S406678
SUBMISSION #

129011
SHAUGHNESSY NO.

REVIEW NO.

EEB REVIEW

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

FILE OR ID NO. MRID 418750-06

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

Mallard Duck

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: Mallard duck (*Anas platyrhynchos*).

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 Mallard (*Anas platyrhynchos*). Project No. 129-143. Prepared by Wildlife International Ltd., Easton, MD. Submitted by Rohm and Haas Company, Spring House, PA. EPA MRID No. 418750-06.

5. **REVIEWED BY:**

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

Signature: Charles G Nace, Jr.
Date: 12/01/92

6. **APPROVED BY:**

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

Signature: M L Whitten
Date: 12/1/92

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

Signature: R. Hudson 3/26/93
Date: Henry T. Craven 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 or behavior in ~~bobwhite quail~~ Mallard Duck during the 19-week exposure period. The no-observed-effect concentration (NOEC) was 150 ppm based on decreased body weight gain, decreased food consumption, reduced egg production, and reduced hatchability at 600 ppm.

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

9. **BACKGROUND:**

2

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

11. **MATERIALS AND METHODS:**

A. **Test Animals:** Pen-reared, mallard ducks (*Anas platyrhynchos*) were purchased from Whistling Wings, Hanover, IL. All birds were from the same hatch and were phenotypically indistinguishable from wild birds. The birds were acclimated to the facilities for 19 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 35 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~~ were 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	28.5	16	1	1
150 ppm	138	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 - 19 weeks.
2. Pre-photostimulation - 9 weeks.
3. Egg laying - 9 weeks.
4. Post-adult sacrifice (final incubation, hatching, 14-day offspring rearing period) - 6 weeks.

D. **Pen Facilities:** Adult birds were housed indoors in pens constructed of galvanized wire grid and sheeting. Pens measured approximately 75 x 90 x 45 cm. The average temperature in the adult study room was 21.6 ±1.8°C with an average relative humidity of 66 ±17%.

The photoperiod during acclimation and during the first 8 weeks of the study was 8 hours of light or less per day. The photoperiod was increased to 17 hours of light per day at the beginning of week 10 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, at the end of weeks 2, 4, 6, 8, and at study termination. Food consumption in 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 washed to prevent pathogen contamination. The eggs were then stored at 13.3 ±1.3°C and 48% 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 ±0.1°C and 56% relative humidity. Eggs were candled on day 14 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 24. 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 27 or 28 of incubation. The average body weight of the hatchlings by pen was then determined. Hatchlings were toe and web clipped 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 24 cm high, and was constructed of vinyl coated wire mesh. Temperatures in the brooding compartments were approximately 38°C until the birds were 5 to 7 days of age. At that time, thermostats were reset to maintain a temperature of approximately 26°C. 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

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. One incidental mortality occurred in the 30-ppm treatment group. There were no mortalities in the control group or at 150 or 600 ppm.

The mortality at 30 ppm was a male found dead during week 17. No clinical signs were noted prior to death. When necropsied, the bird weighed 956 g and was noted to have wet feathers with feed matted on the back; and lesions of bumblefoot on both feet. Internally, serious pericarditis was noted, with petechial hemorrhages in both the myocardium and spleen. Additionally, the spleen and liver were enlarged, with the liver also appearing firm and mottled tan in color. The testes were regressed. No other lesions were observed. A necropsy of the drake's pen mate revealed lesions of slight egg yolk peritonitis, but was otherwise unremarkable.

No other mortalities occurred during the study. Due to the nature of the lesions observed at necropsy, the mortality observed was not considered to be related to treatment.

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

All surviving adults were subjected to gross necropsy following terminal sacrifice. All findings observed were considered to be incidental to treatment.

C. **Adult Body Weight and Food Consumption:** No significant differences in body weights at 30 and 150 ppm were noted. A significant decrease ($p > 0.05$) was observed in the adult females at 600 ppm. A slight, but not significant decrease was also observed in the males at 600 ppm (Table 1, attached).

There were no apparent treatment related effects upon feed consumption among birds at 30 and 150 ppm. When compared to the control group, food consumption showed a slight significant increase ($p < 0.05$) in the 150 ppm group during week 1. In all cases the differences observed at 30 and 150 ppm were slight, and were not considered to be related to treatment. In the 600 ppm group there was an increase in feed consumption from week 3 until study termination. This increase was significant at $p < 0.05$ during weeks 4, 14, and 19, and significant at $p < 0.01$ during weeks 8, 9, 12, 13, 15, 16, and 17. Due to the extent and consistent nature of the increases observed at 600 ppm, those differences were considered to be treatment related (Table 2).

