

# Japanese quail farming:

## Novelty through Bamboo shelter house technology

**Sanjay Kumar Singh\*, Pankaj Kumar, Sheshdhar Pandey and Anjani Kumar**

ICAR-National Research Centre on Litchi, Mushahari Farm, Muzaffarpur, Bihar 842 002

*The residents of east Champaran district of northern Bihar are fond of meat of chicks and quail. Champaran meat (syn. Handi meat) is unequivocally equivalent to geographical indication (GI) of this region, however people are now preferring meat of Japanese quail (syn. Bater in vernacular language) especially during winter (rabi) season as fried or with curry. Due to high mortality of young chicks during winter season and threat of predatory animals, many landless women farmers were previously reluctant to adopt quail farming. Now, low cost bamboo shelter house (each cost of ₹1,500–2,000) is available in Bihar and more than 25 women farmers have adopted this novel quail farming technique which has ensured women empowerment, livelihood and nutritional security in Chakia and Mehshi block of east Champaran, Bihar.*

**Keywords:** Income, Japanese quail, Livelihood, Night shelter house

THE term quail farming means, raising quails commercially (like other poultry birds) for the purpose of profitable eggs and meat production. Japanese quail is a good source of meat/egg in which especially meat has an aphrodisiac effect. The small size eggs of quail are within the purchasing limit of the small and marginal farmers, landless labours and other rural poor. While quail farming has reached the international markets, the awareness of it is yet to be spread in the state of Bihar. There is a need to promote quail production programmes in this region, as it is low input farming, has low space requirement (5–6 birds per square feet), short generation interval (3–4 generation in year), fast growth (170–225 g body weight at 5<sup>th</sup> week), low feed consumption (550–600 g of feed per bird), early maturity (egg production start at 6–7 week of age), high rate egg laying (up to 280 eggs in a year) and resistance to common disease of chickens. Promoting quail farming in the rural area will not only supplement the shortages of animal proteins but will also generate

additional income for improvement of their socio-economic status.

### Area of Intervention

The residents of east Champaran district of Bihar are fond of non-vegetarian food. Champaran meat is very famous in the area; however travellers and locals used to consume mutton, chicken on priority. Due to non-availability of Japanese quail (*Coturnix japonica*; locally called Bater) and its costly meat, people though prefer its meat but cannot get it.

To address the constraints in adoption of quail farming in Bihar, an effort was made under ICAR sponsored Farmer FIRST programme, executed by ICAR-National Research Centre (NRC) on Litchi, Muzaffarpur, Bihar in collaboration with Bihar Animal Science University (BASU), Patna in four villages of east Champaran district (Bakhari Nazir, Ujhilpur and Damodarpur belong to Mehshi development block and Chintamanpur in Chakia development block) where very few landless rural women farmers

were rearing Japanese quail. Through survey of different villages and interaction with women and consumer, there was high demand for meat and egg of Japanese quail in the area. But most of the landless women farmers did not prefer to rear Japanese quail due to high mortality (severe cold in winter, ill built and unhygienic shelter hampered overall productivity of the birds).

### Housing required for Japanese quail

Caring for quail is relatively easy and simple, as these birds are very small and they can be easily kept with other small birds. They lay delicious eggs almost every day, and require less space as compared to other poultry birds. Women farmers can even raise some quails in their small back gardens that are not suitable for raising chickens. The farmers must know the steps of caring for quail, whether they raise quails for meat or for eggs.

To raise the J. quail, farmers have to build a suitable house to keep the birds safe from predators like cats, rats, dogs, jackal etc.

Proper ventilation system is also mandatory, because quail droppings produce far more ammonia than other poultry. Special caring for quail is very important during the winter season and requires bedding for them. Giving the birds some hay/straw to make their nests is highly recommended as by doing this, quails are encouraged to start laying eggs. Many interested farmers even want to have some hatched quails. Quail can be raised in both litter and cage systems but, quail farming in cage system is more suitable than raising them in deep litter system. As in cage system, management is very easy and diseases or other problems are less. There must be proper ventilation system and flow of air and light inside their house. We can raise 50 quails in a cage measuring 120 cm length, 60 cm wide and 25 cm height using wire net for making cages. The measurement of the net should be 5 mm × 5 mm for adult quails. Plastic cages are most convenient for quail farming business, but they are costly. The house must have to be out of the reach of wild animals to prevent all types of predators.

