

PREVALENCE OF HELMINTH PARASITES OF *Gallus gallus* SLAUGHTERED AT THE SOKOTO CENTRAL MARKET

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Abstract

A survey was conducted on the helminth parasites of *Gallus gallus* slaughtered at the Sokoto Central Market. In all, a total of 120 birds of varying weights and sexes were examined for parasites through the examination of the contents of their intestinal tracts.

62.5% of the birds were found infested with parasitic cestodes and nematodes. The younger birds were also found with higher prevalence than the old birds. No significant differences were found in the prevalence between the males and females.

Key Words: Helminths *Gallus gallus*, market, Sokoto.

Introduction

The best fed, housed and genetically ideal chicken will not grow or lay eggs up to its potential, if diseased or infected with parasites (Card and Nesheim, 1972). Intestinal parasitism is a common problem in poultry and especially when nematode and cestode infestations occur at times in high proportions in animals reared in intensive management systems (Hungerford, 1969). Helminths of different species are important parasites of poultry the world over (Hall, 1989). In Nigeria, the poultry industry is developing both local and exotic chickens, with little regard to the burden of helminth parasites on the chickens (Fabiya, 1972; Gadzama and Strivastava 1986). This work was conducted to determine the prevalence of gastrointestinal parasites of poultry slaughtered at the Sokoto Central Market.

Materials and Methods

The digestive tracts from 120 adult local chickens of different sexes reared under the free-range system were obtained from the chicken abattoir of the Sokoto Central Market. The sex of each was noted.

The digestive tracts were extracted intact and the various sections separated into petri-dishes containing normal saline solution. Each segment was slit open and its contents discharged into the petri-dishes. The gastrointestinal tracts, namely the duodenum, jejunum, ileum, caecum and rectum were examined separately in a similar manner. Parasites in the lumen were picked-

up. The contents were washed thoroughly over a sieve under running tap water. The mucosal surfaces were carefully rubbed between fingers to remove parasites (Fatihu et al. 1991). The mucosae were scrapped into petri-dishes and observed under a dissecting microscope for smaller helminths.

The helminths were collected into petri-dishes and counted. The nematodes were killed in hot 70% ethanol and the cestodes allowed to stretch in tepid water. The parasites were fixed and preserved in labelled sample bottles containing 10% buffered formalin.

The nematodes were cleared using lactophenol and mounted in glycerol. The cestodes were stained with Mayer's paracarmine. Identification was done as described by Soulsby (1982); Reid (1984) and Ruff (1984).

Results

Results obtained showed that 75 (62.5%) of the birds were infected by one parasite or another. In all, a total of 3 nematode species were isolated (Table 1). *Ascaridia galli*, was found in the caecum, duodenum and ileum, with the highest prevalence (45.8 per cent) in the ileum. *Strongyloides avium* was also strongly demonstrated in the caecum and duodenum with prevalence of 20.8 and 16.7 per cent respectively. *Heterakis gallinarum* was found in the caecum of 8.3 per cent of the birds examined.

Table I: Prevalence of helminths found in the intestinal tracts of local chickens slaughtered at sokoto central market

Parasite	Location found	No. of infected	Prevalence (5%)	Mean per bird
<i>Ascaridia Galli</i>	Caecum	35	29.2	3
<i>Ascaridia Galli</i>	duodenum	40	33.3	2.1
<i>Ascaridia Galli</i>	ileum	55	45.8	2.2
<i>Strongyloides avium</i>	Caecum	25	20.8	1.5
<i>Heterakis gallinarum</i>	duodenum	20	16.7	2
<i>Heterakis gallinarum</i>	Caecum	10	8.3	2
<i>Hymenolepis spp.</i>	duodenum	15	12.5	1.5
<i>Railletina cesticillus</i>	duodenum	35	29.2	1.8
<i>Railletina cesticillus</i>	Caecum	20	16.7	2.3
R. <i>Echinobothrida</i>	ileum	23	19.2	2.1

Results (Table II) showed a higher prevalence among the younger birds (66.67 per cent in the: 5-1.0 kg) and 1-2 kg (60 per cent), while 2-2.5 kg recorded 42 per cent prevalence. There was no significant difference in the prevalence among the sexes examined ($P>0.05$). Of the 35 female birds examined 62.9 per cent were found infected. Similarly, of the 85 male birds examined, 62.4 per cent were found infected.

Table II: Mean prevalence per body weight of birds

Weight of bird	Nos. examined	Nos. infected	% infected
0.5-1kg	45	30	66.67
1-2kg	50	30	60.00
2-2.5kg	35	15	42.00
Total	120	75	66.5

Table III: Mean prevalence per sex of birds

Sex	Nos. examined	Nos. infected	Prevalence
Female	35	22	62.9
Male	85	53	66.4
Total	120	75	62.5

Discussion

The total prevalence observed in this study, although on the high side, was far less than the 90% recorded by Fabiyi (1972), 90.2% by Gadzama and Strivastava (1986), 100% by Okon and Enynihi (1980) and 95.2% by Fatihu *et al.*, (1991). This decrease in the overall prevalence may not be unconnected with the general improvement in our sanitary habits, which makes the environment less conducive for the parasites and their intermediate hosts. The state's bi-monthly, and the national monthly environmental sanitation exercises, had gone a long way in inducing good sanitary habits in the minds of our local farmers. In addition, there is growing awareness on the need to administer deworming drugs at regular intervals by our local farmers.

The higher prevalence observed among the young birds may be attributed to their susceptibility. This is as a result of their dietary deficiencies which predisposes them to infestations (Norman, 1968).

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