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.
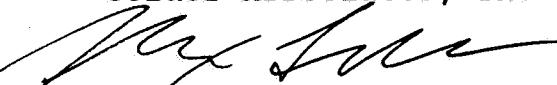
   Signature: _[signature]_   **Date:** 4/14/99

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

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

5. **APPROVED BY:**
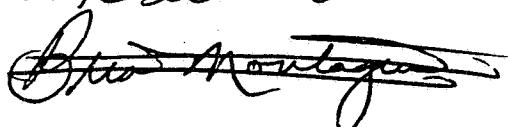
   Signature: _[signature]_   **Date:** 12/26/99

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).

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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
Species A wild waterfowl species, preferably the mallard (*Anas platyrhynchos*), or an upland game species, preferably the northern bobwhite (*Colinus virginianus*)	Mallard (*Anas platyrhynchos*)

Guideline Criteria	Reported Information
Supplier 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
Health observation period 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
Temperature Approx. 21°C (70°F)	Average: 23°C
Relative humidity Approx. 55%	Average: 63%
Lighting <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
Diet A commercial breeder feed (or its equivalent) that is appropriate for the test species.	Adults received Purina Layena: 28% protein minimum 2.5% fat minimum 7% fiber maximum 2.4 - 3.4% calcium Chicks received Purina Startena.
Preparation of test diet A premixed 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.	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.
Was the premix stored under conditions which maintain stability?	Yes, the diets were kept frozen at all times, expect when being fed to the birds.
Was the diet analyzed to verify homogeneity and stability of the test substance?	Yes
Replenishment of feed	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. In addition, feed and water were provided *ad libitum* for the adults and offspring.

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C. Test Design

Guideline Criteria	Reported Information
Nominal concentrations 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.	Nominal concentrations: Control, 100, 300, and 900 ppm ai Max. residue level: Not reported
Control Vehicle control.	Vehicle control
Vehicle Corn oil or other appropriate vehicle.	Acetone
Vehicle amount (% of diet by weight) Not more than 2%.	Amount of acetone was 1% of final diet.
Number of birds per pen 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.	1 male and 1 female per pen
Number of pens per group 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.	16 pens per group
Pre-laying exposure duration At least 10 weeks prior to the onset of egg-laying.	10 weeks
Exposure duration with egg-laying At least 10 weeks.	13 weeks

Guideline Criteria	Reported Information
Withdrawal period 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
Egg storage temperature Approximately 16°C (61°F)	Range: 17-19°C
Egg storage humidity Approximately 65%	Average: 63%
Were eggs set weekly?	Yes
Were eggs candled for cracks prior to being set for incubation on Day 0?	Yes
Candling for fertility Quail: approx. Day 11 Ducks: approx. Day 14	Eggs were candled on Day 14 for fertility and on day 21 for embryo viability.
Transfer of eggs to hatcher Bobwhite: Day 21 Mallard: Day 23	Eggs were transferred on Day 24.
Hatching temperature 39°C (102°F) is recommended	Range: 34.2 - 37.8°C
Hatching humidity 70% is recommended	Range: 75-77%
Day after egg set that chicks were removed and counted 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
Did diet analysis show that the test substance was stable and homogeneous?	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.
Were body weights of adults reported for test initiation and biweekly up to week 8 or the onset of egg laying?	Yes
Was average food consumption of adults reported at least biweekly?	Yes
Reproductive Endpoints The following endpoints should be reported: • 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	All endpoints listed at left plus hatchling weight.

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

<u>Significant Results</u>: 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."

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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 thick-ness (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 con-sumption (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)

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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 (±SE) historical control (76.9 ± 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.

