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

Caswell # 900 AA

DEC 2 1983

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

MEMORANDUM:

SUBJECT: PP#3F2773: Thiodicarb in Corn. Letters of
8/4/83 and 11/1/83.

FROM: Alfred Smith, Chemist^{qs}
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

THRU: Charles L. Trichilo, Chief
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

TO: Jay S. Ellenberger, PM# 12
Registration Division (TS-767)

and

Toxicology Branch
Hazard Evaluation Division (TS-769)

The petitioner's letters contain a rationale designed to eliminate the need for a field corn grain processing study in future registration and tolerance proposals. (The field corn registration and tolerance proposals were withdrawn in a 5/23/83 letter.) The petitioner contends that residues, if any, in corn grain would be concentrated in the hull. The petitioner further states that this conclusion is supported by fractionation studies performed with cottonseed and soybeans which show that residues on these raw agricultural commodities are concentrated in the cottonseed hull and the soybean hull. The petitioner concludes that since corn "hulls" are not a commercial processing fraction and no concentration of residues would be expected in the other corn fractions, then the cottonseed and soybean processing studies should be used to "---- satisfy any concerns the Residue Chemistry Branch has for processed products of corn."

Residue data in PP#0F2413 do indicate that residues in cottonseed and soybeans are concentrated in hulls. Residues were also present in cottonseed meal, but were not concentrated. The cottonseed oil and soapstock had no detectable residues (<0.02 ppm). Residue distribution was different for the soybeans. Small levels of residues were found in the fractions; however, a concentration of residues was noted only in the hulls.

We concur that residues could be concentrated in the hull of the corn grain. However, we do not agree that the hull of corn grain is commercially insignificant. The hull is removed in processing and mixed with fiber fractions, germ meal, and gluten (protein) to form a feed supplement. (This feed is described as Grain protein or Corn Gluten Feed and Meal by "Agricultural Statistics." The processing of corn grain is described in "CORN: CULTURE, PROCESSING, PRODUCTS," Edited by G.E. Inglett, Ph.D., The Air Publishing Company, Inc., Westport, Connecticut, 1970, p.151). There is, therefore, a real and valid concern with residues in field corn grain. While the concentration effect would likely be on the corn grain hull, residues could also occur in the meal which is a human food item.

Residues in the hull would be diluted upon mixing, and the level of residues for the grain protein feed item is less than that of the grain. Moreover, the contribution of residues from grain protein feed item (a supplement) is small relative to the contribution from other feed items.

In view of the foregoing, we conclude that the results of cottonseed and soybean processing studies can be used to approximate the behavior of thiodicarb in the field corn grain. As a result, a field corn grain fractionation study is not needed. Additionally, the residues in the byproducts (meal, oil, soapstock) are not likely to exceed the level in the grain. Therefore, no food or feed additive tolerances are needed.

TS-769:RCB:A.Smith:cdw:CM#2:Rm810:X77324:11/25/83
cc: R.F., Circu, Reviewer, TOX, EEB, EAB, PP#3F2773, FDA,
Robert Thompson
RDI: Maxie Jo Nelson, 11/25/83; R. Schmitt, 11/25/83

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