

(7-27-99)

MRID No. 447438-02

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

- 1. **CHEMICAL:** Cyromazine PC Code No.: 121301
- 2. **TEST MATERIAL:** CGA-72662 Purity: 96.3%

3. **CITATION:**
Authors: J.B. Beavers, V. Dukes and M.J. Jaber
Title: CGA-72662: A One Generation Reproduction Study with the Mallard (*Anas platyrhynchos*)
Study Completion Date: June 12, 1989
Laboratory: Wildlife International Ltd., Easton, MD
Sponsor: Novartis Crop Protection, Inc., Greensboro, NC
Laboratory Report ID: 108-266
MRID No.: 447438-02
DP Barcode: D253080

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

Signature:  Date: 3/16/99

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

Signature: P. Kosalwat Date: 3/16/99

5. **APPROVED BY:**

Signature:  Date: 7/27/99

6. **STUDY PARAMETERS:**

Scientific Name of Test Organism: *Anas platyrhynchos*
Age of Test Organisms at Test Initiation: 21 weeks
Definitive Study Duration: 19 weeks

7. **CONCLUSIONS:** This study is scientifically sound and meets the guideline requirements for an avian reproduction study using mallards. Based on a reduction in normal hatchlings at the 300 and 1200 ppm test concentrations, the NOEC was 75 ppm.

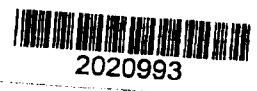
Results Synopsis

Most sensitive endpoints: Normal hatchlings

NOEC: 75 ppm

LOEC: 300 ppm

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8. ADEQUACY OF THE STUDY:

A. **Classification:** Core

B. **Rationale:** N/A

C. **Repairability:** N/A

9. GUIDELINE DEVIATIONS:

1. The temperature in the study room (24.9°C) was higher than recommended (21°C).
2. The report states that there were 10 weeks of egg laying during the exposure period, however, the authors only report 8 weeks of egg laying data. The guidelines require that at least 10 weeks of exposure with egg laying.

10. SUBMISSION PURPOSE:

11. MATERIALS AND METHODS:

A. **Test Organisms**

Guideline Criteria	Reported Information
<p><u>Species</u> A wild waterfowl species, preferably the mallard (<i>Anas platyrhynchos</i>), or an upland game species, preferably the northern bobwhite (<i>Colinus virginianus</i>)</p>	Mallard (<i>Anas platyrhynchos</i>)
<p><u>Age at beginning of test</u> Birds should be approaching their first breeding season.</p>	21 weeks old; birds were approaching their first breeding season.
<p><u>Supplier</u> All birds should be from the same source.</p>	Whistling Wings, Inc. Hanover, Illinois
<p><u>Were birds pen-reared?</u></p>	Yes
<p><u>Were birds phenotypically indistinguishable from wild birds?</u></p>	Yes

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Guideline Criteria	Reported Information
Health observation period 2 to 6 weeks.	5 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)	Mean: 24.9°C SD: 2.7°C
Relative humidity Approx. 55%	Mean: 69% SD: 14%
Lighting First 8 weeks: 7 h per day. Thereafter: 16-17 h per day. At least 6 footcandles at bird level.	First 2 weeks: 8 h per day Weeks 3 and 4: 7 h per day Week 5: 6 h per day. Thereafter: 17 h per day. Mean illumination: 130 lux.
Diet A commercial breeder feed (or its equivalent) that is appropriate for the test species.	28% protein minimum 2.5% fat minimum 5% fiber maximum 5% limestone (adult diet only)

Guideline Criteria	Reported Information
<p>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.</p>	<p>Test diets were prepared by mixing the test substance into a premix which was used for weekly preparation of the final diet.</p>
<p>Was the premix stored under conditions which maintain stability?</p>	<p>Yes</p>
<p>Was the diet analyzed to verify homogeneity and stability of the test substance?</p>	<p>Yes</p>
<p>Replenishment of feed</p>	<p>Adult diets were prepared weekly and presented to the birds on Wednesday of each week.</p> <p>Feed and water were provided <i>ad libitum</i> for the adults and offspring.</p>

C. Test Design

Guideline Criteria	Reported Information
<p>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.</p>	<p>Nominal concentrations: Control, 75, 300 and 1200 ppm ai.</p> <p>Max. residue level: Not reported</p>
<p>Control Vehicle control.</p>	<p>Vehicle control</p>
<p>Vehicle Corn oil or other appropriate vehicle.</p>	<p>Acetone and corn oil</p>

Guideline Criteria	Reported Information
<u>Vehicle amount (% of diet by weight)</u> Not more than 2%.	3.9% acetone and 1.9% corn oil in premixes (equivalent to 0.13% acetone and 0.06% corn oil in test diets).
<u>Number of birds per pen</u> One male and 1 female per pen is strongly recommended. For quail, 1 male and 2 females may be acceptable. For ducks, 2 males and 5 females may be acceptable.	1 male and 1 female per pen
<u>Number of pens per group</u> At least 5 replicate pens are required for mallards housed in groups of 7. For other arrangements, at least 12 pens are required, but considerably more may be needed if birds are kept in pairs.	16 pens per group
<u>Pre-laying exposure duration</u> At least 10 weeks prior to the onset of egg-laying.	9 weeks
<u>Exposure duration with egg-laying</u> At least 10 weeks.	10 weeks
<u>Withdrawal period</u> If reduced reproduction is evident, a withdrawal period of up to 3 weeks may be added to the test phase.	N/A

D. Egg Collection and Incubation

Guideline Criteria	Reported Information
<u>Were eggs collected daily?</u>	Yes
<u>Egg storage temperature</u> Approximately 16°C (61°F)	12.0 ± 1.0°C
<u>Egg storage humidity</u> Approximately 65%	Approximately 82%

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Guideline Criteria	Reported Information
Were eggs set weekly?	Yes
Were eggs candled for cracks prior to being set for incubation on Day 0?	Yes
<u>Candling for fertility</u> Quail: approx. Day 11 Ducks: approx. Day 14	Eggs were candled on Day 14 for embryo viability and on Day 21 for embryo survival.
<u>Transfer of eggs to hatcher</u> Bobwhite: Day 21 Mallard: Day 23	Eggs were transferred on Day 24.
<u>Hatching temperature</u> 39°C (102°F) is recommended	37.0 ± 0.3°C
<u>Hatching humidity</u> 70% is recommended.	73%
<u>Day after egg set that chicks were removed and counted</u> Bobwhite: Day 24 Mallard: Day 27	Chicks were removed and counted on Day 26 or 27.

E. Eggshell Thickness Measurement

Guideline Criteria	Reported Information
<u>Collection Schedule</u> At least once every two weeks (Week 1, 3, 5, 7 and 9).	One egg was collected for eggshell thickness measurement from each of the odd numbered pens during odd numbered weeks and from each of the even numbered pens during even numbered weeks.
Were shells opened, washed, and air dry for at least 48 hours before measuring?	Yes; shells air dried for 1 week.
<u>Measurement</u> 3-4 measurements per eggs to the nearest 0.01 mm.	5 measurements to the nearest 0.005 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?	91 to 145% of nominal
Did diet analysis show that the test substance was stable and homogeneous?	Yes
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
<p>Reproductive Endpoints The following endpoints should be reported:</p> <ul style="list-style-type: none"> • Eggs laid • Eggs cracked • Eggs set • Viable embryos • Live 3-week embryos • Normal hatchlings • 14-day-old survivors • Weights of 14-day-old survivors • Egg shell thickness • Total food consumption • Initial and final body weights, by sex 	All endpoints listed at left plus hatchling weight and maximum number of eggs set and eggs laid.
Were data reported by pen for all endpoints?	Yes

Significant Results: There were no overt signs of toxicity or treatment related mortalities at any concentration. When compared to the control, there were no treatment related reductions in body weight or feed consumption. There were significant treatment related reductions in both egg production and hatchability at the highest treatment level (1200 ppm ai) when compared to the control. In addition, there appeared to be a treatment related reduction in hatchability at the 300 ppm ai level when compared to the control.