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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	
3	CONTROL	79	4	70	69	64	62	62	0.407	39.87
4	CONTROL	57	0	51	44	36	34	34	0.387	38.13
5	CONTROL	52	0	49	48	46	41	41	0.444	40.52
6	CONTROL	87	5	77	76	66	62	62	0.388	41.32
7	CONTROL	0	0	0	0	0	0	0		
8	CONTROL	37	1	31	17	16	16	16	0.385	41.53
9	CONTROL	65	0	59	51	40	31	31	0.417	42.81
10	CONTROL	65	2	58	36	30	29	29	0.371	39.32
11	CONTROL	73	4	64	62	55	51	51	0.386	35.33
12	CONTROL	79	2	71	0	0	0	0	0.389	
13	CONTROL	68	0	63	59	59	52	52	0.423	41.71
14	CONTROL	47	0	43	43	57	36	36	0.413	35.94
15	CONTROL	65	5	60	58	57	57	57	0.375	38.86
16	CONTROL	65	0	56	48	45	42	42	0.400	36.71
17	TRT1	66	0	59	57	55	45	45	0.433	38.52
18	TRT1	63	0	50	0	0	0	0	0.416	
19	TRT1	71	0	61	56	53	46	46	0.389	40.88
20	TRT1	69	0	64	57	56	52	52	0.404	37.15
21	TRT1	37	0	35	34	31	30	30	0.373	36.81
22	TRT1	63	0	55	0	0	0	0	0.407	
23	TRT1	70	0	65	42	42	39	39	0.389	38.29
24	TRT1	36	0	34	34	34	33	33	0.395	41.36
25	TRT1	25	0	23	23	2	12	12	0.475	36.76
26	TRT1	48	0	44	3	1	0	0	0.417	
27	TRT1	80	4	70	69	61	46	46	0.419	36.92
28	TRT1	18	0	17	0	0	0	0	0.420	
29	TRT1	66	0	61	60	51	45	45	0.402	38.44
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		103.9	1204.9	1241.5	953.9	1079.4
3	274.40	139.1	1566.0	1415.5	1010.9	1124.5
4	269.36	136.1	1188.3	1202.9	1106.0	1238.6
5	288.03	116.2	1362.1	1425.2	1128.5	1193.3
6	303.81	103.0	1166.3	1116.9	1052.3	1233.2
7			1382.9	1541.7	1279.7	1560.7
8	301.37	94.1	1288.2	1202.0	1077.3	1181.8
9	290.39	114.6	1231.6	1026.9	1093.5	1294.7
10	280.69	178.1	1132.7	1277.1	1093.5	1339.6
11	271.21	116.6	1149.6	1247.6	1030.9	1156.8
12		110.4	1278.9	1380.5	932.9	1148.6
13	318.45	134.4	1314.5	1382.4	1217.3	1358.7
14	270.48	94.2	1320.6	1301.6	1040.2	1077.8
15	302.73	112.2	1190.8	1241.0	1078.0	1294.8
16	302.33	114.4	1287.3	1250.2	1085.9	1206.3
17	307.10	128.8	1283.8	1250.7	1061.6	1323.5
18		114.5	1255.2	1308.4	1000.4	1250.2
19	307.86	123.4	1386.4	1446.2	1153.4	1227.3
20	293.45	132.5	1285.5	1402.6	1057.6	1248.8
21	270.30	122.8	1429.8	1355.9	1072.3	1354.6
22		147.1	1391.1	1427.4	1263.6	1240.1
23	263.49	121.3	1182.1	1205.8	978.7	1158.6
24	275.70	137.4	1109.7	1133.3	1287.2	1412.6
25	269.17	130.0	1051.9	1008.5	1008.5	1080.4
26		119.9	1223.4	1241.3	1134.1	1316.7
27	295.23	126.5	1364.8	1302.8	945.9	1257.5
28		110.3	1366.9	1405.7	1203.5	1086.4
29	265.73	136.8	1390.3	1348.3	1214.9	1368.3
30	267.12	143.7	1200.1	1234.3	1065.2	1266.1

