

6-14-00

THE DATA SECTION

23

MRID No. 445050-06

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

1. **CHEMICAL:** Mesotrione PC Code No.: 122990

2. **TEST MATERIAL:** ZA1296 Purity: 96.8%

3. **CITATION:**

Authors: Alison J. Johnson, I. Suzanne Dawe, and
Graham F. Healey

Title: ZA1296: Effects on Reproduction in
Bobwhite Quail

Study Completion Date: May 22, 1997

Laboratory: Huntingdon Life Sciences Ltd.,
Huntingdon, Cambridgeshire, UK

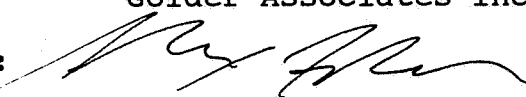
Sponsor: ZENECA Ag Products, Wilmington, DE

Laboratory Report ID: ISN 359/961596

MRID No.: 445050-06

DP Barcode: D245475

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

Signature: 

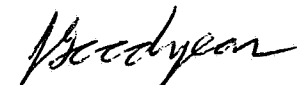
Date: 8/3/98

APPROVED BY: Mark Mossler, M.S., Toxicologist,
Golder Associates Inc.

Signature: 

Date: 8/3/98

5. **APPROVED BY:**

Signature: 

Date: 6/14/00

6. **STUDY PARAMETERS:**

Scientific Name of Test Organism: *Colinus virginianus*

Age of Test Organisms at Test Initiation: 9 months

Definitive Study Duration: 22 weeks

7. **CONCLUSIONS:** This study is scientifically sound ~~but does not~~ ^{AND} meet the guideline requirements for an avian reproduction study using bobwhite quail. When compared to the control, there were no significant treatment related effects on any of the parameters measured at any concentrations tested (i.e., 120, 600, and 3000 ppm). It was 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).

The studies on predatory insects (MRID 445050-13 & 14) state the label application rate is 200 gal/ha or 1.1 lbz ac/A. This would result in a maximum field residue level of 240 ppm

Results SynopsisMost sensitive endpoints: No significant adverse effectsNOEC: 3000 ppmLOEC: Not determined**8. ADEQUACY OF THE STUDY:****A. Classification:** Supplemental.

B. Rationale: None of the parameters were affected at any test concentration; however, it was 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: Yes; if the expected maximum field residue level is 3000 ppm or lower, then the study may be upgraded to "CORE".

9. GUIDELINE DEVIATIONS:

1. The temperature of the study room was higher (22-26°C) than recommended (21°C).
2. The humidity values in the egg storage unit and egg hatcher were not reported.

10. SUBMISSION PURPOSE:**11. MATERIALS AND METHODS:****A. Test Organisms**

Guideline Criteria	Reported Information
<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>)	Northern bobwhite (<i>Colinus virginianus</i>)
<u>Age at beginning of test</u> Birds should be approaching their first breeding season.	Nine months old; birds were approaching their first breeding season.

Guideline Criteria	Reported Information
<u>Supplier</u> All birds should be from the same source.	Obtained from B. Potter, Huntingdon, Cambridgeshire, UK
Were birds pen-reared?	Birds were maintained on deep litter.
Were birds phenotypically indistinguishable from wild birds?	Yes
<u>Health observation period</u> 2 to 6 weeks.	2 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?	Pens were 0.31 x 0.39 x 0.24 m in size.
Were pens for chicks of adequate size and designed to conform to good husbandry practices?	Yes
Were pens constructed of a nonbinding material such as galvanized or stainless steel?	Yes
Was adequate ventilation provided?	Yes
<u>Temperature</u> Approx. 21°C (70°F)	Mean Min.: 22°C Mean Max.: 26°C
<u>Relative humidity</u> Approx. 55%	Mean: 42%

Guideline Criteria	Reported Information
<u>Lighting</u> <u>First 8 weeks:</u> 7 h per day. <u>Thereafter:</u> 16-17 h per day. At least 6 footcandles at bird level.	First 5 weeks: 7 h per day Thereafter: 16 h per day Illumination: 5.1 to 9.3 footcandles.
<u>Diet</u> A commercial breeder feed (or its equivalent) that is appropriate for the test species.	Adults received avian layer diet manufactured by Special Diets Services, Witham, Essex, UK. Chicks were fed Standard HRC chick diet supplied by Parker Brothers Ltd, Mildenhall, Suffolk, UK.
<u>Preparation of test diet</u> 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.	The test material was mixed with basal diet into a premix that was used for weekly preparation of the final diet.
Was the premix stored under conditions which maintain stability?	Yes
Was the diet analyzed to verify homogeneity and stability of the test substance?	Yes
<u>Replenishment of feed</u>	Adult diets were prepared weekly. Additional diets were prepared when necessary. Feed and water were provided <i>ad libitum</i> for the adults and offspring.

C. Test Design

Guideline Criteria	Reported Information
<u>Nominal concentrations</u> At least two concentrations other than the control are required; three or more are strongly recommended. The highest test concentrations should show a significant effect or be at or above the maximum field residue level.	Nominal concentrations: Control, 120, 600, and 3000 ppm. Max. residue level: Not reported
<u>Control</u> Vehicle control.	Negative control
<u>Vehicle</u> Corn oil or other appropriate vehicle.	No vehicle was used.
<u>Vehicle amount (% of diet by weight)</u> Not more than 2%.	N/A
<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.	20 pens per group
<u>Pre-laying exposure duration</u> At least 10 weeks prior to the onset of egg-laying.	10 weeks
<u>Exposure duration with egg-laying</u> At least 10 weeks.	12 weeks

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

D. Egg Collection and Incubation

Guideline Criteria	Reported Information
Were eggs collected daily?	Yes
<u>Egg storage temperature</u> Approximately 16°C (61°F)	Set at 16°C
<u>Egg storage humidity</u> Approximately 65%	Not reported
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 days 11 and 18.
<u>Transfer of eggs to hatcher</u> Bobwhite: Day 21 Mallard: Day 23	Eggs were transferred on Day 22.
<u>Hatching temperature</u> 39°C (102°F) is recommended	Set at 37.5°C
<u>Hatching humidity</u> 70% is recommended	Not reported
<u>Day after egg set that chicks were removed and counted</u> Bobwhite: Day 24 Mallard: Day 27	Chicks that had hatched were removed and counted by Day 24. All remaining hatchlings and unhatched eggs were removed on Day 25.

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).	All eggs laid on the first day of Weeks 11, 13, 15, 17, 19, and 21 in each replicate were removed for eggshell thickness measurement.
Were shells opened, washed, and air dry for at least 48 hours before measuring?	Yes; shells air dried for at least 48 hours.
<u>Measurement</u> 3-4 measurements per egg to the nearest 0.01 mm.	Four measurements 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?	Yes
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?	Food consumption was measured weekly.

Guideline Criteria	Reported Information
<u>Reproductive Endpoints</u> 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 eggs laid per female and hatchling weight.
Were data reported by pen for all endpoints?	Yes

Significant Results: There were no treatment related mortalities or overt signs of toxicity at any test concentration (120, 600, or 3000 ppm). When compared to the control, there were no significant treatment related reductions on adult bodyweights or feed consumption. There were no treatment related effects on any of the reproductive parameters measured when compared to the control.

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

Endpoint	Control	120 ppm	600 ppm	3000 ppm
Eggs laid (EL)	66 (17)	70 (17)	68 (18)	69 (15)
Eggs cracked (EC)	1.3 (1.8)	2.3 (2.4)	4.8 (9.6)	2.4 (3.9)
Eggs set (ES)	60 (16)	62 (16)	59 (18)	61 (14)
Viable embryos (VE)	57 (18)	53 (23)	53 (21)	58 (16)
Live 3-wk embryos (LE)	56 (18)	51 (23)	51 (22)	55 (17)
Normal hatchlings (NH)	52 (18)	47 (22)	45 (20)	50 (16)
14-day-old survivors (HS)	46 (16)	42 (20)	41 (19)	44 (16)
Egg shell thickness (THICK)	0.210 (0.008)	0.203 (0.011)	0.214 (0.008)	0.209 (0.012)
Hatchling weight (HATWT)	7.3 (0.4)	7.1 (0.5)	7.1 (0.4)	7.1 (0.6)
14-day-old survivor weight (SURVWT)	25.3 (1.8)	25.2 (1.8)	24.4 (3.2)	25.4 (1.9)
Mean food consumption (FOOD)	18.4 (1.6)	19.0 (1.9)	18.9 (1.8)	19.6 (1.7)
Final weight of males (POSTM)	223 (16)	221 (11)	219 (16)	223 (13)
Final weight of females (POSTF)	240 (19)	243 (21)	239 (20)	239 (12)

Statistically Significant Endpoints:

Endpoint	Statistical Method	Levels at which Effect Was Observed
Live 3-week embryos/ viable embryos	Dunnett's	600 ppm*

*Not considered treatment related

14. **REVIEWER'S COMMENTS:** There were no significant treatment related effects on any of the parameters measured at any concentration tested (i.e., 120, 600, or 3000 ppm) when compared to the control. The authors noted that nominal concentrations were selected following a preliminary study. However, it is unclear if the highest dosage level (3000 ppm) was at or above the maximum field residue level. This study will be classified as ~~Supplemental~~ pending the registrant's response.

