DATA EVALUATION RECORD
AQUATIC INVERTEBRATE LIFE CYCLE TEST
§ 72-4(e)

1. CHEMICAL: Penoxsulam  
   PC Code No.: 99031

2. TEST MATERIAL: XDE-638  
   Purity: 97.7% 

3. CITATION:
   Authors: Boeri, R.L., and T.J. Ward
   Title: XDE-638: Chronic Toxicity Test to the Mysid, *Americamysis bahia*
   Study Completion Date: December 21, 2001
   Laboratory: T.R. Wilbury Laboratories, Inc.
   40 Doaks Lane
   Marblehead, Massachusetts 01945
   Sponsor: The Dow Chemical Company
   Midland, Michigan 48674
   for Dow AgroSciences LLC
   Indianapolis, Indiana 46268
   Laboratory Report ID: 2202-DO (Dow Study No. 010060)
   MRID No.: 45831028
   DP Barcode: D288160

4. REVIEWED BY: Rebecca Bryan, Staff Scientist, Dynamac Corporation
   Signature:  
   Date: 10/31/03
   APPROVED BY: Christie E. Padova, B.S., Staff Scientist, Dynamac Corporation
   Signature:  
   Date: 10/31/03

5. APPROVED BY: William Erickson, Biologist, OPP/EFED/ERB  
   Signature:  
   Date: 4/7/04

   2051768
6. STUDY PARAMETERS:

   Scientific Name of Test Organisms: *Americamysis bahia*
   
   Age of Test Organism: < 24 hours old
   
   Definitive Test Duration: 28 days
   
   Study Method: Flow-through
   
   Type of Concentrations: Mean-measured

7. CONCLUSIONS:

In a 28-day life-cycle test, *Americamysis bahia* neonates were exposed under flow-through conditions to XDE-638 (penoxsulam) at mean-measured concentrations to <0.0881 (LOD, control), 8.08, 15.2, 29.4, 59.3, and 119 ppm a.i. Prior to sexual maturity and pairing, there were 60 mysids/level: 15 mysids/compartment, 2 compartments/aquarium, and 2 replicate test aquaria/level. On Day 14, up to 20 pair/level were isolated for individual matings; the remainder of first-generation mysids were group retained. First-generation mysids were observed for mortality and signs of abnormal behavior once daily throughout the study. Once daily during the reproduction period (Days 16-28), second-generation mysids were counted and discarded. Data endpoints included percent survival of first-generation mysids at study termination (Day 28; combined sexes), number of young produced per female, and length, wet weight, and dry weight of surviving first-generation mysids (Day 28; sex-specific and combined sexes).

The dry weights of males were statistically-reduced at all treatment levels compared to the control. Dry weights averaged 0.64 mg for the negative control group, and ranged from 0.46 to 0.54 mg for the treatment groups. In addition, a treatment-related reduction in length was observed in combined sexes at the 119 ppm a.i. test level compared to the control group (8.4 versus 9.2 mm). No other treatment-related effects were observed during the study.

**Based on significant reductions in dry weights of males, the LOAEC was 8.08 ppm a.i.. The NOAEC was not established, because reductions were found at 8.08 ppm a.i., the lowest measured concentration studied.**

This study is scientifically sound. However, since the survival of male mysids following pairing was not monitored, since offspring were not maintained and observed for 4 days, and since a NOAEC was not established, this study does not fulfill the guideline requirements for an aquatic invertebrate life-cycle toxicity test using the *Americamysis bahia* (72-4c), and is classified Supplemental, but it need not be repeated.
Results Synopsis:

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>NOAEC</th>
<th>LOAEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Survival (Day 28)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Reproduction (no. young/female)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Female Length (mm)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Male Length (mm)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Combined Length (mm)</td>
<td>59.3 ppm a.i.</td>
<td>119 ppm a.i.</td>
</tr>
<tr>
<td>Female Dry Weight (mg)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Male Dry Weight (mg)</td>
<td>&lt;8.08 ppm a.i.</td>
<td>8.08 ppm a.i.</td>
</tr>
<tr>
<td>Combined Dry Weight (mg)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Female Wet Weight (mg)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Male Wet Weight (mg)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Combined Wet Weight (mg)</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
</tbody>
</table>

8. ADEQUACY OF THE STUDY:

A. Classification: Supplemental

B. Rationale: Survival of male mysids following pairing were not provided; second-generation mysids were not observed daily for at least 4 days for survival, development, and behavior; and a NOAEC was not established.

C. Repairability: N/A
9. GUIDELINE DEVIATIONS:

I. The parental stock were apparently not maintained separately from the brood stock.

II. The temperature (23.6-26.8°C) was slightly lower than recommended (27°C).

III. The pH range (7.3-8.0) was slightly lower than recommended (7.6-8.2).

IV. Following pairing, the survival of males as well as reproductive females should have been recorded.

V. Except for survival, toxic effects of second-generation mysids were not addressed in the study.

VI. Terminal growth endpoints should have been evaluated using each sex. However, since the raw data were provided, the reviewer was able to statistically analyze terminal growth for each sex.

VII. A NOAEC was not established, because reductions in male weight were found at 8.08 ppm a.i., the lowest measured concentration studied.

10. SUBMISSION PURPOSE: This study was submitted to provide data on the toxicity of XDE-638 (penoxsulam) to the mysid life cycle for the purpose of chemical registration.

11. MATERIALS AND METHODS:

A. Test Organisms/Acclimation

<table>
<thead>
<tr>
<th>Guideline Criteria</th>
<th>Reported Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Species</strong></td>
<td></td>
</tr>
<tr>
<td>An estuarine shrimp species, preferably</td>
<td><em>Americanysis bahia</em></td>
</tr>
<tr>
<td><em>Americanysis bahia</em></td>
<td></td>
</tr>
<tr>
<td><strong>Source/Supplier</strong></td>
<td>Juveniles were collected from in-house laboratory cultures (maintained since July 2001).</td>
</tr>
<tr>
<td>Guideline Criteria</td>
<td>Reported Information</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Age at Beginning of Test</td>
<td>&lt;24 hours old</td>
</tr>
<tr>
<td>Parental Acclimation</td>
<td>An isolated brood stock was apparently not maintained. The mysids were maintained under flow-through conditions, and were not treated for disease and were free of apparent disease, injuries, and abnormalities. Mortality was &lt;3% during the 48 hours preceding the definitive study.</td>
</tr>
<tr>
<td>Parental Acclimation Period</td>
<td>Continuous</td>
</tr>
<tr>
<td>Brood Stock</td>
<td>At test initiation, juvenile mysids were collected from the culture stock that was maintained in the laboratory under the same conditions used in the definitive test.</td>
</tr>
</tbody>
</table>

**B. Test System**

<table>
<thead>
<tr>
<th>Guideline Criteria</th>
<th>Reported Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Source of Dilution Water</td>
<td>Natural seawater collected at T.R. Wilbur Laboratories in Marblehead, MA, was adjusted to 15-17% salinity using deionized water. The dilution water was aerated, filtered, and UV-sterilized prior to use.</td>
</tr>
</tbody>
</table>

