Impact of Age and Feed on Egg production of Novogen Brown Layer Bird

A Production Report Submitted By

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CHITTAGONG VETERINARY AND ANIMAL SCIENCES UNIVERSITY

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ABSTRACT

The study was carried out at Akib poultry farm in Majhigacha, Comilla for a period of 02/02/2018 to 28/03/2018 to observe management of housing, feeding, age with production performance of 1000 layer birds firm. The study was performed to know the factors affecting the egg production of poultry. In this purpose, I selected Akib Poultry Farms Ltd. of Novogen Brown variables. Firstly, The data about management (Housing, Feeding) and production were collected from their record book of current batch and estimates the average body weight, average feed intake, egg production (%). During the study period, In case of Novogen Brown layer, the body weight was observed 1.804kg, 1.849kg, 1.870kg respectively in 25-29 wks, 30-34 wks, above 35^{th} week of age and average feed intake was 124.5gm/day. The hen house egg production was 83.13% from 25^{th} to 34^{th} week of age. The peak production was 86.16% at 30 to 34^{th} week of age. It may be concluded that peak production can be achieved during 30 to 34^{th} week of age. Novogen brown layer is a popular layer bird which produces brown eggs .The bird can produce around 404-408 number of eggs if proper housing, feeding and management offer properly.

Key words: Age, Feed consumption, egg production.

INTRODUCTION

Bangladesh is a developing country, which economy mostly depends on agriculture from the ancient period. It is noteworthy that industrialization has been taken for few decades in different sector of agriculture, livestock has been playing important role to provide nutrient demand of the growing population of Bangladesh. Agriculture contributes 20.15% of total GDP in Bangladesh, But livestock sub sector contributes 2.9% in national GDP and its annual rate of growth is 5.5% (source: Banglapedia).

The poultry sector is an integral part of the livestock sector. It is one of the most prospective sector for the development of Egg and meat to fulfill the demand of the population of Bangladesh. Every adult person needs 120gm meat per day and 104 no of egg per year (source: Banglapedia). But present availability is 67.20gm meat per day and 63.65% of egg per year. Although meat production has been increasing over time in the country but the per capita available is far below (M.A Hamid 2017). The production level is far behind the requirement level. It is essentially needed to increase the production of egg and meat. The expansion of poultry sector depends on the profitability of chicken rearing and egg production at farmers level (Alam *et al* 1998). According to Bangladesh Bureau of statistic (BBS. 2016) about 89% of the rural household rear poultry and the average number of per household is 6.8 with a view to meet the protein gap with in a shortest possible time, there has been a shift of policy emphasis on intensive poultry farming in recent years.

The government is showing interest in this sector and is encouraging both urban and rural people to involve with poultry production to generate employment opportunities and to fulfill the protein requirement. There were very few numbers of poultry farms present in 10-15 years back, But at present in Bangladesh there are about 150000 private poultry Farms and hatchery and government hatcheries (M.A Saleque,2017, poultries in poverty alleviation).. Some of the poultry farms are falls in great loses as there is no proper housing, feeding, lighting, vaccination, drinking etc. Considering above backgrounds, The present study was undertaken with the following objectives.

Objectives:

The present study was under taken with the following objectives.

1. To study the layer bird management.
2. To know the relation among body weight, age, feed consumption and egg production percentage.

MATERIALS AND METHODS

Study area: The study was performed at Akib poultry farms ltd. Majigacha,Comila.

Study population: The study populations were the birds of Novogen brown at grower stage. The total numbers of bird were 1000.

Farm area: The farm of "Akib Poultry Farm, Majigacha, Comilla" situated in a rural area and population density is very low.

Study period: The study was conducted for 8 weeks from 02.02.2018 to 29.03.2018

Date collection and analysis: Data were collected from Akib Poultry Farms Ltd. Comilla, Bangladesh. Parameters were Egg production, body weight gain along with other related data like housing, feeding of the study batch. The data were collected from 6 to 63 weeks of age of the birds. The feed and body weight gain were measured from 5-7 birds weekly. The feed and weight were measured by manual weight balance.

Housing: Under modern conditions the hen is required to lay many eggs throughout the year and this object can best be achieved if a comfortable shed is provided for them. The layers were kept in cage after 15 weeks of age@ 18"x14" x 17" for 3 birds. It is very important that chicks be housed and cared for so as to provide an environment that will enable them to maintain their thermal balance. Because of being warm blooded they have the ability to maintain a rather uniform temperature of their internal organ.