D. **Reproduction:** When compared to the control group, there were no apparent treatment related effects in reproductive parameters at 30 and 150 ppm. There were no significant differences in any reproductive parameter at 30, 150, or 600 ppm. However, while not statistically significant, at 600 ppm there was a decrease in egg production and in hatchability (percent hatchlings of live 3-week embryos). Those decreases also were reflected in the numbers of hatchlings and 14-day old survivors as percentages of both egg sets and the maximum number of eggs set (Tables 3 & 3A, attached).

E. **Egg Shell Thickness:** When compared to the control group, there were no significant differences in egg

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shell thickness at any treatment concentration (Table 4, attached). There were no apparent treatment related effects upon eggshell thickness at 30, 150, or 600 ppm.

F. **Offspring Body Weight:** There were no significant differences or treatment related effects 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:**
"Mallards were exposed to RH-7592 Technical at analytically confirmed dietary concentrations of 0 ppm, 30, 150, and 600 ppm for 19 weeks. Those concentrations did not result in treatment related mortalities or overt signs of toxicity. No effects were noted at 30 ppm or 150 ppm on adult body weight, feed consumption or any reproductive parameter. At the 600 ppm test concentration there was a marked reduction in body weight gain among hens and treatment related effects upon feed consumption, egg production and hatchability. Eggshell thickness was not affected. Based upon effects on adult body weight, feed consumption and reproductive performance at 600 ppm, the no observed effect concentration in this study for mallards 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 13.3°C; 16°C is recommended.

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

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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 exception that weight of 14-day old survivors at 30 and 150 ppm was greater than control values.

C. **Discussion/Results:** The decreased male body weights, reduced egg production, and reduced hatchability at 600 ppm, while not significant, are considered to be treatment-related. Based on these effects, and upon the significant reductions in food consumption and female body weight gain, the NOEC was 150 ppm (nominal concentration). 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; 11/23/92.

RIN 3477-95

EEB FENBUCONAZOLE REVIEW

Page_____ is not included in this copy.

Pages 10 through 15 are not included.

The material not included contains the following type of information:

____ Identity of product inert ingredients.

____ Identity of product impurities.

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____ Description of quality control procedures.

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____ Sales or other commercial/financial information.

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RH-7592: Mallard duck

ANOVA on LE21/VE

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP3 N: 62 MULTIPLE R: 0.191 SQUARED MULTIPLE R: 0.036

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	75.411	3	25.137	0.730	0.538
ERROR	1996.205	58	34.417		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	4.710	1	4.710	0.137	0.713
ERROR	1996.205	58	34.417		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	37.594	1	37.594	1.092	0.300
ERROR	1996.205	58	34.417		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.170	1	1.170	0.034	0.854
ERROR	1996.205	58	34.417		

RH-7592: Mallard duck

ANOVA on HAT/LE21

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP4 N: 62 MULTIPLE R: 0.244 SQUARED MULTIPLE R: 0.059

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	951.873	3	317.291	1.219	0.311
ERROR	15093.355	58	260.230		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	238.255	1	238.255	0.916	0.343
ERROR	15093.355	58	260.230		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	114.194	1	114.194	0.439	0.510
ERROR	15093.355	58	260.230		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	914.365	1	914.365	3.514	0.066
ERROR	15093.355	58	260.230		

RH-7592: Mallard duck

ANOVA on TWOWK/HAT

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP5 N: 61 MULTIPLE R: 0.185 SQUARED MULTIPLE R: 0.034

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	66.404	3	22.135	0.672	0.573
ERROR	1877.505	57	32.939		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	10.731	1	10.731	0.326	0.570
ERROR	1877.505	57	32.939		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	29.375	1	29.375	0.892	0.349
ERROR	1877.505	57	32.939		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	62.097	1	62.097	1.885	0.175
ERROR	1877.505	57	32.939		

RH-7592: Mallard duck

ANOVA on HAT/ES

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP6 N: 63 MULTIPLE R: 0.171 SQUARED MULTIPLE R: 0.029

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	467.030	3	155.677	0.592	0.622
ERROR	15504.758	59	262.793		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	64.982	1	64.982	0.247	0.621
ERROR	15504.758	59	262.793		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.793	1	2.793	0.011	0.918
ERROR	15504.758	59	262.793		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	309.144	1	309.144	1.176	0.283
ERROR	15504.758	59	262.793		

RH-7592: Mallard duck

ANOVA on TWOWK/ES

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT
0.000 30.000 150.000 600.000

DEP VAR: RESP7 N: 63 MULTIPLE R: 0.177 SQUARED MULTIPLE R: 0.031

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	499.022	3	166.341	0.639	0.593
ERROR	15347.173	59	260.122		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	72.562	1	72.562	0.279	0.599
ERROR	15347.173	59	260.122		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.596	1	1.596	0.006	0.938
ERROR	15347.173	59	260.122		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	340.160	1	340.160	1.308	0.257
ERROR	15347.173	59	260.122		