13. VERIFIED STATISTICAL RESULTS:

Means of Endpoints

Endpoint	Control	75 ppm	300 ppm	1200 ppm
Eggs laid (EL)	47 (5)	47 (6)	44 (9)	34 (14)
Eggs cracked (EC)	2.3 (1.7)	2.6 (2.4)	1.1 (1.1)	0.9 (1.4)
Eggs set (ES)	40 (5)	40 (7)	38 (9)	30 (13)
Viable embryos (VE)	37 (5)	35 (6)	34 (7)	28 (12)
Live 3-wk embryos (LE)	37 (5)	35 (7)	33 (7)	27 (12)
Normal hatchlings (NH)	28 (8)	27 (8)	21 (8)	19 (12)
14-day-old survivors (HS)	27 (8)	27 (9)	20 (8)	19 (12)
Egg shell thickness (THICK)	0.386 (0.018)	0.378 (0.024)	0.398 (0.027)	0.393 (0.022)
Hatchling weight (HATWT)	38.1 (2.8)	36.3 (2.8)	37.8 (2.2)	36.6 (2.5)
14-day-old survivor weight (SURVWT)	232 (23)	234 (19)	234 (16)	236 (20)
Mean food consumption (FOOD)	145 (22)	138 (19)	147 (20)	160 (17)
Final weight of males (POSTM)	1153 (106)	1119 (104)	1171 (101)	1169 (111)
Final weight of females (POSTF)	1179 (130)	1208 (93)	1221 (148)	1113 (141)

Statistically Significant Endpoints

Endpoint	Statistical Method	Levels at which Effect Was Observed
<u>Reduction in the number of:</u> - Eggs laid - Eggs set - Viable embryos - Live 3-week embryos - 14-day-old survivors	Dunnett's	1200 ppm ai
<u>Reduction in the number of:</u> - Normal hatchlings	Dunnett's	300 and 1200 ppm ai

14. REVIEWER'S COMMENTS: Based on a reduction in the number normal hatchlings at the 300 and 1200 ppm ai test levels, the NOEL and LOEL were determined to be 75 and 300 ppm ai, respectively. This study is scientifically sound and fulfills the guideline requirements for an avian reproduction test using mallard ducks. The study is classified as **Core**.

LEVEL	CONTROL	TRT1	TRT2	TRT3
EL	46.69	46.69	44.06	34.38
EC	2.25	2.63	1.06	0.88
ES	40.19	39.75	38.38	29.75
VE	37.44	35.44	34.19	27.88
LE	37.06	34.63	33.44	27.38
NH	27.63	27.06	20.63	19.06
HS	27.06	27.00	20.44	18.88
ES/EL (%)	86.04	85.08	86.73	83.49
(EL-EC)/EL (%)	95.22	94.41	97.57	97.42
VE/ES (%)	93.48	89.25	89.76	94.79
LE/VE (%)	99.08	97.59	97.97	95.34
NH/EL (%)	59.51	57.43	46.65	50.70
NH/ES (%)	69.65	67.62	53.70	58.56
NH/LE (%)	75.11	77.42	61.79	63.28
HS/ES (%)	68.25	67.42	53.19	58.02
HS/NH (%)	97.75	99.70	99.07	98.85
THICK	0.39	0.38	0.40	0.39
HATWT	38.06	36.25	37.75	36.57
SURVWT	232.13	234.73	233.50	235.86
FOOD	144.81	138.45	147.41	159.65
POSTM	1152.75	1118.81	1171.00	1168.81
POSTF	1179.13	1207.63	1221.25	1112.75

LEVEL	CONTROL	TRT1	TRT2	TRT3
60 TRT3	44	0.39	35.35	12.12
61 TRT3	36	2.31	29.29	19.19
62 TRT3	22	1.19	19.19	3.3
63 TRT3	34	4.24	24.24	22.22
64 TRT3	41	0.36	33.33	20.20

0

LEVEL=CONTROL

Variable Label	N	Mean	Std Dev	CV
EL	16	46.688	5.225	11.190
EC	16	2.250	1.732	76.980
ES	16	40.188	4.983	12.399
VE	16	37.438	6.858	18.318
LE	16	37.063	4.553	12.284
NH	16	27.625	7.907	28.622
HS	16	27.063	0.018	29.235
THICK	16	38.063	2.792	7.356
HATWT	16	232.125	25.240	10.012
SURVMT	16	144.806	22.051	15.228
FOOD	16	1190.500	102.755	8.631
PREM	16	1152.750	105.807	9.161
POSTM	16	1041.938	108.851	10.447
PREF	16	1179.125	129.908	11.017
ES/EL (%)	16	86.039	4.259	4.950
NH/EL (%)	16	59.510	16.636	27.955
(EL-EC)/EL (%)	16	95.222	3.460	3.634
VE/ES (%)	16	93.479	7.796	8.340
NH/ES (%)	16	69.647	20.383	29.266
HS/ES (%)	16	68.251	20.342	29.804
LE/VE (%)	16	99.076	2.260	2.282
NH/LE (%)	16	73.108	21.450	28.559
HS/NH (%)	16	97.746	3.178	3.252

LEVEL=TRT1

Variable Label	N	Mean	Std Dev	CV
EL	16	46.688	6.405	13.720
EC	16	2.625	2.419	92.140
ES	16	39.750	6.506	16.368
VE	16	35.838	6.293	17.577
LE	16	34.625	6.510	18.802
NH	16	27.063	8.489	31.368
HS	16	27.000	8.540	31.650
THICK	16	0.378	0.024	6.234
HATWT	16	36.250	2.817	7.770
SURVMT	16	234.125	19.012	8.120
FOOD	16	138.450	106.566	76.993
PREM	16	1151.438	109.989	9.255
POSTM	16	1118.813	103.989	9.295
PREF	16	1028.938	109.486	10.641
POSTF	16	1207.625	93.227	7.720
ES/EL (%)	16	85.080	5.780	6.793
NH/EL (%)	16	57.430	14.655	25.518
(EL-EC)/EL (%)	16	94.412	5.031	5.329
VE/ES (%)	16	89.246	8.947	10.025
NH/ES (%)	16	67.622	16.804	24.849
HS/ES (%)	16	67.420	16.821	24.950
LE/VE (%)	16	97.593	3.425	3.509
NH/LE (%)	16	77.415	17.573	22.700
HS/NH (%)	16	99.702	1.190	1.194

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LEVEL=TRT2

Variable Label	N	Mean	Std Dev	CV
EL	16	44.063	9.110	20.676
EC	16	1.063	1.124	105.752
ES	16	38.375	8.793	22.913
VE	16	34.188	7.378	21.580
LE	16	33.438	7.052	21.090
NH	16	20.625	7.710	37.384
HS	16	20.438	7.685	37.603
THICK	16	0.398	0.027	6.696
HATWT	16	37.750	2.206	5.844
SURVMT	16	233.500	16.379	7.014
FOOD	16	147.406	20.052	13.603
PREM	16	1191.813	98.483	8.263
POSTM	16	1171.000	100.938	8.620
POSTF	16	1039.000	110.211	10.607
ES/EL (%)	16	1221.250	148.440	12.155
NH/EL (%)	16	86.729	4.524	5.216
(EL-EC)/EL (%)	16	46.648	14.413	30.899
VE/ES (%)	16	97.570	2.603	2.668
NH/ES (%)	16	89.751	10.744	11.970
HS/ES (%)	16	53.701	15.949	29.699
LE/VE (%)	16	53.192	15.957	29.999
NH/LE (%)	16	97.974	2.574	2.627
HS/NH (%)	16	61.786	18.355	29.707
HS/NH (%)	16	99.066	2.127	2.147

LEVEL=TRT3

Variable Label	N	Mean	Std Dev	CV
EL	16	34.375	14.301	41.603
EC	16	0.875	1.408	160.950
ES	16	29.750	13.504	44.720
VE	16	27.875	11.977	42.967
LE	16	27.375	11.831	43.220
NH	16	19.063	11.908	62.467
HS	16	18.875	11.837	62.713
THICK	15	0.393	0.022	5.484
HATWT	14	36.571	2.472	6.759
SURVMT	14	235.857	20.183	8.557
FOOD	16	159.650	17.480	10.949
PREM	16	1212.813	102.787	8.475
POSTM	16	1168.813	110.900	9.488
PREF	16	1022.813	118.118	11.548
POSTF	16	1172.750	141.485	12.115
ES/EL (%)	15	83.491	13.158	15.759
NH/EL (%)	15	50.701	24.855	49.023
(EL-EC)/EL (%)	15	97.417	3.890	3.993
VE/ES (%)	15	94.785	5.428	5.727
NH/ES (%)	15	58.559	28.519	48.702
HS/ES (%)	15	58.024	28.563	49.226
LE/VE (%)	15	95.339	12.645	13.284
NH/LE (%)	15	63.281	30.793	48.661
HS/NH (%)	14	98.847	2.635	2.665

