

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence


PMRA Submission Number {.....}

EPA MRID Number 441848-04

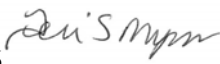
Data Requirement: PMRA Data Code: 9.8.4 (TGAI) or 9.8.6 (EP)
EPA DP Barcode: D237791
OECD Data Point: IIA 8.12 (TGAI) and IIIA 10.8.1.1 (EP)
EPA Guideline: 123-1a

Test material: Propazine Technical **Purity:** 98.0%
Common name: Propazine
Chemical name: IUPAC: Not reported
CAS name: Not reported
CAS No.: 139-40-2
Synonyms: Not reported

Primary Reviewer: John Marton
Staff Scientist, Cambridge Environmental Inc.

Signature: 
Date: 2/22/06

Secondary Reviewer: Teri S. Myers
Senior Scientist, Cambridge Environmental Inc.

Signature: 
Date: 2/26/06

Primary Reviewer: {.....}
{EPA/OECD/PMRA}

Date: {.....}

Secondary Reviewer(s): {.....}
{EPA/OECD/PMRA}

Date: {.....}

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

Company Code {.....} [For PMRA]
Active Code {.....} [For PMRA]
Use Site Category: {.....} [For PMRA]
EPA PC Code 080808

Date Evaluation Completed: {dd-mm-yyyy}

CITATION: Schwab, Dave, L. Brian and J. Veltri. 1996. Evaluating the Effects of Propazine on the Emergence and Vegetative Vigor of Non-Target Terrestrial Plants. Performed by ABC Laboratories, Columbia, MO. Laboratory study number 41961. Sponsored by Griffin Corporation, Valdosta, GA. Study completed on June 14, 1996.

DISCLAIMER: This document provides guidance for EPA and PMRA reviewers on how to complete a data evaluation record after reviewing a scientific study concerning the acute toxicity of a pesticide to terrestrial vascular plants. It is not intended to prescribe conditions to any external party for conducting this study nor to establish absolute criteria regarding the assessment of whether the study is scientifically sound and whether the study satisfies any applicable data requirements. Reviewers are expected to review and to determine for each study, on a case-by-case basis, whether it is scientifically sound and provides sufficient information to satisfy applicable data requirements. Studies that fail to meet any of the conditions may be accepted, if appropriate; similarly, studies that meet all of the conditions may be rejected, if appropriate. In sum, the reviewer is to take into account the totality of factors related to the test methodology and results in determining the acceptability of the study.

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

EXECUTIVE SUMMARY:

The effects of Propazine Technical on seedling emergence of monocot (onion, *Allium cepa*; oat, *Avena sativa*; ryegrass, *Lolium perenne*, corn, *Zea mays* and wheat, *Triticum aestivum*) and dicot (cabbage, *Brassica oleracea*, cucumber, *Cucumis sativus*, lettuce, *Lactuca sativa*, radish, *Raphanus sativus*, soybean, *Glycine max* and tomato, *Lycopersicon esculentum*) crops were studied at varying concentrations. The first test was conducted with corn, cucumber, ryegrass, radish, soybean and tomato. The second test was conducted with cabbage and the third test was conducted with lettuce, oat, onion and wheat. The nominal application rates for corn, cucumber, ryegrass, radish, soybean and tomato were 0 (negative and vehicle controls), 0.075, 0.15, 0.30, 0.60, 1.2 and 2.4 lbs ai/A; measured application rates were 0 (negative and vehicle controls), 0.077, 0.16, 0.30, 0.59, 1.2 and 2.4 lbs ai/A, respectively. The nominal application rates for cabbage were 0 (negative and vehicle controls), 0.0094, 0.019, 0.038, 0.075, 0.15 and 0.30 lbs ai/A; measured application rates were 0 (negative and vehicle controls), 0.011, 0.020, 0.038, 0.077, 0.15 and 0.33 lbs ai/A, respectively. The nominal application rates for oat, onion and wheat were 0 (negative and vehicle controls), 0.0094, 0.019, 0.038, 0.075, 0.15, 0.30, 0.60, 1.2 and 2.4 lbs ai/A; measured application rates were 0 (negative and vehicle controls), 0.010, 0.018, 0.036, 0.071, 0.14, 0.29, 0.61, 1.2 and 1.7 lbs ai/A, respectively. The nominal application rates for lettuce were 0 (negative and vehicle controls), 0.0023, 0.0047, 0.0094, 0.019, 0.038, 0.075, 0.15, 0.30, 0.60, 1.2 and 2.4 lbs ai/A; measured application rates were 0 (negative and vehicle controls), 0.0022, 0.0047, 0.010, 0.018, 0.036, 0.071, 0.14, 0.29, 0.61, 1.2 and 1.7 lbs ai/A, respectively. The growth medium used in all three emergence tests was a loam soil composed of 39% sand, 43% silt and 18% clay. The pH was measured to be 7.0 and the organic matter content was determined to be 1.5%. On day 21, the surviving plants per pot were recorded and cut at soil level for measuring the plant height and dry weight.

In the seedling emergence test, percent emergence, shoot weight and shoot length were all affected by treatment with Propazine Technical. The most sensitive monocot species in the seedling emergence test was onion with a shoot weight EC₂₅ of 0.035 lbs ai/A. The most sensitive dicot species was lettuce with a shoot weight EC₂₅ of 0.016 lbs ai/A. The NOAEC for the most sensitive endpoint in the seedling emergence test was 0.0047 lb a.i/A based on lettuce shoot weight.

All species exhibited phytotoxic effects with the exception of corn and ryegrass. The symptoms that were most frequently observed in affected species were chlorosis, necrosis, stunting and mortalities. As opposed to reductions in initial emergence, these phytotoxic symptoms were observed as growth effects on emerged seedlings. Slight injury (1-39) was often associated with chlorosis, moderate injury (40-69) with chlorosis, stunting and some necrosis, and severe injury (70-100) with all four symptoms and sometimes complete mortality.

Maximum Labeled Rate: Not reported

Results Synopsis

	Seedling Emergence Value:	95% C.I.
<u>Monocot:</u>		
Most sensitive monocot: Onion		
Most sensitive parameter: Shoot Weight		
EC ₅₀ /IC ₅₀ :	0.094 lbs ai/A	0.056-0.16 lbs ai/A
EC ₂₅ /IC ₂₅ :	0.035 lbs ai/A	0.017-0.072 lbs ai/A
EC ₀₅ /IC ₀₅ :	0.0087 lbs ai/A	0.00031-0.025 lbs ai/A
NOAEC:	<0.010 lbs ai/A	
Probit slope:	1.60±0.196	
<u>Dicot:</u>		
Most sensitive dicot: Lettuce		
Most sensitive parameter: Shoot Weight		
EC ₅₀ /IC ₅₀ :	0.036 lbs ai/A	0.026-0.050 lbs ai/A

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}		EPA MRID Number 441848-04
EC ₂₅ /IC ₂₅ :	0.016 lbs ai/A	0.0089-0.029 lbs ai/A
EC ₀₅ /IC ₀₅ :	0.0051 lbs ai/A	0.0018-0.014 lbs ai/A
NOAEC:	0.0047 lbs ai/A	
Probit slope:	1.93±0.405	

This toxicity study is classified as [enter acceptability classification, e.g., acceptable/unacceptable/supplementary] and satisfies/does not satisfy the guideline requirement for a Tier II seedling emergence toxicity study.

Table 1. Endpoint summary by species, in lbs ai/A

Species	Endpoint	NOAEC	EC ₀₅	EC ₂₅	EC ₅₀
Corn	None	2.4	>2.4	>2.4	>2.4
Oat	Shoot Weight	<0.010	0.019	0.050	0.099
Onion	Shoot Weight	<0.010	0.0087	0.035	0.094
Ryegrass	Shoot Weight	0.077	0.10	0.83	3.5
Wheat	Shoot Weight	0.010	0.0031	0.14	1.9
Cabbage	Shoot Weight	<0.011	0.049	0.098	0.16
Cucumber	% Emergence	0.16	0.042	0.12	0.25
Lettuce	Shoot Weight	0.0047	0.0051	0.016	0.036
Radish	Shoot Weight	0.077	0.049	0.16	0.35
Soybean	Shoot Weight	0.59	0.50	0.97	1.5
Tomato	Shoot Weight	<0.077	0.039	0.18	0.54

I. MATERIALS AND METHODS

GUIDELINE FOLLOWED: Study procedures followed guidelines outlined in U.S. EPA Subdivision J: 123-1 guidelines for seedling emergence and vegetative vigor tests. Deviations from these guidelines included:

1. The maximum label rate of the test material was not reported.
2. A description of the test material was not provided and the physical/chemical properties were not reported.
3. Prior treatment/sterilization and storage of seeds were not reported.
4. The method/depth of seeding was not reported and the geographic location, depth of collection, and moisture content of the test soil were not reported.

These deviations did not affect the validity of the study.

COMPLIANCE: This study was conducted in compliance with Good Laboratory Standards as published by the U.S. EPA, 40 CFR Part 160. Signed and dated GLP, Quality Assurance and No Data Confidentiality statements were provided.

A. MATERIALS:

1. Test Material Propazine Technical

Description: Not reported

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Lot No./Batch No. : 309027 (lot number)

Purity: 98.0%

Stability of compound under test conditions: Measured concentrations ranged from 72-112% of nominal. (*OECD recommends chemical stability in water and light*)

Storage conditions of test chemicals: Test material was stored in at room temperature.

Table 2. Physical/chemical properties of Propazine Technical

Parameter	Values	Comments
Water solubility at 20EC	Not reported	
Vapor pressure	Not reported	
UV absorption	Not reported	
pKa	Not reported	
Kow	Not reported	

2. Test organism:

Monocotyledonous species: Corn (*Zea mays*, Family Graminae, Pioneer 3394, Lot# C93MAA-NT), Ryegrass (*Lolium perenne*, Family Graminae, Manhattan II, Lot # K5247), Oat (*Avena sativa*, Family Graminae, Settler, Lot # K6389), Onion (*Allium cepa*, Family Amaryllidaceae, Yellow Granex, Lot # A) and Wheat (*Triticum aestivum*, Family Graminae, Butte 86, Lot # 1594; *EPA recommends four monocots in two families, including corn.*

Dicotyledonous species: Lettuce (*Lactuca sativa*, Family Compositae, Great Lakes 659, Lot # K1010), Cabbage (*Brassica olearcea*, Family Cruciferae, Copenhagen, Lot # K5787), Radish (*Raphanus sativus*, Family Cruciferae, Crimson Giant, Lot # K1041), Soybean (*Glycine max*, Family Leguminosae, Williams 82, Lot # 4S-26-09), Cucumber (*Beta vulgaris*, Family Cucurbitaceae, Straight Eight, Lot # K1002) and Tomato (*Lycopersicon esculentum*, Family Solanaceae, Beefsteak, Lot # K1067); *EPA recommends six dicots in four families, including soybean and a root crop.*

OECD recommends a minimum of three species selected for testing, at least one from each of the following categories: Category 1: ryegrass, rice, oat, wheat, and sorghum; Category 2: mustard, rape, radish, turnip, and Chinese cabbage; Category 3: vetch, mung bean, red clover, fenugreek, lettuce, and cress.

Seed source: Cabbage, Cucumber, Lettuce, Oat, Ryegrass, Radish and Tomato, Royal Seed Co.; Corn, Pioneer Hi-Breed Int.; Onion, Henry Field's Seed & Nursery Co.; Soybean, Missouri Foundation Seed; Wheat, South Dakota Foundation Seeds

Prior seed treatment/sterilization: Not reported

Historical % germination of seed: 85-99%

Seed storage, if any: Not reported

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

B. STUDY DESIGN:

1. Experimental Conditions

a. Limit test: N/A

b. Range-finding study: A range-finding study was not conducted; however, continuation tests with lettuce, oat, onion, tomato and wheat were conducted using lower application rates in order to determine valid NOAEC values for these species.

c. Definitive Study

Table 3: Experimental Parameters - Seedling Emergence.

Parameters	Seedling Emergence	
	Details	Remarks
		<i>Criteria</i>
Duration of the test	21-22 Days	<p>The tests with onion and lettuce were extended to 28 Days due to <50% control emergence within one week after test initiation.</p> <p><i>Recommended test duration is 14-21 days.</i></p> <p><i>OECD recommends that the test be terminated no sooner than 14 days after 50 percent of the control seedlings have emerged</i></p>
Number of seeds/plants/species/replicate	4 reps/treatment, 10 seeds/rep, 40 seeds/treatment	<p><i>Ten seeds per replicate should be used.</i></p> <p><i>OECD recommends a minimum of five seeds planted in each replicate within 24 hours of incorporation of the test substance. All seeds of each species for each test should be of the same size class. The seed should not be imbibed.</i></p>
Number of replicates Control: Solvent control: Treated:	4 4 4	<p><i>Four replicates per dose should be used.</i></p> <p><i>OECD recommends a minimum of four replicates per treatment</i></p>

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Parameters	Seedling Emergence	
	Details	Remarks
	----- <i>Criteria</i>	
<u>Test concentrations (lb ai/A or g ai/ha)</u> Nominal: Measured: Nominal: Measured: Nominal: Measured: Nominal: Measured:	<u>Corn, Cucumber, Ryegrass, Radish, Soybean and Tomato:</u> 0 (negative and vehicle controls), 0.075, 0.15, 0.30, 0.30, 1.2 and 2.7 lbs ai/A 0 (negative and vehicle control), 0.077, 0.16, 0.30, 0.59, 1.2 and 2.4 lbs ai/A <u>Cabbage:</u> 0 (negative and vehicle controls), 0.0094, 0.019, 0.038, 0.075, 0.15 and 0.30 lbs ai/A 0 (negative and vehicle controls), 0.011, 0.020, 0.038, 0.077, 0.15 and 0.33 lbs ai/A <u>Oat, Onion and Wheat:</u> 0 (negative and vehicle controls), 0.0094, 0.019, 0.038, 0.075, 0.15, 0.30, 0.60, 1.2 and 2.4 lbs ai/A 0 (negative and vehicle controls), 0.010, 0.018, 0.036, 0.071, 0.14, 0.29, 0.61, 1.2 and 1.7 lbs ai/A <u>Lettuce:</u> 0 (negative and vehicle controls), 0.0023, 0.0047, 0.0094, 0.019, 0.038, 0.075, 0.15, 0.30, 0.60, 1.2 and 1.4 lbs ai/A 0 (negative and vehicle controls), 0.0022, 0.0047, 0.010, 0.018, 0.036, 0.071, 0.14, 0.29, 0.61, 1.2 and 1.7 lbs ai/A	----- <i>Five test concentrations should be used with a dose range of 2X or 3X progression</i> <i>OECD recommends three concentrations, preferably with application rates equivalent to 0.0 (control), 1.0, 10.0 and 100 mg substance per kg of oven-dried soil.</i>
<u>Method and interval of analytical verification</u>	Samples were taken from definitive test spray mixtures and analyzed on the day of application using high performance liquid chromatography (HPLC).	Analytical methodologies were based on a GLC method used for chloro-s-triazine, provided by Ciba Geigy Corporation and approved by Ciba for propazine studies. The methodology was modified by ABC Laboratories by directly diluting samples into

**Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants:
Seedling Emergence**

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Parameters	Seedling Emergence	
	Details	Remarks
		<i>Criteria</i>
LOQ: LOD:	33.0 mg/L Not reported	toluene rather than by reflux extraction.
Solvent (type, percentage, if used)	Acetone in water (90%)	
<u>Test container (pot)</u>		Test pots were 12-Nu Pots.
Size/Volume Material: (glass/polystyrene)	10 cm square by 12 cm deep Not reported	<i>Non-porous containers should be used. OECD recommends that non-porous plastic or glazed pot be used.</i>
Growth facility	<u>Corn, Cucumber, Ryegrass, Radish, Soybean and Tomato:</u> Greenhouse 8 <u>Cabbage:</u> Greenhouse 7 <u>Lettuce, Oat, Onion and Wheat:</u> Greenhouse 9	
Method/depth of seeding	Not reported.	
<u>Test material application</u> Application time including the plant growth stage Number of applications Application interval Method of application	Test material was applied at test initiation to pre-emerged seeds. 1 N/A; one application at test initiation Test material was applied using a track sprayer located at the University of Missouri for the first emergence test. Test material was applied using a De Vries Spray Booth at ABC Laboratories for the second and third emergence tests.	

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Parameters	Seedling Emergence	
	Details	Remarks
<u>Test conditions</u> Temperature: Photoperiod: Light intensity and quality: Relative humidity:	<u>Corn, Cucumber, Ryegrass, Radish, Soybean and Tomato:</u> 18-36°C 12L:12D then 14L:10D 560 $\mu\text{Em}^{-2}\text{s}^{-1}$ 10-100%	Natural sunlight was used for all tests, however, during the first test, 600 watt high-pressure sodium lights initially set on a 12L:12D cycle were used as supplemental lighting. Midway through the first test, this cycle was reset to 14L:10D. This lighting configuration was utilized for the second and third tests.
	<u>Cabbage:</u> 18-32°C 14L:10D 550 $\mu\text{Em}^{-2}\text{s}^{-1}$ 52-100%	<i>EPA prefers that the cold vs warm loving plants be tested in two separate groups to optimize plant growth.</i>
	<u>Onion, Wheat and Lettuce:</u> 18-35°C 14L:10D 530 $\mu\text{Em}^{-2}\text{s}^{-1}$ 62-100%	<i>OECD prefers that the temperature, humidity and light conditions be suitable for maintaining normal growth of each species for the test period.</i>
<u>Reference chemical (if used)</u> Name: Concentrations:	N/A N/A	
Other parameters, if any	N/A	

2. Observations:

Table 4: Observation Parameters - Seedling Emergence.