RH-7592: Mallard duck

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	EL	EC	ES	VE	LE21
N OF CASES	16	16	16	16	16
MINIMUM	14.000	0.000	4.000	0.000	0.000
MAXIMUM	58.000	4.000	54.000	51.000	51.000
MEAN	45.438	0.688	39.750	36.500	35.813
STANDARD DEV	10.979	1.138	12.445	13.008	12.963

	HAT	TWOWK
N OF CASES	16	16
MINIMUM	0.000	0.000
MAXIMUM	43.000	43.000
MEAN	26.875	26.688
STANDARD DEV	13.520	13.410

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	1.000	0.000	1.000	1.000	1.000
MAXIMUM	59.000	2.000	52.000	48.000	48.000
MEAN	46.800	0.400	41.600	37.067	36.467
STANDARD DEV	13.837	0.632	12.637	12.475	12.597

	HAT	TWOWK
N OF CASES	15	15
MINIMUM	0.000	0.000
MAXIMUM	45.000	45.000
MEAN	27.733	27.400
STANDARD DEV	13.258	13.174

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	20.000	0.000	18.000	18.000	18.000
MAXIMUM	63.000	2.000	57.000	52.000	52.000
MEAN	48.563	0.500	43.938	39.500	39.250
STANDARD DEV	11.961	0.730	11.024	9.331	9.292

	HAT	TWOWK
N OF CASES	16	16
MINIMUM	10.000	10.000
MAXIMUM	45.000	45.000
MEAN	29.375	29.000
STANDARD DEV	10.819	10.777

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	26.000	0.000	22.000	20.000	19.000
MAXIMUM	52.000	2.000	45.000	42.000	41.000
MEAN	39.375	0.563	33.938	30.500	30.125
STANDARD DEV	8.016	0.814	7.602	6.995	7.060

	HAT	TWOWK
N OF CASES	16	16
MINIMUM	6.000	6.000
MAXIMUM	34.000	34.000
MEAN	18.688	18.375
STANDARD DEV	7.525	7.632

SUMMARY STATISTICS FOR EL

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 4.176 DF= 3 PROBABILITY = 0.243

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	760.959	3	253.653	1.970	0.128
WITHIN GROUPS	7598.025	59	128.780		

SUMMARY STATISTICS FOR EC

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 5.687 DF= 3 PROBABILITY = 0.128

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	0.676	3	0.225	0.309	0.819
WITHIN GROUPS	42.975	59	0.728		

SUMMARY STATISTICS FOR ES

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 4.211 DF= 3 PROBABILITY = 0.240

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	872.414	3	290.805	2.367	0.080
WITHIN GROUPS	7248.475	59	122.856		

SUMMARY STATISTICS FOR VE

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 6.533 DF= 3 PROBABILITY = 0.088

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	700.051	3	233.350	2.038	0.118
WITHIN GROUPS	6756.933	59	114.524		

SUMMARY STATISTICS FOR LE21

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 6.459 DF= 3 PROBABILITY = 0.091

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	702.159	3	234.053	2.035	0.119
WITHIN GROUPS	6784.921	59	114.999		

SUMMARY STATISTICS FOR HAT

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 5.597 DF= 3 PROBABILITY = 0.133

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	1086.732	3	362.244	2.737	0.051
WITHIN GROUPS	7807.871	59	132.337		

SUMMARY STATISTICS FOR TWOWK

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 5.232 DF= 3 PROBABILITY = 0.156

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	1083.212	3	361.071	2.751	0.051
WITHIN GROUPS	7742.788	59	131.234		

RH-7592: Mallard duck

KOLMOGOROV-SMIRNOV ONE SAMPLE TEST USING STANDARD NORMAL DISTRIBUTION

VARIABLE	N-OF-CASES	MAXDIF	PROBABILITY (2-TAIL)
EL	63.000	0.984	0.000
EC	63.000	0.500	0.000
ES	63.000	0.984	0.000
VE	63.000	0.968	0.000
LE21	63.000	0.968	0.000
HAT	63.000	0.968	0.000
TWOWK	63.000	0.968	0.000