CORE (see p. 1)

IN BOBWHITE
09:44 Friday, July 31, 1998

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[illegible]

HS/ES (%)	76.28	67.39	68.80	71.03
HS/NH (%)	88.16	89.75	92.62	88.38
THICK	0.21	0.20	0.21	0.21
HATWT	7.34	7.09	7.10	7.12
SURVWT	25.26	25.18	24.42	25.40
FOOD	18.39	18.99	18.89	19.64
POSTM	223.35	220.63	219.17	222.84
POSTF	240.10	242.25	238.56	239.47

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
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LEVEL=CONTROL

Variable	Label	N	Mean	Std Dev	CV
EL		20	66.050	17.003	25.743
EC		20	1.350	1.843	136.533
ES		20	60.250	16.124	26.762
VE		20	57.400	18.329	31.931
LE		20	56.300	18.236	32.390
NH		20	52.200	17.990	34.464
HS		20	46.050	16.198	35.174
THICK		19	0.210	0.008	3.902
HATWT		19	7.344	0.439	5.976
SURVWT		19	25.258	1.770	7.007
FOOD		19	18.395	1.591	8.647
PREM		20	214.350	14.387	6.712
POSTM		20	223.350	15.638	7.002
PREF		20	209.250	15.447	7.382
POSTF		20	240.100	18.840	7.847
ES/EL (%)		19	91.051	3.661	4.021
ES/EL (%)		19	78.458	15.828	20.174
NH/EL (%)		19	97.792	3.058	3.127
ENC/EL (%)		19	94.761	14.660	15.470
VE/ES (%)		19	86.156	17.040	19.778
NH/ES (%)		19	76.281	17.194	22.540
HS/ES (%)		19	97.902	1.996	2.039
LE/VE (%)		19	92.778	10.344	11.149
NH/LE (%)		19	88.162	6.999	7.938
HS/NH (%)		19			

LEVEL=TRT1

Variable	Label	N	Mean	Std Dev	CV
EL		16	69.625	17.324	24.882
EC		16	2.250	2.408	107.036
ES		16	62.513	16.015	25.702
VE		16	53.375	23.166	43.402
LE		16	51.438	23.429	45.549
NH		16	47.250	22.279	47.150
HS		16	41.688	20.359	48.838
THICK		16	0.203	0.011	5.636
HATWT		16	7.086	0.491	6.933
SURVWT		16	25.181	1.801	7.153
FOOD		16	18.988	1.929	10.159
PREM		20	217.550	15.592	7.167
POSTM		16	220.625	10.757	4.876
PREF		20	214.500	15.281	7.121

POSTF	242.250	21.146	8.729
ES/EL (%)	88.978	4.450	5.001
NH/EL (%)	67.815	25.483	37.578
ENC/EL (%)	96.421	3.660	3.796
VE/ES (%)	85.359	27.788	32.554
NH/ES (%)	75.913	28.171	37.110
HS/ES (%)	67.387	26.409	39.189
LE/VE (%)	94.920	10.841	11.421
NH/LE (%)	82.516	8.259	8.927
HS/NH (%)	89.747	9.209	10.261

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
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LEVEL=TRT2

Variable	Label	N	Mean	Std Dev	CV
EL		18	68.167	18.147	26.622
EC		18	4.778	9.644	201.851
ES		18	59.278	18.149	30.617
VE		18	53.278	21.351	40.075
LE		18	50.500	21.571	42.716
NH		18	44.778	20.383	45.521
HS		18	41.333	19.226	46.515
THICK		17	0.214	0.008	3.908
HATWT		17	7.099	0.379	5.338
SURVWT		17	24.424	3.239	13.262
FOOD		18	18.889	1.840	9.741
PREM		20	209.750	10.848	5.172
POSTM		18	219.167	15.872	7.242
PREF		20	209.150	14.925	7.136
POSTF		18	238.556	19.874	8.331
ES/EL (%)		17	86.946	12.182	14.011
NH/EL (%)		17	65.017	21.752	33.456
ENC/EL (%)		17	92.971	13.149	14.143
VE/ES (%)		17	88.850	19.165	21.570
NH/ES (%)		17	74.473	21.540	28.923
HS/ES (%)		17	68.797	20.549	29.889
LE/VE (%)		17	93.602	6.252	6.680
NH/LE (%)		17	89.181	12.252	13.738
HS/NH (%)		17	92.616	6.707	7.242

LEVEL=TRT3

Variable	Label	N	Mean	Std Dev	CV
EL		19	68.632	14.500	21.127
EC		19	2.368	3.876	163.653
ES		19	61.263	14.035	22.909
VE		19	57.579	15.823	27.481
LE		19	55.368	16.860	30.450
NH		19	49.684	16.118	32.440
HS		19	44.158	15.547	35.207
THICK		19	0.209	0.012	5.902
HATWT		19	7.118	0.556	7.811
SURVWT		19	25.400	1.937	7.627
FOOD		19	19.637	1.704	8.679
PREM		20	210.950	16.672	7.903
POSTM		19	222.842	13.426	6.025
PREF		20	204.800	12.923	6.310
POSTF		19	239.474	11.520	4.810
ES/EL (%)		19	89.121	5.848	6.562
NH/EL (%)		19	71.533	17.583	24.581
ENC/EL (%)		19	96.694	5.342	5.525
VE/ES (%)		19	92.249	10.760	11.664

	NH/ES (%)	19	79.896	18.132	22.694
HS ES	HS/ES (%)	19	71.032	18.984	26.726
LE VE	LE/VE (%)	19	95.662	8.874	9.277
NH LE	NH/LE (%)	19	89.371	11.923	13.341
HS NH	HS/NH (%)	19	88.384	9.776	11.061

General Linear Models Procedure

1. ANALYSIS OF EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

General Linear Models Procedure

1. ANALYSIS OF EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect Coefficients

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

General Linear Models Procedure

1. ANALYSIS OF EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: EL

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	126.32415	42.10805	0.15	0.9294
Error	69	19377.62105	280.83509		
Corrected Total	72	19503.94521			

R-Square	C.V.	Root MSE	EL Mean
0.006477	24.63439	16.758	68.027

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	126.32415	42.10805	0.15	0.9294

General Linear Models Procedure

Least Squares Means

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General Linear Models Procedure
Least Squares Means

LEVEL	EL	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	66.0500000	1	0.5269 0.6986 0.6321
TRT1	69.6250000	2	0.5269 0.8008 0.8618
TRT2	68.1666667	3	0.6986 0.8008 0.9330
TRT3	68.6315789	4	0.6321 0.8618 0.9330

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

General Linear Models Procedure

1. ANALYSIS OF EGGS LAID

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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= 69 MSE= 280.8351
Critical Value of Studentized Range= 3.723

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

LEVEL	Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT1 - TRT3	-13.977	0.993	15.964	
TRT1 - TRT2	-13.701	1.458	16.618	
TRT1 - CONTROL	-11.223	3.575	18.373	
TRT3 - TRT1	-15.964	-0.993	13.977	
TRT3 - TRT2	-14.047	0.465	14.977	
TRT3 - CONTROL	-11.553	2.582	16.716	
TRT2 - TRT1	-16.618	-1.458	13.701	
TRT2 - TRT3	-14.977	-0.465	14.047	
TRT2 - CONTROL	-12.218	2.117	16.451	
CONTROL - TRT1	-18.373	-3.575	11.223	
CONTROL - TRT3	-16.716	-2.582	11.553	
CONTROL - TRT2	-16.451	-2.117	12.218	

