

Hydatid Disease.—Attempts have been made to determine the length of life of “eggs” of *Echinococcus granulosus* under field conditions. The technique used consists of exposing to outdoor conditions very heavily infected dog faeces mixed with fine soil. After selected intervals, the mixture of soil and faeces is suspended in water and administered to sheep by stomach tube. The animals are then examined either by exploratory operation or on slaughter after a lapse of several months, when developing cysts in the liver can be detected and identified.

POULTRY DISEASES

Toxic Heart Degeneration in Fowls.—Sudden deaths in apparently healthy fowls have been observed for a number of years, mainly in certain parts of the Canterbury and Otago Provinces, in which the following characteristics have been observed: an enlargement and parboiled appearance of the heart muscle, pericardial and abdominal effusion, and congestion of the venous system. The altered appearance of the heart muscle is due to a microscopically noticeable partial or complete degeneration of the muscle fibrils.

Bacteriological examination has yielded negative results and no success has been obtained from attempts to transmit the disease by contact or by the inoculation or feeding of material or cultures from infected animals. The present indications are that the disease is not infectious, but is due to a toxin with selective action on heart muscle.

Coccidiosis of Chicks.—Outbreaks of coccidiosis causing up to 70 per cent. mortality in chicks of about five weeks of age were effectively controlled by the administration of sulphamezathine as a saturated solution (25 g. per 1 gallon of water) in lieu of drinking-water for three consecutive days. If given to the birds when blood was first observed in the droppings and symptoms of inappetence and droopiness were already noticeable in a number of chicks, the treatment was effective in reducing mortality from the initial 70 per cent. to as low as 3 per cent. The cost of the drug per five-weeks-old chick was two-thirds of a penny per day, an expenditure well warranted in view of the effectiveness of the treatment.

Previous small-scale experiments gave evidence of an acquired immunity in birds that had been tided over an acute infection.

APICULTURE

The main work has been an investigation of a case of poisoning by honey which occurred at Pongakawa. It was found that the source of the poison was honey-dew excreted by a hopper (*Scolipopa australis*) infesting the tree tutu (*Coriaria arborea*). The toxic principle was isolated and identified in collaboration with the Dominion Laboratory. It proved to be a convulsant poison belonging to the picrotoxin group and related to tutin. A special set of environmental factors favours the production of poison honey—viz., dry weather, which favours multiplication of the hopper; location of hives near flora largely trees and including tutu; and absence of other sources of nectar, which drives the bees to collect honey-dew.

The history of previous cases of poisoning by honey suggests that similar circumstances were responsible. The knowledge gained in the present study will enable control to be effected by exclusion of apiaries from potentially dangerous areas.

It was found, in small animals, that honey poisoning and tutu poisoning could be controlled by dosage with nembutal.

Work has been carried out on the provision of suitable substitutes for pollen which can be used in pollen-deficient areas. A mixture of soya-bean flour and pasteurized yeast has produced the best results, under controlled conditions, at Otira, Heriot, Omakau, and near Wanganui.

Other work has included a study of fermentation in honey due to absorption of moisture during extraction and the examination of a number of samples submitted by Apiary Instructors.