

Purdue University

Fall Burndown Tank-Mix Treatments for 2004 Corn

Trial ID: 03F-SEPAC-CORN
 Location: SEPAC

Study Dir.:
 Investigator: Dr. Bill Johnson

GENERAL TRIAL INFORMATION

Investigator: Dr. Bill Johnson

TRIAL LOCATION

City: Butlerville
State/Prov.: IN
Postal Code: 47223
Country: USA
E-Longitude of LL Corner °: 274.480720 **N-Latitude of LL Corner °:** 39.036000
Altitude of LL Corner: 790.00 **Unit:** FT
Directions: Field S2

COOPERATOR/LANDOWNER

Cooperator: Southeast Purdue Ag Center **Country:** USA
Address 1: 4425 E Co Rd 350 N **Phone No:** 812-458-6977
Address 2: PO Box 216 **Fax No:** 812-458-6979
City: Butlerville
State/Prov: IN
Postal Code: 47223

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.	RANAB	Buttercup, smallflower	Ranunculus abortivus L.
2.	SENGL	Groundsel, cressleaf	Packera glabellus
3.	CARPA	Bittercress, smallflowered	Cardamine parviflora L.
4.	CERVU	Chickweed, mouseear	Cerastium vulgatum L.
5.	LAMPU	Deadnettle, purple	Lamium purpureum L.
6.	STEME	Chickweed, common	Stellaria media (L.) VILL./CYR.
7.	VERAR	Speedwell, corn	Veronica arvensis L.
8.	POAAN	Bluegrass, Annual	Poa annua L.
9.	ERPVE	Whitlowgrass, spring	Draba verna L.

Crop 1: GLXMA SOYBEAN **Variety:** Harvest Residue
Row Spacing: 7.5 IN

Crop 2: ZEAMX CORN, FIELD **Variety:** P33P71
Planting Date: 29/Apr/2004 **Planting Method:** planted
Rate: 29000 S/A **Depth:** 1 IN
Row Spacing: 30 IN

SITE AND DESIGN

Plot Width, Unit: 10 FT **Plot Length, Unit:** 30 FT **Reps:** 4
Tillage Type: No-Till **Study Design:** RANDOMIZED COMPLETE BLOCK

	Previous Crops	Previous Pesticides	Year
1.	soybean	glyphosate	2003

SOIL DESCRIPTION

% OM: 1.4 **Texture:** Silt Loam
pH: 5.9 **Soil Name:** Clermont
CEC: 6.0 **Fert. Level:** P - 26 ppm, K - 47 ppm

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APPLICATION DESCRIPTION

	A	B
Application Date:	22/Nov/2003	2/Apr/2004
Time of Day:	08:30 am	10:30 am
Application Method:	SPRAY	SPRAY
Application Timing:	FALBD	SPR RES
Applic. Placement:	BROFOL	BROSOI
Air Temp., Unit:	54 F	46 F
% Relative Humidity:	69	64
Wind Velocity, Unit:	4 MPH	6 MPH
Soil Temp., Unit:	9 C	43 F
Soil Moisture:	wet	saturated
% Cloud Cover:	90	95

CROP STAGE AT EACH APPLICATION

	A	B
Crop 1 Code, Stage:	GLXMA	GLXMA
Stage Scale:	Residue	Residue
Height, Unit:	50 %	50 %
Crop 2 Code, Stage:	ZEAMX	ZEAMX
Stage Scale:	NA	NA

WEED STAGE AT EACH APPLICATION

	A	B
Weed 1 Code, Stage:	RANAB	RANAB
Stage Scale:	1-3"	3-6 lf, 3"
Density, Unit:	0-20 FT2	1-4 FT2
Weed 2 Code, Stage:	SENGL	SENGL
Stage Scale:	1-2"	
Density, Unit:	0-8 FT2	0 FT2
Weed 3 Code, Stage:	CARPA	CARPA
Stage Scale:	1-3" DIA	1-2"
Density, Unit:	0-4 FT2	0-4 FT2
Weed 4 Code, Stage:	CERVU	CERVU
Stage Scale:	1"	
Density, Unit:	0-6 FT2	0 FT2
Weed 5 Code, Stage:	LAMPU	LAMPU
Stage Scale:	<1"	2-3"
Density, Unit:	0-4 FT2	<1 FT2
Weed 6 Code, Stage:	STEME	STEME
Stage Scale:		1-2"
Density, Unit:	0 FT2	0-2 FT2
Weed 7 Code, Stage:	VERAR	VERAR
Stage Scale:		<1"
Density, Unit:	0 FT2	2-5 FT2
Weed 8 Code, Stage:	POAAN	POAAN
Stage Scale:		1-4"
Density, Unit:	0 FT2	2-13 FT2
Weed 9 Code, Stage:	ERPVE	ERPVE
Stage Scale:		2-4"
Density, Unit:	0 FT2	0-3 FT2