General Linear Models Procedure

1. ANALYSIS OF EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure

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

NOTE: This test controls the type I experimentwise error for

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 comparisons of all treatments against a control.
 Alpha= 0.05 Confidence= 0.95 df= 69 MSE= 280.8351
 Critical Value of Dunnett's T= 2.106

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

LEVEL Comparison	Simultaneous			Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - CONTROL	-8.261	3.575	15.411	-8.261	3.575	15.411
TRT3 - CONTROL	-8.723	2.582	13.866	-8.723	2.582	13.866
TRT2 - CONTROL	-9.348	2.117	13.581	-9.348	2.117	13.581

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 2. ANALYSIS OF EGGS CRACKED

09:44 Friday, July 31, 1998

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 2. ANALYSIS OF EGGS CRACKED

09:44 Friday, July 31, 1998

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 2. ANALYSIS OF EGGS CRACKED

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General Linear Models Procedure

Dependent Variable: EC			
Source	DF	Sum of Squares	Mean Square
Model	3	119.35619	39.78540
Error	69	2003.08216	29.03018
Corrected Total	72	2122.43836	

Pr > F

1.37

0.2591

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R-Square	C.V.	Root MSE	EC Mean
0.056235	202.7430	5.3880	2.6575

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	119.35619	39.78540	1.37	0.2591

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 2. ANALYSIS OF EGGS CRACKED

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General Linear Models Procedure
 Least Squares Means

LEVEL	LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)			
		1	2	3	4
CONTROL	1.3500000	1	0.6201	0.0543	0.5571
TRT1	2.2500000	2	0.6201	0.1766	0.9485
TRT2	4.7777778	3	0.0543	0.1766	0.1784
TRT3	2.3684210	4	0.5571	0.9485	0.1784

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 2. ANALYSIS OF EGGS CRACKED

09:44 Friday, July 31, 1998

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= 69 MSE= 29.03018

Critical Value of Studentized Range= 3.723

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

LEVEL Comparison	Simultaneous		Simultaneous	
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	
TRT2 - TRT3	-2.256	2.409	7.075	
TRT2 - TRT1	-2.346	2.528	7.402	
TRT2 - CONTROL	-1.181	3.428	8.036	
TRT3 - TRT2	-7.075	-2.409	2.256	
TRT3 - TRT1	-4.695	0.118	4.932	
TRT3 - CONTROL	-3.526	1.018	5.563	
TRT1 - TRT2	-7.402	-2.528	2.346	
TRT1 - TRT3	-4.932	-0.118	4.695	
TRT1 - CONTROL	-3.858	0.900	5.658	
CONTROL - TRT2	-8.036	-3.428	1.181	
CONTROL - TRT3	-5.563	-1.018	3.526	
CONTROL - TRT1	-5.658	-0.900	3.858	

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ZA1296: EFFECTS ON REPRODUCTION IN BOBWWHITE
3. ANALYSIS OF EGGS CRACKED

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General Linear Models Procedure

Dunnnett'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= 69 MSE= 29.03018
Critical Value of Dunnnett's T= 2.106

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

LEVEL Comparison	Simultaneous			Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT2 - CONTROL	-0.258	3.428	7.114			
TRT3 - CONTROL	-2.616	1.018	4.653			
TRT1 - CONTROL	-2.905	0.900	4.705			

ZA1296: EFFECTS ON REPRODUCTION IN BOBWWHITE
3. ANALYSIS OF EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure

Class Level Information

Class Levels Values

LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWWHITE
3. ANALYSIS OF EGGS SET

09:44 Friday, July 31, 1998

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWWHITE
3. ANALYSIS OF EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: ES

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	88.037726	29.345909	0.11	0.9523
Error	69	17932.48282	259.891055		
Corrected Total	72	18020.52055			

R-Square	C.V.	Root MSE	ES Mean
0.004885	26.54733	16.121	60.726

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	88.037726	29.345909	0.11	0.9523

ZA1296: EFFECTS ON REPRODUCTION IN BOBWWHITE
3. ANALYSIS OF EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure

Least Squares Means

LEVEL	ES LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)
CONTROL	60.250000	1
TRT1	62.312500	2
TRT2	59.277778	3
TRT3	61.2631579	4

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWWHITE
3. ANALYSIS OF EGGS SET

09:44 Friday, July 31, 1998

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= 69 MSE= 259.8911
Critical Value of Studentized Range= 3.723

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

LEVEL Comparison	Simultaneous			Simultaneous		
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT1 - TRT3	-13.352	1.049	15.451			
TRT1 - CONTROL	-12.173	2.063	16.298			
TRT1 - TRT2	-11.548	3.035	17.618			
TRT3 - TRT1	-15.451	-1.049	13.352			

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LEVEL Comparison	Simultaneous		Difference Between Means	Simultaneous	
	Lower Confidence Limit	Upper Confidence Limit		Lower Confidence Limit	Upper Confidence Limit
TRT3 - CONTROL	-16.409	16.767	0.179	-16.409	16.767
TRT3 - TRT1	-13.365	21.773	4.204	-13.365	21.773
TRT3 - TRT2	-12.730	21.332	4.301	-12.730	21.332
CONTROL - TRT3	-16.767	16.409	-0.179	-16.767	16.409
CONTROL - TRT1	-13.342	21.392	4.025	-13.342	21.392
CONTROL - TRT2	-12.700	20.945	4.122	-12.700	20.945
TRT1 - TRT3	-21.773	13.365	-4.204	-21.773	13.365
TRT1 - CONTROL	-21.392	13.342	-4.025	-21.392	13.342
TRT1 - TRT2	-17.694	17.888	0.097	-17.694	17.888
TRT2 - TRT3	-21.332	12.730	-4.301	-21.332	12.730
TRT2 - CONTROL	-20.945	12.700	-4.122	-20.945	12.700
TRT2 - TRT1	-17.888	17.694	-0.097	-17.888	17.694

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

4. ANALYSIS OF VIABLE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure

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

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

Alpha= 0.05 Confidence= 0.95 df= 69 MSE= 386.7941
Critical Value of Dunnnett'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
TRT3 - CONTROL	-13.088	0.179	0.179	-13.088	13.446
TRT1 - CONTROL	-17.915	-4.025	-4.025	-17.915	9.865
TRT2 - CONTROL	-17.577	-4.122	-4.122	-17.577	9.333

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

09:44 Friday, July 31, 1998

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: LE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	452.91405	150.97135	0.38	0.7693
Error	69	27579.05855	399.69650		
Corrected Total	72	28031.97260			

R-Square

C.V.

Root MSE

LE Mean

0.016157

37.32598

19.992

53.562

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	452.91405	150.97135	0.38	0.7693

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

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General Linear Models Procedure

Least Squares Means

LEVEL	LE LSMEAN	Pr > T 1/j	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	56.3000000	1	0.4708 0.3750 0.8848
TRT1	51.4375000	2	0.4708 0.8918 0.5642
TRT2	50.5000000	3	0.3750 0.8918 0.4616
TRT3	55.3684211	4	0.8848 0.5642 0.4616

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

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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= 69 MSE= 399.6965
Critical Value of Studentized Range= 3.723

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

LEVEL Comparison	Simultaneous		Difference		Simultaneous
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Lower Confidence Limit
CONTROL - TRT3	-15.931	0.932	17.794		
CONTROL - TRT1	-12.792	4.862	22.517		
CONTROL - TRT2	-11.301	5.800	22.901		
TRT3 - CONTROL	-17.794	-0.932	15.931		
TRT3 - TRT1	-13.929	3.931	21.791		
TRT3 - TRT2	-12.444	4.868	22.181		
TRT1 - CONTROL	-22.517	-4.862	12.792		
TRT1 - TRT3	-21.791	-3.931	13.929		
TRT1 - TRT2	-17.148	0.938	19.023		
TRT2 - CONTROL	-22.901	-5.800	11.301		
TRT2 - TRT3	-22.181	-4.868	12.444		
TRT2 - TRT1	-19.023	-0.938	17.148		

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

09:44 Friday, July 31, 1998

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= 69 MSE= 399.6965
Critical Value of Dunnnett's T= 2.106

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

LEVEL Comparison	Simultaneous		Difference		Simultaneous
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Lower Confidence Limit
CONTROL - TRT3	-14.418	-0.932	12.555		
CONTROL - TRT1	-18.983	-4.862	9.258		
CONTROL - TRT2	-19.477	-5.800	7.877		

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

6. ANALYSIS OF NORMAL HATCHLINGS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Class Level Information

Class Levels Values

LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

6. ANALYSIS OF NORMAL HATCHLINGS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Type I Estimable Functions for: LEVEL

