7-30-90

DER

1) **Chemical:** fenoxyprop - P-ethyl

2) **Test Material:** Formulated fenoxyprop- P-ethyl; tested as 7.2% a.i. D-isomer.

3. **Study Type:** Non-target Plant Phytoxicity - Terrestrial Plants, Tier II Seed germination /Seedling Emergence.

4. **Study ID:**

Chetram, R.S. 1989. Tier II. Seed Gemination/Seedling Emergence Nontarget Phytotoxicity Study HOE--046360. Study No.: LR89-14B.
Performed By: Pan-Agricultural Labs, Inc.
Madera, CA.

Submitted by: Hoechst Celanese Corp.
Somerville, N.J.
MRID NO.: 412769-05

Submission Volume: 5 of 7

5. **Reviewed By:**
Richard C. Petrie
EFED/EEB

Signature: Richard C. Petrie
Date: 7/30/90

6. **Approved By:**
Ann Stavola, Head, Section 3
EFED/EEB

Signature:
Date: 7/30/90

7. **Conclusions:** This study is scientifically sound and satisfies the Agency guideline requirement for 123-1 Tier II Non-target Plant Phytotoxicity testing for seed germination/seedling emergence. HOE-046360 does not appear to adversely affect percentage seed germination but did have a greater than 25% detrimental effect on radicle length of corn, oat and ryegrass; and a greater than 25% detrimental effect on seedling emergence of corn and ryegrass. The percentage active ingredient listed on the Super Whip and Super Acclaim labels is 6.27. The percentage active ingredient tested was 7.2. This deviation from protocol is not considered significant enough to invalidate the study.

8. **Recommendation:** A Tier III non-target plant terrestrial field study is required because a greater than 25% detrimental effect occurred on one or more species.

9. **Background:** Non-target plant phytotoxicity studies were requested of the registrant by EEB on July 17, 1988.

10. **Discussion of Individual Tests:** N/A

11. **Materials and Methods:**

Based on Tier I seed germination/seedling emergence test results, oat (Avena sativa), perennial ryegrass (Lolium perenne), corn (Zea mays), and onion (Allium cepa) were determined most sensitive to HOE-046360 and therefore selected for Tier II testing.

Seed Germination

Petri plates with blotter paper were used. A seed treatment solution concentration of 3.0 ppm (equivalent to 1.0# ai/Acre was applied to the filter paper and 10 seeds per plate added. The petri plates were incubated for 6 to 7 days in the dark at 25 degrees C. Because a no-effect level for corn radicle length was not attained, an add-on study was conducted using 0.0096# ai/Acre (0.029 ppm).

Seedling Emergence

Plastic pots (7.5x7.5x6.0 cm) were used, each treatment was replicated three times. Seeds were planted 10 per pot; corn to a depth of 2.5 cm, ryegrass and onion to a depth of 1.3 cm. Oats were not used in this study. HOE-046360 was applied at the rates of 0.0006, 0.012, 0.024, 0.048, and 0.096# ai/Acre. Treatment rates were calculated based on 7.2% ai. Plants were sprayed at the equivalent of 50 gallons water per acre.

Application of pesticide to the pots was made using a belt sprayer equipped with a single Tee-jet 8001-E nozzle at a height of 12 inches (spray swath of 20 inches). A total of 22 ml water was used to irrigate each pot per day. Light measurements were taken at canopy height at 10:00 AM and 2:00 PM on weekdays. The study was terminated 21 days after treatment. Seedling height, emergence, and phytotoxicity ratings were recorded at 7, 14, and 21 days after treatment. At day 21, the plants were cut at the soil level and dried at 70 degrees C for a minimum of 48 hours.

12. **Reported Results:**

Seed Germination: (5 to 7 days after treatment)

RADICLE LENGTH: (# ai/Acre)

Species	No-effect level	EC25	EC50
CORN	0.0096	0.004	0.016
OAT	0.0060	0.008	0.023
RYEGRASS	0.0960	0.014	0.788
ONION	0.0960	1147.000	$5.5 \times 10^{+16}$

PERCENT GERMINATION: (#ai/Acre)

Species	No-effect level	EC25	EC50
CORN	0.096	N/D	N/D
OAT	0.096	N/D	N/D
RYEGRASS	0.096	N/D	N/D
ONION	0.096	0.397	1.496

N/D = No dose response evident. Could not conduct statistical analysis.