Parameters	Seedling Emergence	
	Details	Remarks
Parameters measured (e.g., number of germinated seeds, emerged seedlings, plant height, dry weight or other endpoints)	Emergence, shoot length, shoot weight and phytotoxicity.	

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Parameters	Seedling Emergence	
	Details	Remarks
Measurement technique for each parameter	<p>A dicot seedling was considered emerged when both cotyledons were fully emerged from the soil and a monocot seedling was considered emerged when the coleoptile was fully emerged. For monocots and for the dicots cabbage, lettuce and radish, shoot length was measured as the distance from the base of the stem to the tip of the longest fully extended leaf. For the remaining dicots, shoot length was measured as the distance from the base of the stem to the apical bud. All shoot lengths were measured to the nearest millimeter using a ruler. Seedling weight was determined by clipping each plant at the soil surface and weighing to the nearest hundredth's of a gram. Emergence, shoot length and shoot weight were determined 21-22 days after application (at test termination). Phytotoxicity observations were made weekly, at which point two observations were made on each replicate. The first was an overall rating, on a scale of 0-100, assessing the frequency and intensity of the effects compared to that replicate's control. The second was a symptom rating to assess the frequency and intensity of the observed effect (chlorosis, necrosis, etc).</p>	

**Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants:
Seedling Emergence**

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Parameters	Seedling Emergence	
	Details	Remarks
Observation intervals	Emergence, shoot length and shoot weight were determined 21-22 days after application (at test termination). Phytotoxic observations were made weekly.	
Other observations, if any	None	
Were raw data included?	Only replicate means were reported.	
Phytotoxicity rating system, if used	0, No Effect; 1-39, Slight Effect; 40-69, Moderate Effect; 70-100, Severe Effect	The source for the phytotoxicity rating scale was not provided.

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

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II. RESULTS and DISCUSSION:

A. INHIBITORY EFFECTS:

1. Seedling Emergence:

Significant reductions in emergence were observed for all species with the exception of corn, ryegrass, tomato and wheat. Significant reductions in shoot length were observed for all species with the exception of corn and ryegrass. Corn was the only species where shoot weight was not significantly reduced. The most sensitive monocot and endpoint was oat shoot weight with a NOAEC, EC₂₅ and EC₅₀ of 0.0094, 0.032 and 0.081 lbs ai/A, respectively. The most sensitive dicot and endpoint was lettuce shoot weight with a NOAEC, EC₂₅ and EC₅₀ of 0.019, 0.023 and 0.041 lbs ai/A, respectively.

Lettuce and oat were the two species most sensitive to the test material as they were the only species in which replicates received a phytotoxicity rating of 100. Corn and ryegrass were the only two species in which phytotoxicity ratings did not exceed 18 (1-39; slight effect) for any replicate. All other species exhibited slight (1-39), moderate (40-69) and severe (70-100) effects. The symptoms that were most frequently observed in affected species were chlorosis, necrosis, stunting and mortalities. As opposed to reductions in initial emergence, these phytotoxic symptoms were observed as growth effects on emerged seedlings. Slight injury (1-39) was often associated with chlorosis, moderate injury (40-69) with chlorosis, stunting and some necrosis, and severe injury (70-100) with all four symptoms and sometimes complete mortality. The source for the phytotoxicity rating scale was not provided.

Table 5: Effect of Propazine Technical on Seedling Emergence

Species	NOAEC, EC ₀₅ EC ₂₅ and EC ₅₀ (lbs ai/A)								
	Emergence (%)								
	Emergence*	NOAEC	EC ₀₅	95% C.I.	EC ₂₅	95% C.I.	EC ₅₀	95% C.I.	Slope
Corn	98-100	2.4	NR	NR	>2.4	N/A	>2.4	N/A	N/A
Oat	0-98	0.075	NR	NR	0.088	NR	0.17	NR	NR
Onion	15-88	0.075	NR	NR	0.087	NR	0.29	NR	NR
Ryegrass	82-98	2.4	NR	NR	>2.4	N/A	>2.4	N/A	N/A
Wheat	73-98	2.4	NR	NR	>2.4	N/A	>2.4	N/A	N/A
Cabbage	33-80	0.15	NR	NR	0.085	NR	0.31	NR	NR
Cucumber	5-98	0.15	NR	NR	0.12	NR	0.24	NR	NR
Lettuce	0-93	0.038	NR	NR	0.044	NR	0.069	NR	NR
Radish	65-100	0.60	NR	NR	1.4	NR	>2.4	N/A	NR
Soybean	48-98	1.2	NR	NR	1.3	NR	>2.4	N/A	NR
Tomato	50-85	2.4	NR	NR	>2.4	N/A	>2.4	N/A	N/A

* provide the range

The range for emergence, shoot weight and shoot length represent the range of treatment means on Day 21 or 22

NR- Not reported

**Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants:
Seedling Emergence**

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Table 5 (cont): Effect of Propazine Technical on Seedling Emergence

Species	NOAEC, EC ₀₅ EC ₂₅ and EC ₅₀ (lbs ai/A)								
	Shoot Weight (g)								
	Shoot Weight*	NOAEC	EC ₀₅	95% C.I.	EC ₂₅	95% C.I.	EC ₅₀	95% C.I.	Slope
Corn	34.89-46.74	2.4	NR	NR	>2.4	N/A	>2.4	N/A	N/A
Oat	0-10.59	0.0094	NR	NR	0.032	NR	0.081	NR	NR
Onion	0.04-1.25	0.038	NR	NR	0.044	NR	0.10	NR	NR
Ryegrass	0.46-0.82	0.60	NR	NR	1.1	NR	>2.4	N/A	NR
Wheat	3.03-7.17	0.30	NR	NR	0.10	NR	2.0	NR	NR
Cabbage	1.41-11.28	0.075	NR	NR	0.057	NR	0.13	NR	NR
Cucumber	0.17-30.03	0.075	NR	NR	0.15	NR	0.19	NR	NR
Lettuce	0-8.83	0.019	NR	NR	0.023	NR	0.041	NR	NR
Radish	1.45-17.82	0.075	NR	NR	0.22	NR	0.39	NR	NR
Soybean	8.23-33.99	0.60	NR	NR	0.95	NR	1.5	NR	NR
Tomato	0.86-4.05	0.30	NR	NR	0.29	NR	0.68	NR	NR

* provide the range

The range for emergence, shoot weight and shoot length represent the range of treatment means on Day 21 or 22

NR- Not reported

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Table 5 (cont): Effect of Propazine Technical on Seedling Emergence

Species	NOAEC, EC ₀₅ EC ₂₅ and EC ₅₀ (lbs ai/A)								
	Shoot Length (mm)								
	Shoot Length*	NOAEC	EC ₀₅	95% C.I.	EC ₂₅	95% C.I.	EC ₅₀	95% C.I.	Slope
Corn	466-544	2.4	NR	NR	>2.4	N/A	>2.4	N/A	N/A
Oat	0-308	0.0094	NR	NR	0.096	NR	0.14	NR	NR
Onion	6.5-94	0.038	NR	NR	0.068	NR	0.15	NR	NR
Ryegrass	112-139	2.4	NR	NR	>2.4	N/A	>2.4	N/A	N/A
Wheat	198-311	1.2	NR	NR	1.4	NR	>2.4	N/A	NR
Cabbage	13-62	0.019	NR	NR	0.056	NR	0.15	NR	NR
Cucumber	2.2-101	0.15	NR	NR	0.26	NR	0.28	NR	NR
Lettuce	0-65	0.019	NR	NR	0.044	NR	0.066	NR	NR
Radish	29-115	0.30	NR	NR	0.49	NR	0.98	NR	NR
Soybean	86-216	1.2	NR	NR	1.5	NR	2.2	NR	NR
Tomato	12-35	0.30	NR	NR	0.48	NR	1.1	NR	NR

* provide the range

The range for emergence, shoot weight and shoot length represent the range of treatment means on Day 21 or 22

NR- Not reported

Plant Injury Index*										
Corn	Oat	Onion	Ryegrass	Wheat	Cabbage	Cucumber	Lettuce	Radish	Soybean	Tomato
0-5	1-100	0-85	0-18	4-45	5-78	3-98	0-100	3-70	0-78	8-65

**0, no effect; 1-39 slight effect; 40-69, moderate effect; 70-100 severe effect

B. REPORTED STATISTICS:

The reviewer had no objections to the study author's statistical analyses. Pages 24 and 25 of the study report are appended to this DER.

C. VERIFICATION OF STATISTICAL RESULTS BY THE REVIEWER:

Any species exhibiting a $\geq 5\%$ reduction in seedling emergence, shoot weight or shoot length when compared to the control was statistically analyzed for significance. All analyzed data were tested for normality and homogeneity and if these assumptions of ANOVA were met, the NOAEC values were determined using Dunnett's Test or Bonferoni's Test (parametric) and William's Test or Kruskal-Wallis Test (non-parametric) via Toxstat Statistical Software. The ECx values (with 95% C.I.) and probit slopes were determined using Nuthatch Statistical Software. The EC₂₅ and EC₅₀ values were determined visually when the % reduction, compared to the control, was <25% or <50%, respectively. All analyses were conducted using the mean-measured treatment concentrations. Dead plants were included in the analyses for shoot length and shoot weight, with reported

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

values of “0”. Phytotoxicity was not statistically analyzed as this endpoint is a qualitative value. The negative and vehicle controls were compared using a T-test via Microsoft Excel and results are reported in the Reviewer’s Comments Section of this DER. However, if no differences existed between the two controls, a pooled control was not used in the analysis of the treatment data. When ECx values were greater than the highest application rate, the extrapolated value was not reported. Due to the non-linear responses of several species and endpoints, the reviewer visually determined a more conservative NOAEC value based on the percent reduction when compared to the control instead of the value determined in the analyses. See the Reviewer’s Comments section for further detail.

Seedling Emergence Value:

95% C.I.

Monocot:

Most sensitive monocot: Onion

Most sensitive parameter: Shoot Weight

EC ₅₀ /IC ₅₀ :	0.094 lbs ai/A	0.056-0.16 lbs ai/A
EC ₂₅ /IC ₂₅ :	0.035 lbs ai/A	0.017-0.072 lbs ai/A
EC ₀₅ /IC ₀₅ :	0.0087 lbs ai/A	0.00031-0.025 lbs ai/A
NOAEC:	<0.010 lbs ai/A	
Probit slope:	1.60±0.196	

Dicot:

Most sensitive dicot: Lettuce

Most sensitive parameter: Shoot Weight

EC ₅₀ /IC ₅₀ :	0.036 lbs ai/A	0.026-0.050 lbs ai/A
EC ₂₅ /IC ₂₅ :	0.016 lbs ai/A	0.0089-0.029 lbs ai/A
EC ₀₅ /IC ₀₅ :	0.0051 lbs ai/A	0.0018-0.014 lbs ai/A
NOAEC:	0.0047 lbs ai/A	
Probit slope:	1.93±0.405	

**Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants:
Seedling Emergence**

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Table 6: Effect of Propazine Technical on Seedling Emergence

Species	NOAEC, EC ₀₅ EC ₂₅ and EC ₅₀ (lbs ai/A)								
	Emergence (%)								
	Emergence*	NOAEC	EC ₀₅	95% C.I.	EC ₂₅	95% C.I.	EC ₅₀	95% C.I.	Slope
Corn	98-100	2.4	>2.4	N/A	>2.4	N/A	>2.4	N/A	N/A
Oat	0-98	0.036	0.024	0.0085-0.068	0.066	0.033-0.13	0.13	0.081-0.22	2.20±0.388
Onion	15-88	0.071	0.019	0.0041-0.092	0.098	0.037-0.26	0.30	0.16-0.55	1.38±0.261
Ryegrass	82-98	2.4	>2.4	N/A	>2.4	>2.4	>2.4	N/A	N/A
Wheat	73-98	1.2	0.14	0.0015-14	>1.7	N/A	>1.7	N/A	0.634±0.518
Cabbage	33-80	0.020	0.098	0.024-0.40	0.19	0.097-0.37	0.30	0.21-0.44	3.36±1.94
Cucumber	5-98	0.16	0.042	0.011-0.16	0.12	0.047-0.30	0.25	0.13-0.47	2.14±0.461
Lettuce	0-93	0.036	0.048	0.039-0.060	0.065	0.056-0.075	0.079	0.071-0.088	7.65±1.10
Radish	65-100	0.30	0.28	0.042-1.8	1.4	0.71-2.7	4.3	2.0-9.3	1.38±0.581
Soybean	48-98	0.59	0.99	0.57-1.7	1.7	1.3-2.1	2.4	2.1-2.8	4.18±1.28
Tomato	50-85	0.30	0.081	0.0036-1.8	0.66	0.16-2.7	2.8	1.1-6.9	1.07±0.469

* provide the range

The range for emergence, shoot weight and shoot length represent the range of treatment means on Day 21 or 22

ND- Not reported

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Table 6 (cont): Effect of Propazine Technical on Seedling Emergence

Species	NOAEC, EC ₀₅ EC ₂₅ and EC ₅₀ (lbs ai/A)								
	Shoot Weight (g)								
	Shoot Weight*	NOAEC	EC ₀₅	95% C.I.	EC ₂₅	95% C.I.	EC ₅₀	95% C.I.	Slope
Corn	34.89-46.74	2.4	>2.4	N/A	>2.4	N/A	>2.4	N/A	N/A
Oat	0-10.59	<0.010	0.019	0.0041-0.088	0.050	0.018-0.14	0.099	0.047-0.21	2.28±0.615
Onion	0.04-1.25	<0.010	0.0087	0.0031-0.025	0.035	0.017-0.072	0.094	0.056-0.16	1.60±0.196
Ryegrass	0.46-0.82	0.077	0.10	0.0075-1.5	0.83	0.27-2.5	3.5	1.5-8.0	1.08±0.432
Wheat	3.03-7.17	0.010	0.0031	2.4E-05-0.39	0.14	0.013-1.4	1.9	0.51-7.2	0.588±0.210
Cabbage	1.41-11.28	<0.011	0.049	0.020-0.12	0.098	0.058-0.17	0.16	0.11-0.22	3.18±0.813
Cucumber	0.17-30.03	0.077	0.064	0.0081-0.50	0.12	0.029-0.47	0.18	0.066-0.48	3.66±2.09
Lettuce	0-8.83	0.0047	0.0051	0.0018-0.014	0.016	0.0089-0.029	0.036	0.026-0.050	1.93±0.405
Radish	1.45-17.82	0.077	0.049	0.025-0.097	0.16	0.099-0.24	0.35	0.25-0.47	1.94±0.198
Soybean	8.23-33.99	0.59	0.50	0.30-0.85	0.97	0.72-1.3	1.5	1.3-1.8	3.41±0.611
Tomato	0.86-4.05	<0.077	0.039	0.0098-0.15	0.18	0.079-0.43	0.54	0.32-0.93	1.43±0.249

* provide the range

The range for emergence, shoot weight and shoot length represent the range of treatment means on Day 21 or 22

NR- Not reported

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Table 6 (cont): Effect of Propazine Technical on Seedling Emergence

Species	NOAEC, EC ₀₅ EC ₂₅ and EC ₅₀ (lbs ai/A)								
	Shoot Length (mm)								
	Shoot Length*	NOAEC	EC ₀₅	95% C.I.	EC ₂₅	95% C.I.	EC ₅₀	95% C.I.	Slope
Corn	466-544	2.4	>2.4	N/A	>2.4	N/A	>2.4	N/A	N/A
Oat	0-308	0.010	0.021	0.0060-0.074	0.056	0.024-0.13	0.11	0.061-0.21	2.27±0.494
Onion	6.5-94	0.018	0.012	0.0041-0.034	0.051	0.025-0.10	0.14	0.085-0.23	1.54±0.195
Ryegrass	112-139	0.59	0.42	0.0094-19	>2.4	N/A	>2.4	N/A	0.945±0.910
Wheat	198-311	0.010	0.00033	2.1E-09-52	0.83	0.012-57	>1.7	N/A	0.285±0.182
Cabbage	13-62	<0.011	0.055	0.018-0.17	0.12	0.062-0.22	0.20	0.13-0.29	2.98±0.999
Cucumber	2.2-101	0.16	0.056	0.015-0.21	0.13	0.050-0.31	0.22	0.11-0.42	2.78±0.773
Lettuce	0-65	0.018	0.014	0.0056-0.035	0.034	0.022-0.052	0.063	0.049-0.082	2.50±0.720
Radish	29-115	0.30	0.10	0.041-0.25	0.36	0.21-0.62	0.87	0.63-1.2	1.76±0.269
Soybean	86-216	0.59	0.91	0.42-2.0	1.5	1.0-2.2	2.2	1.8-2.7	4.30±1.70
Tomato	12-35	0.077	0.051	0.0074-0.35	0.27	0.087-0.82	0.84	0.43-1.6	1.35±0.342

* provide the range

The range for emergence, shoot weight and shoot length represent the range of treatment means on Day 21 or 22

NR- Not reported

Plant Injury Index*										
Corn	Oat	Onion	Ryegrass	Wheat	Cabbage	Cucumber	Lettuce	Radish	Soybean	Tomato
0-5	1-100	0-85	0-18	4-45	5-78	3-98	0-100	3-70	0-78	8-65

**0, no effect; 10-39 slight effect; 40-69, moderate effect; 70-90 severe effect

D. STUDY DEFICIENCIES:

There were no study deficiencies.

