12-10-92

MRID No. 419317-41

DATA EVALUATION RECORD

1. **CHEMICAL:** XRD-498. Shaughnessey No. 129016.

2. **TEST MATERIAL:** XRD-498; N-(2,6-difluorophenyl)-5-methyl-(1,2,4) triazolo (1,5-a)pyrimidine-2-sulfonamide; AGR 240043; CAS No. 098967-40-9; 99.6% purity; a white powder.

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

4. **CITATION:** Beavers, J.B., A. Corbitt, and M.J. Jaber. 1989. XRD-498 Herbicide, N-(2,6-difluorophenyl)-5-methyl-(1,2,4) triazolo (1,5-a)pyrimidine-2-sulfonamide: A One-Generation Reproduction Study with the Bobwhite (*Colinus virginianus*). Laboratory Project No. 103-297. Prepared by Wildlife International Ltd., Easton, MD. Submitted by DowElanco. MRID No. 419317-41.

5. **REVIEWED BY:**

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

Signature: Michael L. Whitten
Date: 12/4/91

6. **APPROVED BY:**

Pim Kosalwat, Ph.D.
Senior Toxicologist
KBN Engineering and
Applied Sciences, Inc.

Signature: P. Kosalwat
Date: 12/4/91

Daniel Peden 11-3-92

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

Signature: Henry T. Craven
Date: Henry T. Craven 11/10/92
12/10/92

7. **CONCLUSIONS:** Nominal dietary concentrations of XRD-498 at 100 and 300 ppm a.i. had no effects upon behavior, food consumption, or reproduction in adult bobwhite quail during the 20-week exposure period. The NOEC was 300 ppm a.i., based upon reduced ratios for viable embryos/eggs set, hatchlings/eggs set, and 14-day survivors/eggs set. This study is scientifically sound and fulfills the guideline requirements for an avian reproduction study.

8. **RECOMMENDATIONS:** N/A. This study is being accepted as core even though test concentrations in the diet were not measured. This is because the diet was mixed fresh (40 lbs) each week reducing the potential for degradation between mixings

12-10-92

9. **BACKGROUND:**

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

11. **MATERIALS AND METHODS:**

A. **Test Animals:** The birds used in the test were pen-reared, unmated bobwhite quail (*Colinus virginianus*) obtained from Fritt's Quail Farm, Phillipsburg, New Jersey. At test initiation all birds were examined for physical injuries and general health. Birds that did not appear healthy were discarded. The birds were acclimated to the facilities for 8 weeks prior to the study, and were 22 weeks of age at test initiation. Adult birds were identified by individual leg bands.

B. **Dose/Diet Preparation/Food Consumption:** Test diets were prepared by mixing XRD-498 herbicide into a pre-mix which was used for weekly preparation of the final diet. The control diet and three test concentrations (100, 300, 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, and are presented as ppm of the active ingredient (a.i.). 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. Six samples from the control and each treatment concentration were collected on day 0 of week 1 to determine the homogeneity of the test material in the diet. These samples, along with verification samples collected on day 0 of weeks 9 and 18, were used to calculate mean measured concentrations. Samples were collected on day 7 of weeks 1, 9, and 18 to evaluate the stability of the test material in the diet. All samples were frozen immediately after collection, and remained frozen until analyzed by Dow Chemical Co.

Food consumption in each pen was determined once each week throughout the study.

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

XRD-498 Herbicide Nominal Concentration	Number of Pens	Birds Per Pen	
		Males	Females
Control (0 ppm)	16	1	1
100 ppm	16	1	1
300 ppm	16	1	1
600 ppm	16	1	1

Treatment levels were based upon known toxicity data and consultation with the sponsor. The primary phases of the study and their approximate durations were as follows:

1. Acclimation - 8 weeks.
2. Pre-photostimulation - 7 weeks.
3. Pre-egg laying (with photostimulation) - 3 weeks.
4. Egg laying - 9 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. Pens measured approximately 30 cm x 51 cm. The pens had sloping floors which resulted in a ceiling height ranging from 21 to 26 cm. The average temperature in the adult study room was 17.5°C ± 2.5°C (SD) with an average relative humidity of 40% ± 13% (SD).

