A STUDY ON EFFECTS OF FEED ON THE PRODUCTION PERFORMANCE OF COBB-500 BROILER STRAIN

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Mohammad Anwer Sayed

Roll No: 15/02

Registration No: 01415

Intern ID: 02

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Faculty of Veterinary Medicine

Chattogram Veterinary and Animal Sciences University

Khulshi-4225, Chattogram , Bangladesh

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A Production Report Submitted as per Approved Styles and contents

Approved by:

…….

Dr. Goutam Buddha Das

Professor

Department of Animal Science & Nutrition

Chattogram Veterinary and Animal Sciences University

Khulshi-4225, Chattogram , Bangladesh

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Abstract

This study aimed to assess the effects of feed types and feeding programs change on Cobb 500 broiler productive efficiency at Cox's bazar sadar upazila,Coxsbazar. The present study was undertaken with the following objectives to determine the effects of feeding intake on productive performance of broiler & also the live weight and live weight gain of commercial broilers. This study conducted that the liveweight of commercial broiler at 5th weeks of age is 1481.32gm/bird. The overall feed conversion efficiency of the Farm was 1.75 in each week. If all the managemental factors such as feeding, watering, temperature, lighting, sanitation, vaccination, disease control, diagnosis of disease and medication are properly practiced, then the production could be achieved.

Chapter 1: Introduction

Livestock next to crops is the most important subsector of Agriculture in Bangladesh. Poultry is an important component of livestock, and now a days it plays a crucial role in economy of Bangladesh. This sub sector supplies animal protein through meat and egg for human consumption and droppings as utilization of manure. This sub sector accounts for more than ten percent of agricultural earning. (**Jahangir Alam 2002**) . Poultry production has develop from a side activity on small farms into a specialized global business in only 50 years and now it is the highly industrialized commercial broiler production contributes about 86% to total meat production worldwide leaving other birds far behind .(Executive guide to World poultry trends 2002). Nowadays, various commercial feed mills are producing different feed forms of broiler feed for different age group of birds. Feeding of each form has its own advantages and disadvantages (Ghazi et al., 2012). In Bangladesh, there are two types of broiler farming of which contract broiler farming is still under trial while independent small-scale broiler farming is dominant and performed for the development of broiler sector (Islam et al. 2010). Broiler chickens have traditionally been fed relatively high-energy diets, because, in addition to promoting efficient feed utilization, it is also assumed that this type of diet maximizes growth rate (Leeson and Summers,1991). The broiler chicken may, therefore, adapt to diets of low energy content, and simply eat more feed in an attempt to maintain energy intake, much the same as does the Leghorn bird (Payne,1967). The nutrition and feeding practices of broiler breeders has been the promising issue to improve egg production and growth performance (Hocking, 2009). Because the minimal impact on the overall feed cost of broiler production, accounting of less than 7% of the total feed consumed by the chicken during growth (Calini and Sirri, 2007). The common problems faced by the broiler grower's are procurement of broiler chicks, quality feed, appropriate litter materials and limited technical knowledge on rearing. Generally, rice husk and sawdust are used as litter in both rural and urban areas for broiler farming. Besides rice husk and sawdust, chopped straw, sugarcane pulp, paper mill by products, wood savings, sand, oat hulls, com cobs ground corn cobs, peat moss etc are also been used as litter materials all over the world Oliveira (1974) reported a negligible influence of litter on performance but found higher incidence of breast blister in broilers reared on sand in comparison with those on wood savings and rice husk The better growth performance of broiler bird might simply be a function of higher feed intake. Feed consumption followed similar trend to that of weight gain. These non significant differences in growth performances

support the finding of Haque and Chwodhury (1994), Anisuzzaman and Chowdhury (1996), and Findings of the study clearly indicate that all broiler farms made good profit and the large farms, however, carried little higher profit. According to the BBS, (2008) about the 19.8% protein of animal origin comes from poultry. Broiler industry is a rapidly growing enterprise in Bangladesh. Among the sector of poultry industry broiler industry are growing fast. Broiler chicken attains 2kg live weight at 6-8 weeks of age. They can be utilized feed efficiently for meat production. The production of meat depends on various factors such as nutrition, feed intake. The feed conversion efficiency is the ratio of amount of feed intake and the total live weight of birds. In Bangladesh on the basis of management and weather condition, the feed conversion efficiency (FCR) of broiler bird is usually 2.00-2.75:1 that is average feed conversion efficiency is 2.75:1 (Broiler palan Nirdeshikha, 1999). Feed intake and feed conversion efficiency (FCR) are affected by rate of growth of birds; contents of ration, nutrient adequacy of the ration, environmental temperature, health condition of the birds. The meat production depends on mainly FCR. In Bangladesh, there were abundant study was available on broiler parent stocks and the effects on different feed and nutrients for growth of broiler farm

Therefore the present study was undertaken with the following objectives:

1.To determine the effects of feeding intake on productive performance of broiler .

2. To study the live weight and live weight gain of commercial broilers.

Chapter 2 : Methods and Methodology

2.1. Selection of the study area

To select area random sampling technique was followed 25 farms from 5 unions (5 farms from each) located in Cox's bazar sadar upazila,Coxsbazar was selected purposively for my study.