E. REVIEWER'S COMMENTS:

Results of the reviewer's statistical output are reported in the Executive Summary and Conclusions sections of this DER because they are based on mean-measured concentrations and include EC₀₅ values and probit slopes; the study author's toxicity values were based on nominal concentrations and did not include EC₀₅ values or probit slopes.

In the analyses for percent emergence, the NOAEC values for oat, cabbage, radish and soybean (0.036, 0.020,

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

0.30 and 0.59 lbs ai/A, respectively) were determined visually based on percent reduction relative to the control.

For oat, the percent reduction was $\geq 11\%$ in the mean-measured 0.071-1.7 lbs ai/A treatment groups and was -1% in the mean-measured 0.036 lbs ai/A treatment group. For cabbage, the percent reductions in the mean-measured 0.011 and 0.020 lbs ai/A, was -9 and 1%, respectively, while the percent reduction was 38% in the mean-measured 0.030 lbs ai/A treatment group. The percent reduction fell to 9% in the mean-measured 0.077 lbs ai/A treatment group, but rose in the next two higher treatment groups (mean-measured 0.15 and 0.33 lbs ai/A) to 22 and 56%, respectively. For radish emergence, no statistical differences were detected, which the reviewer attributes to the non-linear fashion of the data coupled with the non-parametric Kruskal-wallis test that was used for analysis. However, based on reductions of -1 to 1% in the mean-measured 0.077-0.30 lbs ai/A treatment groups when compared to the negative control, and the reductions of 14-35% in the mean-measured 0.59-2.4 lbs ai/A treatment groups, the reviewer visually determined the NOAEC to be 0.30 lbs ai/A. The reviewer's statistical analysis for soybean emergence determined that the NOAEC was 1.2 lbs ai/A; however, based on the reduction of 12% at this level when compared to the negative control and the -4% reduction in the next lower level (mean-measured 0.59 lbs ai/A) the reviewer determined that the lower of the two treatment levels was more conservative and therefore a more reliable NOAEC value.

In the analyses for shoot weight, all NOAEC values were determined visually based on percent reduction when compared to the control group with the exception of corn, cucumber, radish and soybean. These NOAEC values were determined because the percent reduction at the respective treatment groups was $< 10\%$ and the reductions in the next higher treatment group was $\geq 10\%$. When analyzing shoot weight for oat, onion, cabbage and tomato, NOAEC values were not determined due to the $\geq 10\%$ reductions in the lowest treatment groups; however, the reviewer was able to determine reliable EC_{05} (with 95% C.I.) values and probit slopes.

In the analyses for shoot length, all NOAEC values were determined visually based on percent reduction when compared to the control group with the exception of corn, oat, cucumber, lettuce and radish. These NOAEC values were determined because the percent reduction at the respective treatment groups was $< 10\%$ and the reductions in the next higher treatment group was $\geq 10\%$. When analyzing shoot length for cabbage, a NOAEC value was not determined due to the $\geq 10\%$ reduction in the lowest treatment group; however, the reviewer was able to determine a reliable EC_{05} (with 95% C.I.) value and probit slope.

The study authors gave dead plants values of 0 for shoot weight and shoot length. Therefore, replicates that experienced 100% mortality had growth values of 0, and the replicate means in which mortality was $< 100\%$ were reduced due to the 0 value for dead plants. In order to remain consistent throughout all analyses, the reviewer included dead plants in the statistical verification as there was no way to differentiate replicates that experience mortality or severe reductions due to application of Propazine Technical. The reduced replicate means from including dead plants in the analysis most likely resulted in more conservative EC_x values.

Even though pooled controls were not used in the analysis of end points, the reviewer determined whether or the negative and vehicle controls for each species and endpoint differed significantly. Corn shoot length and shoot weight and tomato shoot weight were the only species and endpoints for which the negative control response was significantly greater than the vehicle control response.

Initially, only ten species were to be tested, however, wheat was added as a protocol amendment to evaluate an additional monocot species which is typically grown as a rotational crop following propazine application in grain sorghum production. Because a satisfactory NOAEC value was not determined during the initial test, a second continuation test was conducted with cabbage, lettuce, oat and onion; wheat was added to the study design during the first continuation test. A second continuation test was conducted with even lower application rates for lettuce, oat, onion and wheat. Species that failed to reach 50% control emergence within one week of application were extended one additional week. Extensions were only necessary for onion in the first and second tests and for lettuce in the second test.

In the analysis of shoot weight, the study authors utilized fresh weight as opposed to dry weight, which does not

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

take into account the variability associated with water-holding capacity. Dry weight is a preferred endpoint for analyzing biomass.

The in-life portion of the seedling emergence test with corn, cucumber, ryegrass, radish, soybean and tomato was initiated on February 28, 1995 and continued for 21-22 days. The in-life portion of the final seedling emergence test for cabbage was initiated on May 31, 1995 and continued for 21-22 days. The in-life portion of the final seedling emergence test for lettuce, oat, onion and wheat was initiated on August 2, 1995 and continued for 21-22 days.

Propazine analytical standard (batch no. 177-19-1, CAS #139-40-2) was received from Griffin Corporation on May 23, 1994 and was stored at room temperature. The reported purity was 98.2%. Upon receipt, the standard was assigned ABC reference #PS-7296. This standard was used to prepare chromatographic reference standards for GLC.

F. CONCLUSIONS:

Indicate if the study is acceptable/unacceptable/supplementary. The most sensitive monocot was onion shoot weight with NOAEC, EC₀₅ and EC₂₅ values of <0.010, 0.0087 and 0.035 lbs ai/A, respectively. The most sensitive dicot was lettuce shoot weight with NOAEC, EC₀₅ and EC₂₅ values of 0.0047, 0.0051 and 0.016 lbs ai/A, respectively.

	Seedling Emergence Value:	95% C.I.
Monocot:		
Most sensitive monocot: Onion		
Most sensitive parameter: Shoot Weight		
EC ₅₀ /IC ₅₀ :	0.094 lbs ai/A	0.056-0.16 lbs ai/A
EC ₂₅ /IC ₂₅ :	0.035 lbs ai/A	0.017-0.072 lbs ai/A
EC ₀₅ /IC ₀₅ :	0.0087 lbs ai/A	0.00031-0.025 lbs ai/A
NOAEC:	<0.010 lbs ai/A	
Probit slope:	1.60±0.196	
Dicot:		
Most sensitive dicot: Lettuce		
Most sensitive parameter: Shoot Weight		
EC ₅₀ /IC ₅₀ :	0.036 lbs ai/A	0.026-0.050 lbs ai/A
EC ₂₅ /IC ₂₅ :	0.016 lbs ai/A	0.0089-0.029 lbs ai/A
EC ₀₅ /IC ₀₅ :	0.0051 lbs ai/A	0.0018-0.014 lbs ai/A
NOAEC:	0.0047 lbs ai/A	
Probit slope:	1.93±0.405	

III. REFERENCES:

No references were provided.

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

APPENDIX I. OUTPUT OF REVIEWER'S STATISTICAL VERIFICATION:

Corn shoot weight (g), lbs ai/A; Day 21-22

File: 4804cw Transform: NO TRANSFORM

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	100.581	16.764	1.337
Within (Error)	21	263.213	12.534	
Total	27	363.795		

Critical F value = 2.57 (0.05,6,21)

Since F < Critical F **FAIL TO REJECT Ho:All groups equal**

Corn shoot weight (g), lbs ai/A; Day 21-22

File: 4804cw Transform: NO TRANSFORM

DUNNETTS TEST - TABLE 1 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	42.895	42.895		
2	0.077	41.173	41.173	0.688	
3	0.16	46.680	46.680	-1.512	
4	0.30	43.570	43.570	-0.270	
5	0.59	43.163	43.163	-0.107	
6	1.2	46.737	46.737	-1.535	
7	2.4	43.375	43.375	-0.192	

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Corn shoot weight (g), lbs ai/A; Day 21-22

File: 4804cw Transform: NO TRANSFORM

DUNNETTS TEST - TABLE 2 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	6.158	14.4	1.722
3	0.16	4	6.158	14.4	-3.785
4	0.30	4	6.158	14.4	-0.675
5	0.59	4	6.158	14.4	-0.268
6	1.2	4	6.158	14.4	-3.842
7	2.4	4	6.158	14.4	-0.480

Corn shoot weight (g), lbs ai/A; Day 21-22

File: 4804cw Transform: NO TRANSFORM

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	42.895	42.895	42.034
2	0.077	4	41.173	41.173	42.034
3	0.16	4	46.680	46.680	44.471
4	0.30	4	43.570	43.570	44.471
5	0.59	4	43.163	43.163	44.471
6	1.2	4	46.737	46.737	45.056
7	2.4	4	43.375	43.375	45.056

Corn shoot weight (g), lbs ai/A; Day 21-22
File: 4804cw Transform: NO TRANSFORM

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	42.034				
0.077	42.034	0.344		1.72	k= 1, v=21
0.16	44.471	0.629		1.80	k= 2, v=21
0.30	44.471	0.629		1.83	k= 3, v=21
0.59	44.471	0.629		1.84	k= 4, v=21
1.2	45.056	0.863		1.85	k= 5, v=21
2.4	45.056	0.863		1.85	k= 6, v=21

s = 3.540

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

Corn shoot length (mm), lbs ai/A; Day 21-22
File: 4804cl Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	1160.560	193.427	0.176
Within (Error)	21	23015.500	1095.976	
Total	27	24176.060		

Critical F value = 2.57 (0.05,6,21)

Since F < Critical F **FAIL TO REJECT Ho:All groups equal**

Corn shoot length (mm), lbs ai/A; Day 21-22
File: 4804cl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}				EPA MRID Number 441848-04
1	neg control	536.975	536.975	
2	0.077	526.300	526.300	0.456
3	0.16	543.675	543.675	-0.286
4	0.30	526.200	526.200	0.460
5	0.59	525.775	525.775	0.478
6	1.2	531.650	531.650	0.227
7	2.4	526.425	526.425	0.451

Dunnnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Corn shoot length (mm), lbs ai/A; Day 21-22
File: 4804cl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	57.586	10.7	10.675
3	0.16	4	57.586	10.7	-6.700
4	0.30	4	57.586	10.7	10.775
5	0.59	4	57.586	10.7	11.200
6	1.2	4	57.586	10.7	5.325
7	2.4	4	57.586	10.7	10.550

Corn shoot length (mm), lbs ai/A; Day 21-22
File: 4804cl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	536.975	536.975	536.975
2	0.077	4	526.300	526.300	534.988
3	0.16	4	543.675	543.675	534.988
4	0.30	4	526.200	526.200	527.875
5	0.59	4	525.775	525.775	527.875
6	1.2	4	531.650	531.650	527.875
7	2.4	4	526.425	526.425	526.425

Corn shoot length (mm), lbs ai/A; Day 21-22
File: 4804cl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	536.975				
0.077	534.988	0.085		1.72	k= 1, v=21
0.16	534.988	0.085		1.80	k= 2, v=21
0.30	527.875	0.389		1.83	k= 3, v=21
0.59	527.875	0.389		1.84	k= 4, v=21

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....} EPA MRID Number 441848-04

1.2	527.875	0.389	1.85	k= 5, v=21
2.4	526.425	0.451	1.85	k= 6, v=21

s = 33.106

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	4.1E+02	2.8E-19	6.1E+23	10.	6.7E-22
EC10	2.6E+04	3.6E-32	1.9E+40	17.	1.4E-36
EC25	2.7E+07	1.7E-54	4.2E+68	30.	6.4E-62
EC50	6.0E+10	1.5E-79	2.4E+100	44.	2.5E-90

Slope = 0.201 Std.Err. = 0.835

Goodness of fit: p = 0.93 based on DF= 4.0 21.

4804CL : Corn shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	537.	537.	0.0970	100.	0.00
0.0770	4.00	526.	532.	-6.12	99.2	0.831
0.160	4.00	544.	532.	12.1	99.0	0.988
0.300	4.00	526.	531.	-4.55	98.9	1.14
0.590	4.00	526.	530.	-3.95	98.7	1.33
1.20	4.00	532.	529.	3.14	98.4	1.56
2.40	4.00	526.	527.	-0.723	98.2	1.81

!!!Warning: EC5 not bracketed by doses evaluated.

!!!Warning: EC10 not bracketed by doses evaluated.

!!!Warning: EC25 not bracketed by doses evaluated.

!!!Warning: EC50 not bracketed by doses evaluated.

Oat % emergence, lbs ai/A; Day 21-22

File: 4804oe Transform: NO TRANSFORMATION

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	neg control	97.500	97.500	132.000
2	0.010	97.500	97.500	132.000
3	0.018	92.500	92.500	112.000
4	0.036	95.000	95.000	122.000
5	0.071	87.500	87.500	106.000
6	0.14	65.000	65.000	80.000
7	0.29	5.000	5.000	38.000
8	0.61	0.000	0.000	22.000
9	1.2	7.500	7.500	46.000
10	1.7	2.500	2.500	30.000

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Calculated H Value = 10.651 Critical H Value Table = 16.920
 Since Calc H < Crit H **FAIL TO REJECT Ho:All groups are equal.**

Oat % emergence, lbs ai/A; Day 21-22
 File: 4804oe Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP													
				0	1	0	0	0	0	0	0	0	0	0			
8	0.61	0.000	0.000	\													
10	1.7	2.500	2.500	.	\												
7	0.29	5.000	5.000	.	.	\											
9	1.2	7.500	7.500	.	.	.	\										
6	0.14	65.000	65.000	.	.	.	.	\					
5	0.071	87.500	87.500	.	.	.	.	.	\			
3	0.018	92.500	92.500	.	.	.	.	.	.	\	
4	0.036	95.000	95.000	.	.	.	.	.	.	.	\
1	neg control	97.500	97.500	*	.	.	.	.	.	.	.	\
2	0.010	97.500	97.500	*	.	.	.	.	.	.	.	.	\

* = significant difference (p=0.05) . = no significant difference
 Table q value (0.05,10) = 3.261 SE = 8.057

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.024	0.0085	0.068	0.22	0.35
EC10	0.035	0.014	0.087	0.20	0.40
EC25	0.066	0.033	0.13	0.15	0.49
EC50	0.13	0.081	0.22	0.11	0.60

Slope = 2.20 Std.Err. = 0.388

!!!Poor fit: p < 0.001 based on DF= 7.00 30.0

4804OE : Oat % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	97.5	102.	-4.34	100.	0.00
0.0100	4.00	97.5	101.	-3.68	99.3	0.651
0.0180	4.00	92.5	99.1	-6.55	97.3	2.74
0.0360	4.00	95.0	91.2	3.80	89.6	10.4
0.0710	4.00	87.5	74.1	13.4	72.8	27.2
0.140	4.00	65.0	49.1	15.9	48.2	51.8
0.290	4.00	5.00	23.3	-18.3	22.9	77.1
0.610	4.00	0.00	7.44	-7.44	7.30	92.7
1.20	4.00	7.50	1.81	5.69	1.78	98.2
1.70	4.00	2.50	0.758	1.74	0.745	99.3

Oat shoot weight (g), lbs ai/A; Day 21-22

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

File: 4804ow

Transform: NO TRANSFORM

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	neg control	10.397	10.397	149.000
2	0.010	8.173	8.173	126.000
3	0.018	6.792	6.792	99.000
4	0.036	7.524	7.524	113.000
5	0.071	7.432	7.432	116.000
6	0.14	4.035	4.035	80.000
7	0.29	0.023	0.023	34.000
8	0.61	0.000	0.000	22.000
9	1.2	0.185	0.185	47.500
10	1.7	0.275	0.275	33.500

Calculated H Value = 20.539 Critical H Value Table = 16.920
 Since Calc H > Crit H **REJECT Ho:All groups are equal.**

Oat shoot weight (g), lbs ai/A; Day 21-22
 File: 4804ow Transform: NO TRANSFORM

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP																
				0	0	0	1	0	0	0	0	0	0							
8	0.61	0.000	0.000	\																
7	0.29	0.023	0.023	.	\															
9	1.2	0.185	0.185	.	.	\														
10	1.7	0.275	0.275	.	.	.	\													
6	0.14	4.035	4.035	.	.	.	.	\								
3	0.018	6.792	6.792	.	.	.	.	.	\						
5	0.071	7.432	7.432	.	.	.	.	.	.	\				
4	0.036	7.524	7.524	.	.	.	.	.	.	.	\		
2	0.010	8.173	8.173	.	.	.	.	.	.	.	.	\
1	neg control	10.397	10.397	*	*	.	*	.	.	.	.	.	\		

* = significant difference (p=0.05) . = no significant difference
 Table q value (0.05,10) = 3.261 SE = 8.202

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.019	0.0041	0.088	0.33	0.21
EC10	0.027	0.0071	0.11	0.29	0.26
EC25	0.050	0.018	0.14	0.23	0.35
EC50	0.099	0.047	0.21	0.16	0.47

Slope = 2.28 Std.Err. = 0.615

Goodness of fit: p = 0.086 based on DF= 7.0 30.