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OBS	LEVEL	EL	EC	ES	VE	LE	NH	HS	THICK	HATWT
31	TRT1	55	5	40	33	23	17	17	0.427	38.79
32	TRT1	44	1	40	38	34	30	30	0.451	36.92
33	TRT2	64	3	58	43	42	37	36	0.407	36.33
34	TRT2	28	2	27	16	15	20	20	0.387	37.06
35	TRT2	21	2	17	0	10	12	10	0.418	30.31
36	TRT2	63	1	56	52	43	35	35	0.422	42.41
37	TRT2	56	0	52	45	40	34	34	0.428	42.38
38	TRT2	82	0	76	75	67	63	63	0.409	40.26
39	TRT2	30	2	28	28	24	15	14	0.408	36.74
40	TRT2	44	5	38	37	34	30	30	0.403	42.47
41	TRT2	39	1	31	30	27	30	30	0.447	37.80
42	TRT2	76	2	70	65	62	58	58	0.399	35.27
43	TRT2	54	3	49	45	43	42	42	0.414	39.43
44	TRT2	81	0	75	74	57	29	29	0.433	35.81
45	TRT2	59	3	52	52	48	42	42	0.395	39.60
46	TRT2	74	0	68	58	52	37	37	0.411	34.30
47	TRT2	59	3	51	50	49	49	49	0.383	42.20
48	TRT2	36	1	32	32	31	30	30	0.388	37.78
49	TRT3	51	0	47	36	19	11	11	0.420	37.99
50	TRT3	40	0	37	34	33	30	28	0.396	38.49
51	TRT3	62	4	53	50	48	48	48	0.403	33.38
52	TRT3	57	0	57	29	27	15	15	0.441	38.09
53	TRT3	72	0	67	53	46	22	22	0.430	35.88
54	TRT3	63	0	55	53	45	36	36	0.430	36.76
55	TRT3	73	3	56	53	51	51	50	0.370	34.77
56	TRT3	86	1	80	80	68	63	63	0.381	39.69
57	TRT3	58	1	51	50	31	22	22	0.397	43.58
58	TRT3	79	0	73	0	59	56	0	0.409	40.51
59	TRT3	67	0	62	61	59	56	56	0.368	
60	TRT3	55	0	52	45	44	35	35	0.414	38.00

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	1336.8	1251.4	1163.7	1357.0
39	282.89	95.6	1055.8	1424.2	1177.5	1253.6
40	319.93	117.6	1134.6	1123.2	1148.4	1408.5
41	292.82	112.1	1256.3	1196.4	1099.0	1343.6
42	272.46	112.2	1147.6	1384.8	1041.4	1201.7
43	291.10	105.9	1210.3	1208.9	978.4	1270.0
44	290.56	123.9	1152.5	1126.2	1053.1	1205.1
45	292.64	118.5	1241.5	1250.1	1092.8	1172.1
46	270.93	145.1	1206.9	1481.7	1167.1	1283.3
47	318.16	113.9	1324.5	1339.2	1210.9	1300.2
48	279.55	109.7	1270.4	1414.3	956.4	1106.2
49	242.69	112.9	1251.2	1344.7	1125.9	1174.1
50	268.05	118.1	1100.6	1257.0	1105.1	1409.2
51	269.78	141.3	1304.7	1226.1	1068.0	1147.4
52	309.46	176.0	1217.4	1246.2	1326.5	1261.6
53	276.55	160.2	1366.6	1245.4	981.6	1109.2
54	278.76	100.8	1241.3	1257.9	1035.5	1186.0
55	283.59	141.3	1141.0	1218.7	965.0	1081.5
56	309.64	163.5	1206.1	1146.2	1080.2	1269.4
57	309.05	137.6	1408.7	1433.4	1169.0	1286.3
58		110.3	1242.2		1087.3	1222.2
59	286.86	128.0	1221.8	1382.9	986.5	1174.3
60	285.66	97.3	1248.7	1347.6	993.6	1177.0

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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	27	5	20	0.392	45.31
63	TRT3	35	0	32	30	27	21	20	0.432	
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
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LEVEL

	CONTROL	TRT1	TRT2	TRT3
	MEAN	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

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		15	1229.581	121.564	9.887
ES_EL	ES/EL (%)	15	90.035	2.851	3.166
NH_EL	NH/EL (%)	15	57.512	26.932	46.828
ENC_EL	(EL-EC)/EL (%)	15	97.745	2.634	2.694
VE_ES	VE/ES (%)	15	75.703	33.554	44.323
NH_ES	NH/ES (%)	15	63.878	29.515	46.206
HS_ES	HS/ES (%)	13	63.500	29.279	46.109
LE_VE	LE/VE (%)	13	90.933	6.603	7.262
NH_LE	NH/LE (%)	13	92.638	6.323	6.826
HS_NH	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		12	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	ES/EL (%)	16	89.488	6.000	6.705
NH_EL	NH/EL (%)	16	49.498	32.643	65.949
ENC_EL	(EL-EC)/EL (%)	16	96.959	4.589	4.733
VE_ES	VE/ES (%)	16	69.683	41.475	59.519
NH_ES	NH/ES (%)	16	54.565	35.066	64.266
HS_ES	HS/ES (%)	16	54.262	34.853	64.230
LE_VE	LE/VE (%)	16	87.742	18.309	20.867
NH_LE	NH/LE (%)	13	78.750	26.448	33.585
HS_NH	HS/NH (%)	12	99.488	1.298	1.304

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
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LEVEL=TRT2

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Number of observations in data set = 64

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID
****
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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
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)			
		i/j 1	2	3	4
CONTROL	56.8125000	1	0.8433	0.6858	0.5167
TRT1	55.5000000	2 0.8433		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.