The photoperiod during acclimation and during the first 7 weeks of the study was 8 hours of light per day. The photoperiod was then increased to 17 hours of light per day and 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**: 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 penmate 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.

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 10.4°C ± 0.8°C (SD) and 68% 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, abnormal or used for egg shell thickness measurements were placed in an incubator at 37.5°C ± 0.05°C (SD) and 56% relative humidity. Eggs were candled again 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. Temperature in the hatcher was 37.2°C ± 0.6°C (SD) with a 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 used for egg shell thickness measurements. 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 then 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. Brooder temperatures were maintained at approximately 38°C. The photoperiod was maintained at 16 hours of light per day. Hatchlings were fed untreated diet. 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: The results of the diet analyses showed that homogeneity and stability were within acceptable limits. Mean measured concentrations of samples collected on the first day of weeks 1, 9, and 18 were 95 ppm, 285 ppm, and 584 ppm (Table 6, attached). These values correspond to 95%, 95%, and 97% of the nominal concentrations of 100, 300, and 600 ppm, respectively. Detailed results of diet analyses were presented in Appendix XII of the report.

B. Mortality and Behavioral Reactions: There were no treatment-related mortalities at any concentration tested. Three incidental mortalities (all were females) occurred during the study. One mortality occurred in the control group, one at 100 ppm, and one at 300 ppm. No mortalities occurred in the 600-ppm group.

Necropsy results of all mortalities and sacrificed birds were included in the report. Due to the nature of the lesions observed at necropsy, all mortalities were considered to be incidental to treatment. Similarly, all lesions observed in sacrificed birds were considered to be unrelated to treatment.

No overt signs of toxicity were observed at any concentration.

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.

There were no apparent treatment related effects upon feed consumption at any concentration (Table 2, attached). There was a slight, but significant

reduction in feed consumption at 100 ppm during week 7, at 300 ppm during week 3, and at 600 ppm during weeks 1 and 3. These differences were considered to be unrelated to treatment.

D. **Reproduction**: When compared to the control group, there were no significant differences in reproductive parameters at any concentration tested (Tables 3 & 3A, attached). While not statistically significant, at 600 ppm there may have been a slight reduction in viable embryos as a percentage of eggs set. Six of the sixteen pens in this treatment group had values one standard deviation or more below the control mean. This reduction also was reflected in both hatchlings and 14-day old survivors as percentages of eggs set.

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

F. **Offspring Body Weight**: There were no significant differences between the control and any treatment group in body weight of offspring at hatching or at 14 days of age.

13. **STUDY AUTHOR'S CONCLUSIONS/QUALITY ASSURANCE MEASURES**: "Dietary concentrations of XRD-498 herbicide at 100 ppm, 300 ppm, and 600 ppm did not result in treatment related mortalities, overt signs of toxicity, or effects upon adult body weight or feed consumption during the 20 week exposure period. There were no statistically significant effects upon reproductive parameters at 100 ppm, 300 ppm or 600 ppm. However, in the 600 ppm treatment group, there may have been a slight reduction in viable embryos as a percentage of eggs set."

The report stated that study was conducted in conformance with Good Laboratory Practice regulations (40 CFR Part 160). Quality assurance audits were conducted during the study and the final report was signed by the Quality Assurance Auditor 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:

The average temperature in the adult study room was 17.5°C; 21°C is recommended.

Eggs were stored at a temperature of approximately 10°C; 16°C is recommended.

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

Behavioral observations of offspring were not reported.

Observations on food palatability were not reported.

B. **Statistical Analysis**: Statistical procedures differed from recommended methods. Specifically, there is no basis for transforming the number of eggs laid and the number of hatchlings to percentile values of the maximum number of eggs laid or set in any test group.

