

September–
October,
2018
Volume 1, Issue 5



LAB **2** LAND

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A MAGAZINE OF AGRICULTURE AND ALLIED SCIENCES

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Japanese quail: Status, Production and Management

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Production of livestock species with short generation interval could be a viable option in ameliorating shortage of protein among the populace in developing countries like India. Japanese quail is one of the poultry species with very short generation interval, comparatively more resistant to infectious diseases than chicken and it does not require vaccination and relatively low medication required for rearing. Liveability is high in Japanese quail compared to other species of poultry. Japanese quail has the advantage of quick returns as they are marketed from 4 weeks of age itself and before attaining sexual maturity i.e., the sixth week. They have high fecundity with a high rate of egg production. Feed conversion ratio in Japanese quail though not equivalent to the commercial broiler, better than other species of poultry. They can be reared with high stocking density. Considering the above benefits and in the current paper we have discussed existing practices in

management, production performance of Japanese quail.

Developed Quail Strain/Line/Variety in India

1. ICAR-CARI : CARI Uttam, CARI Ujjawal, CARI Sweta, CARI Pearl, CARI Brown, CARI Sunheri
2. GADVASU Ludhiana : Punjab-I,II,III
3. PRS, Nanadanam (TANUVAS) : Nandanam quail-1,2,3
4. VCRI, Nammakal (TANUVAS) : Nammakal quail-1
5. CPDO (WR), Mumbai : Broiler type quail

Management of Japanese quail

Incubation period for quail eggs is 18 days.

Incubation requirement are as follows:

Duration (days)	Temperature °F	Humidity %	Turning of eggs
0 -14	99.5	60	5-6 times a day
15 -18	98.5	70	Not required

Brooding management

Both floor and battery types of brooding followed in Japanese quail rearing. In floor type of brooding has high mortality due to spraddled legs. Battery type brooding can be done to 3 weeks of old. At most care should be taken in the brooding period.

Housing Management

1. Deep litter system

Six quails can be reared in sq feet of floor space after two weeks, quails can be reared in cages. This will help to gain good body weight.

Advantages

1. Highly Economical
2. No wet spots
3. Animal protein factor supplies to the birds
4. Litter act as valuable insulating agents.

Age (weeks)	Space (cm sq/bird)		Feeding (cm sq/bird)	Watering (cm sq/bird)
	Deep litter	Battery cage		
0-4	75	75	2	1
5-6	200	150	2.5	1.5
6 onwards	250	175	2.5 - 3	1.5

Battery system rearing

Each unit is about 6 feet in length and one foot in width and subdivided into six subunits. For saving the space, the cages can be arranged up to six tiers in height. There should 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 have introduced in the cages in the ratio of 1:3 females.

Advantages

1. Most intensive type and a greater number of birds reared per unit area
2. Facilitate correct maintenance of records.
3. Control feed utilization and Production of clean eggs
4. Control of parasitic infections
5. Helps in identifying poor yielders or diseased which promote culling

Reproduction in quails

Mating ratio

- One male to three females for commercial utilization and 1:1 up to 1:3 for research and develop-

ment

- Vent Sexing in quails can be done at the age of 3rd week.
- A condition of the abdomen and the distance between pelvic bones gives a fair indication. 1½ finger space between pelvic is an indicator of good layers

Layer quail management

Japanese quail start laying at 6th week of age. The quail used for the breeding purpose should be reared under restricted feeding and lighting

during the growing period to avoid early sexual maturity. Also, it is advisable to rear males and females separately from 3rd week onwards and are to be fed with separate diets. During laying, the quail layers are provided with 16 hrs total light and hence a minimum of 4 hours extra artificial light is required for maximum egg production.

Light

24 hrs light is required up to 2 wks of age, it may be reduced to 12hrs at the end of 3wk and thereafter 12hrs

creative business. Quail bird farming is five times better than chicken and turkey rearing, and a person with 400 quail laying birds is better off than a person with a person with 2000 laying chickens. The demand for commercial quail production is increasing day by day in the country. The following are the reasons.

Quails are the smaller sized bird, so they can be raised within the small place. Minimum floor space requirement i.e, 8-10 quails can be housed in a space required to house

Feeding management of Japanese quail

Nutrient	Broiler		Layer		
	Starter (0-3 wks)	Finisher (3 -5wks)	Starter (0-3 wks)	Grower (3 -5wks)	Layer (> 5 Wks)
ME, Kcal/kg	2900	2950	2900	2950	2850
CP %	25	21.5	25	21.5	18.6
Ca %	0.85	0.85	0.85	0.85	3.0
Avail. P %	0.45	0.45	0.45	0.45	0.32

photoperiod is adequate up to 5wks of age. After about 14-16hrs photoperiod required for layers. Quails lay 75% of daily egg production between 3-6 P.M. 20% of the eggs are laid during night hours. The female starts laying at about 6 wks of age, reach 50% production by 8 wks and peak 80% production is attained by the 10 wks of age. The high yielding quails lay about 260 -300 eggs in a year with a total feed intake of about 8 to 12kg. The rate of lay reduces sharply after 26 wks of age.