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
SURVWT		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	ES/EL (%)	16	89.526	4.503	5.029
NH_EL	NH/EL (%)	16	64.305	13.537	21.051
ENC_EL	(EL-EC)/EL (%)	16	96.439	3.550	3.681
VE_ES	VE/ES (%)	16	93.735	6.934	7.397
NH_ES	NH/ES (%)	16	71.949	15.178	21.096
HS_ES	HS/ES (%)	16	70.716	16.222	22.940
LE_VE	LE/VE (%)	16	91.047	5.665	6.222
NH_LE	NH/LE (%)	16	83.833	12.858	15.337
HS_NH	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	0.688	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
SURVWT		14	285.549	21.312	7.464
FOOD		14	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	ES/EL (%)	16	90.290	4.367	4.837
NH_EL	NH/EL (%)	16	47.086	29.158	61.925
ENC_EL	(EL-EC)/EL (%)	16	98.888	2.032	2.055
VE_ES	VE/ES (%)	16	73.290	35.172	47.990
NH_ES	NH/ES (%)	16	52.781	33.162	62.829
HS_ES	HS/ES (%)	16	51.862	32.576	62.813
LE_VE	LE/VE (%)	16	84.100	17.311	20.584
NH_LE	NH/LE (%)	14	80.623	16.794	20.831
HS_NH	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

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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	C.V.	Root MSE	EC Mean
0.056219	136.4284	1.9825	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
****
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General Linear Models Procedure
Least Squares Means

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

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
TRT3	- CONTROL	-13.159	4.313	21.784
TRT3	- TRT1	-11.847	5.625	23.097
TRT3	- TRT2	-10.472	7.000	24.472
CONTROL	- TRT3	-21.784	-4.313	13.159
CONTROL	- TRT1	-16.159	1.313	18.784
CONTROL	- TRT2	-14.784	2.688	20.159
TRT1	- TRT3	-23.097	-5.625	11.847
TRT1	- CONTROL	-18.784	-1.313	16.159
TRT1	- TRT2	-16.097	1.375	18.847
TRT2	- TRT3	-24.472	-7.000	10.472
TRT2	- CONTROL	-20.159	-2.688	14.784
TRT2	- TRT1	-18.847	-1.375	16.097

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
1. ANALYSIS OF EGGS LAID
****
15:14 Thursday, April 1, 1999

General Linear Models Procedure

Dunnett'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 Dunnett'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
TRT3	- CONTROL	-9.598	4.313	18.223
TRT1	- CONTROL	-15.223	-1.313	12.598
TRT2	- CONTROL	-16.598	-2.688	11.223

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD

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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

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

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

	LSMEAN	i/j	1	2	3	4
CONTROL	1.5000000	1		0.5349	0.7900	0.2510
TRT1	1.9375000	2	0.5349		0.7226	0.0796
TRT2	1.6875000	3	0.7900	0.7226		0.1588
TRT3	0.6875000	4	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 Lower Confidence Limit	Difference Between Means	Simultaneous 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 '***'.

Simultaneous   Simultaneous

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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	Simultaneous 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 CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-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

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
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
3. ANALYSIS OF EGGS SET
****
15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

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

OTE: 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	Simultaneous 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

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METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
4. ANALYSIS OF VIABLE EMBRYOS
****
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General Linear Models Procedure

Dunnett'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
TRT2 - CONTROL	-10.637	5.938	22.512
TRT3 - CONTROL	-17.137	-0.563	16.012
TRT1 - CONTROL	-20.200	-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	CONTROL	L2
	TRT1	L3
	TRT2	L4
	TRT3	-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

R-Square	C.V.	Root MSE	VE Mean
0.025104	55.79346	22.283	39.938

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

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| HO: 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
TRT2 - CONTROL	-14.880	5.938	26.755
TRT2 - TRT3	-14.318	6.500	27.318
TRT2 - TRT1	-11.255	9.563	30.380
CONTROL - TRT2	-26.755	-5.938	14.880
CONTROL - TRT3	-20.255	-0.563	21.380
CONTROL - TRT1	-17.193	3.625	24.443
TRT3 - TRT2	-27.318	-6.500	14.318
TRT3 - CONTROL	-21.380	-0.563	20.255
TRT3 - TRT1	-17.755	3.063	23.880
TRT1 - TRT2	-30.380	-9.563	11.255
TRT1 - CONTROL	-24.443	-3.625	17.193
TRT1 - TRT3	-23.880	-3.063	17.755

CONTROL - TRT1   -16.470   2.750   21.970

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

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 '***'.

