Short Communication

ECONOMICS ON REARING INDIGENOUS AND BROILER BIRDS IN INTENSIVE SYSTEM OF MANAGEMENT

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ABSTRACT

A study was carried out in the month of September, 2022 to know the economics on rearing of indigenous (local) comparative broiler birds at the Poultry Unit of SCS college of Agriculture, Rangamati, Assam Agricultural University, Dhubri, Assam. For the study, day old chicks of indigenous and broiler, 100 numbers each were introduced in deep litter system of management. Broilers were marketed at the completion of 6th week, while the indigenous birds were kept up to 8th week and then marketed. Mean body weight was found to be 2082.67±14.85 g and 658.29±3.49 g in the case of broilers and indigenous birds at 6th week and 8th week respectively. The feed conversion ratio (FCR) was recorded as 1.64 and 2.29 for broiler and indigenous birds, respectively. The cost of production per kg bird is Rs.114.70 and Rs. 227.90 for broiler and indigenous birds respectively. The net profit calculated in production of broilers and indigenous was Rs. 5100.00 and Rs. 7450.00 respectively. Benefit cost ratio (BCR) in broiler and indigenous bird was found to be 1.22.1.00 and 1.53:1.00, respectively.

Keywords: Poultry production, economics, broiler, indigenous.

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INTRODUCTION

In recent times poultry production is becoming an income generating tool for the resource poor farmers because of its quick and assured return. Poultry industry is growing at 8-10% and offering the cheapest source of animal protein in the form of broiler meat (Chatterjee and Rajkumar, 2015). However, a huge numbers of people prefer chicken from indigenous birds because of its relatively low fat content. Moreover, the taste and the price of the local chicken is also superior in comparison with broiler meat. In Assam,

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farmers traditionally grow only 10-15 numbers of indigenous birds in backyard system of management for meat and egg production to meet their nutritional security (Islam, *et al.*, 2014). In this system of management, the farmers offer little grains for feeding the birds, where the appropriate feeding schedule and healthcare is hardly followed. Because of this fact every year the small and marginal poultry farmers experience heavy losses during outbreak of diseases mostly during Ranikhet outbreak. On the other hand, broilers are reared in scientific manner but the cost of production become very high as farmers feed the broilers with high cost balanced ration.

In view of the above, it is thought to study the economics involved in rearing indigenous and broiler birds following scientific management practices and comparing the cost per kg production of broiler and indigenous bird.

MATERIALS AND METHODS

A study was carried out during September-October, 2022 at Poultry Unit, SCS College of Agriculture, Assam Agricultural University, Dhubri, Assam. For the study, 100 numbers each of broiler and indigenous day old chicks were placed in deep litter system of management. Initially, brooding was done separately in both the cases for 10 days period and shifted to the separate grower pen. During brooding chicks were provided pre starter feed and drinking water. At growing and finishing stage birds were provided with starter and finisher feed twice daily and round the clock supply of drinking water was ensured. Standard vaccination schedule was followed to protect the chicks, from dreaded diseases. Mortality of birds was recorded for both broilers and indigenous birds.

Body weights were recorded at weekly interval in randomly selected 10% birds both from broilers and indigenous. Average feed intake of birds was recorded at weekly interval. On completion of 6th week broilers were sold, while the indigenous birds were sold on completion of 8th week to a local trader. On competition of the study the gross expenditure, gross return, net return, cost of production per kg bird and profit per bird were calculated. The data recorded were subjected to standard statistical procedure to find the means and standard error.

RESULTS AND DISCUSSION

Growth parameters:

The mean body weight of both of the broiler and indigenous birds were recorded at weekly interval during the production. The data on weekly mean body weights of broilers and Indigenous birds is shown in Table 1. The mean body weight of broiler at day old age was 37.41±0.18 g whereas in indigenous birds was 27.62±0.29 g. On 6th week mean body weight of broiler and indigenous birds were recorded as 2082.67±14.85 g and 470.57±2.79 g respectively. The broilers were marketed on 6th week whereas the indigenous birds were kept up to 8th week of age. On completion of 8th week the mean body weight of the indigenous bird was found to be 660.06±3.09 g. Mean body weight of the indigenous birds at 8th week

was found to be higher in the present study compared to the findings reported by Sarma *et al.* (2018) where the body weight of the desi chicken at 8th weeks was 368.12±2.74g. The higher 8th week bodyweight in the present experiment was might be due to appropriate feeding and better management practices. During the experimental period total feed intake per broiler bird was recorded as 3410g on the other hand, total feed intake per indigenous bird was recorded to be 1510g. The data on FCR and mortality was calculated as 1.64 and 2 % in broiler birds while FCR and mortality was found to be 2.29 and 7 % respectively in indigenous birds. The findings on FCR and mortality in the present study are in similar line with that of the findings of Gonmei *et al.* (2016) and Sarma *et al.* (2019) where they recorded almost similar FCR and mortality in broiler birds during post monsoon period. In the present study higher mortality rate was recorded in case of indigenous bird than the broiler birds. This might be because of occurrence of the disease Coccidiosis, Salmonellosis and Cannibalism in indigenous birds. However, the diseases were effectively managed by providing Amprolium Hcl 20 % w/w and Doxycycline and Neomycin. Cannibalism in birds could be prevented by providing common salt @ 1 g per litre of drinking water for three days.

