

Antibiotics and Hexamitiasis in Turkeys. (18542)

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Hexamitiasis, a protozoan disease of turkeys, of considerable economic importance, has been described by Hinshaw(1). Up to the time at which we began our studies June 2, 1950, there were no reports of any effective means of medication for the control of this endemic and frequently acute disease. A group of 9-week-old Broad Breasted Bronze poults, which had been reared in wire-floored batteries without contact with ground or other birds was employed. Several field cases of severe hexamitiasis were obtained and the hexamita collected in large numbers from the small intestine. The organisms were suspended in saline and equal doses of this suspension were introduced by pipette into the crop of each poult. In the following report, number of days indicated refers to time from this inoculation.

At the end of 5 days all birds appeared ill. Three were killed and found to have heavy infection of hexamita in the small intestine. The organisms were identified by microscopic study of smears from the small intestine(1). The remaining birds were treated as follows.

Control group. At the end of the 8th day this group appeared very ill. Three birds were killed for examination. All 3 showed heavy infection and a marked dehydration which is characteristic of this disease. The remaining 3 birds were fed a rearing mash containing 0.1% Enheptin* to the 12th day. One of these birds was then found to be free of detectable hexamita while 2 showed a very light infection. All were recovering from dehydration and appeared alert and vigorous.

Enheptin group. At 5 days, 6 of the diseased birds were given 0.1% Enheptin in mash. At 8 days 3 of these birds were found free of hexamita and noticeable dehydration. At 14 days the remaining 3 birds maintained on the

mash with drug appeared to be in excellent condition and were free of hexamita. Nine days of continuous feeding of the drug did not appear to be harmful.

Aureomycin group. At 5 days, 6 diseased birds were fed aureomycin at 200 mg per lb of mash (.044%). At 8 days 3 of these birds were free of hexamita and signs of dehydration. The remaining birds were kept on the drugged mash to 14 days, when they also were found free of the organisms and were in excellent condition.

Streptomycin group. At 5 days, 6 diseased birds were fed streptomycin in 25 mg capsules, 1 per day for 3 days. At 8 days, 3 birds showed remaining heavy infection with hexamita and distinct dehydration. One bird died overnight and was not examined. After the 8th day 2 birds were fed 0.1% Enheptin in the mash. At 12 days these birds were free of hexamita and signs of dehydration.

Penicillin group. At 5 days, 6 diseased birds were given penicillin-G by 25 mg capsule, 1 per day for 3 days. At 8 days, 3 birds were free of hexamita and only slightly dehydrated. The remaining birds were kept to 14 days with no treatment. At this time these birds showed no evidence of hexamita or dehydration.

Terramycin group. At 5 days, 6 diseased birds were given terramycin by 25 mg capsule 1 per day for 3 days. At 8 days, 3 birds showed no evidence of hexamita or dehydration. The remaining birds were kept to 14 days without further treatment. At this time one was free of the disease and two showed very few hexamita organisms.

The results of this work, although preliminary in nature, strongly suggest that it may be possible to control hexamitiasis in turkeys by certain drugs or antibiotics. Four such drugs appeared beneficial, while one was not. The evaluation of most effective drugs and manner of administration remains to be determined.

1. Hinshaw, W. R., *Univ. Calif. Agr. Exp. Sta., Bul.*, 1943, v613, 97.

* 2-amino-5-nitrothiazole. Lederle Laboratories, Inc., Pearl River, N. Y.