Results of chemical characterization of the dilution water (December 2000) are provided in Table 1, p. 12.
<table>
<thead>
<tr>
<th>Guideline Criteria</th>
<th>Reported Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Does water support test animals without observable signs of stress?</td>
<td>Yes</td>
</tr>
<tr>
<td>Water Temperature</td>
<td></td>
</tr>
<tr>
<td>27°C for mysids</td>
<td>Target: 25 ± 2°C</td>
</tr>
<tr>
<td>- At test termination, mean-measured temperature for each chamber should be</td>
<td>Actual range: 23.6-26.8°C (25.2°C mean)</td>
</tr>
<tr>
<td>within 1°C of selected test temperature.</td>
<td>- Raw data not provided, so criteria were not assessed; however, the overall temperature range was within 3°C of the mean.</td>
</tr>
<tr>
<td>- Must be within 3°C of the mean of the time-weighted averages.</td>
<td></td>
</tr>
<tr>
<td>- Must not differ by &gt;2°C between chambers during the same interval.</td>
<td></td>
</tr>
<tr>
<td>Salinity</td>
<td>15-17%</td>
</tr>
<tr>
<td>15-30 ‰</td>
<td></td>
</tr>
<tr>
<td>- The difference between highest and lowest measured salinities should be less</td>
<td></td>
</tr>
<tr>
<td>than 5 ‰.</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>7.3-8.0</td>
</tr>
<tr>
<td>7.6 and 8.2</td>
<td></td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>6.6-7.7 mg/L (≥75% saturation).</td>
</tr>
<tr>
<td>60-100% saturation</td>
<td></td>
</tr>
<tr>
<td>Photoperiod</td>
<td>16 hours light, 8 hours dark, with a 15-minute transition period.</td>
</tr>
<tr>
<td>16-hr light/8-hr dark</td>
<td></td>
</tr>
<tr>
<td>(14-hr light/10-hr dark also acceptable)</td>
<td></td>
</tr>
<tr>
<td>Test Chambers</td>
<td>1. Glass aquaria</td>
</tr>
<tr>
<td>1. Material:</td>
<td>2. 21 x 40 x 25 cm (20 L)</td>
</tr>
<tr>
<td>All glass, No. 316 stainless steel, or perfloarocarbon plastic</td>
<td>3. 4- to 6-cm (up to 5 L fill volume).</td>
</tr>
<tr>
<td>2. Size:</td>
<td></td>
</tr>
<tr>
<td>Typically 30 x 45 x 15 cm (20.25 L)</td>
<td></td>
</tr>
<tr>
<td>3. Fill depth:</td>
<td></td>
</tr>
<tr>
<td>10 cm</td>
<td></td>
</tr>
<tr>
<td>Guideline Criteria</td>
<td>Reported Information</td>
</tr>
<tr>
<td>--------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>4. Were chambers identical and covered during the test?</td>
<td>4. Yes, loosely covered</td>
</tr>
<tr>
<td><strong>Test Compartments (within chambers)</strong></td>
<td></td>
</tr>
<tr>
<td>- 250-mL glass beakers with side cutouts covered with nylon mesh or stainless steel screen, or</td>
<td>- Test compartments were 10-cm diameter glass Petri dishes with 12-cm high collar of Nitex® screen.</td>
</tr>
<tr>
<td>- 90- or 140-mm id glass Petri dish bottoms with collars made of 200-250 µm mesh screen</td>
<td>- Reproductive compartments were 6-cm glass petri dishes with 12-cm high collar of Nitex® screen.</td>
</tr>
<tr>
<td><strong>Type of Dilution System</strong></td>
<td></td>
</tr>
<tr>
<td>Intermittent flow proportional diluters or continuous flow serial diluters should be used.</td>
<td>An intermittent-flow proportional diluter was used to deliver each concentration of the test substance and a negative (saltwater) control.</td>
</tr>
<tr>
<td><strong>Toxicant Mixing</strong></td>
<td></td>
</tr>
<tr>
<td>1. Mixing chamber is recommended but not required; aeration should not be used for mixing.</td>
<td>1. Not reported.</td>
</tr>
<tr>
<td>2. If a mixing chamber was not employed, was it demonstrated that the test solution was completely mixed before introduction into the test system?</td>
<td>2. The diluter was in operation for approximately 50 hours prior to the introduction of mysids.</td>
</tr>
<tr>
<td>3. Was flow splitting accuracy within 10%?</td>
<td>3. Not reported.</td>
</tr>
<tr>
<td><strong>Flow Rate</strong></td>
<td></td>
</tr>
<tr>
<td>1. 5-10 volume additions per 24 hours.</td>
<td>1. 7.8 volume additions/day</td>
</tr>
<tr>
<td>2. Did the flow rate maintain the toxicant level and the DO at ≥60% of saturation?</td>
<td>2. Yes</td>
</tr>
<tr>
<td>3. Were the meter systems calibrated before study and checked twice daily during test period?</td>
<td>3. Yes</td>
</tr>
<tr>
<td><strong>Solvents</strong></td>
<td></td>
</tr>
<tr>
<td>- Acceptable solvents include triethylene glycol, methanol, acetone, and methanol.</td>
<td>No solvents were used.</td>
</tr>
<tr>
<td>Guideline Criteria</td>
<td>Reported Information</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------</td>
</tr>
<tr>
<td>- Solvent should not exceed 0.1 mL/L in a flow-through system.</td>
<td></td>
</tr>
<tr>
<td><strong>Aeration</strong></td>
<td></td>
</tr>
<tr>
<td>Dilution water should be vigorously aerated, but the test tanks should not be</td>
<td>The dilution water was aeration prior to use. The test chambers were not</td>
</tr>
<tr>
<td>aerated</td>
<td>aerated.</td>
</tr>
</tbody>
</table>


### C. Test Design

<table>
<thead>
<tr>
<th>Guideline Criteria</th>
<th>Reported Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Duration of the Test</strong>&lt;br&gt;Approximately 28 days.</td>
<td>28 days &lt;br&gt;No, the study duration was adequate. The first brood release occurred on Day 16 (p. 14).</td>
</tr>
<tr>
<td><strong>Nominal Concentrations</strong>&lt;br&gt;Negative control, a solvent control (when applicable), and at least five treatment levels, one of which must adversely affect a life stage and one must not affect any life stage. The dilution factor should not be &gt;50%.</td>
<td>Nominal test concentrations were 0 (negative control), 8.4, 16, 30, 60, and 120 ppm.</td>
</tr>
<tr>
<td><strong>Distribution</strong>&lt;br&gt;Number of mysids before pairing: Minimum of 15 mysids per compartment, 2 compartments per chamber, 2 chambers per concentration for a total of 60/treatment level. Number of mysids after pairing: ≥20 randomly selected pairs/treatment (excess males should be held in separate compartment in same treatment to replace paired males).</td>
<td>60 mysids/level: 15 mysids/compartment, 2 compartments/aquarium, and 2 replicate test aquaria/level. &lt;br&gt;Up to 20 pair/level: 1 pair/compartment, up to 10 compartments/aquarium, and 2 replicate test aquaria/level. &lt;br&gt;Extra, unpaired mysids were maintained in two extra compartments per aquarium.</td>
</tr>
<tr>
<td><strong>Pairing</strong>&lt;br&gt;Should be conducted when most of the mysids are sexually mature, usually 10-14 days after test initiation. All pairing should occur on the same day.</td>
<td>Female and male adults were paired on Day 14 and reproduction was monitored from Days 16 (first offspring produced) through 28.</td>
</tr>
<tr>
<td><strong>Test organisms randomly or impartially assigned to test vessels?</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Were treatments randomly assigned to individual test chamber locations?</strong></td>
<td>Yes</td>
</tr>
<tr>
<td>Guideline Criteria</td>
<td>Reported Information</td>
</tr>
<tr>
<td>--------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td><strong>Feeding</strong></td>
<td>Mysids were fed live brine shrimp <em>Artemia salina</em> nauplii, <em>ad libitum</em>, 3 times/day (150 to 600 <em>Artemia</em> per mysid per day) during the test, except during the final 24 hours of the test.</td>
</tr>
<tr>
<td>Counts</td>
<td>Yes</td>
</tr>
<tr>
<td>Live adult mysids should be counted at initiation, at pairing, and daily after pairing.</td>
<td>Yes</td>
</tr>
<tr>
<td>Live young must be counted and removed daily.</td>
<td>Missing mysids were reported (one in control).</td>
</tr>
<tr>
<td>Missing or impinged animals should be recorded.</td>
<td>A negative saltwater control was used. No solvents were used.</td>
</tr>
<tr>
<td>Controls</td>
<td></td>
</tr>
<tr>
<td>Negative control and carrier control (when applicable) are required.</td>
<td>1. Temperature was measured daily in each replicate test vessel, and continuously in one negative control test vessel.</td>
</tr>
<tr>
<td><strong>Water Parameter Measurements</strong></td>
<td></td>
</tr>
<tr>
<td>1. Temperature should be monitored daily in one chamber and at least three times in all chambers.</td>
<td>Samples for HPLC analysis were collected from alternating replicate test vessels on</td>
</tr>
<tr>
<td>2. Salinity should be measured daily in at least one test vessel.</td>
<td></td>
</tr>
<tr>
<td>3. pH should be measured at the beginning, the end, and at least weekly during the test in the control vessels and highest test level.</td>
<td></td>
</tr>
<tr>
<td>4. Dissolved oxygen must be measured at each concentration at least once a week.</td>
<td></td>
</tr>
<tr>
<td><strong>Chemical Analysis</strong></td>
<td></td>
</tr>
<tr>
<td>Toxicant concentration must be measured in one chamber at each toxicant level every week.</td>
<td></td>
</tr>
</tbody>
</table>
12. REPORTED RESULTS

