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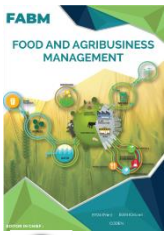

RESEARCH ARTICLE

REARING AND PRODUCTION ANALYSIS OF COMMERCIAL BROILER IN GOKULESHWOR

Sagar Bist, Santosh Bhatt, Tirtha Raj Bhatt

Gokuleshwor Agriculture and Animal Science College, Gokuleshwor, Nepal.
**Corresponding author Email: sonusagarbist84@gmail.com*

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ABSTRACT

This research was conducted in livestock farm of Gokuleshwor College located in Dilassaini Rural Municipality of Baitadi district from 12th July to 27th August 2017 in order to determine the production analysis of commercial broiler production. The different parameters like feed conversion ratio, benefit cost ratio were analyzed. The benefit cost ratio from rearing broiler up to 42 days was 1.18. The feed conversion ratio was 1.90 and livability percentage was 94.84. This result showed that the commercial broiler production in Gokuleshwor was feasible.

KEYWORDS

Broiler, Feed, and Benefit cost ratio.

1. INTRODUCTION

The term poultry refers to the domesticated fowl which are reared for their flesh, egg and feather and includes chicken, duck geese, etc. Broilers are the chickens that are raised for the purpose of meat production and have a larger body frame and weight than layers (Beutler, 2007). Broiler chickens (Gallus gallus domesticus) are the gallinaceous domesticated fowl breed and raised specifically for meat production. They are hybrid of the egg laying chickens, both being sub species of red jungle fowl and Gallus gallus. Typical broiler has white feathers and yellow skin, most broiler reach slaughter weight at approximately 8 weeks age. Due to the artificial selection for rapid early growth and husbandry used to sustain this, broilers are susceptible to several welfare concern, particularly malformation and dysfunction; skin and eye lesion and congestive heart condition.

The world population is increasing day by day and with this demand of meat is also increasing which is helping to increase the scope of broiler production. Broiler farming has several advantage. Firstly, the initial investment is low and there is a faster return for investment. The rearing period is six to seven weeks only and more number of flock can be taken in same shed. Broilers are now available with the ability of quick growth and high feed conversion ratio. Demand of poultry product is more because of their high food value. Depending on farm size broiler farming can be important source of family income or can provide subsidiary income and gainful employment to the farmers throughout the year. Poultry manure has high nutrient content i.e. 1-8% Nitrogen, 0.4-0.8% Phosphorus and 0.5-1.9% potassium (Dipa, 2006). Feed conversion ratio (FCR) is a measure of how well a flock convert the feed intake into the live weight and provide an indicator of management performance and also at given feed cost.

i.e. $FCR = Feed\ intake \div Weight\ gain$

As the feed cost represent 60-70% of the total cost of broiler production, the efficient conversion of feed into live weight is essential for profitability and small change in FCR at any given feed price can have substantial impact on financial margin. Benefit cost ratio is the ratio of the present worth of benefit stream divided by the present worth of cost stream. In broiler production benefit cost ratio was given by

$Benefit\ Cost\ ratio = Total\ income \div Total\ cost$

The decision in any business investment could be analyzed in the best manner using benefit cost analysis (Bent et al., 2002). Positive the value of benefit cost ratio indicates that the project is in profit and must be accepted. Negative the value of benefit cost ratio indicates the farm is in loss. Hence further production in the farm must be stopped to prevent from loss. Benefit cost ratio zero indicates that the farm is neither in profit nor in loss. To investigate the feasibility of broiler in Gokuleshwor, this research was conducted.

2. MATERIALS AND METHODS

Site Selection: Site selection was done in Gokuleshwor Agriculture and animal science college in animal science farm.

Preparation of farm: The poultry farm was cleaned on 12th July with water. Fumigation was done on 13th July with formalin and potassium permanganate and the windows and door were closed for three days to kill the harmful micro-organisms present in that farm and the doors and windows were opened on 16th July. Lightening systems were installed on 17th July which includes 6 filament bulbs and 3 led bulbs. The equipment like feeder, hopper and water tanks were cleaned with detergent soap and dried. Brooding area was made on 17th July with length of 1.97m and breadth of 2.40 m was made. The thermometer was installed for measuring the temperature and temperature was adjusted to 95 ^{0}F and it was subsequently decreased by 5 ^{0}F for every week until it was 70 ^{0}F. The temperature inside the farm was maintained by burning the wood in two containers and with the help of filament bulbs. This area was made with

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the help of wooden flanks and liming on the floor was done. In that area 6cm rice husk was applied and covered with newspaper to prevent from eating the husk. The poultry farm was provided with 4 big windows and one door for the entrance. At the entrance door jute sack was kept at the entrance and lime was spread over the jute sack for the prevention of contamination. The facility of covering the window was done to prevent water entry when rain fall occurs with white plastic and guard was kept in the farm for first week.

Selection of the broiler breed: Cobb 500 breed was selected for rearing in Gokuleshwor and 252 birds were kept for rearing for 42 days.

Preparation on arrival of broiler: Molasses solution was made ready and it was fed to the broiler to provide energy and to reduce stress and they were kept in brooding chamber by feeding the molasses solution.

Management of feeding and watering: Feeders and hoppers were kept in brooding chamber for feeding and watering the broilers. The feed was supplied according to the age of the broiler. For first 10 days the broilers were supplied with B0 (pre-starter) and from 11th to 21 days B1 (starter) and after 21 days broilers were supplied with B2 (finisher). Feeding watering should be continued and guarding was done in first week of their age.

