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(3-3-03)

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Data Requirement: PMRA DATA CODE {.....}
EPA DP Barcode D273992
OECD Data Point {.....}
EPA MRID 42634001
EPA Guideline 71-4(a)

Test material: H-18, 053 (Chlorsulfuron) Purity: 97.5% (plant analysis); 98.2% (reanalysis)
Common name: Chlorsulfuron
Chemical name: IUPAC: Benzenesulfonamide,2-chloro-N-[[[4-methoxy-6-methyl-1,3,5-triazin-2-yl) amino] carbonyl]
CAS name: Chlorsulfuron
CAS No.: 64902-72-3
Synonyms: Chlorsulfuron; DPX-W4189-165

Primary Reviewer: Teri Myers, Ph.D. Signature: Teri S Myers
Dynamac Corporation Date: 6/28/01

QC Reviewer: Kathleen Ferguson, Ph.D. Signature: Kathleen Ferguson
Dynamac Corporation Date: 6/28/01

Primary Reviewer: Dana Spatz Signature:
EPA/OECD/PMRA Date:

Secondary Reviewer(s): Dan Balluff Signature: Dan Balluff
EPA/OECD/PMRA Date: 3/3/03

Reference/Submission No.: {.....}

Company Code {.....} [For PMRA]
Active Code {.....} [For PMRA]
EPA PC Code 118601

Date Evaluation Completed: {dd-mmm-yyyy}

CITATION: Beavers, J.B. et al. 1992. H-18, 053 (Chlorsulfuron): A one-generation reproduction study with the northern bobwhite (Colinus virginianus). Unpublished study performed by Wildlife International Ltd., Easton, MD and sponsored by E.I. du Pont de Nemours & Company, Newark, Delaware. Wildlife International Ltd. study no. 112-266, sponsor study no. 564-92. Study initiated September 30, 1991 and completed September 1, 1992.

EXECUTIVE SUMMARY:

The one generation reproductive toxicity of H-18, 053 (Chlorsulfuron) to groups (16 pens/treatment level) of 1 male and 1 female of 25-week-old bobwhite quail was assessed over 154 days. H-18, 053 was administered to the birds in the diet at 0, 26.4, 174, and 961 mg ai/kg dw diet. The NOAEC was determined to be 174 mg ai/kg dw diet based on significant reductions in female body weight, 14 day survivors/normal hatchlings, viable embryos/eggs set, and 14 day hatchling survival/eggs set at the highest treatment level when compared to the control. The LOAEC was, therefore, 961 mg ai/kg dw diet.

There were no apparent behavioral abnormalities or other treatment-related signs of toxicity on the parental generation.

This toxicity study is scientifically sound and satisfies the guideline requirement for a bobwhite quail reproductive toxicity study. This study is classified as Core.

Results Synopsis

Test Organism Size/Age (mean Weight): 25 weeks at test initiation (202 g)

NOAEC: 174 mg a.i./L

LOAEC: 961 mg a.i./L

Endpoint(s) Affected: female body weight, 14 day survivors/normal hatchlings, viable embryos/eggs set, and 14 day hatchling survival/eggs set

I. MATERIALS AND METHODS

GUIDELINE FOLLOWED: 71-4(a); Minor deviations included the instability of the a.i. in the 26 ppm diet, a slightly different photoperiod than recommended, a slightly lower egg storage and humidity than recommended, a lower hatching temperature and higher hatching humidity than recommended, and a slightly later removal date from the hatcher. None of these deviations impacted the acceptability or the validity of the study.

COMPLIANCE: A statement of no data confidentiality claims, a certification of good laboratory practices, and a quality assurance statement were provided.

A. MATERIALS:

1. Test Material H-18, 053 (Chlorsulfuron)

Description: A whitish to off-white powder

Lot No./Batch No. : Lot 12-51, Drum 1; Batch 12-51-88

Purity: 97.5% (plant analysis); 98.2% (reanalysis)

Stability of Compound

Under Test Conditions: Most test concentrations were stable after one week under test conditions, except samples from the 40 ppm treatment group, which also showed poor stability when measured on day 0. Stability samples from the 200 ppm and 1000 ppm treatments averaged 79% and 90% after 7 days, while stability of the 40 ppm treatment averaged 67% on day 0 and 48% on day 7. Verification of the test substance in the diets yielded high recoveries (within 20% of nominal concentrations), except for samples from the 40 ppm treatment. Recovery of test substance from this treatment ranged from 22.4 to 31.1 ppm (56% to 78% of nominal). Reanalysis of the diets from the 40 ppm level confirmed the low stability and recovery of test substance in this treatment. It was suggested that the cause of this was either degradation of the test material or increased sorption of the a.i. to the diet matrix. The pilot study showed that the test material was stable in avian diets at 100 ppm.

(OECD requires water solubility, stability in water and light, pKa, Pow, vapor pressure of test compound)

Storage Conditions of

Test Chemicals: The test substance was stored at ambient temperature. Premix containing acetone, corn oil, basal diet, and the test material was maintained frozen, except during weekly preparation of fresh diets.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

2. Test organism:

Parameter	Details	Remarks
		Criteria
Species (common and scientific names):	Bobwhite quail (<i>Colinus virginianus</i>)	<i>EPA requires: a wild waterfowl species, preferably the mallard, Anas platyrhynchos, or an upland game species, preferably the northern bobwhite, Colinus virginianus.</i>
Age at Study Initiation:	25 weeks	Birds were approaching their first breeding season. <i>EPA requires Birds should be approaching their first breeding season.</i>
Body Weight: (mean and range)	<p>Test initiation: <u>Control</u> males: 200 g (180-225 g) females: 203 g (183-231 g)</p> <p><u>40 ppm</u> males: 206 g (182-233 g) females: 199 g (186-223 g)</p> <p><u>200 ppm</u> males: 203 g (183-237 g) females: 204 g (188-224 g)</p> <p><u>1000 ppm</u> males: 205 g (190-229 g) females: 199 g (180-225 g)</p>	<p>Aside from test initiation, weights were recorded at biweekly intervals up to week eight, and at test termination.</p> <p><i>EPA requires that body weights should be recorded at test initiation and at biweekly intervals up to week eight or up to the onset of egg laying and at termination.</i></p>
Source:	Top Flight Quail Farm Belvidere, New Jersey 07823	<i>EPA requires that all birds should be from the same source.</i>

B. STUDY DESIGN:

1. Experimental Conditions

a) Range-finding Study: A pilot reproduction study was conducted with northern bobwhite quail (34 weeks old at test initiation). Birds (5 replicate pens per level; 1 male and 1 female per pen) were exposed to nominal dietary concentrations of H #18, 053 (chlorsulfuron) at 0, 160, 400, and 1000 ppm for 6 weeks (mean measured concentrations were 0, 103, 380, and 907). No treatment-related effects on mortality, clinical toxicity, body weight, feed consumption, or egg production were observed at any of the concentrations tested. As a result, the NOAEC in this pilot study was greater than or equal to 907 ppm, the highest treatment concentration tested.

b) Definitive Study

Table 1 . Experimental Parameters

Parameter	Details	Remarks
		Criteria
Acclimation period: conditions (same as test or not): feeding: health (any mortality observed):	-Birds were subject to an acclimation period for 17 days. -Environmental conditions during acclimation were identical to test conditions. -Water and feed were provided <i>ad libitum</i> . -At test initiation, birds were examined for physical injuries and general health. Unhealthy birds were discarded.	Offspring (from hatch to 14 days old) were given a water soluble vitamin and electrolyte mix in their water. <hr/> <i>EPA recommends a 2-3 week health observation period prior to selection of birds for treatment. Birds must be generally healthy without excess mortality. Feeding should be <u>ad libitum</u>, and sickness, injuries or mortality be noted.</i>
Test duration pre-laying exposure: egg-laying exposure: withdrawal period, if used:	-11 weeks -11 weeks -No withdrawal period	Reduced reproduction was not observed, so a withdrawal period was not necessary. <hr/> <i>EPA requires</i> <u>Pre-laying exposure duration</u> <i>At least 10 weeks prior to the onset of egg-laying.</i> <u>Exposure duration with egg-laying</u> <i>At least 10 weeks.</i> <u>Withdrawal period</u> <i>If reduced reproduction is evident, a withdrawal period of up to 3 weeks should be added to the test phase.</i>

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Parameter	Details	Remarks
		Criteria
Pen (for parental and offspring) size: construction materials: number:	-Parents were housed in Georgia Quail Farm Breeding Pens (30 x 15 cm ² ; Model 206). Offspring were housed in Beacon Steel Company brooding pens (72 x 90 x 23 cm ³ ; Model B735Q). -Pens were constructed of galvanized wire grid and galvanized sheeting. -16 pens/treatment level	A diagram was provided (Appendix XIII, p. 109) of the pen layout, relative to treatment groups. <hr/> <u>Pens</u> Adequate room and arranged to prevent cross contamination <u>Materials</u> Nontoxic material and nonbinding material, such as galvanized steel. <u>Number</u> At least 5 replicate pens are required for mallards housed in groups of 7. For other arrangements, at least 12 pens are required, but considerably more may be needed if birds are kept in pairs. Chicks are to be housed according to parental grouping.
Number of birds per pen (male:female)	2 birds/pen (1 male:1 female)	<hr/> EPA requires one male and 1 female per pen. For quail, 1 male and 2 females is acceptable. For ducks, 2 males and 5 females is acceptable.
Number of pens per group/treatment negative control: solvent control: treated:	-N/A -16 pens -16 pens/treatment	Sixty-four pens were used in the experiment. <hr/> EPA requires at least 12 pens, but considerably more if birds are kept in pairs. At least 16 is strongly recommended.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Parameter	Details	Remarks
		Criteria
Test concentrations (mg ai/kg diet) nominal: measured:	-0, 40, 200, and 1000 ppm -0, 26.4 ± 2.6, 174 ± 18, and 961 ± 82 ppm	Test concentrations were chosen in consultation with the Sponsor and were based upon known toxicity data, a pilot reproduction study, and Expected Environmental Concentrations. <i>EPA requires at least two concentrations other than the control are required; three or more are recommended. The highest test concentrations should show a significant effect or be at or above the actual or expected field residue level.</i>
Maximum labeled field residue anticipated and source of information:	Not reported	<i>EPA requires The highest test concentrations should show a significant effect or be at or above the actual or expected field residue level. The source [i.e., maximum label rate (in lb ai/A & ppm), label registratin no., label date, and site should be cited]</i>
Solvent/vehicle, if used type: amount:	-Acetone (solvent) and corn oil (vehicle) - Less than 2% of the diet by weight	<i>EPA requires corn oil or other appropriate vehicle not more than 2% of diet by weight</i>
Was detailed description and nutrient analysis of the basal diet provided? (Yes/No)	Yes	Basal diets contained 27% protein, 2.5% fat, and 5% fiber (minimum). Five percent limestone was added to adult diets to provide a source of calcium. <i>EPA requires a commercial breeder feed (or its equivalent) that is appropriate for the test species.</i>

