Original Research Article

<https://doi.org/10.20546/ijcmas.2019.812.035>

Impact of Front Line Demonstration (FLD) on the Yield of Japanese Quails at Kancheepuram District, Tamil Nadu, India

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ABSTRACT

Keywords

Japanese quail,
Yield, Technology
gap, Extension gap,
Technology index

Article Info

Accepted:
04 November 2019
Available Online:
10 December 2019

Quail farming fetches income to rural youth. But lack of awareness on self employment through quail farming among rural youth, poor livelihood and non availability of quail chicks in local market were the problems identified among rural youth. Hence demonstration of Japanese Quail rearing among rural youth was conducted by KVK, Kattupakkam and the study was carried out in five villages of Kancheepuram district, Tamil Nadu during 2017-18. All five demonstrations on Japanese quail farming were carried out by the active participation of farmers with the objective to demonstrate the improved technologies of Japanese quail production potential. The improved technologies consisting of scientific brooding of quail chicks, feeding of quality concentrate feed and providing nutritional supplements. The improved technology recorded higher yield of 222 gms at 6 weeks of age than 182 gms at 6 weeks and reduced mortality of 3 per cent than 9 percent. From the data, technology gap, extension gap and technology index were calculated. The improved technology gave higher gross return, net return with higher benefit cost ratio than farmer's practices.

Introduction

Japanese quails are hardy birds that thrive in small cages and are inexpensive to keep. They are affected by common poultry diseases but are fairly disease resistant. Japanese quail mature in about 6 weeks and are usually in full

egg production by 50 days of age. With proper care, hens should lay 200 eggs in their first year of lay. Life expectancy is only 2 to 2½ years.

The females are characterised by light tan feathers with black speckling on the throat and

upper breast. The males have rusty brown throat and breast feathers. Japanese quail eggs are a mottled brown colour and are often covered with a light blue, chalky material. Each hen appears to lay eggs with a characteristic shell pattern or colour. Some strains lay only white eggs. The average egg weighs about 10 gms. Young chicks weigh 6–7 g when hatched and are brownish with yellow stripes. The shells are fragile, so handle with care.

Quail rearing is a very important component in dry land farming system. Quail farming is the best alternative farming practice for rural and urban youth and women farmers. With very low investments quail rearing can be made into a profitable venture for small and marginal farmers. In Tamil Nadu, quails are reared for meat purpose only. But the production parameters of the quails reared in rural areas are lower than the recognised strains such as Nandanam quail III which was released by TANUVAS in 2004. Hence, a front line demonstration was carried out to popularize TANUVAS-Nandanam quail III among rural youth in Kancheepuram district.

Materials and Methods

In this front line demonstration (FLD), five villages namely Kovilanchery, Sithalapakkam, Chitlapakkam, Karanai puducherry and Kattankulathur were selected for the study. From each village, one farmer was selected for the demonstration.

Materials distributed for the present study with respect to FLD for each farmer were as follows:-

Quail chicks-100 Nos., from Poultry Research Station, Madhavaram

Quail brooder mash-20 kg from TANUVAS – CFTU, Kattupakkam

Quail feeder and quail waterer-1 no. each

The farmers were trained on scientific quail rearing package of practices such as of scientific brooding of quail chicks, feeding of quality concentrate feed and providing nutritional supplements. The data on quail chick mortality, marketing weight, feed intake and BCR were recorded and analysed using simple statistical tools. In addition the technology gap, extension gap and technology index were also calculated as follows (Samui *et al.*, 2000):

Technology gap = Potential yield - Demonstration yield

Extension gap = Demonstration yield - Farmers yield

Technology index (%) =

$$\frac{\text{Technology gap} \times 100}{\text{Potential yield}}$$

Results and Discussion

Production

The average market wt., of Japanese quail was 221.8 gms, which was higher than the average yield of farmers practices (182 gms). Islam and Nath (2013) also found that the FLD programme had a positive impact over the local birds by the Vanaraja poultry birds at Sivasagar District of Assam. The potential yield of the Nanadam III quail is 247 gms. The average percentage increase in the yield over farmer's practices was 21.98 per cent. The results indicated that the front line demonstrations have given a good impact over the farming community of Kancheepuram district as they were motivated by the new scientific technologies applied in the FLD of Japanese quail production (Table 1). This finding is in corroboration with the findings of Raj *et al.*, (2013).

