Production performance of Namakkal gold quail in Tiruppur district of Tamil Nadu

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 Received: 02.11.2023/Accepted: 04.12.2023

ABSTRACT

The present study was conducted by ICAR – Krishi Vigyan Kendra, TNAU, Tiruppur, Tamil Nadu to assess the production performance of TANUVAS Namakal gold quail in Tiruppur district of Tamil Nadu. As part of frontline demonstrations, seven hundred and fifty day-old Namakkal gold quail chicks, purchased from poultry farm complex of Department of Poultry Science, Veterinary College and Research Institute, Namakkal, Tamil Nadu, were distributed among the beneficiaries. Body weight and feed consumption were recorded in farmers' fields at weekly interval up to five weeks of age and mortality was recorded at the occurrence. The traits calculated were body weight gain, feed conversion ratio and livability up to five weeks of age. Present study indicated that livability increased with the advancement in age and there was no mortality at fourth and fifth week of age. The higher feed conversion ratio was observed at fifth week of age (3.36). It was concluded from the study that Namakkal gold quail farming was an important agricultural allied activity having better business scope and can serve as an alternate source for meeting protein requirement of human population in Tiruppur district, Tamil Nadu.

Keywords: Namakkal gold quail; body weight; feed consumption; livability

INTRODUCTION

Japanese quail (*Coturnix coturnix japonica*) has been domesticated since the twelfth century AD in Japan, mostly for its singing ability. Commercial production of this species first started in Japan and was successfully introduced to America, Europe and the Middle East during 1930-1950 (Vinothraj et al 2019). In India, quail keeping started in 1974 at Izatnagar, when Central Avian Research Institute introduced germplasm of domesticated quail varieties from Japan and then improved in 1983 at Tamil Nadu (Kandangal and Bashir 2019).

Japanese quail farming is one of the emerging poultry farming systems in India which is commercially exploited for meat and egg production (Pandian et al 2017). Japanese quails are hardy birds and are able to thrive in adverse climatic conditions. Advantages of quail farming include less space requirement, short generation interval, high rate of egg production, hardiness of birds and disease tolerance (Karthika and Chandirasekaran 2016).

Tamil Nadu is one of the leading states in commercial quail production in India (Vinothraj et al 2019). Commercial quail farming is gaining popularity very fast in Tamil Nadu because of its acclimatization to varied climatic conditions, higher proliferation, shorter generation interval, quicker sexual maturity, faster growth rate, simple rearing procedures, lesser space requirement, relatively better disease resistance and quicker return on investment as compared to broilers/layers (Selvarasu 2022). Japanese quail farming is bestowed with farming-friendly factors such as reduced space and feed requirements, early maturity, fairly high egg production rate, high disease resistance and low financial investment (Vinothraj et al 2019).

Rural backyard poultry production plays a vital role in the rapidly growing economy. It provides livelihood security to the family in addition to securing

the availability of food. Unemployed youth and women can also earn an income through poultry farming (Padhi 2016). Among poultry, it is Japanese quail which gives income to the farmers on monthly basis. Japanese quails are reared only for 4 to 5 weeks after which they are ready for marketing. Maintenance of Japanese quails is easier than any other livestock rearing. Their mortality rate is also comparatively less (Muthukumar et al 2020).

TANUVAS Namakkal gold quail is a Japanese quail strain evolved by five-way crossing by the Department of Poultry Science, Veterinary College and Research Institute, Namakkal under Tamil Nadu Veterinary and Animal Sciences University, Tamil Nadu (Selvarasu 2022).

The present study was aimed to evaluate the production performance of TANUVAS Namakkal gold quail in Tiruppur district of Tamil Nadu.

MATERIAL and METHODS

The present investigations were carried out by the ICAR – TNAU Krishi Vigyan Kendra, TNAU, Tiruppur, Tamil Nadu to study the production performance of TANUVAS Namakal Gold quail in Tiruppur district, Tamil Nadu. For the study, ten farm women were selected randomly in five different villages of Tiruppur district, Tamil Nadu. The selected farm women were trained in all scientific quail rearing techniques like brooding, feeding, watering etc.

A total of 750 number of day-old Japanese quail chicks of Namakkal gold quail chicks were procured from poultry farm complex of Department of Poultry Science, Veterinary College and Research Institute, Namakkal, Tamil Nadu and distributed among 10 farm women, each with 75 quails. On arrival, before distributing among the farm women, all chicks were provided electrolytes and vitamin supplements in clean drinking water.

