

May 25, 1964

Mr. James F. Noerr
R.D. #3
Lewistown, Pennsylvania

Dear Mr. Noerr:

I send you, herewith, copies of two reports - those concerned with the first two pairs of samples of milk. I do this in recognition of the fact that you will be anxious to know how matters are going at the earliest possible time, despite the fact that there are, as yet, no positive findings. All four results, as given in these reports, are within the limits of analytical variation.

You will note, of course, that the two sets of results here reported, give no evidence of any change in the concentration of lead in the milk. This is now surprising to me, for it is just what I would expect. The milk is not a favorable medium for providing evidence of the absorption of lead. However, some change may develop as time goes on, and we shall see.

Sincerely yours,

RAK:vr

Robert A. Kehoe, M.D.

Encl.

Material: Milk from Cow #5907531 (sample #2)
Submitted: 5-15-64 by Dr. Robert A. Kehoe for James F. Noerr,
Route #3, Lewistown, Pennsylvania
Required: Lead Analyses

SAMPLE "A"

Analysis Number	-	64A-2569
Volume	-	660 ml.
Mg. Lead Found	-	0.0144
Mg. Lead/Liter	-	0.02

SAMPLE "B"

Analysis Number	-	64A-2569
Volume	-	630 ml.
Mg. Lead Found	-	0.0088
Mg. Lead/Liter	-	0.015

KE 0000318

Material: Frozen tissues from cows belonging to James F. Noerr, Lewistown, Pennsylvania that were posted at the Diagnostic Laboratory on 12/16/62 and 12/29/62.

Submitted: February 3, 1964 by Dr. R. A. Kehoe for David C. Kradel, D.V.M., College of Agriculture, Department of Veterinary Science, The Pennsylvania State University, University Park, Pennsylvania

Required: Determination of lead content

Results

<u>Analysis Number</u>	<u>Material</u>	<u>Grams Used for Analysis</u>	<u>Mgs. Pb/100 Grams</u>
64A- 730	8403 - #1 Liver	14.0	1.61
64A- 731	8403 - #2 Liver	16.5	1.11
64A- 732	8403 - #3 Kidney	14.9	6.14
64A- 733	8403 - #1 Kidney	5.9	3.90
64A- 734	Ground Silage	22.1	66.8 ppm

From The Kettering Laboratory in the Department of Preventive Medicine and Industrial Health, College of Medicine, University of Cincinnati, Cincinnati, Ohio

The results of the analyses of the tissues identified by the number 8403 (the sender's identification marks) are quite high, as compared to those obtained by the analyses of tissues of animals that have not been subjected to unusual types of exposure to lead. They are in the range of the findings associated with fatal poisoning by lead, and while they do not, of themselves, demonstrate the cause of the death of the animal (or animals) they show, beyond doubt, that a dangerous and potentially lethal quantity of lead had been absorbed by the animal (or animals) within a period shortly (days or at most a few weeks) before death.

The dry material here identified as "Ground Silage" contains such a high concentration of lead, as to render it wholly unsuitable and dangerous for use as more than a very minor portion of the daily diet of cattle.

Robert A. Kehoe, M.D.
Director

Signed: _____

Reported: 2-7-64

Material: A series of 10 samples related to Holstein cow belonging to James F. Noerr, Lewistown, Pennsylvania, and identified by Pennsylvania Department of Agriculture, Ear Tag #23AEP3109

Submitted: January 23, 1964 by William F. Kline, V.M.D., Belleville, Pennsylvania

Required: Determination of lead content

Results

<u>Analysis Number</u>	<u>Material</u>	<u>Grams or Milliliters Used for Analysis</u>	<u>Mgs. Pb/100 Grams</u>
64A-487	Urine	127 ml.	0.09 mg./Liter
64A-488	Blood	14.2 g.	0.05
64A-489	Brain	10.0 g.	0.12
64A-490	Bone	13.8 g.	1.21
64A-491	Kidney	10.5 g.	1.10
64A-492	Liver	10.9 g.	0.40
64A-493	Muscle	10.7 g.	0.01
64A-494	Ground corn from Noerr Farm	10.0 g.	20.00 ppm
64A-495	Corn silage from Noerr Farm	10.0 g.	25.90 ppm
64A-496	Control sample of corn silage	10.0 g.	0.50 ppm

From The Kettering Laboratory in the Department of Preventive Medicine and Industrial Health, College of Medicine, University of Cincinnati, Cincinnati, Ohio

Reported: 1-29-64

Interpretation

The results of the analyses of the urine, blood and tissues of a cow identified by Ear Tag #23AEP3109, with the exception of the kidney, are slightly, but not far, above normal limits. Data obtained by the analysis of the tissues of cattle, by methods of comparable sensitivity and reproducibility to those in use in this Laboratory, are very few and scattered, but such information as is available indicates that the distribution of lead in calves and adult cattle, as well as in colts and adult horses, is similar to that in man, and that the order of magnitude of the concentration of lead found in the tissues of cattle and horses, in their normal state and in lead poisoning, are not widely divergent from those found in corresponding states in man.

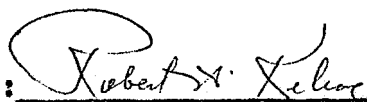
(Cattle and other herbivora tend to have somewhat lower concentrations in all tissues, than does omnivorous man. It is on this basis that the subject results are believed to be fairly close to normal limits, with the exception noted.) The relatively high concentrations of lead in the kidney of this animal may well be an expression of a brief period of unusual intake of lead shortly before death. That this animal had not been subjected to prolonged exposure to, and absorption of, large quantities of lead is shown by the concentration of lead in the bone. The latter is higher, perhaps, than it would be if there had been no source of unusual exposure, but it is certainly not high enough to be indicative of a potentially dangerous source of exposure.

The grain (ground corn) from the Noerr Farm is definitely elevated in its lead content. Uncontaminated grain from virgin fields in a moist state (ripe but still succulent) contains only a small fraction of 1 ppm. Whatever may have been the source of contamination of this sample (some may have been contributed by the grinding equipment), the fact of considerably more than twenty-fold contamination is apparent.

The contamination of the corn silage from the Noerr Farm is also evident, from the analytical result alone. The comparison with the "control" sample only emphasizes the fact.

From The Kettering Laboratory in the Department of
Preventive Medicine and Industrial Health, College of
Medicine, University of Cincinnati, Cincinnati, Ohio

Signed: _____


Robert A. Kehoe,
Director