

DATA EVALUATION RECORD
§ 71-4 -- AVIAN REPRODUCTION TEST

- 1. **CHEMICAL:** Metalaxyl PC Code No.: 113501
- 2. **TEST MATERIAL:** Metalaxyl Technical Purity: 88.7% based on analysis

3. **CITATION:**

Author: Carol A. Pedersen
Title: Avian Reproductive Toxicity Study with Metalaxyl Technical in Mallard Ducks

Study Completion Date: February 11, 1999

Laboratory: Bio-life[®] Associates, Ltd., Neillsville, WI

Sponsor: Nation's Ag, L.L.C., Isle of Palms, SC

Laboratory Report ID: 164-004-08

MRID No.: 447617-01

DP Barcode: D254022 and 253399

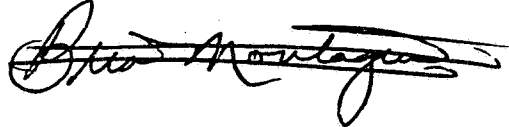
- 4. **REVIEWED BY:** Max Feken, M.S., Environmental Toxicologist, Golder Associates, Inc.

Signature:  Date: 4/14/99

APPROVED BY: Pim Kosalwat, Ph.D, Senior Scientist, Golder Associates, Inc.

Signature: P. Kosalwat Date: 4/14/99

- 5. **APPROVED BY:**

Signature:  Date: ~~10/26/99~~

6. **STUDY PARAMETERS:**

Scientific Name of Test Organism: *Anas platyrhynchos*

Age of Test Organisms at Test Initiation: 18 weeks

Definitive Study Duration: 23 weeks

- 7. **CONCLUSIONS:** This study is scientifically sound but does not meet the guideline requirements for an avian reproduction study using mallard ducks. When compared to the controls, there were no significant treatment related effects on any of the parameters measured at any concentrations tested (i.e., 100, 300, and 900 ppm ai). It is not stated whether the test was conducted with the highest dosage level at or above the maximum field residue level (i.e., the expected concentration on avian food items when treated at recommended label rates).

Results Synopsis

Most sensitive endpoints: None were affected

NOEC: 900 ppm ai

LOEC: Not determined

8. ADEQUACY OF THE STUDY:

A. Classification: Core for use rates and scenarios that will not exceed a predicted concentration of 900 ppm on vegetative food sources.

B. Rationale: None of the parameters were affected at any test concentrations; however, it is not stated whether the test was conducted with the highest dosage level at or above the maximum field residue level (i.e., the expected concentration on avian food items when treated at recommended label rates).

C. Repairability: Not necessary if the expected maximum field residue level is 900 ppm ai or lower.

9. GUIDELINE DEVIATIONS:

1. Neither the highest test concentration showed any significant effect nor the maximum field residue level was reported.
2. The number of eggshell thickness measurements per egg was not reported.

10. SUBMISSION PURPOSE:

11. MATERIALS AND METHODS:

A. Test Organisms

Guideline Criteria	Reported Information
<p>Species A wild waterfowl species, preferably the mallard (<i>Anas platyrhynchos</i>), or an upland game species, preferably the northern bobwhite (<i>Colinus virginianus</i>)</p>	<p>Mallard (<i>Anas platyrhynchos</i>)</p>

2

Guideline Criteria	Reported Information
<u>Supplier</u> All birds should be from the same source.	Whistling Wings, Inc. Hanover, Illinois
Were birds pen-reared?	Yes
Were birds phenotypically indistinguishable from wild birds?	Yes
<u>Health observation period</u> 2 to 6 weeks.	7 weeks
Were birds healthy and without excessive mortality prior to the test?	Yes

B. Test System

Guideline Criteria	Reported Information
Were pens for adult birds of adequate size and designed to conform to good husbandry practices?	Yes
Were pens for chicks of adequate size and designed to conform to good husbandry practices?	Yes
Were pens constructed of a nonbinding material such as galvanized or stainless steel?	Yes
Was adequate ventilation provided?	Yes
<u>Temperature</u> Approx. 21°C (70°F)	Average: 23°C
<u>Relative humidity</u> Approx. 55%	Average: 63%
<u>Lighting</u> <u>First 8 weeks:</u> 7 h per day. <u>Thereafter:</u> 16-17 h per day. At least 6 footcandles at bird level.	First 8 weeks: 7 h per day. Thereafter: 17 h per day. Mean illumination: 9.8 foot candles

Guideline Criteria	Reported Information
<p><u>Diet</u> A commercial breeder feed (or its equivalent) that is appropriate for the test species.</p>	<p>Adults received Purina Layena: 28% protein minimum 2.5% fat minimum 7% fiber maximum 2.4 - 3.4% calcium Chicks received Purina Startena.</p>
<p><u>Preparation of test diet</u> A premix containing the test substance should be mechanically mixed with basal diet. If an evaporative vehicle is used, it must be completely evaporated prior to feeding.</p>	<p>Test diets were prepared by mixing the test compound, acetone, and stock diet to form premix. Additional stock diet was added to the premix to form the final diet.</p>
<p>Was the premix stored under conditions which maintain stability?</p>	<p>Yes, the diets were kept frozen at all times, except when being fed to the birds.</p>
<p>Was the diet analyzed to verify homogeneity and stability of the test substance?</p>	<p>Yes</p>
<p><u>Replenishment of feed</u></p>	<p>Adult diets were prepared weekly. Treated diets was offered at the beginning of each week and was completely replaced for each pen at mid-week.</p> <p>In addition, feed and water were provided <i>ad libitum</i> for the adults and offspring.</p>

C. Test Design

Guideline Criteria	Reported Information
<p><u>Nominal concentrations</u> At least two concentrations other than the control are required; three or more are strongly recommended. The highest test concentrations should show a significant effect or be at or above the maximum field residue level.</p>	<p>Nominal concentrations: Control, 100, 300, and 900 ppm ai</p> <p>Max. residue level: Not reported</p>
<p><u>Control</u> Vehicle control.</p>	<p>Vehicle control</p>
<p><u>Vehicle</u> Corn oil or other appropriate vehicle.</p>	<p>Acetone</p>
<p><u>Vehicle amount (% of diet by weight)</u> Not more than 2%.</p>	<p>Amount of acetone was 1% of final diet.</p>
<p><u>Number of birds per pen</u> One male and 1 female per pen is strongly recommended. For quail, 1 male and 2 females may be acceptable. For ducks, 2 males and 5 females may be acceptable.</p>	<p>1 male and 1 female per pen</p>
<p><u>Number of pens per group</u> At least 5 replicate pens are required for mallards housed in groups of 7. For other arrangements, at least 12 pens are required, but considerably more may be needed if birds are kept in pairs.</p>	<p>16 pens per group</p>
<p><u>Pre-laying exposure duration</u> At least 10 weeks prior to the onset of egg-laying.</p>	<p>10 weeks</p>
<p><u>Exposure duration with egg-laying</u> At least 10 weeks.</p>	<p>13 weeks</p>

Guideline Criteria	Reported Information
<u>Withdrawal period</u> If reduced reproduction is evident, a withdrawal period of up to 3 weeks may be added to the test phase.	N/A

D. Egg Collection and Incubation

Guideline Criteria	Reported Information
Were eggs collected daily?	Yes
<u>Egg storage temperature</u> Approximately 16°C (61°F)	Range: 17-19°C
<u>Egg storage humidity</u> Approximately 65%	Average: 63%
Were eggs set weekly?	Yes
Were eggs candled for cracks prior to being set for incubation on Day 0?	Yes
<u>Candling for fertility</u> Quail: approx. Day 11 Ducks: approx. Day 14	Eggs were candled on Day 14 for fertility and on day 21 for embryo viability.
<u>Transfer of eggs to hatcher</u> Bobwhite: Day 21 Mallard: Day 23	Eggs were transferred on Day 24.
<u>Hatching temperature</u> 39°C (102°F) is recommended	Range: 34.2 - 37.8°C
<u>Hatching humidity</u> 70% is recommended	Range: 75-77%
<u>Day after egg set that chicks were removed and counted</u> Bobwhite: Day 24 Mallard: Day 27	Chicks were removed and counted on Days 27 and 28.

E. Eggshell Thickness Measurement

Guideline Criteria	Reported Information
Collection Schedule At least once every two weeks (Week 1, 3, 5, 7 and 9).	Eggs collected on the first day of Weeks 11, 13, 15, 17, 19, 21, and 23 were used for eggshell thickness measurement.
Were shells opened, washed, and air dry for at least 48 hours before measuring?	Yes, shells were air dried for at least 48 hours.
Measurement 3-4 measurements per eggs to the nearest 0.01 mm.	The number of measurements per egg was not reported. Measurements were recorded to the nearest 0.01 mm.

12. REPORTED RESULTS:

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Did diet analysis verify the concentrations of test material?	Test samples were 67.0 to 121% of the nominal concentrations. This was comparable to QC samples analyzed concurrently with test samples (84.3 to 114%).

