

February 24, 1937

Dr. Graham Edgar
Ethyl Gasoline Corporation
Chrysler Building
New York City
New York

Dear Graham:

I think you are quite right in having certain reservations about the advisability of providing tetraethyl lead for use as an insecticide in the manner advocated by Mr. F. W. Morgan of the W. T. Rawleigh Company. I should consider this a very unwise use of tetraethyl lead and I should regard it as quite unwise on the part of the Corporation to promote the use of tetraethyl lead for this purpose. However it may be of some interest to you to know that Calcott of DuPonts made some observations several years ago on the preparation of emulsified tetraethyl lead for this purpose. It was Calcott's idea, which he claimed to have substantiated with suitable experiments, that with the tetraethyl lead in emulsion in an aqueous medium, its absorption through the skin on contact would be prevented. I must confess to a certain skepticism on this score, and I would not regard any experimental work as very convincing unless it could be shown that the application of such an emulsion to the skin of experimental animals would fail to produce lead absorption. In any case I am quite sure that the finely divided spray in the atmosphere would be absorbed through the pulmonary epithelium. It happens that I have seen cases of lead poisoning from the use of lead arsenate sprays. (Perhaps I should say a case for I have seen only one authentic case in a sprayer.) I should fear that a more readily absorbed lead compound, such as tetraethyl lead, might produce a higher incidence of lead poisoning among these workers than has been seen in the lead of lead arsenate. As to the eventual fate of the material sprayed on the trees, I should expect that the residue might contain lead in smaller quantities than are found where lead arsenate is employed. However I was led to believe by the Pomological Group that it is highly important that the residue should remain on the fruit for a considerable period of time. According to them this was the only way in which the fruit could be more or less permanently protected against the codling moth. However I am not primarily interested in the efficacy of a material as a spray. I am much more concerned with the hazards of preparing and handling a more or less

concentrated base solution from which the final spray compound is to be prepared. It would require some fairly comprehensive experiments to convince me that a two per cent emulsion of tetraethyl lead in an oil dip would not be absorbed in significant quantities through the skin of persons who handle it. Certainly this should not be authorized without adequate experimentation and I, personally, doubt that such experimentation would be justified from the point of view of the Ethyl Gasoline Corporation.

Very truly yours,

RAK:ls

Robert A. Kehoe, M.D.