RH-7592 : Mallard duck

		TRT	THICK	HATWT	SURVWT	FOOD
CASE	1	0.000	0.386	34.000	259.000	2664.000
CASE	2	0.000	0.401	39.000	282.000	3001.000
CASE	3	0.000	0.397	37.000	274.000	3488.000
CASE	4	0.000	0.388	40.000	306.000	3057.000
CASE	5	0.000	0.357	.	.	3102.000
CASE	6	0.000	0.403	35.000	200.000	2608.000
CASE	7	0.000	0.374	39.000	278.000	2387.000
CASE	8	0.000	0.396	41.000	275.000	2875.000
CASE	9	0.000	0.370	37.000	279.000	3820.000
CASE	10	0.000	0.351	39.000	286.000	3499.000
CASE	11	0.000	0.343	38.000	250.000	4603.000
CASE	12	0.000	0.385	36.000	250.000	3856.000
CASE	13	0.000	0.397	44.000	276.000	2548.000
CASE	14	0.000	0.356	41.000	258.000	2177.000
CASE	15	0.000	0.314	38.000	257.000	2420.000
CASE	16	0.000	0.368	40.000	256.000	2360.000
CASE	17	30.000	0.378	41.000	307.000	2381.000
CASE	18	30.000	0.378	38.000	287.000	2282.000
CASE	19	30.000	0.367	43.000	297.000	3027.000
CASE	20	30.000	.	.	.	2915.000
CASE	21	30.000	0.325	33.000	234.000	2825.000
CASE	22	30.000	0.386	42.000	296.000	2393.000
CASE	23	30.000	0.342	35.000	272.000	3506.000
CASE	24	30.000	0.360	39.000	269.000	3308.000
CASE	25	30.000	0.390	39.000	301.000	3301.000
CASE	26	30.000	.	.	.	2958.000
CASE	27	30.000	0.395	39.000	293.000	3113.000
CASE	28	30.000	0.391	38.000	291.000	2749.000
CASE	29	30.000	0.403	43.000	287.000	3373.000
CASE	30	30.000	0.371	39.000	291.000	3261.000
CASE	31	30.000	0.380	39.000	274.000	2886.000
CASE	32	30.000	0.421	40.000	275.000	2566.000
CASE	33	150.000	0.356	41.000	299.000	2293.000
CASE	34	150.000	0.405	42.000	310.000	2332.000
CASE	35	150.000	0.385	41.000	273.000	3190.000
CASE	36	150.000	0.361	34.000	304.000	2912.000
CASE	37	150.000	0.377	41.000	295.000	3687.000
CASE	38	150.000	0.396	45.000	333.000	2785.000
CASE	39	150.000	0.376	38.000	280.000	3044.000
CASE	40	150.000	0.388	38.000	279.000	3299.000
CASE	41	150.000	0.367	39.000	309.000	2496.000
CASE	42	150.000	0.400	40.000	252.000	3133.000
CASE	43	150.000	0.391	38.000	276.000	3257.000
CASE	44	150.000	0.420	38.000	283.000	3027.000
CASE	45	150.000	0.392	40.000	296.000	2568.000
CASE	46	150.000	0.359	36.000	276.000	2928.000
CASE	47	150.000	0.397	41.000	314.000	2966.000
CASE	48	150.000	0.355	33.000	279.000	4636.000
CASE	49	600.000	0.378	43.000	280.000	4178.000
CASE	50	600.000	0.350	32.000	252.000	2324.000
CASE	51	600.000	0.364	37.000	280.000	3766.000
CASE	52	600.000	0.394	41.000	289.000	3550.000
CASE	53	600.000	0.381	41.000	269.000	3594.000
CASE	54	600.000	0.372	33.000	269.000	3644.000
CASE	55	600.000	0.384	40.000	266.000	3040.000
CASE	56	600.000	0.354	36.000	269.000	3912.000
CASE	57	600.000	0.397	36.000	252.000	2508.000
CASE	58	600.000	0.359	39.000	275.000	4210.000
CASE	59	600.000	0.335	38.000	247.000	4653.000
CASE	60	600.000	0.411	36.000	280.000	4560.000
CASE	61	600.000	0.417	40.000	260.000	3834.000
CASE	62	600.000	0.329	40.000	246.000	3437.000
CASE	63	600.000	0.398	45.000	293.000	3555.000
CASE	64	600.000	0.371	40.000	305.000	3591.000

RH-7592 : Mallard duck

ANOVA on thick
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: THICK N: 62 MULTIPLE R: 0.152 SQUARED MULTIPLE R: 0.023

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	0.001	3	0.000	0.456	0.714
ERROR	0.032	58	0.001		

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	0.165	0.686
ERROR	0.032	58	0.001		

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	1.081	0.303
ERROR	0.032	58	0.001		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.000	1	0.000	0.004	0.952
ERROR	0.032	58	0.001		

RH-7592 : Mallard duck

ANOVA on hatwt
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: HATWT N: 61 MULTIPLE R: 0.096 SQUARED MULTIPLE R: 0.009