A. General Results

<table>
<thead>
<tr>
<th>Guideline Criteria</th>
<th>Reported Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Quality assurance and GLP compliance statements were included in the report?</strong></td>
<td><strong>Yes</strong></td>
</tr>
<tr>
<td><strong>Chemical Analysis</strong></td>
<td><strong>Mean-measured concentrations were &lt;0.0881 (LOQ, control), 8.08, 15.2, 29.4, 59.3, and 119 ppm a.i. (Table 2, p. 19).</strong></td>
</tr>
<tr>
<td>For all test groups,</td>
<td>A low level of variability existed among sample results (all high-low ratios of 1.1).</td>
</tr>
<tr>
<td>a) the measured concentration of the test material should not be &lt;50% of the time-</td>
<td></td>
</tr>
<tr>
<td>weighted average measured concentration for &gt;10% of the duration of the test, and</td>
<td></td>
</tr>
<tr>
<td>b) the measured concentration should not be &gt;30% of the time-weighted average</td>
<td></td>
</tr>
<tr>
<td>measured concentration for &gt;5% of the duration of the test.</td>
<td></td>
</tr>
<tr>
<td><strong>Controls</strong></td>
<td><strong>- All criteria met.</strong></td>
</tr>
<tr>
<td>- Survival of the paired first-generation controls must be ≥70%.</td>
<td></td>
</tr>
<tr>
<td>- ≥75% of the paired first-generation female controls produced young, or</td>
<td></td>
</tr>
<tr>
<td>- The average number of young produced by the first-generation female controls was</td>
<td></td>
</tr>
<tr>
<td>≥3.</td>
<td></td>
</tr>
<tr>
<td><strong>Data Endpoints Must Include</strong></td>
<td><strong>1. Total survival of first-generation mysids, and of females paired for reproduction.</strong></td>
</tr>
<tr>
<td>1. Survival of first-generation mysids, sex specified</td>
<td><strong>2. Number of live young produced per female</strong></td>
</tr>
<tr>
<td>2. Number of live young produced per female</td>
<td><strong>3. Weights (wet and dry) and length of</strong></td>
</tr>
<tr>
<td>3. Dry weight and length of each first</td>
<td></td>
</tr>
<tr>
<td>Guideline Criteria</td>
<td>Reported Information</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>generation mysid alive at the end of the test, sex specified</td>
<td>each first generation living at end of test, but not sex specific (raw data were sex-</td>
</tr>
<tr>
<td></td>
<td>specific; however, data were combined by the study authors for statistical analyses)</td>
</tr>
<tr>
<td><strong>Data Endpoints Should Also Include</strong></td>
<td></td>
</tr>
<tr>
<td>4. Incidence of morphological findings.</td>
<td>4. Incidence of sub-lethal effects pertaining to behavior or appearance.</td>
</tr>
<tr>
<td>days.</td>
<td></td>
</tr>
<tr>
<td><strong>Raw data must include</strong></td>
<td>1. Daily survival of first-generation mysids, not sex-specific, and of reproductive</td>
</tr>
</tbody>
</table>
### Effects Data

<table>
<thead>
<tr>
<th>Concentration (ppm a.i.)</th>
<th>Survival Day 14</th>
<th>Survival Day 28</th>
<th>Reproduction, Days 16-28</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean Measured (% nominal)</td>
<td></td>
<td>Total No. of Young</td>
</tr>
<tr>
<td></td>
<td>and</td>
<td></td>
<td>and</td>
</tr>
<tr>
<td>Control</td>
<td>&lt;0.0881 (56/60)</td>
<td>NR</td>
<td>100 (17/17)</td>
</tr>
<tr>
<td>8.4</td>
<td>8.08 (96) (59/60)</td>
<td>NR</td>
<td>100 (20/20)</td>
</tr>
<tr>
<td>16</td>
<td>15.2 (95) (56/60)</td>
<td>NR</td>
<td>85 (17/20)</td>
</tr>
<tr>
<td>30</td>
<td>29.4 (98) (57/60)</td>
<td>NR</td>
<td>65 (11/17)</td>
</tr>
<tr>
<td>60</td>
<td>59.3 (99) (54/60)</td>
<td>NR</td>
<td>85 (17/20)</td>
</tr>
<tr>
<td>120</td>
<td>119 (99) (56/60)</td>
<td>NR</td>
<td>95 (19/20)</td>
</tr>
</tbody>
</table>

NR = Survival of male mysids was not reported and could not be derived from the provided data tables by the reviewer.

1. Mortality of females following pairing.
2. Reviewer-calculated from replicate data (Table A.3, p. 29).

### Growth, Day 28

<table>
<thead>
<tr>
<th>Mean Length, mm</th>
<th>Mean Wet Weight, mg</th>
<th>Mean Dry Weight, mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>and</td>
<td>and</td>
</tr>
<tr>
<td>9.1</td>
<td>9.3</td>
<td>9.2</td>
</tr>
<tr>
<td>9.0</td>
<td>9.0</td>
<td>9.0</td>
</tr>
<tr>
<td>9.0</td>
<td>9.2</td>
<td>9.1</td>
</tr>
<tr>
<td>8.8</td>
<td>8.9</td>
<td>8.8</td>
</tr>
<tr>
<td>9.1</td>
<td>8.5</td>
<td>8.9</td>
</tr>
<tr>
<td>8.4</td>
<td>8.4</td>
<td>8.4</td>
</tr>
</tbody>
</table>

*Statistically-different (α=0.05) from control; only combined-sexes data were statistically analyzed by the study authors.
B. Statistical Results:

Statistical analyses were performed on survival of the first-generation mysids (Day 28), number of young per surviving female, mean terminal length (combined sexes), and mean terminal wet and dry weights (combined sexes) via TOXSTAT statistical software (Version 3.3; Gulley et al., 1990). Analyses included Bartlett’s Test (evaluation of homogeneity) and Chi square test (assessment of normality). ANOVA and Dunnett’s or William’s tests were then used to compare treatments to the control. The NOAEC and LOAEC were determined from significance data. The MATC was calculated as the geometric mean of the NOAEC and LOAEC. Mean-measured concentrations were used for all estimations.

Most sensitive endpoint: Dry weight (combined sexes).