Rearing: The chicks were reared in GAASC animal science farm in deep litter system. During the entire period counting of chicks, feeding, weighting, was done by taking 5 chicks as a sample and other management practices was done. Records of feed and water, morbidity and mortality were kept. For the proper growth and development of broiler chicks, liver tonics, were used and calcivets as a calcium substitute, vitamins and electrolytes were also provided. Vaccines like Marek's vaccine will have been given for an old day chick and no vaccine was provided against Ranikhet disease. (Also called New Castle disease). Neodox forte was given at the rate of 15g per 10 liters for 3 days for the control of coccidiosis disease. Virikon was spread inside the farm once in3 days @ 3g per 2 litre water for cleansing the environment. The lime was regularly applied and litter was stirred and husk was also added to make the floor dry. The area for rearing the broiler was extended to the total length of 3.47 and total breadth of 2.40m.

Record keeping: The cost of different variables such as price of chicks, litter, labor, electricity, water, vaccines and other medication were recorded for determining benefit cost ratio.

Marketing and transport: Marketing was done from 6th week on wards and transportation was done on crates and was carried by humans. The cost of each Kg of live broiler was fixed at Rs.260/Kg and sold to Gokuleshwor market.

3. Result and Discussion

Microsoft excel 2013 was used for the preparation of graph.

Table 1: Details of the project

S.N.	Parameters	Value
1	Total number of broilers kept for rearing	252
2	Dead broilers	13
3	Total number of live broilers	239
4	Average weight gain	2.376 Kg
5	Average feed intake	4.514 Kg
6	Average FCR	1.90

3.1 Feed Conversion ratio (FCR)

The average weight of the broiler in 42 days is 2.376 kg and FCR was 1.90. FCR 1.90 means by eating 1.90 kg of feed broiler gain 1 kg of flesh in his body.

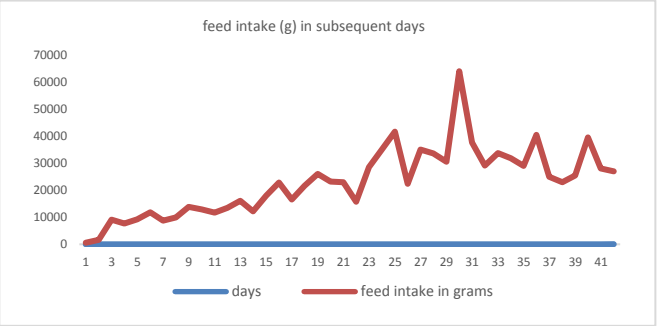

Figure 1: Feed intake in 42 days

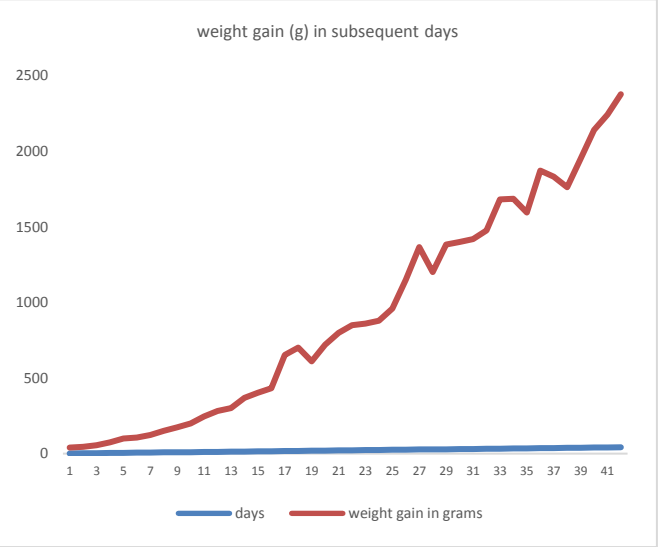

Figure 2: Weight gain in 42 days

This figure 1 shows the feed intake in subsequent days. The highest feed intake was on 30 days (64000g) and lowest (590g) at first day. This figure 2 shows that the weight of the chicks were constantly increasing up 16 days and it was sharply increased from 16 days to 18 days and it was slightly decreased up to 20 days and again increased up to 24 days. Continuous decreasing and increasing was continued up to 39 days and was sharply inclined up to 42 days. This type of problem was mainly due the stress condition of the broiler due to high temperature and due to coccidiosis disease (William, 1999). He states that Coccidiosis is one of diseases of poultry that play inhibitory role in the growth of this industry. It is a disease complex of poultry caused by different species of parasite Eimeria. It inflicts the birds in both clinical and sub-clinical forms. The clinical form of the disease manifests through prominent signs of mortality, morbidity, diarrhoea or bloody faeces, and sub-clinical coccidiosis manifests mainly by poor weight gain and reduced efficiency of feed conversion and gives rise to highest proportion of the total economic losses

3.2 Benefit Cost Ratio

The total variable cost including chicks feed transportation and other wages cost Rs.124665. the average live weight of a broiler is 2.376 kg. The selling rate of the live broiler was Rs. 260/kg. Thus the total earning by raising 239 broilers were Rs. 147644.64. Thus, the benefit cost ratio of the poultry project becomes 1.18. The benefit cost ratio 1.18 means by investing Rs. 1, the poultry owner earn Rs. 1.18. Also BC ratio is positive. This indicates that Gokuleshwor area is feasible for commercial broiler production.

3.3 Livability %

The livability percentage of this project was 94.84% which indicates out of the total poultry birds only 94.84% poultry birds survive in this area.

4. Conclusion

From the research performed in Gokuleshwor, the average body weight of poultry was 2.376 having livability % of 94.84. The benefit cost ratio of this project was 1.18 which indicates that the project is in profit and indicating that by investing Rs. 1 we can earn Rs. 1.18. The FCR was 1.9 which

indicates that by eating 1.9kg of feed it gains only 1kg body weight. Hence, we conclude that the commercial broiler production is feasible in this area

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