

## Modern Insecticides and Their Effects on Bird Life

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Following upon the publication of my *Emu* paper of the foregoing title twelve months ago (April, 1950), I have received a letter from J. P. Linduska, Assistant Chief, Branch of Wildlife Research, United States Department of the Interior, dealing with what I referred to as discrepancies in results of certain experiments. The letter is interesting in its explanations and I submit it for publication as complementary to my paper.

Omitting some formal parts the letter is as follows.

Dear Mr. Jenkins,

I have just read with a great deal of interest, your article on insecticides and their effects on bird life, which appeared in the April, 1950, issue of *The Emu* (272-281).

You have done an excellent job in summarizing literature on this subject and I am sure that it was received with much favour by the readers of this periodical. I would, however, like to call your attention to the statement in paragraph 4, page 277, which I feel is not an entirely correct analysis of the facts. In this paragraph, you refer to discrepancies in results obtained in studies conducted in the Pennsylvania forest area, and another involving direct application of a DDT solution to nests and nestlings. I am personally familiar with both these studies, and would like, if possible, to clarify objectives of the two tests and the manner in which they were conducted.

In the first instance, the five pound per acre application of DDT was applied aerially to an extensive forest unit. While it is questionable that there was any unusual opportunity for birds to contact DDT directly, it is known from the extremely heavy kill of all insect life that most insect food items of birds was thoroughly contaminated. The heavy kill of birds without question resulted from ingestion of these DDT contaminated insects.

In the second test, which was designed to determine the hazards to birds of direct bodily contact with the insecticide, the material was applied as indicated to the nests and the individuals, but there was essentially no opportunity for ingestion of the DDT, and food which was brought by the adults from untreated areas obviously contained none of the insecticide.

Rather than to say that discrepancies appeared in results of these two studies, we are inclined to feel that results are entirely consistent with what has been found in carefully conducted laboratory tests. Probably you are familiar with some of the detailed toxicological work which has gone on in this connection, and which has shown that while the insecticide may be rather highly toxic upon ingestion, a rather prolonged and intimate bodily exposure to the material is necessary to produce toxic symptoms. In brief, these two studies were designed to answer entirely different questions, and were carried on under extremely different sets of circumstances. The results correspondingly are hardly capable of comparison.