Guideline Criteria	Reported Information
<p>Did diet analysis show that the test substance was stable and homogeneous?</p>	<p>Test samples appeared to degrade slightly at room temperature over time (samples were taken at Day 9). Concentrations of metalaxyl measured in test samples ranged from 46.0 to 58.7% of nominal concentrations compared to 86.6 to 99.8% for QC samples analyzed concurrently with the test samples. Consequently, treated diet was offered at the beginning of each test week and was completely replaced for each pen at mid-week for each test week. Diets were kept frozen at all times, except when being fed to the birds.</p>
<p>Were body weights of adults reported for test initiation and biweekly up to week 8 or the onset of egg laying?</p>	<p>Yes</p>
<p>Was average food consumption of adults reported at least biweekly?</p>	<p>Yes</p>
<p>Reproductive Endpoints The following endpoints should be reported:</p> <ul style="list-style-type: none"> • Eggs laid • Eggs cracked • Eggs set • Viable embryos • Live 3-week embryos • Normal hatchlings • 14-day-old survivors • Weights of 14-day-old survivors • Egg shell thickness • Total food consumption • Initial and final body weights, by sex 	<p>All endpoints listed at left plus hatchling weight.</p>

Guideline Criteria	Reported Information
Were data reported by pen for all endpoints?	Yes

Significant Results: There were no overt signs of toxicity or treatment related mortalities at any test concentration (100, 300, and 900 ppm ai). When compared to the control, there were no significant reductions in adult body weight or feed consumption. There was a significant decrease in the percentage of normal hatchlings of viable embryos in the 900 ppm treatment group when compared to the control. The author did not consider this decrease to be treatment related "as it was the only negative finding for any of the test groups, for the entire study." "Overall hatchability based on eggs set ranged from 53% to 72% in the test groups, compared to 64% in the control group."

13. VERIFIED STATISTICAL RESULTS:**Means of Endpoints**

Endpoint	Control	100 ppm	300 ppm	900 ppm
Eggs laid (EL)	57 (22)	56 (19)	54 (19)	61 (14)
Eggs cracked (EC)	1.5 (1.9)	1.9 (2.9)	1.7 (1.4)	0.7 (1.3)
Eggs set (ES)	51 (20)	49 (17)	49 (18)	55 (12)
Viable embryos (VE)	40 (25)	36 (25)	45 (17)	39 (21)
Live 3-wk embryos (LE)	36 (23)	33 (23)	41 (15)	34 (20)
Normal hatchlings (NH)	33 (22)	29 (21)	35 (14)	28 (20)
14-day-old survivors (HS)	33 (21)	28 (21)	34 (15)	28 (20)
Egg shell thickness (THICK)	0.401 (0.020)	0.414 (0.025)	0.410 (0.018)	0.407 (0.022)
Hatchling weight (HATWT)	39.0 (2.5)	38.3 (1.5)	38.1 (3.4)	39.0 (3.8)
14-day-old survivor weight (SURVWT)	288 (16)	285 (21)	286 (25)	286 (21)
Mean food consumption (FOOD)	118 (21)	129 (11)	123 (21)	135 (26)
Final weight of males (POSTM)	1301 (144)	1304 (91)	1300 (112)	1277 (70)
Final weight of females (POSTF)	1230 (122)	1260 (96)	1236 (94)	1222 (82)

Statistically Significant Endpoints

Endpoint	Statistical Method	Levels at which Effect Was Observed
Normal hatchlings/live 3-week embryos	Dunnett's	100 ppm ai*

*Not considered treatment related; value (78.8%) was equivalent to the mean (\pm SE) historical control ($76.9 \pm 3.51\%$) for this parameter.

14. **REVIEWER'S COMMENTS:** When compared to the controls, there were no significant treatment related effects on any of the parameters measured at any concentrations tested (i.e., 100, 300, and 900 ppm ai). If the highest dosage level (900 ppm ai) is at or above the maximum field residue level predicted for supported uses then this study is considered acceptable for avian reproduction testing with mallard duck.

15:14 Thursday, April 1, 1999

15:14 Thursday, April 1, 1999

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD

15:14 Thursday, April 1, 1999

OBS	LEVEL	EL	EC	ES	VE	LE	NH	HS	THICK	HATWT
1	CONTROL	29	0	27	21	20	17	17	0.402	35.51
2	CONTROL	41	0	38	0	0	0	0	0.412	39.87
3	CONTROL	79	4	70	69	64	62	62	0.417	38.13
4	CONTROL	57	0	51	44	36	34	34	0.387	40.52
5	CONTROL	42	4	49	48	46	41	41	0.444	41.52
6	CONTROL	87	5	77	76	66	62	62	0.388	41.52
7	CONTROL	0	0	0	0	0	0	0	0.385	41.53
8	CONTROL	37	1	31	17	16	16	16	0.417	42.81
9	CONTROL	65	1	59	51	40	31	31	0.371	39.32
10	CONTROL	65	2	58	36	30	29	29	0.386	35.33
11	CONTROL	73	2	64	62	55	52	51	0.389	41.71
12	CONTROL	79	2	71	0	0	0	0	0.423	35.94
13	CONTROL	68	0	63	59	52	52	52	0.413	38.86
14	CONTROL	47	0	43	43	40	37	36	0.375	36.71
15	CONTROL	65	0	60	58	57	57	57	0.400	38.52
16	CONTROL	65	2	56	48	45	43	42	0.433	40.88
17	TRT1	66	2	59	57	55	45	45	0.407	37.15
18	TRT1	63	10	50	0	0	0	0	0.416	36.81
19	TRT1	71	5	61	56	53	46	46	0.389	38.29
20	TRT1	69	0	64	57	56	53	52	0.404	41.36
21	TRT1	37	0	35	34	31	30	30	0.373	36.76
22	TRT1	63	4	55	42	42	39	39	0.407	38.29
23	TRT1	70	0	64	34	34	33	33	0.395	41.36
24	TRT1	36	0	23	23	22	12	12	0.475	36.76
25	TRT1	25	0	44	3	1	0	0	0.417	36.92
26	TRT1	48	0	70	69	61	46	46	0.419	38.44
27	TRT1	80	4	70	0	0	0	0	0.420	38.44
28	TRT1	18	0	17	0	0	0	0	0.402	38.44
29	TRT1	66	0	61	60	51	47	45	0.407	38.17
30	TRT1	77	0	72	68	67	60	60	0.407	38.17

OBS	SURVWT	FOOD	PREM	POSTM	PREF	POSTF
1	274.56	114.8	1316.1	1568.1	1123.6	1184.5
2	274.40	103.9	1204.9	1241.5	953.9	1079.4
3	269.36	139.1	1566.0	1415.5	1010.9	1124.5
4	288.03	116.2	1188.3	1202.9	1106.0	1238.6
5	303.81	112.3	1362.1	1425.2	1128.5	1193.3
6	301.37	103.0	1166.9	1116.9	1032.3	1233.2
7	290.39	94.1	1288.2	1541.7	1279.7	1560.7
8	280.69	114.6	1231.6	1202.0	1077.3	1181.8
9	271.21	178.1	1132.7	1026.9	1093.5	1294.7
10	318.45	116.6	1199.6	1277.1	1030.9	1359.6
11	270.48	110.4	1278.9	1247.6	1030.9	1156.8
12	302.73	134.4	1314.5	1380.5	932.9	1148.6
13	307.10	94.2	1320.6	1382.4	1217.3	1358.7
14	287.3	112.2	1190.8	1301.6	1040.2	1077.8
15	302.33	114.4	1287.3	1250.2	1085.9	1206.3
16	307.10	128.8	1252.2	1308.4	1061.6	1323.5
17	307.86	114.5	1386.4	1446.2	1133.4	1227.3
18	293.45	132.5	1285.5	1402.6	1057.6	1248.8
19	270.30	122.8	1429.8	1355.9	1072.3	1354.6
20	263.49	147.1	1391.1	1427.4	1263.6	1240.1
21	275.70	121.3	1109.7	1205.8	978.7	1158.6
22	269.17	130.0	1051.9	1241.3	1008.5	1412.6
23	295.23	119.9	1223.4	1247.2	1134.1	1080.4
24	265.73	126.5	1364.8	1302.8	945.9	1316.7
25	267.12	110.3	1366.9	1405.7	1134.1	1257.5
26	285.86	128.0	1200.1	1348.9	1203.5	1086.4
27	285.66	143.7	1200.1	1234.3	1065.2	1368.3
28						1266.1
29						
30						

15:14 Thursday, April 1, 1999

15:14 Thursday, April 1, 1999

OBS	SURVWT	FOOD	PREM	POSTM	PREF	POSTF
31	325.44	125.3	1315.1	1263.6	1200.3	1362.3
32	273.86	143.5	1099.7	1335.6	1227.6	1204.6
33	266.94	123.6	1230.6	1234.2	1041.6	1189.2
34	269.26	108.6	1290.1	1401.5	1130.0	1166.5
35	214.39	154.6	1356.0	1316.5	956.1	1043.0
36	290.40	125.1	1265.6	1232.8	1022.9	1223.0
37	314.05	177.2	1256.1	1410.0	1073.6	1260.6
38	304.45	132.1	1256.1	1410.0	1163.7	1357.0
39	282.89	95.6	1336.8	1424.2	1177.5	1253.6
40	319.93	117.6	1055.8	1123.2	1148.4	1408.5
41	292.82	112.2	1134.6	1196.4	1099.0	1343.6
42	272.46	112.2	1256.3	1384.8	1041.4	1201.7
43	291.10	105.9	1147.6	1208.9	978.4	1270.0
44	290.56	123.9	1210.3	1126.2	1053.1	1205.1
45	292.64	118.5	1152.5	1250.1	1092.8	1172.1
46	270.93	145.1	1241.5	1481.7	1167.1	1283.3
47	318.16	113.9	1206.9	1339.2	1210.9	1300.2
48	279.55	109.7	1324.5	1414.3	956.4	1106.2
49	242.69	112.9	1270.3	1344.7	1125.9	1174.1
50	268.05	118.1	1251.2	1257.0	1105.1	1409.2
51	269.78	141.3	1100.6	1226.1	1068.0	1147.4
52	309.46	176.0	1304.7	1246.2	1326.5	1261.6
53	276.55	160.2	1217.4	1245.4	981.6	1109.2
54	278.76	100.8	1366.6	1257.9	1035.5	1186.0
55	283.59	141.3	1218.1	1218.1	965.0	1081.5
56	309.64	163.5	1141.0	1146.2	1080.2	1269.4
57	309.05	137.6	1206.1	1433.4	1169.0	1286.3
58	285.86	110.3	1408.7	1242.2	1087.3	1222.2
59	285.66	128.0	1221.8	1382.9	986.5	1174.3
60		97.3	1248.7	1347.6	993.6	1177.0