Seedling Emergence: (21 days after treatment)

PLANT HEIGHT: (# ai/Acre)

Species	No-effect level	EC25	EC50
CORN	0.012	0.034	0.196
ONION	0.096	N/D	N/D
RYEGRASS	0.024	0.056	0.092

PLANT DRY WEIGHT: (#ai/Acre)

Species	No-effect level	EC25	EC50
CORN	0.006	0.032	0.196
ONION	0.096	N/D	N/D
RYEGRASS	0.096	0.448	4.917

N/D = No dose response evident. Could not conduct statistical analysis.

Visual Phytotoxicity Ratings:

0 to 4 scale was used

0 = no effect
1 = slight effect on one leaf
2 = moderate effect on whole plant
3 = severe effect on whole plant
4 = total effect, plant death

Species	# ai/Acre	Rating
CORN	0.000	0.0 C
	0.006	0.3 BC
	0.012	0.0 C
	0.048	0.6 B
	0.096	2.3 A

Species	# ai/Acre	Rating
RYEGRASS	0.000	0.1 B
	0.006	0.0 B
	0.012	0.1 A
	0.048	0.2 B
	0.096	0.7 A
ONION	0.000	0.3 A
	0.006	0.0 A
	0.012	0.1 A
	0.024	0.1 A
	0.048	0.3 A
	0.096	0.0 A

13. **Study Authors' Conclusions/Quality Assurance Measures:**

Seed Germination

HOE-046360 had little adverse affect on percentage germination of corn, ryegrass, or oat. Slight adverse affect on percent germination of onion was noted:

SEEDLING GERMINATION: (#ai/Acre)

Species	No-effect level	EC25	EC50
ONION	<0.024	N/A	>0.096 (N/A)
CORN	>0.096	N/A	>0.096 (N/A)
OAT	>0.096	N/A	>0.096 (N/A)
RYEGRASS	>0.096	N/A	>0.096 (N/A)

N/A = Unable to perform statistical analysis due to lack of dose-response.

Corn, oat, and ryegrass radicle lengths were adversely affected as follows:

RADICLE LENGTH: (#ai/Acre)

Species	No-effect level	EC25	EC50
CORN	<0.0006	0.0019	0.0090
OAT	<0.0060	0.0096	0.0270
RYEGRASS	<0.0480	0.0797	>0.0960
ONION	>0.0960	N/A	N/A

N/A = Unable to perform statistical analysis due to lack of dose-response.

Seedling Emergence

No explanation was given as to why oat was not included in seedling emergence testing. Corn and ryegrass emerged seedling plant heights and dry weights were adversely affected, with little adverse affect on onion noted as follows:

PLANT HEIGHT: (#ai/Acre)

Species	No-effect level	EC25	EC50
CORN	<0.0060	0.0344	0.1362
RYEGRASS	<0.0240	0.0578	0.0910
ONION	>0.0960	N/A	>0.0960 (N/A)

PLANT DRY WEIGHT: (#ai/Acre)

CORN	<0.0060	0.0319	0.1807
RYEGRASS	>0.0960	N/A	>0.0960 (N/A)
ONION	>0.0960	N/A	N/A*

* = No negative effects observed.
N/A = Unable to perform statistical analysis due to lack of dose-response.

The registrant reported the "statistical no-effect level", or the highest test concentration that was statistically similar to the control. The reviewer has reported the observed no-effect level at or below which no adverse affect occurred.

A statement of compliance with good laboratory practices was signed by the Pan-Agricultural Labs, Inc. project manager.

14. **Reviewers Discussion and Intepretation of Study Results:**

A. Test Procedure: In general, the Tier II non-target plant seed germination/seedling emergence study was conducted per Subdivision J. Guidelines. Quality assurance was monitored by the Pan-Ag. quality assurance unit and the study was determined by Pan Ag. to be in compliance with good laboratory practices.

