

US EPA ARCHIVE DOCUMENT

(3-17-95)

MRID No. 426010-01

**DATA EVALUATION RECORD**

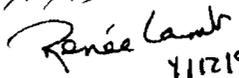
1. **CHEMICAL:** Paraquat dichloride.  
Shaughnessey No. 061601.
2. **TEST MATERIAL:** Paraquat (Gramoxone Extra); 1,1-dimethyl-4,4-bipyridylium dichloride; Sample ID No. 13183-40-2; 29.4% active ingredient w/v.
3. **STUDY TYPE:** 123-1. Non-Target Plants: Vegetative Vigor Phytotoxicity Study - Tier 2. Species Tested: Soybean, Sugarbeet, Oilseed rape, Morningglory, Velvetleaf, Cocklebur, Corn, Wheat, Wild oat, Purple nutsedge.
4. **CITATION:** Canning, L. and J.S. White. 1992. Paraquat: A Glasshouse Study to Evaluate the Effects on Vegetative Vigour of a 300 g ai litre<sup>-1</sup> (2.5 lb ai US gal<sup>-1</sup>) Soluble Concentrate Formulation on Terrestrial Non-target Plants. Laboratory Project ID No. 92JH088. Conducted by ICI Agrochemicals, Jealotts Hill Research Station, Bracknell, Berkshire, UK. Submitted by ICI Americas, Inc., Wilmington, DE. EPA MRID No. 426010-01.

5. **REVIEWED BY:**

Mark A. Mossler, M.S.  
Associate Scientist  
KBN Engineering and  
Applied Sciences, Inc.

Signature: 

Date: 2/10/93

  
4/12/93

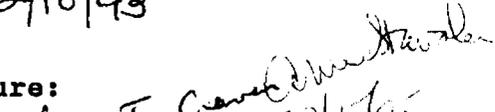
6. **APPROVED BY:**

Pim Kosalwat, Ph.D.  
Senior Scientist  
KBN Engineering and  
Applied Sciences, Inc.

Signature: P. Kosalwat

Date: 2/10/93

Henry T. Craven, M.S.  
Supervisor, EEB/EFED  
USEPA

Signature: 

Date: 3/17/95

7. **CONCLUSIONS:** This study is scientifically sound and meets the requirements for a Tier 2 vegetative vigor test using non-target plants for seven of the ten test species. This study is not scientifically sound for the species treated with insecticides (wild oat, purple nutsedge, and winter wheat).

DER# 426010-01

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Pages 7 through 12 are not included in this copy.

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The material not included contains the following type of information:

- Identity of product inert ingredients.
  - Identity of product impurities.
  - Description of the product manufacturing process.
  - Description of quality control procedures.
  - Identity of the source of product ingredients.
  - Sales or other commercial/financial information.
  - A draft product label.
  - The product confidential statement of formula.
  - Information about a pending registration action.
  - FIFRA registration data.
  - The document is a duplicate of page(s) \_\_\_\_\_.
  - The document is not responsive to the request.
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The information not included is generally considered confidential by product registrants. If you have any questions, please contact the individual who prepared the response to your request.

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cocklebur dry weight

Summary Statistics and ANOVA

Transformation = None

Group <i>rate (g ai/ha)</i>	n	Mean	s.d.	cv%
1 = control	6	4.2667	.0612	1.4
2* 6.25	3	3.6700	.3051	8.3
3 12.5	3	3.8100	.3509	9.2
4* 25	3	2.9067	.3427	11.8
5* 50	3	1.4433	.6093	42.2
6* 100	3	.4167	.2548	61.2
7* 200	3	.0000	.0000	.0
8* 1054	3	.0000	.0000	.0

NOEL = 12.5 g/ha  
 LOEL = 25 g/ha  
 in 16 ai/A:  
 .011  
 NOEL = ~~0.10~~ 16 ai/A  
~~LOEL = 0.20~~ 16 ai/A  
 0.023

\*) the mean for this group is significantly less than the control mean at alpha = 0.05 (1-sided) by a t - test with Bonferroni adjustment of alpha level

Minimum detectable difference for t-tests with Bonferroni adjustment = -.446004  
 This difference corresponds to -10.45 percent of control

\*\*\*\*\*  
 \*  
 \* Note - the above value for the minimum \*  
 \* detectable difference is approximate as \*  
 \* the sample sizes are not the same for all of \*  
 \* the groups. \*  
 \*  
 \*\*\*\*\*

Between groups sum of squares = 81.362133 with 7 degrees of freedom.  
 Error mean square = .082018 with 19 degrees of freedom.

\*\*\*\*\*  
 \*  
 \* Warning - the test for equality of variances \*  
 \* could not be computed as 1 or more of the \*  
 \* variances is zero. \*  
 \*  
 \*\*\*\*\*

cocklebur dry weight

Estimated EC Values and Confidence Limits

Point	Conc.	Lower 95% Confidence	Upper Limits
EC 1.00	0.0420	0.0275	0.0570
EC 5.00	0.0744	0.0544	0.0937
EC10.00	0.1009	0.0780	0.1224
EC15.00	0.1240	0.0993	0.1469
EC50.00	<del>0.2961</del> 0.033 16 a./A	0.2622	0.3343
EC85.00	0.7068	0.5970	0.8815
EC90.00	0.8684	0.7166	1.1223
EC95.00	1.1781	0.9364	1.6099
EC99.00	2.0876	1.5386	3.1842

$$y = 6.45 + 2.74(x)$$

$y =$  probit % inhibition

$x =$  log (rate)

$$EC_{25} = \frac{0.019}{0.17} 16 \text{ a./A}$$