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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM

TO: Marilyn Mautz, PM Team 16
Registration Division TS-767C

THRU: Dave Coppage, Head Sec. 3 *DC*
Ecological Effects Branch
Hazard Evaluation Division TS-769C

THR: Clayton Bushong *CB*
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SUBJECT: Update on Counter 15G (Terbufos) Avian Field Study.

This is to update you on the conduct of the avian field study of Counter 15G granular terbufos being conducted for American Cyanamid by Wildlife International, Ltd. in Easton, Maryland.

EEB has maintained an advisory role in this study. This was necessitated by the condition of the submitted protocol. In my memo of protocol approval (Bascietto to Mautz, 17 May 1984) I expressed concern for the poor planning and haste in implementing the definitive study. I stated:

"...the study has been planned very hastily. The registrant has been advised that this is not prudent. However, we agreed that if 'flexibility' to field conditions is maintained, and if a good quality field study would result, ...the effort could be made this year (1984)".

I specifically defined the term "flexibility" to mean agreement in adjusting the methods of the study according to prevailing field conditions which, at that time, were unknown to EEB. In my advisory role I have been in frequent contact with Mr. Mark Jaber, the principal investigator, and Mr. William Stellar, Cyanamid's Plant Industry Registrations Manager. These contacts have included both telephone and in-person discussions, plus a site visit on July 12, 1984.

At least three (3) problem items have been identified since the initiation of Phase II of the study which is an aerial broadcast application to corn to support proposed conditional registration. Phase I of this study is a soil incorporated application at planting to support an existing use under the registration standard. Phase I was initiated in mid-May, 1984.

Items posing potentially serious problems in this study.

1. The scheduled aerial broadcast applications, set to be applied in mid-July, have been postponed two (2) weeks because the proper permits for aerial applications were not obtained. This may invalidate some of the pre-application census data obtained prior to my visit on July 12. Mark Jaber of Wildlife International suggested simulated aerial applications using a "high boy" applicator to scatter granules over the top of the crop. I said EEB could consider this if they agreed to contaminate the edge as would be expected in a real aerial application. They did not pursue this option and the applications remained off schedule. It has yet to be determined whether the application schedule they finally end up using will adequately simulate the proposed labeling.
2. At about midpoint into the study (approx. July 12) EEB discovered that some of the test fields are located directly adjacent or are connected to corn field treated with carbofuran, a very highly toxic carbamate insecticide which is known to kill birds in the field. I expressed dismay at this discovery and the implication that some of effects that may be observed in this study could be due to the carbofuran. The company and consultants chose not to run "control" fields to control for the problem of contamination by other toxic pesticides potentially present near test sites. They were specifically cautioned on April 25, 1984 that this problem could arise and they would have trouble with it if they did not run a control (see minutes of April 25 meeting with the company and consultants which you attended - attached). I again discussed this problem with Bill Stellar on July 20th and with Mark Jaber on July 24 (phone). However, by then they had not included a control field in the study design.

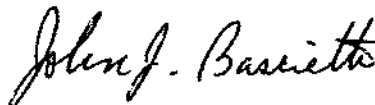
My proposal to get around this problem was to run dual whole body residue analyses, one for carbofuran and one for terbufos. I suggested this to Mark Jaber during our July 24th conversation. He suggested that this was not necessary because they were only interested in determining whether a dead or paralyzed bird contained terbufos residues. I assured him that EEB would not take the same view, considering our previous warnings on performing field studies without appropriate controls in areas

where other toxic chemicals may be in use.

3. The first aerial broadcast applications were made to two or three fields yesterday, July 26th, 1984. Last night the area was hit with moderate to heavy rain showers. I was scheduled to visit the site today (July 27) to see the aerial applications to the remaining untreated fields, but cancelled my trip due to repeated forecasts for more rain (the pesticide will not be applied aerially in the rain). I spoke with Mr. Jaber at 6:00 A.M. this morning (phone) and expressed concern that yesterday's applications may have been washed out by the rain, significantly reducing the exposure of granules on the soil and crop surfaces. The whole point of this study is to investigate the potential avian hazard posed by an essentially "exposed" (i.e., not soil incorporated) application of these highly toxic granules.

My only suggestion to Mr. Jaber at this point was to try to collect exposed granules from the treated fields for residue analyses to compare with a sample of fresh granules not exposed to rain after application. The problem is that the granules may have dissolved into the soil, thus eliminating or reducing the exposure.

At this point I do not know when the remaining untreated test fields will receive aerial application of the granules.



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- (1) Attachment - minutes of April 25, 1984
meeting with American Cyanamid
and consultants