B. Statistical Analysis: Reviewer used the Steffans toxanol program for analysis of reported results. See attachments.

C. Discussion/Results: The statistical results varied as follows:

	EPA (#ai/A)		HOECHST (#ai/A)	
CORN EC25		(NOEL)		(NOEL)
Radicle length	0.0020	(<0.0006)	0.0040	(0.0096)
Seedling Emergence (Plant height)	0.0344	(<0.0060)	0.0340	(0.0120)
Seedling Emergence (Plant dry weight)	0.0319	(<0.0060)	0.0320	(0.0060)
OAT EC25				
Radicle length	0.0096	(<0.0060)	0.0080	(0.0060)

RYEGRASS EC25				
Radicle length	0.0797	(<0.0480)	0.0140	(0.0960)
Seedling Emergence (Plant height)	0.0578	(<0.0240)	0.0560	(0.0240)
Seedling Emergence (Plant dry weight)	N/A	(<0.0960)	0.4480	(0.0960)
ONION EC25				
Radicle length	N/A	(>0.0960)	1147.0	(0.0960)
Seedling Emergence (Plant height)	N/A	(>0.0960)	N/D	(0.0960)
Seedling Emergence (Plant dry weight)	N/A	(>0.0960)	N/D	(0.0960)

N/A, N/D = Unable to perform statistical analysis due to absence of adequate dose-response.

D. Deviations From Procedures/Protocols: No major deviations from protocol were noted.

E. **Adequacy of the Study:**

1) Classification - Core

2) Rationale - This test fulfills the Agency guideline requirement.

3) Repairability - N/A

15. Completion of One Liner: N/A

16. CBI Appendix: N/A

R.Petrie Super Acclaim plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	45	45	0
.048	100	23	23	0
.024	100	21	21	0
.012	100	19	19	0
.006	100	8	8	0

THE BINOMIAL TEST SHOWS THAT 0 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS .096

THE MOVING AVERAGE METHOD CANNOT BE USED WITH THIS DATA SET BECAUSE NO SPAN WHICH PRODUCES MOVING AVERAGE ANGLES THAT BRACKET 45 DEGREES ALSO USES TWO PERCENT DEAD BETWEEN 0 AND 100 PERCENT.

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
2	.1156756	1	.1552708

SLOPE = .8952614

95 PERCENT CONFIDENCE LIMITS = .590773 AND 1.19975

LC50 = .1807002

95 PERCENT CONFIDENCE LIMITS = .1054702 AND .4968058

LC10 = 6.892525E-03

95 PERCENT CONFIDENCE LIMITS = 2.952331E-03 AND .0109868

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R.Petrie Super Acclaim plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	50	50	0
.048	100	25	25	0
.024	100	17	17	0
.012	100	8	8	0
.006	100	11	11	0

THE BINOMIAL TEST SHOWS THAT .096 AND .096 CAN BE
USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT
CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL
ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS .096

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
1	.2849948	9.600001E-02	7.854064E-02	.1546806

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
3	.6280044	2.94913	3.139013E-02

SINCE THE PROBABILITY IS LESS THAN 0.05, RESULTS CALCULATED
USING THE PROBIT METHOD PROBABLY SHOULD NOT BE USED.

SLOPE = 1.129441
95 PERCENT CONFIDENCE LIMITS = .234396 AND 2.024486

LC50 = .1361467
95 PERCENT CONFIDENCE LIMITS = 5.723702E-02 AND 43.85037

LC10 = .0102225
95 PERCENT CONFIDENCE LIMITS = 1.010869E-04 AND 2.235914E-02

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R.Petrie Super Acclaim Super Whip crop plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)	
9.600001E-03		100	14	14	0
.0048	100	0	0	0	
.0024	100	0	0	0	
.0012	100	0	0	0	
6.000001E-04		100	13	13	0

THE BINOMIAL TEST SHOWS THAT 0 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 4.800002E-03 0.0048

THE MOVING AVERAGE METHOD CANNOT BE USED WITH THIS DATA SET BECAUSE NO SPAN WHICH PRODUCES MOVING AVERAGE ANGLES THAT BRACKET 45 DEGREES ALSO USES TWO PERCENT DEAD BETWEEN 0 AND 100 PERCENT.