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	4.694	3	1.565	0.176	0.912
ERROR	506.323	57	8.883		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.690	1	2.690	0.303	0.584
ERROR	506.323	57	8.883		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.168	1	2.168	0.244	0.623
ERROR	506.323	57	8.883		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.007	1	0.007	0.001	0.978
ERROR	506.323	57	8.883		

RH-7592 : Mallard duck

ANOVA on survwt
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: SURVWT N: 61 MULTIPLE R: 0.467 SQUARED MULTIPLE R: 0.218

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	6333.553	3	2111.184	5.307	0.003
ERROR	22675.398	57	397.814		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2378.594	1	2378.594	5.979	0.018
ERROR	22675.398	57	397.814		

14-day weights
30 ppm > control

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	4991.510	1	4991.510	12.547	0.001
ERROR	22675.398	57	397.814		

150 ppm > control

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	194.841	1	194.841	0.490	0.487
ERROR	22675.398	57	397.814		

RH-7592 : Mallard duck

ANOVA on food
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000 30.000 150.000 600.000

DEP VAR: FOOD N: 64 MULTIPLE R: 0.456 SQUARED MULTIPLE R: 0.208

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	5187701.562	3	1729233.854	5.258	0.003
ERROR	.197336E+08	60	328893.981		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	82113.781	1	82113.781	0.250	0.619
ERROR	.197336E+08	60	328893.981		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	242.000	1	242.000	0.001	0.978
ERROR	.197336E+08	60	328893.981		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	3057246.281	1	3057246.281	9.296	0.003
ERROR	.197336E+08	60	328893.981		

RH-7592 : Mallard duck

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	16	15	15	16
MINIMUM	0.314	34.000	200.000	2177.000
MAXIMUM	0.403	44.000	306.000	4603.000
MEAN	0.374	38.533	265.733	3029.063
STANDARD DEV	0.025	2.560	23.867	670.702

THE FOLLOWING RESULTS ARE FOR:
TRT = 30.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	14	14	14	16
MINIMUM	0.325	33.000	234.000	2282.000
MAXIMUM	0.421	43.000	307.000	3506.000
MEAN	0.378	39.143	283.857	2927.750
STANDARD DEV	0.024	2.770	18.351	378.579

THE FOLLOWING RESULTS ARE FOR:
TRT = 150.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	16	16	16	16
MINIMUM	0.355	33.000	252.000	2293.000
MAXIMUM	0.420	45.000	333.000	4636.000
MEAN	0.383	39.063	291.125	3034.563
STANDARD DEV	0.019	3.021	20.033	564.994

THE FOLLOWING RESULTS ARE FOR:
TRT = 600.000

TOTAL OBSERVATIONS: 16

	THICK	HATWT	SURVWT	FOOD
N OF CASES	16	16	16	16
MINIMUM	0.329	32.000	246.000	2324.000
MAXIMUM	0.417	45.000	305.000	4653.000
MEAN	0.375	38.563	270.750	3647.250
STANDARD DEV	0.025	3.444	16.937	634.976

SUMMARY STATISTICS FOR THICK

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.332 DF= 3 PROBABILITY = 0.722

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	0.001	3	0.000	0.456	0.714
WITHIN GROUPS	0.032	58	0.001		

SUMMARY STATISTICS FOR HATWT

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.378 DF= 3 PROBABILITY = 0.711

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	4.694	3	1.565	0.176	0.912
WITHIN GROUPS	506.323	57	8.883		

SUMMARY STATISTICS FOR SURVWT

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 1.859 DF= 3 PROBABILITY = 0.602

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	6333.553	3	2111.184	5.307	0.003
WITHIN GROUPS	22675.398	57	397.814		

SUMMARY STATISTICS FOR FOOD

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 5.016 DF= 3 PROBABILITY = 0.171

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	5187701.563	3	1729233.854	5.258	0.003
WITHIN GROUPS	.197336E+08	60	328893.981		

RH-7592 : Mallard duck

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	62.000	0.623	0.000
HATWT	61.000	1.000	0.000
SURVWT	61.000	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** Mallard duck

3. **Scientific Name** Anus platyrhynchos

4. **Age Of Organisms** 35 wks

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)** 19 wks (133 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** 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** 418750-06

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 600ppm Other Effects Food consum (female) 600ppm
    (Body wt. female)