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD

OBS	LEVEL	EL	EC	ES	VE	LE	NH	HS	THICK	HATWT
61	TRT3	63	0	58	13	6	5	5	0.411	36.88
62	TRT3	66	0	61	0	0	0	0	0.392	
63	TRT3	35	0	32	30	27	21	20	0.432	45.31
64	TRT3	46	2	41	38	34	32	31	0.419	46.41

OBS	SURVWT	FOOD	PREM	POSTM	PREF	POSTF
61	260.60	118.2	1367.6	1254.3	1126.4	1224.0
62		180.5	1162.6	1250.8	1152.5	1289.5
63	308.11	152.7	1126.6	1306.5	1323.0	1228.0
64	308.88	115.5	1382.7	1268.3	1115.1	1305.8

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
15:14 Thursday, April 1, 1999

CONTROL		TRT1		TRT2		TRT3	
MEAN	MEAN	MEAN	MEAN	MEAN	MEAN	MEAN	MEAN
56.81	55.50	54.13	61.13				
	1.50	1.69	0.69				
51.06	49.38	48.75	55.13				
39.50	35.88	45.44	38.94				
35.88	33.13	41.06	33.63				
33.31	28.63	34.69	28.00				
33.13	28.44	34.31	27.63				
90.04	89.49	89.53	90.29				
97.74	96.96	96.44	98.89				
75.70	69.68	93.74	73.29				
90.93	87.74	91.05	84.10				
57.51	49.50	64.31	47.09				
63.88	54.56	71.95	52.78				
92.64	78.75	83.83	80.62				
63.50	54.26	70.72	51.86				
99.47	99.49	97.97	98.51				
0.40	0.41	0.41	0.41				
39.04	38.25	38.13	38.98				
288.29	284.54	285.66	285.55				
118.40	128.99	123.48	134.64				
1301.34	1303.73	1299.71	1276.76				
1229.58	1259.88	1236.48	1221.59				

LEVEL

CONTROL

TRT3

TRT2

TRT1

MEAN

MEAN

MEAN

EL 56.81 55.50 54.13 61.13

EC 1.50 1.94 1.69 0.69

ES 51.06 49.38 48.75 55.13

VE 39.50 35.88 45.44 38.94

LE 35.88 33.13 41.06 33.63

NH 33.31 28.63 34.69 28.00

HS 33.13 28.44 34.31 27.63

ES/EL (%) 90.04 89.49 89.53 90.29

(EL-EC)/EL (%) 97.74 96.96 96.44 98.89

VE/ES (%) 75.70 69.68 93.74 73.29

LE/VE (%) 90.93 87.74 91.05 84.10

NH/EL (%) 57.51 49.50 64.31 47.09

NH/ES (%) 63.88 54.56 71.95 52.78

NH/LE (%) 92.64 78.75 83.83 80.62

HS/ES (%) 63.50 54.26 70.72 51.86

HS/NH (%) 99.47 99.49 97.97 98.51

THICK 0.40 0.41 0.41 0.41

HATWT 39.04 38.25 38.13 38.98

SURVWT 288.29 284.54 285.66 285.55

FOOD 118.40 128.99 123.48 134.64

POSTM 1301.34 1303.73 1299.71 1276.76

POSTF 1229.58 1259.88 1236.48 1221.59

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD

13

LEVEL=CONTROL

Variable	Label	N	Mean	Std Dev	CV
EL		16	56.813	22.082	38.869
EC		16	1.500	1.932	128.812
ES		16	51.063	19.635	38.453
VE		16	39.500	24.876	62.976
LE		16	35.875	22.815	63.595
NH		16	33.313	21.589	64.808
HS		16	33.125	21.494	64.887
THICK		15	0.401	0.020	5.026
HATWT		13	39.043	2.547	6.523
SURVWT		13	288.293	16.171	5.609
FOOD		16	118.400	20.618	17.414
PREM		16	1273.800	109.164	8.570
POSTM		16	1301.338	144.295	11.088
PREF		16	1076.525	88.054	8.179
POSTF		16	1229.581	121.564	9.887
ES_EL		15	90.035	2.851	3.166
NH_EL		15	57.515	26.932	46.828
ENC_EL	(EL-EC)/EL (%)	15	97.745	2.634	2.694
VE_ES		15	75.703	33.554	44.323
NH_ES		15	63.878	29.515	46.206
HS_ES		15	63.500	29.279	46.109
LE_VE		13	90.933	6.603	7.262
NH_LE		13	92.638	6.323	6.826
HS_NH		13	99.465	1.029	1.034

LEVEL=TRT1

Variable	Label	N	Mean	Std Dev	CV
EL		16	55.500	18.755	33.792
EC		16	1.938	2.909	150.144
ES		16	49.375	16.697	33.816
VE		16	35.875	24.730	68.934
LE		16	33.125	23.489	70.909
NH		16	28.625	20.988	73.322
HS		16	28.438	20.801	73.145
THICK		16	0.414	0.025	6.023
HATWT		12	38.251	1.539	4.022
SURVWT		12	284.538	20.562	7.227
FOOD		16	128.988	10.616	8.230
PREM		16	1270.988	117.279	9.227
POSTM		16	1303.731	91.046	6.984
PREF		16	1115.925	107.172	9.604
POSTF		16	1259.875	96.316	7.645
ES_EL		16	89.488	6.000	6.705
NH_EL		16	49.498	32.643	65.949
ENC_EL	(EL-EC)/EL (%)	16	96.959	4.589	4.733
VE_ES		16	69.683	41.475	59.519
NH_ES		16	54.565	35.066	64.266
HS_ES		16	54.262	34.853	64.230
LE_VE		13	87.742	18.309	20.867
NH_LE		13	78.750	26.448	33.585
HS_NH		12	99.488	1.298	1.304

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
15:14 Thursday, April 1, 1999

LEVEL=TRT2

Variable Label	N	Mean	Std Dev	CV
EL	16	54.125	19.359	35.768
EC	16	1.688	1.401	83.016
ES	16	48.750	18.332	37.604
VE	16	45.438	17.170	37.787
LE	16	41.063	14.722	35.852
NH	16	34.688	14.282	41.172
HS	16	34.313	14.623	42.617
TRICK	16	0.410	0.018	4.274
HATWT	16	38.134	3.426	8.985
SURVMT	16	285.658	25.431	8.903
FOOD	16	123.481	20.501	16.603
PREM	16	1232.581	80.140	6.502
POSTM	16	1299.713	111.684	8.593
PREF	16	1082.056	80.336	7.424
POSTF	16	1236.475	93.774	7.584
ES/EL (%)	16	89.526	4.503	5.029
NH/EL (%)	16	64.305	13.537	21.051
ENC_EL	16	96.439	3.550	3.681
VE/ES (%)	16	93.735	6.934	7.397
NH/ES (%)	16	71.949	15.178	21.096
HS/ES (%)	16	70.716	16.222	22.940
LE/VE (%)	16	91.047	5.665	6.222
NH/LE (%)	16	83.833	12.858	15.337
HS/NH (%)	16	97.970	4.511	4.604

----- LEVEL=TRT3 -----

Variable Label	N	Mean	Std Dev	CV
EL	16	61.125	13.594	22.239
EC	16	1.250	1.250	181.818
ES	16	55.125	12.473	22.627
VE	16	38.938	21.468	55.134
LE	16	33.625	20.096	59.765
NH	16	28.000	19.555	69.839
HS	16	27.625	19.500	70.588
THICK	16	0.407	0.022	5.417
HATWT	14	38.981	3.826	9.815
SURVMT	14	285.549	21.312	7.464
FOOD	16	134.638	26.182	19.446
PREM	16	1249.669	95.043	7.605
POSTM	16	1276.763	70.433	5.517
PREF	16	1102.575	107.160	9.719
POSTF	16	1221.594	81.865	6.702
ES/EL (%)	16	90.290	4.367	4.837
NH/EL (%)	16	47.086	29.158	61.925
ENC_EL	16	98.888	2.032	2.035
VE/ES (%)	16	73.290	35.172	47.990
NH/ES (%)	16	52.781	33.162	62.829
HS/ES (%)	16	51.862	32.576	62.813
LE/VE (%)	14	84.100	17.311	20.584
NH/LE (%)	14	80.623	16.794	20.831
HS/NH (%)	14	98.510	2.296	2.331

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class Levels Values
LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Coefficients

INTERCEPT 0

LEVEL CONTROL L2
TRT1 L3
TRT2 L4
TRT3 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: EL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	440.29688	146.76563	0.42	0.7396
Error	60	20983.93750	349.73229		
Corrected Total	63	21424.23438			
R-Square		C.V.	Root MSE		EL Mean
		0.020551	32.87208	18.701	56.891

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	440.29688	146.76563	0.42	0.7396

