SHORT COMMUNICATION

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INCIDENCE OF NAMATODE PARASITES IN COMMERCIAL LAYERS IN SWAT

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ABSTRACT

Research was conducted on 400 guts of commercial layers collected from various shops at District Swat during April to September 1998. Out of 400 guts, 36 per cent were positive for nematodes. Mixed infestation of nematodes and cestodes was found in 4.75 per cent layers. Incidence rate of *Ascaridia galli*, *Heterakis gallinarum* and *Subulura brumpti* was 25.75, 8.25 and 2 per cent, respectively.

Keywords: Incidence, nematodes, commercial layers, guts.

INTRODUCTION

Poultry industry is the major field through which ever-widening protein gap in the country can be met economically and effectively by increasing the number of laying birds in the shortest possible period of time. Moreover, the chickens are all time easily manageable source of animal protein available for human consumption.

In the last few years poultry industry has developed rapidly, with regard to new management techniques and a huge increase in total population of birds, with the increase of poultry production, several problems have arisen, therefore, people refrain from investing in poultry farming for fear of mortality due to bacterial, viral and parasitic diseases. Out of these, parasitic infestations are considered to be the major problem in chicken raising. Great economic losses have been attributed to intestinal parasites because they produce lesions ranging from dilation of intestine and nodule formation to severe enteritis, thus impairing the absorbing power of intestine in addition to the large amount of nutrients and vitamins they absorb from the final host. This finally leads to be loss of weight, retearded growth, reduced egg production, weakened body resistance and even death.

The main objective of the study was to record information regarding the incidence of various nematodes in commercial layers and to determine whether or not any new species of parasites have been introduced in chickens of the area under study.

MATERIALS AND METHODS

Four hundred guts were collected from April to September, 1998 from various chicken shops where chickens were brought for sale from different areas of Swat District and slaughtered. Complete alimentary canals from esophagus to cloaca was collected in clean polythene bags and were brought to Veterinary Research and Diagnostic Laboratory, Balogram, Swat.

The portion of alimentary canal from duodenum to rectum and the caeca were placed in a tray and incised longitudinally. The opened intestine was washed thoroughly under running tape water and mucosal surface was rubbed carefully with the fingers to remove any worm adhering to it. The material in the tray was transferred to suitable glass container. The contents were allowed to stand and decant. The process was repeated several times. The nematodes were thus freed from fecal material by repeated washing and decantation. Finally the worms were picked up by a fine forceps and were transferred to normal saline solution.

Nematodes were fixed with 70 per cent alcohol by heating at 70°C and then transferred to a bottle for pereservation with 70 per cent alcohol. Then mounting were prepared. The parasites were unidentified under low power of the microscope according to keys and morphological characteristics as written by Soulsby (1982) and Hofstad *et al.* (1984).

RESULTS AND DISCUSSION

Out of 400 specimens, 144 (36%) were found positive for three species of nematodes. The species of nematodes recorded from intestines were *Ascaridia galli*, which was present in 103 (25.75%), *Heterakis gallinarum* in 33 (8.25%) and *Subulura brumpti* in 8 (2.0%) of guts.

From a total of 400 guts examined 36 per cent were found positive for namatode and 20.25 per cent for cestodes parasites. While 4.75 per cent had mixed infestation (Table 1).

Table 1: Incidence of nematodes/cestodes in commercial layers

Species	Commercial layers	Number of specimens	Percent infestation
Nematodes	144	400	36.0
Cestodes	121	400	20.25
Mixed infestation	19	400	4.75
Total	284	400	71.0

Subulura brumpti had lower incidence as compared to the former two. The reason being that the former two nematodes have direct life cycle and require no intermediate host to complete their life cycle. Therefore, the birds had more chances of picking up the infective eggs, while the *Subulura brumpti* require intermediate host for completion of the life cycle and the birds have comparatively lesser chances of eating these infected intermediate hosts. Further more frequent and regualr use of agricultural pesticides and latest agronomic paractices have successfully reduced the population of such intermediate hosts which ultimately have resulted in a reduction in the population of these parasites in poultry. The findings of the study were supported by Haider *et al.* (1980), Siddiqi and Riaz (1981), Buriro (1982), Birjees and Hayat (1983) and Ehlrs-Bhodigens (1985).

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