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-10.115	5.188	20.490
TRT3 - CONTROL	-17.552	-2.250	13.052
TRT1 - CONTROL	-18.052	-2.750	12.552

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
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL CONTROL	L2
TRT1	L3

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	C.V.	Root MSE	LE Mean
0.024301	57.26845	20.572	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 LSMEAN	$Pr > |T|$ H0: LSMEAN(i)=LSMEAN(j)			
		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

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TRT2 L4
TRT3 -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| HO: LSMEAN(i)=LSMEAN(j) i/j	1	2	3	4
CONTROL	33.3125000	1	.	0.4952	0.8411	0.4398
TRT1	28.6250000	2	0.4952	.	0.3783	0.9274
TRT2	34.6875000	3	0.8411	0.3783	.	0.3315
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 Difference= 18.05

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

Simultaneous   Simultaneous

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LEVEL Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT2 - CONTROL	-16.675	1.375	19.425
TRT2 - TRT1	-11.987	6.063	24.112
TRT2 - TRT3	-11.362	6.688	24.737
CONTROL - TRT2	-19.425	-1.375	16.675
CONTROL - TRT1	-13.362	4.688	22.737
CONTROL - TRT3	-12.737	5.313	23.362
TRT1 - TRT2	-24.112	-6.063	11.987
TRT1 - CONTROL	-22.737	-4.688	13.362
TRT1 - TRT3	-17.425	0.625	18.675
TRT3 - TRT2	-24.737	-6.688	11.362
TRT3 - CONTROL	-23.362	-5.313	12.737
TRT3 - TRT1	-18.675	-0.625	17.425

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 '***'.

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

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
7. ANALYSIS OF 14-DAY-OLD SURVIVORS
****
15:14 Thursday, April 1, 1999

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General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Coefficients

EPT   0

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

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
7. ANALYSIS OF 14-DAY-OLD SURVIVORS
****
15:14 Thursday, April 1, 1999

General Linear Models Procedure

ient Variable: HS

	DF	Sum of Squares	Mean Square	F Value	Pr > F
	3	534.12500	178.04167	0.48	0.6985
	60	22330.87500	372.18125		
ted Total	63	22865.00000			

R-Square	C.V.	Root MSE	HS Mean
0.023360	62.48421	19.292	30.875

	DF	Type I SS	Mean Square	F Value	Pr > F
	3	534.12500	178.04167	0.48	0.6985

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
7. ANALYSIS OF 14-DAY-OLD SURVIVORS
****
15:14 Thursday, April 1, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	HS LSMEAN	Pr > |T| H0: LSMEAN(i)=LSMEAN(j) i/j	1	2	3	4
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
TRT2 - 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

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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
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
LEVEL	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
LEVEL	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	.

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
TRT3	- CONTROL	-3.4272	0.3878	4.2028
TRT3	- TRT1	-3.2045	0.5484	4.3014
TRT3	- TRT2	-3.0812	0.6718	4.4248
CONTROL	- TRT3	-4.2028	-0.3878	3.4272
CONTROL	- TRT1	-3.6544	0.1607	3.9757
CONTROL	- TRT2	-3.5310	0.2840	4.0990
TRT1	- TRT3	-4.3014	-0.5484	3.2045
TRT1	- CONTROL	-3.9757	-0.1607	3.6544
TRT1	- TRT2	-3.6296	0.1234	3.8763
TRT2	- TRT3	-4.4248	-0.6718	3.0812
TRT2	- CONTROL	-4.0990	-0.2840	3.5310
TRT2	- TRT1	-3.8763	-0.1234	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
TRT3	- CONTROL	-2.6434	0.3878	3.4190
TRT1	- CONTROL	-3.1919	-0.1607	2.8706
TRT2	- CONTROL	-3.3152	-0.2840	2.7472

