

Quail Farming: A Viable Option for Income Generation by Farm Women



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ABSTRACT

Quails are popularly known as “Bater” in Hindi, are quite hardy, grows faster and has a short generation interval. They seldom have disease problems. Quails have short generation interval and a high rate of lay. Quail farming business require small capital and labour and even can be raised along with your other poultry birds for meat or eggs production.

INTRODUCTION

Quail is a collective name for several genera of mid-sized birds in the pheasant family Phasianidae, or in the family Odontophoridae. The quails are small, plump terrestrial birds. They are seed eaters, but will also take insects and similar small prey. They nest on the ground. They are popularly known as “Bater” in Hindi and “Gunduri Chadei” in Odia. Because of low volume, low weight, short generation interval and high acceptability as a source of egg and meat, the commercial quail farming is gaining popularity.

Breeds

Japanese quail and Bobwhite quails are the domesticated varieties of quail. Japanese quails are hardy, grows faster, has a short generation

interval and is precocious. The meat is a delicacy. A specific line developed for egg production as well as meat production is available.

Advantages of quail farming

- Requires minimum floor space
- Needs low investment
- Comparatively sturdy birds
- Can be marketed at an early age i.e. five weeks
- Early sexual maturity - starts laying eggs in about six to seven weeks of age
- High rate of egg laying -250 eggs per year

- Quail meat is tastier than chicken and has less fat content.

CARE AND MANAGEMENT

Care of Quail chicks

The hatch weight of quail chicks is 6-7 g. They can be brooded either on deep litter or in battery brooders. However, brooding the quail chicks in cages up to end of 3 weeks of age reduces initial mortality considerably.

The floor space suggested is 75 cm²/chick under the hover and 75 cm²/chick as run space. The brooder temperature recommended is 37°C at the beginning and this should be reduced at 2.7°C per week until the chicks are 4 weeks of age, by which time the quails would have grown their feathers very well. During brooding, water should be given in shallow dishes filled with marbles or pebbles to prevent quail chicks from drowning. The marbles or pebbles can be removed when the chicks are about 2 weeks of age.

The feeder space and water space recommendations are 2 and 1 linear cm per quail chick respectively. Quail chicks can be fed with a mash containing 27% protein and 2750 K cal / kg of ME up to end of 3 weeks of age and a mash containing 24% protein and 2750 K cal/kg of ME from 4th week of age. Maximum care has to bestow during the first two weeks of life of quail chicks.

Quails in cage system of rearing

- Each unit is about 6 feet in length and 1 foot in width, and subdivided into 6 subunits.
- To save space, the cages can be arranged upto 6 tiers high. There can be 4 to 5 cages in a row.
- The bottom of the cage is fixed with removable wooden plates to clean the bird droppings.
- Long narrow feed troughs are placed in front of the cages. Water troughs are placed at the back of the cages.

- Commercial egg layers are usually housed in colonies of 10-12 birds per cage. For breeding purposes, male quails are introduced in the cages in the ratio of 1 to 3 females.

Age	Cage Size	No. of birds
First 2 weeks	3 x 2.5 x 1.5 ft.	100
3- 6 weeks	4 x 2 .5 x 1.5 ft.	50

Feed formulation for Japanese Quails

Ingredients	Starter (0-3 weeks)	Grower (4-6 weeks)	Layer (above 6 weeks)
Yellow maize	43.25	44.25	46.25
Groundnut cake	20.00	20.00	20.00
Soyabean meal	22.00	14.00	10.00
Rice polish	3.00	10.00	8.00
Unsalted dried fish	10.00	10.00	10.00
Mineral mixture	1.50	1.50	1.50
Salt	0.25	0.25	0.25
Shell grit	-	-	4.00
Total	100.00	100.00	100.00

- Feed material should be made of small particles
- A 5 weeks old quail consumes about 500 gms of feed
- Quails of 6-month-old, consumes about 30-35 gms of feed per day.
- Quails require about 400 gms feed for the production of 12 eggs.
- Broiler starter mash can be used by adding 5 kg of oil cakes to 75 feed. The particle size is reduced by grinding the feed for one more time.