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

LEVEL=TRT4

General Linear Models Procedure

Class Level Information

Class Levels Values

LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

15:02 Friday, February 26, 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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: EL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1643.2969	547.7656	6.16	0.0010
Error	60	5337.5625	88.9594		
Corrected Total	63	6980.8594			

R-Square	C.V.	Root MSE	EL Mean
0.235400	21.95842	9.4318	42.953

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1643.2969	547.7656	6.16	0.0010

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	EL	Pr > T	HO: LSMEAN(I)=LSMEAN(J)
	LSMEAN	i/j	1 2 3 4
CONTROL	46.6875000	1	1.0000 0.4343 0.0005
TRT1	46.6875000	2	1.0000 0.4343 0.0005
TRT2	44.0625000	3	0.4343 0.0005 0.0051
TRT3	34.3750000	4	0.0005 0.0005 0.0051

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

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

15:02 Friday, February 26, 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= 88.95938
Critical Value of Studentized Range= 3.737
Minimum Significant Difference= 8.8119

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

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT1	-8.812	0.000	8.812
CONTROL - TRT2	-6.187	2.625	11.437
CONTROL - TRT3	3.501	12.313	21.124
TRT1 - CONTROL	-8.812	0.000	8.812
TRT1 - TRT2	-6.187	2.625	11.437
TRT1 - TRT3	3.501	12.313	21.124
TRT2 - CONTROL	-11.437	-2.625	6.187
TRT2 - TRT1	-11.437	-2.625	6.187
TRT2 - TRT3	0.876	9.688	18.499
TRT3 - CONTROL	-21.124	-12.313	-3.501
TRT3 - TRT1	-21.124	-12.313	-3.501
TRT3 - TRT2	-18.499	-9.688	-0.876

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

15:02 Friday, February 26, 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= 88.95938
Critical Value of Dunnett's T= 2.104
Minimum Significant Difference= 7.0158

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	-7.016	0.000	7.016
TRT2 - CONTROL	-9.641	-2.625	4.391
TRT3 - CONTROL	-19.328	-12.313	-5.297

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Effect Coefficients

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: EC

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	35.921875	11.973958	3.96	0.0121
Error	60	181.437500	3.023958		
Corrected Total	63	217.359375			
R-Square		C.V.	Root MSE	EC Mean	
	0.165265	102.1037	1.7390	1.7031	

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	35.921875	11.973958	3.96	0.0121

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

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

LEVEL	CONTROL	TRT1	TRT2	TRT3
1	2.25000000	0.5442	0.5442	0.0582
2	2.62500000	0.5442	0.0136	0.0060
3	1.04250000	0.0582	0.0136	0.7614
4	0.87500000	0.0291	0.0060	0.7614

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

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

15:02 Friday, February 26, 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= 3.023958
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 1.6247

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

LEVEL Comparison	Simultaneous Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit
	Lower	Upper		
CONTROL - CONTROL	-1.2497	0.3750	0.3750	1.9997
CONTROL - TRT1	-0.0622	1.5625	1.5625	3.1872
CONTROL - TRT2	0.1253	1.7500	1.7500	3.3747
CONTROL - TRT3	-1.9997	-0.3750	-0.3750	1.2497
TRT1 - TRT2	-0.4372	1.1875	1.1875	2.8122
TRT1 - TRT3	-0.2497	1.3750	1.3750	2.9997
TRT2 - TRT3	-3.1872	-1.5625	-1.5625	0.0622
TRT2 - CONTROL	-2.8122	-1.1875	-1.1875	0.4372
TRT3 - CONTROL	-1.4372	0.1875	0.1875	1.8122
TRT3 - TRT1	-3.3747	-1.7500	-1.7500	-0.1253
TRT3 - TRT2	-2.9997	-1.3750	-1.3750	0.2497
TRT3 - TRT3	-1.8122	-0.1875	-0.1875	1.4372

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

15:02 Friday, February 26, 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= 3.023958
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 1.2935

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

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LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
- CONTROL	-0.9185	0.3750	0.3750	1.6685	1.6685
- TRT1	-2.4810	-1.1875	-1.1875	0.1060	0.1060
- CONTROL	-2.6685	-1.3750	-1.3750	-0.0815	-0.0815

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1154.7969	384.9323	4.79	0.0047
Error	60	4822.1875	80.3698		
Corrected Total	63	5976.9844			

R-Square	C.V.	Root MSE	ES Mean
0.193207	24.21929	8.9649	37.016

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1154.7969	384.9323	4.79	0.0047

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	LSMEAN	ES	Pr > T H0: LSMEAN(i)=LSMEAN(j)			
			1	2	3	4
CONTROL	40.1875000	1	0.8907	0.5696	0.0017	0.0017
TRT1	39.7500000	2	0.8907	0.6660	0.0025	0.0025
TRT2	38.3750000	3	0.5696	0.6660	0.0085	0.0085
TRT3	29.7500000	4	0.0017	0.0025	0.0085	0.0085

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

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

15:02 Friday, February 26, 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= 80.36979
Critical Value of Studentized Range= 3.757
Minimum Significant Difference= 8.3757

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
CONTROL - TRT1	-7.938	0.438	0.438	8.813	8.813
CONTROL - TRT2	-6.563	1.813	1.813	10.188	10.188
CONTROL - TRT3	2.062	10.438	10.438	18.813	18.813
TRT1 - CONTROL	-8.813	-0.438	-0.438	7.938	7.938
TRT1 - TRT2	-7.001	1.375	1.375	9.751	9.751
TRT1 - TRT3	1.624	10.000	10.000	18.376	18.376
TRT2 - CONTROL	-10.188	-1.813	-1.813	6.563	6.563
TRT2 - TRT1	-9.751	-1.375	-1.375	7.001	7.001
TRT2 - TRT3	0.249	8.625	8.625	17.001	17.001
TRT3 - CONTROL	-18.813	-10.438	-10.438	-2.062	-2.062
TRT3 - TRT1	-18.376	-10.000	-10.000	-1.624	-1.624
TRT3 - TRT2	-17.001	-8.625	-8.625	-0.249	-0.249

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

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

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

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 80.36979
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 6.6685

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

LEVEL Comparison	Simultaneous		Pr > F
	Lower Confidence Limit	Upper Confidence Limit	
- CONTROL	-7.106	6.231	
- TRT1	-8.481	4.856	
- CONTROL	-17.106	-3.769	****

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

NUMBER of observations in data set = 64

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	818.42188	272.80729	4.18	0.0094
Error	60	3916.06250	65.26771		
Corrected Total	63	4734.48438			

R-Square 0.172864 C.V. 23.94840 Root MSE 8.0788 VE Mean 33.734

Source LEVEL DF 3 Type I SS 818.42188 Mean Square 272.80729 F Value 4.18 Pr > F 0.0094

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	37.4375000	1	0.4865	0.2597	0.0014
TRT1	35.4375000	2	0.4865	0.6632	0.0103
TRT2	34.1675000	3	0.2597	0.6632	0.0309
TRT3	27.8750000	4	0.0014	0.0103	0.0309

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

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

15:02 Friday, February 26, 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= 65.26771
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 7.5478

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
CONTROL - TRT1	-5.548	2.000	2.000	9.548	
CONTROL - TRT2	-4.298	3.250	3.250	10.798	
CONTROL - TRT3	2.015	9.563	9.563	17.110	****
TRT1 - CONTROL	-9.548	-2.000	-2.000	5.548	
TRT1 - TRT2	-6.208	1.250	1.250	8.798	
TRT1 - TRT3	0.015	7.563	7.563	15.110	****
TRT2 - CONTROL	-10.798	-3.250	-3.250	4.298	
TRT2 - TRT1	-8.798	-1.250	-1.250	6.298	
TRT2 - TRT3	-1.235	6.313	6.313	13.860	
TRT3 - CONTROL	-17.110	-9.563	-9.563	-2.015	****
TRT3 - TRT1	-15.110	-7.563	-7.563	-0.015	****
TRT3 - TRT2	-13.860	-6.313	-6.313	1.235	