Watering: For the prevention of diseases clean water and germ free water were supplied to bird through nipple drinker.

Ventilation: In favor of proper ventilation the experimental farm used timer fan. Exhaust fan and also used for preventing extreme hot.

TABLE 1: Management of Brooding at Akib poultry farm:

Age	Temperature
1st 5 hours	35^0c
5 hours to 3 days	34^0c
4 to 7 days	34 to 31^0c
2 weeks	31to 28^0c
3 weeks	28 to 26^0c
4 weeks	28 to 23^0c
After 4 weeks	20^0c

Lighting: Lighting schedule followed in this farm is given below in table

Table:2 Lighting schedule were @ watt/ sq.ft

Age/day/week	Light/day(in hour)	Watt/sq.ft
1-3day	24hours	.56 watt
4-6day	23 hours	.50 watt
7-8day	23 hours	.37 watt
1-2weeks	23 hours	.25 watt
2-3weekas	22 hours	.19 watt
3-4weeks	18 hours	.19 watt
4-5 weeks	16 hours	.19 watt
5-6 weeks	14 hours	.19 watt
6-10 weeks	13 hours	.19 watt
11-18 weeks	12 hours	.095 watt
18-20 weeks	11.30 hours	.019 watt
20-21 weeks	12 hours	.25 watt

21-22	12.30 hours	.25 watt
22-23	13 hours	.25 watt
23-24	13.30 hours	.25 watt
24-25	14 hours	.25 watt
25-26	14.30 hours	.25 watt
26-27+weeks	16 hours	.25 watt

(Source: Jos mans 2015)

Debeaking: They debeaked 9^{th} week of age but it should be done 10^{th} weeks of age.

Use of Anthelmintics: First time, at the age of 45 days, then they used to every 45 days alternatively.

Feeding and Feeder:

During first week of rearing, feed for day old chicks were supplied on paper or tissue. The commercial ready-made feed was given to the farm.

The feed contained CP 19 to 20%, ME 2950/kg, Lysine 1.07, Methionine .43 to .54%. Ad-libidum feeding was allowed for 3 weeks. Then weighing which compared with guide line.

Controlled feeding practices:

This method involves restrictions of feeding as is practiced at present in most poultry farm In this farm 3 type of feeds were given to the birds:

1. Starter (0-8 weeks)
2. Grower (8-16 weeks)
3. layer (17-72 weeks)

Feeding:

There the chicks were offered ad-libitum feeding upto few days. Then feed was given specifically at different ages. Feed were increased according to the production percentage.

TABLE: Vaccination schedule at Akib Poultry Farm:

Age (day/week)	Name of the VACCINE	Route of administration
1st day	Mareks	S/C in neck
5th day	BCRDB+IB	Eye drop or drinking water
8thday	Gumboro	Eye drop or drinking water
9thday	GUMBORO+RANIKHET	S/C in neck
14-18thweeks	Mareks	S/C In neck
21st weeks	Ranikhet (live)	Eye drop or drinking water
28th day	Gumboro (live)	Eye drop or drinking water
35th day	IB	Eye drop or in drinking water
6th weeks	Fowl pox	Wing web
8th weeks	Ranikhet+Coryza	Drinking water
10th week	Fowl Pox + Cholera	Wing web or S/C
14th weerk	Cholera	BREAST muscle
16th week	Coryza	Breast muscle
18th week	IB+Ranikhet+EDS	Breast muscle or S/C

Stastical analysis: Data were collected, sorted out and enter into MS-Excel 2000. Descriptive statistics (mean, ±SD%) were performed to show the differences of feed intake, weight gain among different groups. P value was less than 0.05 .So, the study was significant.