Nutrients requirement of Japanese Quails

Nutrient	Quail broiler		Quail layer		
	Weeks				
	0-2	3-5	0-2	3-5	> 6
Metabolizable energy (Kcal/kg)	2800	2900	2750	2700	2650
Protein (%)	27	24	24	20	19
Minerals					
Calcium (%)	0.8	0.6	0.8	0.6	3.0

Phosphorus (%)	0.3	0.3	0.3	0.3	0.45
Vitamins					
Vitamins A (IU)	8000	8000	8000	8000	8000
Vitamin D3(ICU)	1200	1200	1200	1200	1200
Riboflavin, (mg)	6	6	6	6	6
Amino acids					
Lysine (%)	1.30	1.20	1.20	1.10	0.80
Methionine (%)	0.48	0.45	0.45	0.40	0.33
Methionine + Cystine %	0.75	0.70	0.70	0.65	0.60

General management of quails

- At the age of six weeks, female quails usually weigh 175-200 g and the males weigh about 125-150 g
- Female quails start laying eggs at 7 weeks of age and continue upto 22 weeks of age
- Usually egg laying happens during the evening time of the day
- The quail egg usually weighs about 9-10 g
- The breast of the male quail is usually narrow and covered with equally distributed brown and white feathers. But the female quail has a broad breast covered with brown feathers with black dots.
- The female and male quails should be separated at the age of four weeks
- Sixteen hours of light per day should be available to the egg laying quails

Health care

Japanese quails are hardier. They seldom have disease problems. Therefore, there is no need for routine immunization programme as with other poultry species. One major disease that affects Japanese quail is quail enteritis. This disease can be treated using appropriate antibiotics under Veterinarian's advice.

Care of Adult Quails

The males and females can be separated based on physical appearance at about 4-5 weeks of age. The males have an even coloured rusty brown breast feathers with only few speckles of white. Whereas the females have grey and black speckled breast feathers. The males also have a cloacal gland, which secretes a white foamy material. In contrast to most poultry, females are slightly heavier than males.

Quails reach sexual maturity at about six weeks of age and weigh 120 g. Adults require 150-180 cm² per quail in laying cage. A feeder space of 2-3 cm per quail and water space of 2 cm has to be provided. For laying flock a photoperiod of 16 hours is desirable for good egg production. Layer quails may be provided with a mash containing 22% protein and 2650 K cal/kg of ME. Japanese quails reproduce well in all seasons. The eggs are laid from evening, the peak being between 6.30 – 7.30 p.m. The eggs laid during second year of lay are very much fewer than first year. Quail egg weighs around 10 g and is characterized by a variety of colour pattern ranging from dark brown, blue and white to buff each mottled with black, brown and blue. The egg shell is very thin and therefore breaks easily.

Care of Breeding Quails

Good fertility can be obtained with a male-female ratio of 1:2. After introduction of male to a female flock, fertile eggs can be collected from 4th day onwards. Optimum fertility is obtained when the age of breeding flock is 8 months or less. Hatchability of fertile eggs rapidly declines when eggs are collected from older females. However, this effect is not observed with males.

- Quails start laying their eggs at the age of 7th week. They attain 50% egg production at 8th week of age
- In order to produce fertile eggs, the male quails should be reared along with the females at 8-10 weeks of age

- The male, female ratio is 1:5
- Incubation period in quails is 18 days
- With 500 female quails we can produce 1500 quail chicks per week

Care of hatching eggs

Shell of quail eggs are comparatively thinner and therefore should be handled carefully. Eggs should be held in an atmosphere free of dust and having a temperature of 14 to 16 0 C with a relative humidity of 70 to 80%. Eggs held even under these conditions should be used for hatching within 7 days of holding. The incubation period of quail egg is 18 days. Quail eggs can be incubated artificially using forced draft incubator at a temperature of 36.9 – 37.2 0 C with a relative humidity of 60 to 70%. Eggs should be turned 4 to 6 times daily upto 14 days of incubation.



CONCLUSIONS

Quail meat and eggs are very tasty and highly nutritious. Quail birds and their eggs are small in size, so it is cheap in price and all types of people can purchase. Because of low volume, low weight, short generation interval and higher acceptability as a source of egg and meat, large scale quail farming can play a vital role to meet up the demand of food and nutrition as well as income.

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