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MERCURY IN OUR ENVIRONMENT

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A project was initiated July 1, 1971, involving the Station Biochemistry and Animal Science departments, to study mercury from the standpoint of (1) methods for mercury determination in natural materials, (2) a survey of the occurrence of mercury in nature in South Dakota and (3) the toxicity of different chemical forms of mercury especially with respect to animal reproduction and teratogenic effects.

Flameless atomic absorption is the principal means of analysis being used for mercury. However, the Association of Official Agricultural Chemists colorimetric method and neutron activation analysis will be used as a further means of evaluating analytical methods. Efforts will also be made to determine methyl mercury by gas chromatography.

Survey work will include analysis of fish, waters and sediments as well as wild ducks, geese and pheasants collected from various parts of the state.

Fertile chicken eggs injected with various mercury compounds will be incubated to study teratogenic effects on the chick embryos. Later, eggs from hens on sub-toxic levels of mercury compounds will be used in similar studies. Work has just begun on this project and data are not yet available.

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