Coefficients

INTERCEPT 0

LEVEL

CONTROL L2

TRT1 L3

TRT2 L4

TRT3 -L2-L3-L4

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

6. ANALYSIS OF NORMAL HATCHLINGS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: NH

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

Model 3 573.59732 191.19911 0.52 0.6694

Error 69 25333.41637 367.15096

Corrected Total 72 25907.01370

R-Square 0.022141 C.V. Root MSE 19.161 NH Mean 48.630

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

LEVEL 3 573.59732 191.19911 0.52 0.6694

Least Squares Means

LEVEL NH LSMEAN i/j H0: LSMEAN(i)=LSMEAN(j)

CONTROL 52.2000000 1 0.4438 0.2372 0.6832

TRT1 47.2500000 2 0.4438 0.7084 0.7093

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 TRT2 44.777778 3 0.2372 0.7084 0.4389
 TRT3 49.6842105 4 0.6832 0.7093 0.4389

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 6. ANALYSIS OF NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

General Linear Models Procedure

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

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

Alpha= 0.05 Confidence= 0.95 df= 69 MSE= 367.151
 Critical Value of Studentized Range= 3.723

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	Lower Limit	Upper Limit
CONTROL - TRT3	-13.645	2.516	2.516	13.645	18.677	21.677
CONTROL - TRT1	-11.970	4.950	4.950	11.970	14.683	19.551
CONTROL - TRT2	-8.968	7.422	7.422	8.968	11.970	19.805
TRT3 - CONTROL	-18.677	-2.516	-2.516	-13.645	-19.551	-14.683
TRT3 - TRT1	-14.683	2.434	2.434	11.970	-19.805	-14.683
TRT3 - TRT2	-11.686	4.906	4.906	8.968	-14.683	-19.551
TRT1 - CONTROL	-21.870	-4.950	-4.950	-11.970	-19.805	-14.683
TRT1 - TRT3	-19.551	-2.434	-2.434	-11.970	-19.805	-14.683
TRT1 - TRT2	-14.861	2.472	2.472	8.968	-19.805	-14.683
TRT2 - CONTROL	-23.812	-7.422	-7.422	-13.645	-19.805	-14.683
TRT2 - TRT3	-21.699	-4.906	-4.906	-11.970	-19.805	-14.683
TRT2 - TRT1	-19.805	-2.472	-2.472	-11.970	-19.805	-14.683

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 6. ANALYSIS OF NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

General Linear Models Procedure

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

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

Alpha= 0.05 Confidence= 0.95 df= 69 MSE= 367.151
 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	
	Lower Limit	Upper Limit	Lower Limit	Upper Limit	Lower Limit	Upper Limit
TRT3 - CONTROL	-15.442	-2.516	-2.516	10.410	-18.483	8.583
TRT1 - CONTROL	-18.483	-4.950	-4.950	8.583	-18.483	8.583

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 TRT2 - CONTROL -20.531 -7.422 5.687

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

 09:44 Friday, July 31, 1998

General Linear Models Procedure Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

 09:44 Friday, July 31, 1998

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

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General Linear Models Procedure

Dependent Variable: HS

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	275.05879	91.68626	0.29	0.8327
Error	69	21836.91382	316.47701		
Corrected Total	72	22111.97260			
R-Square					
C.V.					
Root MSE					
HS Mean					
0.012439					
40.95413					
17.790					
43.438					
Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	275.05879	91.68626	0.29	0.8327

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 7. ANALYSIS OF 14-DAY-OLD SURVIVORS

General Linear Models Procedure
Least Squares Means

LEVEL	LSMEAN	HS	Pr > T	HO: LSMEAN(i)=LSMEAN(j)		
		i/j	1	2	3	4
CONTROL	46.0500000	1	0.4672	0.4173	0.7409	
TRT1	41.6875000	2	0.4672	0.9540	0.6836	
TRT2	41.3333333	3	0.4173	0.9540	0.6308	
TRT3	44.1578947	4	0.7409	0.6836	0.6308	

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
7. ANALYSIS OF 14-DAY-OLD SURVIVORS

09:44 Friday, July 31, 1998

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= 69 MSE= 316.477
Critical Value of Studentized Range= 3.723

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

LEVEL		Simultaneous		Difference		Simultaneous	
Comparison		Lower		Between		Upper	
		Confidence		Means		Confidence	
		Limit				Limit	
CONTROL	- TRT3	-13.112	16.897	1.892		16.897	
CONTROL	- TRT1	-11.347	20.072	4.362		20.072	
CONTROL	- TRT2	-10.500	19.933	4.717		19.933	
TRT3	- CONTROL	-16.897	13.112	-1.892		13.112	
TRT3	- TRT1	-13.422	18.362	2.470		18.362	
TRT3	- TRT2	-12.581	18.230	2.825		18.230	
TRT1	- CONTROL	-20.072	11.347	-4.362		11.347	
TRT1	- TRT3	-18.362	13.422	-2.470		13.422	
TRT1	- TRT2	-15.738	16.447	0.354		16.447	
TRT2	- CONTROL	-19.933	10.500	-4.717		10.500	
TRT2	- TRT3	-18.230	12.581	-2.825		12.581	
TRT2	- TRT1	-16.447	15.738	-0.354		15.738	

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
7. ANALYSIS OF 14-DAY-OLD SURVIVORS

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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= 69 MSE= 316.477

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

General Linear Models Procedure
Least Squares Means

LEVEL	LSMEAN	HS	Pr > T	HO: LSMEAN(i)=LSMEAN(j)		
		i/j	1	2	3	4
CONTROL	46.0500000	1	0.4672	0.4173	0.7409	
TRT1	41.6875000	2	0.4672	0.9540	0.6836	
TRT2	41.3333333	3	0.4173	0.9540	0.6308	
TRT3	44.1578947	4	0.7409	0.6836	0.6308	

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
8. ANALYSIS OF EGGS SET/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
8. ANALYSIS OF EGGS SET/EGGS LAID

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Effect		General Linear Models Procedure	
		Type I Estimable Functions for: LEVEL	
		Coefficients	
INTERCEPT	0		
LEVEL	CONTROL		
	TRT1		
	TRT2		
	TRT3		
	L2		
	L3		
	L4		
	-L2-L3-L4		

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
8. ANALYSIS OF EGGS SET/EGGS LAID

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General Linear Models Procedure
Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	79.564923	26.521641	0.88	0.4542
Error	67	2010.953455	30.014231		
Corrected Total	70	2090.518378			

R-Square C.V. Root MSE RESPONSE Mean

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0.038060 7.690262 5.4785 71.240

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	79.564923	26.521641	0.88	0.4542

ZAI296: EFFECTS ON REPRODUCTION IN BOBWWHITE
8. ANALYSIS OF EGGS SET/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN	i/j	1	2	3	4
CONTROL	72.8151271	1	0.3028	0.1164	0.3543		
TRT1	70.8846019	2	0.3028	0.6096	0.8838		
TRT2	69.9055129	3	0.1164	0.6096	0.4961		
TRT3	71.1572917	4	0.3543	0.8838	0.4961		

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

ZAI296: EFFECTS ON REPRODUCTION IN BOBWWHITE
8. ANALYSIS OF EGGS SET/EGGS LAID

09:44 Friday, July 31, 1998

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= 67 MSE= 30.01423
Critical Value of Studentized Range= 3.726

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

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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= 67 MSE= 30.01423
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
TRT3	- CONTROL	-5.399	-1.658	2.084
TRT1	- CONTROL	-5.844	-1.931	1.983
TRT2	- CONTROL	-6.760	-2.910	0.940

ZAI296: EFFECTS ON REPRODUCTION IN BOBWWHITE
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

09:44 Friday, July 31, 1998

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZAI296: EFFECTS ON REPRODUCTION IN BOBWWHITE
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

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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

ZAI296: EFFECTS ON REPRODUCTION IN BOBWWHITE
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	592.33757	197.44586	0.81	0.4909
Error	67	16263.11554	242.73307		
Corrected Total	70	16855.45311			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.035142	20.27041	15.580	76.860

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	592.33757	197.44586	0.81	0.4909

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

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General Linear Models Procedure Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)	1	2	3	4
CONTROL	80.6948389	1	0.1310	0.3566	0.5284	
TRT1	72.6130435	2	0.1310	0.5508	0.3594	
TRT2	75.8668627	3	0.3566	0.5508	0.7558	
TRT3	77.4912090	4	0.5284	0.3594	0.7558	