RESULT AND DISCUSSION

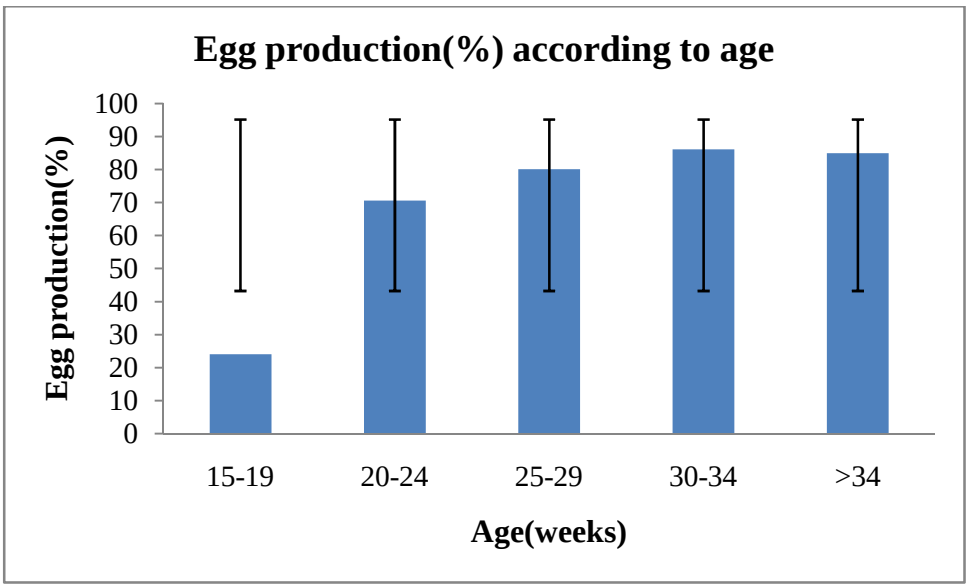
From growing stage (8-16 weeks) up to stimulation, usually reproductive organs develop. So, in this period the amount of feed should strictly maintain. During growing stage, Table-1 shows the weight gain and feed intake basis on age.

Table-1: Body weight and feed intake of layer chicken according to age is shown on table 1. The lowest feed intake was observed in 15-19 week of age and the highest feed intake was found above 35 week of age.

Age (weeks)	Average weight(gms)(Mean ±SD)	Feed intake(gms) (Mean ± SD)	Egg production(%)(mean±SD)
15-19	1352±117.13	85.4±13.59	24.06±23.47
20-24	1711±49.67	119±4.84	70.58±4.35
25-29	1804.8±17.62	124±0	80.1±1.23
30-34	1849.6±10.16	124.4±.55	86.16±2.31
Above 34	1870.67±4.23	125±0	84.98±1.29

Here is clear that, the feed should keep constant or at control for better egg production. If body weight gain or bird will become fatty, this will decrease the egg production. There is a positive relationship between age and body weight of birds (Agaviezor et al. 2011). Feeding is the first factor to be considered, generally when flock are fed with feed properly, They will surely produce good number of eggs. For maximum production of eggs, make feed available at all time for the birds (omojola jasper *et al* 2016). Generally, optimum body weight during the laying period should be around 1.5 kg, although this varies according to species. Underweight management and the correct amount of feed are necessary in order to achieve optimum body weight (F ahamadi 2011).

Graph: During laying period, the egg production percentage according to age is shown in the following graph.



Age of bird was positively and significantly correlated with weight of birds, number of eggs and daily feed consumption (BC sarker *et al*. 2013).

It is observed from graph that average egg production percentage was high during 30-34 wks of age then it decreased gradually. On the other hand, average body weight gain increase slowly during this period. The highest egg production (%) is 86.16 and lowest is 24.06, which is moderately satisfactory.

Table 3: Statistical difference of Egg production according to age:

ANOVA

Source of Variation	*df*	*F*	*P-value*
Between Groups	3	586.398	0.001
Within Groups	100		
Total	103		

As p value was less than 0.05, So there was significant difference among egg production, feed consumption and body weight gain according to age in Novogen Brown layer bird

CONCLUSION

In the conclusion of the study, it can be obviously say that, production performance of Novogen Brown is overall good if proper management offered. In the study, data indicated that different factor depends on egg production. The number of egg production should increase upto a specific age then it decreases gradually which is similar with the study but the weight of the bird increase weekly as it should not be. There is a difference of the experiment.

Recommendations:

- Reduce the amount of feed which are given to bird.
- Assess the ME and CP % of commercial ready-made feed.

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Biography

This is **Minhazul islam** , son of **Md.Tazul islam and Jesmin akter**. I am from comilla district. I completed S.S.C in 2009 and H.S.C in 2011.I got admitted into Doctor of Veterinary Medicine(DVM) course under Chittagong Veterinary and Animal Sciences University in 2012- 2013 session. As an upcoming Veterinarian I would like to dedicate my rest of the life for the welfare of animals. I am keen to be a field veterinarian as well as a skilled poultry practitioner.