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 (results attached) and found to match those reported by the authors, except for the parameters of eggs hatched/3-week live embryos, and female body weight. The values for hatchlings/3-week live embryos were greater at 100 and 300 ppm than in the controls. These differences are not considered to be treatment-related. Female body weight change from initiation to termination at 600 ppm was significantly different from control values. Because females at 600 ppm gained more weight than the controls (Table 1, attached), the difference is not attributed to treatment.

C. **Discussion/Results**: As the authors indicate, the following parameters were reduced at 600 ppm: viable embryos/eggs set, hatchlings/eggs set, and 14-day survivors/eggs set. While the differences were not statistically significant, a conservative approach in a risk assessment is to assume, as did the authors, that

these values represent treatment effects. Therefore, the NOEC was 300 ppm.

The authors state that no overt signs of toxicity were observed at any concentration, but further state that incidental signs such as "... wing droop, a ruffled appearance, lethargy, and depression were noted at various concentrations during the study." Since wing droop, a ruffled appearance, lethargy, and depression (i.e., reduced activity) are often symptoms of pesticide toxicity, the authors should, in future reports, provide more information regarding why these observations were not considered to be signs of toxicity.

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 probably did not affect the validity of the study.

(3) Repairability: N/A.

15. **COMPLETION OF ONE-LINER:** Yes; November 26, 1991.

RIN 1948-94

FLUMETSULAM REVIEWS (129016)

Page_____ is not included in this copy.

Pages 9 through 13 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.

TREATMENT LEVEL: 300 PPM

		THICK *	HATWT	SURVWT	FOOD
CASE	33	0	6	27	487
CASE	34	0	6	22	458
CASE	35	0	4	22	395
CASE	36	0	4	24	454
CASE	37	0	6	21	474
CASE	38	0	5	23	398
CASE	39	0	7	26	434
CASE	40	0	.	.	511
CASE	41	0	6	24	397
CASE	42	0	6	24	447
CASE	43	0	5	17	408
CASE	44	0	6	27	424
CASE	45	0	6	23	463
CASE	46	0	5	19	486
CASE	47	0	6	22	385
CASE	48	.	.	.	244

TREATMENT LEVEL 600 PPM

CASE	49	0	6	22	442
CASE	50	0	6	21	403
CASE	51	0	6	22	405
CASE	52	0	5	20	461
CASE	53	0	5	22	504
CASE	54	0	6	23	451
CASE	55	0	6	23	370
CASE	56	0	6	23	484
CASE	57	0	5	24	439
CASE	58	0	6	23	457
CASE	59	0	5	23	451
CASE	60	0	5	25	462
CASE	61	0	6	26	505
CASE	62	0	6	23	375
CASE	63	0	6	21	429
CASE	64	0	6	23	378

---

* Eggshell thickness (mm)

Control			100ppm		300ppm		600ppm	
TRT	THICK		TRT	THICK	TRT	THICK	TRT	THICK
0	0.229		1	0.212	2	0.219	3	0.234
0	.		1	0.219	2	0.234	3	0.214
0	.		1	0.222	2	0.243	3	0.195
0	0.199		1	0.186	2	0.218	3	0.209
0	0.199		1	0.214	2	0.231	3	0.191
0	0.203		1	0.206	2	0.2	3	0.23
0	0.204		1	.	2	0.174	3	0.219
0	0.194		1	0.192	2	0.167	3	0.195
0	0.205		1	0.189	2	0.213	3	0.159
0	0.201		1	0.201	2	0.212	3	0.203
0	0.22		1	.	2	0.19	3	0.197
0	0.21		1	0.181	2	0.235	3	0.219
0	0.208		1	0.22	2	0.23	3	0.206
0	0.201		1	0.212	2	0.204	3	0.218
0	0.217		1	0.208	2	0.218	3	0.214
0	0.205		1	0.204	2	.	3	0.207