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

09:44 Friday, July 31, 1998

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= 67 MSE= 242.7331
Critical Value of Studentized Range= 3.726

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	-10.114	3.204	16.521
CONTROL - TRT2	-8.876	4.828	18.532
CONTROL - TRT1	-5.846	8.082	22.010
TRT3 - CONTROL	-16.521	-3.204	10.114
TRT3 - TRT2	-12.080	1.624	15.328
TRT3 - TRT1	-9.050	4.878	18.806

TRT2 - CONTROL	-18.532	-4.828	8.876
TRT2 - TRT3	-15.328	-1.624	12.080
TRT2 - TRT1	-11.044	3.254	17.552
TRT1 - CONTROL	-22.010	-8.082	5.846
TRT1 - TRT3	-18.806	-4.878	9.050
TRT1 - TRT2	-17.552	-3.254	11.044

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

09:44 Friday, July 31, 1998

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= 67 MSE= 242.7331
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
TRT3 - CONTROL	-13.844	-3.204	7.437
TRT2 - CONTROL	-15.777	-4.828	6.121
TRT1 - CONTROL	-19.210	-8.082	3.046

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIABLE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure Type I Estimable Functions for: LEVEL

Coefficients

Effect	0	L2	L3
INTERCEPT			
LEVEL			
CONTROL			
TRT1			

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: RESPONSE				
Source	DF	Sum of Squares	Mean Square	Pr > F
Model	3	352.90215	117.63405	1.64 0.1873
Error	67	4791.17718	71.51011	
Corrected Total	70	5144.07933		

R-Square	C.V.	Root MSE	RESPONSE Mean
0.068604	10.45255	8.4564	80.902

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	352.90215	117.63405	1.64	0.1873

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN	Pr > T	H0: LSMEAN(i)=LSMEAN(j)
CONTROL	83.2985794	1	0.3847	0.0360 0.6030
TRT1	80.7879898	2	0.3847	0.2347 0.7086
TRT2	77.2563313	3	0.0360	0.2347 0.1073
TRT3	81.8650165	4	0.6030	0.7086 0.1073

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

09:44 Friday, July 31, 1998

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= 67 MSE= 71.51011
Critical Value of Studentized Range= 3.726

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
CONTROL	- TRT3	-5.795	1.434	8.662
CONTROL	- TRT1	-5.049	2.511	10.070
CONTROL	- TRT2	-1.396	6.042	13.480
TRT3	- CONTROL	-8.662	-1.434	5.795
TRT3	- TRT1	-6.483	1.077	8.637
TRT3	- TRT2	-2.829	4.609	12.047
TRT1	- CONTROL	-10.070	-2.511	5.049
TRT1	- TRT3	-8.637	-1.077	6.483
TRT1	- TRT2	-4.229	3.532	11.292
TRT2	- CONTROL	-13.480	-6.042	1.396
TRT2	- TRT3	-12.047	-4.609	2.829
TRT2	- TRT1	-11.292	-3.532	4.229

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
10. ANALYSIS OF LIVE 3-WEEK EMBRYOS/VIALE EMBRYOS

09:44 Friday, July 31, 1998

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= 67 MSE= 71.51011
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
TRT3	- CONTROL	-7.209	-1.434	4.342
TRT1	- CONTROL	-8.551	-2.511	3.529
TRT2	- CONTROL	-11.985	-6.042	-0.099 ***

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Coefficients

0

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	131.16300	43.72100	0.36	0.7837
Error	67	8189.15782	122.22624		
Corrected Total	70	8320.32081			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.015764	14.61816	11.056	75.629

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	131.16300	43.72100	0.36	0.7837

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

09:44 Friday, July 31, 1998

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)
CONTROL	77.0741255	1	0.9454 0.5520 0.3743
TRT1	76.8164505	2	0.9454 0.6145 0.4343
TRT2	74.8679775	3	0.5520 0.6145 0.7868
TRT3	73.8656692	4	0.3743 0.4343 0.7868

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

09:44 Friday, July 31, 1998

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= 67 MSE= 122.2262
Critical Value of Studentized Range= 3.726

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	-9.626	0.258	10.141
CONTROL - TRT2	-7.518	2.206	11.931
CONTROL - TRT3	-6.242	3.208	12.659
TRT1 - CONTROL	-10.141	-0.258	9.626
TRT1 - TRT2	-8.197	1.948	12.094
TRT1 - TRT3	-6.933	2.951	12.834
TRT2 - CONTROL	-11.931	-2.206	7.518
TRT2 - TRT1	-12.094	-1.948	8.197
TRT2 - TRT3	-8.722	1.002	10.727
TRT3 - CONTROL	-12.659	-3.208	6.242
TRT3 - TRT1	-12.834	-2.951	6.933
TRT3 - TRT2	-10.727	-1.002	8.722

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

09:44 Friday, July 31, 1998

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= 67 MSE= 122.2262
Critical Value of Dunnnett'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
TRT1 - CONTROL	-8.154	-0.258	7.639
TRT2 - CONTROL	-9.976	-2.206	5.563
TRT3 - CONTROL	-10.759	-3.208	4.342

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

09:44 Friday, July 31, 1998

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	807.62935	269.20978	1.50	0.2218
Error	67	12003.21408	179.15245		
Corrected Total	70	12810.84343			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.063043	23.00496	13.385	58.182

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	807.62935	269.20978	1.50	0.2218

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)	i/j
CONTROL	63.2399695	1	0.0912
TRT1	55.4574266	2	0.0912
TRT2	54.7441702	3	0.0616
TRT3	58.4949682	4	0.2785

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

09:44 Friday, July 31, 1998

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= 67 MSE= 179.1524
Critical Value of Studentized Range= 3.726

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	-6.696	4.745	16.186
CONTROL - TRT2	-4.183	7.783	19.748
CONTROL - TRT3	-3.277	8.496	20.269
TRT1 - TRT2	-16.186	-4.745	6.696
TRT1 - TRT3	-8.928	3.038	15.003
TRT2 - TRT3	-8.022	3.751	15.524
TRT1 - TRT2	-19.748	-7.783	4.183
TRT1 - TRT3	-15.003	-3.038	8.928
TRT2 - TRT3	-11.570	0.713	12.997
TRT1 - TRT2	-20.269	-8.496	3.277
TRT2 - TRT3	-15.524	-3.751	8.022
TRT3 - TRT1	-12.997	-0.713	11.570

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

09:44 Friday, July 31, 1998

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= 67 MSE= 179.1524
Critical Value of Dunnnett'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
TRT3 - CONTROL	-13.886	-4.745	4.396
TRT1 - CONTROL	-17.343	-7.783	1.778
TRT2 - CONTROL	-17.902	-8.496	0.911

General Linear Models Procedure
 CLASS Level Information
 13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

General Linear Models Procedure
 CLASS Level Information

Class Levels Values
 LEVEL 4 CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

General Linear Models Procedure
 Type I Estimable Functions for: LEVEL

Coefficients

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

13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	306.72559	102.24186	1.31	0.2786
Error	67	5230.82110	78.07196		
Corrected Total	70	5537.54669			

Root MSE

Source	DF	Type I SS	Mean Square	F Value	Pr > F
Model	3	306.72559	102.24186	1.31	0.2786
Error	67	5230.82110	78.07196		
Corrected Total	70	5537.54669			

13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

General Linear Models Procedure
 Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T HO: LSMEAN(i)=LSMEAN(j)
CONTROL	71.1727223	1 0.3630 0.0844 0.9018
TRT1	73.9187073	2 0.3630 0.4341 0.4280
TRT2	76.3403374	3 0.0844 0.4341 0.1075
TRT3	71.5276821	4 0.9018 0.4280 0.1075

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

13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

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= 67 MSE= 78.07196
 Critical Value of Studentized Range= 3.726

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

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Simultaneous Upper Confidence Limit
TRT2 - TRT1	-5.687	2.422	10.530
TRT2 - TRT3	-2.959	4.813	12.585
TRT2 - CONTROL	-2.604	5.168	12.940
TRT1 - TRT2	-10.530	-2.422	5.687
TRT1 - TRT3	-5.508	2.391	10.290
TRT1 - CONTROL	-5.153	2.746	10.645
TRT3 - TRT2	-12.585	-4.813	2.959
TRT3 - TRT1	-10.290	-2.391	5.508
TRT3 - CONTROL	-7.198	0.355	7.908
CONTROL - TRT2	-12.940	-5.168	2.604
CONTROL - TRT1	-10.645	-2.746	5.153
CONTROL - TRT3	-7.908	-0.355	7.198

13. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/NORMAL HATCHLINGS

 09:44 Friday, July 31, 1998

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= 67 MSE= 78.07196
 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	
	Lower Limit	Upper Limit	Mean	Pr > F	Lower Limit	Upper Limit
TRT1 - CONTROL	-1.042	5.168	11.377		-1.042	11.377
TRT2 - CONTROL	-3.565	2.746	9.057		-3.565	9.057
TRT3 - CONTROL	-5.680	0.355	6.389		-5.680	6.389

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT 0

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: RESPONSE		Sum of Squares		Mean Square	F Value	Pr > F
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F	
Model	3	221.19429	73.73143	1.04	0.3797	
Error	67	4740.55434	70.75454			
Corrected Total	70	4961.74864				
R-Square			C.V.	Root MSE	RESPONSE Mean	
		0.044580	10.30681	8.4116	81.612	

LEVEL	Type I SS	Mean Square	F Value	Pr > F
3	221.19429	73.73143	1.04	0.3797

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

09:44 Friday, July 31, 1998

General Linear Models Procedure Least Squares Means

LEVEL	RESPONSE LSMEAN	Pr > T H0: LSMEAN(1)=LSMEAN(J)
CONTROL	83.3871322	1 0.3654 0.1202 0.8584
TRT1	80.7863459	2 0.3654 0.5366 0.4619
TRT2	78.9665252	3 0.1202 0.5366 0.1661
TRT3	82.8983884	4 0.8584 0.4619 0.1661

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

09:44 Friday, July 31, 1998

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= 67 MSE= 70.75454
Critical Value of Studentized Range= 3.726

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	Mean	Pr > F	Lower Limit	Upper Limit
CONTROL - TRT3	-6.702	0.489	7.679		-6.702	7.679
CONTROL - TRT1	-4.919	2.601	10.121		-4.919	10.121
CONTROL - TRT2	-2.978	4.421	11.819		-2.978	11.819
TRT3 - CONTROL	-7.679	-0.489	6.702		-7.679	6.702
TRT3 - TRT1	-5.408	2.112	9.632		-5.408	9.632
TRT3 - TRT2	-3.467	3.932	11.331		-3.467	11.331
TRT1 - CONTROL	-10.121	-2.601	4.919		-10.121	4.919
TRT1 - TRT3	-9.632	-2.112	5.408		-9.632	5.408
TRT1 - TRT2	-5.900	1.820	9.539		-5.900	9.539
TRT2 - CONTROL	-11.819	-4.421	2.978		-11.819	2.978
TRT2 - TRT3	-11.331	-3.932	3.467		-11.331	3.467
TRT2 - TRT1	-9.539	-1.820	5.900		-9.539	5.900

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

09:44 Friday, July 31, 1998

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= 67 MSE= 70.75454
Critical Value of Dunnett's T= 2.105

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

LEVEL Comparison	Simultaneous		Difference		Simultaneous
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Lower Confidence Limit
CONTROL	-6.234	-0.489		5.256	
TRT1	-8.609	-2.601		3.407	
TRT2	-10.332	-4.421		1.491	

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure
Type I Estimable Functions for: LEVEL

Effect Coefficients

INTERCEPT 0

LEVEL	L2	L3	L4
CONTROL			
TRT1			
TRT2			
TRT3			

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure

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

Model

Error	67	17222.63426	257.05424	793.76478	264.58826	1.03	0.3853
Corrected Total	70	18016.39903					

R-Square	C.V.	Root MSE	RESPONSE Mean
0.044058	24.46513	16.033	65.534

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	793.76478	264.58826	1.03	0.3853

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

09:44 Friday, July 31, 1998General Linear Models Procedure
Least Squares Means

LEVEL	RESPONSE	Pr > T	H0: LSMEAN(1)=LSMEAN(J)
	LSMEAN	i/j	
CONTROL	70.6598295	1	0.1514 0.1255 0.3326
TRT1	62.7650848	2	0.1514 0.9416 0.6061
TRT2	62.3546507	3	0.1255 0.9416 0.5484
TRT3	65.5835784	4	0.3326 0.6061 0.5484

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

09:44 Friday, July 31, 1998

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= 67 MSE= 257.0542
Critical Value of Studentized Range= 3.726

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

LEVEL Comparison	Simultaneous		Difference		Simultaneous
	Lower Confidence Limit	Upper Confidence Limit	Between Means	Upper Confidence Limit	Lower Confidence Limit
CONTROL - TRT3	-8.629	5.076		18.781	
CONTROL - TRT1	-6.438	7.895		22.228	
CONTROL - TRT2	-5.797	8.305		22.408	
TRT3 - CONTROL	-18.781	-5.076		8.629	
TRT3 - TRT1	-11.515	2.818		17.152	
TRT3 - TRT2	-10.874	3.229		17.331	
TRT1 - CONTROL	-22.228	-7.895		6.438	
TRT1 - TRT3	-17.152	-2.818		11.515	
TRT1 - TRT2	-14.303	-0.410		15.124	

CONTROL - TRT3	-8.982	3.423	15.827
CONTROL - TRT2	-8.334	4.430	17.194
CONTROL - TRT1	-7.344	5.629	18.601
TRT3 - CONTROL	-15.827	-3.423	8.982
TRT3 - TRT2	-11.756	1.008	13.772
TRT3 - TRT1	-10.767	2.206	15.179
TRT2 - CONTROL	-17.194	-4.430	8.334
TRT2 - TRT3	-13.772	-1.008	11.756
TRT2 - TRT1	-12.119	1.199	14.516
TRT1 - CONTROL	-18.601	-5.629	7.344
TRT1 - TRT3	-15.179	-2.206	10.767
TRT1 - TRT2	-14.516	-1.199	12.119

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

 09:44 Friday, July 31, 1998

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= 67 MSE= 210.5753
 Critical Value of Dunnett's T= 2.105

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

LEVEL Comparison	Simultaneous		Simultaneous	
	Lower Confidence Limit	Difference Between Means	Upper Confidence Limit	
TRT3 - CONTROL	-13.333	-3.423	6.488	
TRT2 - CONTROL	-14.628	-4.430	5.768	
TRT1 - CONTROL	-15.993	-5.629	4.736	

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 17. ANALYSIS OF EGGSHELL THICKNESS

 09:44 Friday, July 31, 1998

General Linear Models Procedure
 Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 17. ANALYSIS OF EGGSHELL THICKNESS

 09:44 Friday, July 31, 1998

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 17. ANALYSIS OF EGGSHELL THICKNESS

 09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: THICK					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.0010080	0.0003360	3.19	0.0290
Error	67	0.0070475	0.0001052		
Corrected Total	70	0.0080555			

R-Square 0.125132
 C.V. 4.899621
 Root MSE 0.0103
 THICK Mean 0.2093

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	0.0010080	0.0003360	3.19	0.0290

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 17. ANALYSIS OF EGGSHELL THICKNESS

 09:44 Friday, July 31, 1998

General Linear Models Procedure
 Least Squares Means

LEVEL	THICK LSMEAN	Pr > T H0: LSMEAN(i)=LSMEAN(j)				
		i/j	1	2	3	4
CONTROL	0.20973684	1	0.0748	0.1714	0.8872	0.8872
TRT1	0.20343750	2	0.0748	0.0029	0.0988	0.0988
TRT2	0.21447059	3	0.1714	0.0029	0.1330	0.1330
TRT3	0.20926316	4	0.8872	0.0988	0.1330	0.1330

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
 17. ANALYSIS OF EGGSHELL THICKNESS

 09:44 Friday, July 31, 1998

General Linear Models Procedure

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

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

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TRT2 - CONTROL -22.408 -8.305 5.797
TRT2 - TRT3 -17.331 -3.229 10.874
TRT2 - TRT1 -15.124 -0.410 14.303

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ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

09:44 Friday, July 31, 1998

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= 67 MSE= 257.0542
Critical Value of Dunnett's T= 2.105

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

LEVEL Comparison	Simultaneous			Difference Between Means			Simultaneous Upper Confidence Limit		
	Lower Confidence Limit	Upper Confidence Limit	Mean	Lower Confidence Limit	Upper Confidence Limit	Mean			
TRT3 - CONTROL	-16.026	-5.076	5.874	-16.026	-5.076	5.874			
TRT1 - CONTROL	-19.346	-7.895	3.557	-19.346	-7.895	3.557			
TRT2 - CONTROL	-19.572	-8.305	2.962	-19.572	-8.305	2.962			

