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Production Performance of Gramapriya and Vanaraja Chicks in Tiruchirappalli District, India

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A B S T R A C T

The present study was conducted to evaluate the production performance of improved varieties like Gramapriya and Vanaraja under field condition in intensive system of rearing. Both the breeds were evaluated for production performance parameters like weekly body weight, feed consumption and feed conversion ratio from 0 to 8 weeks of age. Vanaraja birds showed significantly higher body weight than Gramapriya from 1 to 8 weeks of age. Feed consumption and feed conversion ratio showed no significant difference between the birds.

Introduction

Developing countries like India uses high yielding commercial lines developed for intensified management system for crossbreeding with native fowl to increase the egg and meat production of native chicken by exploitation of heterocyst.

The Poultry Seed Project (PSP) is one of the ICAR funded project which is in progress in the College for Poultry Production and Management (CPPM), Hosur. Veterinary University Training and Research Centre (VUTRC), Tiruchirappalli is one of the Co-opting Centre for the Poultry Seed Project. The main objectives are production of improved poultry seed to target production enhancement of egg and meat covering 5,000-15,000 farm families per annum/centre for augmenting rural poultry production, socio-economic indexing of the target groups and linking small scale poultry producers with organized market.

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Materials and Methods

The project is aimed at production and distribution of backyard poultry (Vanaraja, and Gramapriya) to cater to the needs of rural population. The methodology of implementation is Parents (male line and female line) of improved chicken germplasm (Vanaraja and Gramapriya) was procured from the ICAR-DPR, and was reared under standard management practices. Parent lines will be reared to produce fertile eggs. After hatching the day old chicks were dispatched to the peripheral centres. Day old chicks and one week old chicks were received from CPPM, Hosur bimonthly and distributed to the farmers in and around Tiruchirappalli District. From the year 2016 to 2020, around 244 farmers were supplied with Gramapriya chicks and 251 farmers were supplied with Vanaraja chicks.

The farmers rearing the birds under deep litter system (intensive management) with atleast 100 birds were selected for the study. The performance of the birds at farmer's field was done by recording of body weight at weekly intervals in chick phase from 0 to 8 weeks of age. Data on individual bird weight and total feed consumption in each replicate were recorded every week and mortality was recorded at occurrence. From the above data, weekly body weight gain, feed conversion ratio and livability were calculated. The data were analysed statistically as per the methods described by Snedecor and Cochran (1994).

Results and Discussion

The production performance of Gramapriya and Vanaraja chicks are presented in Table 1.

The body weight of Vanaraja birds was significantly higher (P<0.01) when compared to Gramapriya birds from first week of age till eighth week of age. The body weights at different ages in Vanaraja were significantly higher since it is a proven popular dual purpose bird for backyard farming. The body weights in Gramapriya were lower at all the ages since it is developed as a rural layer. Body weight is the direct reflection of growth and it influences the production and reproduction traits of birds.

Table.1 Production performance of Gramapriya and Vanaraja chicks from 0 to 8 weeks of age

Weeks	Gramapriya			Vanaraja		
	Body weight (g)	Feed Consumption (g)	FCR	Body weight (g)	Feed Consumption (g)	FCR
Hatch weight	33.44±0.33			36.88±0.36		
1	45.00^{b}±0.92	47.50±0.14	1.05	60.50^{a}±1.01	95.50±0.58	1.58
2	83.50^{b} ±2.42	125.00±0.19	1.50	120.00^{a}±2.09	238.00±0.18	1.98
3	103.00^{b} ±3.19	290.00±0.06	2.82	170.00^{a} ±3.17	425.50±1.35	2.50
4	175.30^{b} ±5.14	545.50±0.67	3.11	250.50^{a} ±4.35	660.50±0.34	2.64
5	255.50^{b} ±6.98	865.50±1.49	3.39	370.50^{a} ±5.99	905.00±1.05	2.44
6	340.00^{b} ±8.24	1140.00±1.11	3.35	480.00^{a} ±7.10	1190.50±0.69	2.48
7	400.00^{b} ±9.61	1450.00±0.87	3.63	640.50^{a} ±7.77	1555.00±1.31	2.43
8	485.50^{b} ±16.51	1800.50±1.12	3.71	770.50^{a} ±12.01	2020.50±1.48	2.62

n = 100

Means within a column with different superscript differ significantly (P < 0.01)

The significant effect of genetic group on body weights of chicken was reported by many workers (Mohammed *et al.,* 2005; Devi and Reddy, 2005; Chatterjee *et al.,* 2007) concurred with the present study. These results were in agreement to Niranjan *et al.,* (2008), Singh *et al.,* (2018) on the contrary Niranjan and Singh (2005) observed higher body weight in Gramapriya birds when compared to Vanaraja birds.

Feed consumption showed no significant difference between the breeds from first week to eighth week of age. Feed conversion ratio also showed no significant difference between the breeds. Numerically the feed consumption was higher in Vanaraja birds when compared to Gramapriya birds. Feed conversion ratio was poor in Gramapriya when compared to Vanaraja as these birds had better genetic potential to convert available feed into quality animal protein. Haunshi *et al.,* (2009) reported significant increase in feed intake while better feed conversion ratio as reported in this study.

In conclusion the birds have adaptability to the local climatic conditions and these birds can be reared by the farmers for their livelihood and nutritional security. Performance of Vanaraja and Gramapriya birds was found satisfactory under intensive system of production. In the chick phase of the study body weight and feed conversion ratio was better in Vanaraja birds while the feed consumption was also higher in Vanaraja birds. The backyard poultry farming with improved birds provide a solution to food security to the needy villagers paving a way for sustainable livestock in rural areas of India.

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