14

REPRODUCTION/BOBWHITE QUAIL

TREATMENT LEVEL: 0 PPM

		THICK *	HATWT	SURVWT	FOOD
CASE	1	0	5	22	392
CASE	2	.	.	.	371
CASE	3	.	.	.	203
CASE	4	0	6	21	468
CASE	5	0	5	22	446
CASE	6	0	6	26	439
CASE	7	0	5	23	442
CASE	8	0	6	22	485
CASE	9	0	5	20	497
CASE	10	0	6	24	444
CASE	11	0	6	23	480
CASE	12	0	6	27	374
CASE	13	0	5	26	424
CASE	14	0	5	22	496
CASE	15	0	6	24	465
CASE	16	0	6	31	484

TREATMENT LEVEL: 100 PPM

CASE	17	0	6	24	465
CASE	18	0	6	21	397
CASE	19	0	6	22	462
CASE	20	0	5	18	483
CASE	21	0	6	17	423
CASE	22	0	5	21	392
CASE	23	.	.	.	474
CASE	24	0	6	25	424
CASE	25	0	6	26	460
CASE	26	0	5	24	422
CASE	27	.	.	.	13
CASE	28	0	5	24	410
CASE	29	0	6	25	393
CASE	30	0	6	23	441
CASE	31	0	6	26	432
CASE	32	0	5	21	406

* See following page for eggshell thickness values

ANOVA on food

DEP VAR: FOOD N: 64 MULTIPLE R: 0.165 SQUARED MULTIPLE R: 0.027

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	9553.375	3	3184.458	0.556	0.646
ERROR	343435.625	60	5723.927		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	5330.281	1	5330.281	0.931	0.338
ERROR	343435.625	60	5723.927		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	63.281	1	63.281	0.011	0.917
ERROR	343435.625	60	5723.927		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	351.125	1	351.125	0.061	0.805
ERROR	343435.625	60	5723.927		

XRD-498

BOBWHITE QUAIL

TREATMENT LEVEL: Control (0 ppm)

		EL	EC	ES	VE	LE21	HAT	TWOWK
CASE	1	34	1	30	29	29	28	24
CASE	2	0	0	0	0	0	0	0
CASE	3	.	.	.	.	.	.	.
CASE	4	29	0	25	18	18	17	15
CASE	5	35	0	31	19	19	19	18
CASE	6	41	2	35	32	32	32	30
CASE	7	44	0	40	40	40	39	37
CASE	8	38	0	34	33	32	26	24
CASE	9	23	2	18	18	18	17	16
CASE	10	53	5	44	41	40	35	35
CASE	11	30	4	20	15	13	9	5
CASE	12	34	1	29	29	29	26	25
CASE	13	48	0	44	44	44	43	33
CASE	14	48	0	44	42	42	36	33
CASE	15	41	0	35	35	34	31	28
CASE	16	20	0	16	14	14	13	13
	Sums	518	15	445	409	404	371	336

TREATMENT LEVEL: 100 ppm

CASE	17	46	0	42	32	32	30	30
CASE	18	12	0	9	8	8	8	8
CASE	19	35	0	32	29	29	29	27
CASE	20	26	0	22	21	20	20	12
CASE	21	17	1	14	14	14	14	13
CASE	22	27	1	23	22	22	22	22
CASE	23	0	0	0	0	0	0	0
CASE	24	36	0	32	26	26	26	25
CASE	25	36	0	32	23	23	22	22
CASE	26	45	0	40	33	32	30	24
CASE	27	.	.	.	.	.	.	.
CASE	28	48	1	43	43	43	43	36
CASE	29	30	0	27	26	26	26	26
CASE	30	43	0	39	37	37	33	30
CASE	31	53	0	49	46	46	40	40
CASE	32	39	1	34	34	34	30	23
	Sums	493	4	438	394	392	373	338