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
6	2451.46	14.26875	0

A PROBABILITY OF 0 MEANS THAT IT IS LESS THAN 0.001.

SINCE THE PROBABILITY IS LESS THAN 0.05, RESULTS CALCULATED USING THE PROBIT METHOD PROBABLY SHOULD NOT BE USED.

SLOPE = 0.05.265601E-02

95 PERCENT CONFIDENCE LIMITS =-2.55446 AND 2.659772

LC50 = 8.15594E+27

95 PERCENT CONFIDENCE LIMITS = 6.704035E-03 AND +INFINITY

LC10 = 6203.988

95 PERCENT CONFIDENCE LIMITS = 0 AND +INFINITY

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R.Petrie Super Acclaim plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	80	80	0
.048	100	80	80	0
.024	100	78	78	0
.012	100	39	39	0
.006	100	48	48	0

THE BINOMIAL TEST SHOWS THAT .012 AND .024 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS .0144897

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
2	.1942351	1.129905E-02	8.278424E-03	1.498077E-02

0.011

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
3	1.415556	6.531342	0

A PROBABILITY OF 0 MEANS THAT IT IS LESS THAN 0.001.

SINCE THE PROBABILITY IS LESS THAN 0.05, RESULTS CALCULATED USING THE PROBIT METHOD PROBABLY SHOULD NOT BE USED.

SLOPE = .9844554

95 PERCENT CONFIDENCE LIMITS =-.1868213 AND 2.155732

LC50 = 9.008145E-03 0.009

95 PERCENT CONFIDENCE LIMITS = 0 AND 3.012229E-02

LC10 = 4.619361E-04

95 PERCENT CONFIDENCE LIMITS = 0 AND 4.262368E-03

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R.Petrie Super Acclaim plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	8	8	0
.048	100	0	0	0
.024	100	0	0	0
.012	100	0	0	0
.006	100	0	0	0

THE BINOMIAL TEST SHOWS THAT 0 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS .096

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

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R.Petrie Super Acclaim Super Whip crop plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	3	3	0
.048	100	3	3	0
.024	100	3	3	0
.012	100	0	0	0
.006	100	0	0	0

THE BINOMIAL TEST SHOWS THAT 0 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS .048

THE MOVING AVERAGE METHOD CANNOT BE USED WITH THIS DATA SET BECAUSE NO SPAN WHICH PRODUCES MOVING AVERAGE ANGLES THAT BRACKET 45 DEGREES ALSO USES TWO PERCENT DEAD BETWEEN 0 AND 100 PERCENT.

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
4	.8362285	1	.3034841

SLOPE = .8108357

95 PERCENT CONFIDENCE LIMITS = .0693627 AND 1.552309

LC50 = 12.94729

95 PERCENT CONFIDENCE LIMITS = .7948213 AND 4.990615E+27

LC10 = .3514744

95 PERCENT CONFIDENCE LIMITS = .1095866 AND 2.697653E+09

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R.Petrie Super Acclaim crop plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	52	52	0
.048	100	19	19	0
.024	100	2	2	0
.012	100	0	0	0
.006	100	0	0	0

THE BINOMIAL TEST SHOWS THAT .048 AND .096 CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 9.231018E-02

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
1	.155744	9.231019E-02	7.943746E-02	.1201507

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
5	5.532389E-02	1	.9182188

SLOPE = 3.415357

95 PERCENT CONFIDENCE LIMITS = 2.61203 AND 4.218685

LC50 = 9.096908E-02

95 PERCENT CONFIDENCE LIMITS = 7.972592E-02 AND .1084954

LC10 = 3.864062E-02

95 PERCENT CONFIDENCE LIMITS = 3.168409E-02 AND 4.455704E-02

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R.Petrie Super Acclaim plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	18	18	0
.048	100	0	0	0
.024	100	0	0	0
.012	100	0	0	0
.006	100	0	0	0