4804OW : Oat shoot weight (g), lbs ai/A; Day 21-22

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. - Pred.	Pred. %Control	%Change
0.00	4.00	10.4	9.02	1.38	100.	0.00
0.0100	4.00	8.17	8.92	-0.744	98.9	1.14
0.0180	4.00	6.79	8.61	-1.82	95.5	4.52
0.0360	4.00	7.52	7.60	-0.0768	84.3	15.7
0.0710	4.00	7.43	5.68	1.75	63.0	37.0
0.140	4.00	4.03	3.30	0.730	36.6	63.4
0.290	4.00	0.0225	1.30	-1.27	14.4	85.6
0.610	4.00	0.00	0.323	-0.323	3.58	96.4
1.20	4.00	0.185	0.0604	0.125	0.670	99.3
1.70	4.00	0.275	0.0218	0.253	0.241	99.8

Oat shoot length (mm), lbs ai/A; Day 21-22
 File: 4804ol Transform: NO TRANSFORMATION

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	neg control	301.250	301.250	138.000
2	0.010	295.250	295.250	137.000
3	0.018	242.875	242.875	101.000
4	0.036	278.225	278.225	124.000
5	0.071	255.800	255.800	110.000
6	0.14	150.350	150.350	74.000
7	0.29	2.975	2.975	34.000
8	0.61	0.000	0.000	22.000
9	1.2	13.125	13.125	47.500
10	1.7	8.450	8.450	32.500

Calculated H Value = 20.985 Critical H Value Table = 16.920
 Since Calc H > Crit H REJECT Ho: All groups are equal.

Oat shoot length (mm), lbs ai/A; Day 21-22
 File: 4804ol Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP																
				8	7	0	9	6	3	5	4	2	1							
8	0.61	0.000	0.000	\																
7	0.29	2.975	2.975	. \																
10	1.7	8.450	8.450	. . \																
9	1.2	13.125	13.125	. . . \																
6	0.14	150.350	150.350 \																
3	0.018	242.875	242.875 \																
5	0.071	255.800	255.800 \																
4	0.036	278.225	278.225 \																
2	0.010	295.250	295.250	* \																
1	neg control	301.250	301.250	* \																

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

* = significant difference (p=0.05)
Table q value (0.05,10) = 3.261

. = no significant difference
SE = 8.202

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.021	0.0060	0.074	0.27	0.29
EC10	0.030	0.010	0.091	0.24	0.33
EC25	0.056	0.024	0.13	0.18	0.43
EC50	0.11	0.061	0.21	0.13	0.54

Slope = 2.27 Std.Err. = 0.494

!!!Poor fit: p = 0.018 based on DF= 7.0 30.

48040L : Oat shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	301.	301.	0.220	100.	0.00
0.0100	4.00	295.	298.	-3.16	99.1	0.869
0.0180	4.00	243.	290.	-47.3	96.4	3.60
0.0360	4.00	278.	261.	16.9	86.8	13.2
0.0710	4.00	256.	203.	53.3	67.3	32.7
0.140	4.00	150.	124.	26.2	41.3	58.7
0.290	4.00	2.98	52.4	-49.4	17.4	82.6
0.610	4.00	0.00	14.3	-14.3	4.74	95.3
1.20	4.00	13.1	2.92	10.2	0.971	99.0
1.70	4.00	8.45	1.11	7.34	0.367	99.6

Onion % emergence, lbs ai/A; Day 21-22

File: 4804ne Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	9	28722.500	3191.389	18.865
Within (Error)	30	5075.000	169.167	
Total	39	33797.500		

Critical F value = 2.21 (0.05,9,30)

Since F > Critical F **REJECT Ho:All groups equal**

Onion % emergence, lbs ai/A; Day 21-22

File: 4804ne Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
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Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}				EPA MRID Number 441848-04
1	neg control	77.500	77.500	
2	0.010	85.000	85.000	-0.815
3	0.018	82.500	82.500	-0.544
4	0.036	72.500	72.500	0.544
5	0.071	75.000	75.000	0.272
6	0.14	60.000	60.000	1.903
7	0.29	40.000	40.000	4.077 *
8	0.61	22.500	22.500	5.980 *
9	1.2	15.000	15.000	6.796 *
10	1.7	17.500	17.500	6.524 *

Dunnett table value = 2.54 (1 Tailed Value, P=0.05, df=30,9)

Onion % emergence, lbs ai/A; Day 21-22
File: 4804ne Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.010	4	23.360	30.1	-7.500
3	0.018	4	23.360	30.1	-5.000
4	0.036	4	23.360	30.1	5.000
5	0.071	4	23.360	30.1	2.500
6	0.14	4	23.360	30.1	17.500
7	0.29	4	23.360	30.1	37.500
8	0.61	4	23.360	30.1	55.000
9	1.2	4	23.360	30.1	62.500
10	1.7	4	23.360	30.1	60.000

Onion % emergence, lbs ai/A; Day 21-22
File: 4804ne Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	77.500	77.500	81.667
2	0.010	4	85.000	85.000	81.667
3	0.018	4	82.500	82.500	81.667
4	0.036	4	72.500	72.500	73.750
5	0.071	4	75.000	75.000	73.750
6	0.14	4	60.000	60.000	60.000
7	0.29	4	40.000	40.000	40.000
8	0.61	4	22.500	22.500	22.500
9	1.2	4	15.000	15.000	16.250
10	1.7	4	17.500	17.500	16.250

Onion % emergence, lbs ai/A; Day 21-22
File: 4804ne Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	81.667				
0.010	81.667	0.453		1.70	k= 1, v=30
0.018	81.667	0.453		1.78	k= 2, v=30
0.036	73.750	0.408		1.80	k= 3, v=30
0.071	73.750	0.408		1.81	k= 4, v=30
0.14	60.000	1.903	*	1.82	k= 5, v=30
0.29	40.000	4.077	*	1.83	k= 6, v=30
0.61	22.500	5.980	*	1.83	k= 7, v=30
1.2	16.250	6.660	*	1.83	k= 8, v=30
1.7	16.250	6.660	*	1.83	k= 9, v=30

s = 13.006

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.019	0.0041	0.092	0.33	0.21
EC10	0.036	0.0094	0.13	0.29	0.26
EC25	0.098	0.037	0.26	0.21	0.38
EC50	0.30	0.16	0.55	0.13	0.55

Slope = 1.38 Std.Err. = 0.261

Goodness of fit: p = 0.79 based on DF= 7.0 30.

4804NE : Onion % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	77.5	84.0	-6.50	100.	0.00
0.0100	4.00	85.0	82.3	2.73	97.9	2.06
0.0180	4.00	82.5	80.2	2.32	95.4	4.56
0.0360	4.00	72.5	75.5	-2.99	89.9	10.1
0.0710	4.00	75.0	67.8	7.20	80.7	19.3
0.140	4.00	60.0	56.9	3.10	67.7	32.3
0.290	4.00	40.0	42.8	-2.81	51.0	49.0
0.610	4.00	22.5	28.3	-5.78	33.7	66.3
1.20	4.00	15.0	17.2	-2.15	20.4	79.6
1.70	4.00	17.5	12.6	4.88	15.0	85.0

Onion shoot weight (g), lbs ai/A; Day 21-22

File: 4804nw Transform: NO TRANSFORM

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	9	8.127	0.903	27.364
Within (Error)	30	0.982	0.033	
Total	39	9.109		

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Critical F value = 2.21 (0.05,9,30)
 Since F > Critical F **REJECT Ho:All groups equal**

Onion shoot weight (g), lbs ai/A; Day 21-22
 File: 4804nw Transform: NO TRANSFORM

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	1.245	1.245		
2	0.010	0.970	0.970	2.145	
3	0.018	1.136	1.136	0.851	
4	0.036	0.961	0.961	2.217	
5	0.071	0.768	0.768	3.713	*
6	0.14	0.453	0.453	6.172	*
7	0.29	0.198	0.198	8.153	*
8	0.61	0.105	0.105	8.875	*
9	1.2	0.058	0.058	9.243	*
10	1.7	0.042	0.042	9.369	*

Dunnett table value = 2.54 (1 Tailed Value, P=0.05, df=30,9)

Onion shoot weight (g), lbs ai/A; Day 21-22
 File: 4804nw Transform: NO TRANSFORM

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.010	4	0.326	26.2	0.275
3	0.018	4	0.326	26.2	0.109
4	0.036	4	0.326	26.2	0.285
5	0.071	4	0.326	26.2	0.477
6	0.14	4	0.326	26.2	0.793
7	0.29	4	0.326	26.2	1.047
8	0.61	4	0.326	26.2	1.140
9	1.2	4	0.326	26.2	1.187
10	1.7	4	0.326	26.2	1.203

Onion shoot weight (g), lbs ai/A; Day 21-22
 File: 4804nw Transform: NO TRANSFORM

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	1.245	1.245	1.245
2	0.010	4	0.970	0.970	1.053
3	0.018	4	1.136	1.136	1.053

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04				
4	0.036	4	0.961	0.961	0.961
5	0.071	4	0.768	0.768	0.768
6	0.14	4	0.453	0.453	0.453
7	0.29	4	0.198	0.198	0.198
8	0.61	4	0.105	0.105	0.105
9	1.2	4	0.058	0.058	0.058
10	1.7	4	0.042	0.042	0.042

Onion shoot weight (g), lbs ai/A; Day 21-22
File: 4804nw Transform: NO TRANSFORM

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	1.245				
0.010	1.053	1.504		1.70	k= 1, v=30
0.018	1.053	1.504		1.78	k= 2, v=30
0.036	0.961	2.226	*	1.80	k= 3, v=30
0.071	0.768	3.729	*	1.81	k= 4, v=30
0.14	0.453	6.198	*	1.82	k= 5, v=30
0.29	0.198	8.188	*	1.83	k= 6, v=30
0.61	0.105	8.913	*	1.83	k= 7, v=30
1.2	0.058	9.282	*	1.83	k= 8, v=30
1.7	0.042	9.409	*	1.83	k= 9, v=30

s = 0.181

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.0087	0.0031	0.025	0.22	0.36
EC10	0.015	0.0059	0.037	0.20	0.40
EC25	0.035	0.017	0.072	0.15	0.49
EC50	0.094	0.056	0.16	0.11	0.60

Slope = 1.60 Std.Err. = 0.196

Goodness of fit: p = 0.71 based on DF= 7.0 30.

4804NW : Onion shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	1.25	1.21	0.0346	100.	0.00
0.0100	4.00	0.970	1.14	-0.168	94.0	6.05
0.0180	4.00	1.14	1.06	0.0784	87.4	12.6
0.0360	4.00	0.960	0.904	0.0569	74.6	25.4
0.0710	4.00	0.768	0.698	0.0706	57.6	42.4
0.140	4.00	0.453	0.473	-0.0202	39.0	61.0
0.290	4.00	0.198	0.263	-0.0645	21.7	78.3

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}					EPA MRID Number 441848-04	
0.610	4.00	0.105	0.118	-0.0123	9.71	90.3
1.20	4.00	0.0580	0.0467	0.0113	3.86	96.1
1.70	4.00	0.0417	0.0270	0.0148	2.23	97.8

!!!Warning: EC5 not bracketed by doses evaluated.

Onion shoot length (mm), lbs ai/A; Day 21-22
File: 4804nl Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	9	47393.540	5265.949	32.523
Within (Error)	30	4857.457	161.915	
Total	39	52250.998		

Critical F value = 2.21 (0.05,9,30)
Since F > Critical F **REJECT Ho:All groups equal**

Onion shoot length (mm), lbs ai/A; Day 21-22
File: 4804nl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	92.475	92.475		
2	0.010	86.750	86.750	0.636	
3	0.018	92.800	92.800	-0.036	
4	0.036	77.700	77.700	1.642	
5	0.071	70.200	70.200	2.476	
6	0.14	47.675	47.675	4.979	*
7	0.29	24.675	24.675	7.535	*
8	0.61	13.050	13.050	8.827	*
9	1.2	7.325	7.325	9.464	*
10	1.7	6.525	6.525	9.553	*

Dunnnett table value = 2.54 (1 Tailed Value, P=0.05, df=30,9)

Onion shoot length (mm), lbs ai/A; Day 21-22
File: 4804nl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.010	4	22.854	24.7	5.725
3	0.018	4	22.854	24.7	-0.325
4	0.036	4	22.854	24.7	14.775
5	0.071	4	22.854	24.7	22.275
6	0.14	4	22.854	24.7	44.800

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04				
7	0.29	4	22.854	24.7	67.800
8	0.61	4	22.854	24.7	79.425
9	1.2	4	22.854	24.7	85.150
10	1.7	4	22.854	24.7	85.950

Onion shoot length (mm), lbs ai/A; Day 21-22
File: 4804nl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	92.475	92.475	92.475
2	0.010	4	86.750	86.750	89.775
3	0.018	4	92.800	92.800	89.775
4	0.036	4	77.700	77.700	77.700
5	0.071	4	70.200	70.200	70.200
6	0.14	4	47.675	47.675	47.675
7	0.29	4	24.675	24.675	24.675
8	0.61	4	13.050	13.050	13.050
9	1.2	4	7.325	7.325	7.325
10	1.7	4	6.525	6.525	6.525

Onion shoot length (mm), lbs ai/A; Day 21-22
File: 4804nl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	92.475				
0.010	89.775	0.300		1.70	k= 1, v=30
0.018	89.775	0.300		1.78	k= 2, v=30
0.036	77.700	1.642		1.80	k= 3, v=30
0.071	70.200	2.476	*	1.81	k= 4, v=30
0.14	47.675	4.979	*	1.82	k= 5, v=30
0.29	24.675	7.535	*	1.83	k= 6, v=30
0.61	13.050	8.827	*	1.83	k= 7, v=30
1.2	7.325	9.464	*	1.83	k= 8, v=30
1.7	6.525	9.552	*	1.83	k= 9, v=30

s = 12.725

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.012	0.0041	0.034	0.23	0.35
EC10	0.020	0.0081	0.052	0.20	0.40
EC25	0.051	0.025	0.10	0.15	0.49
EC50	0.14	0.085	0.23	0.11	0.61

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Slope = 1.54 Std.Err. = 0.195

Goodness of fit: p = 0.89 based on DF= 7.0 30.

4804NL : Onion shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. - Pred.	Pred. %Control	%Change
0.00	4.00	92.5	95.2	-2.69	100.	0.00
0.0100	4.00	86.8	91.4	-4.70	96.1	3.91
0.0180	4.00	92.8	87.0	5.79	91.4	8.57
0.0360	4.00	77.7	77.7	-0.0410	81.7	18.3
0.0710	4.00	70.2	64.1	6.14	67.3	32.7
0.140	4.00	47.7	47.4	0.325	49.8	50.2
0.290	4.00	24.7	29.6	-4.89	31.1	68.9
0.610	4.00	13.0	15.3	-2.23	16.1	83.9
1.20	4.00	7.32	7.06	0.263	7.42	92.6
1.70	4.00	6.53	4.44	2.09	4.66	95.3

Ryegrass % emergence, lbs ai/A; Day 21-22

File: 4804ge Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	371.429	61.905	0.867
Within (Error)	21	1500.000	71.429	
Total	27	1871.429		

Critical F value = 2.57 (0.05,6,21)

Since F < Critical F **FAIL TO REJECT Ho:All groups equal**

Ryegrass % emergence, lbs ai/A; Day 21-22

File: 4804ge Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	95.000	95.000		
2	0.077	90.000	90.000	0.837	
3	0.16	92.500	92.500	0.418	
4	0.30	92.500	92.500	0.418	
5	0.59	97.500	97.500	-0.418	
6	1.2	85.000	85.000	1.673	
7	2.4	92.500	92.500	0.418	

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Ryegrass % emergence, lbs ai/A; Day 21-22
File: 4804ge Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	14.701	15.5	5.000
3	0.16	4	14.701	15.5	2.500
4	0.30	4	14.701	15.5	2.500
5	0.59	4	14.701	15.5	-2.500
6	1.2	4	14.701	15.5	10.000
7	2.4	4	14.701	15.5	2.500

Ryegrass % emergence, lbs ai/A; Day 21-22
File: 4804ge Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	95.000	95.000	95.000
2	0.077	4	90.000	90.000	93.125
3	0.16	4	92.500	92.500	93.125
4	0.30	4	92.500	92.500	93.125
5	0.59	4	97.500	97.500	93.125
6	1.2	4	85.000	85.000	88.750
7	2.4	4	92.500	92.500	88.750

Ryegrass % emergence, lbs ai/A; Day 21-22
File: 4804ge Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	95.000				
0.077	93.125	0.314		1.72	k= 1, v=21
0.16	93.125	0.314		1.80	k= 2, v=21
0.30	93.125	0.314		1.83	k= 3, v=21
0.59	93.125	0.314		1.84	k= 4, v=21
1.2	88.750	1.046		1.85	k= 5, v=21
2.4	88.750	1.046		1.85	k= 6, v=21

s = 8.452

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	31.	2.0E-20	4.7E+22	10.	6.5E-22
EC10	2.5E+05	2.6E-55	2.4E+65	29.	1.0E-60

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....} EPA MRID Number 441848-04
 EC25 8.6E+11 2.7E-118 2.7E+141 63. 3.1E-130
 EC50 1.6E+19 6.3E-189 3.9E+226 1.0E+02 4.0E-208

Slope = 0.0929 Std.Err. = 0.485

Goodness of fit: p = 0.35 based on DF= 4.0 21.

4804GE : Ryegrass % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	95.0	95.0	0.0271	100.	0.00
0.0770	4.00	90.0	92.2	-2.16	97.0	2.96
0.160	4.00	92.5	92.0	0.535	96.8	3.17
0.300	4.00	92.5	91.8	0.710	96.6	3.35
0.590	4.00	97.5	91.6	5.91	96.4	3.56
1.20	4.00	85.0	91.4	-6.37	96.2	3.79
2.40	4.00	92.5	91.1	1.35	96.0	4.03

- !!!Warning: EC5 not bracketed by doses evaluated.
- !!!Warning: EC10 not bracketed by doses evaluated.
- !!!Warning: EC25 not bracketed by doses evaluated.
- !!!Warning: EC50 not bracketed by doses evaluated.

