

RED LEAD POISONING IN MINK

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Each year a few mink ranchers suffer the disastrous consequences of red leading their equipment. Red lead in oil is often applied to metal surfaces to prevent rust and corrosion. Although it is a good preservative, it should never be used on wire, water and feed dishes, or any other equipment that mink can come in contact with. The drinking of acid water which has been carried in lead pipes is another source which could conceivably induce lead poisoning. Research work here at this station has shown that a small amount of red lead painted on a wire-bottom pen can cause the death of healthy, young or adult mink.

Symptoms

Experimental cases of acute lead poisoning were produced by placing five mink on wire immediately after it was painted with red lead in oil. On the following day, the animals appeared normal, but on the third day, they were sluggish and showed no interest in their food. These beginning symptoms were followed by muscular incoordination, stiffness (as evidenced by a stilted gait), trembling, complete loss of appetite, dehydration (removal of water from the body) and muco-purulent discharge around the eyes. Five to seven days after the test exposure, the mink showed terminal convulsions and died. Since in distemper a discharge around the eyes and convulsions are often present, the two conditions may be confused.

Chronic lead poisoning was experimentally produced by placing fifteen mink on red-lead-treated wire that was thoroughly dry. Some of the wire-

*From the Fur Animal Disease Research Laboratory, U. S. Bureau of Animal Industry in collaboration with the Division of Veterinary Science, Agricultural Experiment Station, State College of Washington.

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bottom pens were painted as long as two months before the test animals were placed in them. In this group of mink, no characteristic symptoms were noted. The animals exhibited only a gradual loss of weight with death occurring in 25-40 days.

Pathology and Diagnosis

On Postmortem examination, there are no characteristic changes that can lead to an accurate diagnosis. In other animals, especially the cow, a blue line is seen on the gums in cases of lead poisoning. We have never observed this blue line in either chronic or acute cases in mink. Blood smears taken from the experimental mink showed an increase in nucleated red cells. Basophilic stippling of the red cells was observed, but this finding was not constant.

Since there are no significant symptoms or postmortem findings, one must rely on a history of the animals being on red-lead-treated wire for a diagnosis.

Treatment

As soon as a diagnosis of lead poisoning is made, it is imperative that the animals be removed from the painted pens as soon as possible. While the mink are in these pens, they are constantly taking in a small amount of lead each day by chewing on the wire or other equipment that was painted.

The survivors should be given adequate amounts of calcium in their regular ration each day. This can be in the form of dicalcium phosphate or calcium gluconate; these products can be obtained from your local veterinarian. The dosage for the calcium is approximately 25 grains for each mink per day, mixed in the daily ration. The animals should be treated for at least two months, gradually reducing the dosage during that time. Simultaneously, an ample

amount of fresh fish oil to supply vitamin D is necessary. The purpose of the calcium and vitamin D is to tie up the lead that is circulating in the system and store it in the bones where it will do little harm. After it is stored in the bones, it is slowly eliminated from the body.

(Reprinted from The Fur Farming Journal 2(5):16. March-April 1949)