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	EL LSMEAN	Pr > T	HO: LSMEAN(i)=LSMEAN(j)
CONTROL	56.8125000	1	0.8433 0.6858 0.5167
TRT1	55.5000000	2	0.8333 0.8360 0.3983
TRT2	54.1250000	3	0.6858 0.8360 0.2940
TRT3	61.1250000	4	0.5167 0.3983 0.2940

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

14

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: EL

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 349.7323
Critical Value of Studentized Range= 3.737
Minimum Significant Difference= 17.472

comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT3 - CONTROL	-13.159	21.784	4.313	13.159	21.784
TRT3 - TRT1	-11.847	23.097	5.625	18.784	23.097
TRT3 - TRT2	-10.472	24.472	7.000	20.159	24.472
CONTROL - TRT3	-21.784	13.159	-4.313	13.159	18.784
CONTROL - TRT1	-16.159	18.784	1.313	18.784	20.159
CONTROL - TRT2	-14.784	20.159	2.688	11.847	16.097
TRT1 - TRT3	-23.097	11.847	-5.625	16.159	18.847
TRT1 - CONTROL	-18.784	16.159	-1.313	10.472	14.784
TRT1 - TRT2	-16.097	18.847	1.375	14.784	16.097
TRT2 - TRT3	-24.472	10.472	-7.000	14.784	16.097
TRT2 - CONTROL	-20.159	14.784	-2.688	16.097	18.847
TRT2 - TRT1	-18.847	16.097	-1.375		

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnnett's One-tailed T tests for variable: EL

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 349.7323
Critical Value of Dunnnett's T= 2.104
Minimum Significant Difference= 13.911

comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT3 - CONTROL	-9.598	18.223	4.313	18.223	12.598
TRT1 - CONTROL	-15.223	12.598	-1.313	12.598	11.223
TRT2 - CONTROL	-16.598	11.223	-2.688		

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD

15

2. ANALYSIS OF EGGS CRACKED

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
2. ANALYSIS OF EGGS CRACKED

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT 0

LEVEL CONTROL L2
TRT1 L3
TRT2 L4
TRT3 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
2. ANALYSIS OF EGGS CRACKED

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: EC

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	14.046875	4.682292	1.19	0.3207
Error	60	235.812500	3.930208		
Corrected Total	63	249.859375			

R-Square 0.056219 C.V. 1.9825 Root MSE 1.4531

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	14.046875	4.682292	1.19	0.3207

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
2. ANALYSIS OF EGGS CRACKED

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL EC Pr > |T| H0: LSMEAN(i)=LSMEAN(j)

LEVEL Comparison	i/j	1	2	3	4
CONTROL	1.50000000	0.5349	0.7900	0.2510	
TRT1	1.93750000	0.5349	0.7226	0.0796	
TRT2	1.68750000	0.7900	0.7226	0.1588	
TRT3	0.68750000	0.2510	0.0796	0.1588	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: EC

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 3.930208
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 1.8522

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous			Upper Confidence Limit
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	
TRT1 - TRT2	-1.6022	0.2500	2.1022	
TRT1 - CONTROL	-1.4147	0.4375	2.2897	
TRT1 - TRT3	-0.6022	1.2500	3.1022	
TRT2 - TRT1	-2.1022	-0.2500	1.6022	
TRT2 - CONTROL	-1.6647	0.1875	2.0397	
TRT2 - TRT3	-0.8522	1.0000	2.8522	
CONTROL - TRT1	-2.2897	-0.4375	1.4147	
CONTROL - TRT2	-2.0397	-0.1875	1.6647	
CONTROL - TRT3	-1.0397	0.8125	2.6647	
TRT3 - TRT1	-3.1022	-1.2500	0.6022	
TRT3 - TRT2	-2.8522	-1.0000	0.8522	
TRT3 - CONTROL	-2.6647	-0.8125	1.0397	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 2. ANALYSIS OF EGGS CRACKED

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: EC

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 3.930208
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 1.4747

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL	Simultaneous
CONTROL	1.4747
TRT1	1.4747
TRT2	1.4747
TRT3	1.4747

LEVEL Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - CONTROL	-1.0372	0.4375	1.9122
TRT2 - CONTROL	-1.2872	0.1875	1.6622
TRT3 - CONTROL	-2.2872	-0.8125	0.6622

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 3. ANALYSIS OF EGGS SET

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 3. ANALYSIS OF EGGS SET

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4 TRT3 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 3. ANALYSIS OF EGGS SET

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: ES	DF	Sum of Squares	Mean Square	F Value	Pr > F
Source	3	395.17188	131.72396	0.46	0.7142
Model	60	17339.43750	288.99063		
Error	63	17734.60938			
Corrected Total					

R-Square	C.V.	Root MSE	ES Mean
0.022283	33.28181	17.000	51.078

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	395.17188	131.72396	0.46	0.7142

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
3. ANALYSIS OF EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	ES	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
	LSMEAN	i/j	1 2 3 4
CONTROL	51.0625000	1	0.7799 0.7018 0.5017
TRT1	49.3750000	2	0.7799 0.9175 0.3426
TRT2	48.7500000	3	0.7018 0.9175 0.2931
TRT3	55.1250000	4	0.5017 0.3426 0.2931

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
3. ANALYSIS OF EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: ES

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 288.9906
Critical Value of Studentized Range= 3.737
Minimum Significant Difference= 15.882

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT3 - CONTROL	-11.820	4.063	19.945
TRT3 - TRT1	-10.132	5.750	21.632
TRT3 - TRT2	-9.507	6.375	22.257
CONTROL - TRT3	-19.945	-4.063	11.820
CONTROL - TRT1	-14.195	1.688	17.570
CONTROL - TRT2	-13.570	2.313	18.195
TRT1 - TRT3	-21.632	-5.750	10.132
TRT1 - CONTROL	-17.570	-1.688	14.195
TRT1 - TRT2	-15.257	0.625	16.507
TRT2 - TRT3	-22.257	-6.375	9.507
TRT2 - CONTROL	-18.195	-2.313	13.570
TRT2 - TRT1	-16.507	-0.625	15.257

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
3. ANALYSIS OF EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: ES

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 288.9906
Critical Value of Dunnett's T= 2.104
Minimum Significant Difference= 12.645

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT3 - CONTROL	-8.583	4.063	16.708
TRT1 - CONTROL	-14.333	-1.688	10.958
TRT2 - CONTROL	-14.958	-2.313	10.333

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	L2
	L3
	L4
	-L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: VE	DF	Sum of Squares	Mean Square	F Value	Pr > F
Source					
Model	3	767.12500	255.70833	0.52	0.6735
Error	60	29790.62500	496.51042		
Corrected Total	63	30557.75000			

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 4. ANALYSIS OF VIABLE EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnnett's One-tailed T tests for variable: VE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 496.5104
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 16.575

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - CONTROL	-10.637	5.938	5.938	22.512	
TRT3 - CONTROL	-17.137	-0.563	-0.563	16.012	
TRT1 - CONTROL	-20.200	-3.625	-3.625	12.950	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	L2 L3 L4 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Source	DF	Type I SS	Mean Square	F Value	Pr > F	VE Mean
LEVEL	3	767.12500	255.70833	0.52	0.6735	39.938

Source	R-Square	C.V.	Root MSE
LEVEL	0.025104	55.79346	22.283

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 4. ANALYSIS OF VIABLE EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	VE LSMEAN	Pr > T , H0: LSMEAN(i)=LSMEAN(j)	
		i/j	1 2 3 4
CONTROL	39.5000000	1	0.6471 0.4540 0.9433
TRT1	35.8750000	2	0.6471 0.2296 0.6988
TRT2	45.4375000	3	0.4540 0.2296 0.4126
TRT3	38.9375000	4	0.9433 0.6988 0.4126

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 4. ANALYSIS OF VIABLE EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: VE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 496.5104
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 20.818

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - CONTROL	-14.880	5.938	5.938	26.755	
TRT3 - CONTROL	-14.318	6.500	6.500	27.318	
TRT1 - CONTROL	-11.255	9.563	9.563	30.380	
CONTROL - TRT2	-26.755	-5.938	-5.938	14.880	
CONTROL - TRT3	-20.255	0.563	0.563	21.380	
CONTROL - TRT1	-17.193	3.625	3.625	24.443	
TRT3 - TRT2	-27.318	-6.500	-6.500	14.318	
TRT3 - CONTROL	-21.380	-0.563	-0.563	20.255	
TRT1 - CONTROL	-17.755	3.063	3.063	23.880	
TRT2 - TRT1	-30.380	-9.563	-9.563	11.255	
TRT1 - CONTROL	-24.443	-3.625	-3.625	17.193	
TRT1 - TRT3	-23.880	-3.063	-3.063	17.755	

18

Dependent Variable: LE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	632.42188	210.80729	0.50	0.6850
Error	60	25392.18750	423.20313		
Corrected Total	63	26024.60938			

R-Square 0.024301 C.V. 57.26845 Root MSE 20.572 LE Mean 35.922

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	632.42188	210.80729	0.50	0.6850

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	LE	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
	LSMEAN	i/j	1 2 3 4
CONTROL	35.8750000	1	0.7067 0.4785 0.7581
TRT1	33.1250000	2	0.7067 0.2795 0.9454
TRT2	41.0625000	3	0.4785 0.2795 0.3106
TRT3	33.6250000	4	0.7581 0.9454 0.3106

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: LE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 423.2031
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 19.22

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-14.032	5.188	24.407
TRT2 - TRT3	-11.782	7.438	26.657
TRT2 - TRT1	-11.282	7.938	27.157
CONTROL - TRT2	-24.407	-5.188	14.032
CONTROL - TRT3	-16.970	2.250	21.470