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure Type I Estimable Functions for: LEVEL

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	315.46161	105.15387	0.50	0.6840
Error	67	14108.54189	210.57525		
Corrected Total	70	14424.00350			

R-Square	C.V.	Root MSE	RESPONSE Mean
0.021871	24.73553	14.511	58.665

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	315.46161	105.15387	0.50	0.6840

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

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General Linear Models Procedure Least Squares Means

LEVEL	RESPONSE	LSMEAN	i/j	1	2	3	4
CONTROL	61.9105605	1	0.2570	0.3638	0.4698		
TRT1	56.2818581	2	0.2570	0.8133	0.6556		
TRT2	57.4803759	3	0.3638	0.8133	0.8359		
TRT3	58.4879632	4	0.4698	0.6556	0.8359		

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

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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= 67 MSE= 210.5753
Critical Value of Studentized Range= 3.726

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

LEVEL Comparison	Simultaneous			Difference Between Means			Simultaneous Upper Confidence Limit		
	Lower Confidence Limit	Upper Confidence Limit	Mean	Lower Confidence Limit	Upper Confidence Limit	Mean			
CONTROL									
TRT1									
TRT2									
TRT3									

Alpha= 0.05 Confidence= 0.95 df= 67 MSE= 0.000105
Critical Value of Studentized Range= 3.726

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	-0.004287	0.004734	0.005207	0.013755	0.014229	0.013755
TRT2 - TRT1	-0.003814	0.003207	0.011033	0.020445	0.015468	0.014229
TRT2 - TRT3	-0.001621	0.001375	-0.004734	0.004287	0.009241	0.008293
CONTROL - TRT2	-0.013755	-0.008293	-0.004734	0.004287	0.005207	0.004734
CONTROL - TRT3	-0.008293	-0.002869	-0.004734	0.004287	0.005207	0.004734
CONTROL - TRT1	-0.002869	-0.002869	-0.004734	0.004287	0.005207	0.004734
TRT3 - TRT2	-0.014229	-0.009241	-0.005207	0.003814	0.008293	0.007814
TRT3 - CONTROL	-0.009241	-0.004287	-0.005207	0.003814	0.008293	0.007814
TRT3 - TRT1	-0.003343	-0.002869	-0.005207	0.003814	0.008293	0.007814
TRT1 - TRT2	-0.020445	-0.011033	-0.011033	0.001621	0.001621	0.001621
TRT1 - CONTROL	-0.015468	-0.006299	-0.006299	0.002869	0.002869	0.002869
TRT1 - TRT3	-0.014994	-0.005826	-0.005826	0.003343	0.003343	0.003343

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

17. ANALYSIS OF EGGSHELL THICKNESS

09:44 Friday, July 31, 1998

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= 67 MSE= 0.000105
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	
	Lower Limit	Upper Limit			Lower Limit	Upper Limit
TRT2 - CONTROL	-0.002474	0.004734	0.007208	0.011941	0.011941	0.011941
TRT2 - CONTROL	-0.007478	-0.000474	-0.007004	0.006531	0.006531	0.006531
TRT1 - CONTROL	-0.013625	-0.006299	-0.007326	0.001026	0.001026	0.001026

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

18. ANALYSIS OF HATCHLING WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

18. ANALYSIS OF HATCHLING WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure

Type I Estimable Functions for: LEVEL

Coefficients

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

18. ANALYSIS OF HATCHLING WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: HATWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	0.8225430	0.2741810	1.23	0.3061
Error	67	14.9496458	0.2231290		
Corrected Total	70	15.7721887			

R-Square

0.052151	C.V.	Root MSE	HATWT Mean
0.052151	6.591188	0.4724	7.1666

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	0.8225430	0.2741810	1.23	0.3061

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE

18. ANALYSIS OF HATCHLING WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure

Least Squares Means

LEVEL	HATWT LSMEAN	Pr > T ₁	H0: LSMEAN(i)=LSMEAN(j) i/j	1	2	3	4
CONTROL	7.34368421	1	0.1121	0.1261	0.1454	0.1454	0.1454
TRT1	7.08562500	2	0.1121	0.9335	0.8410	0.8410	0.8410
TRT2	7.09941176	3	0.1261	0.9335	0.9070	0.9070	0.9070
TRT3	7.11789474	4	0.1454	0.8410	0.9070	0.9070	0.9070

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

General Linear Models Procedure

18. ANALYSIS OF HATCHLING WEIGHT

09:44 Friday, July 31, 1998

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= 67 MSE= 0.223129
Critical Value of Studentized Range= 3.726

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	-0.1780	0.2258	0.6296
CONTROL - TRT2	-0.1712	0.2443	0.6598
CONTROL - TRT1	-0.1642	0.2581	0.6803
TRT3 - CONTROL	-0.6296	-0.2258	0.1780
TRT3 - TRT2	-0.3970	0.0185	0.4340
TRT3 - TRT1	-0.3900	0.0323	0.4546
TRT2 - CONTROL	-0.6598	-0.2443	0.1712
TRT2 - TRT3	-0.4340	-0.0185	0.3970
TRT2 - TRT1	-0.4197	0.0138	0.4473
TRT1 - CONTROL	-0.6803	-0.2581	0.1642
TRT1 - TRT3	-0.4546	-0.0323	0.3900
TRT1 - TRT2	-0.4473	-0.0138	0.4197

General Linear Models Procedure

18. ANALYSIS OF HATCHLING WEIGHT

09:44 Friday, July 31, 1998

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= 67 MSE= 0.223129
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
TRT3 - CONTROL	-0.5484	-0.2258	0.0968
TRT2 - CONTROL	-0.5762	-0.2443	0.0877
TRT1 - CONTROL	-0.5955	-0.2581	0.0793

General Linear Models Procedure

19. ANALYSIS OF 14-DAY SURVIVOR 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 = 80

NOTE: Due to missing values, only 71 observations can be used in this analysis.

General Linear Models Procedure

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

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Type I Estimable Functions for: LEVEL

Coefficients

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

General Linear Models Procedure

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

09:44 Friday, July 31, 1998

Dependent Variable: SURVWT

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	10.037031	3.345677	0.66	0.5805
Error	67	340.461279	5.081512		

Corrected Total

R-Square	C.V.	Root MSE	SURVWT Mean
0.028636	8.988525	2.2542	25.079

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	10.037031	3.345677	0.66	0.5805

General Linear Models Procedure

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

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Least Squares Means

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LEVEL	LSMEAN	1/j	1	2	3	4
CONTROL	25.2578947	1	0.9205	0.2715	0.8465	
TRT1	25.1812500	2	0.9205	0.3380	0.7758	
TRT2	24.4235294	3	0.2715	0.3380	0.1989	
TRT3	25.4000000	4	0.8465	0.7758	0.1989	

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

09:44 Friday, July 31, 1998

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= 67 MSE= 5.081512
Critical Value of Studentized Range= 3.726

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	-1.7848	0.1421	0.1421	2.0690	
TRT3	- TRT1	-1.7965	0.2188	0.2188	2.2340	
TRT3	- TRT2	-1.0063	0.9765	0.9765	2.9593	
CONTROL	- TRT3	-2.0690	-0.1421	-0.1421	1.7848	
CONTROL	- TRT1	-1.9386	0.0766	0.0766	2.0919	
CONTROL	- TRT2	-1.1484	0.8344	0.8344	2.8172	
TRT1	- TRT3	-2.2340	-0.2188	-0.2188	1.7965	
TRT1	- CONTROL	-2.0919	-0.0766	-0.0766	1.9386	
TRT1	- TRT2	-1.5110	0.7577	0.7577	2.8264	
TRT2	- TRT3	-2.9593	-0.9765	-0.9765	1.0063	
TRT2	- CONTROL	-2.8172	-0.8344	-0.8344	1.1484	
TRT2	- TRT1	-2.8264	-0.7577	-0.7577	1.5110	

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

09:44 Friday, July 31, 1998

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= 67 MSE= 5.081512
Critical Value of Dunnett's T= 2.105

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

LEVEL	Comparison	Simultaneous	
		Lower Difference	Upper
TRT3	- CONTROL	-1.7848	0.1421
TRT3	- TRT1	-1.7965	0.2188
TRT3	- TRT2	-1.0063	0.9765
CONTROL	- TRT3	-2.0690	-0.1421
CONTROL	- TRT1	-1.9386	0.0766
CONTROL	- TRT2	-1.1484	0.8344
TRT1	- TRT3	-2.2340	-0.2188
TRT1	- CONTROL	-2.0919	-0.0766
TRT1	- TRT2	-1.5110	0.7577
TRT2	- TRT3	-2.9593	-0.9765
TRT2	- CONTROL	-2.8172	-0.8344
TRT2	- TRT1	-2.8264	-0.7577