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

15:02 Friday, February 26, 1999

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= 65.26771
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 6.0094

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
- CONTROL	-8.009	4.009	-2.000	4.009	
TRT1	-9.259	2.759	-3.250	2.759	
TRT2	-15.572	-3.553	-9.563	-3.553	****
TRT3					

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

15:02 Friday, February 26, 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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: LE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	814.62500	271.54167	4.30	0.0082
Error	60	3792.37500	63.20625		
Corrected Total	63	4607.00000			

R-Square	C.V.	Root MSE	LE Mean
0.176823	24.00071	7.9502	33.125

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	814.62500	271.54167	4.30	0.0082

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	37.0625000	1	0.3893	0.2021	0.0010
TRT1	34.6250000	2	0.3893	0.6742	0.0124
TRT2	33.4375000	3	0.2021	0.6742	0.0350
TRT3	27.3750000	4	0.0010	0.0124	0.0350

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

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

15:02 Friday, February 26, 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= 63.20625
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 7.4277

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
CONTROL - TRT1	-4.990	9.865	2.438	9.865	
CONTROL - TRT2	-3.803	3.625	3.625	11.053	
CONTROL - TRT3	2.260	9.688	9.688	17.115	****
TRT1 - CONTROL	-9.865	-2.438	-2.438	4.990	

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TRT1	-6.240	1.188	8.615
TRT2	-0.178	7.250	14.678
CONTROL	-11.053	-3.625	3.803
TRT1	-8.615	-1.188	6.240
TRT2	-1.365	6.063	13.490
CONTROL	-17.115	-9.688	-2.260
TRT1	-14.678	-7.250	0.178
TRT2	-13.490	-6.063	1.365

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 63.20625
Critical Value of Dunnnett's T= 2.104
Minimum Significant Difference= 5.9138

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

LEVEL Comparison	Simultaneous		Simultaneous Upper Confidence Limit
	Lower Confidence Limit	Difference Between Means	
CONTROL	-8.351	-2.438	3.476
TRT2	-9.539	-3.625	2.289
TRT3	-15.601	-9.688	-3.774

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2

TRT1
TRT2
TRT3
L3
L4
-L2-L3-L4

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: NH

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	922.06250	307.35417	3.66	0.0172
Error	60	5037.37500	83.95625		
Corrected Total	63	5959.43750			

R-Square C.V. Root MSE
0.154723 38.83556 9.1628

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	922.06250	307.35417	3.66	0.0172

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	NH	Pr > T	HO: LSMEAN(i)=LSMEAN(j)
CONTROL	27.6250000	1	0.8627 0.0347 0.0105
TRT1	27.0625000	2	0.8627 0.0515 0.0164
TRT2	20.6250000	3	0.0347 0.0515 0.6313
TRT3	19.0625000	4	0.0105 0.0164 0.6313

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

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

15:02 Friday, February 26, 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= 83.95625
Critical Value of Studentized Range= 3.737
Minimum Significant Difference= 8.5605

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

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LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
CONTROL - TRT1	-7.998	0.563	9.123
CONTROL - TRT2	-1.561	7.000	15.561
CONTROL - TRT3	0.002	8.563	17.123 ***
TRT1 - CONTROL	-9.123	-0.563	7.998
TRT1 - TRT2	-2.123	6.438	14.998
TRT1 - TRT3	-0.561	8.000	16.561
TRT2 - CONTROL	-15.561	-7.000	1.561
TRT2 - TRT1	-14.998	-6.438	2.123
TRT2 - TRT3	-6.998	1.563	10.123
TRT3 - CONTROL	-17.123	-8.563	-0.002 ***
TRT3 - TRT1	-16.561	-8.000	0.561
TRT3 - TRT2	-10.123	-1.563	6.998

CYROMAZINE: REPRO. STUDY WITH THE MALLARD
 6. ANALYSIS OF NORMAL MATCHINGS

 15:02 Friday, February 26, 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 = 83.95625
 Critical Value of Dunnett's T = 2.104
 Minimum Significant Difference = 6.8157

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	-7.378	-0.563	6.253
TRT2 - CONTROL	-13.816	-7.000	-0.184 ***
TRT3 - CONTROL	-15.378	-8.563	-1.747 ***

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Class Level Information

Class Levels	Values
LEVEL	4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: HS

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	889.81250	296.60417	3.54	0.0197
Error	60	5020.62500	83.67708		
Corrected Total	63	5910.43750			

R-Square 0.150549 C.V. 39.18615 Root MSE 9.1475 HS Mean 23.344

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	889.81250	296.60417	3.54	0.0197

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	LSMEAN	HS Pr > T	HO: LSMEAN(I)=LSMEAN(J)
CONTROL	27.0625000	1	0.9846 0.0449 0.0140
TRT1	27.0000000	2	0.9846 0.0469 0.0147
TRT2	20.4375000	3	0.0449 0.0469 0.6308
TRT3	18.8750000	4	0.0140 0.0147 0.6308

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

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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= 83.67708
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 8.5463

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
CONTROL - TRT1	-8.484	8.609	0.063	8.609	8.609
CONTROL - TRT2	-1.921	15.171	6.625	15.171	15.171
CONTROL - TRT3	-0.359	16.734	8.188	16.734	16.734
TRT1 - CONTROL	-8.609	8.484	-0.063	8.484	8.484
TRT1 - TRT2	-1.984	15.109	6.563	15.109	15.109
TRT1 - TRT3	-0.421	16.671	8.125	16.671	16.671
TRT2 - CONTROL	-15.171	1.921	-6.625	1.921	1.921
TRT2 - TRT1	-15.109	1.984	-6.563	1.984	1.984
TRT2 - TRT3	-6.984	10.109	1.563	10.109	10.109
TRT3 - CONTROL	-16.734	0.359	-8.188	0.359	0.359
TRT3 - TRT1	-16.671	0.421	-8.125	0.421	0.421
TRT3 - TRT2	-10.109	6.984	-1.563	6.984	6.984

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 83.67708
 Critical Value of Dunnett's T= 2.104
 Minimum Significant Difference= 6.8044

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT1 - CONTROL	-6.867	6.742	-0.063	6.742	6.742
TRT2 - CONTROL	-13.429	0.179	-6.625	0.179	0.179
TRT3 - CONTROL	-14.992	-1.383	-8.188	-1.383	-1.383

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

8. ANALYSIS OF EGGS SET/EGGS LAID

15:02 Friday, February 26, 1999

General Linear Models Procedure

Class Level Information

Class	Levels	Values
CONTROL	1	0.6966
TRT1	2	0.7733
TRT2	3	0.4985

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.