The brooding was carried out for a period of 14 days (2 weeks) using electric bulbs as source of heat. The quail chicks were brooded at a temperature of 95^{o}F and adequate watering and feeding space was provided. Light was provided for 24 hours during brooding to avoid pilling and death. The temperature was reduced gradually as brooding progressed. Standard management and healthcare practices were followed throughout the experimental period. Ad lib drinking water, quail starter and grower ration were provided to the chicks of 0-3 and 4-5 weeks of age. The demonstrations were regularly monitored and periodically observed. The data on body weight and feed consumption were recorded at weekly interval and mortality was recorded at occurrence. From this data, body weight gain, feed consumption, feed conversion ratio and livability were calculated. The data collected on body weight, weekly feed consumption and livability up to fifth week were subjected to statistical analysis as per the methods suggested by Snedecor and Cochran (1989).

RESULTS and DISCUSSION

Body weight and livability

The data on mean (±SE) body weight and livability of Namakkal gold quail at different age stages are presented in Table 1. The average weight of female Namakkal quail at day old and first, second, third, fourth and fifth weeks of age was 8.25±0.07, 43.52±0.43, 89.75±0.26, 160.53±0.31, 196.28±0.14 and 221.26±0.17 g respectively. Likewise, the weight of male Japanese quail at day old and first, second, third, fourth and fifth week of age was 7.57±0.08, 40.38±0.36, 81.37±0.63, 146.37±0.79, 178.69±1.24 and 208.15±1.37 g respectively.

The body weight of quail obtained in this study is comparable to that of results of Vinothraj et al (2019). In contrary to the current study, Karthika and Chandrasekaran (2016) reported higher body weight observed in Namakkal gold quail.

The livability of female Namakkal gold quails at first, second, third, fourth, fifth and sixth week of age was 86.25±1.28, 93.46±0.75, 96.24±0.65, 100±0.00 and 100±0.00 per cent respectively. Likewise, The livability of male Namakkal gold quails at first, second, third, fourth, fifth and sixth week of age was 84.25±0.92, 94.26±0.67, 97.24±0.82, 100±0.00, 100±0.00 per cent respectively. Present study indicated that livability increased with the advancement in age and there was no mortality at fourth and fifth week of age.

Similar results were observed by Muthukumar et al (2020), whereas, contrary to it, Saglimadan and Churchil (2018) reported that livability decreased with advancement in the age in production performance of

Table 1. Means±SE values for body weight and livability of Namakkal gold quails at different age stages

Age (weeks)	Body weight (g)		Livability (%)	
	Female	Male	Female	Male
Day old	8.25±0.07	7.57±0.08	-	-
First week	43.52±0.43	40.38±0.36	86.25±1.28	84.25±0.92
Second week	89.75±0.26	81.37±0.63	93.46±0.75	94.26±0.67
Third week	160.53±0.31	146.37±0.79	96.24±0.65	97.24±0.82
Fourth week	196.28±0.14	178.69±1.24	100±0.00	100±0.00
Fifth week	221.26±0.17	208.15±1.37	100±0.00	100±0.00

Table 2. Mean±SE values for feed consumption and feed conversion ratio of Namakkal gold quails at different age stages

Age (weeks)	Feed consumption /bird/day (g)	Weekly feed consumption (g)	Feed conversion ratio
First week	8.26±0.18	55.72±0.38	1.46±0.07
Second week	15.32±0.21	85.46±0.62	1.96±0.05
Third week	19.62±0.24	118.92±0.28	2.56±0.08
Fourth week	23.26±0.19	148.36±0.52	2.95±1.21
Fifth week	28.13±0.26	176.25±0.67	3.36±1.28

two strains of Japanese quail under deep litter system of management.

Feed consumption and feed conversion ratio

The data on mean (±SE) feed consumption, weekly average feed consumption and feed conversion ratio of Namakkal gold quail at different age stages are presented in Table 2. The weekly average feed consumption per bird per day of quail during first, second, third, fourth and fifth week was 8.26±0.18, 15.32±0.21, 19.62±0.24, 23.26±0.19 and 28.13±0.26 g respectively. The average weekly feed consumption during first, second, third, fourth and fifth week was 55.72±0.38, 85.46±0.62, 118.92±0.28, 148.36±0.52 and 176.25±0.67 g respectively. These values are comparable with the results of Sangilimadan and Churchil (2018).

The feed conversion ratio of quails at first, second, third, fourth and fifth weeks was 1.46±0.07, 1.96±0.05, 2.56±0.08, 2.95±1.21 and 3.36±1.28 respectively. The results indicated that higher feed conversion ratio was observed at fifth week of age (3.36). In contrary, Sanglilmadan and Churchil (2018) reported a feed conversion ratio of 2.47 at fifth week of age in Japanese quails.

CONCLUSION

Namakkal gold quail has been performing well in the Tiruppur district of Tamil Nadu and the same can be promoted widely as a new entrepreneurial farming activity among the rural youths. The female and male Namakkal gold quail livalibilty up to five weeks of age was 95 per cent. Quails are highly resistant to diseases and there is no need for their vaccination. Proper management and balanced feeding reduce their mortality. Commercial quail farming can be helpful in providing self-employment and additional income to the rural households in Tiruppur district of Tamil Nadu.

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