UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

MEMORANDUM

MAR 16 1983

TO: Richard Mountfort (25)
Registration Division (TS-767)

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

THRU: Orville E. Paynter, Ph.D.
Chief, Toxicology Branch
Hazard Evaluation Division (TS-769)

SUBJECT: Expansion of Statistical Comparison Presented in Memo of 8/2/82: Review of Dominant Lethal Test of Thidiazuron CASWELL#659A

Registrant: Nor-Am Agricultural Products
350 West Shuman Blvd.
Naperville, Illinois 60566

Background Information:

In the course of a meeting held on 3/14/83 concerning this study, the question of the statistical comparison of the high dose group to the control group at week one arose. The following discussion expands upon my statistical comparison.

Recommendation/Discussion:

Further examination of the data indicates that statistical significance at the $p < .01$ level is achieved and my original review therefore need not be changed.

The statistical method used (the chi square) is that recommended by Bateman[1] for use in dominant lethal studies. The formula used is as follows:

$$X_2 \text{ (Yates Uncorrected)} = \frac{(0_{11}0_{22}-0_{12}0_{21})^2 \cdot n}{0_1 \cdot 0_2 \cdot 0_1 \cdot 0_2}$$

As recommended by Remington and Schork[2], a Yates correction is not used.

The vehicle control group had 23 dead implants out of a total of 587 implants at week 1. The 400 mg/kg high dose group had a total 56 dead implants of 573 total implants at week 1. Thus,

$$\frac{((56 \cdot 564)-(23 \cdot 517))^2 \cdot 1160}{79 \cdot 1081 \cdot 573 \cdot 587}$$

$X^2 = 15.66$, with one degree of freedom,

$p < .0005$.

[1]Bateman, A.J. "The Dominant Lethal Assay in the Male Mouse" in Handbook of Mutagenicity Test Procedures, Kilbey, Legator, Nichols and Ramel, eds., Elsevier/North Holland Biomedical Press, 1977.

[2]Remington, R.D. and Schork, M.A. Statistics with Applications to the Biological and Health Sciences, Prentice-Hall Inc., 1970.

Gary J. Burin FDC 3/15/83

Gary J. Burin, Toxicologist,
Review Section V
Toxicology Branch/HED (TS-769)

TS-769:th:TOX/HED:GJBurin:3-15-83:card 4

2