COCCIDIOSIS OF CHICKENS IN SRI LANKA: INCIDENCE, LITTER CONTAMINATION AND ANTICOCCIDIAL SENSITIVITY.

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ABSTRACT

Coccidiosis as a cause of death was confirmed in 17% of the total 1053 cases (2460 carcasses) examined at the Veterinary Research Institute, Peradeniya, during the period August 1990 to September 1992. *Eimeria tenella, E.necatrix, E.acervulina, E.brunetti* and *E.maxima* were the species identified. *E.tenella* infection was the cause of mortality in 39% of cases and was common in birds below 45 days of age. *E.necatrix* was detected in 29% of the cases submitted and was associated with up to 70% mortality in affected flocks. The prevalence of *E.acervulina, E.brunetti* and *E.maxima* were 2.8%, 1.1% and 0.6% respectively. Mixed infections were detected in 27.3% of the cases.

Coccidiosis was more prevalent in layer birds (20.8%) than in the broilers (9.1%). In layer type birds, the disease was diagnosed in 23.2% of chicks, 25% of growers and 15% of layers submitted for postmortems. In chicks caecal coccidiosis due to *E.tenella* was common (70.2%) whilst in growers (64%) and in the layers (76.3%) intestinal coccidiosis was common. Coccidiosis was diagnosed in flocks of different sizes as well as in those managed under different conditions.

A study was made of the incidence of coccidial oocysts in approximately 615 samples of litter from 51 farms (23 broiler and 28 layer farms). Coccidial oocysts were detected in 91.2% of the farms during the study period.

Oocysts numbers were extremely low up to 2-3 weeks of flock age, probably because of the small proportion of the faecal material present at that time. In layer flocks it started to rise by about the 3 week and peaked at 5-6 weeks. A second peak between 7 - 9 weeks was obtained. Thereafter the oocyst counts dropped and were maintained with little fluctuations.

The results indicate that regular examination of litter for oocysts at least after the 3rd week could provide useful information on whether the flock had been at a disease-risk stage. Then the disease could be prevented by treatment.

Since this is the first study on litter monitoring it makes room for further investigation on oocysts in poultry litter. By litter monitoring, the effect of anticoccidial drugs can be compared in relation to control. Litter oocyst monitoring can be effectively used to asses intensity of coccidial infection in farms, evaluate and compare the effects of drugs and to monitor the efficacy of coccidial vaccines.

Ten isolates belonging to 3 *Eimeria* species, obtained from different parts (agroclimatic zones) of Sri Lanka were examined for their sensitivity to locally available anticcodial drugs. Five coccidiostats namely amprol+ethopabate, DOT (Dinitrobenzamides),clopidol, halofuginone and robenidine were tested. Clopidol was found to be effective against 55.6% isolates, robenidine, 44%; halofuginone, 22%; amprol+ ethopabate, 10% and DOT (Dinitrobenzamides) 10%.

The results of screening of anticoccidial drugs showed that toltrazuril (Baycox), sulfadimerazin and pyrimethamine (Narcox) and sulfaquinoxaline were effective for treatment of coccidiosis in Sri Lanka.