Results Synopsis

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Method</th>
<th>NOAEC</th>
<th>LOAEC</th>
<th>MATC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survival (Day 28)</td>
<td>ANOVA, Dunnett’s or</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Reproduction</td>
<td>Williams</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>(no. young/ female)</td>
<td>ANOVA, Dunnett’s or</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Length (mm)</td>
<td>Williams</td>
<td>59.3 ppm a.i.</td>
<td>119 ppm a.i.</td>
<td>84.0 ppm a.i.</td>
</tr>
<tr>
<td>Wet Weight (g)</td>
<td>ANOVA, Dunnett’s or</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Dry Weight (g)</td>
<td>Williams</td>
<td>29.4 ppm a.i.</td>
<td>59.3 ppm a.i.</td>
<td>41.8 ppm a.i.</td>
</tr>
</tbody>
</table>

1The statistical method was either the Dunnett’s or the William’s Test (not specified).

13. VERIFICATION OF STATISTICAL RESULTS:

Statistical Method: Endpoints statistically assessed included percent survival (Day 28), reproduction (number of young per female), and terminal lengths, and wet and dry weights. Length, wet weight, and dry weight data were analyzed for males and females separately, as well as for combined sexes. With the exception of percent survival and male and female length, data for all endpoints were determined to be normally distributed.
and the variances were homogeneous. The NOAEC and LOAEC for these endpoints were determined using ANOVA, and if necessary, followed by Dunnett's (non-monotonic response) or William's (monotonic response) tests. The NOAEC and LOAEC for data which did not meet the assumptions of ANOVA (and which could not be transformed to satisfy these assumptions) were determined using the non-parametric Kruskal-Wallis test. These analyses were conducted using TOXSTAT statistical software using mean-measured concentrations.

Most sensitive endpoint: Male dry weights.

### Results Synopsis

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Method</th>
<th>NOAEC</th>
<th>LOAEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adult Survival (Day 28)</td>
<td>Kruskal-Wallis</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Reproduction (no. young/ female)</td>
<td>ANOVA/Dunnett's</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Female Length (mm)</td>
<td>Kruskal-Wallis</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Male Length (mm)</td>
<td>Kruskal-Wallis</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Combined Length (mm)</td>
<td>ANOVA/Dunnett's</td>
<td>59.3 ppm a.i.</td>
<td>119 ppm a.i.</td>
</tr>
<tr>
<td>Female Dry Weight (mg)</td>
<td>ANOVA/Dunnett's</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Male Dry Weight (mg)</td>
<td>ANOVA/Dunnett's</td>
<td>&lt;8.08 ppm a.i.</td>
<td>8.08 ppm a.i.</td>
</tr>
<tr>
<td>Combined Dry Weight (mg)</td>
<td>ANOVA/Dunnett's</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Female Wet Weight (mg)</td>
<td>ANOVA/Dunnett's</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Male Wet Weight (mg)</td>
<td>ANOVA/Dunnett's</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
<tr>
<td>Combined Wet Weight (mg)</td>
<td>ANOVA/Dunnett's</td>
<td>119 ppm a.i.</td>
<td>&gt;119 ppm a.i.</td>
</tr>
</tbody>
</table>

14. REVIEWER'S COMMENTS:

The reviewer's conclusions differed from the study authors'. The reviewer's analysis included sex-specific terminal growth measurements, and determined that male dry
weight was the most sensitive endpoint, with significant reductions from control occurring at all treatment levels. The study authors’ analysis determined that dry weight (male and females combined) was the most sensitive endpoint, with significant reductions occurring only at the 59.3 ppm a.i. treatment level. The study authors did not analyze growth parameters separately by sex and, so, did not detect the extent to which male dry weight was adversely affected by treatment with XDE-638. The reviewer’s results are reported in the Conclusions section.

This study is scientifically sound. However, deviations from FIFRA Guideline §72-4c included the failure to report survival of first-generation male mysids (following pairing), failure to observed second-generation mysids for 4 days, and failure to establish a NOAEC. As a result, this study does not fulfill the guideline requirement for an aquatic invertebrate life-cycle toxicity test using an estuarine shrimp and is classified Supplemental, but it need not be repeated.

No insoluble test material was observed in any test aquarium during the study (p. 18).

One control mysid was lost during pairing transfer.

The LOD was 0.0264 ppm a.i., and the LOQ was 0.0881 ppm a.i. (p. 16).

This study conformed with Good Laboratory Practice Standards as published by the U.S. Environmental Protection Agency, Office of Pesticide Programs in 40 CFR Part. 160; OECD Principles for Good Laboratory Practice; and Japan MAFF Good Laboratory Practice Standards for Toxicological Studies on Agricultural Chemicals. A Quality Assurance Statement was provided.
15. REFERENCES:


16. RESULTS OF STATISTICAL VERIFICATION:

% survival
File: 1028s Transform: NO TRANSFORM

**KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>TRANSFORMED MEAN</th>
<th>CALCULATED IN RANK</th>
<th>MEAN</th>
<th>ORIGINAL UNITS</th>
<th>SUM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
<td>81.500</td>
<td>81.500</td>
<td>17.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>8.08</td>
<td>83.000</td>
<td>20.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>15.2</td>
<td>68.000</td>
<td>12.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>29.4</td>
<td>55.000</td>
<td>6.000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>59.3</td>
<td>73.500</td>
<td>10.500</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>119</td>
<td>75.000</td>
<td>12.500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Calculated H Value = 4.825  Critical H Value Table = 11.070
Since Calc H < Crit H FAIL TO REJECT Ho: All groups are equal.

% survival
File: 1028s Transform: NO TRANSFORM

**DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>TRANSFORMED MEAN</th>
<th>ORIGINAL MEAN</th>
<th>0 0 0 0 0 0</th>
<th>IDENTIFICATION</th>
<th>MEAN</th>
<th>MEAN</th>
<th>4 3 5 6 1 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>29.4</td>
<td>55.000</td>
<td>55.000</td>
<td>\</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15.2</td>
<td>68.000</td>
<td>68.000</td>
<td>\</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>73.500</td>
<td>73.500</td>
<td>\</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>75.000</td>
<td>75.000</td>
<td>\</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>control</td>
<td>81.500</td>
<td>81.500</td>
<td>\</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>83.000</td>
<td>83.000</td>
<td>\</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* = significant difference (p=0.05)  . = no significant difference
Table q value (0.05,6) = 2.936  SE = 3.548

young/female/day
File: 1028y Transform: NO TRANSFORMATION

**ANOVA TABLE**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>5</td>
<td>24.477</td>
<td>4.895</td>
<td>1.863</td>
</tr>
<tr>
<td>Within (Error)</td>
<td>6</td>
<td>15.760</td>
<td>2.627</td>
<td></td>
</tr>
</tbody>
</table>
Total 11 40.237

Critical F value = 4.39 (0.05, 5, 6)
Since F < Critical F  FAIL TO REJECT Ho: All groups equal

young/female/day
File: 1028y  Transform: NO TRANSFORMATION

DUNNETTS TEST  -  TABLE 1 OF 2  Ho: Control< Treatment

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>TRANSFORMED</th>
<th>MEAN</th>
<th>ORIGINAL UNITS</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
<td>4.250</td>
<td>4.250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>2.700</td>
<td>2.700</td>
<td>0.956</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15.2</td>
<td>0.750</td>
<td>0.750</td>
<td>2.159</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>29.4</td>
<td>2.200</td>
<td>2.200</td>
<td>1.265</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>0.750</td>
<td>0.750</td>
<td>2.159</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>0.050</td>
<td>0.050</td>
<td>2.591</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dunnett table value = 2.83 (1 Tailed Value, P=0.05, df=6.5)

young/female/day
File: 1028y  Transform: NO TRANSFORMATION

DUNNETTS TEST  -  TABLE 2 OF 2  Ho: Control< Treatment

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>NUM OF</th>
<th>Minimum Sig Diff</th>
<th>% of DIFFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
<td>2</td>
<td>107.9</td>
<td>1.550</td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>2</td>
<td>107.9</td>
<td>3.500</td>
</tr>
<tr>
<td>3</td>
<td>15.2</td>
<td>2</td>
<td>107.9</td>
<td>2.050</td>
</tr>
<tr>
<td>4</td>
<td>29.4</td>
<td>2</td>
<td>107.9</td>
<td>3.500</td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>2</td>
<td>107.9</td>
<td>4.200</td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>2</td>
<td>107.9</td>
<td></td>
</tr>
</tbody>
</table>