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT3 - CONTROL	-26.657	-7.438	11.782
TRT3 - TRT1	-21.470	-2.250	16.970
TRT3 - TRT2	-18.720	0.500	19.720
TRT1 - CONTROL	-27.157	-7.938	11.282
TRT1 - TRT2	-21.970	-2.750	16.470
TRT1 - TRT3	-19.720	-0.500	18.720

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Dunnett's One-tailed T tests for variable: LE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 423.2031
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 15.302

Comparisons significant at the 0.05 level are indicated by '****'.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class Levels Values
 LEVEL 4 CONTROL TRT1 TRT2 TRT3

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL CONTROL	L2
LEVEL TRT1	L3

19

File:44761701.sas Page 17
 L4
 -L2-L3-L4
 METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Dependent Variable: NH

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	535.81250	178.60417	0.48	0.6984
Error	60	22394.62500	373.24375		
Corrected Total	63	22930.43750			

R-Square C.V. Root MSE NH Mean
 0.023367 62.00848 19.320 31.156

Source DF Type I SS Mean Square F Value Pr > F
 LEVEL 3 535.81250 178.60417 0.48 0.6984

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	NH LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	33.3125000	1	0.4952 0.8411 0.4398
TRT1	28.6250000	2	0.3783 0.9274
TRT2	34.6875000	3	0.8411 0.3783
TRT3	28.0000000	4	0.4398 0.9274 0.3315

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Tukey's Studentized Range (HSD) Test for variable: NH

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 373.2438
 Critical Value of Studentized Range= 3.737
 Minimum Significant Differences= 18.05

Comparisons significant at the 0.05 level are indicated by '****'.
 Simultaneous Simultaneous

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Dunnett's One-tailed T tests for variable: NH

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.
 Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 373.2438
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 14.371

Comparisons significant at the 0.05 level are indicated by '****'.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

LEVEL	Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2	- CONTROL	-12.996	1.375	15.746
TRT1	- CONTROL	-19.058	-4.688	9.683
TRT3	- CONTROL	-19.683	-5.313	9.058

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

 15:14 Thursday, April 1, 1999

20

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL
 Coefficients

LEVEL	DF	Sum of Squares	Mean Square	F Value	Pr > F
CONTROL	1	22330.87500	22330.87500	0.48	0.6985
TRT1	3	534.12500	178.04167	0.48	0.6985
TRT2	60	22330.87500	372.18125		
TRT3	63	22865.00000			

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Variable:	HS	C.V.	Root MSE	HS Mean
Level	0.023360	62.48421	19.292	30.875
DF	3	534.12500	178.04167	0.48
Type I SS	60	22330.87500	372.18125	
Mean Square	63	22865.00000		

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

 15:14 Thursday, April 1, 1999

LEVEL	LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	33.1250000	1	0.4946 0.8624 0.4232
TRT1	28.4375000	2	0.4946 0.3925 0.9056
TRT2	34.3125000	3	0.8624 0.3925 0.3308
TRT3	27.6250000	4	0.4232 0.9056 0.3308

To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: HS

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 372.1813
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 18.024

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-16.836	1.188	19.211
TRT1 - TRT1	-12.149	5.875	23.899
TRT2 - TRT3	-11.336	6.688	24.711
CONTROL - TRT2	-19.211	-1.188	16.836
CONTROL - TRT1	-13.336	4.688	22.711
CONTROL - TRT3	-12.524	5.500	23.524
TRT1 - TRT2	-23.899	-5.875	12.149
TRT1 - CONTROL	-22.711	-4.688	13.336
TRT1 - TRT3	-17.211	0.813	18.836
TRT3 - TRT2	-24.711	-6.688	11.336
TRT3 - CONTROL	-23.524	-5.500	12.524
TRT3 - TRT1	-18.836	-0.813	17.211

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: HS

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 372.1813
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 14.35

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-13.163	1.188	15.538
TRT1 - CONTROL	-19.038	-4.688	9.663
TRT3 - CONTROL	-19.850	-5.500	8.850

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 8. ANALYSIS OF EGGS SET/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class Levels Values

2

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.
Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 16.1208
Critical Value of Studentized Range= 3.739

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - CONTROL	-3.4272	3.4272	0.3878	4.2028	4.2028
TRT3 - TRT1	-3.2045	3.2045	0.5484	4.3014	4.3014
TRT3 - TRT2	-3.0812	3.0812	0.6718	4.4248	4.4248
CONTROL - TRT3	-4.2028	4.2028	-0.3878	3.4272	3.4272
CONTROL - TRT1	-3.6544	3.6544	0.1607	3.9757	3.9757
CONTROL - TRT2	-3.5310	3.5310	0.2840	4.0990	4.0990
TRT1 - CONTROL	-4.3014	4.3014	-0.5484	3.2045	3.2045
TRT1 - TRT1	-3.9757	3.9757	-0.1607	3.6544	3.6544
TRT1 - TRT2	-3.6296	3.6296	0.1234	3.8763	3.8763
TRT2 - CONTROL	-4.4248	4.4248	-0.6718	3.0812	3.0812
TRT2 - TRT1	-4.0990	4.0990	-0.2840	3.5310	3.5310
TRT2 - TRT2	-3.8763	3.8763	-0.1234	3.6296	3.6296

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 16.1208
Critical Value of Dunnett's T= 2.101

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - CONTROL	-2.6434	2.6434	0.3878	3.4190	3.4190
TRT1 - CONTROL	-3.1919	3.1919	-0.1607	2.8706	2.8706
TRT2 - CONTROL	-3.3152	3.3152	-0.2840	2.7472	2.7472

Number of observations in data set = 64

NOTE: Due to missing values, only 63 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT	0
EVEL CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	4.0966290	1.3655430	0.08	0.9681
Error	59	951.1271551	16.1207992		
Corrected Total	62	955.2237840			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.004289	5.598720	4.0151	71.714

Source	DF	Type I SS	Mean Square	F Value	Pr > F
EVEL	3	4.0966290	1.3655430	0.08	0.9681

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
8. ANALYSIS OF EGGS SET/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
		i/j	1 2 3 4
CONTROL	71.7285542	1	0.9117 0.8446 0.7891
TRT1	71.5678920	2	0.9117 0.9310 0.7006
TRT2	71.4445190	3	0.8446 0.9310 0.6378
TRT3	72.1163347	4	0.7891 0.7006 0.6378

22

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 63 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect Coefficients

Effect	Coefficients
INTERCEPT	0
LEVEL	L2 L3 L4 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3698.6576	1232.8859	1.76	0.1646
Error	59	41317.9028	700.3034		
Corrected Total	62	45016.5604			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.082162	40.71095	26.463	65.003

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	3698.6576	1232.8859	1.76	0.1646

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:14 Thursday, April 1, 1999

23

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)		
			1	2	3	4
CONTROL	62.5853513	1	0.6713	0.1126	0.8551	
TRT1	58.5289755	2	0.6713	0.0428	0.8057	
TRT2	77.9046102	3	0.1126	0.0428	0.0733	
TRT3	60.8410471	4	0.8551	0.8057	0.0733	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 700.3034
Critical Value of Studentized Range= 3.739

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - CONTROL	-9.825	15.319	15.319	40.464	
TRT2 - TRT3	-7.672	17.064	17.064	41.799	
TRT2 - TRT1	-5.360	19.376	19.376	44.111	
CONTROL - TRT2	-40.464	-15.319	-15.319	9.825	
CONTROL - TRT3	-23.400	-1.744	-1.744	26.889	
CONTROL - TRT1	-21.088	4.056	4.056	29.201	
TRT3 - CONTROL	-41.799	-17.064	-17.064	7.672	
TRT3 - TRT2	-26.889	-1.744	-1.744	23.400	
TRT3 - TRT1	-22.424	2.312	2.312	27.048	
TRT1 - CONTROL	-44.111	-19.376	-19.376	5.360	
TRT1 - TRT2	-29.201	-4.056	-4.056	21.088	
TRT1 - TRT3	-27.048	-2.312	-2.312	22.424	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 700.3034
Critical Value of Dunnett's T= 2.101

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT2 - CONTROL	-4.659	35.298	15.319	-4.659	35.298
- CONTROL	-21.723	18.234	-1.744	-21.723	18.234
TRT1 - CONTROL	-24.035	15.922	-4.056	-24.035	15.922

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 56 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	L2 L3 L4 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

dependent Variable: RESPONSE	DF	Sum of Squares	Mean Square	F Value	Pr > F
source	3	233.73350	77.91117	0.69	0.5614
model	52	5859.64273	112.68544		
error	55	6093.37624			
Corrected Total					

R-Square	C.V.	Root MSE	RESPONSE Mean
0.038359	14.68487	10.615	72.288

24

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	233.73350	77.91117	0.69	0.5614

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE	LSMEAN	1/j	Pr > T	HO: LSMEAN(i)=LSMEAN(j)
CONTROL	73.8716059	1	0.8751	0.8903	0.2181
TRT1	73.2141743	2	0.8751	0.9784	0.2825
TRT2	73.3220453	3	0.8903	0.9784	0.2470
TRT3	68.7740214	4	0.2181	0.2825	0.2470

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 52 MSE= 112.6854
 Critical Value of Studentized Range= 3.753

