S406678
SUBMISSION #

129011
SHAUGHNESSY NO.

REVIEW NO.

EEB REVIEW

DATE: IN 11-26-91 DATE: OUT 3-29-93

FILE OR ID NO. MRID 418750-05

PETITION OR EXP. NO.

DATE OF SUBMISSION 10-28-91

DATE RECEIVED BY EFED 11-26-91

RD REQUESTED COMPLETION DATE 5-5-92

EEB ESTIMATED COMPLETION DATE 03-15-93

RD ACTION CODE/TYPE OF REVIEW Data Evaluation Record
Avian Reproduction Study--
Bobwhite Quail

TYPE OF PRODUCT(S) : I,D,H,F,N,R,S Fungicide

DATA ACCESSION NO(S).

PRODUCT MANAGER (NO.) Cynthia Giles-Parker

PRODUCT NAME(S) Fenbuconazole, RH7592, Fenethanil, Indar, RH-57,592

COMPANY NAME Rohm and Haas

SUBMISSION PURPOSE Meet EEB Study requirements

SHAUGHNESSY NO.	CHEMICAL & FORMULATION(S)	% A.I.
129011	Fenbuconazole	98.3
	Inert	1.7

DATA EVALUATION RECORD

1. **CHEMICAL:** RH-7592.
Shaughnessey No. 129011.

2. **TEST MATERIAL:** RH-7592 technical; Lot No. BPP 31786R; MSDS/RHIS 892353-3; T.D. No. 88-050; Notebook Ref. Lot No. 3-1786R; 96.7% active ingredient; a white solid.

3. **STUDY TYPE:** 71-4. Avian Reproduction Study. Species Tested: Bobwhite quail (*Colinus virginianus*).

4. **CITATION:** Beavers, J.B., T. Ross, G.J. Smith, and M.J. Jaber. 1991. RH-7592 Technical: A One-Generation Reproduction Study with the Northern Bobwhite (*Colinus virginianus*). Project No. 129-142. Prepared by Wildlife International Ltd., Easton, MD. Submitted by Rohm and Haas Company, Spring House, PA. EPA MRID No. 418750-05.

5. **REVIEWED BY:**

Charles G. Nace Jr., M.S.
Associate Scientist
KBN Engineering and
Applied Sciences, Inc.

Signature: Charles G Nace Jr.
Date: 12/10/92

6. **APPROVED BY:**

Michael L. Whitten, M.S.
Wildlife Toxicologist
KBN Engineering and
Applied Sciences, Inc.

Signature: Michael L. Whitten
Date: 12/1/92

Henry T. Craven, M.S.
Supervisor, EEB/EFED
USEPA

R. Dixon 3/26/93
Signature: Henry T. Craven
Date: 4/14/93

7. **CONCLUSIONS:** This study is scientifically sound and fulfills the guideline requirements for an avian reproduction study. Nominal dietary concentrations of RH-7592 at 30, 150, and 600 ppm had no effects upon mortality, behavior, or food consumption in bobwhite quail during the 21-week exposure period. The no-observed-effect concentration (NOEC) was 150 ppm, based on a slight decrease in eggshell thickness at 600 ppm.

8. **RECOMMENDATIONS:** N/A.

9. **BACKGROUND:**

A°

V

10. **DISCUSSION OF INDIVIDUAL TESTS:** N/A.

11. **MATERIALS AND METHODS:**

A. **Test Animals:** Pen-reared, bobwhite quail (*Colinus virginianus*) were purchased from Fritts Quail Farm, Phillipsburg, NJ. All birds were from the same hatch and were phenotypically indistinguishable from wild birds. The birds were acclimated to the facilities for 11 weeks prior to initiation of the test. At test initiation, all birds were examined for physical injuries and general health. Birds that did not appear healthy were discarded. Sex of the birds was determined by a visual examination of the plumage. The birds were 24 weeks of age at test initiation.

B. **Dose/Diet Preparation/Food Consumption:** Test diets were prepared by mixing the test material into a pre-mix which was used for weekly preparation of the final diet. The control diet and three test concentrations (30, 150, and 600 ppm) were prepared weekly and presented to the birds on Monday of each week. When necessary, additional feed was prepared. Each of the four groups of adult birds was fed the appropriate diet from test initiation until terminal sacrifice. Dietary concentrations were adjusted for purity of the test substance (96.7%), and are presented as parts per million (ppm) of active ingredient (a.i.) in the diet. The control diet contained an amount of the solvent (acetone) and carrier (corn oil) equal to that in the treated diets.

Basal diet for adult birds and their offspring was formulated by Agway, Inc. The composition of the diet was presented in the report. The test substance was not mixed into the diet of the offspring. Food and water were supplied *ad libitum* during acclimation and during the test for adults and offspring.

Six samples from the control and each treatment concentration were collected following preparation of the diet to determine the homogeneity of the test material in the diet. Samples were collected on day 0 of weeks 1, 2, 3, 4, 8, 12, 16, and 20 to verify the concentration of the test substance in the diet. Additional diet from each concentration was placed in the study room on day 0 of week 1, and samples collected on day 7 and day 14 to verify that the test substance was present throughout the feeding period. Samples were frozen immediately after collection, and

shipped on dry ice to Rohm & Haas Company, Spring House, PA.

C. **Design:** The birds were randomly distributed into four groups as follows:

RH-7592 Nominal Concentration	Mean Measured Concentration	Number of Pens	Birds Per Pen Males	Females
0 ppm	--	16	1	1
30 ppm	29.7	16	1	1
150 ppm	142	16	1	1
600 ppm	618	16	1	1

Treatment levels were based upon known toxicity data. Adult birds were identified by individual leg bands. The primary phases of the study and their approximate durations were as follows:

1. Acclimation - 11 weeks.
2. Pre-photostimulation - 7 weeks.
3. Pre-egg laying (with photostimulation)- 4 weeks
4. Egg laying - 10 weeks.
5. Post-adult sacrifice (final incubation, hatching, 14-day offspring rearing period) - 5 weeks.

D. **Pen Facilities:** Adult birds were housed indoors in pens constructed of wire grid and sheeting. Pen floors measured approximately 30 x 51 cm. The floors were sloped and ceiling height ranged from 21 to 26 cm. The average temperature in the adult study room was 21.5 ±2.9°C with an average relative humidity of 49 ±16%.

The photoperiod during acclimation and during the first 7 weeks of the study was 8 hours of light per day. The photoperiod was increased to 17 hours of light per day during week 8 and was maintained at that level until sacrifice of adult birds. The birds were exposed to approximately 130 lux of illumination throughout the study.

