Research paper

Performance evaluation of Chabro chicken under field condition

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ABSTRACT

Desi chickens are traditionally reared by tribal and resource poor rural people of Lalitpur District of Uttar Pradesh. They rear desi birds with low egg and meat production under backyard system of management. Improved poultry breeds are an important to replace the desi birds for better returns. The present study was carried out on 105 day old chicks of Chabro breed under field condition. The body weight was recorded at weekly interval up to 16 weeks of age. The mean values of body weight at 0 days, 4th, 8th, 12th and 16th week of age were estimated as 34.72 ± 0.59, 548.30 ± 3.18, 1020.37 ± 5.47, 1822.51 ± 8.21 and 2474.06 ± 9.31 g, respectively in Chabro birds maintained under field condition. Age at first lay was found to be 162.35 ± 4.38 days and average annual egg production was recorded as 167.42 ± 4.65 eggs. Egg weight up to 40 weeks of age and the survivability of Chabrobirds was recorded as 53.28 ± 2.12 g and 92.25 percent, respectively under field condition.

Keywords: Body weight, egg production, egg weight survivability, chabro

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INTRODUCTION

Backyard poultry rearing has always been accepted as a viable enterprise for poverty reduction, employment generation and nutritional security for rural communities. BYP farming is an important venture and integral part of mixed farming in most of the villages of Lalitpur District of Uttar Pradesh. The meat and egg of backyard poultry are more highly valued than that of farms produced birds due to its comparatively superior taste and texture. Traditionally, the village poultry in rural areas is based on non-descript breeds of poultry and their productivity is also very low as compared to improved BYP. India ranked 3rd in egg production (88.14 billion) and 5th in chicken meat production (5.1 MT) in the year 2017. According to 20th livestock census 2019 (GOI) total poultry population estimated to be 851.81 million which has increased by 16.8 % over the previous census.The total birds in the backyard poultry in the country is 317.07 million. The backyard poultry has increased by around 46% as compared to previous Census. Chabro, a multicolored dual purpose birds developed by Central Poultry Develop Organization, Chandigarh. The birds have potential to produce more eggs and meat than desi chicken. This breed has multi-colored plumage, longer shank, high general immune competence, faster growth than desi hen and more eggs which are brown in color. Keeping in view, the present study was undertaken to study the growth, age at first lay, egg production and survivability of Chabro birds in Lalitpur district of Uttar Pradesh.MATERIALS AND METHOD.

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The study was carried out on 105 day old chicks of Chabro breed. The chicks were procured from State Poultry Farm, Bharari, Jhansi (U.P.). After proper cleaning, disinfection and fumigation the recommended temperature and humidity were maintained for artificial brooding. Chicks were brooded for one week of age. During brooding, the chicks were provided with adlibitumbroiler starter crumbs and clean potable drinking water with 5% glucose after arrival at farm. These chicks were given vimeral @ 5.0 ml per 100 chicks and vitamin B-complex @ 20 ml per 100 chicks daily in drinking water for three days. The chicks were also vaccinated against Ranikhet and Gumboro diseases as per standard vaccination schedule. Data on body weights from 0 to16 weeks of age, age at first egg, egg production up to 40 weeks of age, egg weight and survivability percentage were recorded. The data were analyzed using appropriate statistical tool.

RESULTS AND DISCUSSION

Growth performance

Growth performance of Chabro birds have been presented in table 1. The body weight at 0, 1st ,4th ,8th ,12th and 16th weeks of age were found to be 34.72 ± 0.59, 69.71 ± 0.62, 548.30 ± 3.18, 1020.37 ± 5.47, 1822.51 ± 8.21 and 2474.06 ± 9.31 g. respectively, in Chabro birds under field condition. The Average daily gain at 0-4, 4-8, 8-12 and 12-16 weeks were estimated as 18.34 ± 0.18, 16.86 ± 0.25, 28.65 ± 0.42 and 23.27 ± 0.50 g, respectively. Higher body weight at 0-week (38.27 ± 0.53 g) and 7-week of age

Table 1: Body weight (g) of Chabro birds under field condition

Period (Week)	Body weights ± S.E. (g)
0	34.72 ± 0.59
1	69.71 ± 0.62
2	167.46 ± 1.14
3	347.17 ± 2.81
4	548.30 ± 3.18
5	587.25 ± 4.33
6	714.03 ± 4.92
7	885.94 ± 5.48
8	1020.37 ± 5.47
9	1250.26 ± 6.20
10	1423.08 ± 7.23
11	1608.76 ± 7.76
12	1822.51 ± 8.07
13	1980.20 ± 8.12
14	2082.06 ± 8.33
15	2210.15 ± 9.05
16	2474.06 ± 9.31

(1111.86 ±28.34 g) were reported by Khan et al. (2014) in Chabro birds under intensive system of management. However, higher body weight at 8-weeks of age (1500.00 g) was reported by Banjaet al. (2017) under field condition. Lower body weight under backyard system of management was reported by Singh et al. (2018) in Gram Priya and Vanraja breeds at 15 weeks of age.

Production Performance

The mean age at first egg laying was recorded 162.35 ± 4.38 days in Chabro birds. Almost similar finding was reported by Gupta *et al.* (2019) in Chabro birds under field condition and Singh *et.al*. (2018) in Srinidhi birds under farm system of management. Higher age at first egg laying was observed by Sarma*et al*. (2018) in Srinidhi and Vanraja birds under field condition. The average annual egg production was found to be 167.42 ± 4.65 eggs in Chabro birds. Similar observations were recorded by Gupta *et al.* (2019) in Chabro and Vanraja chickens under field condition. However, higher egg production (195 eggs up to 72 weeks of age) was reported by Singh *et al*. (2018) in Srinidhi birds under farm condition. The lower egg production (50.93±0.28) up to 40 weeks of age was estimated by Sarma*et al*. (2018) in Vanraja and Srinidhi birds under traditional farming system. Similarly, the

Table 2: Average daily gain (g/day) in body weight of Chabro birds

Age (weeks)	Daily gain in body weights (g)
0-4	18.34 ± 0.18
4-8	16.86 ± 0.25
8-12	28.65 ± 0.42
12-16	23.27 ± 0.50

Table 3: Production performance of Chabro birds

Economic traits	Values
Age at first egg (days)	162.35 ± 4.38
Annual egg production (no.)	167.42 ± 4.65
Egg weight (40 weeks) g	53.28 ± 2.12
Survivability (%)	92.25

average egg weight at 40 weeks of age was estimated to be 53.28 ± 2.12 g. The present study was close with those reported by Gupta *et al.* (2019), Singh *et al*. (2018) and Sarma*et al*. (2018) in Chabro, Srinidhi and Vanraja chickens, respectively under field conditions. However higher egg weight was recorded by Singh *et al*. (2018) in Vanraja birds. The variation in different growth and production performances may be due to potential of the breeds and management of the housing systems provided by the farmers. The survivability percentage up to 20 weeks of age was observed as 92.25 under field condition. Higher mortality (12%) was reported by Gupta *et al.* (2019) in Chabro chicken under field condition. However, similar findings were reported by Zuyie*et al*. (2009) under extensive system of management in Vanraja birds and Singh *et al*. (2018) in Srinidhi birds under farm condition.

CONCLUSION

The present findings showed that the Chabro birds performed better in terms of body weight gain, age at sexual maturity, egg production and egg weight. The bird adopted well in the local climatic conditions of Lalitpur District. So, farmers from rural areas of Lalitpur could rear the Chabro birds for their livelihood and nutritional security.

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