Ryegrass shoot weight (g), lbs ai/A; Day 21-22
 File: 4804gw Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	0.442	0.074	4.625
Within (Error)	21	0.339	0.016	
Total	27	0.780		

Critical F value = 2.57 (0.05,6,21)
 Since F > Critical F **REJECT Ho:All groups equal**

Ryegrass shoot weight (g), lbs ai/A; Day 21-22
 File: 4804gw Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	0.818	0.818		
2	0.077	0.780	0.780	0.419	
3	0.16	0.642	0.642	1.957	
4	0.30	0.785	0.785	0.363	

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04			
5	0.59	0.645	0.645	1.929
6	1.2	0.540	0.540	3.103 *
7	2.4	0.457	0.457	4.025 *

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Ryegrass shoot weight (g), lbs ai/A; Day 21-22
 File: 4804gw Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	0.220	26.9	0.037
3	0.16	4	0.220	26.9	0.175
4	0.30	4	0.220	26.9	0.033
5	0.59	4	0.220	26.9	0.172
6	1.2	4	0.220	26.9	0.278
7	2.4	4	0.220	26.9	0.360

Ryegrass shoot weight (g), lbs ai/A; Day 21-22
 File: 4804gw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	0.818	0.818	0.818
2	0.077	4	0.780	0.780	0.780
3	0.16	4	0.642	0.642	0.714
4	0.30	4	0.785	0.785	0.714
5	0.59	4	0.645	0.645	0.645
6	1.2	4	0.540	0.540	0.540
7	2.4	4	0.457	0.457	0.457

Ryegrass shoot weight (g), lbs ai/A; Day 21-22
 File: 4804gw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	0.818				
0.077	0.780	0.418		1.72	k= 1, v=21
0.16	0.714	1.156		1.80	k= 2, v=21
0.30	0.714	1.156		1.83	k= 3, v=21
0.59	0.645	1.921	*	1.84	k= 4, v=21
1.2	0.540	3.091	*	1.85	k= 5, v=21
2.4	0.457	4.010	*	1.85	k= 6, v=21

s = 0.127

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.10	0.0075	1.5	0.56	0.071
EC10	0.23	0.030	1.7	0.43	0.13
EC25	0.83	0.27	2.5	0.23	0.33
EC50	3.5	1.5	8.0	0.17	0.44

Slope = 1.08 Std.Err. = 0.432

Goodness of fit: p = 0.43 based on DF= 4.0 21.

4804GW : Ryegrass shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	0.818	0.801	0.0163	100.	0.00
0.0770	4.00	0.780	0.772	0.00828	96.3	3.68
0.160	4.00	0.642	0.742	-0.0994	92.6	7.40
0.300	4.00	0.785	0.701	0.0837	87.5	12.5
0.590	4.00	0.645	0.640	0.00548	79.8	20.2
1.20	4.00	0.540	0.555	-0.0147	69.2	30.8
2.40	4.00	0.458	0.457	0.000381	57.1	42.9

!!!Warning: EC50 not bracketed by doses evaluated.

Ryegrass shoot length (mm), lbs ai/A; Day 21-22

File: 4804gl Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	2655.859	442.643	1.082
Within (Error)	21	8587.115	408.910	
Total	27	11242.974		

Critical F value = 2.57 (0.05,6,21)

Since F < Critical F **FAIL TO REJECT Ho:All groups equal**

Ryegrass shoot length (mm), lbs ai/A; Day 21-22

File: 4804gl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}				EPA MRID Number 441848-04
1	neg control	133.875	133.875	
2	0.077	136.925	136.925	-0.213
3	0.16	127.750	127.750	0.428
4	0.30	139.325	139.325	-0.381
5	0.59	128.875	128.875	0.350
6	1.2	111.625	111.625	1.556
7	2.4	115.625	115.625	1.276

Dunnnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Ryegrass shoot length (mm), lbs ai/A; Day 21-22
File: 4804gl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	35.175	26.3	-3.050
3	0.16	4	35.175	26.3	6.125
4	0.30	4	35.175	26.3	-5.450
5	0.59	4	35.175	26.3	5.000
6	1.2	4	35.175	26.3	22.250
7	2.4	4	35.175	26.3	18.250

Ryegrass shoot length (mm), lbs ai/A; Day 21-22
File: 4804gl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	133.875	133.875	135.400
2	0.077	4	136.925	136.925	135.400
3	0.16	4	127.750	127.750	133.538
4	0.30	4	139.325	139.325	133.538
5	0.59	4	128.875	128.875	128.875
6	1.2	4	111.625	111.625	113.625
7	2.4	4	115.625	115.625	113.625

Ryegrass shoot length (mm), lbs ai/A; Day 21-22
File: 4804gl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	135.400				
0.077	135.400	0.107		1.72	k= 1, v=21
0.16	133.538	0.024		1.80	k= 2, v=21
0.30	133.538	0.024		1.83	k= 3, v=21
0.59	128.875	0.350		1.84	k= 4, v=21

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....} EPA MRID Number 441848-04

1.2	113.625	1.416	1.85	k= 5, v=21
2.4	113.625	1.416	1.85	k= 6, v=21

s = 20.222

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.42	0.0094	19.	0.80	0.022
EC10	1.0	0.11	9.8	0.48	0.10
EC25	4.5	0.71	28.	0.39	0.16
EC50	23.	0.22	2.4E+03	0.98	0.0096

Slope = 0.945 Std.Err. = 0.910

Goodness of fit: p = 0.73 based on DF= 4.0 21.

4804GL : Ryegrass shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	134.	136.	-2.05	100.	0.00
0.0770	4.00	137.	135.	2.30	99.0	0.963
0.160	4.00	128.	133.	-5.37	97.9	2.07
0.300	4.00	139.	131.	8.47	96.3	3.74
0.590	4.00	129.	127.	1.95	93.4	6.62
1.20	4.00	112.	121.	-9.01	88.7	11.3
2.40	4.00	116.	112.	3.69	82.3	17.7

!!!Warning: EC25 not bracketed by doses evaluated.

!!!Warning: EC50 not bracketed by doses evaluated.

Wheat % emergence, lbs ai/A; Day 21-22

File: 4804we Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	9	2140.000	237.778	1.761
Within (Error)	30	4050.000	135.000	
Total	39	6190.000		

Critical F value = 2.21 (0.05,9,30)

Since F < Critical F **FAIL TO REJECT** Ho:All groups equal

Wheat % emergence, lbs ai/A; Day 21-22

File: 4804we Transform: NO TRANSFORMATION

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	97.500	97.500		
2	0.010	92.500	92.500	0.609	
3	0.018	95.000	95.000	0.304	
4	0.036	97.500	97.500	0.000	
5	0.071	82.500	82.500	1.826	
6	0.14	92.500	92.500	0.609	
7	0.29	90.000	90.000	0.913	
8	0.61	85.000	85.000	1.521	
9	1.2	90.000	90.000	0.913	
10	1.7	72.500	72.500	3.043	*

Dunnett table value = 2.54 (1 Tailed Value, P=0.05, df=30,9)

Wheat % emergence, lbs ai/A; Day 21-22
 File: 4804we Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.010	4	20.868	21.4	5.000
3	0.018	4	20.868	21.4	2.500
4	0.036	4	20.868	21.4	0.000
5	0.071	4	20.868	21.4	15.000
6	0.14	4	20.868	21.4	5.000
7	0.29	4	20.868	21.4	7.500
8	0.61	4	20.868	21.4	12.500
9	1.2	4	20.868	21.4	7.500
10	1.7	4	20.868	21.4	25.000

Wheat % emergence, lbs ai/A; Day 21-22
 File: 4804we Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	97.500	97.500	97.500
2	0.010	4	92.500	92.500	95.000
3	0.018	4	95.000	95.000	95.000
4	0.036	4	97.500	97.500	95.000
5	0.071	4	82.500	82.500	88.333
6	0.14	4	92.500	92.500	88.333
7	0.29	4	90.000	90.000	88.333
8	0.61	4	85.000	85.000	87.500
9	1.2	4	90.000	90.000	87.500
10	1.7	4	72.500	72.500	72.500

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Wheat % emergence, lbs ai/A; Day 21-22
 File: 4804we Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	97.500				
0.010	95.000	0.304		1.70	k= 1, v=30
0.018	95.000	0.304		1.78	k= 2, v=30
0.036	95.000	0.304		1.80	k= 3, v=30
0.071	88.333	1.116		1.81	k= 4, v=30
0.14	88.333	1.116		1.82	k= 5, v=30
0.29	88.333	1.116		1.83	k= 6, v=30
0.61	87.500	1.217		1.83	k= 7, v=30
1.2	87.500	1.217		1.83	k= 8, v=30
1.7	72.500	3.043	*	1.83	k= 9, v=30

s = 11.619

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.14	0.0015	14.	0.98	0.010
EC10	0.54	0.038	7.5	0.56	0.072
EC25	4.9	0.53	45.	0.48	0.11
EC50	56.	0.17	1.9E+04	1.2	0.0030

Slope = 0.634 Std.Err. = 0.518

Goodness of fit: p = 0.44 based on DF= 7.0 30.

4804WE : Wheat % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	97.5	95.4	2.11	100.	0.00
0.0100	4.00	92.5	94.6	-2.07	99.1	0.869
0.0180	4.00	95.0	94.1	0.877	98.7	1.33
0.0360	4.00	97.5	93.4	4.15	97.9	2.14
0.0710	4.00	82.5	92.2	-9.75	96.7	3.30
0.140	4.00	92.5	90.7	1.81	95.1	4.93
0.290	4.00	90.0	88.4	1.61	92.7	7.34
0.610	4.00	85.0	85.2	-0.244	89.4	10.6
1.20	4.00	90.0	81.6	8.41	85.5	14.5
1.70	4.00	72.5	79.4	-6.90	83.2	16.8

!!!Warning: EC25 not bracketed by doses evaluated.

!!!Warning: EC50 not bracketed by doses evaluated.

Wheat shoot weight (g), lbs ai/A; Day 21-22
 File: 4804ww Transform: NO TRANSFORMATION

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	9	55.956	6.217	4.077
Within (Error)	30	45.764	1.525	
Total	39	101.720		

Critical F value = 2.21 (0.05,9,30)
 Since F > Critical F **REJECT Ho:All groups equal**

Wheat shoot weight (g), lbs ai/A; Day 21-22
 File: 4804ww Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	7.169	7.169		
2	0.010	6.649	6.649	0.595	
3	0.018	5.678	5.678	1.707	
4	0.036	4.916	4.916	2.580	*
5	0.071	5.428	5.428	1.994	
6	0.14	5.953	5.953	1.392	
7	0.29	5.383	5.383	2.045	
8	0.61	4.112	4.112	3.500	*
9	1.2	4.110	4.110	3.503	*
10	1.7	3.033	3.033	4.737	*

Dunnett table value = 2.54 (1 Tailed Value, P=0.05, df=30,9)

Wheat shoot weight (g), lbs ai/A; Day 21-22
 File: 4804ww Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.010	4	2.218	30.9	0.520
3	0.018	4	2.218	30.9	1.491
4	0.036	4	2.218	30.9	2.253
5	0.071	4	2.218	30.9	1.741
6	0.14	4	2.218	30.9	1.216
7	0.29	4	2.218	30.9	1.786
8	0.61	4	2.218	30.9	3.057
9	1.2	4	2.218	30.9	3.059
10	1.7	4	2.218	30.9	4.136

Wheat shoot weight (g), lbs ai/A; Day 21-22

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

File: 4804ww Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	7.169	7.169	7.169
2	0.010	4	6.649	6.649	6.649
3	0.018	4	5.678	5.678	5.678
4	0.036	4	4.916	4.916	5.432
5	0.071	4	5.428	5.428	5.432
6	0.14	4	5.953	5.953	5.432
7	0.29	4	5.383	5.383	5.383
8	0.61	4	4.112	4.112	4.112
9	1.2	4	4.110	4.110	4.110
10	1.7	4	3.033	3.033	3.033

Wheat shoot weight (g), lbs ai/A; Day 21-22
File: 4804ww Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	7.169				
0.010	6.649	0.595		1.70	k= 1, v=30
0.018	5.678	1.707		1.78	k= 2, v=30
0.036	5.432	1.988	*	1.80	k= 3, v=30
0.071	5.432	1.988	*	1.81	k= 4, v=30
0.14	5.432	1.988	*	1.82	k= 5, v=30
0.29	5.383	2.044	*	1.83	k= 6, v=30
0.61	4.112	3.500	*	1.83	k= 7, v=30
1.2	4.110	3.503	*	1.83	k= 8, v=30
1.7	3.033	4.736	*	1.83	k= 9, v=30

s = 1.235

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.0031	2.4E-05	0.39	1.0	0.0078
EC10	0.013	0.00026	0.61	0.83	0.021
EC25	0.14	0.013	1.4	0.50	0.097
EC50	1.9	0.51	7.2	0.28	0.27

Slope = 0.588 Std.Err. = 0.210

Goodness of fit: p = 0.50 based on DF= 7.0 30.

4804WW : Wheat shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
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Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

0.00	4.00	7.17	6.95	0.220	100.	0.00
0.0100	4.00	6.65	6.32	0.324	91.0	8.98
0.0180	4.00	5.68	6.14	-0.460	88.3	11.7
0.0360	4.00	4.92	5.87	-0.955	84.5	15.5
0.0710	4.00	5.43	5.56	-0.130	80.0	20.0
0.140	4.00	5.95	5.20	0.756	74.8	25.2
0.290	4.00	5.38	4.76	0.623	68.5	31.5
0.610	4.00	4.11	4.27	-0.160	61.5	38.5
1.20	4.00	4.11	3.80	0.306	54.7	45.3
1.70	4.00	3.03	3.56	-0.525	51.2	48.8

!!!Warning: EC5 not bracketed by doses evaluated.

!!!Warning: EC50 not bracketed by doses evaluated.

Wheat shoot length (mm), lbs ai/A; Day 21-22

File: 4804wl Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	9	37554.397	4172.711	1.396
Within (Error)	30	89696.703	2989.890	
Total	39	127251.100		

Critical F value = 2.21 (0.05,9,30)

Since F < Critical F **FAIL TO REJECT Ho:All groups equal**

Wheat shoot length (mm), lbs ai/A; Day 21-22

File: 4804wl Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	311.400	311.400		
2	0.010	289.450	289.450	0.568	
3	0.018	256.800	256.800	1.412	
4	0.036	248.475	248.475	1.627	
5	0.071	242.900	242.900	1.772	
6	0.14	285.475	285.475	0.671	
7	0.29	254.100	254.100	1.482	
8	0.61	228.400	228.400	2.147	
9	1.2	251.950	251.950	1.538	
10	1.7	198.325	198.325	2.925	*

Dunnnett table value = 2.54 (1 Tailed Value, P=0.05, df=30,9)

Wheat shoot length (mm), lbs ai/A; Day 21-22

File: 4804wl Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2

Ho:Control<Treatment

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.010	4	98.208	31.5	21.950
3	0.018	4	98.208	31.5	54.600
4	0.036	4	98.208	31.5	62.925
5	0.071	4	98.208	31.5	68.500
6	0.14	4	98.208	31.5	25.925
7	0.29	4	98.208	31.5	57.300
8	0.61	4	98.208	31.5	83.000
9	1.2	4	98.208	31.5	59.450
10	1.7	4	98.208	31.5	113.075

Wheat shoot length (mm), lbs ai/A; Day 21-22
File: 4804wl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	311.400	311.400	311.400
2	0.010	4	289.450	289.450	289.450
3	0.018	4	256.800	256.800	258.413
4	0.036	4	248.475	248.475	258.413
5	0.071	4	242.900	242.900	258.413
6	0.14	4	285.475	285.475	258.413
7	0.29	4	254.100	254.100	254.100
8	0.61	4	228.400	228.400	240.175
9	1.2	4	251.950	251.950	240.175
10	1.7	4	198.325	198.325	198.325

Wheat shoot length (mm), lbs ai/A; Day 21-22
File: 4804wl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	311.400				
0.010	289.450	0.568		1.70	k= 1, v=30
0.018	258.413	1.370		1.78	k= 2, v=30
0.036	258.413	1.370		1.80	k= 3, v=30
0.071	258.413	1.370		1.81	k= 4, v=30
0.14	258.413	1.370		1.82	k= 5, v=30
0.29	254.100	1.482		1.83	k= 6, v=30
0.61	240.175	1.842	*	1.83	k= 7, v=30
1.2	240.175	1.842	*	1.83	k= 8, v=30
1.7	198.325	2.925	*	1.83	k= 9, v=30

s = 54.680

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

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.00033	2.1E-09	52.	2.6	6.3E-06
EC10	0.0062	1.3E-06	31.	1.8	0.00020
EC25	0.83	0.012	57.	0.91	0.014
EC50	1.9E+02	0.15	2.5E+05	1.5	0.00076

Slope = 0.285 Std.Err. = 0.182

Goodness of fit: p = 0.72 based on DF= 7.0 30.

4804WL : Wheat shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	311.	310.	1.30	100.	0.00
0.0100	4.00	289.	276.	13.7	88.9	11.1
0.0180	4.00	257.	271.	-14.5	87.5	12.5
0.0360	4.00	248.	266.	-17.0	85.6	14.4
0.0710	4.00	243.	259.	-16.4	83.6	16.4
0.140	4.00	285.	253.	32.9	81.5	18.5
0.290	4.00	254.	245.	9.26	79.0	21.0
0.610	4.00	228.	236.	-7.89	76.2	23.8
1.20	4.00	252.	228.	23.9	73.5	26.5
1.70	4.00	198.	224.	-25.2	72.1	27.9

!!!Warning: EC5 not bracketed by doses evaluated.

!!!Warning: EC10 not bracketed by doses evaluated.

!!!Warning: EC50 not bracketed by doses evaluated.