E. **Adult Observations/Gross Pathology:** All adult birds were observed at least once daily throughout the study for signs of toxicity or abnormal behavior. All birds that died during the study were necropsied. As soon as practical after the death of the bird, the pen mate was sacrificed and necropsied. At study termination, all surviving birds were sacrificed and necropsied. Adult birds were weighed at test initiation, on weeks 2, 4, 6, 8, and at study termination. Food consumption in

4

each pen was determined once each week throughout the study.

F. **Eggs/Eggshell Thickness:** Eggs were collected daily from all pens, marked according to pen of origin, and fumigated to prevent pathogen contamination. The eggs were then stored at 13.4 ±1.3°C and 46% relative humidity until incubated. Eggs were removed from the storage room weekly and candled. Cracked or abnormal eggs were discarded. All eggs that were not cracked or used for egg shell thickness measurements were placed in an incubator at 37.5 ±1.0°C and 56% relative humidity. Eggs were candled on day 11 of incubation to determine embryo viability and on day 21 to determine embryo survival. All eggs were turned automatically while in the incubator. The eggs were placed in a hatcher on incubation day 21. The average temperature in the hatcher was 37.2 ±0.0°C with an average relative humidity of 76%.

Weekly throughout the egg laying period, one egg was collected, when available, from each of the odd numbered pens during the odd numbered weeks, and from each of the even numbered pens during the even numbered weeks. These eggs were opened, the contents removed, the shell washed thoroughly and allowed to air dry for at least one week. The average thickness of the dried shell plus membrane was determined by measuring (to the nearest 0.005 mm) five points around the waist of the egg using a micrometer.

G. **Hatchlings:** All hatchlings and unhatched eggs were removed from the hatcher on day 25 or 26 of incubation. The average body weight of the hatchlings by pen was then determined. Hatchlings were leg banded for identification by pen of origin and placed in brooding pens until 14 days of age. Each brooding pen measured 72 cm x 90 cm x 23 cm high, and was constructed of galvanized wire mesh and sheeting. Temperatures in the brooding compartments were approximately 38°C until the birds were 14 days of age. The photoperiod was maintained at 16 hours of light per day. At 14 days of age, the average body weight by parental pen of all survivors was determined.

H. **Statistics:** Upon completion of the study, Dunnett's method was used to determine statistically significant differences between the control group and each of the treatment groups. Sample units were the individual pens within each experimental group. Percentage data

5

were examined using Dunnett's method following arcsine transformation. The pens in which mortality occurred were not used in statistical comparisons of the data.

Each of the following parameters was analyzed statistically:

Adult Body Weight
Adult Feed Consumption
Eggs Laid of Maximum Laid
Eggs Cracked of Eggs Laid
Viable Embryos of Eggs Set
Live 3-Week Embryos of Viable Embryos
Hatchlings of 3-Week Embryos
Hatchlings of Eggs Set
Offspring Body Weight
Hatchlings of Maximum Set
14-Day Old Survivors of Maximum Set
14-Day Old Survivors of Eggs Set
14-Day Old Survivors of of Hatchlings
Egg Shell Thickness

12. **REPORTED RESULTS**

A. **Diet Analysis:** Samples analyzed for diet verification, homogeneity and stability show that mean measured concentrations were similar to nominal values (Table 6, attached).

B. **Mortality and Behavioral Reactions:** There were no treatment related mortalities at any of the concentrations tested. Two incidental mortalities occurred in the control group and one in the 30 ppm group. There were no mortalities at 150 or 600 ppm.

The first mortality in the control group occurred during week 8. The hen died without exhibiting prior clinical signs. Internal examination revealed that the bird had a broken neck. Necropsy of the pen mate revealed no abnormalities. The second control mortality occurred during week 14. The hen was noted two days prior to death with a head lesion and exhibiting lethargy and a ruffled appearance. Necropsy revealed lesions of slight egg yolk peritonitis, a regressing ovary, and a spleen that was small and pale. No other lesions were observed. Necropsy of the hen's pen mate was unremarkable.

The single mortality in the 30 ppm treatment group was a male found dead during week 16. The bird was first noted during week 9 with a head lesion. The head lesion appeared to resolve, and foot lesions became apparent during week 11. Extensive foot lesions, a reoccurrence of the head lesion, lethargy, a ruffled

6

appearance, wing droop, lower limb weakness, and a loss of coordination were noted prior to death. Necropsy of the cock's pen mate was unremarkable. No other mortalities occurred during the study. Due to the nature of the lesions observed at necropsy, the mortalities observed were not considered to be related to treatment. Necropsy of birds sacrificed at termination revealed no treatment related abnormalities.

No overt signs of toxicity, except for incidental clinical signs; such as lethargy, were observed at any concentration. These incidental clinical signs were associated with physical injury and wear/interaction among penmates. Except for the incidental mortalities and clinical signs noted previously, all birds at all concentrations appeared normal throughout the study.

C. **Adult Body Weight and Food Consumption:** No significant differences in body weights between the control and any treatment group were noted at any body weight interval (Table 1, attached).

There were no apparent treatment related effects upon feed consumption among birds at any of the concentrations tested (Table 2). When compared to the control group, food consumption showed a slight but significant increase in the 30 ppm group during weeks 1, 16, and 17, at 150 ppm during week 11 there was a slight but significant decrease in food consumption, and at 600 ppm during weeks 2, 11, and 13 a slight but significant decrease in food consumption was observed. In all cases the differences observed were slight, and were not considered to be related to treatment.

D. **Reproduction:** When compared to the control group, there were no apparent treatment related effects in reproductive parameters at any concentration tested (Tables 3 & 3A, attached). There was a slight but significant increase in offspring survivability (14-day old survivors as a percent of hatchlings). However, since the difference was slight, and not dose responsive, it was not considered to be treatment related.

E. **Egg Shell Thickness:** When compared to the control group, there were no significant differences in egg shell thickness at any treatment concentration (Appendix IX, attached). There were no apparent treatment related effects upon eggshell thickness at 30

7

or 150 ppm. While not statistically significant, at the 600 ppm test concentration there may have been a slight, treatment related decrease in mean eggshell thickness. Mean eggshell thickness was 0.201 ±0.014 mm at 600 ppm in comparison to 0.211 ±0.017 mm, 0.208 ±0.015 mm, and 0.207 ±0.017 mm at 0, 30, and 150 ppm, respectively.

F. **Offspring Body Weight:** There were no significant differences between the control and any treatment group in body weights of offspring at hatching or at 14 days of age (Tables 5 & 5A, attached).