RH-7592 : Mallard duck / MALE WEIGHTS

		TRT	PREWTM	POSTWTM
CASE	1	0	1127	1173
CASE	2	0	1350	1385
CASE	3	0	1111	1219
CASE	4	0	1109	1196
CASE	5	0	1165	1452
CASE	6	0	1097	1057
CASE	7	0	1121	1212
CASE	8	0	1245	1232
CASE	9	0	1181	1201
CASE	10	0	1255	1323
CASE	11	0	1199	1160
CASE	12	0	991	1047
CASE	13	0	1233	1192
CASE	14	0	1223	1107
CASE	15	0	1258	1285
CASE	16	0	1131	1105
CASE	17	30	1347	1348
CASE	18	30	1127	1119
CASE	19	30	1193	1120
CASE	20	30	1142	1181
CASE	21	30	1082	1122
CASE	22	30	1297	1303
CASE	23	30	1248	1400
CASE	24	30	1137	1236
CASE	25	30	1258	1308
CASE	26	30	1169	.
CASE	27	30	1240	1224
CASE	28	30	1380	1340
CASE	29	30	1065	1097
CASE	30	30	1356	1500
CASE	31	30	1166	1172
CASE	32	30	1342	1221
CASE	33	150	1299	1159
CASE	34	150	1315	1095
CASE	35	150	1319	1313
CASE	36	150	1214	1297
CASE	37	150	1164	1256
CASE	38	150	1209	1233
CASE	39	150	1319	1219
CASE	40	150	1139	1153
CASE	41	150	1105	1085
CASE	42	150	1083	1238
CASE	43	150	1240	1206
CASE	44	150	1003	1084
CASE	45	150	1131	1084
CASE	46	150	1031	1165
CASE	47	150	1175	1229
CASE	48	150	1047	1163
CASE	49	600	1089	1170
CASE	50	600	1140	1173
CASE	51	600	1070	1156
CASE	52	600	1046	1238
CASE	53	600	1184	1102
CASE	54	600	1155	1217
CASE	55	600	1265	1208
CASE	56	600	1269	1168
CASE	57	600	1265	1159
CASE	58	600	1462	1326
CASE	59	600	1227	1150
CASE	60	600	1173	1130
CASE	61	600	1189	1190
CASE	62	600	1205	1205
CASE	63	600	1220	1185
CASE	64	600	1200	1231

RH-7592 : Mallard duck / 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: 63 MULTIPLE R: 0.600 SQUARED MULTIPLE R: 0.360

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	18617.914	3	6205.971	1.044	0.380
PREWTM	158266.996	1	158266.996	26.635	0.000
ERROR	344644.125	58	5942.140		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	797.867	1	797.867	0.134	0.715
ERROR	344644.125	58	5942.140		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	4172.900	1	4172.900	0.702	0.405
ERROR	344644.125	58	5942.140		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	8682.503	1	8682.503	1.461	0.232
ERROR	344644.125	58	5942.140		

RH-7592 : Mallard duck / MALE WEIGHTS

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	16
MINIMUM	991.000	1047.000
MAXIMUM	1350.000	1452.000
MEAN	1174.750	1209.125
STANDARD DEV	85.923	110.822

THE FOLLOWING RESULTS ARE FOR:
TRT = 30.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	15
MINIMUM	1065.000	1097.000
MAXIMUM	1380.000	1500.000
MEAN	1221.813	1246.067
STANDARD DEV	101.505	118.037

THE FOLLOWING RESULTS ARE FOR:
TRT = 150.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	16
MINIMUM	1003.000	1084.000
MAXIMUM	1319.000	1313.000
MEAN	1174.563	1186.188
STANDARD DEV	105.441	74.690

THE FOLLOWING RESULTS ARE FOR:
TRT = 600.000

TOTAL OBSERVATIONS: 16

	PREWTM	POSTWTM
N OF CASES	16	16
MINIMUM	1046.000	1102.000
MAXIMUM	1462.000	1326.000
MEAN	1197.438	1188.000
STANDARD DEV	97.493	51.610

SUMMARY STATISTICS FOR PREWTM

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 0.665 DF= 3 PROBABILITY = 0.881

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	24318.422	3	8106.141	0.846	0.474
WITHIN GROUPS	574631.313	60	9577.189		

SUMMARY STATISTICS FOR POSTWTM

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 11.135 DF= 3 PROBABILITY = 0.011

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	35667.292	3	11889.097	1.395	0.253
WITHIN GROUPS	502911.121	59	8523.917		