XRD-498/QUAIL

TREATMENT LEVEL: 300 ppm

		EL	EC	ES	VE	LE21	HAT	TWOWK
CASE	33	34	0	31	29	29	28	26
CASE	34	44	0	40	36	36	35	33
CASE	35	14	0	11	8	7	7	4
CASE	36	18	0	16	15	15	14	11
CASE	37	45	0	41	41	41	41	37
CASE	38	18	1	14	14	14	14	10
CASE	39	31	3	22	21	21	21	20
CASE	40	1	0	0	0	0	0	0
CASE	41	42	2	35	32	32	31	28
CASE	42	43	5	34	33	33	30	26
CASE	43	17	1	13	9	9	9	8
CASE	44	28	3	21	21	21	21	21
CASE	45	36	7	25	22	21	21	18
CASE	46	40	2	34	22	22	21	17
CASE	47	32	3	25	22	22	21	19
CASE	48	.	.	.	.	.	.	.
	Sums	443	27	362	325	323	314	278

TREATMENT LEVEL: 600 ppm

CASE	49	34	0	30	30	30	30	24
CASE	50	45	2	39	38	36	32	25
CASE	51	54	3	47	41	41	39	36
CASE	52	38	2	32	32	32	32	27
CASE	53	30	0	27	19	19	18	15
CASE	54	47	1	42	32	32	23	21
CASE	55	27	0	24	22	22	19	18
CASE	56	47	1	42	42	42	16	14
CASE	57	49	2	43	25	24	22	20
CASE	58	29	0	25	18	18	18	17
CASE	59	49	0	45	42	42	35	33
CASE	60	15	1	12	12	12	12	11
CASE	61	28	1	23	21	21	17	15
CASE	62	31	0	27	26	26	25	24
CASE	63	30	0	26	5	5	5	4
CASE	64	30	0	26	17	17	17	11
	Sums	583	13	510	422	419	360	315

ANOVA on SQR(Eggs Laid)

DEP VAR: SEL N: 61 MULTIPLE R: 0.181 SQUARED MULTIPLE R: 0.033

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	4.579	3	1.526	0.641	0.592
ERROR	135.826	57	2.383		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.238	1	0.238	0.100	0.753
ERROR	135.826	57	2.383		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.219	1	1.219	0.512	0.477
ERROR	135.826	57	2.383		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.892	1	0.892	0.374	0.543
ERROR	135.826	57	2.383		

ANOVA on SQR(Eggs Cracked)

DEP VAR: SEC N: 61 MULTIPLE R: 0.335 SQUARED MULTIPLE R: 0.112

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.972	3	1.324	2.401	0.077
ERROR	31.424	57	0.551		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.855	1	0.855	1.551	0.218
ERROR	31.424	57	0.551		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.138	1	1.138	2.063	0.156
ERROR	31.424	57	0.551		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.003	1	0.003	0.005	0.943
ERROR	31.424	57	0.551		

ANOVA on SQR(Eggs Set)

DEP VAR: SES N: 61 MULTIPLE R: 0.218 SQUARED MULTIPLE R: 0.047

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	6.641	3	2.214	0.947	0.424
ERROR	133.194	57	2.337		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.048	1	0.048	0.021	0.887
ERROR	133.194	57	2.337		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.253	1	2.253	0.964	0.330
ERROR	133.194	57	2.337		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.080	1	1.080	0.462	0.499
ERROR	133.194	57	2.337		

ANOVA on SQR(Viable Embryos)

DEP VAR: SVE N: 61 MULTIPLE R: 0.161 SQUARED MULTIPLE R: 0.026

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.622	3	1.207	0.504	0.681
ERROR	136.603	57	2.397		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.076	1	0.076	0.032	0.859
ERROR	136.603	57	2.397		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.419	1	2.419	1.009	0.319
ERROR	136.603	57	2.397		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.018	1	0.018	0.007	0.931
ERROR	136.603	57	2.397		

ANOVA on SQR(21-day Live Embryos)

DEP VAR: SLE21 N: 61 MULTIPLE R: 0.160 SQUARED MULTIPLE R: 0.026

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	3.583	3	1.194	0.498	0.685
ERROR	136.853	57	2.401		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.047	1	0.047	0.020	0.889
ERROR	136.853	57	2.401		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.291	1	2.291	0.954	0.333
ERROR	136.853	57	2.401		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.034	1	0.034	0.014	0.906
ERROR	136.853	57	2.401		

