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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: Terrestrial Field Study Committee
Review of Temik Protocol

FROM: Terrestrial Field Study Committee

THRU: Norm Cook, Head, Section 2 *Norman Cook*
EEB/HED


TO: Michael Slimak, Chief
EEB/HED

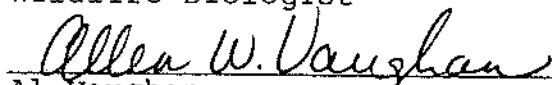
The Terrestrial Field Study Committee (TFSC) has reviewed the proposed field study on Temik and recommends the following changes/incorporations to the protocol:

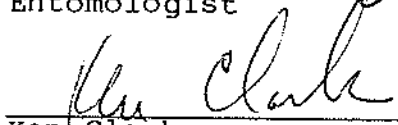
1. Because it would be inappropriate to enter into any pretest agreement with the registrant that all observed effects will be attributable to Temik poisoning, the TFSC believes that the linkage between cause and effect must be examined in any field study. Because of the great variation in measurement and difficulty with interpretation of results, the TFSC suggests that the protocol be changed to examine whole body residues (gizzard, crop, and liver) rather than AChE. Samples should be taken from live as well as dead birds.
2. End-point detection limits are crucial to the design of any field study. These limits must be established before rather than after the test has begun. That is to say, you cannot choose your study plot size without first establishing what end-point detection limits you are going to accept. Until such time as the EEB can fully evaluate what these detection limits should be, for the various end-point parameters, we recommend that the study design be sensitive enough to detect, at a minimum, a 20% change in bird mortality.


3. Because application methods and equipment greatly determine the degree of exposure, especially with granulated formulations, the TFSC believes that the equipment used in the study be typical of what most small farmers use or can afford? Since only commercial application equipment will be used, is this a restricted chemical to be applied only by commercial applicators? The TFSC suggests that the description of the equipment used be in the final report.
4. The protocol does not clearly provide a contingency for inclement weather. What happens if there is a 5" rainfall, or extremely high winds? Will sampling, carcass search strategies, surveys, transects or application methods be modified to account for these conditions?
5. Do the study design methods fit with the assumptions for the ANOVA (e.g., equal variance, continuous data)? If ANOVA is legitimate the number of replications should be based on the coefficient of variation, alpha and beta. Unless the coefficient of variation is very low, 4 replicates are likely to be insufficient at standard alpha and beta levels. The EEB believes that maintaining alpha at .05 is important, but beta may be acceptable at .2.
6. The reporting of behavioral observations does not appear to be systematic in the protocol. The protocol should specify that transect persons record behavioral abnormalities for the specific situation. It is also somewhat unclear as to what exactly in the way of abnormal behavior they are going to report.

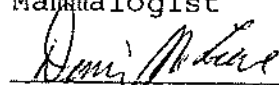
The TFSC will gladly discuss these recommended changes with the reviewer at his convenience. The TFSC would also like to have the opportunity to re-review the final protocol before it is submitted to the Registrant.



Dick Felthousen, Acting Chairman
Wildlife Biologist


Al Vaughan
Entomologist


Ken Clark
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Larry Turner
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