THE BINOMIAL TEST SHOWS THAT 0 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS .048

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

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R.Petrie Super Acclaim plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	33	33	0
.048	100	10	10	0
.024	100	0	0	0
.012	100	0	0	0
.006	100	0	0	0

THE BINOMIAL TEST SHOWS THAT 0 AND +INFINITY CAN BE USED AS STATISTICALLY SOUND CONSERVATIVE 95 PERCENT CONFIDENCE LIMITS, BECAUSE THE ACTUAL CONFIDENCE LEVEL ASSOCIATED WITH THESE LIMITS IS GREATER THAN 95 PERCENT.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 0

THE MOVING AVERAGE METHOD CANNOT BE USED WITH THIS DATA SET BECAUSE NO SPAN WHICH PRODUCES MOVING AVERAGE ANGLES THAT BRACKET 45 DEGREES ALSO USES TWO PERCENT DEAD BETWEEN 0 AND 100 PERCENT.

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
6	9.922606E-02	1	.6739922

SLOPE = 3.378225

95 PERCENT CONFIDENCE LIMITS = 2.314078 AND 4.442371

LC50 = .1262251

95 PERCENT CONFIDENCE LIMITS = .1049409 AND .1724968

LC10 = 5.311396E-02

95 PERCENT CONFIDENCE LIMITS = 4.319102E-02 AND 6.132449E-02

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R.Petrie Super Acclaim crop plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	11	11	0
.048	100	14	14	0
.024	100	6	6	0
.012	100	3	3	0
.006	100	0	0	0

BECAUSE THE NUMBER OF ORGANISMS USED WAS SO LARGE, THE 95 PERCENT CONFIDENCE INTERVALS CALCULATED FROM THE BINOMIAL PROBABILITY ARE UNRELIABLE. USE THE INTERVALS CALCULATED BY THE OTHER TESTS.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 0

THE MOVING AVERAGE METHOD CANNOT BE USED WITH THIS DATA SET BECAUSE NO SPAN WHICH PRODUCES MOVING AVERAGE ANGLES THAT BRACKET 45 DEGREES ALSO USES TWO PERCENT DEAD BETWEEN 0 AND 100 PERCENT.