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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

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Fall Burndown Tank-Mix Treatments for 2004 Corn

Trial ID: 03F-SEPAC-CORN
Location: SEPAC

Study Dir.:
Investigator: Dr. Bill Johnson

Weed Code					RANAB	SENGL	CAPBP	CARPA	POAAN
Rating Unit					%control	%control	%control	%control	%control
Rating Date					16/Apr/2004	16/Apr/2004	16/Apr/2004	16/Apr/2004	16/Apr/2004
Crop Stage					NA	NA	NA	NA	NA
Crop Stage Scale									
Weed Stage					4-6"	4-8"	6"	cotyledo	2-4"
Weed Density, Unit					2-3 FT2	3-5 FT2	1-2 FT2	9-15FT2	4-6 FT2
Assessed By					Reece	Reece	Reece	Reece	Reece
Trt-Eval Interval					14 DA-B				
# Subsamples, Dec.					0	0	0	0	0
Trt Treatment	Rate	Unit	Grow	Appl					
No. Name			Stg	Code	1	2	3	4	5
1 Basis	0.0234	lb ai/a	SPRING	B	85 b	89 b	98 a	100 a	86 a
Atrazine	1	lb ai/a	SPRING	B					
Princep	1	lb ai/a	SPRING	B					
2,4-D Ester	0.5	lb ae/a	SPRING	B					
Crop Oil Conc			SPRING	B					
AMS			SPRING	B					
2 Princep	1	lb ai/a	FALBD	A	100 a	100 a	100 a	100 a	100 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
AMS			FALBD	A					
Lumax	2.47	lb ai/a	SPRING	B					
Atrazine	1	lb ai/a	SPRING	B					
Crop Oil Conc			SPRING	B					
AMS			SPRING	B					
3 Touchdown Total	0.586	lb ai/a	FALBD	A	100 a	100 a	100 a	100 a	100 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
AMS			FALBD	A					
Lumax	2.47	lb ai/a	SPRING	B					
Atrazine	1	lb ai/a	SPRING	B					
Crop Oil Conc			SPRING	B					
AMS			SPRING	B					
4 Sencor 75DF	0.47	lb ai/a	FALBD	A	100 a	100 a	100 a	96 a	98 a
2,4-D Ester	1	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
Equip	0.03	lb ai/a	6" corn	C					
Atrazine	1	lb ai/a	6" corn	C					
MSO			6" corn	C					
UAN (28%)			6" corn	C					
5 Axiom	0.765	lb ai/a	FALBD	A	100 a	100 a	100 a	96 a	100 a
2,4-D Ester	1	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
Equip	0.03	lb ai/a	6" corn	C					
Atrazine	1	lb ai/a	6" corn	C					
MSO			6" corn	C					
UAN (28%)			6" corn	C					
6 Basis	0.0234	lb ai/a	FALBD	A	100 a	100 a	100 a	99 a	100 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
7 Princep	1	lb ai/a	FALBD	A	100 a	100 a	100 a	99 a	100 a
Basis	0.0155	lb ai/a	FALBD	A					
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
8 Express	0.0047	lb ai/a	FALBD	A	100 a	100 a	100 a	100 a	100 a
Basis	0.0155	lb ai/a	FALBD	A					
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					

