

OKLAHOMA STATE UNIVERSITY

DIVISION OF AGRICULTURE
STILLWATER

DEPARTMENT OF BIOCHEMISTRY

July 9, 1958

Dr. Robert A. Kehoe
Department of Preventive Medicine
and Industrial Health
The Kettering Laboratory
College of Medicine, Eden Avenue
Cincinnati 19, Ohio

Dear Dr. Kehoe:

Your letter of July 1 and the reprints have been received. I want to thank you for your bother. We all rather look toward the University of Cincinnati for your lead studies.

On a separate sheet I am giving you the partial analysis of a sample of water which is being directed in a small stream running through a cattle pasture.

You will be of the opinion that the chloride and the sulfate content is not to be recommended. However, those of us who have carried out many years of research in the southwestern part of the United States and in Australia know that thousands of people and many thousand head of cattle never consume a better source of water. We also know that cattle will not use bad water if a better one is available.

My particular trouble at this time is to distinguish between the lead and arsenic content that will produce accute poisoning and the amount which would produce accumulative poisoning. Following your kind suggestion, I would be very happy to have your comment about the lead content of this water. I know the zinc content may be used. I would not ask you to refer to the literature in regard to the arsenic, as I have made a very complete study of some 50 reprints. Again thanking you for your response to my question.

Yours truly,



V. G. Heller
Emeritus Professor and Head

VGH:gh

Oklahoma
Agricultural and Mechanical College

SCHOOL OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION
STILLWATER

AGRICULTURAL CHEMISTRY

Copy of a partial analysis of a stream of water running thru a cattle pasture

Flow rate	200-250 G.P.M.
pH	7-9
Zn	3-5
Pb	1-3
Cd	5.
Cl	500-1500
As	1-
CaO	800-1000
Se	3.0
Sulfate S.	400-600

U. G. Allen

July 1, 1958

Professor V. G. Heller
Department of Biochemistry
Oklahoma State University
Division of Agriculture
Stillwater

Dear Professor Heller:

I am pleased to send you, under separate cover a booklet which describes in some detail the method for the analysis of various materials for lead. I also send an article which will convey some idea, at least, of the levels of lead concentration which are desirable and safe for lead in drinking water. I would hesitate to give you suitable standards for cattle, since my own experience relates to man and the human metabolism. I suspect, however, that what is entirely safe for man is equally so for domestic animals.

As to zinc and arsenic in this relationship, I should have to depend upon the literature, since we have not carried out investigations that would answer your implied questions. If you will give me information on the conditions with respect to the ranges of concentration of lead, zinc and arsenic in the water, I shall be glad to give you my opinion as to their probable significance.

Cordially,

Robert A. Kehoe, M.D.

RAK:ss

Encls - Experimental Studies on the Ingestion of Lead Compounds.
Robert A. Kehoe, Jacob Cholak, Donald M. Hubbard, Karl
Bambach, Robert R. McNary and Robert V. Story.
Exposure to Lead - Robert A. Kehoe, M.D.
Methods for Determining Lead in Air and in Biological
Materials - American Public Health Ass. Inc. 1955