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Parameter	Details	Remarks
		Criteria
Preparation of test diet	H-18, 053 (Chlorsulfuron) was added to a pre-mix with corn oil and incorporated into aliquots of basal diet using a Hobart mixer.	<i>A premixed containing the test substance should be mechanically mixed with basal diet. If an evaporative vehicle is used, it must be completely evaporated prior to feeding.</i>
Indicate whether stability and homogeneity of test material in diet determined (Yes/No)	Yes	
Were concentrations in diet verified by chemical analysis?	Yes	
Did chemical analysis confirm that diet was stable and homogeneous?	Yes	
Feeding and husbandry	Feeding and husbandry conditions appeared to be adequate, given guideline recommendations.	Housing and husbandry practices adhered to the guidelines established by the National Institutes of Health.
Test conditions (pre-laying) temperature: relative humidity: photoperiod:	-Average temperature was maintained at $18.4 \pm 2.2^{\circ}\text{C}$. -40 \pm 15% -8 h light up to week 7, 17 h light thereafter; 45 footcandles of illumination	Birds were exposed to 8 hours of light for the first 7 weeks, instead of the recommended 7 hours for 8 weeks. <i>EPA Requires</i> <i>Temperature:</i> <i>About 21°C (70°F)</i> <i>Relative humidity:</i> <i>About 55%</i> <i>Lighting</i> <i>First 8 weeks: 7 h per day.</i> <i>Thereafter: 16-17 h per day.</i> <i>At least 6 footcandles at bird level.</i>

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Parameter	Details	Remarks
		Criteria
Egg Collection and Incubation		
Egg collection and storage collection interval: storage temperature: storage humidity:	-Eggs were collected daily -13.8 ± 1.0°C -46 ± 9% relative humidity	Eggs were stored at a temperature and humidity that was slightly lower than recommended. <i>EPA requires eggs to be collected daily; egg storage temperature approximately 16°C (61°F); humidity approximately 65%. Collection interval: daily</i>
Were eggs candled for cracks prior to setting for incubation?	Eggs were candled prior to incubation (Day 0).	<i>EPA requires eggs to be candled on day 0</i>
Were eggs set weekly?	Yes	
When candling was done for fertility?	Day 11 for embryo viability and Day 21 for embryo survival	<i>EPA requires: Quail: approx. day 11 Ducks: approx. day 14</i>
When the eggs were transferred to the hatcher?	Day 21	<i>EPA requires: Bobwhite: day 21 Mallard: day 23</i>
Hatching conditions temperature: humidity: photoperiod:	-37.2°C -76% -Not reported	Hatching temperature was slightly lower and humidity was higher than recommended.. <i>EPA requires: temperature of 39°C (102°F) humidity of 70%</i>
Day the hatched eggs were removed and counted	Day 25 or Day 26	Hatchlings, unhatched eggs, and egg shells were removed from the hatcher a day or two later than EPA requires for this species. <i>EPA requires Bobwhite: day 24 Mallard: day 27</i>

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Parameter	Details	Remarks
		Criteria
Were egg shells washed and dried for at least 48 hrs before measuring?	Yes, shells were washed and dried for one week at room temperature.	
Egg shell thickness no. of eggs used: intervals: mode of measurement:	-One egg was collected (when available) from alternate pens in each treatment group. -Once weekly throughout the egg laying period. -Dried shell plus membrane at the waist was determined by measuring five points around the shell circumference to the nearest 0.005 mm.	<i>EPA requires newly hatched eggs be collected at least once every two weeks. Thickness of the shell plus membrane should be measured to the nearest 0.01 mm; 3 - 4 measurements per shell.</i>
Reference chemical, if used	None used	

2. Observations:

Table 2: Observations

Parameter	Details	Remarks/Criteria
Parameters measured		
Parental: (mortality, body weight, mean feed consumption) Egg collection and subsequent development: (no. of eggs laid, no. of eggs cracked, shell thickness, no. of eggs set, no. of viable embryos, no. of live 3 week embryos, no. hatched, no. of 14-day survivors, average weight of 14-d old survivors, mortality, gross pathology, others)	-mortality -body weight -food consumption -eggs laid/pen -eggs cracked/pen -eggs set/pen -viable embryos/pen -live 3-week embryos/pen -normal hatchlings/pen -hatchling body weight/pen -14-day-old survivors/pen -14-day-old survivor body weight/pen -eggshell thickness/pen	Data for all parameters were reported on a per pen basis. <hr/> EPA requires: ● Eggs laid/pen ● Eggs cracked/pen ● Eggs set/pen ● Viable embryos/pen ● Live 3-week embryos/pen ● Normal hatchlings/pen ● 14-day-old survivors/pen ● 14-day-old survivors/pen ● Weights of 14-day-old survivors (mean per pen) ● Egg shell thickness ● Food consumption (mean per pen) ● Initial and final body weight (mean per pen)
Indicate if the test material was regurgitated	No indications of dietary regurgitation.	
Observation intervals (for various parameters)	Body weight was measured biweekly and food consumption was estimated weekly. Eggs were collected weekly for weight and thickness measurements.	<i>Body weights and food consumption must be measured at least biweekly.</i>
were raw data included?	Yes	

II. RESULTS AND DISCUSSION:

A. MORTALITY: Two birds died during the experiment, one in the control group and one in the 26 ppm treatment. One hen in the control group was found dead at the end of week 20. A lesion observed during week 15 appeared to be healing, and the bird was considered normal by the end of week 16. No clinical signs were noted before death. The hen was in moderate condition upon necropsy. The area around the vent was feces-covered and appeared necrotic. The spleen was small and pale and the kidneys appeared pale. Lesions indicative of egg yolk peritonitis were also observed.

One hen in the 26 ppm treatment was found dead during week 14 without exhibiting prior clinical signs. The hen was in good condition upon necropsy. Feather loss from the head was noted, as was a friable liver, evidence of old egg yolk peritonitis, and a regressing ovary. Visceral gout was noted in the abdominal cavity and urinary

tract. The terminal colon was distended with urates and the kidneys were pale.

Because no other mortalities were noted, these deaths were considered to be incidental and not treatment-related.

Table 3: Effect of H-18, 053 (Chlorsulfuron) on mortality of *Colinus virginianus*.

Treatment (mg a.i./kg diet) measured and (nominal conc.)		Observation Period					
		Day 51		Day 102		Day 154	
		No. Dead		No. Dead		No. Dead	
		Male	Female	Male	Female	Male	Female
Control		0	0	0	0	0	1
26.4 (40)		0	0	0	1	0	1
174 (200)		0	0	0	0	0	0
961 (1000)		0	0	0	0	0	0
LD ₅₀		>961ppm	>961ppm	>961ppm	>961ppm	>961ppm	>961ppm
Reference chemical	mortality	N/A	N/A	N/A	N/A	N/A	N/A
	LD ₅₀						

B. REPRODUCTIVE AND OTHER ENDPOINTS: Pathological observations were noted for some birds that survived the experiment, but none appeared to be treatment-related. Common clinical observations included foot, head, and eye lesions and feather loss normally associated with penwear and/or penmate aggression. These lesions were sometimes associated with a ruffled appearance, lethargy, depression or lower limb weakness. Similarly, gross necropsies revealed no treatment-related patterns.

The study authors detected a significant reduction in adult hen body weights at the 1000 ppm treatment level during the week 4 interval. Hens in this treatment apparently lost weight during week 2 and never gained enough weight to compensate for the loss. There were significant decreases in food consumption in the 26 ppm treatment during weeks 4, 20, and 21 in the 174 ppm treatment during week 21. Significant increases in food consumption were also noted during some weeks in the 174 ppm and 961 ppm treatment groups.

The study authors reported that there were no apparent treatment-related effects upon reproductive parameters at the 26, 174, and 961 ppm treatment levels. They detected a significant reduction in the percentage of viable embryos/eggs set at the 961 ppm level, but attributed the reduction to damaged eggs from a mechanical accident that occurred during egg rotation in the incubator.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Table 4. Reproductive and other parameters.

Parameter	Control	26.4 ppm	174 ppm	961 ppm	NOAEC/ LOAEC
Eggs laid/pen	48	51	52	44	≥961ppm >961ppm
Eggs laid/hen/day	0.65	0.68	0.70	0.59	≥961ppm >961ppm
Eggs cracked	36	15	16	11	≥961ppm >961ppm
Eggs set	599	665	727	614	≥961ppm >961ppm
Shell thickness (mm ± SD)	0.210	0.217	0.214	0.210	≥961ppm >961ppm
Viable embryos	563	592	638	520	≥961ppm >961ppm
Live 3-week embryos	560	584	630	512	≥961ppm >961ppm
No. of hatchling/hen	34.7	36.1	37.3	30.8	≥961ppm >961ppm
No. of normal hatchlings	521	542	597	492	≥961ppm >961ppm
Hatchling weight (g)	6.1	6.3	6.3	5.9	≥961ppm >961ppm
14-day old survivors	496	504	572	440	≥961ppm >961ppm
14-day old survivors weight (g)	24	23	24	22	≥961ppm >961ppm
Mean food consumption (g)	29.5	27.9	29.8	31.3	≥961ppm >961ppm
Weight of females and males (parent) at test initiation: at onset of egg laying: at test termination:	males: 200g females: 203g males: 216g females: 219g males: 216g females: 250g	males: 206g females: 199g males: 224g females: 214g males: 216g females: 248g	males: 203g females: 204g males: 216g females: 216g males: 218g females: 246g	males: 205g females: 199g males: 218g females: 207g males: 224g females: 231g	174ppm 961ppm

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

Parameter	Control	26.4 ppm	174 ppm	961 ppm	NOAEC/ LOAEC
Gross pathology (proportion of birds with pathological incidents)	7/30	7/30	11/32	11/32	≥961ppm >961ppm

C. REPORTED STATISTICS: Significant differences between the treatment groups and the control group for eggs laid, eggs cracked, eggs set, viable embryos, live three-week embryos, hatchlings, hatchling body weight, 14-day-old survivors, 14-day-old survivor body weight, egg weight, and eggshell thickness were determined using Dunnett's method. Percentage data were arcsin transformed and pens with mortality were excluded from statistical comparisons of reproductive data.

D. VERIFICATION OF STATISTICAL RESULTS:

Statistical Method: Analyses were conducted using "chicks.sas" (Ver. 2; Jan.1998), a SAS program provided by EFED/OPP/USEPA. For most endpoints, ANOVA was followed by Dunnett's multiple comparison test to determine whether statistically significant treatment effects were present. For male and female body weight, ANCOVA was substituted for ANOVA prior to performing Dunnett's test. For percent data, ANOVA and Dunnett's test were conducted on the arcsin transformed data. See Appendix I for output of reviewer's statistical verification.

