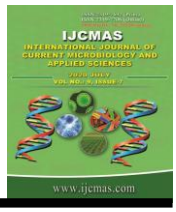
Int.J.Curr.Microbiol.App.Sci (2020) *9*(7): 3368-3372

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Volume 9 Number 7 (2020)**
Journal homepage: http://www.ijcmas.com



Original Research Article https://doi.org/10.20546/ijcmas.2020.907.393

Production Performance of Namakkal Quail in Nagapattinam District, India

S. Muthukumar[1]*, K. Chandrasekar[2], A. Gopalakannan[3] and M. Rajakumar[4]

[1]*Subject Matter Specialist (Animal Husbandry), India*
[2]*Subject Matter Specialist (Plant Protection), India*
[3]*Programme Coordinator, KVK Sikkal, India*
[4]*Director of Extension Education, TNJFU, India*

**Corresponding author*

Keywords

Namakkal quail, Body weight, Feed intake and Survivability

Article Info

Accepted:
22 June 2020
Available Online:
10 July 2020

A B S T R A C T

A study was conducted to evaluate the production performance and adaptability of Namakkal quail in Nagapattinam coastal agroclimatic zone. As a part of Front line demonstration 2018-2019, 400 numbers of day old Japanese quail chicks were purchased from VC & RI, Orathanadu and distributed to the beneficiaries of Nagapattinam district. The average body weight on hatch of female and male chicks were 8.25 g and 6.5 g respectively. The average 4th and 6th week body weight of the male and female quails were 208.33± 0.24 g, 240± 0.14 g and 234.2± 0.19 g, 263.77± 0.28 g respectively. The average weight of egg was 12-13 g. The adaptabillity and averege survivability of the above variety of japanese quail was 93%. This study concludes that Namakkal quail farming in Nagapattinam district will be the better alternate agricultural allied activity having better bussiness scope.

Introduction

The Japanese quail, *Coturnix japonica*, is a species of Old World quail found in East Asia. First considered a subspecies of the common quail, it was distinguished as its own species in 1983. The Japanese quail has played an active role in the lives of humanity since the 12th century, and continues to play major roles in industry and scientific research. Where it is found, the species is abundant across most of its range. Currently, there are a few true breeding mutations of the Japanese quail. The earliest records of domesticated Japanese quail populations are from 12th century Japan; however, there is evidence that the species was actually domesticated as early as the 11th century. In the early 1900s, Japanese breeders began to selectively breed for increased egg production. By 1940, the industry surrounding quail eggs was flourishing. They are hardy nature and easy to

handle, and adapt easily to the diversified agro climatic conditions. With increasing cost of production and competition among the commercial broiler and layer farmer, some alternative and equally competitive farming activity has become very essential for the survival of the farmer. Further, market age of the Japanese quail is only 4 weeks which gives brighter light to the venture's future. Because of good adaptability and disease resistance ability gives away minimum cost on treatments unlike other livestock.

Poultry rearing has important role in rural economy. Rural women empowerment lies on free flowing of money in their hand, which makes them to stand on their leg independently. Among poultry it is Japanese quail which gives income to the farmer on monthly basis. Japanese quail are reared for only 4 to 5 week of time after which they ready for marketing. Maintenance of Japanese quail is easier than any other livestock rearing. Mortality rate also comparatively less. The demand for quail meat and egg is huge in our area. In quail farming no vaccination and deworming is required unlike other livestock. In order to improve the meat quality of Japanese quail a newer strain was developed during 2006 by Tamil Nadu Veterinary and Animal Sciences University for meat purpose by crossing 4 way purebred lines. This Namakkal quail attains average body weight of 250 g in 5^{th} week with the feed conversion ratio of 3.2 (Karthika *et al.*, 2016).

Materials and Methods

Nagapattinam district (Combined Thanjavur Dist) a coastal district of Tamil Nadu state in Southern India. The district of Nagapattinam lies on the shores of the Bay of Bengal between latitude 10.7906°N and Longitude 79.8428°E an area of 1,397 Square Kilometers (539 sq mi). The District capital, Nagapattinam lies on the eastern coast, 350 kilometers down south of the State capital Chennai and of Tiruchirappalli. It has an average elevation of 9 Meters (30 ft) above the mean sea level. The district has a coastline of 187 Kilometers (116 Mile). The minimum and maximum temperature of the district is 29.14°C and 40.2°C respectively. The average rainfall of the district is 319.75 mm.