WILLIAMS TEST (Isotonic regression model)  TABLE 1 OF 2

GROUP  IDENTIFICATION  ORIGINAL  TRANSFORMED  ISOTONIZED
<table>
<thead>
<tr>
<th></th>
<th>IDENTIFICATION</th>
<th>N</th>
<th>MEAN</th>
<th>MEAN</th>
<th>MEAN</th>
</tr>
</thead>
</table>

19
young/female/day
File: 1028y Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

<table>
<thead>
<tr>
<th>ISOTONIZED</th>
<th>CALC.</th>
<th>SIG</th>
<th>TABLE</th>
<th>DEGREES OF</th>
</tr>
</thead>
<tbody>
<tr>
<td>IDENTIFICATION</td>
<td>MEAN</td>
<td>WILLIAMS</td>
<td>P=.05</td>
<td>WILLIAMS</td>
</tr>
<tr>
<td>control</td>
<td>4.250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.08</td>
<td>2.700</td>
<td>0.956</td>
<td>1.94</td>
<td>k=1, v=6</td>
</tr>
<tr>
<td>15.2</td>
<td>1.475</td>
<td>1.712</td>
<td>2.06</td>
<td>k=2, v=6</td>
</tr>
<tr>
<td>29.4</td>
<td>1.475</td>
<td>1.712</td>
<td>2.10</td>
<td>k=3, v=6</td>
</tr>
<tr>
<td>59.3</td>
<td>0.750</td>
<td>2.160</td>
<td>* 2.12</td>
<td>k=4, v=6</td>
</tr>
<tr>
<td>119</td>
<td>0.050</td>
<td>2.591</td>
<td>* 2.13</td>
<td>k=5, v=6</td>
</tr>
</tbody>
</table>

s = 1.621
Note: df used for table values are approximate when v > 20.

total length (male and female combined)
File: 1028l Transform: NO TRANSFORMATION

ANOVA TABLE

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>5</td>
<td>0.730</td>
<td>0.146</td>
<td>4.563</td>
</tr>
<tr>
<td>Within (Error)</td>
<td>6</td>
<td>0.190</td>
<td>0.032</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>0.920</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical F value = 4.39 (0.05,5,6)
Since F > Critical F REJECT Ho:All groups equal

total length
File: 1028l Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control<Treatment
<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>TRANSFORMED MEAN</th>
<th>MEAN</th>
<th>ORIGINAL UNITS</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
<td>9.150</td>
<td></td>
<td>9.150</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>9.000</td>
<td>9.000</td>
<td>0.839</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>15.2</td>
<td>9.100</td>
<td>9.100</td>
<td>0.280</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>29.4</td>
<td>8.900</td>
<td>8.900</td>
<td>1.398</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>8.850</td>
<td>8.850</td>
<td>1.677</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>8.400</td>
<td>8.400</td>
<td>4.193</td>
<td>*</td>
<td></td>
</tr>
</tbody>
</table>

Dunnett table value = 2.83  (1 Tailed Value, P=0.05, df=6,5)

total length
File: 1028i  Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2  Ho:Control<Treatment

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>REPS</th>
<th>(IN ORIG. UNITS)</th>
<th>CONTROL FROM CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
<td>2</td>
<td>0.506</td>
<td>5.5</td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>2</td>
<td>0.506</td>
<td>5.5</td>
</tr>
<tr>
<td>3</td>
<td>15.2</td>
<td>2</td>
<td>0.506</td>
<td>5.5</td>
</tr>
<tr>
<td>4</td>
<td>29.4</td>
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</tr>
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<td>59.3</td>
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</tr>
<tr>
<td>6</td>
<td>119</td>
<td>2</td>
<td>0.506</td>
<td>5.5</td>
</tr>
</tbody>
</table>

WILLIAMS TEST (isotonic regression model) - TABLE 1 OF 2

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>ORIGINAL N</th>
<th>MEAN</th>
<th>TRANSFORMED MEAN</th>
<th>ISOTONIZED MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
<td>2</td>
<td>9.150</td>
<td>9.150</td>
<td>9.150</td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>2</td>
<td>9.000</td>
<td>9.000</td>
<td>9.050</td>
</tr>
<tr>
<td>3</td>
<td>15.2</td>
<td>2</td>
<td>9.100</td>
<td>9.100</td>
<td>9.050</td>
</tr>
<tr>
<td>4</td>
<td>29.4</td>
<td>2</td>
<td>8.900</td>
<td>8.900</td>
<td>8.900</td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>2</td>
<td>8.850</td>
<td>8.850</td>
<td>8.850</td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>2</td>
<td>8.400</td>
<td>8.400</td>
<td>8.400</td>
</tr>
</tbody>
</table>
### WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

<table>
<thead>
<tr>
<th>IDENTIFICATION</th>
<th>MEAN</th>
<th>WILLIAMS</th>
<th>P=.05 WILLIAMS</th>
<th>DEGREES OF FREEDOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>control</td>
<td>9.150</td>
<td>1.94</td>
<td>k= 1, v= 6</td>
<td></td>
</tr>
<tr>
<td>8.08</td>
<td>9.050</td>
<td>0.562</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15.2</td>
<td>9.050</td>
<td>0.562</td>
<td>k= 2, v= 6</td>
<td></td>
</tr>
<tr>
<td>29.4</td>
<td>8.900</td>
<td>1.405</td>
<td>k= 3, v= 6</td>
<td></td>
</tr>
<tr>
<td>59.3</td>
<td>8.850</td>
<td>1.686</td>
<td>k= 4, v= 6</td>
<td></td>
</tr>
<tr>
<td>119</td>
<td>8.400</td>
<td>4.214</td>
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</table>

s = 0.178
Note: df used for table values are approximate when v > 20.

### length females
File: 1028lf Transform: NO TRANSFORMATION

### KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2

<table>
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<tr>
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<td>9.050</td>
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Calculated H Value = 8.980 Critical H Value Table = 11.070 Since Calc H < Crit H FAIL TO REJECT H0:All groups are equal.

### length females
File: 1028lf Transform: NO TRANSFORMATION

### DUNNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2

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<th>MEAN</th>
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<td>6</td>
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<tr>
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<td>8.500</td>
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<tr>
<td>4</td>
<td>29.4</td>
<td>8.900</td>
<td>8.900</td>
<td>\</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>9.050</td>
<td>9.050</td>
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</tr>
<tr>
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<td>15.2</td>
<td>9.150</td>
<td>9.150</td>
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</tr>
<tr>
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<td>control</td>
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<td>9.300</td>
<td>\</td>
<td></td>
</tr>
</tbody>
</table>
= significant difference (p=0.05)  = no significant difference
Table q value (0.05,6) = 2.936  SE = 3.536

**length males**

File: 1028lm  Transform: NO TRANSFORM

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<tr>
<th>GROUP</th>
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<th>MEAN</th>
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<th>SUM</th>
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<td>8.950</td>
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<td>8.950</td>
<td>13.000</td>
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</tr>
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<td>119</td>
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<td>8.400</td>
<td>3.000</td>
<td></td>
</tr>
</tbody>
</table>

Calculated H Value = 6.229  Critical H Value Table = 11.070
Since Calc H < Crit H FAIL TO REJECT H0: All groups are equal.

