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Production Performance of Fayoumi Chicken under Intensive Management

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Abstract: This study was conducted at Chittagong Government Veterinary College Pahartali, Chittagong to know the productive performance of Fayoumi chicken under intensive management. The Fayoumi pullets were collected from the Regional Government Poultry Farm, Pahartali, Chittagong, Bangladesh. The age and weight of each chicken were recorded at the laying of first egg and obtained the age and weight at sexual maturity was 163.63±1.17 days and 1253.11±16.42 g, respectively. Daily egg production was recorded from the onset of lay upto one year and the yearly egg production per hen was obtained 140.72. Eggs were weighted and the average egg weight was obtained 45.79 g.

Key words: Egg production, egg weight, age and weight at sexual maturity

INTRODUCTION

The local scavenging hen lays on an average only 35 to 45 eggs per year and attain 300-400 g live weight at 10 weeks of age (Haque and Haque, 1990; Ahmed and Islam, 1985). In Bangladesh a model for small holding poultry rearing has been adapted by Participatory Livestock Development Project (PLDP) (Ahmed, 2000) where 95% of the beneficiaries are key rearer (Amber, 2000), who keep their hens under semi scavenging conditions and fed them supplements food. The feed ingredients were broken corn, soybean meal and oyster shell. Sonali (Rhode Island Red ♂ × Fayoumi ♀), a crossbred chickens that has been using in semi-scavenging system by key rearer under PLDP. Sonali is the best performer crossbred reported by Rahman *et al.* (1997) and Sorensen (1999) they obtained annual egg production per hen was 119 and 156, respectively.

The Directorate of Livestock Services (DLS) maintains breeds of White Leghorn (WHL) Rhode Island Red (RIR) and Fayoumi at the Government Poultry Farms and supplies parent stocks to the breeders in flocks of the small holding poultry rearing model. Earlier work has shown the most successful parent breeds are RIR male and Fayoumi females.

The regional government poultry farm, Pahartali, Chittagong are also producing the Sonali chickens for the farmers. Fayoumi females are using for the production of Sonali. The productivity of Sonali depends on the productivity of its parents because half of the genetic potentiality is passes from parent to offspring generation. So, it is important to know the performances of the Rhode Island Red and Fayoumi chickens. With view, the present study was conducted to know the productive performance of Fayoumi chickens under intensive management.

MATERIALS AND METHODS

The present research was conducted at Chittagong Government Veterinary College, Pahartali, Chittagong, Bangladesh from October 2001 to June 2003. Eighty Fayoumi (Fa) pullets were procured from Regional Government Poultry Farm, Pahartali, Chittagong. The pullets were reared under the intensive management and fed them the growing ration (Table 1). Age and weight of each chicken were recorded at the laying of first egg for calculating the age and weight at sexual maturity. The chickens were fed with a layer ration contains, feed ingredients broken corn, rice polish, til oil cake, concentrate mixture, oyster shell, salt, vitamin mineral premix , lysine and methionine and the nutrient composition of the ration were shown in Table 1. Egg production of the chickens was recorded daily from the onset of lay upto one year. Eggs were weighted by an electrical and top loading balance and were recorded. At the same time mature live weight was recorded. For calculating the daily average feed intake of Fayoumi chicken daily feed intake were recorded. Data on most of the parameters studied were unequal. Therefore statistical analysis of the collected data was performed by Statistical Package for Social Sciences (SPSS), (Windows Base 7.5

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Table 1: The estimated nutrient composition of the supplied rations

Rearing period	Energy (Kcal kg^{-1})	Crude protein (%)	Calcium (%)	Phosphorus (%)	Methionine (%)	Lysine (%)
Growing period	2788	17.7	1.32	0.90	0.29	0.33
Laying period	2689	16.7	2.80	0.085	0.44	0.40

Version, 2000). For the significant factors the sub-class mean will be compared using least significant different test (Steel *et al*., 1997).

The general linear model for analyzing numerical collected data on different traits was:

$$Y_{ij} = \mu + G_i + e_{ij}$$

Where:

Y_{ij} = Individual observation
μ = Overall mean
G_i = Effect of Genotype
e_{ij} = Uncontrolled genotypic and environmental deviation which is distributed as N (0, σ2)

RESULTS AND DISCUSSION

Egg production: The annual average egg production (number) of Fayoumi chicken was 140.70 per hen per year and the hen house egg production percent was 38.55% under intensive management condition. From Fig. 1 it could be found that the peak hen house egg production percent were 30-40 weeks age of chicken and the peak egg production was 49.52%. Rahman *et al*. (1997) found the hen day egg production of Fayoumi chicken with 130 g concentrate, supplement was 56% and Tareq (1992) found the egg production of Fayoumi chicken was 129.92 per hen/year under rural condition. Sazzad (1992) observed the egg production of Fayoumi chicken under intensive management for 150 days and observed the egg production was 76 egg/hen. Here it was found that the egg production of Fayoumi in present research work were slightly differ this might be due to lack of genetic potentiality of the base population from where the Fayoumi pullets were collected.

Egg Weight: The average egg weight (g) of Fayoumi was obtained 45.79±0.14 g. This finding was agreement with the finding (Yeasmin, 2000; Islam *et al*., 2003) who observed average egg weight of Fayoumi chicken were 46.25 and 46.75 g, respectively.

Age and weight at sexual maturity: The average age and weight at sexual maturity of Fayoumi chicken was obtained 163.63±1.17 days and 1253.11±16.42 g,

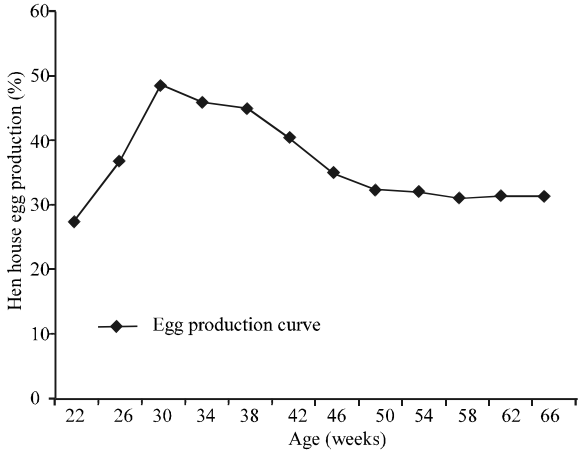

Fig. 1: Hen house eeg production (%) of Fayoumi chickens under intensive management

respectively. Sazzad (1992) observed that the age and weight at sexual maturity of Fayoumi chickens was 155.50 days and 1240 g, respectively. The present study showed early sexual maturity than the result of Barua *et al*. (1998) who obtained the age at sexual maturity of Fayoumi chicken was 225 days. The early sexual maturity may be obtained due the supplied of balanced feed and also the duration of light.

Feed Intake: The Fayoumi chickens were reared under intensive management and they fed with layer ration (Table 1). The daily feed intake of this chicken were recorded from sexual maturity upto one year and calculated the daily average feed intake of Fayoumi chicken was 102.77 g.

The Fayoumi chickens were selected randomly for this study it causes slightly lower egg production than the earlier study, so, before using the Fayoumi as a parent for the production of Sonali the selection of best performer Fayoumi is important. On the other hand, it can be say that the good management may enhance the productivity of this Fayoumi chicken.

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