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
CONTROL - TRT2	-9.971	0.550	0.550	11.070	11.070
CONTROL - TRT1	-10.393	0.657	0.657	11.708	11.708
CONTROL - TRT3	-5.754	5.098	5.098	15.949	15.949
TRT2 - CONTROL	-11.070	-0.550	-0.550	9.971	9.971
TRT2 - TRT1	-10.412	0.108	0.108	10.628	10.628
TRT2 - TRT3	-5.763	4.548	4.548	14.859	14.859
TRT1 - CONTROL	-11.708	-0.657	-0.657	10.393	10.393
TRT1 - TRT2	-10.628	-0.108	-0.108	10.412	10.412
TRT1 - TRT3	-6.412	4.440	4.440	15.292	15.292
TRT3 - CONTROL	-15.949	-5.098	-5.098	5.754	5.754
TRT3 - TRT2	-14.859	-4.548	-4.548	5.763	5.763
TRT3 - TRT1	-15.292	-4.440	-4.440	6.412	6.412

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 52 MSE= 112.6854 Critical Value of Dunnett's T= 2.105

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT2 - CONTROL	-8.892	-0.550	7.792
TRT1 - CONTROL	-9.420	-0.657	8.105
TRT3 - CONTROL	-13.702	-5.098	3.507

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD 11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 56 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD 11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL CONTROL	L2
LEVEL TRT1	L3
LEVEL TRT2	L4
LEVEL TRT3	-L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD 11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
dependent Variable: RESPONSE					

Model	3	1109.2456	369.7485	1.82	0.1553
Error	52	10576.2781	203.3900		

Corrected Total	55	11685.5237			
R-Square		C.V.	Root MSE	RESPONSE Mean	
	0.094925	20.79412	14.261	68.584	

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1109.2456	369.7485	1.82	0.1553

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD 11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	76.0725921	1	0.0293 0.1454 0.0958
TRT1	63.5381601	2	0.0293 0.3852 0.5608
TRT2	68.2014124	3	0.1454 0.3852 0.7826
TRT3	66.7538945	4	0.0958 0.5608 0.7826

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD 11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 52 MSE= 203.39 Critical Value of Studentized Range= 3.753

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
CONTROL - TRT2	-6.262	7.871	22.005
CONTROL - TRT3	-5.260	9.319	23.898
CONTROL - TRT1	-2.312	12.534	27.381
TRT2 - CONTROL	-22.005	-7.871	6.262
TRT3 - CONTROL	-12.405	-1.448	15.300
TRT2 - TRT1	-9.470	4.663	18.797
TRT3 - CONTROL	-23.898	-9.319	5.260
TRT3 - TRT2	-15.300	-1.448	12.405

25

TRT3	- TRT1	-11.363	3.216	17.795
TRT1	- CONTROL	-27.361	-12.534	2.312
TRT2	- TRT2	-18.797	-4.663	9.470
TRT1	- TRT3	-17.795	-3.216	11.363

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE
 NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.
 Alpha= 0.05 Confidence= 0.95 df= 52 MSE= 203.39
 Critical Value of Dunnett's T= 2.105

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous		
	Lower Limit	Difference Between Means	Upper Confidence Limit
- CONTROL	-19.078	-7.871	3.336
- CONTROL	-20.879	-9.319	2.242
- CONTROL	-24.307	-12.534	-0.762

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 63 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
EVEL	L2
	L3
	L4
	-L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1725.3700	575.1233	1.40	0.2524
Error	59	24276.1153	411.4596		
Corrected Total	62	26001.4854			

R-Square 0.066357
 C.V. 44.23415
 Root MSE 20.284
 RESPONSE Mean 45.857

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1725.3700	575.1233	1.40	0.2524

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	Pr > T		H0: LSMEAN(i)=LSMEAN(j)	
	1/j	1/2	3	4
CONTROL	47.6314569	1	0.3760	0.4141
TRT1	41.1289948	2	0.3760	0.0866
TRT2	53.6276218	3	0.4141	0.0866
TRT3	41.1509266	4	0.3776	0.0871

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 411.4596
 Critical Value of Studentized Range= 3.739

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit

TRT2	-	CONTROL	-13.278	5.996	25.270
TRT2	-	TRT3	-6.484	12.477	31.437
TRT2	-	TRT1	-6.462	12.499	31.459
CONTROL	-	TRT2	-25.270	-5.996	13.278
CONTROL	-	TRT3	-12.793	6.481	25.754
CONTROL	-	TRT1	-12.771	6.502	25.776
TRT3	-	TRT2	-31.437	-12.477	6.484
TRT3	-	CONTROL	-25.754	-6.481	12.793
TRT3	-	TRT1	-18.938	0.022	18.982
TRT1	-	TRT2	-31.459	-12.499	6.462
TRT1	-	CONTROL	-25.776	-6.502	12.771
TRT1	-	TRT3	-18.982	-0.022	18.938

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 411.4596
 Critical Value of Dunnett's T= 2.101

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Upper Confidence Limit	Lower Confidence Limit
TRT2 - CONTROL	-9.318	5.996	5.996	21.310	
TRT3 - CONTROL	-21.794	-6.481	-6.481	8.833	
TRT1 - CONTROL	-21.816	-6.502	-6.502	8.811	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

OTE: Due to missing values, only 55 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients

INTERCEPT	0
LEVEL	
CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	66.746542	22.248847	0.68	0.5674
Error	51	1665.001529	32.647089		
Corrected Total	54	1731.748071			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.038543	6.573037	5.7138	86.927

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	66.746542	22.248847	0.68	0.5674

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Least Squares Means

LEVEL	RESPONSE	Pr > T H0: LSMEAN(i)=LSMEAN(j)			
		i/j	1	2	3
CONTROL	87.9488117	1	0.8736	0.3685	0.3412
TRT1	88.3144676	2	0.8736	0.2965	0.2751
TRT2	86.0132087	3	0.3685	0.2965	0.9322
TRT3	85.8344201	4	0.3412	0.2751	0.9322

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

27

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 32.64709
 Critical Value of Studentized Range= 3.756

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - CONTROL	-5.709	0.366	0.366	6.440	
TRT1 - TRT2	-3.494	2.301	2.301	8.096	
TRT1 - TRT3	-3.490	2.480	2.480	8.450	
CONTROL - TRT1	-6.440	-0.366	-0.366	5.709	
CONTROL - TRT2	-3.731	1.936	1.936	7.602	
CONTROL - TRT3	-3.730	2.114	2.114	7.959	
TRT2 - TRT1	-8.096	-2.301	-2.301	3.494	
TRT2 - CONTROL	-7.602	-1.936	-1.936	3.731	
TRT2 - TRT3	-5.375	0.179	0.179	5.732	
TRT3 - TRT1	-8.450	-2.480	-2.480	3.490	
TRT3 - CONTROL	-7.959	-2.114	-2.114	3.730	
TRT3 - TRT2	-5.732	-0.179	-0.179	5.375	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 32.64709
 Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - CONTROL	-4.454	0.366	0.366	5.186	
TRT2 - CONTROL	-6.432	-1.936	-1.936	2.560	
TRT3 - CONTROL	-6.752	-2.114	-2.114	2.523	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

NOTE: Due to missing values, only 63 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients

Effect	INTERCEPT	LEVEL
	0	
	CONTROL	L2
	TRT1	L3
	TRT2	L4
	TRT3	-L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	264.68156	88.22719	2.01	0.1228
Error	59	2593.81728	43.96300		
Corrected Total	62	2858.49883			

R-Square 0.092595
 C.V. 7.916422
 Root MSE 6.6305
 RESPONSE Mean 83.756

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	264.68156	88.22719	2.01	0.1228

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	83.8089644	1	0.9145 0.2369 0.2293
TRT1	83.5521553	2	0.9145 0.2736 0.1840
TRT2	80.9615307	3	0.2369 0.2736 0.0173
TRT3	86.7037714	4	0.2293 0.1840 0.0173

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

20

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 43.963
Critical Value of Studentized Range= 3.739

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - CONTROL	-3.405	9.195	2.895	3.405	9.195
TRT3 - TRT1	-3.046	9.349	3.152	6.557	9.349
TRT3 - TRT2	-0.455	11.940	5.742	9.148	11.940
CONTROL - TRT3	-9.195	3.405	-2.895	3.405	3.405
CONTROL - TRT1	-6.043	6.557	0.257	6.557	6.557
CONTROL - TRT2	-3.453	9.148	2.847	9.148	9.148
TRT1 - TRT3	-9.349	3.046	-3.152	3.046	3.046
TRT1 - CONTROL	-6.557	6.043	-0.257	6.043	6.043
TRT1 - TRT2	-3.607	8.788	2.591	8.788	8.788
TRT2 - TRT3	-11.940	0.455	-5.742	0.455	0.455
TRT2 - CONTROL	-9.148	3.453	-2.847	3.453	3.453
TRT2 - TRT1	-8.788	3.607	-2.591	3.607	3.607

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 43.963
Critical Value of Dunnett's T= 2.101

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - CONTROL	-2.111	7.901	2.895	7.901	7.901
TRT3 - TRT1	-5.263	4.749	-0.257	4.749	4.749
TRT3 - TRT2	-7.853	2.158	-2.847	2.158	2.158

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 63 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients			
INTERCEPT	0			
LEVEL	CONTROL	L2	L3	L4
	TRT1	-L2-L3-L4		
	TRT2			
	TRT3			

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2185.4345	728.4782	1.44	0.2395
Error	59	29790.7985	504.9288		
Corrected Total	62	31976.2330			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.068346	44.80767	22.471	50.149

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	2185.4345	728.4782	1.44	0.2395

