

February 23, 1937

Mr. Richard Wellington
N.Y. State Agricultural Experiment Station
Geneva, New York

Dear Mr. Wellington:

I have not seen Professor Talbot's article in the Northwest Fruit Grower so that I do not know in what connection he cited our experimental work. However I have discussed various items of our work with Professor Talbot and I believe he is familiar enough with our work that he would not have mis-quoted it. On the other hand it is worth while, perhaps, to point out that although our work has a bearing on the problem of lead residues on fruit, it has not dealt specifically with that question. Rather we have been much more concerned with the general problem of industrial lead absorption and lead intoxication. You will realize, I am sure, that there is a significant difference here in that most of the serious lead exposure in industry occurs by way of the respiratory apparatus whereas hazards which are associated with insecticide residues involve alimentary absorption.

Our work on normal lead and on the lead content of food materials is of direct importance, I believe, in this latter problem. We have shown that the average lead intake among American adults is approximately .25 mgs. daily. At this level of lead intake an equilibrium between intake and output occurs so that the two are substantially equivalent over any considerable period of time. We have studied this question of normal lead metabolism in some detail while our figures obtained in industrial plants give us an indirect basis for calculating the quantities of ingested lead which might be regarded as dangerous. Our conclusions in this respect are distinctly tentative but we are carrying out experiments on lead ingestion at the present time which should enable us eventually to give a very sound answer to this question.

The problem of lead residues on food materials from a public health point of view is distinctly an important one. On the other hand there have been many misleading statements and opinions, and some of the people who have written on the question are quite obviously uninformed

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and very much prejudiced. I have deliberately avoided an entrance into this controversy since I much prefer to speak from experimental data and from clinical observations rather than from hypothetical reasoning. I am sure the facts can be obtained in such a way as to justify hygienic procedures and tolerance levels on a sound and sensible basis. Obviously in such procedures there must be a fairly large margin of safety.

Unfortunately my supply of reprints of our experimental work which bears on this subject is practically exhausted. However I am sending you one article in which I believe you will be interested not so much because of the main object of the investigation but because some observations on human subjects are described in this article in such a way as to show the daily intake and output of lead in a way in which such observations have not previously been made. In this article I believe you will see the course of normal lead metabolism more clearly than can be found elsewhere. In the bibliography of this article you will find listed a series of our previous published articles. As a matter of general interest, I refer you particularly to a series of six articles which occurred in the Journal of Industrial Hygiene in September of 1933. In this series of articles you will find a general summary of our experimental observations in the field of lead absorption and lead poisoning over a period of some ten or twelve years. If you wish to write me about any specific matters in these articles which may be of interest to you, do not hesitate to do so.

Very truly yours,

RAK:is

Robert A. Kehoe, M.D.

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