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Weed Code					RANAB	SENGL	CAPBP	CARPA	POAAN	
Rating Unit					%control	%control	%control	%control	%control	
Rating Date					16/Apr/2004	16/Apr/2004	16/Apr/2004	16/Apr/2004	16/Apr/2004	
Crop Stage					NA	NA	NA	NA	NA	
Crop Stage Scale										
Weed Stage					4-6"	4-8"	6"	cotyledo	2-4"	
Weed Density, Unit					2-3 FT2	3-5 FT2	1-2 FT2	9-15FT2	4-6 FT2	
Assessed By					Reece	Reece	Reece	Reece	Reece	
Trt-Eval Interval					14 DA-B					
# Subsamples, Dec.					0	0	0	0	0	
Trt	Treatment	Rate	Rate Unit	Grow Stg	Appl Code	1	2	3	4	5
9	Express	0.0155	lb ai/a	FALBD	A	100 a	100 a	100 a	93 a	58 b
	2,4-D Ester	0.5	lb ai/a	FALBD	A					
	Crop Oil Conc			FALBD	A					
	AMS			FALBD	A					
10	Roundup Weathermax	0.77	lb ai/a	FALBD	A	98 a	100 a	100 a	95 a	99 a
	2,4-D Ester	0.5	lb ai/a	FALBD	A					
	AMS			FALBD	A					
11	Sencor 75DF	0.234	lb ai/a	FALBD	A	100 a	100 a	100 a	98 a	97 a
	Python	0.05	lb ai/a	FALBD	A					
	2,4-D Ester	0.5	lb ai/a	FALBD	A					
	AMS			FALBD	A					
12	Callisto	0.094	lb ai/a	FALBD	A	100 a	100 a	100 a	99 a	55 b
	2,4-D Ester	0.5	lb ai/a	FALBD	A					
	Crop Oil Conc			FALBD	A					
	AMS			FALBD	A					
LSD (P=.05)					4.3	3.6	2.1	4.4	10.9	
Standard Deviation					3.0	2.5	1.4	3.0	7.5	
CV					3.01	2.49	1.45	3.11	8.26	
Grand Mean					98.54	99.06	99.79	97.81	91.06	
Bartlett's X2					1.013	0.0	0.0	3.827	18.158	
P(Bartlett's X2)					0.314	.	.	0.799	0.003*	
Replicate F					1.345	1.000	1.000	3.215	1.062	
Replicate Prob(F)					0.2765	0.4051	0.4051	0.0353	0.3785	
Treatment F					8.525	6.943	1.000	2.477	19.767	
Treatment Prob(F)					0.0001	0.0001	0.4671	0.0217	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.

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Weed Code					CERVU	ERICA	RANAB	CAPBP	CARPA
Rating Unit					%control	%control	%control	%control	%control
Rating Date					16/Apr/2004	16/Apr/2004	28/Apr/2004	28/Apr/2004	28/Apr/2004
Crop Stage					NA	NA	NA	NA	NA
Crop Stage Scale									
Weed Stage					<1"	<0.5"	4-9"	0.5-2"	0.5-2"
Weed Density, Unit					<1 FT2	<1 FT2	1-4 FT2	5 FT2	9 FT2
Assessed By					Reece	Reece	Bill & Reece	Bill & Reece	Bill & Reece
Trt-Eval Interval					14 DA-B	14 DA-B	26 DA-B	26 DA-B	26 DA-B
# Subsamples, Dec.					0	0	0	0	0
Trt Treatment	Rate	Rate Unit	Grow Stg	Appl Code	6	7	8	9	10
No. Name									
1 Basis	0.0234	lb ai/a	SPRING B	B	96 b	100 a	100 a	100 a	100 a
Atrazine		1 lb ai/a	SPRING B	B					
Princep		1 lb ai/a	SPRING B	B					
2,4-D Ester	0.5	lb ae/a	SPRING B	B					
Crop Oil Conc			SPRING B	B					
AMS			SPRING B	B					
2 Princep		1 lb ai/a	FALBD	A	100 a	100 a	100 a	100 a	100 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
AMS			FALBD	A					
Lumax	2.47	lb ai/a	SPRING B	B					
Atrazine		1 lb ai/a	SPRING B	B					
Crop Oil Conc			SPRING B	B					
AMS			SPRING B	B					
3 Touchdown Total	0.586	lb ai/a	FALBD	A	100 a	100 a	100 a	100 a	100 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
AMS			FALBD	A					
Lumax	2.47	lb ai/a	SPRING B	B					
Atrazine		1 lb ai/a	SPRING B	B					
Crop Oil Conc			SPRING B	B					
AMS			SPRING B	B					
4 Sencor 75DF	0.47	lb ai/a	FALBD	A	100 a	100 a	98 a	86 a	64 a
2,4-D Ester		1 lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
Equip	0.03	lb ai/a	6" corn	C					
Atrazine		1 lb ai/a	6" corn	C					
MSO			6" corn	C					
UAN (28%)			6" corn	C					
5 Axiom	0.765	lb ai/a	FALBD	A	100 a	94 a	97 a	68 a	63 a
2,4-D Ester		1 lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
Equip	0.03	lb ai/a	6" corn	C					
Atrazine		1 lb ai/a	6" corn	C					
MSO			6" corn	C					
UAN (28%)			6" corn	C					
6 Basis	0.0234	lb ai/a	FALBD	A	100 a	99 a	100 a	100 a	100 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
7 Princep		1 lb ai/a	FALBD	A	100 a	99 a	100 a	100 a	100 a
Basis	0.0155	lb ai/a	FALBD	A					
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
8 Express	0.0047	lb ai/a	FALBD	A	100 a	100 a	100 a	100 a	100 a
Basis	0.0155	lb ai/a	FALBD	A					
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
9 Express	0.0155	lb ai/a	FALBD	A	100 a	96 a	98 a	73 a	60 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					