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

8. ANALYSIS OF EGGS SET/EGGS LAID

15:02 Friday, February 26, 1999

General Linear Models Procedure

Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT 0

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

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

8. ANALYSIS OF EGGS SET/EGGS LAID

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	35.636653	11.878884	0.40	0.7517
Error	59	1741.212638	29.512079		
Corrected Total	62	1776.849291			

R-Square 0.020056

C.V. 8.002623

Root MSE 5.4325

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	35.636653	11.878884	0.40	0.7517

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

8. ANALYSIS OF EGGS SET/EGGS LAID

15:02 Friday, February 26, 1999

General Linear Models Procedure

Least Squares Means

LEVEL	RESPONSE	Pr > T HO: LSMEAN(i)=LSMEAN(j)			
		i/j	1	2	3
CONTROL	68.2787586	1	0.6966	0.7733	0.4612
TRT1	67.5263052	2	0.6966	0.4985	0.7229
TRT2	68.8344744	3	0.7733	0.4985	0.3089

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

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

 15:02 Friday, February 26, 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= 29.51208
 Critical Value of Studentized Range= 3.739

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

LEVEL Comparison	Simultaneous Confidence Limit		Difference Between Means	Simultaneous Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - CONTROL	-4.522	0.556	0.556	5.634	5.634
TRT2 - TRT1	-3.770	1.308	1.308	6.386	6.386
TRT2 - TRT3	-3.158	2.004	2.004	7.166	7.166
CONTROL - TRT1	-5.634	-0.556	-0.556	4.522	4.522
CONTROL - TRT2	-4.325	0.752	0.752	5.830	5.830
CONTROL - TRT3	-3.714	1.448	1.448	6.610	6.610
TRT1 - CONTROL	-6.386	-1.308	-1.308	3.770	3.770
TRT1 - TRT2	-5.830	-0.752	-0.752	4.325	4.325
TRT1 - TRT3	-4.466	0.696	0.696	5.857	5.857
TRT3 - CONTROL	-7.166	-2.004	-2.004	3.158	3.158
TRT3 - TRT1	-6.610	-1.448	-1.448	3.714	3.714
TRT3 - TRT2	-5.857	-0.696	-0.696	4.466	4.466

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

 15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 29.51208
 Critical Value of Dunnnett's T= 2.106

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

LEVEL Comparison	Simultaneous Confidence Limit		Difference Between Means	Simultaneous Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - CONTROL	-3.489	0.556	0.556	4.601	4.601
TRT1 - CONTROL	-4.797	-0.752	-0.752	3.292	3.292
TRT3 - CONTROL	-5.560	-1.448	-1.448	2.664	2.664

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

 15:02 Friday, February 26, 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.

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

 15:02 Friday, February 26, 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

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

 15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	553.75095	184.58365	2.02	0.1212
Error	59	5397.85551	91.48908		
Corrected Total	62	5951.60646			

R-Square C.V. Root MSE RESPONSE Mean

0.093042 12.57419 9.5650 76.068

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	553.75095	184.58365	2.02	0.1212

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

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15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN	Pr > T	HO: LSMEAN(I)=LSMEAN(J)		
			1	2	3	4
CONTROL	78.1103475	1	0.1133	0.2093	0.6021	0.6021
TRT1	72.6738455	2	0.1133	0.7364	0.0395	0.0395
TRT2	73.8176719	3	0.2093	0.7364	0.0814	0.0814
TRT3	79.9121631	4	0.6021	0.0395	0.0814	0.0814

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

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

15:02 Friday, February 26, 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= 91.48908
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	-7.287	1.802	10.890
TRT3	- TRT1	-2.994	6.094	15.183
TRT3	- TRT2	-1.850	7.238	16.327
CONTROL	- TRT3	-10.890	-1.802	7.287
CONTROL	- TRT2	-4.648	4.293	13.235
CONTROL	- TRT1	-3.504	5.437	14.377
TRT2	- CONTROL	-15.183	-6.094	2.994
TRT2	- TRT1	-13.233	-4.293	4.648
TRT2	- TRT3	-7.797	1.144	10.084
TRT1	- CONTROL	-16.327	-7.238	1.850
TRT1	- TRT2	-14.377	-5.437	3.504
TRT1	- TRT3	-10.084	-1.144	7.797

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 91.48908
Critical Value of Dunnnett's T= 2.106

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	-5.438	1.802	9.041
TRT2	- CONTROL	-11.414	-4.293	2.829
TRT1	- CONTROL	-12.558	-5.437	1.685

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

15:02 Friday, February 26, 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.

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

15:02 Friday, February 26, 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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	201.24719	67.08240	1.09	0.3623
Error	59	3645.65596	61.79078		
Corrected Total	62	3846.90315			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.052314	9.274560	7.8607	86.756

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Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	201.24719	67.08240	1.09	0.3623

CYROMAZINE: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
	LSMEAN	i/j	1 2 3 4
CONTROL	87.622035	1	0.1832 0.2803 0.0934
TRT1	83.879435	2	0.1832 0.7979 0.7052
TRT2	84.5940265	3	0.2803 0.7979 0.5291
TRT3	82.8052151	4	0.0934 0.7052 0.5291

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

CYROMAZINE: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

15:02 Friday, February 26, 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= 61.79078
 Critical Value of Studentized Range= 3.759

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	-4.319	3.028	10.376
CONTROL	- TRT1	-3.605	3.743	11.091
CONTROL	- TRT3	-2.652	4.817	12.286
TRT2	- CONTROL	-10.376	-3.028	4.319
TRT2	- TRT1	-6.633	0.715	8.062
TRT2	- TRT3	-5.680	1.789	9.258
TRT1	- CONTROL	-11.091	-3.743	3.605
TRT1	- TRT2	-8.062	-0.715	6.633
TRT1	- TRT3	-6.395	1.074	8.543
TRT3	- CONTROL	-12.286	-4.817	2.652
TRT3	- TRT2	-9.258	-1.789	5.680
TRT3	- TRT1	-8.543	-1.074	6.395

CYROMAZINE: REPRO. STUDY WITH THE MALLARD
 10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

15:02 Friday, February 26, 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= 61.79078
 Critical Value of Dunnett's T= 2.106

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	-8.861	-3.028	2.825
TRT1	- CONTROL	-9.596	-3.743	2.110
TRT3	- CONTROL	-10.767	-4.817	1.133

CYROMAZINE: REPRO. STUDY WITH THE MALLARD
 11. ANALYSIS OF NORMAL HATCHINGS/3-WEEK LIVE EMBRYOS

15:02 Friday, February 26, 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.

CYROMAZINE: REPRO. STUDY WITH THE MALLARD
 11. ANALYSIS OF NORMAL HATCHINGS/3-WEEK LIVE EMBRYOS

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

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

CYROMAZINE: REPRO. STUDY WITH THE MALLARD
 11. ANALYSIS OF NORMAL HATCHINGS/3-WEEK LIVE EMBRYOS

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE
 Sum of Mean

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Model	Squares	Square F Value	Pr > F
3	1731.2373	577.0791	2.25
Error	59	15135.5478	256.5347
Corrected Total	62	16866.7851	

R-Square	C.V.	Root MSE	RESPONSE Mean
0.102642	27.65328	16.017	57.920

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1731.2373	577.0791	2.25	0.0919

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	Pr > T	H0: LSMEAN(I)=LSMEAN(J)
	LSMEAN	i/j	1 2 3 4
CONTROL	62.5801776	1	0.8673 0.0694 0.1073
TRT1	63.5308504	2	0.8673 0.0482 0.0769
TRT2	52.1054970	3	0.0694 0.0482 0.8546
TRT3	53.1652140	4	0.1073 0.0769 0.8546

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

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

15:02 Friday, February 26, 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= 256.5347
Critical Value of Studentized Range= 3.739

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

LEVEL Comparison	Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - CONTROL	-14.020	0.951	15.922
TRT1 - TRT3	-4.853	10.366	25.584
TRT1 - TRT2	-3.546	11.425	26.397
CONTROL - TRT1	-15.922	-0.951	14.020
CONTROL - TRT3	-5.804	9.415	24.634
CONTROL - TRT2	-4.496	10.475	25.446
TRT3 - TRT1	-25.584	-10.366	4.853

TRT3 - CONTROL	-24.634	-9.415	5.804
TRT3 - TRT2	-14.159	1.060	16.278
TRT2 - TRT1	-26.397	-11.425	3.546
TRT2 - CONTROL	-25.446	-10.475	4.496
TRT2 - TRT3	-16.278	-1.060	14.159

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

15:02 Friday, February 26, 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= 256.5347
Critical Value of Dunnett's T= 2.106

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT1 - CONTROL	-10.975	0.951	0.951	12.876	
TRT3 - CONTROL	-21.538	-9.415	-9.415	2.708	
TRT2 - CONTROL	-22.400	-10.475	-10.475	1.451	

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

15:02 Friday, February 26, 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.

