FEDERAL SECURITY AGENCY

FOOD AND DRUG ADMINISTRATION

WASHINGTON, D. C.

FEB 21 1945

Dr. Robert A. Kehoe
Kettering Laboratory for Applied Physiology
University of Cincinnati
Cincinnati, Ohio

Dear Dr. Kehoe:

Dr. Dunbar has requested me to acknowledge receipt of the copy of your letter of February 3 to Mr. C. E. Chase. We appreciate very much indeed your having made to Mr. Chase a clear and concise statement of your stand with reference to certain matters with lead arsenate spray residue and tolerances for same.

I notice on the second page you have taken into consideration, in expressing your opinion, the composition of spray residue and recognizing the possible change in the lead arsenate due to weathering processes. I thought you might be interested in a paper published by Mr. Jack E. Fahey of the Department of Agriculture entitled "Changes in Ratio of Lead to Arsenious Oxide in Lead Arsenate Residues on Apples." I am therefore enclosing a photostat of this paper.

Trusting that everything is going well with you and your work, I am,

Sincerely yours,

Herbert O. Calvery
Chief, Division of Pharmacology

Enclosure
Photostat

N9721

Changes in Ratio of Lead to Arsenious Oxide in Lead Arsenate Residues on Apples

JACK F. FAHEY[1] (U. S. D. A., Agr. Res. Adm., Bureau of Entomology and Plant Quarantine)

In a previous paper Fahey & Rusk (1939) reported the results of determinations of the ratio of lead to arsenious oxide in acid lead arsenate spray deposits studied during 1933 and 1936. Their data failed to show any significant changes in ratio in such deposits as are commonly encountered in the orchards of southern Indiana. They further pointed out that this was contrary to the results of early investigations, in which ratios of lead to arsenious oxide in excess of 4:1, as compared with 2.09:1 for pure acid lead arsenate, were not uncommon. The observations of Hartman (1932), Frear & Worthley (1937), and Pearce and Avens (1938) were cited as evidence to support the supposition that ratios in excess of 4:1 were in all probability due to inadequate sampling or unreliable methods of analysis. Pearce & Avens (1940), in a second paper on this subject, pointed to the agreement between their results and those previously reported by Fahey and Rusk (1939) where comparable spray treatments were employed, but justly criticized the fact that only lead arsenate-bordeaux and lead arsenate-bordeaux-oil residues had been studied by these writers. They further showed that the decomposition of simple lead arsenate residues was negligible, that the addition of lime to the spray mixture increased, whereas bordeaux mixture or oil tended to decrease, the rate of change of ratio of lead to arsenious oxide during periods of weathering, and that as the

[1] The author acknowledges the assistance of R. W. Rusk in the analytical work of this investigation.
The plots used in the experiments reported in this paper were surveyed by personnel of the Division of Fruit Insect Investigations, Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture.

KE 0008470

N9721.01