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

29

LEVEL	RESPONSE	Pr > T	H0: LSMEAN(1)=LSMEAN(J)
	LSMEAN	i/j	2 3 4
CONTROL	52.0344348	1	0.3602 0.3958 0.3974
TRT1	44.5873787	2	0.3602 0.0759 0.9438
TRT2	58.9427507	3	0.3958 0.0759 0.0877
TRT3	45.1494711	4	0.3974 0.9438 0.0877

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: RESPONSE

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 504.9288
 Critical Value of Studentized Range= 3.739

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous		Difference		Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Lower Confidence Limit	Upper Confidence Limit
TRT2 - CONTROL	-14.443	28.259	6.908	28.259		
TRT2 - TRT3	-7.211	34.797	13.793	34.797		
TRT2 - TRT1	-6.648	35.359	14.355	35.359		
CONTROL - TRT2	-28.259	14.443	-6.908	14.443		
CONTROL - TRT3	-14.466	28.236	6.885	28.236		
CONTROL - TRT1	-13.904	28.798	7.447	28.798		
TRT3 - TRT2	-34.797	7.211	-13.793	7.211		
TRT3 - CONTROL	-28.236	14.466	-6.885	14.466		
TRT3 - TRT1	-20.442	21.566	0.562	21.566		
TRT1 - TRT2	-35.359	6.648	-14.355	6.648		
TRT1 - CONTROL	-28.798	13.904	-7.447	13.904		
TRT1 - TRT3	-21.566	20.442	-0.562	20.442		

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: RESPONSE

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 504.9288
 Critical Value of Dunnett's T= 2.101

Comparisons significant at the 0.05 level are indicated by ****.

Simultaneous Simultaneous

LEVEL Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT2 - CONTROL	-10.056	6.908	23.873
TRT3 - CONTROL	-23.849	-6.885	10.079
TRT1 - CONTROL	-24.411	-7.447	9.517

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 63 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2
	TRT1 L3
	TRT2 L4
	TRT3 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	2105.6253	701.8751	1.41	0.2502
Error	59	29462.8727	499.3707		
Corrected Total	62	31568.4980			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.066700	44.97853	22.347	49.683

Source	DF	Type I SS	Mean Square	F Value	Pr > F
--------	----	-----------	-------------	---------	--------

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE	Pr > T	H0: LSMEAN(I)=LSMEAN(J)
	LSMEAN	i/j	1 2 3 4
CONTROL	51.7554372	1	0.3621 0.4247 0.3710
TRT1	44.3781849	2	0.3621 0.0852 0.9862
TRT2	58.2114142	3	0.4247 0.0852 0.0882
TRT3	44.5157852	4	0.3710 0.9862 0.0882

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Tukey's Studentized Range (HSD) Test for variable: RESPONSE
 NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 499.3707
 Critical Value of Studentized Range= 3.739

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL	Comparison	Simultaneous		Difference Between Means	Simultaneous	
		Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT2	- CONTROL	-14.777	27.689	6.456	14.777	27.689
TRT2	- TRT3	-7.192	34.583	13.696	34.583	34.583
TRT2	- TRT1	-7.055	34.721	13.833	34.721	34.721
CONTROL	- TRT2	-27.689	14.777	-6.456	14.777	14.777
CONTROL	- TRT3	-13.993	28.473	7.240	28.473	28.473
CONTROL	- TRT1	-13.856	28.610	7.377	28.610	28.610
TRT3	- TRT2	-34.583	7.192	-13.696	7.192	7.192
TRT3	- CONTROL	-28.473	13.993	-7.240	13.993	13.993
TRT3	- TRT1	-20.750	21.025	0.138	21.025	21.025
TRT1	- TRT2	-34.721	7.055	-13.833	7.055	7.055
TRT1	- CONTROL	-28.610	13.856	-7.377	13.856	13.856
TRT1	- TRT3	-21.025	20.750	-0.138	20.750	20.750

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 15:14 Thursday, April 1, 1999
 General Linear Models Procedure

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 499.3707
 Critical Value of Dunnett's T= 2.101

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL	Comparison	Simultaneous		Difference Between Means	Simultaneous	
		Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT2	- CONTROL	-10.415	23.327	6.456	23.327	23.327
TRT3	- CONTROL	-24.110	9.631	-7.240	9.631	9.631
TRT1	- CONTROL	-24.248	9.494	-7.377	9.494	9.494

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information
 Class Levels Values
 LEVEL 4 CONTROL TRT1 TRT2 TRT3
 Number of observations in data set = 64

NOTE: Due to missing values, only 63 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	L2 L3 L4 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Dependent Variable: THICK

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.0014453	0.0004818	1.06	0.3743

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: THICK

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 0.000456
 Critical Value of Dunnett's T= 2.101

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - CONTROL	-0.002718	0.013400	0.013400	0.029518	
TRT2 - CONTROL	-0.007218	0.008900	0.008900	0.025018	
TRT3 - CONTROL	-0.009595	0.006525	0.006525	0.022643	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 55 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients

Effect	Coefficients
INTERCEPT	0
LEVEL	
CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 18. ANALYSIS OF HATCHLING WEIGHT

R-Square C.V. Root MSE THICK Mean
 0.050999 5.233844 0.0213 0.4079

Source DF Type I SS Mean Square F Value Pr > F
 LEVEL 3 0.0014453 0.0004818 1.06 0.3743

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	THICK LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	0.40060000	1	0.0860	0.2508	0.3986
TRT1	0.41400000	2	0.0860	0.5534	0.3661
TRT2	0.40950000	3	0.2508	0.5534	0.7541
TRT3	0.40712500	4	0.3986	0.3661	0.7541

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 17. ANALYSIS OF EGGSHELL THICKNESS

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: THICK

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 0.000456
 Critical Value of Studentized Range= 3.739

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - TRT2	-0.015456	0.004500	0.004500	0.024456	
TRT1 - TRT3	-0.013081	0.006875	0.006875	0.026831	
TRT1 - CONTROL	-0.006886	0.013400	0.013400	0.033686	
TRT2 - TRT1	-0.024456	-0.004500	-0.004500	0.015456	
TRT2 - TRT3	-0.017581	0.002375	0.002375	0.022331	
TRT2 - CONTROL	-0.011386	0.008900	0.008900	0.029186	
TRT3 - TRT1	-0.026831	-0.006875	-0.006875	0.013081	
TRT3 - TRT2	-0.022331	-0.002375	-0.002375	0.017581	
TRT3 - CONTROL	-0.013761	0.006525	0.006525	0.026811	
CONTROL - TRT1	-0.033686	-0.013400	-0.013400	0.006886	

32

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: HATWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	9.5155644	3.1718548	0.34	0.7936
Error	51	470.2459338	9.2205085		
Corrected Total	54	479.7614982			

R-Square	C.V.	Root MSE	HATWT Mean
0.019834	7.868657	3.0365	38.590

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	9.5155644	3.1718548	0.34	0.7936

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
18. ANALYSIS OF HATCHLING WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	HATWT LSMEAN	Pr > T i/j	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	39.0430769	1	0.5175 0.4266 0.9582
TRT1	38.2508333	2	0.5175 0.9204 0.5435
TRT2	38.1343750	3	0.4266 0.9204 0.4494
TRT3	38.9814286	4	0.9582 0.5435 0.4494

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
18. ANALYSIS OF HATCHLING WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: HATWT

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 9.220509
Critical Value of Studentized Range= 3.756

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
CONTROL - TRT3	-3.0445	0.0616	3.1678
CONTROL - TRT1	-2.4361	0.7922	4.0206

CONTROL - TRT2	-2.1025	0.9087	3.9199
TRT3 - CONTROL	-3.1678	-0.0616	3.0445
TRT1 - TRT1	-2.4419	0.7306	3.9031
TRT3 - TRT2	-2.1042	0.8471	3.7983
TRT1 - CONTROL	-4.0206	-0.7922	2.4361
TRT1 - TRT3	-3.9031	-0.7306	2.4419
TRT1 - TRT2	-2.9632	0.1165	3.1961
TRT2 - CONTROL	-3.9199	-0.9087	2.1025
TRT2 - TRT3	-3.7983	-0.8471	2.1042
TRT2 - TRT1	-3.1961	-0.1165	2.9632

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
18. ANALYSIS OF HATCHLING WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: HATWT

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 9.220509
Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous		Upper Confidence Limit
	Lower Confidence Limit	Difference Between Means	
TRT3 - CONTROL	-2.5263	-0.0616	2.4030
TRT1 - CONTROL	-3.3539	-0.7922	1.7694
TRT2 - CONTROL	-3.2980	-0.9087	1.4806

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

NOTE: Due to missing values, only 55 observations can be used in this analysis.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

33

INTERCEPT 0

LEVEL CONTROL L2
TRT1 L3
TRT2 L4
TRT3 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: SURVWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	98.742567	32.914189	0.07	0.9748
Error	51	2394.44812	48.714659		
Corrected Total	54	23493.19068			

R-Square 0.004203
C.V. 7.488456
Root MSE 21.418
SURVWT Mean 286.01

Source DF Type I SS Mean Square F Value Pr > F
LEVEL 3 98.742567 32.914189 0.07 0.9748

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	SURVWT	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
LSMEAN	1/j	1	2 3 4
CONTROL	288.293077	1	0.6632 0.7431 0.7407
TRT1	284.537500	2	0.6632 0.8916 0.9050
TRT2	285.658125	3	0.7431 0.8916 0.9889
TRT3	285.548571	4	0.7407 0.9050 0.9889

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: SURVWT

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05, Confidence= 0.95 df= 51 MSE= 458.7147