NOAEC: 174 ppm

LOAEC: 961 ppm

Most Sensitive endpoint(s): female body weight, 14 day survivors/normal hatchlings, viable embryos/eggs set, and 14 day hatchling survival/eggs set

E. STUDY DEFICIENCIES:

1. Environmental conditions during the adult and offspring phases slightly deviated from US EPA guideline recommendations. Photoperiod was 8 hours for the first 7 weeks, rather than 7 hours for the first 8 weeks. During the offspring phase, egg storage temperature and humidity were slightly lower (13.8 ± 1.0 °C and $46 \pm 9\%$) than recommended (16°C and 65%). Hatching temperature was slightly lower (37.2°C) than recommended (39°C) and humidity was higher (76%) than recommended (70%). None of these deviations impacted the acceptability or the validity of the study.
2. Hatchlings, unhatched eggs, and egg shells were removed from the hatcher a day or two later (Day 25 or 26) than EPA requires for this species (Day 24). This deviation did not impact the validity of the study.
3. Chemical analysis of the test diets revealed that the test substance was unstable at the 26.4 ppm level. Recovery of the test material from stability samples averaged 67% and 48% of nominal at day 0 and 7, respectively. Verification of the test substance at this dietary concentration yielded recoveries averaging 56% to 78% of nominal. However, recovery of test material at the two higher dietary concentrations (174 ppm and 961 ppm) yielded values >20% of nominal concentrations. Because the a.i. was shown to be stable

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

in the higher test concentrations (where treatment effects were shown), the low recovery of the a.i. in the lowest treatment level was not considered to have impacted acceptability or validity of the study.

F. REVIEWER'S COMMENTS:

Results of the reviewer's statistical analysis differed slightly from those of the study authors, however, conclusions reached regarding NOAEC and LOAEC values were identical. Similar to the study authors, the reviewer detected significant reductions in the number of viable embryos/eggs set (10%) and female body weights (33%) at the highest treatment level. Unlike the study authors, the reviewer also detected significant reductions in the number of 14 day survivors/normal hatchlings (7%) and the number of 14 day hatchlings/eggs set (15%). The reviewer detected treatment-related reductions in the number of viable embryos/eggs set, 14 day hatchlings/eggs set, and female body weights. The study author attributed reductions in the number of viable embryos/eggs set to a mechanical accident that damaged incubated eggs in the 174ppm and (to a greater extent) in the 961 pp treatment group. They claimed that when data from eggs set during week 9 were excluded from the statistical analysis, significant differences between control and treatment groups disappeared. Given the dose-dependent nature of the response for several of these reproductive endpoints and the inability of the reviewer to independently verify statistical analysis with the exclusion of these data, the reviewer did not accept this as a plausible explanation.

The a.i. in the 26 ppm diet was shown to be unstable under test conditions and, thus, yielded low recovery. The study authors attributed this to either degradation or sorption of the a.i. to the basal diet. Because adverse effects were only detected at the highest treatment concentration (in which the a.i. was stable), this was not considered to have impacted the acceptability or the validity of the study.

G. CONCLUSIONS: This study is scientifically sound and the deviations were not considered to have impacted the acceptability or validity of the study. This study is classified as Core.

NOAEC: 174 mg a.i./L

LOAEC: 961 mg a.i./L

Endpoint(s) Affected: female body weight, 14 day survivors/normal hatchlings, viable embryos/eggs set, and 14 day hatchling survival/eggs set

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

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III. REFERENCES:

American Society for Testic and Materials. 1986. Standard Practice for Conducting Reproductive Studies with Avian Species. E1062-86. Philadelphia, PA. 15 pp.

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Dunnett, C.W., "A Multiple Comparison Procedure for Comparing Several Treatments with a Control," Jour. Amer. Statis. Assoc. 50: 1096-1121, 1955.

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Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

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46 TRT2	51	2	43	34	33	33	33	0.213	6	24	29.8636	191	201	193	242
47 TRT2	67	5	57	52	50	49	45	0.198	6	22	30.0000	193	207	191	257
48 TRT2	57	1	51	44	42	37	35	0.212	6	21	30.5000	185	202	211	267
49 TRT3	35	0	31	25	25	22	19	0.209	5	22	27.4546	206	235	190	224
50 TRT3	34	0	30	25	24	23	20	0.229	6	24	26.4546	190	205	188	225

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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O	V									I	T	V	O	R	S	R	S		
b	E	E	E	V	L	N	H			C	W	W	O	E	T	E	T		
s	L	L	C	S	E	E	H	S		K	T	T	D	M	M	F	F		
51	TRT3	63	0	58	49	49	45	36	0.218	6	20	35.4091	204	230	222	263			
52	TRT3	42	1	36	28	26	25	19	0.196	5	20	33.3636	198	215	201	237			
53	TRT3	17	0	14	13	13	12	7	0.192	6	24	34.2273	202	225	182	141			
54	TRT3	58	0	53	46	45	44	42	0.225	7	22	31.0455	200	216	208	250			
55	TRT3	27	0	24	21	21	21	20	0.220	6	25	26.9546	207	244	200	186			
56	TRT3	54	1	48	40	40	40	37	0.205	6	23	30.0455	208	233	200	237			
57	TRT3	44	1	39	33	33	29	21	0.204	5	17	37.7727	211	226	196	243			
58	TRT3	56	3	47	35	35	35	33	0.203	6	22	33.9091	207	209	196	233			
59	TRT3	56	1	50	43	43	43	42	0.207	6	21	37.5909	229	243	211	244			
60	TRT3	9	0	7	6	6	4	4	0.224	6	21	22.6818	206	221	194	234			
61	TRT3	56	2	48	42	41	41	38	0.202	6	23	31.4546	193	209	180	243			
62	TRT3	60	0	55	48	46	44	42	0.217	6	22	27.8636	208	225	203	249			
63	TRT3	26	0	23	18	18	18	18	0.219	6	21	34.0455	206	224	225	244			
64	TRT3	60	2	51	48	47	46	42	0.197	6	26	31.7273	206	225	190	248			

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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,
,                                     LEVEL
,                                     +,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,                                     CONTROL      TRT1      TRT2      TRT3
,                                     +,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,                                     Mean      Mean      Mean      Mean
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,EL                                     ,      47.87,      50.60,      51.75,      43.56,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,EC                                     ,      2.40,      1.00,      1.00,      0.69,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,ES                                     ,      39.93,      44.33,      45.44,      38.38,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,VE                                     ,      37.53,      39.47,      39.88,      32.50,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,LE                                     ,      37.33,      38.93,      39.38,      32.00,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,NH                                     ,      34.73,      36.13,      37.31,      30.75,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,HS                                     ,      33.07,      33.60,      35.75,      27.50,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,ES/EL (%)                             ,      83.09,      87.41,      87.76,      87.29,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,(EL-EC)/EL (%)                         ,      94.49,      98.08,      98.20,      98.72,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,VE/ES (%)                              ,      93.64,      88.63,      86.75,      84.67,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,LE/VE (%)                              ,      99.18,      98.51,      98.73,      98.63,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,NH/EL (%)                              ,      72.53,      71.02,      71.28,      68.87,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,NH/ES (%)                              ,      86.36,      80.94,      81.27,      78.75,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,NH/LE (%)                              ,      92.61,      92.30,      94.97,      94.37,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,HS/ES (%)                              ,      82.02,      75.40,      77.94,      69.61,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,HS/NH (%)                              ,      94.91,      93.19,      96.00,      88.42,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,THICK                                  ,      0.21,      0.22,      0.21,      0.21,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,HATWT                                  ,      6.13,      6.36,      6.20,      5.88,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,SURVWT                                 ,      23.33,      23.14,      23.73,      22.06,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,FOOD                                   ,      29.21,      27.50,      29.70,      31.38,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,POSTM                                  ,      216.40,      227.93,      218.06,      224.06,
+,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
,POSTF                                  ,      250.33,      248.47,      246.13,      231.31,
$,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

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Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

----- LEVEL=CONTROL -----

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Coeff of Variation
EL		15	47.867	9.790	20.452
EC		15	2.400	2.923	121.784
ES		15	39.933	9.852	24.672
VE		15	37.533	10.980	29.253
LE		15	37.333	11.114	29.770
NH		15	34.733	11.100	31.958
HS		15	33.067	10.892	32.940
THICK		15	0.209	0.015	7.296
HATWT		15	6.133	0.352	5.737
SURVWT		15	23.333	2.526	10.826
FOOD		16	29.211	3.027	10.363
PREM		16	199.625	12.811	6.417
POSTM		15	216.400	13.168	6.085
PREF		16	202.500	14.468	7.145
POSTF		15	250.333	22.308	8.911
ES_EL	ES/EL (%)	15	83.087	10.496	12.633
NH_EL	NH/EL (%)	15	72.525	16.102	22.202
ENC_EL	(EL-EC)/EL (%)	15	94.492	7.997	8.463
VE_ES	VE/ES (%)	15	93.643	11.627	12.416
NH_ES	NH/ES (%)	15	86.363	13.350	15.459
HS_ES	HS/ES (%)	15	82.020	13.589	16.567
LE_VE	LE/VE (%)	15	99.177	1.862	1.878
NH_LE	NH/LE (%)	15	92.611	5.748	6.207
HS_NH	HS/NH (%)	15	94.906	4.750	5.005

----- LEVEL=TRT1 -----

Variable	Label	N	Mean	Std Dev	Coeff of Variation
EL		15	50.600	16.070	31.760
EC		15	1.000	1.254	125.357
ES		15	44.333	14.544	32.806
VE		15	39.467	14.207	35.997
LE		15	38.933	14.230	36.550
NH		15	36.133	13.897	38.460
HS		15	33.600	12.872	38.309
THICK		14	0.217	0.008	3.820
HATWT		14	6.357	0.497	7.822
SURVWT		14	23.143	2.381	10.289
FOOD		16	27.498	2.528	9.193
PREM		16	205.875	15.349	7.455
POSTM		15	227.933	20.700	9.082
PREF		16	199.313	11.487	5.764

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

----- LEVEL=TRT1 -----

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Coeff of Variation
ENC_EL	(EL-EC)/EL (%)	14	98.076	2.259	2.303
VE_ES	VE/ES (%)	14	88.625	9.840	11.102
NH_ES	NH/ES (%)	14	80.941	12.604	15.572
HS_ES	HS/ES (%)	14	75.399	12.030	15.955
LE_VE	LE/VE (%)	14	98.513	4.080	4.142
NH_LE	NH/LE (%)	14	92.295	4.892	5.300
HS_NH	HS/NH (%)	14	93.190	4.173	4.478

