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COMPARISON OF PIPERAZINE PHOSPHATE AND MANSONIL IN THE CHEMOTHERAPY OF ASCARIDIA GALLI IN THE CHICKEN

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One hundred and fifty layers, aged 27 weeks, suffering from natural infection of *Ascaridia galli* were used in this study. Piperazine phosphate and Mansonil were used for treating the infection. Piperazine at a dose rate of 350 mg/kg body weight was 100% effective on 3rd day post-treatment. However, when used at a dose rate of 250 mg/kg body weight, it was effective to the same extent on 7th day post-treatment. Mansonil at dose levels of 25 and 50 mg/kg body weight was less effective and there was no significant difference between their effectiveness at two dose levels.

INTRODUCTION

Of the parasitic diseases causing severe economic losses to the poultry industry, *Acaridia galli* infection is considered to be of paramount importance. This parasite is widely distributed throughout the world and affects birds of all ages. The birds have reduced feed consumption, poor feed conversion, retarded growth, continuous watery droppings and increased mortality. It causes considerable losses in the form of decreased meat and egg production. This worm inhabits the intestinal tract of the birds and lives on the host food thus depriving the host of various nutrients, and this parasite also has injurious effect on host because of the toxic metabolic products released in the digestive tract.

For the treatment and control of *Ascaridia galli* in the chicken, the following drugs have been tried in various parts of the world.

1. Piperazine phosphate (Pfizer)
2. Mansonil (Bayer)

In this study, comparative efficacy of these two drugs was tested under local climatic and managemental conditions.

MATERIALS AND METHODS

One hundred and fifty birds were divided into three groups, namely P, M and control group. Group P had 60 birds which were sub-divided into two

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groups P_1 and P_2. P_1 group was given 250 mg Piperazine per kg of body weight while birds in group P_2 were given the same drug at a dose rate of 350 mg/kg weight.

In M group, 60 birds were kept and similarly sub-divided into M_1 and M_2 groups. To M_1 group, 25 mg Mansonil per kg body weight and to M_2, 50 mg Mansonil per kg body weight was administered. Third or control group comprised of 30 untreated birds. The drugs were administered to individual birds as a single dose and faecal samples were examined before the administration of drugs and on 1st, 2nd, 3rd and 7th day post-medication. The ova were counted by the McMaster worm egg counting technique (Coles, 1967). The efficacy of the drugs was determined on the basis of reduction in number of ova excreted in droppings.

RESULTS AND DISCUSSION

The poultry industry throughout the world is facing many disease problems. The parasitic infections are of special significance causing huge losses in the form of reduced production, feed wastage and mortality. *Ascaridia galli* is considered to be one of the most important and widely spread nematodes.

The birds in group P_1 were treated with Piperazine phosphate 250mg/kg body weight. The average reduction in ova count of this group was 49.29, 77.01 96.02 and 100% on 1st, 2nd, 3rd, and 7th day post-medication, respectively. The birds in the group P_2 were treated with Piperazine phosphate at the rate of 350 mg/kg body weight. The reduction in the number of ova in this group on 1st, 2nd, 3rd, and 7th day post-medication was 58.32, 88.17, 100, and 100%, respectively. Horton and Long (1956) observed that Piperazine compounds eliminated adult *Ascaridia galli* when administered as a single dose varying from 100 to 500 mg/kg body weight. Similar observations were recorded by Pavlick (1977).

In Mansonil group, the birds in M_1 sub-group received Mansonil orally at the dosage level of 25 mg/kg body weight. The reduction in the number of ova on 1st, 2nd, 3rd, and 7th day post-treatment was 40.66, 65.10, 66.14 and 99.55%, respectively. The birds of M_2 sub-group were given the drug at the dosage level of 50mg/kg body weight. The reduction in the number of ova was 51.21, 79.01, 92.80

and 99.70% on 1st, 2nd, 3rd and 7th day after medication, respectively. These findings conform to those of Lodha and Singh (1975) and Amer *et al.* (1976). In the third or control group, there was a gradual increase in the number of ova discharged in faeces after the start of the experiment.

Although there was no significant difference between the treatments yet Piperazine was found to be more effective and economical.

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