**length males**

File: 1028lm  Transform: NO TRANSFORM

DUNNS MULTIPLE COMPARISON - KRUSKAL-WALLIS - TABLE 2 OF 2

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<thead>
<tr>
<th>GROUP</th>
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<td>IDENTIFICATION</td>
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<tr>
<td>-------</td>
</tr>
<tr>
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<tr>
<td>3</td>
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<tr>
<td>5</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

* = significant difference (p=0.05)  = no significant difference
Table q value (0.05,6) = 2.936  SE = 3.581

**wet weight (male and female combined)**

File: 1028ww  Transform: NO TRANSFORMATION

ANOVA TABLE

23
**SOURCE**  | **DF** | **SS** | **MS** | **F**
--- | --- | --- | --- | ---
Between  | 5  | 5.308  | 1.062 | 5.033  
Within (Error) | 6 | 1.267 | 0.211 |  
Total | 11 | 6.576 |  |  

Critical F value = 4.39 (0.05, 5, 6)
Since F > Critical F, REJECT H₀: All groups equal

**File: 1028ww Subtransform: NO TRANSFORMATION**

**DUNNETTS TEST - TABLE 1 OF 2 Ho:Control-Treatment**

<table>
<thead>
<tr>
<th>GROUP IDENTIFICATION</th>
<th>TRANSFORMED MEAN</th>
<th>MEAN CALCULATED IN ORIGINAL UNITS</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 control</td>
<td>2.740</td>
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<td></td>
<td></td>
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<tr>
<td>2</td>
<td>8.08</td>
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<td>-2.112</td>
<td></td>
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<td>15.2</td>
<td>4.225</td>
<td>-3.233</td>
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</tr>
<tr>
<td>4</td>
<td>29.4</td>
<td>3.990</td>
<td>-2.721</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>3.450</td>
<td>-1.546</td>
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</tr>
<tr>
<td>6</td>
<td>119</td>
<td>2.355</td>
<td>0.838</td>
<td></td>
</tr>
</tbody>
</table>

Dunnett table value = 2.83 (1 Tailed Value, P = 0.05, df = 6, 5)

**File: 1028ww Subtransform: NO TRANSFORMATION**

**DUNNETTS TEST - TABLE 2 OF 2 Ho:Control-Treatment**

<table>
<thead>
<tr>
<th>GROUP IDENTIFICATION</th>
<th>NUM OF MINIMUM SIG DIFF</th>
<th>% OF DIFFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 control</td>
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<td></td>
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<tr>
<td>2</td>
<td>8.08</td>
<td>-0.970</td>
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<td>-0.710</td>
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**File: 1028ww Subtransform: NO TRANSFORMATION**
WILLIAMS TEST (isotonic regression model)  TABLE 1 OF 2

<table>
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<th>IDENTIFICATION</th>
<th>ORIGINAL N</th>
<th>MEAN</th>
<th>TRANSFORMED MEAN</th>
<th>ISOTONIZED MEAN</th>
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<td>2.740</td>
<td>2.740</td>
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<td>3.710</td>
<td>3.666</td>
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<tr>
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<td>15.2</td>
<td>2</td>
<td>4.225</td>
<td>4.225</td>
<td>3.666</td>
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<tr>
<td>4</td>
<td>29.4</td>
<td>2</td>
<td>3.990</td>
<td>3.990</td>
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</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>2</td>
<td>3.450</td>
<td>3.450</td>
<td>3.450</td>
</tr>
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<td>6</td>
<td>119</td>
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wet weight
File: 1028ww  Transform: NO TRANSFORMATION

WILLIAMS TEST (isotonic regression model)  TABLE 2 OF 2

<table>
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<tr>
<th>IDENTIFICATION</th>
<th>ISOTONIZED CALC.</th>
<th>SIG</th>
<th>TABLE</th>
<th>DEGREES OF FREEDOM</th>
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<tr>
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<tr>
<td>8.08</td>
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<td></td>
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<td>* 1.94</td>
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<td>3.666</td>
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<td>2.06</td>
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<tr>
<td>29.4</td>
<td>3.666</td>
<td></td>
<td>2.015</td>
<td>2.10</td>
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<td>59.3</td>
<td>3.450</td>
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<td>1.545</td>
<td>2.12</td>
</tr>
<tr>
<td>119</td>
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<td></td>
<td>0.838</td>
<td>2.13</td>
</tr>
</tbody>
</table>

$s = 0.460$
Note: df used for table values are approximate when $v > 20$.

wet weight males
File: 1028wm  Transform: NO TRANSFORMATION

ANOVA TABLE

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
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<tbody>
<tr>
<td>Between</td>
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<td>7.848</td>
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<td>0.564</td>
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<tr>
<td>Total</td>
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<td></td>
</tr>
</tbody>
</table>

Critical F value = 4.39 (0.05,5,6)
Since $F >$ Critical F REJECT H0: All groups equal
wet weight males
File: 1028wm  Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2  Ho: Control = Treatment

<table>
<thead>
<tr>
<th>GROUP IDENTIFICATION</th>
<th>TRANSFORMED MEAN</th>
<th>CALCULATED IN ORIGINAL UNITS</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
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<td>4.150</td>
<td>-5.936</td>
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<td>119</td>
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<td>1.950</td>
<td>1.239</td>
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</table>

Dunnett table value = 2.83 (1 Tailed Value, P=0.05, df=6.5)

wet weight males
File: 1028wm  Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2  Ho: Control = Treatment

<table>
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<tr>
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<tr>
<td>2</td>
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</tr>
<tr>
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<td>2</td>
<td>0.868 37.2 -1.595</td>
</tr>
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<td>2</td>
<td>0.868 37.2 -1.820</td>
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wet weight males
File: 1028wm  Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) - TABLE 1 OF 2

<table>
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<tr>
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<th>ORIGINAL N</th>
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<th>ISOTONIZED MEAN</th>
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<td>3</td>
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<td>2</td>
<td>4.150</td>
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<td>3.615</td>
<td>3.457</td>
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<td>119</td>
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<td>1.950</td>
<td>1.950</td>
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</table>
wet weight males
File: 1028wm Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model)  TABLE 2 OF 2

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<thead>
<tr>
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<th>ISOTONIZED</th>
<th>CALC.</th>
<th>SIG</th>
<th>TABLE</th>
<th>DEGREES OF</th>
<th>WILLIAMS</th>
<th>P = .05</th>
<th>WILLIAMS</th>
<th>FREEDOM</th>
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<tr>
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<td>3.677</td>
<td>*</td>
<td>2.06</td>
<td>k = 2, v = 6</td>
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<td></td>
</tr>
<tr>
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<td>3.677</td>
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<td>2.10</td>
<td>k = 3, v = 6</td>
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<td></td>
</tr>
<tr>
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<td>3.457</td>
<td>3.677</td>
<td>*</td>
<td>2.12</td>
<td>k = 4, v = 6</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>3.457</td>
<td>3.677</td>
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<td>2.03</td>
<td>k = 5, v = 6</td>
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</tr>
<tr>
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<td>1.240</td>
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<td>2.13</td>
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<td></td>
<td></td>
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<td></td>
</tr>
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</table>

s = 0.307
Note: df used for table values are approximate when v > 20.

wet weight females
File: 1028wf Transform: NO TRANSFORMATION

ANOVA TABLE

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
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</thead>
<tbody>
<tr>
<td>Between</td>
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<td>1.843</td>
</tr>
<tr>
<td>Within (Error)</td>
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<td>3.015</td>
<td>0.503</td>
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</tr>
<tr>
<td>Total</td>
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<td>7.652</td>
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<td></td>
</tr>
</tbody>
</table>