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LEVEL	Comparison	Confidence Limit	Between Means	Confidence Limit
TRT3	- CONTROL	-1.3974	0.1421	1.6817
TRT1	- CONTROL	-1.6867	-0.0766	1.5335
TRT2	- CONTROL	-2.4185	-0.8344	0.7498

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
20. ANALYSIS OF FOOD CONSUMPTION

09:44 Friday, July 31, 1998

General Linear Models Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
20. ANALYSIS OF FOOD CONSUMPTION

09:44 Friday, July 31, 1998

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
20. ANALYSIS OF FOOD CONSUMPTION

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: FOOD

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	3	15.184710	5.061570	1.63	0.1894
Error	69	213.728988	3.097522		
Corrected Total	72	228.913699			

R-Square		C.V.	Root MSE	FOOD Mean
0.066334	9.277757	1.7600		18.970

Source	DF	Type I SS	Mean Square	F Value	Pr > F
LEVEL	3	15.184710	5.061570	1.63	0.1894

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
20. ANALYSIS OF FOOD CONSUMPTION

09:44 Friday, July 31, 1998

General Linear Models Procedure
Least Squares Means

LEVEL	FOOD LSMEAN	Pr > T 1/1	H0: LSMEAN(i)=LSMEAN(j) 2	3	4
CONTROL	18.3950000	1	0.3190	0.3907	0.0310
TRT1	18.9875000	2	0.3190	0.8709	0.2807
TRT2	18.8888889	3	0.3907	0.8709	0.2007
TRT3	19.6368421	4	0.0310	0.2807	0.2007

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
20. ANALYSIS OF FOOD CONSUMPTION

09:44 Friday, July 31, 1998

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= 69 MSE= 3.097522
Critical Value of Studentized Range= 3.723

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

LEVEL Comparison	Simultaneous Lower Confidence Limit	Difference Between Means	Upper Confidence Limit
TRT3 - TRT1	-0.9229	0.6493	2.2216
TRT3 - TRT2	-0.7761	0.7480	2.2720
TRT3 - CONTROL	-0.2426	1.2418	2.7263
TRT1 - TRT3	-2.2216	-0.6493	0.9229
TRT2 - TRT3	-1.4935	0.0986	1.6907
TRT1 - CONTROL	-0.9617	0.5925	2.1467
TRT2 - TRT3	-2.2720	-0.7480	0.7761
TRT2 - TRT1	-1.6907	-0.0986	1.4935
TRT2 - CONTROL	-1.0115	0.4939	1.9993
CONTROL - TRT3	-2.7263	-1.2418	0.2426
CONTROL - TRT1	-2.1467	-0.5925	0.9617
CONTROL - TRT2	-1.9993	-0.4939	1.0115

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
20. ANALYSIS OF FOOD CONSUMPTION

09:44 Friday, July 31, 1998

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= 69 MSE= 3.097522
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
TRT3 - CONTROL	0.0546	1.2418	2.4291
TRT1 - CONTROL	-0.6505	0.5925	1.8355
TRT2 - CONTROL	-0.7102	0.4939	1.6979

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: POSTM					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	4161.4823	1040.3706	7.10	0.0001
Error	68	9960.1890	146.4734		
Corrected Total	72	14121.6712			
R-Square					
		C.V.	Root MSE	POSTM Mean	
			12.103	221.59	
Type III SS					
Source	DF	Type III SS	Mean Square	F Value	Pr > F
LEVEL	3	212.3449	70.7816	0.48	0.6950
PREM	1	3949.1373	3949.1373	26.96	0.0001
Type III SS					
Source	DF	Type III SS	Mean Square	F Value	Pr > F
LEVEL	3	366.4813	122.1604	0.83	0.4798
PREM	1	3949.1373	3949.1373	26.96	0.0001

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure
Least Squares Means

LEVEL	POSTM LSMEAN	Std Err LSMEAN	Pr > T H0:LSMEAN=0	LSMEAN Number
CONTROL	222.671265	2.709383	0.0001	1
TRT1	217.859784	3.072164	0.0001	2
TRT2	221.010144	2.874823	0.0001	3
TRT3	224.138714	2.787737	0.0001	4

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

i/j	1	2	3	4
1		0.2423	0.6763	0.7076
2	0.2423		0.4613	0.1377
3	0.6763	0.4613		0.4348
4	0.7076	0.1377	0.4348	

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

09:44 Friday, July 31, 1998

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= 68 MSE= 146.4734
Critical Value of Studentized Range= 3.725

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	-9.704	0.508	10.719
CONTROL - TRT1	-7.966	2.725	13.416
CONTROL - TRT2	-6.173	4.183	14.539
TRT3 - CONTROL	-10.719	-0.508	9.704
TRT3 - TRT1	-8.598	2.217	13.033
TRT3 - TRT2	-6.809	3.675	14.160
TRT1 - CONTROL	-13.416	-2.725	7.966
TRT1 - TRT3	-8.598	-2.217	8.598
TRT1 - TRT2	-13.033	-1.458	12.410
TRT2 - CONTROL	-14.539	-4.183	6.173
TRT2 - TRT3	-14.160	-3.675	6.809
TRT2 - TRT1	-12.410	-1.458	9.494

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dunnnett'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= 68 MSE= 146.4734

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	-8.674	-0.508	7.659
TRT1 - CONTROL	-11.275	-2.725	5.825
TRT2 - CONTROL	-12.465	-4.183	4.099

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure
Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations in data set = 80

NOTE: Due to missing values, only 73 observations can be used in this analysis.

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure

Dependent Variable: POSTF					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	4	5616.5355	1404.1339	5.60	0.0006
Error	68	17061.4097	250.9031		
Corrected Total	72	22677.9452			
R-Square					
			C.V.	Root MSE	POSTF Mean
0.247665			6.599214	15.840	240.03
Source	DF	Type I SS	Mean Square	F Value	Pr > F

LEVEL	DF	Type III SS	Mean Square	F Value	Pr > F
PREF	3	123.9639	41.3213	0.16	0.9198
Source	1	5492.5716	5492.5716	21.89	0.0001
LEVEL	DF	Type III SS	Mean Square	F Value	Pr > F
PREF	3	112.4911	37.4970	0.15	0.9297
	1	5492.5716	5492.5716	21.89	0.0001

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

09:44 Friday, July 31, 1998

General Linear Models Procedure Least Squares Means

LEVEL	POSTF LSMEAN	Std Err LSMEAN	Pr > T HO:LSMEAN=0	LSMEAN Number
CONTROL	240.225989	3.542016	0.0001	1
TRT1	238.322985	4.047950	0.0001	2
TRT2	239.391686	3.737780	0.0001	3
TRT3	241.855900	3.669422	0.0001	4

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

i/j	1	2	3	4
1		0.7248	0.8717	-0.7501
2	0.7248		0.8475	0.5259
3	0.8717	0.8475		0.6384
4	0.7501	0.5259	0.6384	

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

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

09:44 Friday, July 31, 1998

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= 68 MSE= 250.9031
Critical Value of Studentized Range= 3.725

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	-11.843	2.150	16.143
TRT1 - TRT3	-11.379	2.776	16.932
TRT1 - TRT2	-10.639	3.694	18.028
CONTROL - TRT1	-16.143	-2.150	11.843
CONTROL - TRT3	-12.738	0.626	13.991
CONTROL - TRT2	-12.009	1.544	15.098
TRT3 - TRT1	-16.932	-2.776	11.379

TRT3 - CONTROL	-13.991	-0.626	12.738
TRT3 - TRT2	-12.804	0.918	14.640
TRT2 - TRT1	-18.028	-3.694	10.639
TRT2 - CONTROL	-15.098	-1.544	12.009
TRT2 - TRT3	-14.640	-0.918	12.804

ZA1296: EFFECTS ON REPRODUCTION IN BOBWHITE
22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

09:44 Friday, July 31, 1998

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= 68 MSE= 250.9031
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
TRT1 - CONTROL	-9.040	2.150	13.340
TRT3 - CONTROL	-11.315	-0.626	10.062
TRT2 - CONTROL	-12.384	-1.544	9.295