Table 1. Weekly feed intake (g) and body weight (g) of Broiler and Indigenous birds

Age	Broiler		Indigenous	
	Average weekly feed intake per bird (g)	Body weight (g)	Average weekly feed intake per bird (g)	Body weight (g)
Day old	-	37.41±0.18	-	27.62±0.29
1st week	130	139.60±0.39	94	51.54±0.45
2nd week	255	353.26±1.37	124	93.86±0.46
3rd week	505	715.53±1.22	167	170.10±0.53
4th week	750	1147.83±1.61	174	280.28±0.82
5th week	830	1497.5±3.00	187	378.62±2.51
6th week	940	2082.67±14.85	200	470.57±2.79
7th week	-	-	262	569.96±1.67
8th week	-	-	302	660.06±3.09

Table 2. Economics in production of 100 nos. of Broiler and Indigenous bird

	Broiler	Indigenous bird
Capital Investment		
a)Cost of building @ Rs. 250/sqft including electrification	25000.00	25000.00
b) Cost of equipment/utensils	1000.00	1000.00
Sub Total =	26000.00	26000.00
Fixed Cost (A)		
a) Depreciation on cost of building @ 5%	1250.00	1250.00
b) Depreciation on cost of equipment @ 10%	100.00	100.00
Sub Total =	1350.00	1350.00
Variable Cost (B)		
a) Cost of day old Chicks 100 nos. @ Rs. 40/chick	4000.00	4000.00
b) Feed cost (Total feed consumed 371kg and 151 kg by the broilers and the local birds respectively where the cost of feed @ Rs.50/ kg)	17050.00	7550.00
c) Medicine and Vaccine @ Rs. 5/ bird	500.00	500.00
d) Misc. expenditure	500.00	500.00
Sub Total =	22050.00	12550.00
Total Cost (C)=(A+B)	23400.00	13900.00
Gross Return (D)		
Sale of birds (Broilers 204 kg @ Rs. 140/kg and Local birds 61 kg @ Rs.350/kg	28560.00	21350.00
Net Profit (E)=D - C	5160.00	7450.00
Profit per bird	51.60	74.50
Cost of production per kg bird	114.70	227.90
B C Ratio	1.22:1.00	1.53:1.00

Economics:

Expenditure of production of poultry birds can be categorized into (i) Fixed cost and (ii) Variable capital. The fixed capital will include the investment on construction of shed, electricity connection and cost of equipment whereas the working capital include the cost of day old chicks, feeds, medicines etc. As the present study was conducted at the Poultry unit of SCS College of Agriculture, Assam Agricultural University, Dhubri so a ready shed along with equipments and all other facilities were available in the unit. The economics on rearing broiler and indigenous birds is described in Table 2.

Returns:

A total 98 numbers of Broiler birds weighing 204 kg were sold at Rs. 140 per kg at the age of 6 weeks while 93 numbers of indigenous birds weighing 61 kg were sold at Rs. 350 per kg on completion of 8 weeks. The Gross return on selling broiler and indigenous birds was found to be Rs. 28560.00 and Rs 21350.00 respectively. The net benefit was calculated as Rs 5160.00 and Rs 7450.00 for broiler and indigenous birds respectively. In the present study, the cost involved in production of per kg broiler was Rs.114.70 and for indigenous bird Rs. 227.90. Profit per bird was calculated as Rs. 51.60 and Rs. 74.50 in broilers and indigenous birds. During the experiment, BCR in broiler and indigenous bird production was calculated as 1.22:1.00 and 1.53:1.00 respectively. In our present study the inferior BCR is might be due to higher cost of day old chicks and feed cost. The study of Sarma *et al.* (2019) on performance of broiler chicken is corroborating the findings of the present study.

CONCLUSION

From this comparative study between the performance of Broiler and Indigenous birds in deep litter system of production we can speculate the more economic effectiveness in the Indigenous bird production than broiler birds in various aspects. Our observation in the present study showed that the FCR is more in the case of Indigenous birds production than that of Broiler Production. Though the FCR is higher in indigenous birds, it has more market value than that of broiler birds. So from this study, it can be concluded that interested youths come forward for poultry farming may go with indigenous poultry production for better profitability.

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