Critical F value = 4.39 (0.05,5,6)
Since F < Critical F FAIL TO REJECT Ho: All groups equal

wet weight females
File: 1028wf Transform: NO TRANSFORMATION

DUNNETT'S TEST  TABLE 1 OF 2  Ho: Control < Treatment

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>TRANSFORMED</th>
<th>MEAN</th>
<th>CALCULATED IN ORIGINAL UNITS</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
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</tr>
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</table>

Dunnett table value = 2.83  (1 Tailed Value, P=0.05, df=6,5)

**wet weight females**

File: 1028wf  Transform: NO TRANSFORMATION

### DUNNETT'S TEST  
**TABLE 2 OF 2**  
Ho:Control<Treatment

<table>
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<tr>
<th>GROUP IDENTIFICATION</th>
<th>REPS</th>
<th>MINIMUM SIG DIFF</th>
<th>% OF DIFFERENCE</th>
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<tr>
<td>6 control</td>
<td>2</td>
<td>2.007</td>
<td>0.505</td>
</tr>
</tbody>
</table>

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**wet weight females**

File: 1028wf  Transform: NO TRANSFORMATION

### WILLIAMS TEST (Isotonic regression model)  
**TABLE 1 OF 2**

<table>
<thead>
<tr>
<th>GROUP IDENTIFICATION</th>
<th>ORIGINAL N</th>
<th>ORIGINAL MEAN</th>
<th>TRANSFORMED MEAN</th>
<th>ISOTONIZED MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 control</td>
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<td>3.240</td>
<td>3.240</td>
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<td>4.255</td>
<td>3.987</td>
</tr>
<tr>
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<td>4.465</td>
<td>3.987</td>
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<td>3.920</td>
</tr>
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<td>6 control</td>
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</tbody>
</table>

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**wet weight females**

File: 1028wf  Transform: NO TRANSFORMATION

### WILLIAMS TEST (Isotonic regression model)  
**TABLE 2 OF 2**

<table>
<thead>
<tr>
<th>ISOTONIZED IDENTIFICATION</th>
<th>CALC. MEAN</th>
<th>SIG TABLE</th>
<th>DEGREES OF FREEDOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>control</td>
<td>3.987</td>
<td>1.94</td>
<td>k= 1, v= 6</td>
</tr>
</tbody>
</table>

28
15.2 3.987 1.053 2.06 k= 2, v= 6
29.4 3.920 0.959 2.10 k= 3, v= 6
59.3 3.190 0.711 2.12 k= 4, v= 6
119 2.735 0.712 2.13 k= 5, v= 6

s = 0.709
Note: df used for table values are approximate when v > 20.

dry weight (males and females combined)
File: 1028dw Transform: NO TRANSFORMATION

ANOVA TABLE

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
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<td>0.020</td>
<td>0.004</td>
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<td>Within (Error)</td>
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<td>0.002</td>
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<td>Total</td>
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</table>

Critical F value = 4.39 (0.05,5,6)
Since F < Critical F FAIL TO REJECT Ho:All groups equal

dry weight
File: 1028dw Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2 Ho:Control>Treatment

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>TRANSFORMED MEAN</th>
<th>ORIGINAL MEAN</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
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<td>0.675</td>
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<td></td>
</tr>
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<tr>
<td>3</td>
<td></td>
<td>0.650</td>
<td>0.650</td>
<td>0.559</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>0.575</td>
<td>0.575</td>
<td>2.236</td>
<td></td>
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<tr>
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<tr>
<td>6</td>
<td></td>
<td>0.590</td>
<td>0.590</td>
<td>1.901</td>
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</tr>
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</table>

Dunnett table value = 2.83 (1 Tailed Value, P=0.05, df=6,5)

dry weight
File: 1028dw Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2 Ho:Control<Treatment

29
<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>REPS</th>
<th>(IN ORIG. UNITS)</th>
<th>CONTROL</th>
<th>FROM CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
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<td>18.7</td>
<td>0.070</td>
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</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>2</td>
<td>0.127</td>
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<td>0.025</td>
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<td>59.3</td>
<td>2</td>
<td>0.127</td>
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<td>0.085</td>
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<td>6</td>
<td>119</td>
<td>2</td>
<td>0.127</td>
<td>18.7</td>
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</tr>
</tbody>
</table>

Dry weight
File: 1028dw  Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model)  TABLE 1 OF 2

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>ORIGINAL MEAN</th>
<th>TRANSFORMED MEAN</th>
<th>ISOTONIZED MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>0.675</td>
<td>0.675</td>
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<tr>
<td>2</td>
<td>8.08</td>
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<td>0.605</td>
<td>0.628</td>
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<tr>
<td>3</td>
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<td>0.650</td>
<td>0.650</td>
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<td>4</td>
<td>29.4</td>
<td>0.575</td>
<td>0.575</td>
<td>0.575</td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>0.560</td>
<td>0.560</td>
<td>0.575</td>
</tr>
<tr>
<td>6</td>
<td>119</td>
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<td>0.590</td>
<td>0.575</td>
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Dry weight
File: 1028dw  Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model)  TABLE 2 OF 2

<table>
<thead>
<tr>
<th>IDENTIFICATION</th>
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<th>CALC. SIG</th>
<th>TABLE P=.05</th>
<th>DEGREES OF FREEDOM</th>
</tr>
</thead>
<tbody>
<tr>
<td>control</td>
<td>0.675</td>
<td>1.94</td>
<td>k= 1, v= 6</td>
<td></td>
</tr>
<tr>
<td>8.08</td>
<td>0.628</td>
<td>1.191</td>
<td>2.06</td>
<td>k= 2, v= 6</td>
</tr>
<tr>
<td>15.2</td>
<td>0.628</td>
<td>1.191</td>
<td></td>
<td>k= 2, v= 6</td>
</tr>
<tr>
<td>29.4</td>
<td>0.575</td>
<td>2.508</td>
<td>2.10</td>
<td>k= 3, v= 6</td>
</tr>
<tr>
<td>59.3</td>
<td>0.575</td>
<td>2.508</td>
<td>2.12</td>
<td>k= 4, v= 6</td>
</tr>
<tr>
<td>119</td>
<td>0.575</td>
<td>2.508</td>
<td>2.13</td>
<td>k= 5, v= 6</td>
</tr>
</tbody>
</table>

s = 0.040
Note: df used for table values are approximate when v > 20.

Dry weight males
File: 1028dm  Transform: NO TRANSFORMATION

30
ANOVA TABLE

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
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</thead>
<tbody>
<tr>
<td>Between</td>
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<td>0.0424</td>
<td>0.0085</td>
<td>12.143</td>
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<tr>
<td>Within (Error)</td>
<td>6</td>
<td>0.0044</td>
<td>0.0007</td>
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<tr>
<td>Total</td>
<td>11</td>
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<td></td>
</tr>
</tbody>
</table>

Critical F value = 4.39 (0.05, 5, 6)
Since F > Critical F REJECT Ho: All groups equal

dry weight males
File: 1028dm  Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2  Ho: Control<Treatment

<table>
<thead>
<tr>
<th>GROUP IDENTIFICATION</th>
<th>TRANSFORMED MEAN CALCULATED IN ORIGINAL UNITS</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 control</td>
<td>0.645</td>
<td>0.645</td>
<td></td>
</tr>
<tr>
<td>2 8.08</td>
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<td>0.505</td>
<td>5.292 *</td>
</tr>
<tr>
<td>3 15.2</td>
<td>0.510</td>
<td>0.510</td>
<td>5.103 *</td>
</tr>
<tr>
<td>4 29.4</td>
<td>0.535</td>
<td>0.535</td>
<td>4.158 *</td>
</tr>
<tr>
<td>5 59.3</td>
<td>0.465</td>
<td>0.465</td>
<td>6.803 *</td>
</tr>
<tr>
<td>6 119</td>
<td>0.475</td>
<td>0.475</td>
<td>6.425 *</td>
</tr>
</tbody>
</table>

