



Productivity and Survivorship of Chabrown birds for development of Backyard Poultry Farming

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ABSTRACT

The was conducted on 100 day old Chabrown breed chicks in a farm setting. Up to the age of 16 weeks, the body weight was measured at weekly intervals. In Chabrown birds kept in a farm system of management, the mean body weight at 0 day, 4th, 8th, 12th and 16th wk of age was 32.92 ± 0.61 , 418.30 ± 3.21 , 1035.97 ± 6.59 , 1497.77 ± 9.41 and 2023.17 ± 10.97 g, respectively. The average egg productivity up to 40 weeks of age was 135.47 ± 1.77 eggs, while the age at first lay was 163.87 ± 2.37 d. Under the farm method of management, egg weight up to 40 wk of age Chabrown bird survivorship were recorded as 54.22 ± 1.27 g and 96.33 per cent, respectively.

Key Words: Growth Performance, Improved breed, Chabrown, Age at first laying, Egg production, Survivorship, Back Yard Poultry.

INTRODUCTION

Backyard poultry is generally raised for egg and meat production in rural sections of the country and can be promoted to benefit rural communities. Large-scale commercial chicken production is still concentrated in urban and peri-urban regions, despite the fact that it has shown to be a potent tool for alleviating rural poverty, eradicating malnutrition, and creating gainful work in huge rural areas. The Central Poultry Development Organization (NR), Chandigarh developed Chabrown, a dual-purpose chicken breed, using specific breeding procedures. Compared to desi chicken, the birds have the ability to generate more eggs and meat. This breed features multi coloured plumage, a longer shank, strong overall immune competence, faster growth, and more brown eggs than native birds. A bird's body weight is used to determine its genetic makeup and adaption to a certain habitat, as well as to track cumulative growth. With this in mind, the current

study examined the growth, age at first lay, egg production, and survivorship of Chabrown birds managed in a farm setting.

MATERIALS AND METHODS

The experiment was conducted using 105-day-old Chabrown chicks obtained from the Chandigarh-based Central Poultry Development Organization (NR). The appropriate temperature and humidity for artificial brooding were maintained after adequate cleaning, disinfection, and fumigation. Chicks were brooded in a hover brooder until 21 d old. After arriving at the farm, the chicks were given ad libitum broiler pre-starter crumbs and clean potable drinking water with 5% glucose throughout brooding.

The chicks were immunised against the illnesses Ranikhet and Gumboro, as part of a routine immunisation plan. Chicks were cared for using a deep litter management method. Body weights from

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Table 1. Body weight (g) of Chabrown birds under farm system of management.

Period (Week)	Body weights $\pm$ S.E. (g)
0	32.92 $\pm$ 0.61
1	67.21 $\pm$ 0.84
2	161.48 $\pm$ 1.57
3	287.97 $\pm$ 2.60
4	418.30 $\pm$ 3.21
5	507.75 $\pm$ 4.75
6	668.33 $\pm$ 5.91
7	829.91 $\pm$ 6.28
8	1035.97 $\pm$ 6.59
9	1050.21 $\pm$ 6.60
10	1219.06 $\pm$ 7.53
11	1398.76 $\pm$ 8.60
12	1497.77 $\pm$ 9.41
13	1620.30 $\pm$ 9.51
14	1698.06 $\pm$ 9.81
15	1830.15 $\pm$ 10.05
16	2023.17 $\pm$ 10.97

0 to 16 wk of age, the age at which the first egg was laid, egg production up to 40 wk of age, egg weight, and survivability % were all documented.

RESULTS AND DISCUSSION

Productivity

The Chabrown birds had body weight at 0, 4th, 8th, 12th and 16th wk of age as 32.92 $\pm$ 0.61g, 418.30 $\pm$ 3.21g, 1035.97 $\pm$ 6.59g, 1497.77 $\pm$ 9.41g and 2023.17 $\pm$ 10.97g, respectively. The average daily gain at 0-4, 4-8, 8-12 and 12-16 wk was recorded as 13.74 $\pm$ 0.19g, 26.93 $\pm$ 0.27g, 19.85 $\pm$ 0.47g and 21.47 $\pm$ 0.70 g, respectively. However, higher body weight at 4th week of age (592.40 $\pm$ 6.81 g) was reported by Rajkumar *et al* (2018) under farm condition. Lower body weight at 8th wk of age (742.13 $\pm$ 5.86 g) was reported by Sarma *et al* (2018) and Singh *et al* (2018) in similar type of improved breed i.e. Srinidhi birds under field condition. The higher mean body weights recorded under farm condition might be attributed to the better management

practices and feeding condition of the birds.

Production Performance

The mean age at first egg was recorded 163.87 $\pm$ 2.37d in Chabrown birds. Higher age at first egg was observed by Sarma *et al* (2018) in Srinidhi and Vanraja birds under field condition. However, lower age at first egg (150-162 d) was reported by Singh *et al* (2018) in Srinidhi birds under farm system of management. Higher age of first egg (173.00 $\pm$ 1.35 ds) in Gramapriya and 181.53 $\pm$ 1.29 d in Vanaraja birds were reported by Singh *et al* (2018) under field condition. The average egg production up to 40 wk of age was found to be 135.47 $\pm$ 1.77 eggs in Chabrown birds. However, 195 eggs up to 72 wk of age were reported by Singh *et al* (2018) in Srinidhi birds under farm condition. The lower egg production (50.93 $\pm$ 0.28) up to 40 wk of age was estimated by Sarma *et al* (2018) in traditional farming system. Similarly, the average egg weight at 40 wk of age was estimated to be 54.22 $\pm$ 1.27g, while Egg weight up to 40wk of age and the survivability of Srinidhi birds was recorded as 54.40 $\pm$ 1.22g and 97.15 per cent, respectively under farm system of management reported by Ahmed and Singh (2019). The present results were in agreement reported by Singh *et al* (2018) and Sarma *et al* (2018) in Shrinidhi birds under farm and field conditions. However higher egg weight was recorded by Singh *et al* (2018) in Vanraja birds. The survivorship percentage up to 40wk of age was observed as 96.33 under farm condition. Almost 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. These results revealed that productivity as well as survivorship in case of Chabrown found better than similar other improved breed i.e. Shrinidhi.

CONCLUSION

The Chabrown birds outperformed the other birds in terms of body weight gain, age at sexual maturity, egg output, and egg weight.

Table 2. Average daily gain (g/day) in body weight of Chabrown birds.

Age (weeks)	Daily gain in body weights (g)
0-4	13.74 ± 0.19
4-8	26.93 ± 0.27
8-12	19.85 ± 0.47
12-16	21.47 ± 0.70

The bird adapted well to the prevailing weather circumstances in district Ambala. Hence, farmers in rural Ambala could raise Chabrown birds for a living and nutritional stability.

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Table 3. Production performance.

Economic trait	Value
Age at first egg (days)	163.87 ± 2.37
Egg production no. (up to 40 wk)	135.47 ± 1.77
Egg weight (40 wk) g	54.22 ± 1.27
Survivorship (%)	96.33

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