

4-30-85



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

OFFICE OF
PESTICIDES AND TOXIC SUBSTANCES

APR 30 1985

MEMORANDUM

Subject: PP#0F2413/FAP#0H5275/PP#3F2793/FAP#3H5378 - Thiodicarb on Cotton and Soybeans. Investigation of "Ubiquitous" Acetamide in Milk.

From: Michael P. Firestone, Ph.D., Chemist
Tolerance Petition Section II
Residue Chemistry Branch
Hazard Evaluation Division (TS-769)

Michael P. Firestone

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

Trichilo

To: Donald A. Marlow, Chief
Chemical Operations Branch, BUD (TS-768)

Union Carbide is proposing tolerances for thiodicarb on cottonseed, soybeans and their processed fractions. Union Carbide's residue data support their contention that acetamide, an animal metabolite of thiodicarb as well as methomyl, is ubiquitous in milk and eggs (see M. Firestone memo of 3/7/85). However, RCB feels that Union Carbide's contention needs to be further investigated by COB.

Since thiodicarb tolerance requests are also pending on several commodities in addition to cottonseed and soybeans, RCB is interested in taking a further look at the results generated by Union Carbide's "Method for the Analysis of Acetamide in Milk and Eggs" (designated ACETAMIDE-NPD-MILK AND EGGS - November 15, 1984) and its accompanying "Determination and GC-MS Confirmation of Endogenous Acetamide in Milk and Eggs" (dated November 14, 1984).

EPA's Analytical Chemistry Section (COB, BUD) had to travel to Union Carbide's Research Triangle Park, NC laboratory due to a lack of an on-column capillary injection system and was, thus, at a disadvantage in evaluating Union Carbide's method for determining acetamide in chicken liver (see R. Thomas memo of 1/18/85. This specialized piece of equipment is now available in ACS's lab (J. Onley private communication of 4/23/85 with R. Thomas of ACS).

Thus, RCB requests that ACS conduct a study in which residues of acetamide are quantitated in distilled water, pasteurized milk (supermarket purchased) and, if possible, unprocessed/unpasteurized milk obtained from USDA's Beltsville dairy cattle herd whose diet consists of non-pesticide treated feed. Although this is not a method trial, per se, samples should be run in duplicate at the requested fortification levels (see attached table). Two copies of the appropriate method(s) along with recoveries and sample chromatograms, are attached.

Please return the information requested on page 3 of this memo, as well as copies of chromatograms for representative controls and fortified samples, standard curves and also examples of sample calculations.

The analytical reference standard(s) are available at the Repository in RTP, NC. (Telephone No. 919-541-3951)

Attachment

cc: TOX, Dennis Edwards-RD, Anne Barton
bcc: R.F., Circu, MPFirestone, Thompson, FDA, PP#0F2413/FAP#0H5275,
PP#3F2793/FAP#3H5378, PM-12, K.Kissler, W.Bontoyan, MTO F.
RDI:JHO-4/29/85:RDS-4/29/85
TS-769:RCB:MPFirestone:CM#2:Rm800:x77484:

Method: a) ACETAMIDE-NPD-MILK AND EGGS dated 11/15/84.
 b) Determination and GC/MS Confirmation of Endogenous Acetamide in Milk and Eggs dated 11/14/84.

1. For determination of % recovery, calculate using control values:

$$\% \text{ recovery corrected} = \frac{(\text{gross value} - \text{control value})}{\text{fortification level}}$$

2. For determination of residue values (ppm found), calculate with and without the use of % recovery values only for control samples:

a) for control samples, residue value corrected = $\frac{\text{gross value} \times 100}{\% \text{ recovery}}$

b) for fortified samples, residue value corrected = gross value - control value

3. Do not report control values as 0; if less than limit of detection, report as such.

<u>Commodity</u>	<u>Chemical Added</u>	<u>PPM added</u>	<u>PPM found</u>		<u>% Recovery</u>	<u>GC/MS Confirmed?</u>
			<u>gross</u>	<u>corr.</u>		
distilled water	acetamide	0.0			---	
		0.1				
pasteurized milk	acetamide	0.0			---	
		0.1				
		0.5				
unpasteurized milk	acetamide	0.0			---	
		0.1				
		0.5				