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES:** "Bobwhite were exposed to RH-7592 Technical at analytically confirmed dietary concentrations of 0 ppm, 30 ppm, 150 ppm and 600 ppm for 21 weeks. Those concentrations did not result in treatment related mortalities, overt signs of toxicity or treatment related effects upon adult body weight or feed consumption. There were no apparent treatment related effects upon reproductive parameters at test concentrations of 30 ppm or 150 ppm. At the 600 ppm test concentration, while not statistically significant, there may have been a slight reduction in eggshell thickness. There were no effects upon any other reproductive parameters at 600 ppm. Based upon a possible slight reduction in eggshell thickness at 600 ppm, the no observed effect concentration in this study for bobwhite exposed to RH-7592 Technical was 150 ppm."

The report stated that the study was conducted in conformance with Good Laboratory Practices (40 CFR Part 160). Quality assurance audits were conducted during the study and the final report was signed by a Quality Assurance Officer of Wildlife International Ltd.

14. **Reviewer's Discussion and Interpretation of the Study:**

A. **Test Procedure:** The test procedures were in accordance with Subdivision E - Hazard Evaluation: Wildlife and Aquatic Organisms, ASTM, and SEP guidelines except for the following deviations:

Eggs were stored at a temperature of approximately 13.4°C; 16°C is recommended.

Eggs were candled on day 21 to determine embryo survival; day 18 is recommended.

8

Eggs were set at 37.5°C and 56% relative humidity; 39°C and 70% relative humidity are recommended.

Hatchlings were removed from the incubator on days 25 and 26; day 24 is recommended.

Eight hours of light, not seven as recommended, was provided during the first seven weeks of the study.

Behavioral observations of offspring were not reported.

Observations on food palatability were not reported.

B. **Statistical Analysis:** Statistical analyses of reproductive parameters were performed by the reviewer using analysis of variance (ANOVA) following square-root transformation of the count data and arcsine square-root transformation of the ratio data. The comparison between control data and data from each treatment level was made using multiple comparison tests. The computer program used is based on the EEB Bigbird program, with an exception that the count data were square-root transformed before the ANOVA. The significance level was $p \leq 0.05$.

Analyses of reproductive parameters were verified (attached printouts) and found to match those reported by the authors, with the following exceptions: hatchling weight at 600 ppm was significantly higher than the control; survival weight of 14-day hatchlings at 30 ppm was significantly higher than the control; and the values for 14-day survivors/# hatchlings at 150 and 600 ppm were significantly higher than in controls.

C. **Discussion/Results:** The increased hatchling weight at 600 ppm, the increased survival weight of 14-day hatchlings at 30 ppm, and the increased survival weight of hatchlings at 150 and 600 ppm were not considered to be treatment related.

The NOEC was 150 ppm (nominal concentration), based on a slight, but not significant decrease in eggshell thickness at 600 ppm. This study is scientifically sound and fulfills the guideline requirements for an avian reproduction study.

D. **Adequacy of the Study:**

(1) Classification: Core.

(2) **Rationale:** Deviations from protocols were minor and did not affect the validity of the study.

(3) **Repairability:** N/A.

15. **COMPLETION OF ONE-LINER:** Yes; 11/19/92.

10

RIN 3477-95

EEB FENBUCONAZOLE REVIEW

Page____ is not included in this copy.

Pages 11 through 19 are not included.

The material not included contains the following type of information:

____ Identity of product inert ingredients.

____ Identity of product impurities.

____ Description of the product manufacturing process.

____ Description of quality control procedures.

____ Identity of the source of product ingredients.

____ Sales or other commercial/financial information.

____ A draft product label.

____ The product confidential statement of formula.

____ Information about a pending registration action.

✓ FIFRA registration data.

____ The document is a duplicate of page(s) _____.

____ The document is not responsive to the request.

The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

RH-7592 : Bobwhite quail / MALE WEIGHTS

		TRT	PREWTM	POSTWTM
CASE	1	0	183	182
CASE	2	0	179	190
CASE	3	0	200	.
CASE	4	0	188	192
CASE	5	0	188	194
CASE	6	0	197	186
CASE	7	0	198	216
CASE	8	0	190	214
CASE	9	0	205	201
CASE	10	0	205	190
CASE	11	0	204	199
CASE	12	0	184	186
CASE	13	0	200	214
CASE	14	0	188	190
CASE	15	0	198	.
CASE	16	0	195	194
CASE	17	30	182	189
CASE	18	30	189	204
CASE	19	30	177	179
CASE	20	30	205	222
CASE	21	30	189	185
CASE	22	30	191	190
CASE	23	30	200	201
CASE	24	30	217	226
CASE	25	30	175	213
CASE	26	30	196	206
CASE	27	30	173	170
CASE	28	30	222	.
CASE	29	30	186	184
CASE	30	30	190	201
CASE	31	30	208	210
CASE	32	30	179	185
CASE	33	150	187	175
CASE	34	150	193	206
CASE	35	150	200	204
CASE	36	150	176	171
CASE	37	150	184	175
CASE	38	150	189	215
CASE	39	150	185	193
CASE	40	150	220	226
CASE	41	150	210	202
CASE	42	150	171	151
CASE	43	150	185	181
CASE	44	150	205	193
CASE	45	150	205	205
CASE	46	150	199	197
CASE	47	150	183	180
CASE	48	150	195	207
CASE	49	600	206	210
CASE	50	600	189	172
CASE	51	600	204	192
CASE	52	600	198	196
CASE	53	600	179	180
CASE	54	600	197	195
CASE	55	600	215	209
CASE	56	600	188	184
CASE	57	600	212	215
CASE	58	600	174	178
CASE	59	600	188	177
CASE	60	600	198	202
CASE	61	600	203	219
CASE	62	600	184	186
CASE	63	600	177	185
CASE	64	600	205	210

RH-7592 : Bobwhite quail / MALE WEIGHTS

ANOVA on MALE POST WEIGHTS

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: POSTWTM N: 61 MULTIPLE R: 0.756 SQUARED MULTIPLE R: 0.572

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	591.291	3	197.097	1.797	0.158
PREWTM	7986.831	1	7986.831	72.832	0.000
ERROR	6141.047	56	109.662		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	116.943	1	116.943	1.066	0.306
ERROR	6141.047	56	109.662		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	92.503	1	92.503	0.844	0.362
ERROR	6141.047	56	109.662		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	94.616	1	94.616	0.863	0.357
ERROR	6141.047	56	109.662		

RH-7592 : Bobwhite quail / MALE WEIGHTS

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	14
MINIMUM	179.000	182.000
MAXIMUM	205.000	216.000
MEAN	193.875	196.286
STANDARD DEV	8.269	11.125

THE FOLLOWING RESULTS ARE FOR:
TRT = 30.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	15
MINIMUM	173.000	170.000
MAXIMUM	222.000	226.000
MEAN	192.438	197.667
STANDARD DEV	14.674	16.189

