Systemic Effect of Dieldrin on the 'Body Louse' of Poultry

Systemic administration of parasiticides has been the subject of sporadic research for several decades but has only recently gained prominence in veterinary thought. Successful results have been reported with Cimez lecithens, C. hemipterus, Aedes aegypti, Ornithodoros moundi, Boophilus microplus, Hymenoporus antennatus, H. bovis and Hoesentobia crassicauda. All the foregoing insects suck blood, or come in close contact with the host's tissues or fluids. This communication describes experiments showing a powerful systemic effect against the biting louse of poultry, *Esdamas stramineus*, which has no such close contact with the host's tissues.

Dieldrin was administered orally, subcutaneously or percutaneously (at the base of the neck) at doses of 20, 25, 15, and 10 mg/kg; body-weight in 20 per cent w/v solution (Dixley 1950, William Cooper and Nephews). Groups of four birds received the largest dose (25 mg/kg.) and groups of five birds the smaller doses; the control group comprised fifteen birds. All birds in the experiment were randomly distributed among a population of 450 birds in battery cages. The degree of infestation by lice was classified visually and given a numerical grading according to the density of the population around the vent, which appeared to be the only important site affected. All birds were classified the day before administration of insecticide, and at intervals thereafter. The figures shown in Table 1 are averages of the scores allotted to individual birds in each group.

It can be seen from Table 1 that dieldrin had a powerful systemic effect upon the lice by all routes of administration, but the percutaneous route appeared to be the most effective. Most birds were completely free of lice before treatment. Treated birds were also continuously exposed to infection from those in neighbouring cages, but as shown in Table 1 they remained practically free from infestation. These facts show that dieldrin had a considerable residual effect.

It seems that oral treatment of infected birds by mixing dieldrin, or some other systemically active insecticide, with the food may constitute a simpler and more economic method of treatment than the current methods of dusting or spraying. The oral method of administration is now being investigated under various systems of management. If it does not prove satisfactory, the percutaneous method will be further examined, as it would be more efficient than present methods of treatment.

I wish to acknowledge the assistance and cooperation of Mr. G. McEvedy and Prof. J. Francis in this work. Acknowledgement is also due to the Rural Credit Development Fund of the Commonwealth Bank of Australia, which has supplied the facilities for this work.

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Jan. 11.


Long-distance Migration of Salmon

Details have recently been received of the recapture of a salmon, tagged in Scotland, on the south-west coast of Greenland. This fish was one of a number impounded at Loch na Crois, Blackwater River, Conon District, Ross-shire, during the autumn of 1955, to provide eggs for the hatchery operated by the North of Scotland Hydro-Electric Board at Contin. After stripping, it was tagged and released on November 23, 1955. It was recaptured in Egaluk Fjord, south of Sukkertoppen, Greenland (64° 56' N., 52° 02' W.), on October 15, 1956.

This recapture is of particular interest for two reasons. First, the distance travelled between tagging site and recapture site (about 1,730 miles) is one of the longest on record; and, secondly, the site of recapture may well be an important hint about the sea migrations of salmon from Scottish rivers.

Virtually nothing is known about salmon between the time they leave the rivers as smolts and the time when they reappear, one or more years later, as adult fish. The results of tagging experiments conducted on the Scottish coast support, however, that the breeding ground for the salmon from Scottish rivers may lie to the west or north-west of Scotland. The present recapture is the first direct evidence supporting this suggestion.

We are much indebted to Dr. Jorgen Nielsen, of the Ministry for Greenland, for sending details of this recapture.

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