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect	Coefficients
INTERCEPT	0
LEVEL	CONTROL L2 TRT1 L3 TRT2 L4

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	673.87885	224.62628	1.64	0.1898
Error	59	8079.74337	136.94480		
Corrected Total	62	8753.62221			

R-Square 0.076983 C.V. 24.97761 Root MSE 11.702 RESPONSE Mean 46.851

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	673.87885	224.62628	1.64	0.1898

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN	Pr > T	H0: LSMEAN(1)=LSMEAN(j)
CONTROL	50.6542230	1	0.7536	0.0669 0.1369
TRT1	49.3494815	2	0.7536	0.1262 0.2358
TRT2	42.9310725	3	0.0669	0.1262 0.7439
TRT3	44.3117756	4	0.1369	0.2358 0.7439

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

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

15:02 Friday, February 26, 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= 136.9448
Critical Value of Studentized Range= 3.739

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

LEVEL	Simultaneous Lower Confidence	Difference Between	Upper Confidence

Comparison

Comparison	Means	Limit	Limit
CONTROL - TRT1	1.305	-9.634	12.243
CONTROL - TRT2	6.342	-4.777	17.462
CONTROL - TRT3	7.723	-3.215	18.662
TRT1 - CONTROL	-1.305	-12.243	9.634
TRT1 - TRT2	5.038	-6.082	16.157
TRT1 - TRT3	6.418	-4.520	17.357
TRT2 - CONTROL	-6.342	-17.462	4.777
TRT2 - TRT1	-5.038	-16.157	6.082
TRT2 - TRT3	1.381	-9.739	12.500
TRT3 - CONTROL	-7.723	-18.662	3.215
TRT3 - TRT1	-6.418	-17.357	4.520
TRT3 - TRT2	-1.381	-12.500	9.739

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

15:02 Friday, February 26, 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= 136.9448
Critical Value of Dunnett's T= 2.106

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

Simultaneous Lower Confidence Limit

LEVEL	Comparison	Difference Between Means	Upper Confidence Limit
TRT1	- CONTROL	-1.305	7.408
TRT2	- CONTROL	-6.342	2.515
TRT3	- CONTROL	-7.723	0.990

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

15:02 Friday, February 26, 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 62 observations can be used in this analysis.

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

15:02 Friday, February 26, 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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE
Source DF Sum of Squares Mean Square F Value Pr > F
Model 3 190.27500 63.42500 2.16 0.1023
Error 58 1701.94259 29.34384
Corrected Total 61 1892.21759

R-Square C.V. Root MSE RESPONSE Mean
0.100557 6.221015 5.4170 87.076
Source DF Type I SS Mean Square F Value Pr > F
LEVEL 3 190.27500 63.42500 2.16 0.1023

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN	i/j	1	HO: LSMEAN(i)=LSMEAN(j)	2	3	4
CONTROL	84.3883988	1	0.0153	0.1016	0.1650			
TRT1	89.1763327	2	0.0153	0.4065	0.3171			
TRT2	87.5768548	3	0.1016	0.4065	0.8412			
TRT3	87.1759096	4	0.1650	0.3171	0.8412			

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

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

15:02 Friday, February 26, 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= 58 MSE= 29.34384
Critical Value of Studentized Range= 3.741

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

LEVEL Comparison	Simultaneous Lower Limit	Simultaneous Upper Limit	Difference Between Means	Confidence Limit
TRT1 - TRT2	-3.464	6.667	1.601	6.667
TRT1 - TRT3	-3.243	7.244	2.000	7.244
TRT1 - CONTROL	-0.278	9.854	4.788	9.854
TRT2 - TRT1	-6.667	3.464	-1.601	3.464
TRT2 - TRT3	-4.845	5.643	0.399	5.643
TRT2 - CONTROL	-1.879	8.252	3.186	8.252
TRT3 - TRT1	-7.244	3.243	-2.000	3.243
TRT3 - TRT2	-5.643	4.845	-0.399	4.845
TRT3 - CONTROL	-2.456	8.031	2.788	8.031
CONTROL - TRT1	-9.854	0.278	-4.788	0.278
CONTROL - TRT2	-8.252	1.879	-3.186	1.879
CONTROL - TRT3	-8.031	2.456	-2.788	2.456

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

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

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

Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 29.34384
Critical Value of Dunnnett's T= 2.108

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

LEVEL Comparison	Simultaneous Lower Limit	Simultaneous Upper Limit	Difference Between Means	Confidence Limit
TRT1 - CONTROL	0.751	8.825	4.788	8.825
TRT2 - CONTROL	-0.851	7.224	3.186	7.224
TRT3 - CONTROL	-1.592	6.967	2.788	6.967

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

15:02 Friday, February 26, 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.

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

15:02 Friday, February 26, 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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	436.70729	145.56910	3.31	0.0261
Error	59	2595.93509	43.99890		
Corrected Total	62	3032.64238			

R-Square 0.144002
C.V. 8.199385
Root MSE 6.6332
RESPONSE Mean 80.898

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	436.70729	145.56910	3.31	0.0261

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Least Squares Means

LEVEL	RESPONSE	Pr > T	HO: LSMEAN(i)=LSMEAN(j)
	LSMEAN	i/j	2 3 4
CONTROL	78.8497233	1	0.6892 0.0983 0.0270
TRT1	77.9072567	2	0.6892 0.0417 0.0100
TRT2	82.785201	3	0.0983 0.0417 0.5406
TRT3	84.2567894	4	0.0270 0.0100 0.5406

NOTE: To ensure overall protection level, only probabilities associated

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

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

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

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 43.9989
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 - TRT2	-4.835	1.467	7.770
TRT3 - CONTROL	-0.896	5.407	11.710
TRT3 - TRT1	0.047	6.350	12.652
TRT2 - TRT3	-7.770	-1.467	4.835
TRT2 - CONTROL	-2.260	3.940	10.140
TRT2 - TRT1	-1.318	4.882	11.082
CONTROL - TRT3	-11.710	-5.407	0.896
CONTROL - TRT2	-10.140	-3.940	2.260
CONTROL - TRT1	-5.258	0.942	7.143
TRT1 - TRT3	-12.652	-6.350	-0.047
TRT1 - TRT2	-11.082	-4.882	1.318
TRT1 - CONTROL	-7.143	-0.942	5.258

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 43.9989
Critical Value of Dunnnett's T= 2.106

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	0.387	5.407	10.428
TRT2 - CONTROL	-0.999	3.940	8.879
TRT1 - CONTROL	-5.881	-0.942	3.996

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

15:02 Friday, February 26, 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.

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Type I Estimable Functions for: LEVEL

Effect Coefficients

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1184.9294	394.9765	2.03	0.1188
Error	59	11455.1502	194.1551		
Corrected Total	62	12640.0796			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.093744	26.48619	13.934	52.608

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	1184.9294	394.9765	2.03	0.1188

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Least Squares Means

Pr > |T| HO: LSMEAN(I)=LSMEAN(J) 4

LEVEL	RESPONSE	LSMEAN	1/J	1	2	3	4
CONTROL	57.6304505			0.7210	0.0376	0.1141	
TRT1	55.8624466		2	0.7210	0.0822	0.2160	
TRT2	47.1531081		3	0.0376	0.0822	0.6270	
TRT3	49.5994243		4	0.1141	0.2160	0.6270	

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

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

15:02 Friday, February 26, 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= 194.1551
Critical Value of Studentized Range= 3.739

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

LEVEL Comparison	Simultaneous Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
CONTROL - TRT1	-11.256	1.768	1.768	14.792	
CONTROL - TRT3	-5.209	8.031	8.031	21.271	
CONTROL - TRT2	-2.547	10.477	10.477	23.502	
TRT1 - CONTROL	-14.792	-1.768	-1.768	11.256	
TRT1 - TRT3	-6.977	6.263	6.263	19.503	
TRT1 - TRT2	-4.315	8.709	8.709	21.734	
TRT3 - CONTROL	-21.271	-8.031	-8.031	5.209	
TRT3 - TRT1	-19.503	-6.263	-6.263	6.977	
TRT3 - TRT2	-10.793	2.446	2.446	15.686	
TRT2 - CONTROL	-23.502	-10.477	-10.477	2.547	
TRT2 - TRT1	-21.734	-8.709	-8.709	4.315	
TRT2 - TRT3	-15.686	-2.446	-2.446	10.793	

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 194.1551
Critical Value of Dunnnett's T= 2.106

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

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LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
CONTROL	-12.143	8.607	-1.768	8.607	
- CONTROL	-18.577	2.515	-8.031	2.515	
CONTROL	-20.852	-0.103	-10.477	-0.103	***

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

15:02 Friday, February 26, 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.