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Weed Code					CERVU	ERICA	RANAB	CAPBP	CARPA
Rating Unit					%control	%control	%control	%control	%control
Rating Date					16/Apr/2004	16/Apr/2004	28/Apr/2004	28/Apr/2004	28/Apr/2004
Crop Stage					NA	NA	NA	NA	NA
Crop Stage Scale									
Weed Stage					<1"	<0.5"	4-9"	0.5-2"	0.5-2"
Weed Density, Unit					<1 FT2	<1 FT2	1-4 FT2	5 FT2	9 FT2
Assessed By					Reece	Reece	Bill & Reece	Bill & Reece	Bill & Reece
Trt-Eval Interval					14 DA-B	14 DA-B	26 DA-B	26 DA-B	26 DA-B
# Subsamples, Dec.					0	0	0	0	0
Trt Treatment	Rate	Rate Unit	Grow Stg	Appl Code					
No. Name					6	7	8	9	10
10 Roundup Weathermax	0.77	lb ai/a	FALBD	A	100 a	96 a	95 a	60 a	49 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
AMS			FALBD	A					
11 Sencor 75DF	0.234	lb ai/a	FALBD	A	100 a	100 a	100 a	99 a	87 a
Python	0.05	lb ai/a	FALBD	A					
2,4-D Ester	0.5	lb ai/a	FALBD	A					
AMS			FALBD	A					
12 Callisto	0.094	lb ai/a	FALBD	A	100 a	99 a	93 a	91 a	86 a
2,4-D Ester	0.5	lb ai/a	FALBD	A					
Crop Oil Conc			FALBD	A					
AMS			FALBD	A					
LSD (P=.05)					2.0	4.9	4.7	27.1	29.9
Standard Deviation					1.4	3.4	3.3	18.8	20.7
CV					1.39	3.43	3.32	20.96	24.63
Grand Mean					99.69	98.54	98.29	89.58	83.96
Bartlett's X2					0.0	9.168	20.075	52.028	21.604
P(Bartlett's X2)					.	0.103	0.001*	0.001*	0.001*
Replicate F					1.000	2.492	0.780	3.750	2.776
Replicate Prob(F)					0.4051	0.0773	0.5138	0.0201	0.0567
Treatment F					2.455	1.475	2.384	2.466	3.573
Treatment Prob(F)					0.0228	0.1878	0.0266	0.0223	0.0022