ANOVA on SQR(Hatched)

DEP VAR: SHAT N: 61 MULTIPLE R: 0.117 SQUARED MULTIPLE R: 0.014

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	1.723	3	0.574	0.261	0.853
ERROR	125.202	57	2.197		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.006	1	0.006	0.003	0.959
ERROR	125.202	57	2.197		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.178	1	1.178	0.536	0.467
ERROR	125.202	57	2.197		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.038	1	0.038	0.017	0.896
ERROR	125.202	57	2.197		

ANOVA on SQR(Two week Survivors)

DEP VAR: STWOWK 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	2.111	3	0.704	0.334	0.801
ERROR	120.224	57	2.109		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.010	1	0.010	0.005	0.947
ERROR	120.224	57	2.109		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1.456	1	1.456	0.690	0.410
ERROR	120.224	57	2.109		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.146	1	0.146	0.069	0.793
ERROR	120.224	57	2.109		

ANOVA on EC/EL

DEP VAR: RESP1 N: 59 MULTIPLE R: 0.339 SQUARED MULTIPLE R: 0.115

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	389.307	3	129.769	2.375	0.080
ERROR	3005.035	55	54.637		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	76.562	1	76.562	1.401	0.242
ERROR	3005.035	55	54.637		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	112.091	1	112.091	2.052	0.158
ERROR	3005.035	55	54.637		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	2.018	1	2.018	0.037	0.848
ERROR	3005.035	55	54.637		

ANOVA on VE/ES

DEP VAR: RESP2 N: 58 MULTIPLE R: 0.193 SQUARED MULTIPLE R: 0.037

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	400.140	3	133.380	0.696	0.558
ERROR	10342.785	54	191.533		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	23.727	1	23.727	0.124	0.726
ERROR	10342.785	54	191.533		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	65.979	1	65.979	0.344	0.560
ERROR	10342.785	54	191.533		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	365.913	1	365.913	1.910	0.173
ERROR	10342.785	54	191.533		

ANOVA on LE21/VE

DEP VAR: RESP3 N: 58 MULTIPLE R: 0.156 SQUARED MULTIPLE R: 0.024

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	38.460	3	12.820	0.447	0.721
ERROR	1549.380	54	28.692		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	27.044	1	27.044	0.943	0.336
ERROR	1549.380	54	28.692		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	10.488	1	10.488	0.366	0.548
ERROR	1549.380	54	28.692		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	30.828	1	30.828	1.074	0.305
ERROR	1549.380	54	28.692		

28

ANOVA on HAT/LE21

DEP VAR: RESP4 N: 58 MULTIPLE R: 0.361 SQUARED MULTIPLE R: 0.131

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	906.605	3	302.202	2.703	0.054
ERROR	6038.203	54	111.819		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	417.189	1	417.189	3.731	0.059
ERROR	6038.203	54	111.819		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	530.545	1	530.545	4.745	0.034
ERROR	6038.203	54	111.819		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	3.113	1	3.113	0.028	0.868
ERROR	6038.203	54	111.819		

29

ANOVA on TWOWK/HAT

DEP VAR: RESP5 N: 58 MULTIPLE R: 0.307 SQUARED MULTIPLE R: 0.094

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	584.208	3	194.736	1.872	0.145
ERROR	5617.454	54	104.027		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	96.599	1	96.599	0.929	0.340
ERROR	5617.454	54	104.027		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	111.507	1	111.507	1.072	0.305
ERROR	5617.454	54	104.027		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	113.801	1	113.801	1.094	0.300
ERROR	5617.454	54	104.027		

ANOVA on HAT/ES

DEP VAR: RESP6 N: 58 MULTIPLE R: 0.286 SQUARED MULTIPLE R: 0.082

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	910.222	3	303.407	1.606	0.199
ERROR	10201.569	54	188.918		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	132.957	1	132.957	0.704	0.405
ERROR	10201.569	54	188.918		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	135.924	1	135.924	0.719	0.400
ERROR	10201.569	54	188.918		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	188.257	1	188.257	0.996	0.323
ERROR	10201.569	54	188.918		