Prospects of quail farming

This business is a very lu-

one broiler/ layer chick

Quails grow very fast and gain maturity faster than any other poultry birds. Quails need only 40-50 days to become mature and come in production from 45 days of age. On the other hand, chicken needs average 6 months to be mature.

Early marketing age for table delicacy: 5-6 wks. Quail are less susceptible to common diseases.

Low feed requirement 25-30 gm per quail/day. Feed conversion for egg production in Japanese quail is better than in laying hens. Quail hens need less than 2 kg of feed to produce 1 kg

of egg while laying hens need between 1.9 to 2.5 kg of feed to make the same amount of egg.

Very prolific because of short generation interval and completes 3-4 generation per year.

Quail farming requires less investment to start and provide a quick return from it and also provide higher cost-benefit ration compare to chicken layer farming.

genetics, nutrition, physiology, pathology, embryology, cancer, behavior, and the toxicity of pesticides. Quails are used for laboratory animal for many reasons like require little space and maintenance, adaptable to laboratory conditions, short generation intervals and high fecundity, many specialized strains.

Quail eggs are much richer in vitamin B2, iron, potassium, calcium,

Comparative nutritive value of chicken and quail eggs.

Component	Chicken egg (100 g)	Japanese quail egg (100 g)
Calories	147	158
Total fat	9.9g	11.1g
Cholesterol	423mg	844mg
Protein	12.2g	13.1g
Vit A	487IU	543IU
Calcium	53mg	64mg
Iron	1.8mg	3.6mg

Japanese quail as a laboratory animal

The interest in the Japanese quail as a research animal was greatly

and phosphorus than chicken eggs. Quail eggs are rich in HDL cholesterol, (the 'good' cholesterol), so even senior citizens can eat them. Quail eggs

Comparative nutritive value of chicken and quail meat

Parameter	Chicken meat (100g)	Quail meat (100 g)
Calories	263	134
Total fat	16 g	5g
Saturated fat	3g	1g
Total CHO	15g	0g
Dietary fiber	1g	0g
Protein	15%	22%
Iron	6%	25%
Calcium	2%	1%
Vitamin C & A	0%	1%

increased after 1957 due to groups at the University of California and Auburn University who proposed its value in biomedical research. Fields in which quail is widely utilized include

have low cholesterol levels and are rich in choline, a chemical essential for brain function.

Quail meat is a delicate, white with extremely low skin fat and low

Quail farming	Chicken farming
Low capital requirement	High capital requirement
Quails require a floor space of 0.2 sq ft/bird	Requires 1-2.5 sq ft/ bird of floor space
It possesses remarkable disease resistance, hence hardly any vaccines are needed	It is highly susceptible to common poultry diseases and vaccination is a must
Feed requirement is 25-30 gm/bird/day	Feed requirement 110- 120 gm /bird/ day required
8.4-10 kg feed is required to produce 300 eggs with average egg weight of 10-14 gm	42-48 kg of feed is required to produce 250 -260 eggs with average egg weight of 54-58 gm
In a year quail produces 25-30 times more eggs than its body weight	A hen produces 8-9 times more eggs than its body weight
Quail starts laying egg at 6weeks and attain peak production at 10 weeks of age which continues up to 54 weeks	Hen starts laying egg at 20 th weeks and reach peak at 27-29 th weeks and continue to lay up to 72 weeks
Broiler quails are sold at 35 days	Chicken broilers are sold at 35-40 days
Quail meat is good for asthma and arthritis	Having no such medicinal properties
Housing is cheaper, can be reared in multi-tier battery cages	Housing is substantially costlier than that in quails
Culled birds fetch more money in terms of body weight	Culled birds fetch lesser price in terms of body weight.

cholesterol value. Quail meat is leaner than chicken meat. It is therefore recommended for people with high cholesterol levels and those who want to maintain a low level of cholesterol. It promotes body and brain development in young ones.

Conclusion

The dream of doubling the farmer's income cannot be achieved without tapping diversified poultry production especially quail farming. So, with this regard Quail farming can greatly supplement income and pro-

tein requirements in the developing country like India. The small size, low feed requirements, short life cycle, good reproductive potential, good meat taste, better laying ability, rapid growth rate, shorter time of hatching and resistance to common poultry diseases as compared with the different species of poultry has made quail farming an important poultry business contributing enormously to protein supply through meat and egg production. Quail raising has strong potenti-

ality as an alternative to chickens, has a unique advantage of tapping the vast market for chicken and other poultry-based products, especially in urban areas with quicker returns.

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