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	1087.9217	362.6406	1.89	0.1413
Error	59	11327.7474	191.9957		
Corrected Total	62	12415.6690			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.087625	26.57123	13.856	52.148

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

LEVEL 3 1087.9217 362.6406 1.89 0.1413

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	56.5450784	1	0.8701	0.0527	0.1490
TRT1	55.7404241	2	0.8701	0.0750	0.1985
TRT2	46.8603807	3	0.0527	0.0750	0.6311
TRT3	49.2642289	4	0.1490	0.1985	0.6311

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

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

15:02 Friday, February 26, 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= 191.9957
 Critical Value of Studentized Range= 3.739

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
CONTROL - TRT1	-12.147	13.756	0.805	13.756	
CONTROL - TRT3	-5.885	7.281	7.281	20.447	
CONTROL - TRT2	-3.267	9.685	9.685	22.636	
TRT1 - CONTROL	-13.756	-0.805	-0.805	-0.805	12.147
TRT1 - TRT3	-6.690	6.476	6.476	19.642	
TRT1 - TRT2	-4.072	8.880	8.880	21.832	
TRT3 - CONTROL	-20.447	-7.281	-7.281	-7.281	5.885
TRT3 - TRT1	-19.642	-6.476	-6.476	-6.476	6.690
TRT3 - TRT2	-10.762	2.404	2.404	15.570	
TRT2 - CONTROL	-22.636	-9.685	-9.685	-9.685	3.267
TRT2 - TRT1	-21.832	-8.880	-8.880	-8.880	4.072
TRT2 - TRT3	-15.570	-2.404	-2.404	-2.404	10.762

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

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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= 191.9957
Critical Value of Dunnett's T= 2.106

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

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - CONTROL	-11.122	-0.805	9.512
TRT3 - CONTROL	-17.768	-7.281	3.207
TRT2 - CONTROL	-20.002	-9.685	0.632

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

15:02 Friday, February 26, 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.

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect Coefficients

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: THICK	DF	Sum of Squares	Mean Square	F Value	Pr > F
Source	3	0.0034829	0.0011610	2.27	0.0897
Model					

Error	59	0.0301782	0.0005115			
Corrected Total	62	0.0336611				

R-Square C.V. Root MSE THICK Mean
0.103469 5.819885 0.0226 0.3886

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	0.0034829	0.0011610	2.27	0.0897

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
Least Squares Means

LEVEL	THICK LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)
CONTROL	0.38556250	1 0.3642 0.1388 0.3430
TRT1	0.37825000	2 0.3642 0.0188 0.0685
TRT2	0.39756250	3 0.1388 0.0188 0.6048
TRT3	0.39533333	4 0.3430 0.0685 0.6048

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

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

15:02 Friday, February 26, 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= 0.000511
Critical Value of Studentized Range= 3.739

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

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT2 - TRT3	-0.017260	0.004229	0.025719
TRT2 - CONTROL	-0.009140	0.012000	0.033140
TRT2 - TRT1	-0.001827	0.019313	0.040452
TRT3 - TRT2	-0.025719	-0.004229	0.017260
TRT3 - CONTROL	-0.013719	0.007771	0.029260
TRT3 - TRT1	-0.006406	0.015083	0.036573
CONTROL - TRT2	-0.033140	-0.012000	0.009140
CONTROL - TRT3	-0.029260	-0.007771	0.013719
CONTROL - TRT1	-0.013827	0.007313	0.028452

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TRT1 -0.040452 -0.019313 0.001827
 TRT2 -0.036573 -0.015083 0.006406
 TRT3 -0.028452 -0.007313 0.013827
 CONTROL

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 0.000511
 Critical Value of Dunnnett's T= 2.106

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
CONTROL	-0.004839	0.012000	0.028839	0.028839	0.028839
TRT1	-0.009347	0.007771	0.007771	0.024888	0.009527
TRT2	-0.024152	-0.007313	-0.007313	0.009527	0.009527

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

15:02 Friday, February 26, 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 62 observations can be used in this analysis.

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

15:02 Friday, February 26, 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

CYROMAZINE: REPRO. STUDY WITH THE MALLARD

18. ANALYSIS OF HATCHLING WEIGHT

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: HATWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	36.682316	12.227439	1.83	0.1525
Error	58	388.366071	6.695967		
Corrected Total	61	425.048387			

R-Square 0.086302 C.V. 6.960291 Root MSE 2.5877 HATWT Mean 37.177

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	36.682316	12.227439	1.83	0.1525

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	HATWT LSMEAN	Pr > T 1/j	HO: LSMEAN(1)=LSMEAN(j)			
			2	3	4	
CONTROL	38.0625000	1	0.0523	0.7339	0.1208	
TRT1	36.2500000	2	0.0523	0.1065	0.7339	0.2183
TRT2	37.7500000	3	0.7339	0.1065	0.7339	0.2183
TRT3	36.5714286	4	0.1208	0.7355	0.2183	

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

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

15:02 Friday, February 26, 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= 58 MSE= 6.695967
 Critical Value of Studentized Range= 3.741

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
CONTROL - TRT2	-2.1074	0.3125	0.3125	2.7324	2.7324

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CONTROL - TRT3	1.4911	3.9960
CONTROL - TRT1	1.8125	4.2324
TRT2 - CONTROL	-0.3125	2.1074
TRT2 - TRT3	-1.3263	3.6835
TRT2 - TRT1	-0.9199	3.9199
TRT3 - CONTROL	-1.4911	1.0138
TRT3 - TRT2	-1.1786	1.3263
TRT3 - TRT1	0.3214	2.8263
TRT1 - CONTROL	-1.8125	0.6074
TRT1 - TRT2	-1.5000	0.9199
TRT1 - TRT3	-0.3214	2.1835

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 58 MSE= 6.695967
Critical Value of Dunnnett's T= 2.108

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

LEVEL Comparison	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit
TRT2 - CONTROL	-2.2411	1.6161
TRT3 - CONTROL	-3.4874	0.5053
TRT1 - CONTROL	-3.7411	0.1161

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

15:02 Friday, February 26, 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 62 observations can be used in this analysis.

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

15:02 Friday, February 26, 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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: SURVWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	107.17281	35.72427	0.09	0.9649
Error	58	22843.21429	393.84852		
Corrected Total	61	22950.38710			

R-Square C.V. Root MSE SURVWT Mean
0.004670 8.486883 19.846 233.84

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	107.17281	35.72427	0.09	0.9649

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Least Squares Means

LEVEL	SURVWT LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)				
		i/j	1	2	3	4
CONTROL	232.125000	1	0.7766	0.8453	0.6093	
TRT1	234.125000	2	0.7766	0.9293	0.8123	
TRT2	233.500000	3	0.8453	0.9293	0.7467	
TRT3	235.857143	4	0.6093	0.8123	0.7467	

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

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

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

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Alpha= 0.05 Confidence= 0.95 df= 58 MSE= 393.8485
 Critical Value of Studentized Range= 3.741

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT3 - TRT1	-17.479	20.943	1.732	20.943	
TRT3 - TRT2	-16.854	21.568	2.357	21.568	
TRT3 - CONTROL	-15.479	22.943	3.732	22.943	
TRT1 - TRT3	-20.943	17.479	-1.732	17.479	
TRT1 - TRT2	-17.934	19.184	0.625	19.184	
TRT1 - CONTROL	-16.559	20.559	2.000	20.559	
TRT2 - TRT3	-21.568	16.854	-2.357	16.854	
TRT2 - TRT1	-19.184	17.934	-0.625	17.934	
TRT2 - CONTROL	-17.184	19.934	1.575	19.934	
CONTROL - TRT3	-22.943	15.479	-3.732	15.479	
CONTROL - TRT1	-20.559	16.559	-2.000	16.559	
CONTROL - TRT2	-19.934	17.184	-1.375	17.184	

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

15:02 Friday, February 26, 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= 58 MSE= 393.8485
 Critical Value of Dunnett's T= 2.108

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT3 - CONTROL	-11.578	19.043	3.732	19.043	
TRT1 - CONTROL	-12.791	16.791	2.000	16.791	
TRT2 - CONTROL	-13.416	16.166	1.375	16.166	