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
INTERCEPT	0
LEVEL CONTROL	L2
TRT1	L3
TRT2	L4
TRT3	-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

Dependent Variable: RESPONSE

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

General Linear Models Procedure
Least Squares Means

15:14 Thursday, April 1, 1999

LEVEL	RESPONSE LSMEAN	LSMEAN Number	Pr > |T| HO: LSMEAN(i)=LSMEAN(j) i/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 Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-9.825	15.319	40.464
TRT2 - TRT3	-7.672	17.064	41.799
TRT2 - TRT1	-5.360	19.376	44.111
CONTROL - TRT2	-40.464	-15.319	9.825
CONTROL - TRT3	-23.400	1.744	26.889
CONTROL - TRT1	-21.088	4.056	29.201
TRT3 - TRT2	-41.799	-17.064	7.672
TRT3 - CONTROL	-26.889	-1.744	23.400
TRT3 - TRT1	-22.424	2.312	27.048
TRT1 - TRT2	-44.111	-19.376	5.360
TRT1 - CONTROL	-29.201	-4.056	21.088
TRT1 - TRT3	-27.048	-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

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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	Pr > |T| H0: LSMEAN(i)=LSMEAN(j)			
		i/j	1	2	3	4
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 Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT2	-9.971	0.550	11.070
CONTROL - TRT1	-10.393	0.657	11.708
CONTROL - TRT3	-5.754	5.098	15.949
TRT2 - CONTROL	-11.070	-0.550	9.971
TRT2 - TRT1	-10.412	0.108	10.628
TRT2 - TRT3	-5.763	4.548	14.859
TRT1 - CONTROL	-11.708	-0.657	10.393
TRT1 - TRT2	-10.628	-0.108	10.412
TRT1 - TRT3	-6.412	4.440	15.292
TRT3 - CONTROL	-15.949	-5.098	5.754
TRT3 - TRT2	-14.859	-4.548	5.763
TRT3 - TRT1	-15.292	-4.440	6.412

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS
****
15:14 Thursday, April 1, 1999

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	-4.659	15.319	35.298
TRT3 - CONTROL	-21.723	-1.744	18.234
TRT1 - CONTROL	-24.035	-4.056	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	CONTROL	L2
	TRT1	L3
	TRT2	L4
	TRT3	-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

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	233.73350	77.91117	0.69	0.5614
Error	52	5859.64273	112.68544		
Corrected Total	55	6093.37624			

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

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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	Simultaneous 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

OTE: 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
NTERCEPT	0
EVEL CONTROL	L2
TRT1	L3
TRT2	L4
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

ependent Variable: RESPONSE

ource	DF	Sum of Squares	Mean Square	F Value	Pr > F

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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	LSMEAN Number i/j	Pr > |T| H0: LSMEAN(i)=LSMEAN(j)			
			1	2	3	4
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	Simultaneous 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
TRT2 - TRT3	-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

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	C.V.	Root MSE	RESPONSE Mean
0.066357	44.23415	20.284	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	RESPONSE LSMEAN	Pr > $|T|$ H0: LSMEAN(i)=LSMEAN(j) i/j	1	2	3	4
CONTROL	47.6314569	1		0.3760	0.4141	0.3776
TRT1	41.1289948	2	0.3760		0.0866	0.9976
TRT2	53.6276218	3	0.4141	0.0866		0.0871
TRT3	41.1509266	4	0.3776	0.9976	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	Simultaneous Upper Confidence Limit

---

TRT3 - TRT1	-11.363	3.216	17.795
TRT1 - CONTROL	-27.381	-12.534	2.312
TRT1 - 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 Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit	
TRT2 - CONTROL	-19.078	-7.871	3.336	
TRT3 - CONTROL	-20.879	-9.319	2.242	
TRT1 - 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
LEVEL	CONTROL	L2
	TRT1	L3
	TRT2	L4
	TRT3	-L2-L3-L4

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

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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
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 LSMEAN	Pr > |T| HO: LSMEAN(i)=LSMEAN(j) i/j	1	2	3	4
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