----- LEVEL=TRT2 -----

Variable	Label	N	Mean	Std Dev	Coeff of Variation
EL		16	51.750	11.463	22.151
EC		16	1.000	1.317	131.656
ES		16	45.438	10.185	22.415
VE		16	39.875	14.505	36.375
LE		16	39.375	14.357	36.462
NH		16	37.313	13.607	36.469
HS		16	35.750	12.882	36.032
THICK		16	0.214	0.013	5.968
HATWT		15	6.200	0.561	9.042
SURVWT		15	23.733	1.831	7.715
FOOD		16	29.696	3.378	11.377
PREM		16	203.313	13.484	6.632
POSTM		16	218.063	17.643	8.091
PREF		16	204.313	10.694	5.234
POSTF		16	246.125	23.366	9.494
ES_EL	ES/EL (%)	16	87.759	2.226	2.537
NH_EL	NH/EL (%)	16	71.277	19.846	27.844
ENC_EL	(EL-EC)/EL (%)	16	98.200	2.256	2.297
VE_ES	VE/ES (%)	16	86.746	23.965	27.627
NH_ES	NH/ES (%)	16	81.269	22.568	27.770
HS_ES	HS/ES (%)	16	77.942	21.554	27.653
LE_VE	LE/VE (%)	15	98.732	1.727	1.749
NH_LE	NH/LE (%)	15	94.968	4.497	4.735
HS_NH	HS/NH (%)	15	96.003	3.797	3.955

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

----- LEVEL=TRT3 -----

The MEANS Procedure

Variable	Label	N	Mean	Std Dev	Coeff of Variation
EL		16	43.563	17.029	39.092
EC		16	0.688	0.946	137.671
ES		16	38.375	15.453	40.267
VE		16	32.500	13.555	41.707
LE		16	32.000	13.312	41.599
NH		16	30.750	13.274	43.168
HS		16	27.500	12.925	47.002
THICK		16	0.210	0.011	5.412
HATWT		16	5.875	0.500	8.511
SURVWT		16	22.063	2.175	9.857
FOOD		16	31.375	4.247	13.535
PREM		16	205.063	8.544	4.166
POSTM		16	224.063	11.463	5.116
PREF		16	199.125	12.722	6.389
POSTF		16	231.313	29.346	12.687
ES_EL	ES/EL (%)	16	87.285	3.740	4.285
NH_EL	NH/EL (%)	16	68.865	8.556	12.425
ENC_EL	(EL-EC)/EL (%)	16	98.715	1.705	1.727
VE_ES	VE/ES (%)	16	84.667	5.157	6.091
NH_ES	NH/ES (%)	16	78.755	8.372	10.631
HS_ES	HS/ES (%)	16	69.613	11.903	17.099
LE_VE	LE/VE (%)	16	98.628	2.145	2.175
NH_LE	NH/LE (%)	16	94.374	8.493	8.999
HS_NH	HS/NH (%)	16	88.416	11.459	12.961

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

1. ANALYSIS OF EGGS LAID

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

1. ANALYSIS OF EGGS LAID

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

1. ANALYSIS OF EGGS LAID

The GLM Procedure

Dependent Variable: EL

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	630.82594	210.27531	1.08
Error	58	11278.27083	194.45295	
Corrected Total	61	11909.09677		

Source Pr > F

Model 0.3642

Error

Corrected Total

R-Square	Coeff Var	Root MSE	EL Mean
0.052970	28.79972	13.94464	48.41935

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	630.8259409	210.2753136	1.08

Source Pr > F

LEVEL 0.3642

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

1. ANALYSIS OF EGGS LAID

The GLM Procedure
Least Squares Means

LEVEL	EL LSMEAN	LSMEAN Number
CONTROL	47.8666667	1
TRT1	50.6000000	2
TRT2	51.7500000	3
TRT3	43.5625000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: EL

i/j	1	2	3	4
1		0.5935	0.4416	0.3940
2	0.5935		0.8193	0.1656
3	0.4416	0.8193		0.1022
4	0.3940	0.1656	0.1022	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

1. ANALYSIS OF EGGS LAID

The GLM Procedure

Tukey's Studentized Range (HSD) Test for EL

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	194.4529
Critical Value of Studentized Range	3.74075

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - TRT1	1.150	-12.106 14.406
TRT2 - CONTROL	3.883	-9.373 17.140
TRT2 - TRT3	8.188	-4.853 21.228
TRT1 - TRT2	-1.150	-14.406 12.106
TRT1 - CONTROL	2.733	-10.735 16.202
TRT1 - TRT3	7.038	-6.219 20.294
CONTROL - TRT2	-3.883	-17.140 9.373
CONTROL - TRT1	-2.733	-16.202 10.735
CONTROL - TRT3	4.304	-8.952 17.561
TRT3 - TRT2	-8.188	-21.228 4.853
TRT3 - TRT1	-7.038	-20.294 6.219
TRT3 - CONTROL	-4.304	-17.561 8.952

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

1. ANALYSIS OF EGGS LAID

The GLM Procedure

Dunnett's One-tailed t Tests for EL

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	194.4529
Critical Value of Dunnett's t	2.10273

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	3.883	-Infinity 14.422
TRT1 - CONTROL	2.733	-Infinity 13.440
TRT3 - CONTROL	-4.304	-Infinity 6.234

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

2. ANALYSIS OF EGGS CRACKED

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

2. ANALYSIS OF EGGS CRACKED

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

2. ANALYSIS OF EGGS CRACKED

The GLM Procedure

Dependent Variable: EC

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	26.8334677	8.9444892	2.87
Error	58	181.0375000	3.1213362	
Corrected Total	61	207.8709677		

Source	Pr > F
Model	0.0443

Error

Corrected Total

R-Square	Coeff Var	Root MSE	EC Mean
0.129087	140.4324	1.766730	1.258065

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	26.83346774	8.94448925	2.87

Source	Pr > F
LEVEL	0.0443

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

2. ANALYSIS OF EGGS CRACKED

The GLM Procedure
Least Squares Means

LEVEL	EC LSMEAN	LSMEAN Number
CONTROL	2.40000000	1
TRT1	1.00000000	2
TRT2	1.00000000	3
TRT3	0.68750000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: EC

i/j	1	2	3	4
1		0.0341	0.0314	0.0091
2	0.0341		1.0000	0.6245
3	0.0314	1.0000		0.6188
4	0.0091	0.6245	0.6188	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

2. ANALYSIS OF EGGS CRACKED

The GLM Procedure

Tukey's Studentized Range (HSD) Test for EC

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

Alpha 0.05
 Error Degrees of Freedom 58
 Error Mean Square 3.121336
 Critical Value of Studentized Range 3.74075

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
CONTROL - TRT1	1.4000	-0.3064 3.1064	
CONTROL - TRT2	1.4000	-0.2795 3.0795	
CONTROL - TRT3	1.7125	0.0330 3.3920	***
TRT1 - CONTROL	-1.4000	-3.1064 0.3064	
TRT1 - TRT2	0.0000	-1.6795 1.6795	
TRT1 - TRT3	0.3125	-1.3670 1.9920	
TRT2 - CONTROL	-1.4000	-3.0795 0.2795	
TRT2 - TRT1	0.0000	-1.6795 1.6795	
TRT2 - TRT3	0.3125	-1.3397 1.9647	
TRT3 - CONTROL	-1.7125	-3.3920 -0.0330	***
TRT3 - TRT1	-0.3125	-1.9920 1.3670	
TRT3 - TRT2	-0.3125	-1.9647 1.3397	

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

2. ANALYSIS OF EGGS CRACKED

The GLM Procedure

Dunnett's One-tailed t Tests for EC

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

Alpha 0.05
Error Degrees of Freedom 58
Error Mean Square 3.121336
Critical Value of Dunnett's t 2.10273

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - CONTROL	-1.4000	-2.7565 Infinity
TRT2 - CONTROL	-1.4000	-2.7351 Infinity
TRT3 - CONTROL	-1.7125	-3.0476 Infinity

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

3. ANALYSIS OF EGGS SET

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

3. ANALYSIS OF EGGS SET

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

3. ANALYSIS OF EGGS SET

The GLM Procedure

Dependent Variable: ES

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	545.02970	181.67657	1.11
Error	58	9457.95417	163.06818	
Corrected Total	61	10002.98387		

Source	Pr > F
Model	0.3508
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	ES Mean
0.054487	30.39265	12.76982	42.01613

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	545.0297043	181.6765681	1.11

Source	Pr > F
LEVEL	0.3508

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

3. ANALYSIS OF EGGS SET

The GLM Procedure
Least Squares Means

LEVEL	ES LSMEAN	LSMEAN Number
CONTROL	39.9333333	1
TRT1	44.3333333	2
TRT2	45.4375000	3
TRT3	38.3750000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: ES

i/j	1	2	3	4
1		0.3493	0.2353	0.7354
2	0.3493		0.8107	0.1993
3	0.2353	0.8107		0.1232
4	0.7354	0.1993	0.1232	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

3. ANALYSIS OF EGGS SET

The GLM Procedure

Tukey's Studentized Range (HSD) Test for ES

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

Alpha 0.05
 Error Degrees of Freedom 58
 Error Mean Square 163.0682
 Critical Value of Studentized Range 3.74075

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - TRT1	1.104	-11.035 13.244
TRT2 - CONTROL	5.504	-6.635 17.644
TRT2 - TRT3	7.063	-4.880 19.005
TRT1 - TRT2	-1.104	-13.244 11.035
TRT1 - CONTROL	4.400	-7.934 16.734
TRT1 - TRT3	5.958	-6.181 18.098
CONTROL - TRT2	-5.504	-17.644 6.635
CONTROL - TRT1	-4.400	-16.734 7.934
CONTROL - TRT3	1.558	-10.581 13.698
TRT3 - TRT2	-7.063	-19.005 4.880
TRT3 - TRT1	-5.958	-18.098 6.181
TRT3 - CONTROL	-1.558	-13.698 10.581

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

3. ANALYSIS OF EGGS SET

The GLM Procedure

Dunnett's One-tailed t Tests for ES

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	163.0682
Critical Value of Dunnett's t	2.10273

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	5.504	-Infinity 15.155
TRT1 - CONTROL	4.400	-Infinity 14.205
TRT3 - CONTROL	-1.558	-Infinity 8.092

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

4. ANALYSIS OF VIABLE EMBRYOS

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

42634001 18:17 Monday, June 25, 2001

4. ANALYSIS OF VIABLE EMBRYOS

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

4. ANALYSIS OF VIABLE EMBRYOS

The GLM Procedure

Dependent Variable: VE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	545.96075	181.98692	1.01
Error	58	10425.21667	179.74511	
Corrected Total	61	10971.17742		

Source Pr > F

Model 0.3938

Error

Corrected Total

R-Square	Coeff Var	Root MSE	VE Mean
0.049763	35.93723	13.40691	37.30645

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	545.9607527	181.9869176	1.01

Source Pr > F

LEVEL 0.3938

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

4. ANALYSIS OF VIABLE EMBRYOS

The GLM Procedure
Least Squares Means

LEVEL	VE LSMEAN	LSMEAN Number
CONTROL	37.5333333	1
TRT1	39.4666667	2
TRT2	39.8750000	3
TRT3	32.5000000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: VE

i/j	1	2	3	4
1		0.6944	0.6288	0.3005
2	0.6944		0.9328	0.1536
3	0.6288	0.9328		0.1252
4	0.3005	0.1536	0.1252	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