#### Details of technology

Low cost, three storied bamboo shelter (with dimension of 90×60×120 cm: length×breadth×height) with partition at 40 cm was prepared for beneficiaries. The two storey bamboo shelter was also prepared for some of the farmers who want to rear quail in less number. It was externally covered by wired mesh (200 gauges). The capacity of the shelter was for >40–45 number of 2 week old J. quail, which was also suited for 40 adult with age of 4–5 week old. The women farmers were told to feed the J. quail with locally available material such as broken rice, maize, pulses or kitchen waste etc @10 g/bird/day. When provided the small chicks procured @ ₹15 (during December–January), the average weight was 70–80 g/bird. Initially, 10 women per village started selling after 2 weeks of rearing and body weight was recorded as 190–240 g/bird as they sold the adults @ ₹120/pair.



Capacity building programme at Govt. Hatchery, BASU, Patna

#### Nitti gritty of technology

##### Cost of Bamboo shelter house

- Cost of bamboo: ₹300
- Cost of wire mesh: ₹80
- Nail and winding wire: ₹25
- Labour cost: Nil (as constructed by themselves)
- Total cost: ₹405

##### No. of quail taken by landless women farmers

- ₹15/bird (2 week old) = total of ₹600 (for 40 birds) (however, the small birds were given without any charges)

##### Cost on feed for next 3 week

- ₹525 (i.e. \*\*35 birds @ ₹15 for each bird); [\*5 birds generally gets died (approx.)]

##### Total expenditure

- ₹600 + 525 + 100\* (= ₹1,225 [\*divided cost of bamboo shelter: (400/4 = 100)])

##### Net profit after 3 weeks old

- ₹2100 (selling price of 35 birds @ ₹60 per bird) – ₹1225 = ₹875 per week per herd of 40 chicks.

#### Benefit of bamboo made night shelter house

It is very easy to clean, is well ventilated and portable which can be kept in sunlight or in shade/house. In traditional rearing practice, the farmers were making shelter made up of brick and mud, such type of shelter was ill ventilated, and it

was difficult to clean the inner part (litters) resulting into high humidity and moisture content within the shelter which hampered the growth and had high mortality percentage.

#### Up scaling and adoption of technology

The farmers were advised to purchase 40 quail (2 week old) at weekly interval. Therefore, they could earn after 28–35 days of starting this. The expense on shelter could be returned within one month (@ ₹100/batch×4), thus, after next month the family could earn @ ₹875/batch (2100–1225 = 875) as net profit.

This technology has been adopted by 43 women farmer of east Champaran district of Bihar and the same model has been adopted by 13 farmers of Muzaffarpur district after exposure visit to their site sponsored through ATMA, Muzaffarpur.

#### Future course of action and suggestions

Now, BASU, Patna has developed 3 models of different sized J. quail shelter at its instructional livestock farm for training and demonstration purpose. For profitable rearing, the farmers are advised to keep provision of clean water and hygienic kitchen waste. The male bird must be sold out within 4–5 weeks. If anybody wants to rear it for egg laying purpose, they should rear only female birds to minimize the production cost.



Three and two floor low cost night shelter bamboo houses

## SUCCESS STORY

Mr. Krishna Singh of village Madhubani Sukhlahiya, block Sangrampur, east Champaran is earning ₹40,000/month through 500 Japanese quail farming and sale of eggs. Earlier, he brought 20 chicks for table purposes but kept for one month unwittingly, which ultimately started egg laying. Later, he imbibed to have egg production and rather made a local machine with capacity of 250 eggs. He experienced that within 15–17 days, hatching of quail eggs was possible while eggs of duck used to take 25–27 days and chicks (hen) took 20–22 days to hatch. The cost of production of one Japanese quail was incurred as ₹30 while it was sold @ ₹50–60/adult.

## SUMMARY

The training program at Bihar Animal Science University, Patna exposed the rural youth/landless women to scientific poultry rearing and help in adoption of low cost bamboo made night shelter houses for commercial rearing and thus, further reduce mortality induced by proper management and vaccination. The Farmer FIRST programme in the district of east Champaran also helped rural youth/landless women

to understand the importance of establishing market linkages in enhancing income through poultry rearing i.e. Japanese quail. The off campus training providing Japanese quail chicks and bamboo made night shelter house by ICAR-NRC on Litchi, Muzaffarpur, Bihar helped more than 50 women and unemployed youth in generating an annual income of about ₹40,000. Now, landless women resident of Bakhari Nazir, Damodarpur and

Ujhilpur village of Mehsi, east Champaran utilizing the knowledge received on adoption of quail farming will be able to enhance their livelihood and nutritional security and community would generate secondary occupation, additional source of income and above all women empowerment.

\*Corresponding author's e-mail: sanjayhor@rediffmail.com

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Krishi Anusandhan Bhavan I,

Pusa, New Delhi 110 012

[indfarm@icar.org.in](mailto:indfarm@icar.org.in)