CARD	CARD	CARD	CARD	ADULTS	LEAF	GROUND	GROUND
	Part Rated					AVG -		SPOT -	WHITE -	WHITE -
	Rating Data Type		CVG-3	CVG-4	CVG-5	COVERAGE			MOLD	MOLD
	Rating Unit		PERCENT	PERCENT	PERCENT	PERCENT	#/10 SWP	1-10	PERCENT	PERCENT
	Rating Date						Aug-5-20	Aug-27-20	Aug-27-20	Sep-17-20
	PRM Data Type					T2				
	# Subsamples, Dec.		1 -	1 -	1 -	1 1	1 -	1 -	1 -	1 1
1	TTI-11004-VP-CE	101	5.120	5.950	5.690	5.7	1.0	1.0	8.0	14.0
		201	4.380	3.500	9.300	5.6	9.0	1.0	2.0	20.5
		301	3.170	4.980	4.000	3.7	7.0	1.0	9.0	37.0
		401	.	.	.	.	0.0	1.0	0.0	13.0
		Mean =	4.223	4.810	6.330	5.0	4.3	1.0	4.8	21.1
2	XRC-11004-VP	102	5.280	5.160	4.480	5.2	6.0	1.0	4.0	1.5
		202	4.180	7.130	5.020	5.5	5.0	1.0	3.0	17.0
		302	4.340	5.130	4.110	4.4	7.0	1.0	10.0	14.0
		402	.	.	.	.	4.0	1.0	6.0	13.5
		Mean =	4.600	5.807	4.537	5.0	5.5	1.0	5.8	11.5
3	TTI60-11004VP	103	16.040	5.150	5.030	7.7	2.0	1.0	1.0	19.0
		203	5.460	5.520	4.680	5.4	11.0	1.0	9.0	34.0
		303	6.180	8.370	6.140	6.5	5.0	1.0	0.0	21.0
		403	.	.	.	.	5.0	1.0	3.0	7.0
		Mean =	9.227	6.347	5.283	6.5	5.8	1.0	3.3	20.3

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Location: BULLOCH Investigator: Eric P. Prostko

Weed Code		-----	-----
Crop Code		ARAHY	ARAHY
Part Rated		PLOT -	PLOT -
Rating Data Type		YIELD-WE	YIELD
Rating Unit		LB/A13.3	LB/A 10%
Rating Date		Sep-24-20	Sep-24-20
PRM Data Type			T3
# Subsamples, Dec.		1 -	1 0
Trt No.	Treatment Name	Plot	18	19
1	TTI-11004-VP-CE	101	5373.0	5176
		201	5070.0	4884
		301	3871.0	3729
		401	4481.0	4317
		Mean =	4698.8	4526
2	XRC-11004-VP	102	5418.0	5219
		202	5080.0	4894
		302	4384.0	4223
		402	4488.0	4323
		Mean =	4842.5	4665
3	TTI60-11004VP	103	5263.0	5070
		203	5078.0	4892
		303	4713.0	4540
		403	4778.0	4603
		Mean =	4958.0	4776

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Location:	BULLOCH	Investigator:	Eric P. Prostko

PRM Data Type
T1 = ([C2]+[C3]+[C4]+[C5]+[C6])/5
T2 = ([C8]+[C9]+[C10]+[C11]+[C12])/5
T3 = ([18]*0.867)/0.9