4. ANALYSIS OF VIABLE EMBRYOS

The GLM Procedure

Tukey's Studentized Range (HSD) Test for VE

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	179.7451
Critical Value of Studentized Range	3.74075

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - TRT1	0.408	-12.337 13.154
TRT2 - CONTROL	2.342	-10.404 15.087
TRT2 - TRT3	7.375	-5.163 19.913
TRT1 - TRT2	-0.408	-13.154 12.337
TRT1 - CONTROL	1.933	-11.016 14.882
TRT1 - TRT3	6.967	-5.779 19.712
CONTROL - TRT2	-2.342	-15.087 10.404
CONTROL - TRT1	-1.933	-14.882 11.016
CONTROL - TRT3	5.033	-7.712 17.779
TRT3 - TRT2	-7.375	-19.913 5.163
TRT3 - TRT1	-6.967	-19.712 5.779
TRT3 - CONTROL	-5.033	-17.779 7.712

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

4. ANALYSIS OF VIABLE EMBRYOS

The GLM Procedure

Dunnett's One-tailed t Tests for VE

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	179.7451
Critical Value of Dunnett's t	2.10273

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	2.342	-Infinity 12.473
TRT1 - CONTROL	1.933	-Infinity 12.227
TRT3 - CONTROL	-5.033	-Infinity 5.098

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

The GLM Procedure

Dependent Variable: LE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	546.95108	182.31703	1.03
Error	58	10314.01667	177.82787	
Corrected Total	61	10860.96774		

Source	Pr > F
Model	0.3882
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	LE Mean
0.050359	36.16724	13.33521	36.87097

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	546.9510753	182.3170251	1.03

Source	Pr > F
LEVEL	0.3882

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

The GLM Procedure
Least Squares Means

LEVEL	LE LSMEAN	LSMEAN Number
CONTROL	37.3333333	1
TRT1	38.9333333	2
TRT2	39.3750000	3
TRT3	32.0000000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: LE

i/j	1	2	3	4
1		0.7437	0.6717	0.2704
2	0.7437		0.9269	0.1534
3	0.6717	0.9269		0.1232
4	0.2704	0.1534	0.1232	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

The GLM Procedure

Tukey's Studentized Range (HSD) Test for LE

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	177.8279
Critical Value of Studentized Range	3.74075

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - TRT1	0.442	-12.235 13.119
TRT2 - CONTROL	2.042	-10.635 14.719
TRT2 - TRT3	7.375	-5.096 19.846
TRT1 - TRT2	-0.442	-13.119 12.235
TRT1 - CONTROL	1.600	-11.280 14.480
TRT1 - TRT3	6.933	-5.744 19.610
CONTROL - TRT2	-2.042	-14.719 10.635
CONTROL - TRT1	-1.600	-14.480 11.280
CONTROL - TRT3	5.333	-7.344 18.010
TRT3 - TRT2	-7.375	-19.846 5.096
TRT3 - TRT1	-6.933	-19.610 5.744
TRT3 - CONTROL	-5.333	-18.010 7.344

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

5. ANALYSIS OF LIVE 3-WEEK EMBRYOS

The GLM Procedure

Dunnnett's One-tailed t Tests for LE

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	177.8279
Critical Value of Dunnnett's t	2.10273

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	2.042	-Infinity 12.119
TRT1 - CONTROL	1.600	-Infinity 11.839
TRT3 - CONTROL	-5.333	-Infinity 4.744

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

6. ANALYSIS OF NORMAL HATCHLINGS

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

6. ANALYSIS OF NORMAL HATCHLINGS

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

6. ANALYSIS OF NORMAL HATCHLINGS

The GLM Procedure

Dependent Variable: NH

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	389.67003	129.89001	0.76
Error	58	9849.10417	169.81214	
Corrected Total	61	10238.77419		

Source	Pr > F
Model	0.5184
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	NH Mean
0.038058	37.54342	13.03120	34.70968

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	389.6700269	129.8900090	0.76

Source	Pr > F
LEVEL	0.5184

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

6. ANALYSIS OF NCRMAL HATCHLINGS

The GLM Procedure
Least Squares Means

LEVEL	NH LSMEAN	LSMEAN Number
CONTROL	34.7333333	1
TRT1	36.1333333	2
TRT2	37.3125000	3
TRT3	30.7500000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: NH

i/j	1	2	3	4
1		0.7696	0.5840	0.3985
2	0.7696		0.8021	0.2551
3	0.5840	0.8021		0.1597
4	0.3985	0.2551	0.1597	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

6. ANALYSIS OF NORMAL HATCHLINGS

The GLM Procedure

Tukey's Studentized Range (HSD) Test for NH

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	169.8121
Critical Value of Studentized Range	3.74075

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - TRT1	1.179	-11.209 13.567
TRT2 - CONTROL	2.579	-9.809 14.967
TRT2 - TRT3	6.563	-5.624 18.749
TRT1 - TRT2	-1.179	-13.567 11.209
TRT1 - CONTROL	1.400	-11.186 13.986
TRT1 - TRT3	5.383	-7.005 17.771
CONTROL - TRT2	-2.579	-14.967 9.809
CONTROL - TRT1	-1.400	-13.986 11.186
CONTROL - TRT3	3.983	-8.405 16.371
TRT3 - TRT2	-6.563	-18.749 5.624
TRT3 - TRT1	-5.383	-17.771 7.005
TRT3 - CONTROL	-3.983	-16.371 8.405

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

6. ANALYSIS OF NORMAL HATCHLINGS

The GLM Procedure

Dunnett's One-tailed t Tests for NH

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	169.8121
Critical Value of Dunnett's t	2.10273

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	2.579	-Infinity 12.427
TRT1 - CONTROL	1.400	-Infinity 11.405
TRT3 - CONTROL	-3.983	-Infinity 5.865

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

The GLM Procedure

Dependent Variable: HS

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	591.821505	197.273835	1.27
Error	58	8975.533333	154.750575	
Corrected Total	61	9567.354839		

Source	Pr > F
Model	0.2915
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	HS Mean
0.061858	38.33362	12.43988	32.45161

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	591.8215054	197.2738351	1.27

Source	Pr > F
LEVEL	0.2915

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

The GLM Procedure
Least Squares Means

LEVEL	HS LSMEAN	LSMEAN Number
CONTROL	33.0666667	1
TRT1	33.6000000	2
TRT2	35.7500000	3
TRT3	27.5000000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: HS

i/j	1	2	3	4
1		0.9069	0.5507	0.2181
2	0.9069		0.6324	0.1777
3	0.5507	0.6324		0.0657
4	0.2181	0.1777	0.0657	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

The GLM Procedure

Tukey's Studentized Range (HSD) Test for HS

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	154.7506
Critical Value of Studentized Range	3.74075

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - TRT1	2.150	-9.676 13.976
TRT2 - CONTROL	2.683	-9.143 14.509
TRT2 - TRT3	8.250	-3.384 19.884
TRT1 - TRT2	-2.150	-13.976 9.676
TRT1 - CONTROL	0.533	-11.482 12.548
TRT1 - TRT3	6.100	-5.726 17.926
CONTROL - TRT2	-2.683	-14.509 9.143
CONTROL - TRT1	-0.533	-12.548 11.482
CONTROL - TRT3	5.567	-6.259 17.393
TRT3 - TRT2	-8.250	-19.884 3.384
TRT3 - TRT1	-6.100	-17.926 5.726
TRT3 - CONTROL	-5.567	-17.393 6.259

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

7. ANALYSIS OF 14-DAY-OLD SURVIVORS

The GLM Procedure

Dunnett's One-tailed t Tests for HS

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

Alpha	0.05
Error Degrees of Freedom	58
Error Mean Square	154.7506
Critical Value of Dunnett's t	2.10273

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	2.683	-Infinity 12.084
TRT1 - CONTROL	0.533	-Infinity 10.085
TRT3 - CONTROL	-5.567	-Infinity 3.834

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

8. ANALYSIS OF EGGS SET/EGGS LAID

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 61 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

8. ANALYSIS OF EGGS SET/EGGS LAID

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

8. ANALYSIS OF EGGS SET/EGGS LAID

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	100.675586	33.558529	1.66
Error	57	1152.041671	20.211257	
Corrected Total	60	1252.717257		

Source	Pr > F
Model	0.1857
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.080366	6.545915	4.495693	68.67937

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	100.6755856	33.5585285	1.66

Source	Pr > F
LEVEL	0.1857

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

8. ANALYSIS OF EGGS SET/EGGS LAID

The GLM Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	66.4379051	1
TRT1	69.4134309	2
TRT2	69.5608073	3
TRT3	69.2569929	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.0802	0.0582	0.0864
2	0.0802		0.9289	0.9246
3	0.0582	0.9289		0.8491
4	0.0864	0.9246	0.8491	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

8. ANALYSIS OF EGGS SET/EGGS LAID

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha 0.05
Error Degrees of Freedom 57
Error Mean Square 20.21126
Critical Value of Studentized Range 3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - TRT1	0.147	-4.207 4.502
TRT2 - TRT3	0.304	-3.903 4.510
TRT2 - CONTROL	3.123	-1.153 7.399
TRT1 - TRT2	-0.147	-4.502 4.207
TRT1 - TRT3	0.156	-4.198 4.511
TRT1 - CONTROL	2.976	-1.446 7.397
TRT3 - TRT2	-0.304	-4.510 3.903
TRT3 - TRT1	-0.156	-4.511 4.198
TRT3 - CONTROL	2.819	-1.457 7.095
CONTROL - TRT2	-3.123	-7.399 1.153
CONTROL - TRT1	-2.976	-7.397 1.446
CONTROL - TRT3	-2.819	-7.095 1.457

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

8. ANALYSIS OF EGGS SET/EGGS LAID

The GLM Procedure

Dunnnett's One-tailed t Tests for RESPONSE

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

Alpha 0.05
Error Degrees of Freedom 57
Error Mean Square 20.21126
Critical Value of Dunnnett's t 2.10495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	3.123	-Infinity 6.524
TRT1 - CONTROL	2.976	-Infinity 6.492
TRT3 - CONTROL	2.819	-Infinity 6.220

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 61 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	1181.50764	393.83588	2.26
Error	57	9944.47748	174.46452	
Corrected Total	60	11125.98512		

Source	Pr > F
Model	0.0915
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.106194	18.20237	13.20850	72.56473

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	1181.507641	393.835880	2.26

