

US EPA ARCHIVE DOCUMENT

PM 50/25B



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

MAR 27 1989

OFFICE OF  
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: E.I. du Pont de Nemours & Company, Inc. - Proposed  
Protocols for Processing Studies on Various Crops  
Using Methomyl (RCB No. 4970)

FROM: Gobind P. Makhijani, Chemist  
Dietary Exposure Branch  
Health Effects Division (H7509C)

*G.P. Makhijani*

TO: Dennis H. Edwards, Jr., PM 12  
Insecticide-Rodenticide Branch  
Registration Division (H7505C)

and

J. Ellenberger/B. Briscoe, PM Team 50  
Data Call-In Section  
Registration Support Branch  
Registration Division (H7505C)

THRU: William J. Boodee, Section Head  
Reregistration Section  
Dietary Exposure Branch  
Health Effects Division (H7509C)

*WJB.*

On January 20, 1989, E.I du Pont de Nemours & Company, Inc. submitted draft protocols for methomyl processing field trials on corn, cottonseed, peanuts, potatoes, sorghum, and soybeans in response to the data requirements outlined in the Final Registration Standard and Tolerance Reassessment (FRSTR) Guidance Document issued in June 1988.

These proposals and our conclusions are described below.

1. Specifications - Lannate\ L Insecticide containing 1.8 lb ai per gallon will be utilized.
2. Test Locations - One test for each crop will be conducted in one of the three States indicated in the attached table.

A second test may be conducted as a backup in case of crop failure. The exact locations will be documented in study records.

3. Application of Test Substance - Multiple foliar applications of Lannate\ L as a broadcast spray at exaggerated rates, will be carried out on different crops as indicated in the table. The interval between the sprayings, number of applications, and the preharvest intervals (PHIs) for the various crops are also indicated in the table.

Applications will be made with equipment that simulates commercial application. The quantity of spray solution will vary from 10 to 20 gallons per acre. The plots will be large enough to allow for uniform application and to allow for the collection of at least 2.5 to 5 lb (depending on the crop) of mature seed for routine chemical analysis, as well as a minimum of 50 lb of seed for processing studies. All experimental plots will be staked and clearly identified for each application and at sampling.

4. Sampling - Samples from the various crops (treated as well as untreated) will be collected after the last application, at the PHIs indicated in the attached table. The quantities of samples to be collected will vary from crop to crop. The smaller samples (2.5 to 5.0 lb) for routine residue analysis will be frozen as soon as possible and will be shipped to the DuPont Experimental Station, Wilmington, Delaware. The larger samples for processing studies will be shipped unfrozen via overnight delivery to the processing laboratory as shown in the attached table.

Amendments to the protocols for various crops describing the processing procedures and sample analyses will be submitted by the registrant at a later date.

5. Data Recording, Reporting, and Retention - All the data will be recorded and retained according to the Good Laboratory Practice Regulations. All the original field records will be submitted to the Residue Programs Manager for transmittal to the Study Director.

The final report will be submitted in June 1990.

Dietary Exposure Branch (DEB) Comments

It has been previously determined that the nature of methomyl residues is adequately understood and no additional data are required. Tolerances for methomyl residues in or on food or feed items are currently expressed in terms of methomyl per se.

It has also been determined that residues of methomyl are stable in plant commodities during long-term storage at near freezing and subfreezing temperatures. The GLC analytical procedures are adequate for collection of data pertaining to residues of methomyl in plants.

The proposed protocol for sorghum submitted by the registrant indicates two foliar applications of Lannate\ L at 0.45 lb ai/acre (7.2 oz ai/acre) on a 14-day schedule. This application rate is similar to the registered label rate. At this rate of application, the residues of methomyl on sorghum grain should not exceed 0.2 ppm (tolerance level). DEB (G.P. Makhijani) contacted Dr. Diane Stanley, Registration Specialist, Registration and Regulatory Affairs at DuPont on March 14, 1989 and discussed the problem. The registrant has now confirmed on March 21, 1989, by telephone, that there is an error in the protocol and the rate of application should be read as 2.25 lb ai/acre (5X) instead of 0.45 lb ai/acre. The registrant will resubmit the protocol for sorghum in 2 to 3 days.

The proposed protocols for field trials on corn, cottonseed, peanuts, potatoes, sorghum, and soybeans with processing studies on methomyl are acceptable, provided the registrant incorporates a change in sorghum at 2.25 lb ai/acre per application, instead of 0.45 lb ai/acre.

Attachment: Table 1

cc: Methomyl Registration Standard, S.F., R.F., Circ., GPM, RBP, D. Edwards (PM 12), Ellenberger (DCI), PMSD/ISB (E. Eldredge), TOX (Coberly)

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Methomyl on Various Crops

Table 1

	<u>Potatoes</u>	<u>Sorghum</u>	<u>Corn</u>	<u>Soybeans</u>	<u>Cottonseed</u>	<u>Peanuts</u>
Proposed starting date (application)	May 1989	May 1989	August 1989	August 1989	May 1989	July 1989
Proposed completion date	June 1990	June 1990	June 1990	June 1990	June 1990	June 1990
States in which proposed studies are to be conducted	WA/OR/ID	TX/OK/KS	IN/IL/IA	IN/IL/IA	MS/LA/AR	VA/NC/SC
Alternate backup study to be conducted	MN/WI	Not decided	Not decided	Not decided	Not decided	Not decided
Present label rate/acre/application	0.9 lb	0.45 lb	0.45 lb	0.9 lb	0.45 lb	0.9 lb
Proposed application rate/acre of Lannate L containing 1.8 lb/ai/gal	2.7 lb ai (3X) 3.6 lb ai (4X) 4.5 lb ai (5X)	0.45 lb ai (1X)	2.25 lb ai (5X)	4.5 lb ai (5X)	0.45 lb ai 10-day schedule until about 25 days before harvest 1.5 lb ai 10-days apart 2 application (3.5X)	2.7 lb ai (3X) 3.6 lb ai (4X) 4.5 lb ai (5X)
No. of applications	3	2	2	2	14 + 2	3
Quantity of spray solution/acre	20 gal	20 gal	20 gal	20 gal	10 gal	20 gal

Methomyl on Various Crops

Table 1 (cont'd)

	<u>Potatoes</u>	<u>Sorghum</u>	<u>Corn</u>	<u>Soybeans</u>	<u>Cottonseed</u>	<u>Peanuts</u>
Interval between applications	7-10 days	14 days	14 days	14 days	10 days	10 days
Preharvest interval	3 days after 3rd application	14 days after 2nd application	1 day after 2nd application	14 days after 2nd application	15 days after last application	3 days after last application
Sampling - Processing Study	50 lb (unfrozen)	50 lb (unfrozen)	250 lb (unfrozen)	50 lb (unfrozen)	50 lb (unfrozen)	50 lb (unshelled)
Sampling - Routine Analysis	2.5 lb (frozen)	2.5 lb (frozen)	2.5 lb (frozen)	2.5 lb (frozen)	5 lb (frozen)	5 lb (frozen)
Processing Lab	National Food Lab., Wash., DC	Lloyd Rooney Cereal Quality Lab., College Station, TX	Food Protein R and D Center c/o Malcolm Greengross, TX A&M University, Bryan, TX			