Cabbage % emergence, lbs ai/A; Day 21-22

File: 4804be Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	7292.857	1215.476	3.461
Within (Error)	21	7375.000	351.190	
Total	27	14667.857		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Cabbage % emergence, lbs ai/A; Day 21-22

File: 4804be Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2

Ho:Control<Treatment

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	72.500	72.500		
2	0.011	80.000	80.000	-0.566	
3	0.020	72.500	72.500	0.000	
4	0.038	52.500	52.500	1.509	
5	0.077	80.000	80.000	-0.566	
6	0.15	57.500	57.500	1.132	
7	0.33	32.500	32.500	3.019	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Cabbage % emergence, lbs ai/A; Day 21-22
File: 4804be Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.011	4	32.598	45.0	-7.500
3	0.020	4	32.598	45.0	0.000
4	0.038	4	32.598	45.0	20.000
5	0.077	4	32.598	45.0	-7.500
6	0.15	4	32.598	45.0	15.000
7	0.33	4	32.598	45.0	40.000

Cabbage % emergence, lbs ai/A; Day 21-22
File: 4804be Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	72.500	72.500	76.250
2	0.011	4	80.000	80.000	76.250
3	0.020	4	72.500	72.500	72.500
4	0.038	4	52.500	52.500	66.250
5	0.077	4	80.000	80.000	66.250
6	0.15	4	57.500	57.500	57.500
7	0.33	4	32.500	32.500	32.500

Cabbage % emergence, lbs ai/A; Day 21-22
File: 4804be Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	76.250				

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04				
0.011	76.250	0.283		1.72	k= 1, v=21
0.020	72.500	0.000		1.80	k= 2, v=21
0.038	66.250	0.472		1.83	k= 3, v=21
0.077	66.250	0.472		1.84	k= 4, v=21
0.15	57.500	1.132		1.85	k= 5, v=21
0.33	32.500	3.019	*	1.85	k= 6, v=21

s = 18.740

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.098	0.024	0.40	0.30	0.25
EC10	0.13	0.041	0.39	0.24	0.33
EC25	0.19	0.097	0.37	0.14	0.51
EC50	0.30	0.21	0.44	0.078	0.69

Slope = 3.36 Std.Err. = 1.94

Goodness of fit: p = 0.35 based on DF= 4.0 21.

4804BE : Cabbage % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	72.5	71.3	1.17	100.	0.00
0.0110	4.00	80.0	71.3	8.67	100.	6.38e-05
0.0200	4.00	72.5	71.3	1.18	100.	0.00359
0.0380	4.00	52.5	71.2	-18.7	99.9	0.121
0.0770	4.00	80.0	69.7	10.3	97.7	2.27
0.150	4.00	57.5	60.5	-2.96	84.8	15.2
0.330	4.00	32.5	32.1	0.402	45.0	55.0

Cabbage shoot weight (g), lbs ai/A; Day 21-22

File: 4804bw Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	251.587	41.931	8.437
Within (Error)	21	104.369	4.970	
Total	27	355.956		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Cabbage shoot weight (g), lbs ai/A; Day 21-22

File: 4804bw Transform: NO TRANSFORMATION

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	11.280	11.280		
2	0.011	8.495	8.495	1.767	
3	0.020	9.843	9.843	0.912	
4	0.038	8.553	8.553	1.730	
5	0.077	7.798	7.798	2.209	
6	0.15	5.525	5.525	3.651	*
7	0.33	1.413	1.413	6.260	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Cabbage shoot weight (g), lbs ai/A; Day 21-22
File: 4804bw Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.011	4	3.878	34.4	2.785
3	0.020	4	3.878	34.4	1.438
4	0.038	4	3.878	34.4	2.728
5	0.077	4	3.878	34.4	3.483
6	0.15	4	3.878	34.4	5.755
7	0.33	4	3.878	34.4	9.868

Cabbage shoot weight (g), lbs ai/A; Day 21-22
File: 4804bw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	11.280	11.280	11.280
2	0.011	4	8.495	8.495	9.169
3	0.020	4	9.843	9.843	9.169
4	0.038	4	8.553	8.553	8.553
5	0.077	4	7.798	7.798	7.798
6	0.15	4	5.525	5.525	5.525
7	0.33	4	1.413	1.413	1.413

Cabbage shoot weight (g), lbs ai/A; Day 21-22
File: 4804bw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
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Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Dose	Mean	SE	DF	SE	DF
neg control	11.280				
0.011	9.169	1.339		1.72	k= 1, v=21
0.020	9.169	1.339		1.80	k= 2, v=21
0.038	8.553	1.730		1.83	k= 3, v=21
0.077	7.798	2.209	*	1.84	k= 4, v=21
0.15	5.525	3.651	*	1.85	k= 5, v=21
0.33	1.413	6.260	*	1.85	k= 6, v=21

s = 2.229

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.049	0.020	0.12	0.18	0.42
EC10	0.063	0.030	0.13	0.16	0.48
EC25	0.098	0.058	0.17	0.11	0.59
EC50	0.16	0.11	0.22	0.071	0.71

Slope = 3.18 Std.Err. = 0.813

Goodness of fit: p = 0.60 based on DF= 4.0 21.

4804BW : Cabbage shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	11.3	9.60	1.68	100.	0.00
0.0110	4.00	8.49	9.60	-1.10	100.	0.0107
0.0200	4.00	9.84	9.58	0.261	99.8	0.203
0.0380	4.00	8.55	9.37	-0.822	97.7	2.35
0.0770	4.00	7.80	8.10	-0.302	84.4	15.6
0.150	4.00	5.53	5.13	0.391	53.5	46.5
0.330	4.00	1.41	1.52	-0.103	15.8	84.2

Cabbage shoot length (mm), lbs ai/A; Day 21-22

File: 4804b1 Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	6508.245	1084.707	5.708
Within (Error)	21	3990.468	190.022	
Total	27	10498.712		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Cabbage shoot length (mm), lbs ai/A; Day 21-22
File: 4804bl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	61.875	61.875		
2	0.011	54.775	54.775	0.728	
3	0.020	54.175	54.175	0.790	
4	0.038	39.650	39.650	2.280	
5	0.077	49.725	49.725	1.246	
6	0.15	35.325	35.325	2.724	*
7	0.33	13.000	13.000	5.014	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Cabbage shoot length (mm), lbs ai/A; Day 21-22
File: 4804bl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.011	4	23.979	38.8	7.100
3	0.020	4	23.979	38.8	7.700
4	0.038	4	23.979	38.8	22.225
5	0.077	4	23.979	38.8	12.150
6	0.15	4	23.979	38.8	26.550
7	0.33	4	23.979	38.8	48.875

Cabbage shoot length (mm), lbs ai/A; Day 21-22
File: 4804bl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	61.875	61.875	61.875
2	0.011	4	54.775	54.775	54.775
3	0.020	4	54.175	54.175	54.175
4	0.038	4	39.650	39.650	44.688
5	0.077	4	49.725	49.725	44.688
6	0.15	4	35.325	35.325	35.325
7	0.33	4	13.000	13.000	13.000

Cabbage shoot length (mm), lbs ai/A; Day 21-22
File: 4804bl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	61.875				
0.011	54.775	0.728		1.72	k= 1, v=21
0.020	54.175	0.790		1.80	k= 2, v=21
0.038	44.688	1.763		1.83	k= 3, v=21
0.077	44.688	1.763		1.84	k= 4, v=21
0.15	35.325	2.724	*	1.85	k= 5, v=21
0.33	13.000	5.014	*	1.85	k= 6, v=21

s = 13.785

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.055	0.018	0.17	0.23	0.33
EC10	0.073	0.029	0.19	0.20	0.39
EC25	0.12	0.062	0.22	0.13	0.53
EC50	0.20	0.13	0.29	0.081	0.68

Slope = 2.98 Std.Err. = 0.999

Goodness of fit: p = 0.45 based on DF= 4.0 21.

4804BL : Cabbage shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	61.9	53.6	8.30	100.	0.00
0.0110	4.00	54.8	53.6	1.20	100.	0.00939
0.0200	4.00	54.2	53.5	0.678	99.8	0.153
0.0380	4.00	39.6	52.7	-13.0	98.3	1.66
0.0770	4.00	49.7	47.6	2.16	88.8	11.2
0.150	4.00	35.3	34.1	1.18	63.7	36.3
0.330	4.00	13.0	13.5	-0.473	25.1	74.9

Cucumber % emergence, lbs ai/A; Day 21-22

File: 4804ue Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	35342.857	5890.476	30.171
Within (Error)	21	4100.000	195.238	
Total	27	39442.857		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Cucumber % emergence, lbs ai/A; Day 21-22
 File: 4804ue Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	87.500	87.500		
2	0.077	80.000	80.000	0.759	
3	0.16	82.500	82.500	0.506	
4	0.30	32.500	32.500	5.567	*
5	0.59	12.500	12.500	7.591	*
6	1.2	5.000	5.000	8.350	*
7	2.4	5.000	5.000	8.350	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Cucumber % emergence, lbs ai/A; Day 21-22
 File: 4804ue Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	24.305	27.8	7.500
3	0.16	4	24.305	27.8	5.000
4	0.30	4	24.305	27.8	55.000
5	0.59	4	24.305	27.8	75.000
6	1.2	4	24.305	27.8	82.500
7	2.4	4	24.305	27.8	82.500

Cucumber % emergence, lbs ai/A; Day 21-22
 File: 4804ue Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	87.500	87.500	87.500
2	0.077	4	80.000	80.000	81.250
3	0.16	4	82.500	82.500	81.250
4	0.30	4	32.500	32.500	32.500
5	0.59	4	12.500	12.500	12.500
6	1.2	4	5.000	5.000	5.000
7	2.4	4	5.000	5.000	5.000

Cucumber % emergence, lbs ai/A; Day 21-22
 File: 4804ue Transform: NO TRANSFORMATION

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	87.500				
0.077	81.250	0.633		1.72	k= 1, v=21
0.16	81.250	0.633		1.80	k= 2, v=21
0.30	32.500	5.567	*	1.83	k= 3, v=21
0.59	12.500	7.591	*	1.84	k= 4, v=21
1.2	5.000	8.350	*	1.85	k= 5, v=21
2.4	5.000	8.350	*	1.85	k= 6, v=21

s = 13.973

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.042	0.011	0.16	0.28	0.26
EC10	0.062	0.019	0.20	0.25	0.31
EC25	0.12	0.047	0.30	0.19	0.40
EC50	0.25	0.13	0.47	0.14	0.52

Slope = 2.14 Std.Err. = 0.461

Goodness of fit: p = 0.12 based on DF= 4.0 21.

4804UE : Cucumber % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	87.5	94.3	-6.83	100.	0.00
0.0770	4.00	80.0	81.1	-1.06	85.9	14.1
0.160	4.00	82.5	61.7	20.8	65.4	34.6
0.300	4.00	32.5	40.2	-7.66	42.6	57.4
0.590	4.00	12.5	19.5	-7.05	20.7	79.3
1.20	4.00	5.00	6.60	-1.60	7.00	93.0
2.40	4.00	5.00	1.60	3.40	1.70	98.3

!!!Warning: EC5 not bracketed by doses evaluated.

!!!Warning: EC10 not bracketed by doses evaluated.

Cucumber shoot weight (g), lbs ai/A; Day 21-22

File: 4804uw Transform: NO TRANSFORM

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	neg control	27.743	27.743	98.000
2	0.077	26.673	26.673	95.000
3	0.16	22.440	22.440	77.000
4	0.30	2.702	2.702	49.000
5	0.59	0.597	0.597	36.000
6	1.2	0.298	0.298	24.000

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....} EPA MRID Number 441848-04
 7 2.4 0.165 0.165 27.000

Calculated H Value = 22.558 Critical H Value Table = 12.590
 Since Calc H > Crit H **REJECT Ho:All groups are equal.**

Cucumber shoot weight (g), lbs ai/A; Day 21-22
 File: 4804uw Transform: NO TRANSFORM

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP								
				0	0	0	0	0	0	0		
7	2.4	0.165	0.165	\								
6	1.2	0.298	0.298	.	\							
5	0.59	0.597	0.597	.	.	\						
4	0.30	2.702	2.702	.	.	.	\					
3	0.16	22.440	22.440	.	.	.	.	\
2	0.077	26.673	26.673	.	*	.	.	.	\			
1	neg control	27.743	27.743	*	*	.	.	.	.	\

* = significant difference (p=0.05) . = no significant difference
 Table q value (0.05,7) = 3.038 SE = 5.772

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.064	0.0081	0.50	0.43	0.13
EC10	0.080	0.013	0.49	0.38	0.16
EC25	0.12	0.029	0.47	0.29	0.25
EC50	0.18	0.066	0.48	0.21	0.37

Slope = 3.66 Std.Err. = 2.09

!!!Poor fit: p = 0.0061 based on DF= 4.0 21.

4804UW : Cucumber shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	27.7	29.7	-1.94	100.	0.00
0.0770	4.00	26.7	27.0	-0.334	91.0	9.01
0.160	4.00	22.4	16.9	5.51	57.0	43.0
0.300	4.00	2.70	6.10	-3.40	20.6	79.4
0.590	4.00	0.597	0.858	-0.260	2.89	97.1
1.20	4.00	0.297	0.0368	0.261	0.124	99.9
2.40	4.00	0.165	0.000543	0.164	0.00183	100.

!!!Warning: EC5 not bracketed by doses evaluated.

Cucumber shoot length (mm), lbs ai/A; Day 21-22
 File: 4804ul Transform: NO TRANSFORMATION

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	53258.034	8876.339	34.880
Within (Error)	21	5344.072	254.480	
Total	27	58602.107		

Critical F value = 2.57 (0.05,6,21)
 Since F > Critical F **REJECT Ho:All groups equal**

Cucumber shoot length (mm), lbs ai/A; Day 21-22
 File: 4804ul Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	91.775	91.775		
2	0.077	92.775	92.775	-0.089	
3	0.16	100.500	100.500	-0.773	
4	0.30	18.450	18.450	6.500	*
5	0.59	6.525	6.525	7.558	*
6	1.2	2.950	2.950	7.875	*
7	2.4	2.450	2.450	7.919	*

Dunnnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Cucumber shoot length (mm), lbs ai/A; Day 21-22
 File: 4804ul Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	27.749	30.2	-1.000
3	0.16	4	27.749	30.2	-8.725
4	0.30	4	27.749	30.2	73.325
5	0.59	4	27.749	30.2	85.250
6	1.2	4	27.749	30.2	88.825
7	2.4	4	27.749	30.2	89.325

Cucumber shoot length (mm), lbs ai/A; Day 21-22
 File: 4804ul Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

1	neg control	4	91.775	91.775	95.017	
2	0.077	4	92.775	92.775	95.017	
3	0.16	4	100.500	100.500	95.017	
4	0.30	4	18.450	18.450	18.450	
5	0.59	4	6.525	6.525	6.525	
6	1.2	4	2.950	2.950	2.950	
7	2.4	4	2.450	2.450	2.450	

Cucumber shoot length (mm), lbs ai/A; Day 21-22
File: 4804ul Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	95.017				
0.077	95.017	0.287		1.72	k= 1, v=21
0.16	95.017	0.287		1.80	k= 2, v=21
0.30	18.450	6.500	*	1.83	k= 3, v=21
0.59	6.525	7.558	*	1.84	k= 4, v=21
1.2	2.950	7.875	*	1.85	k= 5, v=21
2.4	2.450	7.919	*	1.85	k= 6, v=21

s = 15.952

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.056	0.015	0.21	0.28	0.26
EC10	0.076	0.023	0.25	0.25	0.31
EC25	0.13	0.050	0.31	0.19	0.40
EC50	0.22	0.11	0.42	0.14	0.52

Slope = 2.78 Std.Err. = 0.773

!!!Poor fit: p = 0.0073 based on DF= 4.0 21.

4804UL : Cucumber shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	91.8	103.	-11.7	100.	0.00
0.0770	4.00	92.8	92.8	-0.0683	89.7	10.3
0.160	4.00	101.	67.1	33.4	64.8	35.2
0.300	4.00	18.5	36.5	-18.0	35.2	64.8
0.590	4.00	6.52	12.0	-5.45	11.6	88.4
1.20	4.00	2.95	2.06	0.887	1.99	98.0
2.40	4.00	2.45	0.197	2.25	0.191	99.8

!!!Warning: EC5 not bracketed by doses evaluated.

!!!Warning: EC10 not bracketed by doses evaluated.