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: FOOD

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	3788.2506	1262.7502	3.26	0.0274
Error	60	23212.1587	386.8693		
Corrected Total	63	27000.4094			

R-Square 0.140303 C.V. 19.669
 Root MSE 19.669
 Type I SS Mean Square F Value Pr > F

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	3788.2506	1262.7502	3.26	0.0274

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

15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	LSMEAN	Pr > T H0: LSMEAN(I)=LSMEAN(J)			
		1/1	2	3	4
CONTROL	144.806250	1	0.3644	0.7098	0.0369
TRT1	138.450000	2	0.3644	0.2027	0.0034
TRT2	147.406250	3	0.7098	0.2027	0.0834
TRT3	159.650000	4	0.0369	0.0034	0.0834

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

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

General Linear Models Procedure

Tukey's Studentized Range (MSD) Test for variable: FOOD

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

Alpha= 0.05 Confidence= 0.95 df= 60 MSE= 386.8693
 Critical Value of Studentized Range= 3.737
 Minimum Significant Difference= 18.376

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - TRT2	-6.132	30.620	12.244	30.620	
TRT3 - CONTROL	-3.532	33.220	14.844	33.220	
TRT3 - TRT1	2.824	39.576	21.200	39.576	***
TRT2 - TRT3	-30.620	6.132	-12.244	6.132	
TRT2 - CONTROL	-15.776	20.976	2.600	20.976	
TRT2 - TRT1	-9.420	27.532	8.956	27.532	
CONTROL - TRT3	-33.220	3.532	-14.844	3.532	
CONTROL - TRT2	-20.976	15.776	-2.600	15.776	
CONTROL - TRT1	-12.020	24.732	6.356	24.732	
TRT1 - TRT3	-39.576	-2.824	-21.200	-2.824	***
TRT1 - TRT2	-27.332	9.420	-8.956	9.420	
TRT1 - CONTROL	-24.732	12.020	-6.356	12.020	

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

General Linear Models Procedure

Dunnnett'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= 386.8693
 Critical Value of Dunnnett's T= 2.104
 Minimum Significant Difference= 14.631

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT3 - CONTROL	0.213	29.474	14.844	29.474	
TRT2 - CONTROL	-12.031	17.231	2.600	17.231	
TRT1 - CONTROL	-20.987	8.274	-6.356	8.274	

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

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

General Linear Models Procedure

Dependent Variable: POSTM	Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
	Model	4	437736.02	109434.00	25.13	0.0001
	Error	59	256956.42	4355.19		
	Corrected Total	63	694692.44			

R-Square	C.V.	Root MSE	POSTM Mean
0.630115	5.724444	65.994	1152.8

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	27884.56	9294.85	2.13	0.1055
PREM	1	409851.45	409851.45	94.11	0.0001
Source	DF	Type III SS	Mean Square	F Value	Pr > F
LEVEL	3	4225.66	1408.55	0.32	0.8084
PREM	1	409851.45	409851.45	94.11	0.0001

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

General Linear Models Procedure

Least Squares Means

LEVEL	POSTM LSMEAN	Std Err LSMEAN	Pr > T HO:LSMEAN=0	LSMEAN Number
CONTROL	1149.64375	16.50158	0.0001	1
TRT1	1147.14603	16.75501	0.0001	2
TRT2	1166.83737	16.50405	0.0001	3
TRT3	1147.74784	16.64075	0.0001	4

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

i/j	1	2	3	4
1		0.9159	0.4641	0.9357
2	0.9159		0.4069	0.9800
3	0.4641	0.4069		0.4178
4	0.9357	0.9800	0.4178	

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

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

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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= 4355.194
 Critical Value of Studentized Range= 3.739
 Minimum Significant Difference= 61.686

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - TRT3	-59.50	63.87	2.19	63.87	
TRT2 - CONTROL	-43.44	79.94	18.25	79.94	
TRT2 - TRT1	-9.50	113.87	52.19	113.87	
TRT3 - TRT2	-63.87	59.50	-2.19	59.50	
TRT3 - CONTROL	-45.62	77.75	16.06	77.75	
TRT3 - TRT1	-11.69	111.69	50.00	111.69	
CONTROL - TRT2	-79.94	43.44	-18.25	43.44	
CONTROL - TRT3	-77.75	45.62	-16.06	45.62	
CONTROL - TRT1	-27.75	95.82	33.94	95.82	
TRT1 - TRT2	-113.87	9.50	-52.19	9.50	
TRT1 - TRT3	-111.69	11.69	-50.00	11.69	
TRT1 - CONTROL	-95.62	27.75	-33.94	27.75	

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

 15:02 Friday, February 26, 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= 4355.194
 Critical Value of Dunnett's T= 2.105
 Minimum Significant Difference= 49.106

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

LEVEL Comparison	Simultaneous Lower Confidence Limit		Difference Between Means	Simultaneous Upper Confidence Limit	
	Lower Limit	Upper Limit		Lower Limit	Upper Limit
TRT2 - CONTROL	-30.86	18.25	16.25	67.36	
TRT3 - CONTROL	-33.04	65.17	16.06	65.17	
TRT1 - CONTROL	-83.04	-33.94	-33.94	15.17	

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

 15:02 Friday, February 26, 1999

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 64

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

 15:02 Friday, February 26, 1999

General Linear Models Procedure

Dependent Variable: POSTF

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	531519.60	132879.90	13.19	0.0001
Error	59	594578.15	10077.60		
Corrected Total	63	1126097.75			

R-Square	C.V.	Root MSE	POSTF Mean
0.472001	8.506041	100.39	1180.2

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	111806.25	37268.75	3.70	0.0166
PREF	1	419713.35	419713.35	41.65	0.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
LEVEL	3	94323.91	31441.30	3.12	0.0327
PREF	1	419713.35	419713.35	41.65	0.0001

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

 15:02 Friday, February 26, 1999

General Linear Models Procedure
 Least Squares Means

LEVEL	POSTF LSMEAN	Std Err LSMEAN	Pr > T HO:LSMEAN=0	LSMEAN Number
CONTROL	1172.56331	25.11739	0.0001	1
TRT1	1210.79673	25.10161	0.0001	2
TRT2	1216.88723	25.10591	0.0001	3
TRT3	1120.50473	25.12556	0.0001	4

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

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i/j	1	2	3	4
1		0.2862	0.2167	0.1485
2	0.2862		0.8644	0.0136
3	0.2167	0.8644		0.0088
4	0.1485	0.0136	0.0088	

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

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

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

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

Alpha= 0.05 Confidence= 0.95 df= 59 MSE= 10077.6
 Critical Value of Studentized Range= 3.759
 Minimum Significant Difference= 93.834

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

LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT2 - TRT1	-80.21	13.63	13.63	107.46	
TRT2 - CONTROL	-51.71	42.13	42.13	135.96	
TRT2 - TRT3	14.67	108.50	108.50	202.33	***
TRT1 - TRT2	-107.46	-13.63	-13.63	80.21	
TRT1 - CONTROL	-65.33	28.50	28.50	122.33	
TRT1 - TRT3	1.04	94.88	94.88	188.71	***
CONTROL - TRT2	-135.96	-42.13	-42.13	51.71	
CONTROL - TRT1	-122.33	-28.50	-28.50	65.33	
CONTROL - TRT3	-27.46	66.38	66.38	160.21	
TRT3 - TRT2	-202.33	-108.50	-108.50	-14.67	***
TRT3 - TRT1	-188.71	-94.88	-94.88	-1.04	***
TRT3 - CONTROL	-160.21	-66.38	-66.38	27.46	

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

15:02 Friday, February 26, 1999

General Linear Models Procedure

Dunnnett'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= 10077.6
 Critical Value of Dunnnett's T= 2.105
 Minimum Significant Difference= 74.699

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

LEVEL Comparison	Simultaneous
TRT2 - CONTROL	116.82
TRT1 - CONTROL	103.20
TRT3 - CONTROL	8.32

LEVEL Comparison	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT2 - CONTROL	-32.57	42.13	116.82
TRT1 - CONTROL	-46.20	28.50	103.20
TRT3 - CONTROL	-141.07	-66.38	8.32

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