8-18-98

MRID No. 443074-21

DATA EVALUATION RECORD
VEGETATIVE VIGOR TEST
§ 123-1 (TIER II)

1. **CHEMICAL:** SAN 836H PC Code No.:001507

2. **TEST MATERIAL:** SAN 836H Purity: 86.5%

3. **CITATION:**

Author:	J.R. Hoberg
Title:	SAN 836H - Determination of Effects on Seed Germination, Seedling Emergence and Vegetative Vigor of Ten Plant Species
Study Completion Date:	August 17, 1995
Laboratory:	Springborn Laboratories, Inc., Wareham, MA
Sponsor:	Sandoz Agro, Inc., Des Plaines, IL
Laboratory Report ID:	95-4-5821
MRID No.:	443074-21
DP Barcode:	D238406

4. **REVIEWED BY:** Michael Davy, Agronomist

Signature: Michael Davy **Date:** 8-18-98

5. **PEER REVIEWED BY:** Nicholas Mastrota, Biologist Ph.D.

Signature: Nicholas Mastrota **Date:** 3-4-99

6. **STUDY PARAMETERS:**

Definitive Study Duration: 14 days

7. **CONCLUSIONS:** This study is not scientifically sound and does not fulfill the guideline requirements for a Tier II vegetative vigor study with terrestrial plants.

8. **ADEQUACY OF THE STUDY:**

A. Classification: Invalid.

B. Rationale: An equivalent of approximately 2400 gallons per acre of water was applied to the foliage thereby washing off some of the chemical from the foliage.

C. Repairability: none.

9. **GUIDELINE DEVIATIONS:** The water carrier was not applied at rates that are acccording to label or at typical agricultural amounts.

10. **SUBMISSION PURPOSE:** registration

11. **MATERIALS AND METHODS:**

A. Test Organisms

Guideline Criteria	Reported Information
Species 6 dicots in 4 families, including soybean and a rootcrop; 4 monocots in 2 families, including corn.	Dicots: cabbage, cucumber, lettuce, soybean, tomato, turnip Monocots: corn, oat, onion, ryegrass
Number of plants per rep 5	5
Source of Seed	Untreated seed obtained from various commercial suppliers

B. Test System

Guideline Criteria	Reported Information
Solvent	None
Site of test	Growth chamber
Planting method / type of pot	Two- to six-day-old seedlings planted into polypropylene pots (13-cm top diameter) and allowed to grow for 7 days
Method of application	Hand sprayer
Method of watering	Subirrigation
Growth stage at application 1-3 true leaf stage.	1-3 true leaf stage

C. **Test Design**

Guideline Criteria	Reported Information
Dose range 2x or 3x	Between 2x or 4x (usually 2x)
Doses At least 5	5, 6, or 7 - rates ranging from 0.00063 to 0.25 lb of acid equivalents (ae)/A
Controls Negative and solvent	Negative (nutrient solution) control
Replicates per dose At least 3	3
Duration of test 14 days	14 days
Were observations made at least weekly?	Yes
Maximum labeled rate	0.2 lb ae/A

12. REPORTED RESULTS:

Guideline Criteria	Reported Information
Quality assurance and GLP compliance statements were included in the report?	Yes
Was an NOEL observed for each species?	Yes
Phytotoxic observations	Yes
Were initial chemical concentrations measured? (Optional)	The measured concentrations ranged from 89 to 140% of nominal.

Guideline Criteria	Reported Information
Were adequate raw data included?	Raw data for phytotoxicity observations were not included in the report.

Results for the most sensitive parameter* of each species

Species	Parameter	EC_{25} (lb ae/A)	NOEL (lb ae/A)
Cabbage	root weight	0.0028	0.0035
Cucumber	"	0.012	0.011
Lettuce	"	0.0020	0.019
Soybean	"	0.0010	0.0019
Tomato	"	0.0010	0.0006
Turnip	shoot weight	0.00027	0.0006
Corn	all parameters similar	>0.31	0.31
Oat	"	>0.23	0.23
Onion	shoot weight	0.033	0.028
Ryegrass	root weight	0.020	0.019

*Determination of the most sensitive parameter is based on EC_{25} values.

Observations: Symptoms of test material toxicity included chlorosis, leaf curl/blotch, and stem bend.

Statistical Method: Analyses were based on measured application rates. Dunnett's test was used for mean separation and regression analysis (with or without various transformations) was used for EC value determination.

Most sensitive dicot: turnip — Parameter: shoot weight
EC_{25} 95% C.L.: 0 - 0.051 lb ae/A — Probit Slope: N/A

Most sensitive monocot: ryegrass — Parameter: root weight
EC_{25} 95% C.L.: 0.0021 - 0.13 lb ae/A — Probit Slope: N/A

13. **VERIFICATION OF STATISTICAL RESULTS:** None

14. **REVIEWER'S COMMENTS:** The treatment solution spray volume appeared to be between 9 and 10 or 30 mL per pot. This translates to a field rate of upto nearly 2,400 gallons per acre. The appropriate volume should be near the recommended volume for field applications. However, the reviewer assumes that the solution that ran-off of the leaves fell onto the sandy, low organic matter soil used for potting the seedlings. Since this is a vegetative vigor study in which foliar uptake is important, there it is very uncertain as to the amount of chemical that the plant foliage was exposed to.

The study is classified as **Invalid.**