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Lettuce % emergence, lbs ai/A; Day 21-22
 File: 48041e Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	7	28046.875	4006.696	24.816
Within (Error)	24	3875.000	161.458	
Total	31	31921.875		

Critical F value = 2.42 (0.05,7,24)
 Since F > Critical F **REJECT Ho:All groups equal**

Lettuce % emergence, lbs ai/A; Day 21-22
 File: 48041e Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	85.000	85.000		
2	0.0022	92.500	92.500	-0.835	
3	0.0047	90.000	90.000	-0.556	
4	0.010	92.500	92.500	-0.835	
5	0.018	92.500	92.500	-0.835	
6	0.036	80.000	80.000	0.556	
7	0.074	52.500	52.500	3.617	*
8	0.14	2.500	2.500	9.182	*

Dunnett table value = 2.48 (1 Tailed Value, P=0.05, df=24,7)

Lettuce % emergence, lbs ai/A; Day 21-22
 File: 48041e Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.0022	4	22.283	26.2	-7.500
3	0.0047	4	22.283	26.2	-5.000
4	0.010	4	22.283	26.2	-7.500
5	0.018	4	22.283	26.2	-7.500
6	0.036	4	22.283	26.2	5.000
7	0.074	4	22.283	26.2	32.500
8	0.14	4	22.283	26.2	82.500

Lettuce % emergence, lbs ai/A; Day 21-22

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

File: 48041e Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	85.000	85.000	90.500
2	0.0022	4	92.500	92.500	90.500
3	0.0047	4	90.000	90.000	90.500
4	0.010	4	92.500	92.500	90.500
5	0.018	4	92.500	92.500	90.500
6	0.036	4	80.000	80.000	80.000
7	0.074	4	52.500	52.500	52.500
8	0.14	4	2.500	2.500	2.500

Lettuce % emergence, lbs ai/A; Day 21-22
File: 48041e Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	90.500				
0.0022	90.500	0.612		1.71	k= 1, v=24
0.0047	90.500	0.612		1.79	k= 2, v=24
0.010	90.500	0.612		1.82	k= 3, v=24
0.018	90.500	0.612		1.83	k= 4, v=24
0.036	80.000	0.556		1.84	k= 5, v=24
0.074	52.500	3.617	*	1.84	k= 6, v=24
0.14	2.500	9.182	*	1.85	k= 7, v=24

s = 12.707

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.048	0.039	0.060	0.047	0.80
EC10	0.054	0.044	0.065	0.041	0.83
EC25	0.065	0.056	0.075	0.031	0.86
EC50	0.079	0.071	0.088	0.023	0.90

Slope = 7.65 Std.Err. = 1.10

Goodness of fit: p = 0.89 based on DF= 5.0 24.

4804LE : Lettuce % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	85.0	88.9	-3.87	100.	0.00
0.00220	4.00	92.5	88.9	3.63	100.	1.60e-14
0.00470	4.00	90.0	88.9	1.13	100.	1.60e-14

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04					
0.0100	4.00	92.5	88.9	3.63	100.	3.27e-10
0.0180	4.00	92.5	88.9	3.63	100.	4.44e-05
0.0360	4.00	80.0	88.5	-8.47	99.6	0.450
0.0740	4.00	52.5	52.1	0.368	58.7	41.3
0.140	4.00	2.50	2.56	-0.0574	2.88	97.1

Lettuce shoot weight (g), lbs ai/A; Day 21-22
File: 4804lw Transform: NO TRANSFORM

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	145.545	24.257	13.321
Within (Error)	21	38.231	1.821	
Total	27	183.776		

Critical F value = 2.57 (0.05,6,21)
Since F > Critical F **REJECT Ho:All groups equal**

Lettuce shoot weight (g), lbs ai/A; Day 21-22
File: 4804lw Transform: NO TRANSFORM

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	8.822	8.822		
2	0.0022	8.774	8.774	0.051	
3	0.0047	8.832	8.832	-0.010	
4	0.010	7.199	7.199	1.700	
5	0.018	6.648	6.648	2.278	
6	0.036	4.390	4.390	4.645	*
7	0.071	2.521	2.521	6.603	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Lettuce shoot weight (g), lbs ai/A; Day 21-22
File: 4804lw Transform: NO TRANSFORM

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.0022	4	2.347	26.6	0.048
3	0.0047	4	2.347	26.6	-0.010
4	0.010	4	2.347	26.6	1.622
5	0.018	4	2.347	26.6	2.173
6	0.036	4	2.347	26.6	4.432
7	0.071	4	2.347	26.6	6.301

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Lettuce shoot weight (g), lbs ai/A; Day 21-22
File: 4804lw Transform: NO TRANSFORM

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	8.822	8.822	8.822
2	0.0022	4	8.774	8.774	8.803
3	0.0047	4	8.832	8.832	8.803
4	0.010	4	7.199	7.199	7.199
5	0.018	4	6.648	6.648	6.648
6	0.036	4	4.390	4.390	4.390
7	0.071	4	2.521	2.521	2.521

Lettuce shoot weight (g), lbs ai/A; Day 21-22
File: 4804lw Transform: NO TRANSFORM

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	8.822				
0.0022	8.803	0.020		1.72	k= 1, v=21
0.0047	8.803	0.020		1.80	k= 2, v=21
0.010	7.199	1.701		1.83	k= 3, v=21
0.018	6.648	2.278	*	1.84	k= 4, v=21
0.036	4.390	4.646	*	1.85	k= 5, v=21
0.071	2.521	6.604	*	1.85	k= 6, v=21

s = 1.349

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.0051	0.0018	0.014	0.22	0.35
EC10	0.0078	0.0033	0.019	0.18	0.42
EC25	0.016	0.0089	0.029	0.12	0.56
EC50	0.036	0.026	0.050	0.071	0.72

Slope = 1.93 Std.Err. = 0.405

Goodness of fit: p = 0.96 based on DF= 4.0 21.

4804LW : Lettuce shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	8.82	8.89	-0.0697	100.	0.00
0.00220	4.00	8.77	8.81	-0.0336	99.1	0.949

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04					
0.00470	4.00	8.83	8.50	0.330	95.6	4.38
0.0100	4.00	7.20	7.63	-0.435	85.9	14.1
0.0180	4.00	6.65	6.39	0.255	71.9	28.1
0.0360	4.00	4.39	4.44	-0.0482	49.9	50.1
0.0710	4.00	2.52	2.52	0.00151	28.3	71.7

Lettuce shoot length (mm), lbs ai/A; Day 21-22
File: 480411 Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	4300.237	716.706	7.669
Within (Error)	21	1962.620	93.458	
Total	27	6262.857		

Critical F value = 2.57 (0.05,6,21)
Since F > Critical F **REJECT Ho:All groups equal**

Lettuce shoot length (mm), lbs ai/A; Day 21-22
File: 480411 Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	65.400	65.400		
2	0.0022	63.650	63.650	0.256	
3	0.0047	65.325	65.325	0.011	
4	0.010	60.025	60.025	0.786	
5	0.018	58.700	58.700	0.980	
6	0.036	47.675	47.675	2.593	*
7	0.071	28.625	28.625	5.380	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Lettuce shoot length (mm), lbs ai/A; Day 21-22
File: 480411 Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.0022	4	16.816	25.7	1.750
3	0.0047	4	16.816	25.7	0.075
4	0.010	4	16.816	25.7	5.375
5	0.018	4	16.816	25.7	6.700
6	0.036	4	16.816	25.7	17.725
7	0.071	4	16.816	25.7	36.775

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Lettuce shoot length (mm), lbs ai/A; Day 21-22
File: 480411 Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	65.400	65.400	65.400
2	0.0022	4	63.650	63.650	64.488
3	0.0047	4	65.325	65.325	64.488
4	0.010	4	60.025	60.025	60.025
5	0.018	4	58.700	58.700	58.700
6	0.036	4	47.675	47.675	47.675
7	0.071	4	28.625	28.625	28.625

Lettuce shoot length (mm), lbs ai/A; Day 21-22
File: 480411 Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	65.400				
0.0022	64.488	0.133		1.72	k= 1, v=21
0.0047	64.488	0.133		1.80	k= 2, v=21
0.010	60.025	0.786		1.83	k= 3, v=21
0.018	58.700	0.980		1.84	k= 4, v=21
0.036	47.675	2.593	*	1.85	k= 5, v=21
0.071	28.625	5.380	*	1.85	k= 6, v=21

s = 9.667

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.014	0.0056	0.035	0.19	0.40
EC10	0.019	0.0095	0.040	0.15	0.49
EC25	0.034	0.022	0.052	0.091	0.65
EC50	0.063	0.049	0.082	0.054	0.78

Slope = 2.50 Std.Err. = 0.720

Goodness of fit: p = 0.98 based on DF= 4.0 21.

4804LL : Lettuce shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	65.4	64.1	1.26	100.	0.00
0.00220	4.00	63.6	64.1	-0.486	100.	0.0129

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04					
0.00470	4.00	65.3	64.0	1.33	99.8	0.233
0.0100	4.00	60.0	62.7	-2.69	97.8	2.23
0.0180	4.00	58.7	58.7	0.0450	91.4	8.56
0.0360	4.00	47.7	46.9	0.815	73.1	26.9
0.0710	4.00	28.6	28.9	-0.273	45.1	54.9

Radish % emergence, lbs ai/A; Day 21-22
 File: 4804re Transform: NO TRANSFORMATION

KRUSKAL-WALLIS ANOVA BY RANKS - TABLE 1 OF 2

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	RANK SUM
1	neg control	97.500	97.500	72.000
2	0.077	97.500	97.500	72.000
3	0.16	100.000	100.000	82.000
4	0.30	100.000	100.000	82.000
5	0.59	85.000	85.000	50.000
6	1.2	75.000	75.000	27.000
7	2.4	65.000	65.000	21.000

Calculated H Value = 17.973 Critical H Value Table = 12.590
 Since Calc H > Crit H **REJECT Ho:All groups are equal.**

Radish % emergence, lbs ai/A; Day 21-22
 File: 4804re Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	ORIGINAL MEAN	GROUP								
				0	0	0	0	0	0	0		
7	2.4	65.000	65.000	\								
6	1.2	75.000	75.000	.	\							
5	0.59	85.000	85.000	.	.	\						
1	neg control	97.500	97.500	.	.	.	\					
2	0.077	97.500	97.500	.	.	.	.	\
4	0.30	100.000	100.000	.	.	.	.	.	\
3	0.16	100.000	100.000	.	.	.	.	.	.	\

* = significant difference (p=0.05) . = no significant difference
 Table q value (0.05,7) = 3.038 SE = 5.233

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.28	0.042	1.8	0.40	0.15
EC10	0.51	0.13	2.0	0.29	0.25
EC25	1.4	0.71	2.7	0.14	0.51
EC50	4.3	2.0	9.3	0.16	0.46

Slope = 1.38 Std.Err. = 0.581

Goodness of fit: p = 0.87 based on DF= 4.0 21.

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

4804RE : Radish % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. - Pred.	Pred. %Control	%Change
0.00	4.00	97.5	99.9	-2.38	100.	0.00
0.0770	4.00	97.5	99.1	-1.59	99.2	0.791
0.160	4.00	100.	97.5	2.54	97.6	2.42
0.300	4.00	100.	94.4	5.64	94.5	5.53
0.590	4.00	85.0	88.2	-3.17	88.3	11.7
1.20	4.00	75.0	77.6	-2.61	77.7	22.3
2.40	4.00	65.0	63.4	1.56	63.5	36.5

!!!Warning: EC50 not bracketed by doses evaluated.

Radish shoot weight (g), lbs ai/A; Day 21-22

File: 4804rw Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	1126.748	187.791	146.027
Within (Error)	21	27.004	1.286	
Total	27	1153.752		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Radish shoot weight (g), lbs ai/A; Day 21-22

File: 4804rw Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	16.708	16.708		
2	0.077	17.818	17.818	-1.384	
3	0.16	13.923	13.923	3.473	*
4	0.30	10.630	10.630	7.579	*
5	0.59	4.488	4.488	15.239	*
6	1.2	2.440	2.440	17.793	*
7	2.4	1.445	1.445	19.034	*

Dunnnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Radish shoot weight (g), lbs ai/A; Day 21-22

File: 4804rw Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 2 OF 2

Ho:Control<Treatment

NUM OF Minimum Sig Diff % of DIFFERENCE

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

GROUP	IDENTIFICATION	REPS	(IN ORIG. UNITS)	CONTROL	FROM CONTROL
1	neg control	4			
2	0.077	4	1.973	11.8	-1.110
3	0.16	4	1.973	11.8	2.785
4	0.30	4	1.973	11.8	6.078
5	0.59	4	1.973	11.8	12.220
6	1.2	4	1.973	11.8	14.268
7	2.4	4	1.973	11.8	15.263

Radish shoot weight (g), lbs ai/A; Day 21-22
File: 4804rw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	16.708	16.708	17.263
2	0.077	4	17.818	17.818	17.263
3	0.16	4	13.923	13.923	13.923
4	0.30	4	10.630	10.630	10.630
5	0.59	4	4.488	4.488	4.488
6	1.2	4	2.440	2.440	2.440
7	2.4	4	1.445	1.445	1.445

Radish shoot weight (g), lbs ai/A; Day 21-22
File: 4804rw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	17.263				
0.077	17.263	0.692		1.72	k= 1, v=21
0.16	13.923	3.473	*	1.80	k= 2, v=21
0.30	10.630	7.579	*	1.83	k= 3, v=21
0.59	4.488	15.240	*	1.84	k= 4, v=21
1.2	2.440	17.793	*	1.85	k= 5, v=21
2.4	1.445	19.034	*	1.85	k= 6, v=21

s = 1.134

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.049	0.025	0.097	0.14	0.51
EC10	0.076	0.042	0.14	0.12	0.55
EC25	0.16	0.099	0.24	0.095	0.64
EC50	0.35	0.25	0.47	0.066	0.73

Slope = 1.94 Std.Err. = 0.198

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

!!!Poor fit: p = 0.026 based on DF= 4.0 21.

4804RW : Radish shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	16.7	18.1	-1.43	100.	0.00
0.0770	4.00	17.8	16.3	1.53	89.8	10.2
0.160	4.00	13.9	13.5	0.444	74.3	25.7
0.300	4.00	10.6	9.96	0.667	54.9	45.1
0.590	4.00	4.49	5.95	-1.46	32.8	67.2
1.20	4.00	2.44	2.69	-0.252	14.8	85.2
2.40	4.00	1.45	0.941	0.504	5.19	94.8

!!!Warning: EC5 not bracketed by doses evaluated.

!!!Warning: EC10 not bracketed by doses evaluated.

Radish shoot length (mm), lbs ai/A; Day 21-22

File: 4804rl Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	30902.554	5150.426	47.521
Within (Error)	21	2276.000	108.381	
Total	27	33178.554		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Radish shoot length (mm), lbs ai/A; Day 21-22

File: 4804rl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	106.625	106.625		
2	0.077	115.175	115.175	-1.161	
3	0.16	113.600	113.600	-0.948	
4	0.30	99.875	99.875	0.917	
5	0.59	61.100	61.100	6.184	*
6	1.2	43.850	43.850	8.528	*
7	2.4	28.975	28.975	10.548	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Radish shoot length (mm), lbs ai/A; Day 21-22

File: 4804rl Transform: NO TRANSFORMATION

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum (IN ORIG. UNITS)	Sig Diff	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4				
2	0.077	4	18.109		17.0	-8.550
3	0.16	4	18.109		17.0	-6.975
4	0.30	4	18.109		17.0	6.750
5	0.59	4	18.109		17.0	45.525
6	1.2	4	18.109		17.0	62.775
7	2.4	4	18.109		17.0	77.650

Radish shoot length (mm), lbs ai/A; Day 21-22
 File: 4804rl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	106.625	106.625	111.800
2	0.077	4	115.175	115.175	111.800
3	0.16	4	113.600	113.600	111.800
4	0.30	4	99.875	99.875	99.875
5	0.59	4	61.100	61.100	61.100
6	1.2	4	43.850	43.850	43.850
7	2.4	4	28.975	28.975	28.975

Radish shoot length (mm), lbs ai/A; Day 21-22
 File: 4804rl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	111.800				
0.077	111.800	0.703		1.72	k= 1, v=21
0.16	111.800	0.703		1.80	k= 2, v=21
0.30	99.875	0.917		1.83	k= 3, v=21
0.59	61.100	6.184	*	1.84	k= 4, v=21
1.2	43.850	8.528	*	1.85	k= 5, v=21
2.4	28.975	10.548	*	1.85	k= 6, v=21

s = 10.411

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.10	0.041	0.25	0.19	0.40
EC10	0.16	0.075	0.35	0.16	0.46
EC25	0.36	0.21	0.62	0.11	0.58
EC50	0.87	0.63	1.2	0.069	0.72

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Slope = 1.76 Std.Err. = 0.269

Goodness of fit: p = 0.12 based on DF= 4.0 21.

4804RL : Radish shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. - Pred.	Pred. %Control	%Change
0.00	4.00	107.	116.	-9.40	100.	0.00
0.0770	4.00	115.	112.	2.82	96.8	3.16
0.160	4.00	114.	105.	8.84	90.3	9.72
0.300	4.00	99.9	92.0	7.86	79.3	20.7
0.590	4.00	61.1	71.7	-10.6	61.8	38.2
1.20	4.00	43.9	46.9	-3.02	40.4	59.6
2.40	4.00	29.0	25.5	3.49	22.0	78.0

Soybean % emergence, lbs ai/A; Day 21-22

File: 4804se Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	6921.429	1153.571	9.408
Within (Error)	21	2575.000	122.619	
Total	27	9496.429		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Soybean % emergence, lbs ai/A; Day 21-22

File: 4804se Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	92.500	92.500		
2	0.077	90.000	90.000	0.319	
3	0.16	92.500	92.500	0.000	
4	0.30	90.000	90.000	0.319	
5	0.59	97.500	97.500	-0.639	
6	1.2	82.500	82.500	1.277	
7	2.4	47.500	47.500	5.747	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Soybean % emergence, lbs ai/A; Day 21-22

File: 4804se Transform: NO TRANSFORMATION

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	19.262	20.8	2.500
3	0.16	4	19.262	20.8	0.000
4	0.30	4	19.262	20.8	2.500
5	0.59	4	19.262	20.8	-5.000
6	1.2	4	19.262	20.8	10.000
7	2.4	4	19.262	20.8	45.000

Soybean % emergence, lbs ai/A; Day 21-22
 File: 4804se Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	92.500	92.500	92.500
2	0.077	4	90.000	90.000	92.500
3	0.16	4	92.500	92.500	92.500
4	0.30	4	90.000	90.000	92.500
5	0.59	4	97.500	97.500	92.500
6	1.2	4	82.500	82.500	82.500
7	2.4	4	47.500	47.500	47.500

Soybean % emergence, lbs ai/A; Day 21-22
 File: 4804se Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	92.500				
0.077	92.500	0.000		1.72	k= 1, v=21
0.16	92.500	0.000		1.80	k= 2, v=21
0.30	92.500	0.000		1.83	k= 3, v=21
0.59	92.500	0.000		1.84	k= 4, v=21
1.2	82.500	1.277		1.85	k= 5, v=21
2.4	47.500	5.747	*	1.85	k= 6, v=21

s = 11.073
 Note: df used for table values are approximate when v > 20.