THE FOLLOWING RESULTS ARE FOR:
TRT = 150.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	16
MINIMUM	171.000	151.000
MAXIMUM	220.000	226.000
MEAN	192.938	192.563
STANDARD DEV	12.984	19.159

THE FOLLOWING RESULTS ARE FOR:
TRT = 600.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	16
MINIMUM	174.000	172.000
MAXIMUM	215.000	219.000
MEAN	194.813	194.375
STANDARD DEV	12.523	14.930

SUMMARY STATISTICS FOR PREWTM

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 4.715 DF= 3 PROBABILITY = 0.194

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	52.922	3	17.641	0.116	0.950
WITHIN GROUPS	9137.063	60	152.284		

SUMMARY STATISTICS FOR POSTWTM

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 3.835 DF= 3 PROBABILITY = 0.280

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	229.794	3	76.598	0.309	0.819
WITHIN GROUPS	14127.878	57	247.858		

KOLMOGOROV-SMIRNOV ONE SAMPLE TEST USING STANDARD NORMAL DISTRIBUTION

VARIABLE	N-OF-CASES	MAXDIF	PROBABILITY (2-TAIL)
PREWTM	64.000	1.000	0.000
POSTWTM	61.000	1.000	0.000

RH-7592 : Bobwhite quail / FEMALE WEIGHTS

		TRT	PREWTF	POSTWTF
CASE	1	0	197	211
CASE	2	0	180	219
CASE	3	0	195	.
CASE	4	0	191	213
CASE	5	0	187	231
CASE	6	0	205	261
CASE	7	0	191	195
CASE	8	0	183	204
CASE	9	0	194	226
CASE	10	0	191	236
CASE	11	0	213	247
CASE	12	0	198	227
CASE	13	0	199	239
CASE	14	0	194	202
CASE	15	0	194	.
CASE	16	0	179	192
CASE	17	30	186	206
CASE	18	30	183	225
CASE	19	30	216	244
CASE	20	30	189	208
CASE	21	30	192	224
CASE	22	30	215	236
CASE	23	30	208	213
CASE	24	30	188	209
CASE	25	30	199	228
CASE	26	30	177	211
CASE	27	30	172	205
CASE	28	30	207	.
CASE	29	30	190	231
CASE	30	30	205	223
CASE	31	30	186	228
CASE	32	30	199	186
CASE	33	150	177	208
CASE	34	150	201	228
CASE	35	150	184	199
CASE	36	150	184	207
CASE	37	150	185	230
CASE	38	150	173	181
CASE	39	150	184	191
CASE	40	150	189	217
CASE	41	150	198	214
CASE	42	150	195	224
CASE	43	150	187	221
CASE	44	150	173	208
CASE	45	150	197	226
CASE	46	150	183	217
CASE	47	150	209	249
CASE	48	150	171	208
CASE	49	600	189	197
CASE	50	600	188	228
CASE	51	600	188	207
CASE	52	600	216	229
CASE	53	600	191	203
CASE	54	600	182	218
CASE	55	600	179	224
CASE	56	600	179	197
CASE	57	600	192	232
CASE	58	600	184	222
CASE	59	600	193	210
CASE	60	600	187	218
CASE	61	600	195	225
CASE	62	600	182	214
CASE	63	600	171	187
CASE	64	600	196	223

RH-7592 : Bobwhite quail / FEMALE WEIGHTS

ANOVA on FEMALE POST WEIGHTS

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: POSTWTF N: 61 MULTIPLE R: 0.602 SQUARED MULTIPLE R: 0.362

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	111.970	3	37.323	0.211	0.889
PREWTF	5084.385	1	5084.385	28.716	0.000
ERROR	9915.312	56	177.059		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	101.974	1	101.974	0.576	0.451
ERROR	9915.312	56	177.059		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	31.285	1	31.285	0.177	0.676
ERROR	9915.312	56	177.059		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	61.463	1	61.463	0.347	0.558
ERROR	9915.312	56	177.059		

RH-7592 : Bobwhite quail / FEMALE WEIGHTS

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	14
MINIMUM	179.000	192.000
MAXIMUM	213.000	261.000
MEAN	193.188	221.643
STANDARD DEV	8.719	20.220

THE FOLLOWING RESULTS ARE FOR:
TRT = 30.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	15
MINIMUM	172.000	186.000
MAXIMUM	216.000	244.000
MEAN	194.500	218.467
STANDARD DEV	13.064	14.803

THE FOLLOWING RESULTS ARE FOR:
TRT = 150.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	16
MINIMUM	171.000	181.000
MAXIMUM	209.000	249.000
MEAN	186.875	214.250
STANDARD DEV	10.844	16.303

THE FOLLOWING RESULTS ARE FOR:
TRT = 600.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	16
MINIMUM	171.000	187.000
MAXIMUM	216.000	232.000
MEAN	188.250	214.625
STANDARD DEV	9.957	13.241

SUMMARY STATISTICS FOR PREWTF

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 2.552 DF= 3 PROBABILITY = 0.466

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	660.172	3	220.057	1.899	0.139
WITHIN GROUPS	6951.188	60	115.853		

SUMMARY STATISTICS FOR POSTWTF

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 2.698 DF= 3 PROBABILITY = 0.441

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	544.893	3	181.631	0.690	0.562
WITHIN GROUPS	14999.698	57	263.153		