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT2	-18.604	2.635	23.874
CONTROL - TRT3	-19.164	2.745	24.653
CONTROL - TRT1	-19.015	3.756	26.526
TRT2 - CONTROL	-23.874	-2.635	18.604
TRT2 - TRT3	-20.707	0.110	20.926
TRT2 - TRT1	-20.601	1.121	22.842
TRT3 - CONTROL	-24.653	-2.745	19.164
TRT3 - TRT2	-20.926	-0.110	20.707
TRT3 - TRT1	-21.366	1.011	23.388
TRT1 - CONTROL	-26.526	-3.756	19.015
TRT1 - TRT2	-22.842	-1.121	20.601
TRT1 - TRT3	-23.388	-1.011	21.366

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: SURVWT

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 51 MSE= 458.7147
Critical Value of Dunnett's T= 2.107

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-19.488	-2.635	14.218
TRT3 - CONTROL	-20.128	-2.745	14.639
TRT1 - CONTROL	-21.823	-3.756	14.312

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
20. ANALYSIS OF FOOD CONSUMPTION

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

34

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 20. ANALYSIS OF FOOD CONSUMPTION

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients
 INTERCEPT 0
 .LEVEL CONTROL L2
 TRT1 L3
 TRT2 L4
 TRT3 -L2-L3-L4

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 20. ANALYSIS OF FOOD CONSUMPTION

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

dependent Variable: FOOD
 Source DF Sum of Squares Mean Square F Value Pr > F
 Model 3 2353.0955 784.3652 1.91 0.1378
 Error 60 24653.7394 410.8957
 Corrected Total 63 27006.8348

R-Square C.V. Root MSE FOOD Mean
 0.087130 16.03981 20.271 126.38

Source DF Type I SS Mean Square F Value Pr > F
 LEVEL 3 2353.0955 784.3652 1.91 0.1378

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 20. ANALYSIS OF FOOD CONSUMPTION

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	FOOD LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
		i/j	2 3 4
CONTROL	118.400000	1	0.1448 0.4811 0.0271
TRT1	128.987500	2	0.1448 0.4453 0.4336
TRT2	123.481250	3	0.4811 0.4453 0.1248
TRT3	134.637500	4	0.0271 0.4336 0.1248

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 20. ANALYSIS OF FOOD CONSUMPTION

 15:14 Thursday, April 1, 1999

General Linear Models Procedure
 Tukey's Studentized Range (HSD) Test for variable: FOOD

NOTE: This test controls the type I experimentwise error rate.
 Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 410.8957
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 18.938

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - TRT1	-13.288	5.650	24.588	24.588	24.588
TRT3 - TRT2	-7.782	11.156	30.094	30.094	30.094
TRT3 - CONTROL	-2.701	16.237	35.176	35.176	35.176
TRT1 - TRT3	-24.588	-5.650	13.288	13.288	13.288
TRT1 - TRT2	-13.432	5.506	24.444	24.444	24.444
TRT1 - CONTROL	-8.351	10.588	29.526	29.526	29.526
TRT2 - TRT3	-30.094	-11.156	7.782	7.782	7.782
TRT2 - TRT1	-24.444	-5.506	13.432	13.432	13.432
TRT2 - CONTROL	-13.857	5.081	24.019	24.019	24.019
CONTROL - TRT3	-35.176	-16.237	2.701	2.701	2.701
CONTROL - TRT1	-29.526	-10.588	8.351	8.351	8.351
CONTROL - TRT2	-24.019	-5.081	13.857	13.857	13.857

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 20. ANALYSIS OF FOOD CONSUMPTION

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: FOOD

NOTE: This test controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 410.8957
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 15.078

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - CONTROL	1.159	16.237	31.316	31.316	31.316
TRT1 - CONTROL	-4.491	10.588	25.666	25.666	25.666
TRT2 - CONTROL	-9.997	5.081	20.159	20.159	20.159

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
 21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

 15:14 Thursday, April 1, 1999

General Linear Models Procedure

35

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: POSTM

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	194092.90	48523.23	5.60	0.0007
Error	59	511605.71	8671.28		
Corrected Total	63	705698.62			
R-Square		C.V.	Root MSE	POSTM Mean	
	0.275037	7.188570	93.120		1295.4

Source	DF	Type III SS	Mean Square	F Value	Pr > F
LEVEL	3	7529.87	2509.96	0.29	0.8328
REM	1	186563.03	186563.03	21.52	0.0001
Source	DF	Type III SS <th>Mean Square</th> <th>F Value</th> <th>Pr > F</th>	Mean Square	F Value	Pr > F
LEVEL	3	8573.26	2857.75	0.33	0.8040
REM	1	186563.03	186563.03	21.52	0.0001

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	POSTM LSMEAN	Std Err LSMEAN	Pr > T HO:LSMEAN=0	LSMEAN Number
CONTROL	1291.96639	23.36743	0.0001	1
TRT1	1295.90681	23.34097	0.0001	2
TRT2	1313.00871	23.45575	0.0001	3
TRT3	1280.66183	23.29510	0.0001	4

Pr > T HO: LSMEAN(i)=LSMEAN(j)	i/j	1	2	3	4
	1	0.9051	0.5297	0.7335	
	2	0.5297	0.6088	0.6460	
	3	0.5297	0.6088	0.3308	
	4	0.7335	0.6460	0.3308	

NOTE: To ensure overall protection level, only probabilities associated

36

with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: POSTM

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidences= 0.95 df= 59 MSE= 8671.283
Critical Value of Studentized Range= 3.759
Minimum Significant Difference= 87.041

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-84.65	2.39	89.43
TRT1 - TRT2	-83.02	4.02	91.06
TRT1 - TRT3	-60.07	26.97	114.01
CONTROL - TRT1	-89.43	-2.39	84.65
CONTROL - TRT2	-85.42	1.63	88.67
CONTROL - TRT3	-62.47	24.58	111.62
TRT2 - CONTROL	-91.06	-4.02	83.02
TRT2 - TRT1	-88.67	-1.63	85.42
TRT2 - TRT3	-64.09	22.95	109.99
TRT3 - CONTROL	-114.01	-26.97	60.07
TRT3 - TRT1	-111.62	-24.58	62.47
TRT3 - TRT2	-109.99	-22.95	64.09

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: POSTM

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 8671.283
Critical Value of Dunnett's T= 2.105
Minimum Significant Difference= 69.291

Comparisons significant at the 0.05 level are indicated by '****'.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - CONTROL	-66.90	2.39	71.68
TRT2 - CONTROL	-70.92	-1.63	67.67
TRT3 - CONTROL	-93.87	-24.58	44.72

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dependent Variable: POSTF

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	192061.55	48015.39	6.84	0.0001
Error	59	414242.09	7021.05		
Corrected Total	63	606303.64			

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	13054.00	4351.33	0.62	0.6050
REF	1	179007.54	179007.54	25.50	0.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
LEVEL	3	9034.19	3011.40	0.43	0.7330
REF	1	179007.54	179007.54	25.50	0.0001

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	POSTF LSMEAN	Std Err LSMEAN	Pr > T HO:LSMEAN=0	LSMEAN Number
CONTROL	1239.63525	21.04235	0.0001	1
TRT1	1247.60606	21.08838	0.0001	2
TRT2	1243.39514	20.99271	0.0001	3
TRT3	1216.88855	20.96865	0.0001	4

Pr > |T| HO: LSMEAN(i)=LSMEAN(j)

37

1/j	1	2	3	4
1	0.7911	0.7911	0.8995	0.4478
2	0.7911	0.8884	0.8884	0.3046
3	0.8995	0.8884	0.8884	0.3760
4	0.4478	0.3046	0.3760	

NOTE: To ensure overall protection level, only probabilities associated with pre-planned comparisons should be used.

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Tukey's Studentized Range (HSD) Test for variable: POSTF

NOTE: This test controls the type I experimentwise error rate.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 7021.052
Critical Value of Studentized Range= 3.739
Minimum Significant Difference= 78.322

Comparisons significant at the 0.05 level are indicated by ****.

LEVEL Comparison	Simultaneous Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - TRT2	-54.92	23.40	23.40	101.72	
TRT1 - CONTROL	-48.03	30.29	30.29	108.62	
TRT1 - TRT3	-40.04	38.28	38.28	116.60	
TRT2 - TRT1	-101.72	-23.40	-23.40	54.92	
TRT2 - CONTROL	-71.43	6.89	6.89	85.22	
TRT2 - TRT3	-63.44	14.88	14.88	93.20	
CONTROL - TRT1	-108.62	-30.29	-30.29	48.03	
CONTROL - TRT2	-85.22	-6.89	-6.89	71.43	
CONTROL - TRT3	-70.33	7.99	7.99	86.31	
TRT3 - TRT1	-116.60	-38.28	-38.28	40.04	
TRT3 - TRT2	-93.20	-14.88	-14.88	63.44	
TRT3 - CONTROL	-86.31	-7.99	-7.99	70.33	

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett's One-tailed T tests for variable: POSTF

NOTE: This tests controls the type I experimentwise error for comparisons of all treatments against a control.

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 7021.052
Critical Value of Dunnett's T= 2.105
Minimum Significant Difference= 62.35

Comparisons significant at the 0.05 level are indicated by ****.

Simultaneous Lower Difference Simultaneous Upper

LEVEL Comparison	Confidence Limit	Between Means	Confidence Limit
TRT1 - CONTROL	-32.06	30.29	92.64
TRT2 - CONTROL	-55.46	6.89	69.24
TRT3 - CONTROL	-70.34	-7.99	54.36

38