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.99	0.57	1.7	0.12	0.57
EC10	1.2	0.78	1.9	0.091	0.65
EC25	1.7	1.3	2.1	0.051	0.79
EC50	2.4	2.1	2.8	0.029	0.87

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Slope = 4.18 Std.Err. = 1.28

Goodness of fit: p = 0.89 based on DF= 4.0 21.

4804SE : Soybean % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. - Pred.	Pred. %Control	%Change
0.00	4.00	92.5	92.4	0.0513	100.	0.00
0.0770	4.00	90.0	92.4	-2.45	100.	1.79e-08
0.160	4.00	92.5	92.4	0.0513	100.	3.82e-05
0.300	4.00	90.0	92.4	-2.44	100.	0.00712
0.590	4.00	97.5	92.0	5.51	99.5	0.498
1.20	4.00	82.5	83.3	-0.827	90.1	9.87
2.40	4.00	47.5	47.4	0.103	51.3	48.7

!!!Warning: EC50 not bracketed by doses evaluated.

Soybean shoot weight (g), lbs ai/A; Day 21-22

File: 4804sw Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	2069.606	344.934	17.039
Within (Error)	21	425.114	20.244	
Total	27	2494.720		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Soybean shoot weight (g), lbs ai/A; Day 21-22

File: 4804sw Transform: NO TRANSFORMATION

DUNNETTS TEST - TABLE 1 OF 2

Ho:Control<Treatment

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	31.647	31.647		
2	0.077	33.003	33.003	-0.426	
3	0.16	32.840	32.840	-0.375	
4	0.30	30.743	30.743	0.284	
5	0.59	30.750	30.750	0.282	
6	1.2	20.253	20.253	3.582	*
7	2.4	8.228	8.228	7.361	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Soybean shoot weight (g), lbs ai/A; Day 21-22
File: 4804sw Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	7.827	24.7	-1.355
3	0.16	4	7.827	24.7	-1.193
4	0.30	4	7.827	24.7	0.905
5	0.59	4	7.827	24.7	0.897
6	1.2	4	7.827	24.7	11.395
7	2.4	4	7.827	24.7	23.420

Soybean shoot weight (g), lbs ai/A; Day 21-22
File: 4804sw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	31.647	31.647	32.497
2	0.077	4	33.003	33.003	32.497
3	0.16	4	32.840	32.840	32.497
4	0.30	4	30.743	30.743	30.746
5	0.59	4	30.750	30.750	30.746
6	1.2	4	20.253	20.253	20.253
7	2.4	4	8.228	8.228	8.228

Soybean shoot weight (g), lbs ai/A; Day 21-22
File: 4804sw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	32.497				
0.077	32.497	0.267		1.72	k= 1, v=21
0.16	32.497	0.267		1.80	k= 2, v=21
0.30	30.746	0.283		1.83	k= 3, v=21
0.59	30.746	0.283		1.84	k= 4, v=21
1.2	20.253	3.582	*	1.85	k= 5, v=21
2.4	8.228	7.361	*	1.85	k= 6, v=21

s = 4.499

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.50	0.30	0.85	0.11	0.59
EC10	0.64	0.42	0.99	0.092	0.65

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04				
EC25	0.97	0.72	1.3	0.063	0.74
EC50	1.5	1.3	1.8	0.037	0.84

Slope = 3.41 Std.Err. = 0.611

Goodness of fit: p = 0.96 based on DF= 4.0 21.

4804SW : Soybean shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	31.6	32.3	-0.648	100.	0.00
0.0770	4.00	33.0	32.3	0.708	100.	0.000476
0.160	4.00	32.8	32.3	0.558	100.	0.0413
0.300	4.00	30.7	32.0	-1.30	99.2	0.791
0.590	4.00	30.8	29.7	1.01	92.1	7.92
1.20	4.00	20.3	20.7	-0.421	64.0	36.0
2.40	4.00	8.23	8.14	0.0882	25.2	74.8

Soybean shoot length (mm), lbs ai/A; Day 21-22

File: 4804sl Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	45390.887	7565.148	4.523
Within (Error)	21	35127.600	1672.743	
Total	27	80518.487		

Critical F value = 2.57 (0.05,6,21)
 Since F > Critical F **REJECT Ho:All groups equal**

Soybean shoot length (mm), lbs ai/A; Day 21-22

File: 4804sl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	196.625	196.625		
2	0.077	199.175	199.175	-0.088	
3	0.16	202.075	202.075	-0.188	
4	0.30	187.650	187.650	0.310	
5	0.59	216.000	216.000	-0.670	
6	1.2	170.925	170.925	0.889	
7	2.4	86.300	86.300	3.815	*

Dunnnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Soybean shoot length (mm), lbs ai/A; Day 21-22
File: 4804sl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	71.143	36.2	-2.550
3	0.16	4	71.143	36.2	-5.450
4	0.30	4	71.143	36.2	8.975
5	0.59	4	71.143	36.2	-19.375
6	1.2	4	71.143	36.2	25.700
7	2.4	4	71.143	36.2	110.325

Soybean shoot length (mm), lbs ai/A; Day 21-22
File: 4804sl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	196.625	196.625	200.305
2	0.077	4	199.175	199.175	200.305
3	0.16	4	202.075	202.075	200.305
4	0.30	4	187.650	187.650	200.305
5	0.59	4	216.000	216.000	200.305
6	1.2	4	170.925	170.925	170.925
7	2.4	4	86.300	86.300	86.300

Soybean shoot length (mm), lbs ai/A; Day 21-22
File: 4804sl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	200.305				
0.077	200.305	0.127		1.72	k= 1, v=21
0.16	200.305	0.127		1.80	k= 2, v=21
0.30	200.305	0.127		1.83	k= 3, v=21
0.59	200.305	0.127		1.84	k= 4, v=21
1.2	170.925	0.889		1.85	k= 5, v=21
2.4	86.300	3.815	*	1.85	k= 6, v=21

s = 40.899

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.91	0.42	2.0	0.16	0.46
EC10	1.1	0.59	2.0	0.13	0.54

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04				
EC25	1.5	1.0	2.2	0.080	0.68
EC50	2.2	1.8	2.7	0.042	0.82

Slope = 4.30 Std.Err. = 1.70

Goodness of fit: p = 0.91 based on DF= 4.0 21.

4804SL : Soybean shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. - Pred.	%Control	%Change
0.00	4.00	197.	200.	-3.49	100.	0.00
0.0770	4.00	199.	200.	-0.937	100.	2.02e-08
0.160	4.00	202.	200.	1.96	100.	5.17e-05
0.300	4.00	188.	200.	-12.4	100.	0.0104
0.590	4.00	216.	199.	17.3	99.3	0.724
1.20	4.00	171.	174.	-2.81	86.8	13.2
2.40	4.00	86.3	85.9	0.380	42.9	57.1

Tomato % emergence, lbs ai/A; Day 21-22

File: 4804te Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	5992.857	998.810	3.453
Within (Error)	21	6075.000	289.286	
Total	27	12067.857		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Tomato % emergence, lbs ai/A; Day 21-22

File: 4804te Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	85.000	85.000		
2	0.077	87.500	87.500	-0.208	
3	0.16	77.500	77.500	0.624	
4	0.30	82.500	82.500	0.208	
5	0.59	62.500	62.500	1.871	
6	1.2	52.500	52.500	2.702	*
7	2.4	50.000	50.000	2.910	*

Dunnnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Tomato % emergence, lbs ai/A; Day 21-22
 File: 4804te Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	29.586	34.8	-2.500
3	0.16	4	29.586	34.8	7.500
4	0.30	4	29.586	34.8	2.500
5	0.59	4	29.586	34.8	22.500
6	1.2	4	29.586	34.8	32.500
7	2.4	4	29.586	34.8	35.000

Tomato % emergence, lbs ai/A; Day 21-22
 File: 4804te Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	85.000	85.000	86.250
2	0.077	4	87.500	87.500	86.250
3	0.16	4	77.500	77.500	80.000
4	0.30	4	82.500	82.500	80.000
5	0.59	4	62.500	62.500	62.500
6	1.2	4	52.500	52.500	52.500
7	2.4	4	50.000	50.000	50.000

Tomato % emergence, lbs ai/A; Day 21-22
 File: 4804te Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	86.250				
0.077	86.250	0.104		1.72	k= 1, v=21
0.16	80.000	0.416		1.80	k= 2, v=21
0.30	80.000	0.416		1.83	k= 3, v=21
0.59	62.500	1.871	*	1.84	k= 4, v=21
1.2	52.500	2.702	*	1.85	k= 5, v=21
2.4	50.000	2.910	*	1.85	k= 6, v=21

s = 17.008

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

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.081	0.0036	1.8	0.66	0.044
EC10	0.18	0.015	2.0	0.52	0.087

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04				
EC25	0.66	0.16	2.7	0.30	0.25
EC50	2.8	1.1	6.9	0.19	0.41

Slope = 1.07 Std.Err. = 0.469

Goodness of fit: p = 0.75 based on DF= 4.0 21.

4804TE : Tomato % emergence, lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	85.0	87.9	-2.90	100.	0.00
0.0770	4.00	87.5	83.7	3.76	95.3	4.74
0.160	4.00	77.5	79.8	-2.35	90.8	9.16
0.300	4.00	82.5	74.8	7.73	85.1	14.9
0.590	4.00	62.5	67.3	-4.81	76.6	23.4
1.20	4.00	52.5	57.5	-4.95	65.4	34.6
2.40	4.00	50.0	46.5	3.49	52.9	47.1

!!!Warning: EC50 not bracketed by doses evaluated.

Tomato shoot weight (g), lbs ai/A; Day 21-22

File: 4804tw Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	37.344	6.224	18.360
Within (Error)	21	7.128	0.339	
Total	27	44.472		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Tomato shoot weight (g), lbs ai/A; Day 21-22

File: 4804tw Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	4.045	4.045		
2	0.077	3.570	3.570	1.154	
3	0.16	2.998	2.998	2.544	*
4	0.30	2.955	2.955	2.648	*
5	0.59	1.945	1.945	5.101	*
6	1.2	0.963	0.963	7.487	*
7	2.4	0.863	0.863	7.730	*

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Tomato shoot weight (g), lbs ai/A; Day 21-22
 File: 4804tw Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	1.013	25.0	0.475
3	0.16	4	1.013	25.0	1.048
4	0.30	4	1.013	25.0	1.090
5	0.59	4	1.013	25.0	2.100
6	1.2	4	1.013	25.0	3.083
7	2.4	4	1.013	25.0	3.183

Tomato shoot weight (g), lbs ai/A; Day 21-22
 File: 4804tw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	4.045	4.045	4.045
2	0.077	4	3.570	3.570	3.570
3	0.16	4	2.998	2.998	2.998
4	0.30	4	2.955	2.955	2.955
5	0.59	4	1.945	1.945	1.945
6	1.2	4	0.963	0.963	0.963
7	2.4	4	0.863	0.863	0.863

Tomato shoot weight (g), lbs ai/A; Day 21-22
 File: 4804tw Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	4.045				
0.077	3.570	1.153		1.72	k= 1, v=21
0.16	2.998	2.543	*	1.80	k= 2, v=21
0.30	2.955	2.646	*	1.83	k= 3, v=21
0.59	1.945	5.098	*	1.84	k= 4, v=21
1.2	0.963	7.483	*	1.85	k= 5, v=21
2.4	0.863	7.725	*	1.85	k= 6, v=21

s = 0.583

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

Estimates of EC%

Parameter	Estimate	95% Bounds Lower	Upper	Std.Err.	Lower Bound /Estimate
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Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}	EPA MRID Number 441848-04				
EC5	0.039	0.0098	0.15	0.29	0.25
EC10	0.069	0.022	0.22	0.25	0.31
EC25	0.18	0.079	0.43	0.18	0.43
EC50	0.54	0.32	0.93	0.11	0.59

Slope = 1.43 Std.Err. = 0.249

Goodness of fit: p = 0.43 based on DF= 4.0 21.

4804TW : Tomato shoot weight (g), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	4.04	4.05	-0.00596	100.	0.00
0.0770	4.00	3.57	3.60	-0.0279	88.8	11.2
0.160	4.00	3.00	3.15	-0.150	77.7	22.3
0.300	4.00	2.96	2.61	0.343	64.5	35.5
0.590	4.00	1.94	1.95	-0.000334	48.0	52.0
1.20	4.00	0.963	1.26	-0.300	31.2	68.8
2.40	4.00	0.863	0.722	0.141	17.8	82.2

!!!Warning: EC5 not bracketed by doses evaluated.

!!!Warning: EC10 not bracketed by doses evaluated.

Tomato shoot length (mm), lbs ai/A; Day 21-22

File: 4804tl Transform: NO TRANSFORMATION

ANOVA TABLE

SOURCE	DF	SS	MS	F
Between	6	2519.570	419.928	9.003
Within (Error)	21	979.530	46.644	
Total	27	3499.100		

Critical F value = 2.57 (0.05,6,21)

Since F > Critical F **REJECT Ho:All groups equal**

Tomato shoot length (mm), lbs ai/A; Day 21-22

File: 4804tl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	TRANSFORMED MEAN	MEAN CALCULATED IN ORIGINAL UNITS	T STAT	SIG
1	neg control	35.100	35.100		
2	0.077	35.100	35.100	-0.000	
3	0.16	29.525	29.525	1.154	
4	0.30	30.675	30.675	0.916	
5	0.59	19.325	19.325	3.267	*
6	1.2	12.000	12.000	4.783	*

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....} EPA MRID Number 441848-04
 7 2.4 11.875 11.875 4.809 *

Dunnett table value = 2.46 (1 Tailed Value, P=0.05, df=20,6)

Tomato shoot length (mm), lbs ai/A; Day 21-22
 File: 4804tl Transform: NO TRANSFORMATION

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

GROUP	IDENTIFICATION	NUM OF REPS	Minimum Sig Diff (IN ORIG. UNITS)	% of CONTROL	DIFFERENCE FROM CONTROL
1	neg control	4			
2	0.077	4	11.880	33.8	-0.000
3	0.16	4	11.880	33.8	5.575
4	0.30	4	11.880	33.8	4.425
5	0.59	4	11.880	33.8	15.775
6	1.2	4	11.880	33.8	23.100
7	2.4	4	11.880	33.8	23.225

Tomato shoot length (mm), lbs ai/A; Day 21-22
 File: 4804tl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 1 OF 2

GROUP	IDENTIFICATION	N	ORIGINAL MEAN	TRANSFORMED MEAN	ISOTONIZED MEAN
1	neg control	4	35.100	35.100	35.100
2	0.077	4	35.100	35.100	35.100
3	0.16	4	29.525	29.525	30.100
4	0.30	4	30.675	30.675	30.100
5	0.59	4	19.325	19.325	19.325
6	1.2	4	12.000	12.000	12.000
7	2.4	4	11.875	11.875	11.875

Tomato shoot length (mm), lbs ai/A; Day 21-22
 File: 4804tl Transform: NO TRANSFORMATION

WILLIAMS TEST (Isotonic regression model) TABLE 2 OF 2

IDENTIFICATION	ISOTONIZED MEAN	CALC. WILLIAMS	SIG P=.05	TABLE WILLIAMS	DEGREES OF FREEDOM
neg control	35.100				
0.077	35.100	0.000		1.72	k= 1, v=21
0.16	30.100	1.035		1.80	k= 2, v=21
0.30	30.100	1.035		1.83	k= 3, v=21
0.59	19.325	3.267	*	1.84	k= 4, v=21
1.2	12.000	4.783	*	1.85	k= 5, v=21
2.4	11.875	4.809	*	1.85	k= 6, v=21

s = 6.830

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

Data Evaluation Report on the Acute Toxicity of Propazine to Terrestrial Vascular Plants: Seedling Emergence

PMRA Submission Number {.....}

EPA MRID Number 441848-04

Estimates of EC%

Parameter	Estimate	95% Bounds		Std.Err.	Lower Bound /Estimate
		Lower	Upper		
EC5	0.051	0.0074	0.35	0.41	0.15
EC10	0.094	0.019	0.48	0.34	0.20
EC25	0.27	0.087	0.82	0.24	0.33
EC50	0.84	0.43	1.6	0.14	0.52

Slope = 1.35 Std.Err. = 0.342

Goodness of fit: p = 0.38 based on DF= 4.0 21.

4804TL : Tomato shoot length (mm), lbs ai/A; Day 21-22

Observed vs. Predicted Treatment Group Means

Dose	#Reps.	Obs. Mean	Pred. Mean	Obs. -Pred.	Pred. %Control	%Change
0.00	4.00	35.1	36.6	-1.46	100.	0.00
0.0770	4.00	35.1	33.6	1.48	91.9	8.05
0.160	4.00	29.5	30.5	-0.986	83.5	16.5
0.300	4.00	30.7	26.6	4.10	72.7	27.3
0.590	4.00	19.3	21.3	-1.95	58.2	41.8
1.20	4.00	12.0	15.2	-3.24	41.7	58.3
2.40	4.00	11.9	9.82	2.05	26.9	73.1

!!!Warning: EC5 not bracketed by doses evaluated.