3-4-99

MRID No. 443074-52

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

1. **CHEMICAL:** SAN 1269H(Diflufenzopyr+ Dicamba) PC Code No.:005107

2. **TEST MATERIAL:** The test substance, SAN 1269H, is a formulated product consisting of the active ingredients Dicamba sodium salt and SAN 836H (Diflufenzopyr sodium salt). Purity: 50% (wt. as acid equivalents) as Dicamba; 20% (wt. as acid equivalents) as Diflufenzopyr.

3. **CITATION:**

Author:	J.R. Hoberg
Title:	SAN 1269H: Determination of Effects on Seedling Emergence and Vegetative Vigor of Ten Plant Species
Study Completion Date:	November 13, 1996
Laboratory:	Springborn Laboratories, Inc., Wareham, MA
Sponsor:	Sandoz Agro, Inc., Des Plaines, IL
Laboratory Report ID:	96-6-6535
MRID No.:	443074-52
DP Barcode:	D239665

4. **REVIEWED BY:** Michael Davy, Agronomist
EPA/OPP/EFED/ERB2
Signature: Michael Davy **Date:** 8-18-98

5. **PEER REVIEWED BY:** Nicholas Mastrota, Biologist, Ph.D.
EPA/OPP/EFED/ERB2
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 2,400 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	Three- to seven-day-old seedlings planted into polypropylene pots (13-cm top diameter) and allowed to grow for 7 days
Method of application	Belt sprayer

Guideline Criteria	Reported Information
Method of watering	Subirrigation
Growth stage at application 1-3 true leaf stage.	1-5 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 0.0001 to 0.41 lb of acid equivalents (ae)/A
Controls Negative and solvent	Negative (deionized water) control
Replicates per dose At least 3	3
Duration of test 14 days	14 days
Were observations made at least weekly?	Observations made on day 14
Maximum labeled rate	0.25 lb ae/A dicamba and 0.10 lb ae/A SAN 836H (0.35 lb ae/A total)

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

Guideline Criteria	Reported Information
Were initial chemical concentrations measured? (Optional)	The measured concentrations ranged from 86 to 110% of nominal.
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	shoot weight	0.024	0.012
Cucumber	"	0.029	0.027
Lettuce	"	0.011	0.0064
Soybean	shoot length	0.0062	0.0014
Tomato	shoot weight	0.017	0.0064
Turnip	root weight	0.0070	0.0064
Corn	all parameters similar	>0.41	0.41
Oat	"	>0.37	0.37
Onion	root weight	0.032	0.027
Ryegrass	"	0.26	0.22

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

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

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: soybean Parameter: shoot length
EC_{25} 95% C.L.: 0.0021 - 0.018 lb ae/A Probit Slope: N/A

Most sensitive monocot: onion Parameter: root weight
EC_{25} 95% C.L.: 0.0035 - 0.17 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 mL per pot. This translates to a field rate of nearly upto 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**.