31

ANOVA on TWOWK/ES

DEP VAR: RESP7 N: 58 MULTIPLE R: 0.326 SQUARED MULTIPLE R: 0.106

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	907.328	3	302.443	2.144	0.105
ERROR	7617.070	54	141.057		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	81.332	1	81.332	0.577	0.451
ERROR	7617.070	54	141.057		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	6.917	1	6.917	0.049	0.826
ERROR	7617.070	54	141.057		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	360.840	1	360.840	2.558	0.116
ERROR	7617.070	54	141.057		

ANOVA on survwt

DEP VAR: SURVWT N: 58 MULTIPLE R: 0.179 SQUARED MULTIPLE R: 0.032

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	11.483	3	3.828	0.598	0.619
ERROR	345.500	54	6.398		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	9.143	1	9.143	1.429	0.237
ERROR	345.500	54	6.398		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	5.143	1	5.143	0.804	0.374
ERROR	345.500	54	6.398		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	8.010	1	8.010	1.252	0.268
ERROR	345.500	54	6.398		

BOBWHITE QUAIL

ANOVA on thick

DEP VAR: THICK N: 59 MULTIPLE R: 0.179 SQUARED MULTIPLE R: 0.032

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	0.000	3	0.000	0.603	0.616
ERROR	0.015	55	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	0.109	0.742
ERROR	0.015	55	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	0.871	0.355
ERROR	0.015	55	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	0.000	1	0.000	0.000	0.988
ERROR	0.015	55	0.000		

ANOVA on hatwt

DEP VAR: HATWT N: 58 MULTIPLE R: 0.086 SQUARED MULTIPLE R: 0.007

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	0.146	3	0.049	0.135	0.939
ERROR	19.509	54	0.361		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.036	1	0.036	0.099	0.754
ERROR	19.509	54	0.361		

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	0.000	1.000
ERROR	19.509	54	0.361		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	0.101	1	0.101	0.278	0.600
ERROR	19.509	54	0.361		

35

BOBWHITE QUAIL; MALE BODY WEIGHT

TREATMENT LEVEL: 0 PPM

		PREWT	POSTWT
CASE	1	205	214
CASE	2	226	226
CASE	3	192	.
CASE	4	204	186
CASE	5	199	188
CASE	6	206	172
CASE	7	217	194
CASE	8	203	205
CASE	9	209	214
CASE	10	201	216
CASE	11	189	199
CASE	12	201	205
CASE	13	185	183
CASE	14	191	218
CASE	15	198	210
CASE	16	207	218

TREATMENT LEVEL: 100 PPM

		PREWT	POSTWT
CASE	17	190	178
CASE	18	198	196
CASE	19	202	186
CASE	20	195	204
CASE	21	190	190
CASE	22	205	217
CASE	23	188	172
CASE	24	199	219
CASE	25	189	185
CASE	26	184	195
CASE	27	186	.
CASE	28	182	182
CASE	29	225	171
CASE	30	211	201
CASE	31	211	216
CASE	32	207	205

TREATMENT LEVEL: 300 PPM

		PREWT	POSTWT
CASE	33	209	203
CASE	34	190	176
CASE	35	214	220
CASE	36	222	230
CASE	37	196	186
CASE	38	207	225
CASE	39	202	189
CASE	40	208	213
CASE	41	190	193
CASE	42	170	183
CASE	43	206	204
CASE	44	212	234
CASE	45	198	202
CASE	46	200	199
CASE	47	183	179
CASE	48	180	.