Source	Pr > F
LEVEL	0.0915

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

The GLM Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	79.4315563	1
TRT1	72.4488120	2
TRT2	71.5820558	3
TRT3	67.2111705	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.1603	0.1037	0.0127
2	0.1603		0.8583	0.2831
3	0.1037	0.8583		0.3532
4	0.0127	0.2831	0.3532	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	174.4645
Critical Value of Studentized Range	3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
CONTROL - TRT1	6.983	-6.007	19.973
CONTROL - TRT2	7.850	-4.714	20.413
CONTROL - TRT3	12.220	-0.343	24.783
TRT1 - CONTROL	-6.983	-19.973	6.007
TRT1 - TRT2	0.867	-11.926	13.659
TRT1 - TRT3	5.238	-7.555	18.030
TRT2 - CONTROL	-7.850	-20.413	4.714
TRT2 - TRT1	-0.867	-13.659	11.926
TRT2 - TRT3	4.371	-7.988	16.730
TRT3 - CONTROL	-12.220	-24.783	0.343
TRT3 - TRT1	-5.238	-18.030	7.555
TRT3 - TRT2	-4.371	-16.730	7.988

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

9. ANALYSIS OF VIABLE EMBRYOS/EGGS SETS

The GLM Procedure

Dunnett's One-tailed t Tests for RESPONSE

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

Alpha 0.05
Error Degrees of Freedom 57
Error Mean Square 174.4645
Critical Value of Dunnett's t 2.10495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - CONTROL	-6.983	-Infinity 3.349
TRT2 - CONTROL	-7.850	-Infinity 2.143
TRT3 - CONTROL	-12.220	-Infinity -2.228 ***

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Type I Estimable Functions

Effect		-Coefficients- LEVEL
Intercept		0
LEVEL	CONTRCL	L2
LEVEL	TRT1	L3
LEVEL	TRT2	L4
LEVEL	TRT3	-L2-L3-L4

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	33.465318	11.155106	0.35
Error	56	1775.812806	31.710943	
Corrected Total	59	1809.278123		

Source	Pr > F
Model	0.7880
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.018497	6.502115	5.631247	86.60640

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	33.46531777	11.15510592	0.35

Source	Pr > F
LEVEL	0.7880

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	87.6797277	1
TRT1	86.9646909	2
TRT2	85.9137418	3
TRT3	85.9359996	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.7339	0.3941	0.3926
2	0.7339		0.6175	0.6196
3	0.3941	0.6175		0.9913
4	0.3926	0.6196	0.9913	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	56
Error Mean Square	31.71094
Critical Value of Studentized Range	3.74475

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
CONTROL - TRT1	0.715	-4.826 6.256
CONTROL - TRT3	1.744	-3.615 7.103
CONTROL - TRT2	1.766	-3.679 7.211
TRT1 - CONTROL	-0.715	-6.256 4.826
TRT1 - TRT3	1.029	-4.428 6.486
TRT1 - TRT2	1.051	-4.490 6.592
TRT3 - CONTROL	-1.744	-7.103 3.615
TRT3 - TRT1	-1.029	-6.486 4.428
TRT3 - TRT2	0.022	-5.337 5.381
TRT2 - CONTROL	-1.766	-7.211 3.679
TRT2 - TRT1	-1.051	-6.592 4.490
TRT2 - TRT3	-0.022	-5.381 5.337

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Dunnett's One-tailed t Tests for RESPONSE

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

Alpha 0.05
 Error Degrees of Freedom 56
 Error Mean Square 31.71094
 Critical Value of Dunnett's t 2.10707

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - CONTROL	-0.715	-Infinity 3.694
TRT3 - CONTROL	-1.744	-Infinity 2.521
TRT2 - CONTROL	-1.766	-Infinity 2.567

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	260.148291	86.716097	1.28
Error	56	3779.434846	67.489908	
Corrected Total	59	4039.583137		

Source	Pr > F
Model	0.2885
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.064400	10.58270	8.215224	77.62879

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	260.1482906	86.7160969	1.28

Source	Pr > F
LEVEL	0.2885

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

The GLM Procedure
Least Squares Means

LEVEL	RESPONSE	LSMEAN
	LSMEAN	Number
CONTROL	75.9319095	1
TRT1	75.0631339	2
TRT2	79.2715855	3
TRT3	79.9244286	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.7770	0.2703	0.1817
2	0.7770		0.1735	0.1115
3	0.2703	0.1735		0.8258
4	0.1817	0.1115	0.8258	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 4263-4001

42634001 18:17 Monday, June 25, 2001

11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	56
Error Mean Square	67.48991
Critical Value of Studentized Range	3.74475

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT3 - TRT2	0.653	-7.165 8.471
TRT3 - CONTROL	3.993	-3.826 11.811
TRT3 - TRT1	4.861	-3.100 12.822
TRT2 - TRT3	-0.653	-8.471 7.165
TRT2 - CONTROL	3.340	-4.604 11.283
TRT2 - TRT1	4.208	-3.875 12.292
CONTROL - TRT3	-3.993	-11.811 3.826
CONTROL - TRT2	-3.340	-11.283 4.604
CONTROL - TRT1	0.869	-7.215 8.953
TRT1 - TRT3	-4.861	-12.822 3.100
TRT1 - TRT2	-4.208	-12.292 3.875
TRT1 - CONTROL	-0.869	-8.953 7.215

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

11. ANALYSIS OF NORMAL HATCHLINGS/3-WEEK LIVE EMBRYOS

The GLM Procedure

Dunnett's One-tailed t Tests for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	56
Error Mean Square	67.48991
Critical Value of Dunnett's t	2.10707

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT3 - CONTROL	3.993	-Infinity 10.214
TRT2 - CONTROL	3.340	-Infinity 9.660
TRT1 - CONTROL	-0.369	-Infinity 5.564

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 61 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	63.790894	21.263631	0.19
Error	57	6407.959418	112.420341	
Corrected Total	60	6471.750312		

Source Pr > F

Model 0.9034

Error

Corrected Total

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.009857	18.44895	10.60285	57.47127

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	63.79089417	21.26363139	0.19

Source Pr > F

LEVEL 0.9034

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

The GLM Procedure
 Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	58.9443767	1
TRT1	57.8679673	2
TRT2	57.0097780	3
TRT3	56.2053842	4

Least Squares Means for effect LEVEL
 Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.7855	0.6136	0.4752
2	0.7855		0.9259	0.6701
3	0.6136	0.9259		0.8309
4	0.4752	0.6701	0.8309	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	112.4203
Critical Value of Studentized Range	3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
CONTROL - TRT1	1.077	-9.350 11.505
CONTROL - TRT2	1.935	-8.150 12.019
CONTROL - TRT3	2.739	-7.346 12.824
TRT1 - CONTROL	-1.077	-11.505 9.350
TRT1 - TRT2	0.857	-9.412 11.126
TRT1 - TRT3	1.662	-8.607 11.931
TRT2 - CONTROL	-1.935	-12.019 8.150
TRT2 - TRT1	-0.857	-11.126 9.412
TRT2 - TRT3	0.804	-9.116 10.725
TRT3 - CONTROL	-2.739	-12.824 7.346
TRT3 - TRT1	-1.662	-11.931 8.607
TRT3 - TRT2	-0.804	-10.725 9.116

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

12. ANALYSIS OF NORMAL HATCHLINGS/EGGS LAID

The GLM Procedure

Dunnnett's One-tailed t Tests for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	112.4203
Critical Value of Dunnnett's t	2.10495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - CONTROL	-1.077	-Infinity 7.217
TRT2 - CONTROL	-1.935	-Infinity 6.087
TRT3 - CONTROL	-2.739	-Infinity 5.292

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	721.595941	240.531980	3.29
Error	56	4089.117686	73.019959	
Corrected Total	59	4810.713627		

Source Pr > F

Model 0.0270

Error

Corrected Total

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.149998	11.05675	8.545172	77.28469

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	721.5959407	240.5319802	3.29

Source Pr > F

LEVEL 0.0270

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	79.9048155	1
TRT1	75.7814807	2
TRT2	31.1485586	3
TRT3	72.5212686	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.1994	0.6917	0.0195
2	0.1994		0.0966	0.3016
3	0.6917	0.0966		0.0068
4	0.0195	0.3016	0.0068	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	56
Error Mean Square	73.01996
Critical Value of Studentized Range	3.74475

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
TRT2 - CONTROL	1.244	-7.019 9.506	
TRT2 - TRT1	5.367	-3.041 13.776	
TRT2 - TRT3	8.627	0.495 16.759	***
CONTROL - TRT2	-1.244	-9.506 7.019	
CONTROL - TRT1	4.123	-4.285 12.532	
CONTROL - TRT3	7.384	-0.749 15.516	
TRT1 - TRT2	-5.367	-13.776 3.041	
TRT1 - CONTROL	-4.123	-12.532 4.285	
TRT1 - TRT3	3.260	-5.020 11.541	
TRT3 - TRT2	-8.627	-16.759 -0.495	***
TRT3 - CONTROL	-7.384	-15.516 0.749	
TRT3 - TRT1	-3.260	-11.541 5.020	

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

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

The GLM Procedure

Dunnett's One-tailed t Tests for RESPONSE

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

Alpha 0.05
Error Degrees of Freedom 56
Error Mean Square 73.01996
Critical Value of Dunnett's t 2.10707

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	1.244	-Infinity 7.813
TRT1 - CONTROL	-4.123	-Infinity 2.568
TRT3 - CONTROL	-7.384	-Infinity -0.912 ***

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 61 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	266.783237	88.927746	1.37
Error	57	2710.420271	47.551233	
Corrected Total	60	2977.203509		

Source	Pr > F
Model	0.1449
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.089609	8.244656	6.895740	93.63891

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	266.7832372	88.9277457	1.87

Source	Pr > F
LEVEL	0.1449

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

The GLM Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	80.1339627	1
TRT1	84.1288994	2
TRT2	84.4097071	3
TRT3	85.7232660	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.1245	0.0899	0.0279
2	0.1245		0.9118	0.5295
3	0.0899	0.9118		0.5916
4	0.0279	0.5295	0.5916	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	47.55123
Critical Value of Studentized Range	3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT3 - TRT2	1.316	-5.137 7.768
TRT3 - TRT1	1.596	-3.082 8.275
TRT3 - CONTROL	5.591	-0.967 12.150
TRT2 - TRT3	-1.316	-7.768 5.137
TRT2 - TRT1	0.281	-6.398 6.959
TRT2 - CONTROL	4.276	-2.283 10.835
TRT1 - TRT3	-1.596	-8.275 5.082
TRT1 - TRT2	-0.281	-6.959 6.398
TRT1 - CONTROL	3.995	-2.787 10.777
CONTROL - TRT3	-5.591	-12.150 0.967
CONTROL - TRT2	-4.276	-10.835 2.283
CONTROL - TRT1	-3.995	-10.777 2.787

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 13:17 Monday, June 25, 2001

14. ANALYSIS OF EGGS NOT CRACKED/EGGS LAID

The GLM Procedure

Dunnnett's One-tailed t Tests for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	47.55123
Critical Value of Dunnnett's t	2.10495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT3 - CONTROL	5.591	-Infinity 10.808
TRT2 - CONTROL	4.276	-Infinity 9.492
TRT1 - CONTROL	3.995	-Infinity 9.389