KOLMOGOROV-SMIRNOV ONE SAMPLE TEST USING STANDARD NORMAL DISTRIBUTION

VARIABLE	N-OF-CASES	MAXDIF	PROBABILITY (2-TAIL)
PREWTF	64.000	1.000	0.000
POSTWTF	61.000	1.000	0.000

RH-7592: Bobwhite quail

		TRT	EL	EC	ES	VE
CASE	1	0	28	1	24	23
CASE	2	0	22	0	19	18
CASE	3	0	.	.	.	.
CASE	4	0	40	0	36	34
CASE	5	0	48	2	42	31
CASE	6	0	44	0	38	36
CASE	7	0	42	2	36	34
CASE	8	0	9	0	7	6
CASE	9	0	45	2	39	37
CASE	10	0	60	1	54	51
CASE	11	0	38	1	33	33
CASE	12	0	38	1	33	33
CASE	13	0	52	0	47	46
CASE	14	0	48	2	41	38
CASE	15	0	.	.	.	.
CASE	16	0	27	0	24	24
CASE	17	30	31	0	27	16
CASE	18	30	42	0	37	37
CASE	19	30	59	2	52	52
CASE	20	30	45	1	39	36
CASE	21	30	27	1	22	17
CASE	22	30	46	2	39	25
CASE	23	30	44	2	37	31
CASE	24	30	21	0	17	16
CASE	25	30	32	0	27	25
CASE	26	30	56	0	51	50
CASE	27	30	48	0	43	41
CASE	28	30	.	.	.	.
CASE	29	30	47	2	41	40
CASE	30	30	20	0	16	16
CASE	31	30	29	0	25	25
CASE	32	30	30	1	26	25
CASE	33	150	48	4	40	38
CASE	34	150	47	1	41	41
CASE	35	150	31	0	28	28
CASE	36	150	37	0	32	25
CASE	37	150	55	0	50	50
CASE	38	150	37	2	29	27
CASE	39	150	32	0	27	16
CASE	40	150	44	1	38	38
CASE	41	150	18	0	16	14
CASE	42	150	39	0	35	25
CASE	43	150	34	0	30	28
CASE	44	150	52	1	46	46
CASE	45	150	37	1	32	32
CASE	46	150	33	0	29	27
CASE	47	150	54	1	49	45
CASE	48	150	37	0	32	26
CASE	49	600	16	1	13	12
CASE	50	600	30	0	26	24
CASE	51	600	41	1	36	36
CASE	52	600	48	0	43	43
CASE	53	600	38	3	31	31
CASE	54	600	29	1	24	23
CASE	55	600	47	6	37	35
CASE	56	600	39	1	33	32
CASE	57	600	35	0	31	21
CASE	58	600	36	0	31	26
CASE	59	600	42	0	38	0
CASE	60	600	29	0	25	25
CASE	61	600	56	1	51	50
CASE	62	600	37	3	29	29
CASE	63	600	24	1	19	19
CASE	64	600	29	1	23	22

RH-7592: Bobwhite quail

		TRT	LE21	HAT	TWOWK
CASE	1	0	23	22	12
CASE	2	0	18	18	14
CASE	3	0	.	.	.
CASE	4	0	34	34	32
CASE	5	0	31	31	29
CASE	6	0	36	34	28
CASE	7	0	33	29	26
CASE	8	0	6	5	4
CASE	9	0	37	36	28
CASE	10	0	51	45	40
CASE	11	0	32	29	22
CASE	12	0	33	32	25
CASE	13	0	46	46	42
CASE	14	0	38	37	30
CASE	15	0	.	.	.
CASE	16	0	24	24	20
CASE	17	30	16	11	10
CASE	18	30	37	35	34
CASE	19	30	52	43	40
CASE	20	30	36	34	33
CASE	21	30	17	17	14
CASE	22	30	25	22	18
CASE	23	30	31	30	28
CASE	24	30	16	16	15
CASE	25	30	25	24	22
CASE	26	30	50	47	39
CASE	27	30	41	37	32
CASE	28	30	.	.	.
CASE	29	30	40	38	36
CASE	30	30	16	14	8
CASE	31	30	25	23	20
CASE	32	30	25	25	23
CASE	33	150	38	29	24
CASE	34	150	41	37	37
CASE	35	150	28	28	24
CASE	36	150	25	24	21
CASE	37	150	50	49	42
CASE	38	150	26	26	22
CASE	39	150	16	15	15
CASE	40	150	37	35	35
CASE	41	150	14	12	10
CASE	42	150	25	25	23
CASE	43	150	28	27	27
CASE	44	150	46	45	40
CASE	45	150	32	31	28
CASE	46	150	27	26	23
CASE	47	150	45	43	42
CASE	48	150	26	26	25
CASE	49	600	12	11	8
CASE	50	600	24	24	21
CASE	51	600	36	36	29
CASE	52	600	42	41	38
CASE	53	600	31	30	30
CASE	54	600	23	21	17
CASE	55	600	35	33	29
CASE	56	600	32	30	25
CASE	57	600	20	19	19
CASE	58	600	25	21	19
CASE	59	600	0	0	0
CASE	60	600	25	24	22
CASE	61	600	50	47	35
CASE	62	600	29	26	26
CASE	63	600	19	18	16
CASE	64	600	22	21	20

RH-7592: Bobwhite quail

ANOVA on SQR(Eggs Laid)

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: SEL N: 61 MULTIPLE R: 0.118 SQUARED MULTIPLE R: 0.014

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	0.765	3	0.255	0.269	0.847
ERROR	54.024	57	0.948		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.003	1	0.003	0.003	0.953
ERROR	54.024	57	0.948		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.159	1	0.159	0.168	0.684
ERROR	54.024	57	0.948		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.195	1	0.195	0.206	0.652
ERROR	54.024	57	0.948		

RH-7592: Bobwhite quail

ANOVA on SQR(Eggs Cracked)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: SEC N: 61 MULTIPLE R: 0.165 SQUARED MULTIPLE R: 0.027

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	0.743	3	0.248	0.533	0.662
ERROR	26.495	57	0.465		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.092	1	0.092	0.198	0.658
ERROR	26.495	57	0.465		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.201	1	0.201	0.431	0.514
ERROR	26.495	57	0.465		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.103	1	0.103	0.221	0.640
ERROR	26.495	57	0.465		

RH-7592: Bobwhite quail

ANOVA on SQR(Eggs Set)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: SES N: 61 MULTIPLE R: 0.142 SQUARED MULTIPLE R: 0.020

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	1.086	3	0.362	0.391	0.760
ERROR	52.727	57	0.925		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.001	1	0.001	0.002	0.968
ERROR	52.727	57	0.925		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.139	1	0.139	0.150	0.700
ERROR	52.727	57	0.925		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.389	1	0.389	0.420	0.519
ERROR	52.727	57	0.925		

RH-7592: Bobwhite quail

ANOVA on SQR(Viable Embryos)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: SVE N: 61 MULTIPLE R: 0.205 SQUARED MULTIPLE R: 0.042

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.731	3	1.244	0.830	0.483
ERROR	85.420	57	1.499		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.130	1	0.130	0.087	0.769
ERROR	85.420	57	1.499		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.006	1	0.006	0.004	0.950
ERROR	85.420	57	1.499		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.507	1	2.507	1.673	0.201
ERROR	85.420	57	1.499		

RH-7592: Bobwhite quail

ANOVA on SQR(21-day Live Embryos)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: SLE21 N: 61 MULTIPLE R: 0.207 SQUARED MULTIPLE R: 0.043

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.829	3	1.276	0.854	0.470
ERROR	85.144	57	1.494		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.107	1	0.107	0.072	0.790
ERROR	85.144	57	1.494		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.006	1	0.006	0.004	0.948
ERROR	85.144	57	1.494		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.555	1	2.555	1.710	0.196
ERROR	85.144	57	1.494		

RH-7592: Bobwhite quail

ANOVA on SQR(Hatched)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: SHAT N: 61 MULTIPLE R: 0.210 SQUARED MULTIPLE R: 0.044