A standard Krishi Vigyan Kendra made quail cage was given to the beneficiaries keep hundred chicks in it. Brooding was done for 3 week period in the ground. For this cardboard made brooder were given along with necessary electrical set up for providing warmness to the chicks. Floor of the brooding area was spread with corrugated papers and jute bags. Initially the brooding temperature given was 37°C gradually reduced by 3°C for every 4^{th} day to 22°C at the end of 3^{rd} week (ICAR, 2010). Continuous light was given for the period of first 48 hours. Standard management and health cover practices were followed throughout the trial period. Feeding was taken care with commercially available private quail feed. For the first 2 week period chick starter feed was given followed by grower and layer period for the subsequent 2 week periods respectively. The parameters *viz*, Weekly body weight, Daily feed consumption, Survivability rate, Weight at 6^{th} week , Average daily weight gain and Egg weight were recorded and analyzed using standard statistical tool (Snedecor and Cochran, 1992).

Results and Discussion

Body weight

The mean and Standard error of the female and male quails were given in the table 1. From the table it is understood that female Japanese quails weigh more than the male at

all the stages of growth curve. The average weight of female Namakkal quail at the day old, first, second, third, fourth, fifth and sixth week of ages were 8.25±0.027, 43.5±0.43, 89.75±0.26, 160.53±0.31, 240±0.14, 252.23±0.17 and 263.77±0.28 respectively. Likewise from the table male Japanese quail weight at the day old, first, second, third, fourth, fifth and sixth week of ages were 6.5±0.017, 39.25±0.18, 80.13±0.21, 142.35±0.19, 208.33±0.24 and 227.33±0.18.

Feed intake

Table 2 shows the feed consumption rate and the feed conversion ratio of male and the female Japanese quails. The weekly average feed intake in grams for female Japanese quail during first week, second week, third week, fourth week, fifth week, and the sixth week were as follows 8.35, 16.25, 22.75, 32.25, 38.25 and 42.33. The feed conversion ratio for female Japanese quails was 1.264828, 1.267409, 0.992026, 0.940625, 1.071244 and 1.123365 to their respective weekly feed intake. Likewise, The weekly average feed intake in grams for male Japanese quail during first week, second week, third week, fourth week, fifth week, and the sixth week were 7.86, 13.45, 19.2, 22.1, 29.23 and 34.9 respectively. The feed conversion ratios for male Japanese quails were 1.401783, 1.174966, 0.944152, 0.742572, 0.900057 and 1.043126 corresponding to their weekly feed consumption. This shows male chicks were consuming comparatively lesser quantity of feed than the female chicks (4.25). Since, Japanese quails are sold in the market on the market age basis unlike other poultry, where others are sold in their body weight basis. As the male quails (3.79) are better convertor of feed in to meat, it is better to keep male chicks alone for meat purpose.

Survival rate

Table 3 shows the survivability of Japanese quails were increased with the advances in age. From the study male chicks were having better survival rate then the female. The survival rate of female chicks at first, second, third, fourth, fifth and sixth week of age are as follows 78, 87, 95, 98, 100 and 100. In case of male chicks were survival rates 74, 89, 96, 100 and 100 corresponding to their female counterpart age. The losses at the first week might be due to managerial lacunae of brooding or other climatic variable influences or failure to acclimatize to the newer areas immediately after hatching.

Table.1 Body weight gain

	Body weight (Grams)	
Age	**Female**	**Male**
Day old	8.25±0.027	6.5±0.017
1st week	43.5±0.43	39.25±0.18
2nd week	89.75±0.26	80.13±0.21
3rd week	160.53±0.31	142.35±0.19
4th week	240±0.14	208.33±0.24
5th week	252.23±0.17	227.33±0.18
6th week	263.77±0.28	234.2±0.19

Table.2 Weekly feed intake and Feed conversion ratio

	Average Feed intake (Grams)		Weekly FCR	
Age	**Female**	**Male**	**Female**	**Male**
Day old	-	-	-	
1st week	8.35	7.86	1.264828	1.401783
2nd week	16.25	13.45	1.267409	1.174966
3rd week	22.75	19.2	0.992026	0.944152
4th week	32.25	22.1	0.940625	0.742572
5th week	38.6	29.23	1.071244	0.900057
6th week	42.33	34.9	1.123365	1.043126
Cumulative FCR			**4.25**	**3.79**