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
4	.2218453	1	.1386707

SLOPE = .9877282

95 PERCENT CONFIDENCE LIMITS = .5225037 AND 1.452953

LC50 = 1.044287

95 PERCENT CONFIDENCE LIMITS = .3451818 AND 20.60463

LC10 = 5.408055E-02

95 PERCENT CONFIDENCE LIMITS = 3.575622E-02 AND 9.862218E-02

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      The filename may be invalid for this operating environment.
TRT=  RESP1=. RESP2=. RESP3=. RESP4=. RESP5=. RESP6=. RESP7=. RESP8=. RESP9=.
RESP10=. RESP11=. RESP12=. RESP13=. RESP14=. RESP15=. RESP16=. RESP17=.
RESP18=. RESP19=. RESP20=. _ERROR_=1 _N_=1
NOTE: The data set WORK.A has 0 observations and 21 variables.
NOTE: The DATA statement used 11.00 seconds.
WARNING: No observations in data set WORK.A.
NOTE: The PROCEDURE PRINT used 5.00 seconds.
   67    data b; set a;
   68    drop resp1-resp20;
   69    resp=resp1; output; resp=resp2; output;
   70    resp=resp3; output; resp=resp4; output;
   71    resp=resp5; output; resp=resp6; output;
   72    resp=resp7; output; resp=resp8; output;
   73    resp=resp9; output; resp=resp10; output;
   74    resp=resp11; output; resp=resp12; output;
   75    resp=resp13; output; resp=resp14; output;
                                                                    ZOOM
```

R.Petrie Super Acclaim plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	0	0	0
.048	100	0	0	0
.024	100	0	0	0
.012	100	8	8	0
.006	100	0	0	0

BECAUSE THE NUMBER OF ORGANISMS USED WAS SO LARGE, THE 95 PERCENT CONFIDENCE INTERVALS CALCULATED FROM THE BINOMIAL PROBABILITY ARE UNRELIABLE. USE THE INTERVALS CALCULATED BY THE OTHER TESTS.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 0

WHEN THERE ARE LESS THAN TWO CONCENTRATIONS AT WHICH THE PERCENT DEAD IS BETWEEN 0 AND 100, NEITHER THE MOVING AVERAGE NOR THE PROBIT METHOD CAN GIVE ANY STATISTICALLY SOUND RESULTS.

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R.Petrie Super Acclaim Super whip crop plants 01-09-90

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CONC.	NUMBER EXPOSED	NUMBER DEAD	PERCENT DEAD	BINOMIAL PROB.(PERCENT)
.096	100	81	81	0
.048	100	67	67	0
.024	100	46	46	0
.012	100	48	48	0
.006	100	5	5	0

Rad. de length.

BECAUSE THE NUMBER OF ORGANISMS USED WAS SO LARGE, THE 95 PERCENT CONFIDENCE INTERVALS CALCULATED FROM THE BINOMIAL PROBABILITY ARE UNRELIABLE. USE THE INTERVALS CALCULATED BY THE OTHER TESTS.

AN APPROXIMATE LC50 FOR THIS SET OF DATA IS 2.733305E-02

0.027

RESULTS CALCULATED USING THE MOVING AVERAGE METHOD

SPAN	G	LC50	95 PERCENT CONFIDENCE LIMITS	
4	2.464634E-02		2.395428E-02	2.070422E-02
		2.771182E-02		

0.0239 = 0.024

RESULTS CALCULATED USING THE PROBIT METHOD

ITERATIONS	G	H	GOODNESS OF FIT PROBABILITY
4	.7181768	8.085841	0

A PROBABILITY OF 0 MEANS THAT IT IS LESS THAN 0.001.

SINCE THE PROBABILITY IS LESS THAN 0.05, RESULTS CALCULATED USING THE PROBIT METHOD PROBABLY SHOULD NOT BE USED.

SLOPE = 1.63532

95 PERCENT CONFIDENCE LIMITS = .249463 AND 3.021178

LC50 = .0248867 0.025

95 PERCENT CONFIDENCE LIMITS = 6.111438E-03 AND .1149027

LC10 = 4.162567E-03

95 PERCENT CONFIDENCE LIMITS = 1.897592E-07 AND .0114017

****

[illegible] Super Acclaim

5/10/90 [illegible signature]

slope = [illegible]	[illegible] LC50 =	[illegible] LC25 =	Corn - HT. [Veg. vigor]
slope = [illegible]E-[illegible]	1.[illegible] LC50 =	[illegible] LC25 =	Corn - DryWT [Veg. Vigor]
slope = [illegible]E-[illegible]	.[illegible] LC50 =	.[illegible] LC25 =	Corn - DryWT [Seed Germ / Seedl.]
slope = [illegible]E-[illegible]	[illegible]441 LC50 =	[illegible] LC25 =	Corn - Ht ["
slope = [illegible]E-[illegible]	.[illegible]455 LC50 =	.[illegible]81 LC25 =	~~[illegible]~~ Corn - Radicle ~~Ht.~~ LN. ["
slope = [illegible]	[illegible].415557 LC50 =	.[illegible]1 LC25 =	Ryegrass - Ht. ["
slope = [illegible]E-[illegible]2	[illegible].[illegible]125 LC50 =	.[illegible]51 LC25 =	Ryegrass - RadicleLN ["
slope = [illegible]	.9877232 LC50 =	[illegible].[illegible]4423[illegible] LC25 =	Ryegrass - % Emerg. ["
slope = [illegible]E-0[illegible]	1.63532 LC50 =	.[illegible]8867 LC25 =	Oat - RadicleLN ["

SuperWhip | SuperAcclaim 5/10/90 [illegible signature]

[illegible] [illegible] [illegible] =oat-DryWT [Veg. Vigor

[illegible] [illegible] [illegible] = Ryegrass HT [Veg. Vigor