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PERFORMANCE OF VANARAJA BIRDS AS BACKYARD POULTRY

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Keeping in view the importance of backyard poultry, an attempt has been made to study the adaptability, viability and productive performance of Vanaraja, an improved colored bird under backyard system of management.

Materials and Methods

Performance of Vanaraja chicks in backyard was conducted in three districts (Mahaboobnagar, Medak and Karimnagar) of Andhra Pradesh. Two villages in each district were selected as these villages are having a good number of backyard poultry with Desi birds. Four weeks old Vanaraja chicks (n = 600), immunized against Marek's, Ranikhet, Gumboro and Fowl pox diseases were distributed (10 chicks each) to the women farmers and compared their production potential with Desi chicks (n = 200). At backyard the birds were allowed to scavenge outside in the field from morning to evening and housed in bamboo baskets during night. Broken rice, ground maize, kitchen waste etc., were offered during morning and evening hours to the birds. The weekly body weights, mortality pattern of chicks were recorded. Relative growth rate of chicks was assessed based on the weekly body weights. The weight of pullet when first egg laid, pullet egg weight and egg weight at 40 weeks age was recorded. Date of laying first egg and number of eggs laid in 40 weeks period were also recorded. Income from Vanaraja and Desi birds was calculated based on the number of eggs produced and live weight at 40 weeks age.

The egg quality traits like shell thickness, egg weight, shape index, albumin index, yolk index were estimated. Haugh unit score, a measure of internal quality of eggs was also computed. Economic analysis of backyard poultry with Vanaraja and Desi birds was calculated. The data was analyzed as per the methods described by Snedecor and Cochran (1967).

Results and Discussion

Mortality (%) was little higher ($P < 0.05$) in Vanaraja birds (20.2 ± 1.12) compare to Desi (17.0 ± 0.73). The mortality in Desi poultry (n = 34) was due to diseases, where as predators for Vanaraja (n = 121). Reddy *et al.* (2002) reported higher immune competence in Vanaraja compared to Desi.

The live weight of four weeks old Vanaraja and Desi chicks were ranged from 420 - 435 and 128 - 165 g, respectively. The mean body weight of Vanaraja birds at 4, 6, 8, 12, 16, 20 and 24 weeks age were 428 ± 2.8, 728 ± 8.7, 876 ± 24.1, 967 ± 33.0, 1071 ± 44.1, 1547 ± 43.5 and 1992 ± 23.4g, respectively, where as 142 ± 11.3, 196 ± 16.2, 285 ± 34.8, 346 ± 38.1, 512 ± 42.6, 683 ± 40.4 and 957 ± 34.7g were

observed in Desi birds. Mean body weight at laying 1st egg and 40th week age was significantly (P < 0.01) higher in Vanaraja birds. These results are in agreement with Bhattacharya *et al.*, (2005) who reported 1.62 – 2.56 kg average body weight at the time of egg production in Vanaraja. A similar trend was observed in relative growth rates for Vanaraja and Desi birds.

Average age at laying 1st egg was 181.2 ± 1.85 and 238.6 ± 5.87 days, respectively in Vanaraja and Desi birds. A similar trend was observed in weight of pullet egg (46.6 ± 0.51 and 35.0 ± 0.73g), egg weight at 40 weeks age (58.6 ± 1.08 and 52.0 ± 3.88 g), Number of eggs laid per bird in 40 weeks period (52.8 ± 3.64 and 10.4 ± 3.42), respectively in Vanaraja and Desi birds.

The mean shell thickness ranged from 0.37 to 0.40 mm with an average of 0.39 ± 0.007 mm in Vanaraja eggs. The Vanaraja egg's shell thickness is higher than Kadaknadh breed of poultry (Parmar *et al.*, 2006). Egg weight is higher in Vanaraja than Desi. The results are in agreement with Singh *et al.* (2000) who reported egg weight of 41.0 g in Assel birds under backyard management. The mean shape index (%) was 74.2 ± 0.08 and the results are comparable with that of Parmar *et al.*, (*loc.cit*) reported a shape index of 73.95 in Kadaknath breed under range conditions. The average albumin and yolk index (%) values were 6.32 ± 0.15 and 39.9 ± 0.57, respectively and the results are in agreement with Parmar *et al.* (*loc.cit*), who reported a wide variation in Albumin index (4.46 - 8.98%) of eggs in Kadaknath breed. The haugh unit (%) ranged from 79.3 to 84.4 with an average of 81.8 ± 0.64 in Vanaraja eggs. The haugh unit values in the present study were higher than those reported by Sakunthaladevi and Reddy (2005) in White Leghorns and crossbred chicken.

Income (Rs/bird) from sale of eggs (211.2 vs. 20.8) and birds (160.0 vs. 79.1) respectively in Vanaraja and Desi birds. Total income (Rs.) was more than three folds higher for Vanaraja (371.2) than Desi bird (99.9) indicating that raising Vanaraja breed was more profitable under backyard rearing system and could improve economic status of rural women by selling eggs and birds.

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