2.2. Flock Size

Most of the flocks comprised 400-500 birds within the overall range between 500-1000

2.3.Housing and Feeding:

Different type of strain were rared in every flock such as Hab chicks, Cobb,Starbro, Hibro, ISa-I 757 were common. The other popular strain are Isavedete, Shevar master, Ros -100 etc. There are different styles and designs of houses such as shed type, combination type, Gable type etc. Most of the cases I saw that the farmer constructed gable type house for bird which is made by bamboo and tin and swing the wire net around the houses, the houses are south facing and well ventilated. The farmers provided 4 categories of feed such as Starter (0-5 weeks), Grower (6-18 weeks),Pre-breeder(19-23 weeks),Breeder(24-64weeks).

2.4.Number of Feeder

In most of the cases the farmer used two types of feeder, these are chicks feeder and tube feeder. Chicks feeder were used during 0-3 weeks, 2 ft long feeder for 50 chicks and tube feeder during 4-5 weeks 4 in number /100 birds.

2.5.Number of waterer

The farm owners used plastic drinker as water.

During 0-3 weeks ---------- 1 plastic drinker/ 50 birds.

During 4-5 weeks ---------- 1 plastic drinker/ 50 birds.

2.6. Feeding

Since feed constitutes about 70% of the cost of producing broilers, it is important to give special attention to it. In this respect farmers follow the literature of the feed company. It has been seen that all the farmers used two different quality of feed and it was given firstly in paper sheet (First 3 hours) and then in feeder. To prevent the wastage of feed, farmers give the feed in the feeder by considering followings

Fully filled 30% wastage

2/3 filled 10% wastage

1/2 filled 3% wastage

1/3 filled 1% wastage

Farmers usually followed the ½ feed level in the feeder. The feeder were be kept up to the neck level of the bird.

2.7. Method of data collection

Data were collected through direct interview from the farmer by setting a designed questionnaire on broiler rearing and additional data were collected by me. The data before their final use were pre-tested and modified. Data were collected UVH during my placement in upazila veterinary hospital.

Chapter 3: Results and Discussion

Live weight and live weight gain:

The live weight and live weight gain of Cobb500 broiler under intensive farm are presented in table-1. From this table-1, it was seen that the broilers of the farm were increased liveweight with the increases of age. The table-1 shows that the live weight of broilers at 5th weeks of age were1481.32 gm/bird and the live weight gain of broilers at 5th week of age were 522.18gm/bird. From the table-1 ,it could be seen that weight gain of broilers in the farms were gradually increase with increase of age. That indicated that with the increase of age the broiler consume higher amount of feed that conversion into meat. The overall live weight gain of the farm 286.37gm/week/bird. This study conducted that the liveweight of broiler at 5th weeks of age is 1481.32gm/bird which is less than the research of Shahidullah et.al.(2008) who found that the liveweight of broiler at 5th weeks age is 1770gm/bird. The study found that the liveweight of broiler at 4th weeks age is 959.14gm/bird which is less than the report of Sarkar, 2008(1250gm/bird).

Table -1: Live weight and Live weight gain of birds

Traits	**AverageLive weight (gm)/ week**	**Liveweight gain(gm)/week**
Day old	49.45	-
1st week	149.54	100.09
2nd week	298.24	148.7
3rd week	542.44	244.20
4th week	959.14	416.70
5th week	1481.32	522.18
Overall	580.02	286.37

The average weekly feed intake and feed conversion efficiency (FCR) of the Cobb500 broilers under intensive farm are presented in table-2 . In this table-2 shows that the feed intake of broilers at 5th week of age were 1044gm/bird/ week.From the table-2 ,it could be seen that FCR of broilers in the farms were gradually increased with increase of age

of the bird. That indicate that with the increase of age the broiler consume higher amount of feed that conversion into meat. The overall feed conversion efficiency of the Farm was 1.75 in each week.

This study found that the FCR of broiler is 2.00:1 at 5^{th} weeks age which is more than the research Goliomytis et.al.2003 who found the FCR 1.78:1. P.k.Sarkar, 2008 reported that the

FCR of commercial broiler is 1.62:1 at 28 days but this study found that the FCR of commercial broiler is 1.99:1 at 28 days which is more than Sarkar report, (2008).

Table-2: Feed intake and Feed Conversion Ratio(FCR) of birds

Traits	**Feed intake of birds/week(kg)**	**Feed Conversion Ratio(FCR)**
Day old	-	
1^{st} week	55	1.00
2^{nd} week	131.60	1.77
3^{rd} week	241.75	1.98
4^{th} week	415	1.99
5^{th} week	522	2.00
Overall	273.07	1.75

Chapter 4: Conclusion

From the study it can be seen that the body weight of Cobb500 which was achieved through proper care and management of broiler rearing by the studied farm. The liveweight, liveweight gain, feed intake and FCR at 5^{th} weeks of age were 1481.32gm/bird, 522.18gm/bird/weeks, 1044gm/bird/week and 2.00:1, respectively. If all the managemental factors such as feeding, watering, temperature, lighting, sanitation, vaccination, disease control, diagnosis of disease and medication are properly practiced, then the production could be achieved. Further more intensive research is needed with larger sample size for final recommendation on the broilers.

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