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.784	3	1.261	0.873	0.460
ERROR	82.323	57	1.444		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.335	1	0.335	0.232	0.632
ERROR	82.323	57	1.444		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.001	1	0.001	0.001	0.979
ERROR	82.323	57	1.444		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.651	1	2.651	1.836	0.181
ERROR	82.323	57	1.444		

RH-7592: Bobwhite quail

ANOVA on SQR(Two week Survivors)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: STWOWK N: 61 MULTIPLE R: 0.207 SQUARED MULTIPLE R: 0.043

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.572	3	1.191	0.847	0.474
ERROR	80.110	57	1.405		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.004	1	0.004	0.003	0.957
ERROR	80.110	57	1.405		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.546	1	0.546	0.389	0.535
ERROR	80.110	57	1.405		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.158	1	1.158	0.824	0.368
ERROR	80.110	57	1.405		

RH-7592: Bobwhite quail

ANOVA on EC/EL

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT
0.000 30.000 150.000 600.000

DEP VAR: RESP1 N: 61 MULTIPLE R: 0.218 SQUARED MULTIPLE R: 0.048

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	106.763	3	35.588	0.951	0.422
ERROR	2133.063	57	37.422		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	6.631	1	6.631	0.177	0.675
ERROR	2133.063	57	37.422		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	18.165	1	18.165	0.485	0.489
ERROR	2133.063	57	37.422		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	25.937	1	25.937	0.693	0.409
ERROR	2133.063	57	37.422		

RH-7592: Bobwhite quail

ANOVA on VE/ES

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP2 N: 61 MULTIPLE R: 0.067 SQUARED MULTIPLE R: 0.004

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	59.385	3	19.795	0.085	0.968
ERROR	13346.166	57	234.143		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	37.093	1	37.093	0.158	0.692
ERROR	13346.166	57	234.143		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	22.207	1	22.207	0.095	0.759
ERROR	13346.166	57	234.143		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	52.064	1	52.064	0.222	0.639
ERROR	13346.166	57	234.143		

RH-7592: Bobwhite quail

ANOVA on LE21/VE

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP3 N: 60 MULTIPLE R: 0.232 SQUARED MULTIPLE R: 0.054

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	36.713	3	12.238	1.061	0.373
ERROR	645.897	56	11.534		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	14.619	1	14.619	1.267	0.265
ERROR	645.897	56	11.534		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.156	1	0.156	0.013	0.908
ERROR	645.897	56	11.534		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	4.153	1	4.153	0.360	0.551
ERROR	645.897	56	11.534		

RH-7592: Bobwhite quail

ANOVA on HAT/LE21

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP4 N: 60 MULTIPLE R: 0.202 SQUARED MULTIPLE R: 0.041

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	161.088	3	53.696	0.796	0.501
ERROR	3776.395	56	67.436		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	130.122	1	130.122	1.930	0.170
ERROR	3776.395	56	67.436		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	5.342	1	5.342	0.079	0.779
ERROR	3776.395	56	67.436		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	55.076	1	55.076	0.817	0.370
ERROR	3776.395	56	67.436		

RH-7592: Bobwhite quail

ANOVA on TWOWK/HAT

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP5 N: 60 MULTIPLE R: 0.384 SQUARED MULTIPLE R: 0.147

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	770.187	3	256.729	3.226	0.029
ERROR	4456.963	56	79.589		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	202.197	1	202.197	2.541	0.117
ERROR	4456.963	56	79.589		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	739.847	1	739.847	9.296	0.004
ERROR	4456.963	56	79.589		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	349.045	1	349.045	4.386	0.041
ERROR	4456.963	56	79.589		

RH-7592: Bobwhite quail

ANOVA on HAT/ES

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT
0.000 30.000 150.000 600.000

DEP VAR: RESP6 N: 61 MULTIPLE R: 0.145 SQUARED MULTIPLE R: 0.021

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	225.736	3	75.245	0.410	0.746
ERROR	10452.736	57	183.381		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	175.729	1	175.729	0.958	0.332
ERROR	10452.736	57	183.381		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	57.796	1	57.796	0.315	0.577
ERROR	10452.736	57	183.381		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	163.394	1	163.394	0.891	0.349
ERROR	10452.736	57	183.381		

RH-7592: Bobwhite quail

ANOVA on TWOWK/ES

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP7 N: 61 MULTIPLE R: 0.131 SQUARED MULTIPLE R: 0.017

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	139.353	3	46.451	0.331	0.803
ERROR	8007.299	57	140.479		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	6.299	1	6.299	0.045	0.833
ERROR	8007.299	57	140.479		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	100.807	1	100.807	0.718	0.400
ERROR	8007.299	57	140.479		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.044	1	0.044	0.000	0.986
ERROR	8007.299	57	140.479		

RH-7592: Bobwhite quail

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	EL	EC	ES	VE	LE21
N OF CASES	14	14	14	14	14
MINIMUM	9.000	0.000	7.000	6.000	6.000
MAXIMUM	60.000	2.000	54.000	51.000	51.000
MEAN	38.643	0.857	33.786	31.714	31.571
STANDARD DEV	13.293	0.864	12.046	11.303	11.285

	HAT	TWOWK
N OF CASES	14	14
MINIMUM	5.000	4.000
MAXIMUM	46.000	42.000
MEAN	30.143	25.143
STANDARD DEV	10.647	10.332

THE FOLLOWING RESULTS ARE FOR:
TRT = 30.000

TOTAL OBSERVATIONS: 16

	EL	EC	ES	VE	LE21
N OF CASES	15	15	15	15	15
MINIMUM	20.000	0.000	16.000	16.000	16.000
MAXIMUM	59.000	2.000	52.000	52.000	52.000
MEAN	38.467	0.733	33.267	30.133	30.133
STANDARD DEV	12.165	0.884	11.348	12.094	12.094

	HAT	TWOWK
N OF CASES	15	15
MINIMUM	11.000	8.000
MAXIMUM	47.000	40.000
MEAN	27.733	24.800
STANDARD DEV	10.990	10.578

THE FOLLOWING RESULTS ARE FOR:
TRT = 150.000

TOTAL OBSERVATIONS: 16

	EL	EC	ES	VE	LE21
N OF CASES	16	16	16	16	16
MINIMUM	18.000	0.000	16.000	14.000	14.000
MAXIMUM	55.000	4.000	50.000	50.000	50.000
MEAN	39.688	0.688	34.625	31.625	31.500
STANDARD DEV	9.810	1.078	8.973	10.443	10.437