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	63.000	1.000	0.000

RH-7592 : Mallard duck / FEMALE WEIGHTS

		TRT	PREWTF	POSTWTF
CASE	1	0	1046	1220
CASE	2	0	1055	1226
CASE	3	0	1097	1114
CASE	4	0	1284	1415
CASE	5	0	1287	1076
CASE	6	0	1304	1270
CASE	7	0	1138	1391
CASE	8	0	1118	1293
CASE	9	0	1092	1146
CASE	10	0	1017	1157
CASE	11	0	1034	1226
CASE	12	0	1204	1492
CASE	13	0	1277	1403
CASE	14	0	1048	1207
CASE	15	0	1287	1536
CASE	16	0	967	1287
CASE	17	30	1273	1406
CASE	18	30	1062	1135
CASE	19	30	1125	1412
CASE	20	30	1285	1783
CASE	21	30	978	1268
CASE	22	30	1279	1440
CASE	23	30	1139	1228
CASE	24	30	1053	1294
CASE	25	30	1150	1166
CASE	26	30	1020	.
CASE	27	30	1139	1317
CASE	28	30	1200	1455
CASE	29	30	1055	1238
CASE	30	30	1139	1222
CASE	31	30	1074	1195
CASE	32	30	1106	1327
CASE	33	150	1210	1329
CASE	34	150	1141	1352
CASE	35	150	941	974
CASE	36	150	1015	1217
CASE	37	150	1088	1451
CASE	38	150	1174	1335
CASE	39	150	1010	1199
CASE	40	150	1302	1311
CASE	41	150	1141	1303
CASE	42	150	1018	1380
CASE	43	150	919	1016
CASE	44	150	1155	1345
CASE	45	150	1130	1313
CASE	46	150	1158	1323
CASE	47	150	1097	1369
CASE	48	150	1232	1214
CASE	49	600	1108	1133
CASE	50	600	1115	1116
CASE	51	600	1093	1185
CASE	52	600	1190	1388
CASE	53	600	1145	1170
CASE	54	600	1249	1084
CASE	55	600	1067	1005
CASE	56	600	1043	1126
CASE	57	600	1058	1169
CASE	58	600	1090	1046
CASE	59	600	1254	1125
CASE	60	600	1232	1180
CASE	61	600	857	974
CASE	62	600	1211	1164
CASE	63	600	1289	1301
CASE	64	600	959	1122

RH-7592 : Mallard duck / 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: 63 MULTIPLE R: 0.676 SQUARED MULTIPLE R: 0.456

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	273409.754	3	91136.585	7.329	0.000
PREWTF	313200.102	1	313200.102	25.186	0.000
ERROR	721259.207	58	12435.504		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	19067.168	1	19067.168	1.533	0.221
ERROR	721259.207	58	12435.504		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	3322.197	1	3322.197	0.267	0.607
ERROR	721259.207	58	12435.504		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	120857.343	1	120857.343	9,719	0.003
ERROR	721259.207	58	12435.504		

RH-7592 : Mallard duck / FEMALE WEIGHTS

THE FOLLOWING RESULTS ARE FOR:
TRT = 0.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	16
MINIMUM	967.000	1076.000
MAXIMUM	1304.000	1536.000
MEAN	1140.938	1278.688
STANDARD DEV	115.228	135.022

THE FOLLOWING RESULTS ARE FOR:
TRT = 30.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	15
MINIMUM	978.000	1135.000
MAXIMUM	1285.000	1783.000
MEAN	1129.813	1325.733
STANDARD DEV	92.136	161.280

THE FOLLOWING RESULTS ARE FOR:
TRT = 150.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	16
MINIMUM	919.000	974.000
MAXIMUM	1302.000	1451.000
MEAN	1108.188	1276.938
STANDARD DEV	105.080	127.670

THE FOLLOWING RESULTS ARE FOR:
TRT = 600.000

TOTAL OBSERVATIONS: 16

	PREWTF	POSTWTF
N OF CASES	16	16
MINIMUM	857.000	974.000
MAXIMUM	1289.000	1388.000
MEAN	1122.500	1143.000
STANDARD DEV	115.146	100.779

SUMMARY STATISTICS FOR PREWTF

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 0.934 DF= 3 PROBABILITY = 0.817

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	9048.922	3	3016.307	0.262	0.853
WITHIN GROUPS	691001.813	60	11516.697		

SUMMARY STATISTICS FOR POSTWTF

BARTLETT TEST FOR HOMOGENEITY OF GROUP VARIANCES

CHI-SQUARE = 3.090 DF= 3 PROBABILITY = 0.378

ANALYSIS OF VARIANCE

SOURCE	SUM OF SQUARES	DF	MEAN SQUARE	F	PROBABILITY
BETWEEN GROUPS	292429.676	3	97476.559	5.560	0.002
WITHIN GROUPS	1034459.308	59	17533.209		

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	63.000	1.000	0.000

RH-7592: Mallard duck

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

RH-7592: Mallard duck

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

RH-7592: Mallard duck

ANOVA on SQR(Eggs Laid)

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: SEL N: 63 MULTIPLE R: 0.223 SQUARED MULTIPLE R: 0.050