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
TRT1	- CONTROL	-5.709	0.366	6.440
TRT1	- TRT2	-3.494	2.301	8.096
TRT1	- TRT3	-3.490	2.480	8.450
CONTROL	- TRT1	-6.440	-0.366	5.709
CONTROL	- TRT2	-3.731	1.936	7.602
CONTROL	- TRT3	-3.730	2.114	7.959
TRT2	- TRT1	-8.096	-2.301	3.494
TRT2	- CONTROL	-7.602	-1.936	3.731
TRT2	- TRT3	-5.375	0.179	5.732
TRT3	- TRT1	-8.450	-2.480	3.490
TRT3	- CONTROL	-7.959	-2.114	3.730
TRT3	- TRT2	-5.732	-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 MSI= 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
TRT1	- CONTROL	-4.454	0.366	5.186
TRT2	- CONTROL	-6.432	-1.936	2.560
TRT3	- CONTROL	-6.752	-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

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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
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID
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
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	C.V.	Root MSE	RESPONSE Mean
0.092595	7.916422	6.6305	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	$Pr > |T|$ i/j	$H0: LSMEAN(i)=LSMEAN(j)$		
			1	2	3	4
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.

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
	TRT1	L3
	TRT2	L4
	TRT3	-L2-L3-L4

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

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

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
TRT3 - CONTROL	-3.405	2.895	9.195
TRT3 - TRT1	-3.046	3.152	9.349
TRT3 - TRT2	-0.455	5.742	11.940
CONTROL - TRT3	-9.195	-2.895	3.405
CONTROL - TRT1	-6.043	0.257	6.557
CONTROL - TRT2	-3.453	2.847	9.148
TRT1 - TRT3	-9.349	-3.152	3.046
TRT1 - CONTROL	-6.557	-0.257	6.043
TRT1 - TRT2	-3.607	2.591	8.788
TRT2 - TRT3	-11.940	-5.742	0.455
TRT2 - CONTROL	-9.148	-2.847	3.453
TRT2 - TRT1	-8.788	-2.591	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
TRT3 - CONTROL	-2.111	2.895	7.901
TRT1 - CONTROL	-5.263	-0.257	4.749
TRT2 - CONTROL	-7.853	-2.847	2.158

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

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LEVEL	RESPONSE LSMEAN	$\Pr > \|T\|$ HO: LSMEAN(i)=LSMEAN(j) i/j	1	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 Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-14.443	6.908	28.259
TRT2 - TRT3	-7.211	13.793	34.797
TRT2 - TRT1	-6.648	14.355	35.359
CONTROL - TRT2	-28.259	-6.908	14.443
CONTROL - TRT3	-14.466	6.885	28.236
CONTROL - TRT1	-13.904	7.447	28.798
TRT3 - TRT2	-34.797	-13.793	7.211
TRT3 - CONTROL	-28.236	-6.885	14.466
TRT3 - TRT1	-20.442	0.562	21.566
TRT1 - TRT2	-35.359	-14.355	6.648
TRT1 - CONTROL	-28.798	-7.447	13.904
TRT1 - TRT3	-21.566	-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

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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	
	TRT1	L2
	TRT2	L3
	TRT3	L4
		-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

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

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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= 499.3707
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
TRT2 - CONTROL	-10.415	6.456	23.327
TRT3 - CONTROL	-24.110	-7.240	9.631
TRT1 - CONTROL	-24.248	-7.377	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 CONTROL	
TRT1	L2
TRT2	L3
TRT3	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

LEVEL	3	2105.6253	701.8751	1.41	0.2502

METALAXYL TECHNICAL: REPRO. STUDY WITH THE MALLARD
16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET
****
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General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number	Pr > $|T|$ H0: LSMEAN(i)=LSMEAN(j)			
		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 Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - CONTROL	-14.777	6.456	27.689
TRT2 - TRT3	-7.192	13.696	34.583
TRT2 - TRT1	-7.055	13.833	34.721
CONTROL - TRT2	-27.689	-6.456	14.777
CONTROL - TRT3	-13.993	7.240	28.473
CONTROL - TRT1	-13.856	7.377	28.610
TRT3 - TRT2	-34.583	-13.696	7.192
TRT3 - CONTROL	-28.473	-7.240	13.993
TRT3 - TRT1	-20.750	0.138	21.025
TRT1 - TRT2	-34.721	-13.833	7.055
TRT1 - CONTROL	-28.610	-7.377	13.856
TRT1 - TRT3	-21.025	-0.138	20.750

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

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Error	59	0.0268933	0.0004558
Corrected Total	62	0.0283386	