Technology gap

The technology gap in the demonstration yield over potential yield was 25 gms. The technological gap may be attributed to the dissimilarity in weather conditions (Mukharjee, 2003).

Extension gap

The highest extension gap of 40 gms was recorded in this FLD (Table 2). This clearly showed that the practicing quail farmers need to be educated on improved quail production technologies to reverse this trend of wide extension gap. This finding is in corroboration with the findings of Rachhoya *et al.*, (2018).

Technology Index

The technology index was 10.12 per cent (Table 2). The feasibility of the evolved

technology at the farmer's field is depicted by the technology index. As the technology index is low in this case, this clearly shows the feasibility of the technology (Raj *et al.*, 2013).

Economic return

The inputs and outputs prices of goods during the study of demonstrations were taken for calculating gross return, cost of production, net return and benefit: cost ratio (Table 3). The production of Japanese quails (Nanadam-III strain) under improved technologies gave higher net return of Rs.1617 per month as compared to farmers practices. The benefit cost ratio of Japanese quail production under improved technologies was 1.92, as compared to 1.62 under farmers practices. This may be due to higher yields obtained under improved technologies compared to local check (farmers practice). This finding is in corroboration with the findings of Mokidue *et al.*, (2011).

Table.1 Average marketing weight, feed efficiency and income from quail farming

S. No.	Farmers list	Marketing weight (gms)		Feed efficiency (gms)		Mortality rate (in per cent)		BCR	
		Check	Demo	Check	Demo	Check	Demo	Check	Demo
1	Farmer-1	190	215	700	600	10	2	1.67	1.94
2	Farmer-2	170	207	800	650	9	5	1.46	1.79
3	Farmer-3	180	240	600	600	8	4	1.94	1.94
4	Farmer-4	190	237	800	650	8	3	1.46	1.79
5	Farmer-5	180	210	750	550	10	2	1.56	2.12
	Average	182	221.8	730	610	9	3	1.62	1.92

Table.2 Yield, technological gap, technological index and extension gap of demonstration

Variables	Yield (gms)	Increase over local check (%)	Technological gap (in gms)	Technological index (%)	Extension gap (in gms)
Local check	182	-	-	-	
Demonstrations	221.8	21.98	25	10.12	40

Table.3 Gross return, cost of production, Net return and B:C ratio as affected by improved and local technologies

Farmers list	Cost of Prodn.		Gross return		Net return		BCR	
	Check	Demo	Check	Demo	Check	Demo	Check	Demo
Farmer-1	1890	1764	3150	3430	1260	1666	1.67	1.94
Farmer-2	2184	1853	3185	3325	1001	1472	1.46	1.79
Farmer-3	1656	1728	3220	3360	1564	1344	1.94	1.94
Farmer-4	2208	1892	3220	3395	1012	1503	1.46	1.79
Farmer-5	2025	1617	3150	3430	1125	1813	1.56	2.12
Average	1993	1771	3185	3388	1192	1617	1.62	1.92

The farmers income was increased as the marketing weight of the quails were increased. They sold the quails and their eggs in the nearby market where there is a great demand. They also used these eggs for his household consumption. The farmers were satisfied in raising these quails and started to purchase quail chicks for next batch.

Hence awareness was created among the rural youth on quail rearing which in turn creates them employment throughout the year to improve their livelihood status. The beneficiaries were very happy with the KVK intervention and they successfully utilised their leisure time for generating lucrative income with minimum expenditure. After witnessing success of the beneficiaries of these five villages, other neighbouring farmers from surrounding villages have shown their interest for adopting this strain of quail.

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How to cite this article:

Devaki, K., K. Senthilkumar and Nisha, P. R. 2019. Impact of Front Line Demonstration (FLD) on the Yield of Japanese Quails at Kancheepuram District, Tamil Nadu. *Int.J.Curr.Microbiol.App.Sci.* 8(12): 250-254. doi: <https://doi.org/10.20546/ijcmas.2019.812.035>