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 61 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	383.115401	127.705467	0.93
Error	57	7790.709714	136.679118	
Corrected Total	60	8173.826115		

Source Pr > F

Model 0.4301

Error

Corrected Total

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.046871	17.83029	11.69098	65.56811

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	383.1154012	127.7054671	0.93

Source Pr > F

LEVEL 0.4301

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

The GLM Procedure
Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	69.6966411	1
TRT1	65.0859953	2
TRT2	64.7964981	3
TRT3	62.8910798	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.2930	0.2484	0.1108
2	0.2930		0.9463	0.6099
3	0.2484	0.9463		0.6466
4	0.1108	0.6099	0.6466	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	136.6791
Critical Value of Studentized Range	3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
CONTROL - TRT1	4.611	-6.887 16.108
CONTROL - TRT2	4.900	-6.220 16.020
CONTROL - TRT3	6.806	-4.314 17.925
TRT1 - CONTROL	-4.611	-16.108 6.887
TRT1 - TRT2	0.289	-11.033 11.612
TRT1 - TRT3	2.195	-9.128 13.518
TRT2 - CONTROL	-4.900	-16.020 6.220
TRT2 - TRT1	-0.289	-11.612 11.033
TRT2 - TRT3	1.905	-9.033 12.844
TRT3 - CONTROL	-6.806	-17.925 4.314
TRT3 - TRT1	-2.195	-13.518 9.128
TRT3 - TRT2	-1.905	-12.844 9.033

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

15. ANALYSIS OF NORMAL HATCHLINGS/EGGS SET

The GLM Procedure

Dunnett's One-tailed t Tests for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	136.6791
Critical Value of Dunnett's t	2.10495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - CONTROL	-4.611	-Infinity 4.534
TRT2 - CONTROL	-4.900	-Infinity 3.944
TRT3 - CONTROL	-6.806	-Infinity 2.039

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 19:17 Monday, June 25, 2001

16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 61 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

The GLM Procedure

Dependent Variable: RESPONSE

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	636.754789	212.251596	1.67
Error	57	7239.776049	127.013615	
Corrected Total	60	7876.530839		

Source Pr > F

Model 0.1834

Error

Corrected Total

R-Square	Coeff Var	Root MSE	RESPONSE Mean
0.080842	18.38163	11.27003	61.31137

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	636.7547992	212.2515964	1.67

Source Pr > F

LEVEL 0.1834

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

The GLM Procedure
 Least Squares Means

LEVEL	RESPONSE LSMEAN	LSMEAN Number
CONTROL	65.9057268	1
TRT1	60.7753076	2
TRT2	61.8813999	3
TRT3	56.9032025	4

Least Squares Means for effect LEVEL
 Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: RESPONSE

i/j	1	2	3	4
1		0.2256	0.3246	0.0302
2	0.2256		0.7895	0.3518
3	0.3246	0.7895		0.2166
4	0.0302	0.3518	0.2166	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

The GLM Procedure

Tukey's Studentized Range (HSD) Test for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	127.0136
Critical Value of Studentized Range	3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
CONTROL - TRT2	4.024	-6.695 14.744
CONTROL - TRT1	5.130	-5.953 16.214
CONTROL - TRT3	9.003	-1.717 19.722
TRT2 - CONTROL	-4.024	-14.744 6.695
TRT2 - TRT1	1.106	-9.809 12.021
TRT2 - TRT3	4.978	-5.567 15.523
TRT1 - CONTROL	-5.130	-16.214 5.953
TRT1 - TRT2	-1.106	-12.021 9.809
TRT1 - TRT3	3.872	-7.043 14.787
TRT3 - CONTROL	-9.003	-19.722 1.717
TRT3 - TRT2	-4.978	-15.523 5.567
TRT3 - TRT1	-3.872	-14.787 7.043

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

16. ANALYSIS OF 14-DAY HATCHLING SURVIVORS/EGGS SET

The GLM Procedure

Dunnnett's One-tailed t Tests for RESPONSE

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	127.0136
Critical Value of Dunnnett's t	2.10495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	-4.024	-Infinity 4.502
TRT1 - CONTROL	-5.130	-Infinity 3.685
TRT3 - CONTROL	-9.003	-Infinity -0.477 ***

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

17. ANALYSIS OF EGGSHELL THICKNESS

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 61 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

17. ANALYSIS OF EGGSHELL THICKNESS

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

17. ANALYSIS OF EGGSHELL THICKNESS

The GLM Procedure

Dependent Variable: THICK

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	0.00051415	0.00017138	1.14
Error	57	0.00854890	0.00014998	
Corrected Total	60	0.00906305		

Source Pr > F

Model 0.3397

Error

Corrected Total

R-Square	Coeff Var	Root MSE	THICK Mean
0.056730	5.761580	0.012247	0.212557

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	0.00051415	0.00017138	1.14

Source Pr > F

LEVEL 0.3397

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

17. ANALYSIS OF EGGSHELL THICKNESS

The GLM Procedure
Least Squares Means

LEVEL	THICK LSMEAN	LSMEAN Number
CONTROL	0.20940000	1
TRT1	0.21692857	2
TRT2	0.21381250	3
TRT3	0.21043750	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: THICK

i/j	1	2	3	4
1		0.1036	0.3203	0.8145
2	0.1036		0.4897	0.1530
3	0.3203	0.4897		0.4389
4	0.8145	0.1530	0.4389	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

17. ANALYSIS OF EGG SHELL THICKNESS

The GLM Procedure

Tukey's Studentized Range (HSD) Test for THICK

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	0.00015
Critical Value of Studentized Range	3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - TRT2	0.003116	-0.008745 0.014977
TRT1 - TRT3	0.006491	-0.005370 0.018352
TRT1 - CONTROL	0.007529	-0.004516 0.019573
TRT2 - TRT1	-0.003116	-0.014977 0.008745
TRT2 - TRT3	0.003375	-0.008084 0.014834
TRT2 - CONTROL	0.004413	-0.007236 0.016061
TRT3 - TRT1	-0.006491	-0.018352 0.005370
TRT3 - TRT2	-0.003375	-0.014834 0.008084
TRT3 - CONTROL	0.001037	-0.010611 0.012686
CONTROL - TRT1	-0.007529	-0.019573 0.004516
CONTROL - TRT2	-0.004413	-0.016061 0.007236
CONTROL - TRT3	-0.001037	-0.012686 0.010611

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

17. ANALYSIS OF EGGSHELL THICKNESS

The GLM Procedure

Dunnnett's One-tailed t Tests for THICK

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

Alpha 0.05
Error Degrees of Freedom 57
Error Mean Square 0.00015
Critical Value of Dunnnett's t 2.10495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - CONTROL	0.007529	-Infinity 0.017108
TRT2 - CONTROL	0.004413	-Infinity 0.013677
TRT3 - CONTROL	0.001037	-Infinity 0.010302

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

18. ANALYSIS OF HATCHLING WEIGHT

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

18. ANALYSIS OF HATCHLING WEIGHT

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

18. ANALYSIS OF HATCHLING WEIGHT

The GLM Procedure

Dependent Variable: HATWT

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	1.83571429	0.61190476	2.62
Error	56	13.09761905	0.23388605	
Corrected Total	59	14.93333333		

Source Pr > F

Model 0.0599

Error

Corrected Total

R-Square	Coeff Var	Root MSE	HATWT Mean
0.122927	7.885071	0.483618	6.133333

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	1.83571429	0.61190476	2.62

Source Pr > F

LEVEL 0.0599

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

18. ANALYSIS OF HATCHLING WEIGHT

The GLM Procedure
Least Squares Means

LEVEL	HATWT LSMEAN	LSMEAN Number
CONTROL	6.13333333	1
TRT1	6.35714286	2
TRT2	6.20000000	3
TRT3	5.87500000	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: HATWT

i/j	1	2	3	4
1		0.2182	0.7072	0.1428
2	0.2182		0.3856	0.0086
3	0.7072	0.3856		0.0667
4	0.1428	0.0086	0.0667	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

18. ANALYSIS OF HATCHLING WEIGHT

The GLM Procedure

Tukey's Studentized Range (HSD) Test for HATWT

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

Alpha	0.05
Error Degrees of Freedom	56
Error Mean Square	0.233886
Critical Value of Studentized Range	3.74475

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
TRT1 - TRT2	0.1571	-0.3187	0.6330	
TRT1 - CONTROL	0.2238	-0.2521	0.6997	
TRT1 - TRT3	0.4821	0.0135	0.9508	***
TRT2 - TRT1	-0.1571	-0.6330	0.3187	
TRT2 - CONTROL	0.0667	-0.4009	0.5343	
TRT2 - TRT3	0.3250	-0.1352	0.7852	
CONTROL - TRT1	-0.2238	-0.6997	0.2521	
CONTROL - TRT2	-0.0667	-0.5343	0.4009	
CONTROL - TRT3	0.2583	-0.2019	0.7186	
TRT3 - TRT1	-0.4821	-0.9508	-0.0135	***
TRT3 - TRT2	-0.3250	-0.7852	0.1352	
TRT3 - CONTROL	-0.2583	-0.7186	0.2019	

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

18. ANALYSIS OF HATCHLING WEIGHT

The GLM Procedure

Dunnett's One-tailed t Tests for HATWT

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

Alpha 0.05
Error Degrees of Freedom 56
Error Mean Square 0.233886
Critical Value of Dunnett's t 2.10707

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

LEVEL		Difference	Simultaneous 95%	
Comparison		Between Means	Confidence Limits	
TRT1	- CONTROL	0.2238	-Infinity	0.6025
TRT2	- CONTROL	0.0667	-Infinity	0.4388
TRT3	- CONTROL	-0.2583	-Infinity	0.1079

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 60 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

The GLM Procedure

Dependent Variable: SURVWT

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	23.9315476	7.9771825	1.59
Error	56	280.9184524	5.0164009	
Corrected Total	59	304.8500000		

Source	Pr > F
Model	0.2020
Error	
Corrected Total	

R-Square	Coeff Var	Rcot MSE	SURVWT Mean
0.078503	9.716843	2.239732	23.05000

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	23.93154762	7.97718254	1.59

Source	Pr > F
LEVEL	0.2020

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

The GLM Procedure
Least Squares Means

LEVEL	SURVWT LSMEAN	LSMEAN Number
CONTROL	23.3333333	1
TRT1	23.1428571	2
TRT2	23.7333333	3
TRT3	22.0625000	4

Least Squares Means for effect LEVEL
Pr > |t| for HC: LSMean(i)=LSMean(j)

Dependent Variable: SURVWT

i/j	1	2	3	4
1		0.8198	0.6267	0.1200
2	0.8198		0.4810	0.1929
3	0.6267	0.4810		0.0425
4	0.1200	0.1929	0.0425	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