Table.3 Survival rate

	Survivability Percentage	
Age	**Female**	**Male**
Day old	-	-
1st week	78	74
2nd week	87	89
3rd week	95	96
4th week	98	100
5th week	100	100
6th week	100	100

Body weight

In contrary to the current study, Karthika and Chandrasekaran, 2016 reported slightly higher body weight in Namakkal quail, where they reported male and female Namakkal quail weigh 254.33±8.45g and 289.50±4.97g respectively at 6th week of age . Vinothraj *et al.,* (2019) reported lesser body weight at 6th week of age in Namakkal Gold quail. The present study is in agreement with the study of Sanglimadan and Richerd churchil, 2018, who were reported similar 6th week body weight.

Feed intake and feed conversion ratio

In the present study, feed intake in sixth week of age was 42.33 g and 34.9 g respectively, which is in concurrence with the findings of Devi *et al*, 2012 in a study on Genetic parameters of feed efficiency and daily weight gain in Japanese quails, But Bolus *et al*, 2013 reported lesser average daily feed intake in broiler quails at 6th week is 21.61 g, which is lower than the present study. However, Devi *et.al* observed a higher overall cumulative feed intake of 946.68g in Japanese quails at 6 weeks of age. On the other hand, Kanagaraju and Omprakash (2015) observed a lower cumulative feed consumption of 563.12g at six weeks of age. Variation in cumulative feed intake might be due to variation in the genetic groups.

Survival rate

Present study shows that, survivability

increases with the advancement in the age, where as Saglimadan and Richerd churchil 2018, reported in the other way, where survivability decreased with advancement in the age in production performance of two strains of Japanese quail under deep litter system of management.

It is concluded from the results, Namakkal quail are performing well in the Nagapattinam agro climatic condition and the same can be promoted widely as new entrepreneurial farming activity to the rural farming youths. The survivability of the Namakkal quail in Nagapattinam district was 93%, which evidently shows the scope of Japanese quail farming in the district in the future. If this alternate farming activity pick up well in the district, it will be the alternate game changing livestock farming activity to the rural poor, because of its adaptability and nutritious meat quality.

Acknowledgement

I take this opportunity to thank Honorable Vice Chancellor of TNJFU, Nagapattinam and Director, ICAR- ATARI, Hyderabad for their support. I thank Dr, S. Vinothraj, Subject Matter Specialist- Animal Husbandry, KVK-Erode for his guidance during the initial phase of the trial.

References

Bulus, E.D., Aguda, A.Y., Ezekiel, J., Dodo, S.T. and Ibe, E.A. Growth performance of Japanese quails (Coturni x Coturnix Japonica) fed two types of commercial broiler diet. *Adv. Agr. Sci. Eng.,* 3: pp 1227 – 1234, 2013.

Devi, K.S., Gupta, B.R., Prakash, M.G. and Reddy, A.R.Genetic parameters of feed efficiency and daily weight gain in Japanese quails, *Tamilnadu J. Vet. Anim. Sci., Vol* 8:No6-13.*2012*

Karthika S and V. Chandirasekaran, Carcass Characteristics Of Namakkal Quail -1 International Journal of Science, Environment and Technology, Vol. 5, No 4, pp 2257 – 2264, 2016.

Kanagaraju, P. And Omprakash, A.V. Effect of Xylo oligosaccharides (XOS) from rice bran on growth performance of Japanese quails. *Indian Vet. J*., 92 (09): 47-49. 2015.

ICAR, Quail production and Management Technology, Extension folder No 40, 2010.

Sanglimadan, K. and R. Richerd churchil, Production performance of two strains of Japanese quail under deep litter system of management. Indian veterinary journal, Vol 95, No 04: pp 33-35, 2018.

Vinothraj S, P Alagesan, M Siva and RD Srinivasan. Production performance of Namakkal Gold quail in Western zone of Tamil nadu, Vol 8, No 1, pp 2250-1991, 2019.

Snedecor, G.W. and Cochran, W.G. Statistical Methods.8thEdn. Iowa state university press. Ames. (1994).

How to cite this article:

Muthukumar, S., K. Chandrasekar, A. Gopalakannan and Rajakumar, M. 2020. Production Performance of Namakkal Quail in Nagapattinam District, India. *Int.J.Curr.Microbiol.App.Sci.* 9(07): 3368-3372. doi: https://doi.org/10.20546/ijcmas.2020.907.393