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AGRICULTURAL EXPERIMENT STATION

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## PARASITOLOGY

INTRODUCTION. By J. E. ALICATA

In the Territory, as in other temperate regions, parasitic diseases constitute one of the major problems in animal production. The Department of Parasitology attempts to cope with this problem, particularly as it affects cattle, poultry, and swine. With the increasing availability of reputable new drugs and insecticides in recent years, the Department has continued to give its major attention to the application of these new products to local parasite control. During the past year more attention has been given to parasites affecting poultry and most studies have been conducted cooperatively with the Departments of Poultry Husbandry and of Entomology. Of particular importance is this Station's finding that a water suspension of DDT and Lethane B-72 when used as a spray<sup>34</sup> is one of the most effective means of controlling ectoparasites (lice and mites) of poultry.35 Since most of the internal parasites of poultry are directly or indirectly transmitted by arthropods breeding in poultry manure, laboratory tests have been conducted to screen out some of the older and newer insecticides to determine which ones are most effective. From these experiments have come a few promising insecticides which, however, need to be tried under field conditions to ascertain their limitations and practical methods of application.

In addition, departmental activity during the past year has included observations concerning the effectiveness of certain sulfonamides in the treatment of cecal coccidiosis of poultry, a disease of importance in Hawaii. Our observations have substantiated the reports of other investigators and lend to the belief that the finding of an effective treatment for coccidiosis constitutes one of the outstanding discoveries of economic importance to the poultry industry. Limited studies in this Station during the past year have shown that coccidiosis can be partially controlled experimentally through selective breeding. This method, although presenting many difficulties in its application, may prove to be one of the best approaches to the control of this parasite. Other brief studies of basic importance include: the relation of nutrition to ectoparasite infestation on rats and on chickens; importance of wild birds in the transmission of poultry parasites; efficacy of various concentrations of DDT-Lethane spray in poultry louse control;36 and the economic losses of hog livers due to kidneyworm infestation in swine. Summary reports of these

and other investigations of this Department appear below.

arrived at a similar conclusion.

36See Entomology Department report for further discussion.

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<sup>&</sup>lt;sup>34</sup>The application of DDT by the spray method for poultry ectoparasite control was first suggested in Telford, H. S. [DDT SPRAYS.] Country Gent. 116(10):48-49. 1946.

<sup>35</sup>Rohm and Haas Co. (Philadelphia) in their Technical Bulletin L-1-47 independently