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.660	3	1.220	1.027	0.387
ERROR	70.068	59	1.188		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.002	1	0.002	0.002	0.965
ERROR	70.068	59	1.188		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.420	1	0.420	0.354	0.554
ERROR	70.068	59	1.188		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.507	1	1.507	1.269	0.265
ERROR	70.068	59	1.188		

RH-7592: Mallard duck

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

0.000 30.000 150.000 600.000

DEP VAR: SEC N: 63 MULTIPLE R: 0.078 SQUARED MULTIPLE R: 0.006

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	0.135	3	0.045	0.121	0.947
ERROR	22.023	59	0.373		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.127	1	0.127	0.342	0.561
ERROR	22.023	59	0.373		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.031	1	0.031	0.084	0.773
ERROR	22.023	59	0.373		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.011	1	0.011	0.029	0.866
ERROR	22.023	59	0.373		

RH-7592: Mallard duck

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

0.000 30.000 150.000 600.000

DEP VAR: SES N: 63 MULTIPLE R: 0.246 SQUARED MULTIPLE R: 0.060

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	4.958	3	1.653	1.262	0.296
ERROR	77.255	59	1.309		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.078	1	0.078	0.060	0.808
ERROR	77.255	59	1.309		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.218	1	1.218	0.931	0.339
ERROR	77.255	59	1.309		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.204	1	1.204	0.919	0.342
ERROR	77.255	59	1.309		

RH-7592: Mallard duck

ANOVA on SQR(Viable Embryos)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT
0.000 30.000 150.000 600.000

DEP VAR: SVE N: 63 MULTIPLE R: 0.216 SQUARED MULTIPLE R: 0.047

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	4.558	3	1.519	0.964	0.416
ERROR	93.004	59	1.576		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.080	1	0.080	0.051	0.823
ERROR	93.004	59	1.576		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.473	1	1.473	0.934	0.338
ERROR	93.004	59	1.576		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.815	1	0.815	0.517	0.475
ERROR	93.004	59	1.576		

RH-7592: Mallard duck

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: 63 MULTIPLE R: 0.221 SQUARED MULTIPLE R: 0.049

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	4.773	3	1.591	1.005	0.397
ERROR	93.369	59	1.583		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.085	1	0.085	0.054	0.818
ERROR	93.369	59	1.583		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.742	1	1.742	1.101	0.298
ERROR	93.369	59	1.583		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.708	1	0.708	0.447	0.506
ERROR	93.369	59	1.583		

RH-7592: Mallard duck

ANOVA on SQR(Hatched)
LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT
0.000 30.000 150.000 600.000

DEP VAR: SHAT N: 63 MULTIPLE R: 0.270 SQUARED MULTIPLE R: 0.073

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	9.679	3	3.226	1.549	0.211
ERROR	122.918	59	2.083		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.055	1	0.055	0.026	0.871
ERROR	122.918	59	2.083		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.486	1	1.486	0.713	0.402
ERROR	122.918	59	2.083		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	3.338	1	3.338	1.602	0.211
ERROR	122.918	59	2.083		

RH-7592: Mallard duck

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

0.000 30.000 150.000 600.000

DEP VAR: STWOWK N: 63 MULTIPLE R: 0.273 SQUARED MULTIPLE R: 0.074

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	9.813	3	3.271	1.579	0.204
ERROR	122.194	59	2.071		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.038	1	0.038	0.019	0.892
ERROR	122.194	59	2.071		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.363	1	1.363	0.658	0.420
ERROR	122.194	59	2.071		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	3.579	1	3.579	1.728	0.194
ERROR	122.194	59	2.071		

RH-7592: Mallard duck

ANOVA on EC/EL

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP1 N: 63 MULTIPLE R: 0.110 SQUARED MULTIPLE R: 0.012

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	21.467	3	7.156	0.241	0.867
ERROR	1749.439	59	29.652		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	17.394	1	17.394	0.587	0.447
ERROR	1749.439	59	29.652		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	8.373	1	8.373	0.282	0.597
ERROR	1749.439	59	29.652		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.789	1	0.789	0.027	0.871
ERROR	1749.439	59	29.652		

RH-7592: Mallard duck

ANOVA on VE/ES

LEVELS ENCOUNTERED DURING PROCESSING ARE:
TRT

0.000	30.000	150.000	600.000

DEP VAR: RESP2 N: 63 MULTIPLE R: 0.114 SQUARED MULTIPLE R: 0.013

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	144.149	3	48.050	0.259	0.855
ERROR	10948.711	59	185.571		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	78.776	1	78.776	0.425	0.517
ERROR	10948.711	59	185.571		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	128.739	1	128.739	0.694	0.408
ERROR	10948.711	59	185.571		

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

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	34.657	1	34.657	0.187	0.667
ERROR	10948.711	59	185.571		