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					VERAR	POAAN	ERICA	
Rating Unit					%control	%control	%control	
Rating Date					28/Apr/2004	28/Apr/2004	3/Jun/2004	
Crop Stage					NA	NA	V5-V6	
Crop Stage Scale							12-14"	
Weed Stage					4"	5"	2-6"	
Weed Density, Unit					3 FT2	5 FT2	18 FT2	
Assessed By					Bill & Reece	Bill & Reece	Bill & Reece	
Trt-Eval Interval					26 DA-B	26 DA-B	62 DA-B	
# Subsamples, Dec.					0	0	0	
Trt	Treatment	Rate	Rate Unit	Grow Stg	Appl Code			
No.	Name					11	12	
1	Basis	0.0234	lb ai/a	SPRING	B	100 a	100 a	97 a
	Atrazine		1 lb ai/a	SPRING	B			
	Princep		1 lb ai/a	SPRING	B			
	2,4-D Ester	0.5	lb ae/a	SPRING	B			
	Crop Oil Conc			SPRING	B			
	AMS			SPRING	B			
2	Princep		1 lb ai/a	FALBD	A	100 a	100 a	99 a
	2,4-D Ester	0.5	lb ai/a	FALBD	A			
	AMS			FALBD	A			
	Lumax	2.47	lb ai/a	SPRING	B			
	Atrazine		1 lb ai/a	SPRING	B			
	Crop Oil Conc			SPRING	B			
	AMS			SPRING	B			
3	Touchdown Total	0.586	lb ai/a	FALBD	A	100 a	100 a	99 a
	2,4-D Ester	0.5	lb ai/a	FALBD	A			
	AMS			FALBD	A			
	Lumax	2.47	lb ai/a	SPRING	B			
	Atrazine		1 lb ai/a	SPRING	B			
	Crop Oil Conc			SPRING	B			
	AMS			SPRING	B			
4	Sencor 75DF	0.47	lb ai/a	FALBD	A	85 a	95 a	44 bcd
	2,4-D Ester		1 lb ai/a	FALBD	A			
	Crop Oil Conc			FALBD	A			
	AMS			FALBD	A			
	Equip	0.03	lb ai/a	6" corn	C			
	Atrazine		1 lb ai/a	6" corn	C			
	MSO			6" corn	C			
	UAN (28%)			6" corn	C			
5	Axiom	0.765	lb ai/a	FALBD	A	94 a	100 a	13 d
	2,4-D Ester		1 lb ai/a	FALBD	A			
	Crop Oil Conc			FALBD	A			
	AMS			FALBD	A			
	Equip	0.03	lb ai/a	6" corn	C			
	Atrazine		1 lb ai/a	6" corn	C			
	MSO			6" corn	C			
	UAN (28%)			6" corn	C			
6	Basis	0.0234	lb ai/a	FALBD	A	86 a	100 a	75 ab
	2,4-D Ester	0.5	lb ai/a	FALBD	A			
	Crop Oil Conc			FALBD	A			
	AMS			FALBD	A			
7	Princep		1 lb ai/a	FALBD	A	99 a	100 a	80 ab
	Basis	0.0155	lb ai/a	FALBD	A			
	2,4-D Ester	0.5	lb ai/a	FALBD	A			
	Crop Oil Conc			FALBD	A			
	AMS			FALBD	A			
8	Express	0.0047	lb ai/a	FALBD	A	74 a	100 a	55 bc
	Basis	0.0155	lb ai/a	FALBD	A			
	2,4-D Ester	0.5	lb ai/a	FALBD	A			
	Crop Oil Conc			FALBD	A			
	AMS			FALBD	A			
9	Express	0.0155	lb ai/a	FALBD	A	82 a	19 b	26 cd
	2,4-D Ester	0.5	lb ai/a	FALBD	A			
	Crop Oil Conc			FALBD	A			
	AMS			FALBD	A			

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Weed Code					VERAR	POAAN	ERICA
Rating Unit					%control	%control	%control
Rating Date					28/Apr/2004	28/Apr/2004	3/Jun/2004
Crop Stage					NA	NA	V5-V6
Crop Stage Scale							12-14"
Weed Stage					4"	5"	2-6"
Weed Density, Unit					3 FT2	5 FT2	18 FT2
Assessed By					Bill & Reece	Bill & Reece	Bill & Reece
Trt-Eval Interval					26 DA-B	26 DA-B	62 DA-B
# Subsamples, Dec.					0	0	0
Trt Treatment		Rate	Unit	Grow Stg	Appl Code		
No. Name						11	12
							13
10 Roundup Weathermax	0.77	lb ai/a	FALBD	A	51 b	98 a	25 cd
2,4-D Ester	0.5	lb ai/a	FALBD	A			
AMS			FALBD	A			
11 Sencor 75DF	0.234	lb ai/a	FALBD	A	94 a	73 a	53 bc
Python	0.05	lb ai/a	FALBD	A			
2,4-D Ester	0.5	lb ai/a	FALBD	A			
AMS			FALBD	A			
12 Callisto	0.094	lb ai/a	FALBD	A	92 a	11 b	46 bcd
2,4-D Ester	0.5	lb ai/a	FALBD	A			
Crop Oil Conc			FALBD	A			
AMS			FALBD	A			
LSD (P=.05)					18.7	17.6	26.9
Standard Deviation					13.0	12.2	18.7
CV					14.75	14.73	31.51
Grand Mean					88.02	82.98	59.23
Bartlett's X2					20.575	36.393	55.224
P(Bartlett's X2)					0.008*	0.001*	0.001*
Replicate F					0.939	0.883	1.850
Replicate Prob(F)					0.4329	0.4597	0.1574
Treatment F					4.832	28.699	10.596
Treatment Prob(F)					0.0002	0.0001	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.