	HAT	TWOWK
N OF CASES	16	16
MINIMUM	12.000	10.000
MAXIMUM	49.000	42.000
MEAN	29.875	27.375
STANDARD DEV	10.006	9.415

THE FOLLOWING RESULTS ARE FOR:
TRT = 600.000

TOTAL OBSERVATIONS: 16

	EL	EC	ES	VE	LE21
N OF CASES	16	16	16	16	16
MINIMUM	16.000	0.000	13.000	0.000	0.000
MAXIMUM	56.000	6.000	51.000	50.000	50.000
MEAN	36.000	1.188	30.625	26.750	26.563
STANDARD DEV	9.893	1.601	9.316	11.784	11.736

	HAT	TWOWK
N OF CASES	16	16
MINIMUM	0.000	0.000
MAXIMUM	47.000	38.000
MEAN	25.125	22.125
STANDARD DEV	11.348	9.577

SUMMARY STATISTICS FOR EL

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.905 DF= 3 PROBABILITY = 0.592

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	116.631	3	38.877	0.304	0.822
WITHIN GROUPS	7280.385	57	127.726		

SUMMARY STATISTICS FOR EC

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 7.446 DF= 3 PROBABILITY = 0.059

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	2.428	3	0.809	0.603	0.616
WITHIN GROUPS	76.523	57	1.343		

SUMMARY STATISTICS FOR ES

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.727 DF= 3 PROBABILITY = 0.631

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	142.062	3	47.354	0.435	0.728
WITHIN GROUPS	6198.790	57	108.751		

SUMMARY STATISTICS FOR VE

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 0.345 DF= 3 PROBABILITY = 0.951

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	252.660	3	84.220	0.646	0.588
WITHIN GROUPS	7427.340	57	130.304		

SUMMARY STATISTICS FOR LE21

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 0.341 DF= 3 PROBABILITY = 0.952

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	259.097	3	86.366	0.665	0.577
WITHIN GROUPS	7403.099	57	129.879		

SUMMARY STATISTICS FOR HAT

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 0.247 DF= 3 PROBABILITY = 0.970

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	252.213	3	84.071	0.726	0.541
WITHIN GROUPS	6598.148	57	115.757		

SUMMARY STATISTICS FOR TWOWK

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 0.270 DF= 3 PROBABILITY = 0.966

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	222.058	3	74.019	0.745	0.529
WITHIN GROUPS	5659.614	57	99.291		

RH-7592: Bobwhite quail

KOLMOGOROV-SMIRNOV ONE SAMPLE TEST USING STANDARD NORMAL DISTRIBUTION

VARIABLE	N-OF-CASES	MAXDIF	PROBABILITY (2-TAIL)
EL	61.000	1.000	0.000
EC	61.000	0.500	0.000
VE	61.000	0.984	0.000
ES	61.000	1.000	0.000
LE21	61.000	0.984	0.000
HAT	61.000	0.984	0.000
TWOWK	61.000	0.984	0.000

RH-7592 : Bobwhite quail

		TRT	THICK	HATWT	SURVWT	FOOD
CASE	1	0.000	0.191	5.000	19.000	465.000
CASE	2	0.000	0.218	7.000	24.000	574.000
CASE	3	0.000	.	.	.	228.000
CASE	4	0.000	0.222	6.000	24.000	399.000
CASE	5	0.000	0.203	6.000	25.000	497.000
CASE	6	0.000	0.215	5.000	21.000	452.000
CASE	7	0.000	0.243	6.000	22.000	465.000
CASE	8	0.000	0.197	4.000	24.000	605.000
CASE	9	0.000	0.215	5.000	20.000	406.000
CASE	10	0.000	0.228	6.000	23.000	472.000
CASE	11	0.000	0.192	6.000	23.000	623.000
CASE	12	0.000	0.210	6.000	22.000	448.000
CASE	13	0.000	0.216	6.000	23.000	410.000
CASE	14	0.000	0.189	6.000	24.000	546.000
CASE	15	0.000	.	.	.	123.000
CASE	16	0.000	0.203	6.000	25.000	525.000
CASE	17	30.000	0.228	5.000	24.000	439.000
CASE	18	30.000	0.219	6.000	29.000	468.000
CASE	19	30.000	0.218	6.000	27.000	499.000
CASE	20	30.000	0.210	6.000	27.000	522.000
CASE	21	30.000	0.197	6.000	27.000	533.000
CASE	22	30.000	0.215	6.000	25.000	548.000
CASE	23	30.000	0.187	7.000	25.000	532.000
CASE	24	30.000	0.192	6.000	27.000	532.000
CASE	25	30.000	0.207	7.000	24.000	397.000
CASE	26	30.000	0.189	6.000	25.000	499.000
CASE	27	30.000	0.210	5.000	22.000	607.000
CASE	28	30.000	.	.	.	335.000
CASE	29	30.000	0.209	6.000	26.000	466.000
CASE	30	30.000	0.227	6.000	27.000	491.000
CASE	31	30.000	0.208	6.000	23.000	552.000
CASE	32	30.000	0.199	6.000	24.000	462.000
CASE	33	150.000	0.213	5.000	20.000	458.000
CASE	34	150.000	0.192	6.000	27.000	442.000
CASE	35	150.000	0.205	5.000	23.000	534.000
CASE	36	150.000	0.195	6.000	24.000	525.000
CASE	37	150.000	0.202	6.000	25.000	506.000
CASE	38	150.000	0.182	5.000	22.000	549.000
CASE	39	150.000	0.223	6.000	24.000	556.000
CASE	40	150.000	0.215	6.000	25.000	483.000
CASE	41	150.000	0.190	6.000	24.000	433.000
CASE	42	150.000	0.209	6.000	25.000	492.000
CASE	43	150.000	0.208	7.000	21.000	455.000
CASE	44	150.000	0.209	5.000	22.000	496.000
CASE	45	150.000	0.208	6.000	20.000	490.000
CASE	46	150.000	0.191	6.000	25.000	402.000
CASE	47	150.000	0.211	6.000	26.000	527.000
CASE	48	150.000	0.247	6.000	27.000	393.000
CASE	49	600.000	0.188	6.000	22.000	421.000
CASE	50	600.000	0.214	6.000	24.000	425.000
CASE	51	600.000	0.190	6.000	23.000	398.000
CASE	52	600.000	0.198	6.000	26.000	484.000
CASE	53	600.000	0.194	7.000	25.000	456.000
CASE	54	600.000	0.201	6.000	23.000	587.000
CASE	55	600.000	0.194	6.000	27.000	455.000
CASE	56	600.000	0.200	6.000	23.000	389.000
CASE	57	600.000	0.195	7.000	24.000	514.000
CASE	58	600.000	0.231	6.000	24.000	449.000
CASE	59	600.000	0.198	.	.	391.000
CASE	60	600.000	0.217	7.000	24.000	491.000
CASE	61	600.000	0.194	5.000	21.000	501.000
CASE	62	600.000	0.214	7.000	25.000	476.000
CASE	63	600.000	0.188	6.000	23.000	481.000
CASE	64	600.000	0.194	6.000	26.000	403.000