Dunnett table value = 2.83 (1 Tailed Value, P=0.05, df=6,5)

dry weight males
File: 1028dm  Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2  Ho: Control<Treatment

<table>
<thead>
<tr>
<th>GROUP IDENTIFICATION</th>
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<th>(IN ORIG. UNITS)</th>
<th>CONTROL FROM CONTROL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 control</td>
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<td>11.6</td>
</tr>
<tr>
<td>2 8.08</td>
<td>2</td>
<td>0.075</td>
<td>11.6</td>
</tr>
<tr>
<td>3 15.2</td>
<td>2</td>
<td>0.075</td>
<td>11.6</td>
</tr>
<tr>
<td>4 29.4</td>
<td>2</td>
<td>0.075</td>
<td>11.6</td>
</tr>
<tr>
<td>5 59.3</td>
<td>2</td>
<td>0.075</td>
<td>11.6</td>
</tr>
<tr>
<td>6 119</td>
<td>2</td>
<td>0.075</td>
<td>11.6</td>
</tr>
</tbody>
</table>
dry weight males
File: 1028dm Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

<table>
<thead>
<tr>
<th>GROUP IDENTIFICATION</th>
<th>ORIGINAL</th>
<th>TRANSFORMED</th>
<th>ISOTONIZED</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>MEAN</td>
<td>MEAN</td>
</tr>
<tr>
<td>1 control 2</td>
<td>0.645</td>
<td>0.645</td>
<td>0.645</td>
</tr>
<tr>
<td>2 8.08 2</td>
<td>0.505</td>
<td>0.505</td>
<td>0.517</td>
</tr>
<tr>
<td>3 15.2 2</td>
<td>0.510</td>
<td>0.510</td>
<td>0.517</td>
</tr>
<tr>
<td>4 29.4 2</td>
<td>0.535</td>
<td>0.535</td>
<td>0.517</td>
</tr>
<tr>
<td>5 59.3 2</td>
<td>0.465</td>
<td>0.465</td>
<td>0.470</td>
</tr>
<tr>
<td>6 119 2</td>
<td>0.475</td>
<td>0.475</td>
<td>0.470</td>
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</tbody>
</table>

dry weight males
File: 1028dm Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

<table>
<thead>
<tr>
<th>IDENTIFICATION</th>
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<th>CALC.</th>
<th>SIG</th>
<th>TABLE</th>
<th>DEGREES OF</th>
</tr>
</thead>
<tbody>
<tr>
<td>control 0.645</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.08</td>
<td>0.517</td>
<td>4.718</td>
<td>*</td>
<td>1.94</td>
<td>k=1, V=6</td>
</tr>
<tr>
<td>15.2</td>
<td>0.517</td>
<td>4.718</td>
<td>*</td>
<td>2.06</td>
<td>k=2, V=6</td>
</tr>
<tr>
<td>29.4</td>
<td>0.517</td>
<td>4.718</td>
<td>*</td>
<td>2.10</td>
<td>k=3, V=6</td>
</tr>
<tr>
<td>59.3</td>
<td>0.470</td>
<td>6.433</td>
<td>*</td>
<td>2.12</td>
<td>k=4, V=6</td>
</tr>
<tr>
<td>119</td>
<td>0.470</td>
<td>6.433</td>
<td>*</td>
<td>2.13</td>
<td>k=5, V=6</td>
</tr>
</tbody>
</table>

s = 0.027
Note: df used for table values are approximate when V > 20.

dry weight females
File: 1028df Transform: NO TRANSFORMATION

ANOVA TABLE

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>DF</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between</td>
<td>5</td>
<td>0.028</td>
<td>0.006</td>
<td>0.750</td>
</tr>
<tr>
<td>Within (Error)</td>
<td>6</td>
<td>0.049</td>
<td>0.008</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
<td>0.077</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Critical F value = 4.39 (0.05,5,6)
Since $F < \text{Critical } F$ \ FAIL TO REJECT \ $H_0$: All groups equal

dry weight females
File: 1028df \ Transform: NO TRANSFORMATION

**DUNNETTS TEST - TABLE 1 OF 2** \ $H_0$: Control $<$ Treatment

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>MEAN</th>
<th>ORIGINAL UNITS</th>
<th>T STAT</th>
<th>SIG</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
<td>0.740</td>
<td>0.740</td>
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<td></td>
</tr>
<tr>
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<td>0.730</td>
<td>0.112</td>
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</tr>
<tr>
<td>3</td>
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<td>-0.168</td>
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</tr>
<tr>
<td>4</td>
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<td>0.610</td>
<td>0.610</td>
<td>1.453</td>
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</tr>
<tr>
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<td>59.3</td>
<td>0.705</td>
<td>0.705</td>
<td>0.391</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>0.680</td>
<td>0.680</td>
<td>0.671</td>
<td></td>
</tr>
</tbody>
</table>

Dunnett table value = 2.83 \ (1 Tailed Value, $P=0.05$, df=6.5)

dry weight females
File: 1028df \ Transform: NO TRANSFORMATION

**DUNNETTS TEST - TABLE 2 OF 2** \ $H_0$: Control $<$ Treatment

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>Minimum Sig Diff</th>
<th>% of DIFFERENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>control</td>
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<td></td>
</tr>
<tr>
<td>2</td>
<td>8.08</td>
<td>0.253</td>
<td>34.2</td>
</tr>
<tr>
<td>3</td>
<td>15.2</td>
<td>0.253</td>
<td>34.2</td>
</tr>
<tr>
<td>4</td>
<td>29.4</td>
<td>0.253</td>
<td>34.2</td>
</tr>
<tr>
<td>5</td>
<td>59.3</td>
<td>0.253</td>
<td>34.2</td>
</tr>
<tr>
<td>6</td>
<td>119</td>
<td>0.253</td>
<td>34.2</td>
</tr>
</tbody>
</table>

dry weight females
File: 1028df \ Transform: NO TRANSFORMATION

**WILLIAMS TEST (Isotonic regression model) - TABLE 1 OF 2**

<table>
<thead>
<tr>
<th>GROUP</th>
<th>IDENTIFICATION</th>
<th>ORIGINAL N</th>
<th>MEAN</th>
<th>TRANSFORMED MEAN</th>
<th>ISOTONIZED MEAN</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td>0.740</td>
<td>0.740</td>
<td>0.742</td>
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<td>0.730</td>
<td>0.730</td>
<td>0.742</td>
</tr>
<tr>
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<td>15.2</td>
<td>2</td>
<td>0.755</td>
<td>0.755</td>
<td>0.742</td>
</tr>
<tr>
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<td>29.4</td>
<td>2</td>
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<td>0.610</td>
<td>0.665</td>
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33
dry weight females

File: 1028df  Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model)  TABLE 2 OF 2

<table>
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<tr>
<th>IDENTIFICATION</th>
<th>ISOTONIZED</th>
<th>CALC.</th>
<th>SIG</th>
<th>TABLE</th>
<th>DEGREES OF</th>
<th>WILLIAMS</th>
<th>P=.05</th>
<th>WILLIAMS</th>
<th>FREEDOM</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>0.018</td>
<td>1.94</td>
<td>k= 1, v= 6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.08</td>
<td>0.742</td>
<td>0.018</td>
<td></td>
<td>2.06</td>
<td>k= 2, v= 6</td>
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<td>0.826</td>
<td></td>
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<td>k= 4, v= 6</td>
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<tr>
<td>59.3</td>
<td>0.665</td>
<td>0.826</td>
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<td>k= 5, v= 6</td>
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<tr>
<td>119</td>
<td>0.665</td>
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</table>

s = 0.091

Note: df used for table values are approximate when v > 20.