VISIT REPORT

January 3, 1973

Visit To:	Dr. Richard Farrow National Canners Association 1133 20th Street, N.W. Washington, D.C.
Date:	December 28, 1972
Visit By:	Jerome F. Cole J.F. Smith
Report By:	Jerome F. Cole
Subject:	Lead Content of Canned Products

The purpose of the visit was to ascertain the extent of the activity of the National Canners Association in response to recent findings that the lead content of canned food stuffs is higher than had been previously suspected. We also hoped to define areas of potential cooperation between the lead industry and the can manufacturers.

Presently, the solder used in cans is a 98% lead and 2% tin alloy. The potential for leaching of lead from this solder into the can has not been investigated to any degree, although, there has been some work to define the toxicity of the solder itself. Obviously, because of the poor absorption of metallic lead, the solder, per se, is not considered to be significantly toxic. Recently, however, the World Health Organization has defined that lead may be present in canned foods. For example, a level that was suggested was 0.3 ppm in citrus juices and tomato juices. The NCA then undertook to determine the actual lead content of these products and found that the average actually was about .38 ppm. The NCA has since extended their monitoring to other canned products and have found levels in excess of 1 ppm in some products.

The NCA has not been active in the controversy concerning the lead content of evaporated milk. However, they have done some measurements for the Evaporated Milk Association and have more or less confirmed the levels which have been quoted in the press, i.e., lead content of evaporated milk in excess of 0.5 ppm. Parenthetically, it is anticipated that the Food and Drug Administration will issue a regulation in January, 1973 which will specify a maximum of 0.5 ppm for lead in canned milk. The can used for evaporated milk is quite different from the normal food type tin can. This can is used for economic reasons and a change to a standard can would involve considerable investment on the part of the evaporated milk producers because of already existing can making and filling equipment. The nature of the evaporated milk can is such that much more lead is used than on a normal can and also the potential for exposure of the contents to lead is much greater.

Dr. Farrow confirmed that the main cause of the elevated lead content in evaporated milk stems from flux residue inside the container rather than from the drop of lead solder used to seal the can.

Dr. Farrow did not feel that flux residue or metallic lead is the main source of lead from a standard can. Rather it is, his feelings, although unsubstantiated, that most of the lead contributed to food from the can is in the form of a dust which is created during the soldering process. He further pointed out that one major difficulty is that the raw vegetables sometimes contain significant amounts of lead, leaving very little room for the addition of more lead from the can if a standard of 0.5 ppm for all canned foods is adopted. The only solution seems to be to go to a 360 degree enamel spray inside the can, but it is felt that the can industry does not have enough capacity as yet for this type of solution. Another alternative is to use an all-tin solder. Obviously, the problem here is one of cost.

In reviewing our discussion, it appeared that two main areas of investigation are required. One is that the possibility of reducing the formation of lead dust in the can should be investigated; and secondly, a determination should be made of the contribution of canned foods to the daily diet. Dr. Farrow felt that the information on the latter is available and agreed to have his staff look into this matter. Mr. Smith offered to reactivate the Solder Committee of the Lead Industries Association to look into ways to reduce the level of lead dust in cans.

Dr. Farrow indicated that the FDA is presently carrying out a survey of the lead level of canned food stuffs and that certainly during the upcoming year, this matter will be the subject of considerable action by the FDA. Those in the FDA responsible for this action are Doctors: Albert Kolvye, Raymond Shapiro, and Robert Schaffner.

Jerome F. Cole, Sc.D.