RH-7592 : Bobwhite quail

ANOVA on thick
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: THICK N: 61 MULTIPLE R: 0.250 SQUARED MULTIPLE R: 0.063

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	0.001	3	0.000	1.271	0.293
ERROR	0.011	57	0.000		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.000	1	0.000	0.227	0.635
ERROR	0.011	57	0.000		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.000	1	0.000	0.579	0.450
ERROR	0.011	57	0.000		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.001	1	0.001	3.460	0.068
ERROR	0.011	57	0.000		

RH-7592 : Bobwhite quail

ANOVA on hatwt
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: HATWT N: 60 MULTIPLE R: 0.306 SQUARED MULTIPLE R: 0.094

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	2.039	3	0.680	1.932	0.135
ERROR	19.695	56	0.352		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.591	1	0.591	1.681	0.200
ERROR	19.695	56	0.352		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.072	1	0.072	0.205	0.653
ERROR	19.695	56	0.352		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.708	1	1.708	4.858	0.032
ERROR	19.695	56	0.352		

RH-7592 : Bobwhite quail

ANOVA on survwt
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: SURVWT N: 60 MULTIPLE R: 0.458 SQUARED MULTIPLE R: 0.210

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	53.893	3	17.964	4.953	0.004
ERROR	203.090	56	3.627		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	52.047	1	52.047	14.352	0.000
ERROR	203.090	56	3.627		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	6.943	1	6.943	1.914	0.172
ERROR	203.090	56	3.627		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	10.677	1	10.677	2.944	0.092
ERROR	203.090	56	3.627		

RH-7592 : Bobwhite quail

ANOVA on food
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: FOOD N: 64 MULTIPLE R: 0.212 SQUARED MULTIPLE R: 0.045

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	18525.562	3	6175.187	0.941	0.427
ERROR	393773.875	60	6562.898		

Post-hoc contrast of treatment 1 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	12960.500	1	12960.500	1.975	0.165
ERROR	393773.875	60	6562.898		

Post-hoc contrast of treatment 2 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	7906.531	1	7906.531	1.205	0.277
ERROR	393773.875	60	6562.898		

Post-hoc contrast of treatment 3 with control.
TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	215.281	1	215.281	0.033	0.857
ERROR	393773.875	60	6562.898		

RH-7592 : Bobwhite quail

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	14	14	14	16
MINIMUM	0.189	4.000	19.000	123.000
MAXIMUM	0.243	7.000	25.000	623.000
MEAN	0.210	5.714	22.786	452.375
STANDARD DEV	0.015	0.726	1.805	128.991

THE FOLLOWING RESULTS ARE FOR:
TRT = 30.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	15	15	15	16
MINIMUM	0.187	5.000	22.000	335.000
MAXIMUM	0.228	7.000	29.000	607.000
MEAN	0.208	6.000	25.467	492.625
STANDARD DEV	0.013	0.535	1.885	65.559

THE FOLLOWING RESULTS ARE FOR:
TRT = 150.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	16	16	16	16
MINIMUM	0.182	5.000	20.000	393.000
MAXIMUM	0.247	7.000	27.000	556.000
MEAN	0.206	5.813	23.750	483.813
STANDARD DEV	0.015	0.544	2.236	49.702

THE FOLLOWING RESULTS ARE FOR:
TRT = 600.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	16	15	15	16
MINIMUM	0.188	5.000	21.000	389.000
MAXIMUM	0.231	7.000	27.000	587.000
MEAN	0.201	6.200	24.000	457.563
STANDARD DEV	0.012	0.561	1.604	53.334

SUMMARY STATISTICS FOR THICK

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.283 DF= 3 PROBABILITY = 0.733

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	0.001	3	0.000	1.271	0.293
WITHIN GROUPS	0.011	57	0.000		

SUMMARY STATISTICS FOR HATWT

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.755 DF= 3 PROBABILITY = 0.625

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	2.039	3	0.680	1.932	0.135
WITHIN GROUPS	19.695	56	0.352		

SUMMARY STATISTICS FOR SURVWT

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.630 DF= 3 PROBABILITY = 0.653

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	53.893	3	17.964	4.953	0.004
WITHIN GROUPS	203.090	56	3.627		

SUMMARY STATISTICS FOR FOOD

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 19.062 DF= 3 PROBABILITY = 0.000

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	18525.563	3	6175.188	0.941	0.427
WITHIN GROUPS	393773.875	60	6562.898		

RH-7592 : Bobwhite quail

KOLMOGOROV-SMIRNOV ONE SAMPLE TEST USING STANDARD NORMAL DISTRIBUTION

VARIABLE	N-OF-CASES	MAXDIF	PROBABILITY (2-TAIL)
FOOD	64.000	1.000	0.000
THICK	61.000	0.572	0.000
HATWT	60.000	1.000	0.000
SURVWT	60.000	1.000	0.000

DATABASE ENTRY FORM
FOR ACUTE OR CHRONIC TOXICITY STUDIES

1. Chemical RH-7592 Shaughnessy 129011
2. Common Name Of Organism Tested Bobwhite quail
3. Scientific Name Colinus virginianus
4. Age Of Organisms 24 weeks
5. Guideline No. 71-4
6. Type Of Dosing Method Or Study (Circle One)

   1. Oral 2. Dietary (3. Reproduction) 4. Static
   5. Static Renewal 6. Flowthrough 7. Acute Contact
   8. Other _____

7. % AI Of Test Substance 96.7%
8. Study Duration (Hrs Or Days) 21 weeks (147 days)
9. Dose Type (Circle One) A. LD50 B. LC50 C. EC50 D. MATC
10. Toxicity Level A. mg/kg B. (ppm) C. mg/l D. µg/l E. ng/l
    F. µg/bee G. Other
11. 95% C.L.s _____
12. Curve Slope _____
13. NOEL NOEC = 150 ppm
14. Study Date (YEAR) 1991
15. Study Review Date (YEAR) 1992
16. Category (Circle One) (CORE) SUPPLEMENTAL INVALID
17. MRID Or Accession Number 418750-05
18. Laboratory Wildlife International, Ltd.
19. Reviewer Charles G Nace Jr.
20. For Reproductive Studies (avian or aquatic) Indicate Which Parameter Affected At What Toxicity Level.

    Eggs Laid _____ % Cracked _____ % Viable _____
    % Live Embryos _____ % Eggs hatched _____ 14D Survivors _____
    Growth Effected at _____ Other Effects eggshell thickness (600 ppm)