

June 7, 1943

Miss Verla M. Pond,
1101 West Franklin Street,
Richmond, Virginia.

Dear Miss Pond:

I shall attempt again to answer your question. Actually, however, you are asking for a simple and categoric answer to a very complicated problem. It was for this reason that I attempted to explain the background of this whole subject rather than to give you what would otherwise have been a dogmatic answer.

If you want to know what quantity of lead is permissible in soluble coffee from the legal point of view, no one can answer your question. A literal interpretation of the federal statutes would hold that any quantity introduced into coffee as a contaminant, is in violation of the law. Therefore, the interpretation put on the presence of lead in such coffee is open to any interpretation which the Food and Drugs Administration might wish to put on it. Practically speaking, it seems probably that they would not attach any great significance to quantities under one part per million. Anything in excess of this would probably be looked at askance. I base this statement upon some previous experience with other materials.

If you want to know what I regard as safe, we are dealing with a totally different problem. No one can tell you what is safe for any one product. The whole problem concerns itself with the total lead intake which one is likely to encounter as the result of his own personal choice in matters of diet. That is to say, the lead content of the composite daily quantity of food consumed is the immediate consideration. It is quite certain that our individual daily intake of lead must be kept under one milligram per day. Actually it is probable that it should not exceed 0.5 milligrams per day. Anything above this figure, no matter how it comes about, is potentially dangerous. Therefore, if we permit fruit to have a lead content of approximately seven parts per million, we must have everything else at such a low level as to make little or no contribution to the total dietary lead intake. This is a problem which neither the food manufacturers nor the Food and Drug Administration have been willing to deal with realistically. Nevertheless, this is a real consideration, and under present circumstances it is necessary for every food handler and manufacturer to limit the lead content of his product to the lowest possible level that is compatible with a reasonable economy. For this reason, we should avoid

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materials in the processing, handling, and packaging of food that will contribute significant quantities of lead.

Referring back to your original problem on the basis of the above discussion, I should say that if the lead content of your packing material is no higher than that indicated by the analysis which you reported to me, you will not be contributing any significant quantity of lead to the product. It is likely that the original product in its natural state has lead in it to the extent of 0.01 or 0.02 milligrams per kilogram. I doubt if such a container as you describe would bring about any material or measurable increase in the lead content of the product. Nevertheless, if I were in your place, I would use the one that contains the smallest quantity of lead, and I would establish by experimentation, the extent to which the container contributed to the lead content of the finished product. Methods of analysis are available which should enable you to determine the lead content of the product with a very high degree of precision, that is, within a few micrograms.

I trust this gives you the information you require, but if I can be of any further help, do not hesitate to let me know.

Very truly yours,

Robert A. Kehoe, M. D.

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