The GLM Procedure

Tukey's Studentized Range (HSD) Test for SURVWT

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

Alpha	0.05
Error Degrees of Freedom	56
Error Mean Square	5.016401
Critical Value of Studentized Range	3.74475

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
TRT2 - CONTROL	0.4000	-1.7656	2.5656
TRT2 - TRT1	0.5905	-1.6134	2.7944
TRT2 - TRT3	1.6708	-0.4606	3.8023
CONTROL - TRT2	-0.4000	-2.5656	1.7656
CONTROL - TRT1	0.1905	-2.0134	2.3944
CONTROL - TRT3	1.2708	-0.8606	3.4023
TRT1 - TRT2	-0.5905	-2.7944	1.6134
TRT1 - CONTROL	-0.1905	-2.3944	2.0134
TRT1 - TRT3	1.0804	-1.0900	3.2508
TRT3 - TRT2	-1.6708	-3.8023	0.4606
TRT3 - CONTROL	-1.2708	-3.4023	0.8606
TRT3 - TRT1	-1.0804	-3.2508	1.0900

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

19. ANALYSIS OF 14-DAY SURVIVOR WEIGHT

The GLM Procedure

Dunnett's One-tailed t Tests for SURVWT

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

Alpha 0.05
Error Degrees of Freedom 56
Error Mean Square 5.016401
Critical Value of Dunnett's t 2.10707

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT2 - CONTROL	0.4000	-Infinity 2.1232
TRT1 - CONTROL	-0.1905	-Infinity 1.5633
TRT3 - CONTROL	-1.2708	-Infinity 0.4253

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

20. ANALYSIS OF FOOD CONSUMPTION

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

20. ANALYSIS OF FOOD CONSUMPTION

The GLM Procedure

Type I Estimable Functions

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

20. ANALYSIS OF FOOD CONSUMPTION

The GLM Procedure

Dependent Variable: FOOD

Source	DF	Sum of Squares	Mean Square	F Value
Model	3	122.1304159	40.7101386	3.62
Error	60	675.0274356	11.2504573	
Corrected Total	63	797.1578515		

Source	Pr > F
Model	0.0181
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	FOOD Mean
0.153207	11.39126	3.354170	29.44512

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	122.1304159	40.7101386	3.62

Source	Pr > F
LEVEL	0.0181

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

20. ANALYSIS OF FOOD CONSUMPTION

The GLM Procedure
Least Squares Means

LEVEL	FOOD LSMEAN	LSMEAN Number
CONTROL	29.2114225	1
TRT1	27.4980338	2
TRT2	29.6960231	3
TRT3	31.3750006	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: FOOD

i/j	1	2	3	4
1		0.1537	0.6843	0.0731
2	0.1537		0.0687	0.0018
3	0.6843	0.0687		0.1620
4	0.0731	0.0018	0.1620	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

20. ANALYSIS OF FOOD CONSUMPTION

The GLM Procedure

Tukey's Studentized Range (HSD) Test for FOOD

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

Alpha	0.05
Error Degrees of Freedom	60
Error Mean Square	11.25046
Critical Value of Studentized Range	3.73709
Minimum Significant Difference	3.1337

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits		
TRT3 - TRT2	1.679	-1.455	4.813	
TRT3 - CONTROL	2.164	-0.970	5.297	
TRT3 - TRT1	3.877	0.743	7.011	***
TRT2 - TRT3	-1.679	-4.813	1.455	
TRT2 - CONTROL	0.485	-2.649	3.618	
TRT2 - TRT1	2.198	-0.936	5.332	
CONTROL - TRT3	-2.164	-5.297	0.970	
CONTROL - TRT2	-0.485	-3.618	2.649	
CONTROL - TRT1	1.713	-1.420	4.847	
TRT1 - TRT3	-3.877	-7.011	-0.743	***
TRT1 - TRT2	-2.198	-5.332	0.936	
TRT1 - CONTROL	-1.713	-4.847	1.420	

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

20. ANALYSIS OF FOOD CONSUMPTION

The GLM Procedure

Dunnett's One-tailed t Tests for FOOD

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

Alpha	0.05
Error Degrees of Freedom	60
Error Mean Square	11.25046
Critical Value of Dunnett's t	2.10392
Minimum Significant Difference	2.495

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT3 - CONTROL	2.164	-Infinity 4.659
TRT2 - CONTROL	0.485	-Infinity 2.980
TRT1 - CONTROL	-1.713	-Infinity 0.782

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

The GLM Procedure

Dependent Variable: POSTM

Source	DF	Sum of Squares	Mean Square	F Value
Model	4	10669.39729	2667.34932	26.67
Error	57	5701.52207	100.02670	
Corrected Total	61	16370.91935		

Source	Pr > F
Model	<.0001
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	POSTM Mean
0.651729	4.513304	10.00134	221.5968

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	1304.511022	434.837007	4.35
PREM	1	9364.886267	9364.886267	93.62

Source	Pr > F
LEVEL	0.0079
PREM	<.0001

Source	DF	Type III SS	Mean Square	F Value
LEVEL	3	631.859815	210.619938	2.11
PREM	1	9364.886267	9364.886267	93.62

Source	Pr > F
LEVEL	0.1096
PREM	<.0001

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

The GLM Procedure
Least Squares Means

LEVEL	POSTM LSMEAN	Standard Error	Pr > t	LSMEAN Number
CONTROL	219.906906	2.607644	<.0001	1
TRT1	226.578905	2.586125	<.0001	2
TRT2	217.927567	2.500373	<.0001	3
TRT3	222.179485	2.507896	<.0001	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSmean(i)=LSmean(j)

Dependent Variable: POSTM

i/j	1	2	3	4
1		0.0756	0.5861	0.5346
2	0.0756		0.0194	0.2261
3	0.5861	0.0194		0.2348
4	0.5346	0.2261	0.2348	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

The GLM Procedure

Tukey's Studentized Range (HSD) Test for POSTM

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

Alpha	0.05
Error Degrees of Freedom	57
Error Mean Square	100.0267
Critical Value of Studentized Range	3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
TRT1 - TRT3	3.871	-5.642 13.383	
TRT1 - TRT2	9.871	0.358 19.383	***
TRT1 - CONTROL	11.533	1.868 21.198	***
TRT3 - TRT1	-3.871	-13.383 5.642	
TRT3 - TRT2	6.000	-3.358 15.358	
TRT3 - CONTROL	7.662	-1.850 17.175	
TRT2 - TRT1	-9.871	-19.383 -0.358	***
TRT2 - TRT3	-6.000	-15.358 3.358	
TRT2 - CONTROL	1.662	-7.850 11.175	
CONTROL - TRT1	-11.533	-21.198 -1.868	***
CONTROL - TRT3	-7.662	-17.175 1.850	
CONTROL - TRT2	-1.662	-11.175 7.850	

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

21. COVARIATE ANALYSIS OF MALE BODY WEIGHT

The GLM Procedure

Dunnett's One-tailed t Tests for POSTM

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

Alpha 0.05
Error Degrees of Freedom 57
Error Mean Square 100.0267
Critical Value of Dunnett's t 2.10350

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 .- CONTROL	11.533	-Infinity 19.215
TRT3 - CONTROL	7.662	-Infinity 15.223
TRT2 - CONTROL	1.662	-Infinity 9.223

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

The GLM Procedure

Class Level Information

Class	Levels	Values
LEVEL	4	CONTROL TRT1 TRT2 TRT3

Number of observations 64

NOTE: Due to missing values, only 62 observations can be used in this analysis.

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

The GLM Procedure

Dependent Variable: POSTF

Source	DF	Sum of Squares	Mean Square	F Value
Model	4	15650.29508	3912.57377	7.79
Error	57	28645.91459	502.55991	
Corrected Total	61	44296.20968		

Source	Pr > F
Model	<.0001
Error	
Corrected Total	

R-Square	Coeff Var	Root MSE	POSTF Mean
0.353310	9.191896	22.41785	243.8871

Source	DF	Type I SS	Mean Square	F Value
LEVEL	3	3547.95551	1182.65184	2.35
PREF	1	12102.33957	12102.33957	24.08

Source	Pr > F
LEVEL	0.0816
PREF	<.0001

Source	DF	Type III SS	Mean Square	F Value
LEVEL	3	2819.52784	939.84261	1.87
PREF	1	12102.33957	12102.33957	24.08

Source	Pr > F
LEVEL	0.1449
PREF	<.0001

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

The GLM Procedure
Least Squares Means

LEVEL	POSTF LSMEAN	Standard Error	Pr > t	LSMEAN Number
CONTROL	250.404547	5.788282	<.0001	1
TRT1	249.720541	5.793900	<.0001	2
TRT2	242.436340	5.654644	<.0001	3
TRT3	233.758890	5.626590	<.0001	4

Least Squares Means for effect LEVEL
Pr > |t| for H0: LSMean(i)=LSMean(j)

Dependent Variable: POSTF

i/j	1	2	3	4
1		0.9337	0.3290	0.0437
2	0.9337		0.3734	0.0525
3	0.3290	0.3734		0.2841
4	0.0437	0.0525	0.2841	

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

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

The GLM Procedure

Tukey's Studentized Range (HSD) Test for POSTF

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

Alpha 0.05
Error Degrees of Freedom 57
Error Mean Square 502.5599
Critical Value of Studentized Range 3.74268

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits	
CONTROL - TRT1	1.867	-19.797	23.530
CONTROL - TRT2	4.208	-17.114	25.531
CONTROL - TRT3	19.021	-2.302	40.343
TRT1 - CONTROL	-1.867	-23.530	19.797
TRT1 - TRT2	2.342	-18.981	23.664
TRT1 - TRT3	17.154	-4.168	38.477
TRT2 - CONTROL	-4.208	-25.531	17.114
TRT2 - TRT1	-2.342	-23.664	18.981
TRT2 - TRT3	14.813	-6.163	35.788
TRT3 - CONTROL	-19.021	-40.343	2.302
TRT3 - TRT1	-17.154	-38.477	4.168
TRT3 - TRT2	-14.813	-35.788	6.163

Data Evaluation Report on the Reproductive Effects of H-18, 053 (Chlorsulfuron) on Avian Species *Colinus virginianus*

PMRA Submission Number {.....}

EPA MRID Number 42634001

42634001 18:17 Monday, June 25, 2001

22. COVARIATE ANALYSIS OF FEMALE BODY WEIGHT

The GLM Procedure

Dunnett's One-tailed t Tests for POSTF

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

Alpha 0.05
 Error Degrees of Freedom 57
 Error Mean Square 502.5599
 Critical Value of Dunnett's t 2.10350

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

LEVEL Comparison	Difference Between Means	Simultaneous 95% Confidence Limits
TRT1 - CONTROL	-1.867	-Infinity 15.352
TRT2 - CONTROL	-4.208	-Infinity 12.739
TRT3 - CONTROL	-19.021	-Infinity -2.073 ***