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	i/i	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
TRT1 - TRT2	-0.015456	0.004500	0.024456
TRT1 - TRT3	-0.013081	0.006875	0.026831
TRT1 - CONTROL	-0.006886	0.013400	0.033686
TRT2 - TRT1	-0.024456	-0.004500	0.015456
TRT2 - TRT3	-0.017581	0.002375	0.022331
TRT2 - CONTROL	-0.011386	0.008900	0.029186
TRT3 - TRT1	-0.026831	-0.006875	0.013081
TRT3 - TRT2	-0.022331	-0.002375	0.017581
TRT3 - CONTROL	-0.013761	0.006525	0.026811
CONTROL - TRT1	-0.033686	-0.013400	0.006886

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CONTROL - TRT2	-0.029186	-0.008900	0.011386
CONTROL - TRT3	-0.026811	-0.006525	0.013761

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

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
TRT1 - CONTROL	-0.002718	0.013400	0.029518
TRT2 - CONTROL	-0.007218	0.008900	0.025018
TRT3 - CONTROL	-0.009593	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
****

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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
18. ANALYSIS OF HATCHLING WEIGHT

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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	470.2459238	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| HO: LSMEAN(i)=LSMEAN(j) i/j	1	2	3	4
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	Simultaneous Upper Confidence Limit
CONTROL - TRT3	-3.0445	0.0616	3.1678
CONTROL - TRT1 ,	-2.4361	0.7922	4.0206

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CONTROL - TRT2	-2.1025	0.9087	3.9199
TRT3 - CONTROL	-3.1678	-0.0616	3.0445
TRT3 - 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 Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
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

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Effect Coefficients

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	23394.44812	458.714659		
Corrected Total	54	23493.19068			

R-Square	C.V.	Root MSE	SURVWT Mean
0.004203	7.488456	21.418	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 LSMEAN	Pr > $|T|$ H0: LSMEAN(i)=LSMEAN(j)			
		i/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

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
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

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

Effect	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	LSMEAN i/j	Pr > |T| H0: LSMEAN(i)=LSMEAN(j)			
			1	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
TRT3 - TRT1	-13.288	5.650	24.588
TRT3 - TRT2	-7.782	11.156	30.094
TRT3 - CONTROL	-2.701	16.237	35.176
TRT1 - TRT3	-24.588	-5.650	13.288
TRT1 - TRT2	-13.432	5.506	24.444
TRT1 - CONTROL	-8.351	10.588	29.526
TRT2 - TRT3	-30.094	-11.156	7.782
TRT2 - TRT1	-24.444	-5.506	13.432
TRT2 - CONTROL	-13.857	5.081	24.019
CONTROL - TRT3	-35.176	-16.237	2.701
CONTROL - TRT1	-29.526	-10.588	8.351
CONTROL - TRT2	-24.019	-5.081	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 tests 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
TRT3 - CONTROL	1.159	16.237	31.316
TRT1 - CONTROL	-4.491	10.588	25.666
TRT2 - CONTROL	-9.997	5.081	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

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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 Confidence= 0.95 df= 59 MSE= 8671.283
Critical Value of Studentized Range= 3.739
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 - TRT1	-91.06	-4.02	83.02
TRT2 - CONTROL	-88.67	-1.63	85.42
TRT2 - TRT3	-64.09	22.95	109.99
TRT3 - TRT1	-114.01	-26.97	60.07
TRT3 - CONTROL	-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

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
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT
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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 I SS	Mean Square	F Value	Pr > F
EVEL	3	7529.87	2509.96	0.29	0.8328
REM	1	186563.03	186563.03	21.52	0.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
EVEL	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
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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	0.9051	.	0.6088	0.6088
3	0.5297	0.6088	.	0.3308
4	0.7335	0.6460	0.3308	.

NOTE: To ensure overall protection level, only probabilities associated

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

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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
****

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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			

R-Square	C.V.	Root MSE	POSTF Mean
0.316775	6.774435	83.792	1236.9

Source	DF	Type I SS	Mean Square	F Value	Pr > F
EVEL	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
EVEL	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
****

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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	1243.59514	20.99271	0.0001	3
TRT3	1216.88855	20.96865	0.0001	4

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

i/j	1	2	3	4
1		0.7911	0.8995	0.4478
2	0.7911		0.8884	0.3046
3	0.8995	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.

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

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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

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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

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