TREATMENT LEVEL: 600 PPM

		PREWT	POSTWT
CASE	49	199	207
CASE	50	192	198
CASE	51	210	215
CASE	52	201	212
CASE	53	192	202
CASE	54	198	197
CASE	55	194	196
CASE	56	204	211
CASE	57	221	212
CASE	58	192	211
CASE	59	192	195
CASE	60	192	190
CASE	61	197	194
CASE	62	181	204
CASE	63	187	181
CASE	64	202	209

37

BOBWHITE QUAIL; MALE BODY WEIGHT

ANOVA on postwt

DEP VAR: POSTWT N: 61 MULTIPLE R: 0.546 SQUARED MULTIPLE R: 0.299

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	613.843	3	204.614	1.175	0.327
PREWT	3399.302	1	3399.302	19.520	0.000
ERROR	9752.181	56	174.146		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT

TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	245.113	1	245.113	1.408	0.240
ERROR	9752.181	56	174.146		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT

TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	4.186	1	4.186	0.024	0.877
ERROR	9752.181	56	174.146		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT

TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	56.977	1	56.977	0.327	0.570
ERROR	9752.181	56	174.146		

BOBWHITE QUAIL - FEMALES

TREATMENT LEVEL: 0 ppm

		PREWT	POSTWT
CASE	1	176	210
CASE	2	208	148
CASE	3	208	.
CASE	4	203	191
CASE	5	205	208
CASE	6	195	183
CASE	7	185	227
CASE	8	189	212
CASE	9	203	205
CASE	10	220	249
CASE	11	211	237
CASE	12	199	227
CASE	13	194	222
CASE	14	199	221
CASE	15	200	204
CASE	16	196	211

TREATMENT LEVEL: 100 ppm

		PREWT	POSTWT
CASE	17	216	211
CASE	18	190	192
CASE	19	186	183
CASE	20	213	218
CASE	21	196	205
CASE	22	190	201
CASE	23	203	212
CASE	24	197	224
CASE	25	187	208
CASE	26	222	231
CASE	27	192	.
CASE	28	186	227
CASE	29	215	232
CASE	30	183	222
CASE	31	207	234
CASE	32	201	204

39

TREATMENT LEVEL: 300 ppm

		PREWT	POSTWT
CASE	33	218	219
CASE	34	210	230
CASE	35	200	196
CASE	36	204	202
CASE	37	203	248
CASE	38	205	216
CASE	39	202	241
CASE	40	182	208
CASE	41	201	221
CASE	42	205	238
CASE	43	182	198
CASE	44	200	232
CASE	45	182	226
CASE	46	176	208
CASE	47	204	219
CASE	48	194	.

TREATMENT LEVEL: 600 ppm

		PREWT	POSTWT
CASE	49	189	205
CASE	50	225	240
CASE	51	202	226
CASE	52	208	253
CASE	53	191	238
CASE	54	185	223
CASE	55	206	224
CASE	56	205	226
CASE	57	192	232
CASE	58	190	200
CASE	59	192	213
CASE	60	211	209
CASE	61	191	223
CASE	62	188	216
CASE	63	178	213
CASE	64	189	217

BOBWHITE QUAIL - FEMALES

ANOVA on postwt

DEP VAR: POSTWT N: 61 MULTIPLE R: 0.409 SQUARED MULTIPLE R: 0.167

ANALYSIS OF VARIANCE

SOURCE	SUM-OF-SQUARES	DF	MEAN-SQUARE	F-RATIO	P
TRT	1715.028	3	571.676	2.012	0.123
PREWT	1746.503	1	1746.503	6.146	0.016
ERROR	15913.913	56	284.177		

Post-hoc contrast of treatment 1 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	66.900	1	66.900	0.235	0.629
ERROR	15913.913	56	284.177		

Post-hoc contrast of treatment 2 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	761.723	1	761.723	2.680	0.107
ERROR	15913.913	56	284.177		

Post-hoc contrast of treatment 3 with control.

TEST FOR EFFECT CALLED: TRT
TEST OF HYPOTHESIS

SOURCE	SS	DF	MS	F	P
HYPOTHESIS	1341.458	1	1341.458	4.721	0.034
ERROR	15913.913	56	284.177		

Total weight change from initiation to termination: 6.00 gm > control

41