

5-3-93

DP Barcode : D182955, D183163
 D184729, D188524
 PC Code No : 108401
 EEB Out : MAY 3 1993

To: Linda DeLuise
 Product Manager 52
 Special Review and Reregistration Division (H7508W)

From: Anthony F. Maciorowski, Chief
 Ecological Effects Branch/EFED (H7507C)

Attached, please find the EEB review of...

Reg./File # : 108401-239
 Chemical Name : Thiobencarb, Bolero
 Type Product : Herbicide
 Product Name :
 Company Name : Valent
 Purpose : Review Residue Monitoring Protocol Modifications

Action Code : 627 Date Due :
 Reviewer : Dan Rieder Date In EEB:

EEB Guideline/MRID Summary Table: The review in this package contains an evaluation of the following:

GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT	GDLN NO	MRID NO	CAT
71-1(A)			72-2(A)			72-7(A)		
71-1(B)			72-2(B)			72-7(B)		
71-2(A)			72-3(A)			122-1(A)		
71-2(B)			72-3(B)			122-1(B)		
71-3			72-3(C)			122-2		
71-4(A)			72-3(D)			123-1(A)		
71-4(B)			72-3(E)			123-1(B)		
71-5(A)			72-3(F)			123-2		
71-5(B)			72-4(A)			124-1		
72-1(A)			72-4(B)			124-2		
72-1(B)			72-5			141-1		
72-1(C)			72-6			141-2		
72-1(D)						141-5		

Y=Acceptable (Study satisfied Guideline)/Concur
 P=Partial (Study partially fulfilled Guideline but additional information is needed)
 S=Supplemental (Study provided useful information but Guideline was not satisfied)
 N=Unacceptable (Study was rejected)/Nonconcur

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

MAY 3 1993

MEMORANDUM

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

SUBJECT: Review of Thiobencarb Residue Monitoring Protocol
and Comment on Requested Modifications
(D182955, D183163, D184729, and D188524)

FROM: Anthony F. Maciorowski, Chief *AF Maciorowski*
Ecological Effects Branch
Environmental Fate and Effects Division H7507C

TO: Linda DeLuise PM 52
Reregistration Branch
Special Review and Reregistration Division H7508W

The EEB has received several documents pertaining to the thiobencarb (bolero, 108401) monitoring program Valent is initiating this spring.

D182955: Monitoring Protocol (91492)
D183163, D184729: September 28, 1992 letter requesting that "B" samples only be held until the Q.A. process is completed.
D188524: February 22, 1993 letter requesting that the scheduling for "flushes" of fields following bolero treatment be extended from "within 24 hours of treatment" to "within 24 to 72 hours of treatment."

In addition, EEB is considering a Monitoring Protocol (12292, attached), which is an update of the 91492 protocol.

Background

Bolero was conditionally registered on rice approximately 1979 or 1980. The condition was that a 3-year estuarine field study be conducted. The study was satisfactorily completed and indicated adverse effects to shrimp (reduced production) and fish (mortality). Since only one treatment site was studied, EEB recommended monitoring at a number of sites to determine if the exposure that occurred at that one site was representative of other sites where bolero is used on rice.

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This monitoring request was made approximately 1985. Together, the field studies, monitoring results and laboratory data will be used to characterize the risk of bolero to aquatic and estuarine organisms.

The details for this proposed monitoring study were worked out during the summer of 1992. Except for the following issues, the 12292 protocol submitted by Valent adequately accommodates the monitoring specifications EEB recommended.

In recent telephone conversations with Rich Zimmerman (Valent, 510-256-2850) and various correspondence, the registrant has requested the following exceptions and modifications to previously agreed upon procedures.

1- Originally, the protocol indicated water samples would be 1 liter in volume. In a 3-4-93 telephone conversation, Rich indicated their chemistry method was adequate to obtain the needed sensitivity with sample sizes 0.5 liter in volume. They propose to reduce the size of their water samples accordingly.

EEB Response: The EEB concurs with this modification provided the method will still achieve the limits of detection on which we previously agreed (0.5 ppb in water). Rich did not mention reducing the size of the sediment samples so it is assumed they will remain as indicated in the protocol.

2- The EEB had indicated that to achieve "conditions which maximize typical exposure potential" the treated fields must have water discharge beginning within 24 hours after treatment and then two more times within the first three weeks after treatment. If sufficient rainfall did not occur to cause a discharge of at least 1 inch, the fields were to be "flushed" with irrigation water to achieve the 1-inch runoff. This was to represent a heavy rainfall shortly after treatment. The registrant reported in their 2-22-93 letter that growers anticipated a possible problem with the first flush if it was done when the rice plants had just emerged. The flush would behave differently in the field than a rainfall in that initiating a flush causes a "wall" of water to move across the field as opposed to a uniform distribution of water that would occur during and after a rainfall event. This "wall" would tend to pick up a high concentration of bolero as it moved across the rice field possibly causing phyto-toxic damage to the newly emerged rice plants. To remedy this, the registrant requested that they be allowed a "window" of from 24 to 72 hours for the first flush.

Response: The EEB recommends that the registrant still attempt a flush within the first 24 hours after treatment at each field. Since treatment is made after planting and up to 4 days before emergence, it was concluded that most of the time the flush could be done after 24 hours but **before** emergence of the rice plant. In cases where, due to unforeseen conditions, the rice emerged within 24 hours after treatment, the flush can be postponed until flushing would not damage the rice plant. It is important that this

postponement not extend beyond 72 hours.

3- Samples of water and sediment are to be collected in duplicate. Samples identified as "A" will be chemically analyzed and "B" samples will be held as a back-up in case there was a problem with the first analysis. The EEB had recommended that the "B" sample be held until we had completed our review of the monitoring study in case we had a problem with the results and needed to have the chemical analysis redone with the replicate sample. The registrant identified problems with holding samples that long.

a-Storage space: With close to 3000 samples collected, storing them for what could be 3 years (until review is complete) would be costly and difficult.

b-Storage Stability: They felt even if they did store samples for that length of time, based on their knowledge of storage stability for thiobencarb in environmental samples, the results of chemical analysis would not be reliable.

They propose to hold the "B" samples until the Q. A. process is complete but not beyond.

Response: The EEB agrees that the "B" samples need only be held until the Q.A process is complete.

EFGWB Comments

The protocol and proposed modifications were provided to EFGWB for comment. The time available to them for review was limited, as was the degree to which they could change the established protocol. However, David Jones provided the following suggestions. These should be incorporated into the monitoring program as much as possible.

1- The spray drift cards should be enlarged to 1000 cm². If this cannot be done for early treatments, the registrant should be encouraged to make this change as soon as practical. Larger spray drift cards will reduce the variability and provide better precision.

2- Lack of treatment site sampling reduces the overall confidence of the study. The value of such sampling includes verification of application and it would also help in the interpretation of off-site residue measurements.

Incorporating the above suggestions will enhance overall value of the study and increase the confidence in the results. Failure to incorporate these suggestions will likely influence the interpretation of the results, but will not automatically invalidate the study. If you have questions, please contact Dan Rieder (305-5314).

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Response: The EEB agrees that the "B" samples need only be held until the Q.A process is complete.

EFGWB Comments

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