

Montsanto

PX 2202

FROM (NAME & LOCATION)

D. P. Roman-N2B

DATE March 21, 1977

SUBJECT MICHIGAN COWS

REFERENCE

TO : G. J. McEwan - N3A

cc. G. F. Barton-B1ND
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MSU has prepared research proposal to study the effects of pure and technical penta on cattle. The proposal is attached. It will be modified to use Holstein cows instead of heifers. The dose rate will probably be 0.1 mg and 1.0 mg per day. The cost estimate will no doubt go up.

An addendum to the proposal was to have been made and delivered to the Governor on March 18.

MSU is looking for money from the state legislature, the EPA, FDA, and USDA. They would not feel tainted by AWPI money.

At the moment, there is no money, and if anyone is in charge, it would be the Michigan Department of Agriculture (MDA). The MDA is only an enforcement agency. They realize that someone should be in charge, but are not decided whether its Federal or State responsibility.

The research proposal is attached as are more details, if anyone is interested.



D. P. Roman

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DETAILED REPORT

On March 16, 1977 there were four meetings held at Michigan State University to discuss the possible Pentachlorophenol/Dioxin problem in some Michigan Dairy Farms. The first was a meeting in which I met with Dr. Robert M. Cook, Dr. Lee Shull, and Dr. J. W. (Bill) Thomas from the Dairy Sciences Dept. and with Dr. Steven Aust from the Biochemistry Department.

The second meeting was a closed meeting, the attendance list and the agenda for the closed meeting are attached. The last five persons named on the list did not attend the closed meeting.

The third meeting included essentially all of those listed on the attendance list. This was too large a group to make any plans, so after adjournment at 5:30, an evening session was scheduled to include scientific types who could help come to grips with the problem. About 25 people attended the evening session.

A reporter from the Detroit Free Press attended the last two sessions.

This report is an overview of the three meetings I attended.

The Michigan Department of Agriculture (MDA) conducted a survey of 1,050 herds in the state with residual polybrominated biphenyl levels (<0.3 ppm in tissue and/or milk). When the LeMunyon problem was identified the state visited all 1,050 farms, with a questionnaire to find out how common the LeMunyon problem might be. Out of the survey, 100 herds had some type of problem. Upon further investigation the number was reduced to 13, of the 13 apparently five have not cooperated with the state or are still in business. The other eight, including LeMunyon, were quarantined, the additional seven were quarantined on March 14, after pentachlorophenol was found in the blood of their cows.

Six of the seven herds and their operators are:

Dale Hice	-	Marley, Mi.
Cyril Spike	-	Owasso, Mi.
Ernest Wankel	-	Standish, Mi.
William Suzeko	-	Standish, Mi.
Wm. Curtis	-	Nashville, Mi.
Roger Bergeron	-	Sterling, Mi.

Attached is a map of part of the state showing the approximate locations of the farms. Except for two farms in Standish and one in nearby Sterling, geography is not a common denominator.

All of the farms, except Spike, had PPB problems, only the LeMunyon herd was destroyed.

Currently, again with the exception of Spike, all have been having problems with dieing cattle, spontaneous abortions, and dieing calves. Penta has been found in the blood of cattle from all seven farms. All have fairly recently built penta treated barns.

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At least two of the farms, and these have the most serious problems, had Mercury Vapor lights on 24 hours a day. There would be some U.V. light from these lights, and there is some evidence that U.V. can form octachlorodibenzoparadioxin (OCDD) from penta. Although the acute toxicity of OCDD is less than that of penta itself, OCDD can dechlorinate, possibly to the more toxic lower chlorinated dioxins.

Some data that Bill Thomas said he had just gotten by phone was quoted in the evening session. He has not seen the report, would not tell who did the work or who sponsored it. In rats, 16 mg/kg/day for sixteen weeks killed all the rats, and 100 µg/kg/day for 21 days caused some liver changes.

The Chairman of the afternoon meeting, D. R. Isleib(?), stated they were not working on the premise that penta is the cause of the problem, and that a cause and effect relationship had to be demonstrated. If penta is found in healthy cattle, a tolerance would have to be established.

MSU has taped a statement to answer questions of farmers that are concerned about potential problems of their own. The text of the tape is attached.

The state wonders whether there could have been a single bad batch of penta involved in all the barns.

There are a number of cool heads that think the state should not blame penta/dioxins, and the real cause of the problem has not been identified.

If the MSU study is funded, we have been asked to prepare an industry composite for testing.

Dow and the FDA are analyzing milk from the quarantined herds for dioxins, due date March 22.

Dioxins have been found in tissue and fat from cows in the LeMunyon herd. Attached is the data, and John Moores assessment of it. Moore is with NIEHS and is a member of the EPA's Science Advisory Board that is considering the implications of dioxins and dibenzofurans in technical penta.

D. P. Roman

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Transcript of tape (title below). Call 517-355-6584 and ask for tape number 13002.

SUGGESTED ACTIONS REGARDING PENTACHLOROPHENOL
IN ANIMALS

Lee Shull and J. W. Thomas

Hello, my name is Dr. Lee Shull of the MSU Dairy Science Department. The recent quarantine of 7 Michigan dairy herds was initiated March 11 by State "MDA" on the basis of the confirmed presence of pentachlorophenol (PCP; penta) and the suspected presence of highly toxic dioxins in the animals. Penta is a wood preservative that has been used widely since 1930. Dioxins are contaminants which are known to exist in preparations of penta.

The MDA stated that the quarantine is a "precautionary measure designed to provide maximum safety to human food supplies." FDA concern following the identification of both penta and dioxins in cattle of the George Lemunyon herd of Cedar Springs prompted the action.

Neither of the materials has been identified in milk but a primary concern is the possibility of dioxins in milk. Milk from all the quarantined herds is being tested for dioxins as rapidly as possible. If dioxins are not detected, the permits to ship milk will be reinstated. The animal quarantine, however, may not be lifted until tissue samples can be tested. There is not an established guideline (tolerance) for either penta or dioxins in either milk or meat. Therefore, a tolerance of zero for dioxins is legally applicable and likely to be enforced at least until a guideline is established.

In light of the current situation, it is imperative that farmers react to the following recommendations:

1) Feed should not be allowed to come in contact with penta-treated wood. Feed bunks constructed of such wood should be replaced or covered with untreated lumber or plywood. Silage within about 1 foot of the sides of bunker silos constructed of penta-treated lumber should be discarded.

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2) Unless unavoidable, animals should not be allowed direct contact with penta-treated wood. In the case of free-stall dividers or uprights, where possible these should be replaced with non-treated wood. If replacement is not feasible, they should be covered. Animals can be exposed to dioxins by licking or chewing wood or by just rubbing against treated wood.

3) Animals placed in new surroundings having penta-treated wood should have access to outside lots and the enclosed structure should have more ventilation than is usually considered adequate. Animals are exposed to penta by the breathing in of fumes.

The above recommendations may appear to be too drastic. It must be emphasized that as long as milk and meat adulteration is suspicioned in conjunction with a zero tolerance for dioxins, the best assurance one has is to remove the source of contamination.

Further information about penta can be found in the March "Dairy Notes" article entitled, "Wood Preservatives," by J. W. Thomas, D. J. Ellis and W. D. Davis.

Thank you.

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Phone: 517-355-6584
Tape #: 13002

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