

Introduction
nowadays quail
gaining importance
as diversified poultry



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Introduction Japanese quails belong to the Phasianidae family, and they are intensively reared for commercial meat and egg production. Quails' main characteristic like of fast growth, early sexual maturity and high rate of egg production is important. Quails have the ability to produce 4 generations in a year.

Nowadays quail gaining importance as diversified poultry species to augment meat and egg production. Also it is valuable as an animal model to carry out laboratory research because of its low body size, short life cycle etc.

Comparative performance of different egg and meat type quails: Attributes

Attributes	CARI Pearl (white egg shell)	CARI Uttam (Broiler)	CARI Ujjwal (White breasted)	CARI Sweta (White feathered)	CARI Brown
Live wt. 5th week	140	240	175	155-165	180-185
Daily feed consumption(g)	20-25	25-28	25-28	25	25
FCR, 5th week	3.20	2.51	2.80	2.70	2.70
Sexual maturity (days)	45	42-45	49	46	38-41
50% egg production	8 week	- - -	80% egg production	10 week	- - -
Hen day- production %	78-81	- - -	Hatchability % on eggs set	70-80	70-75
Feeding Management	65	50-60	60-65	Feed material should be made of small particles.	

Quails consume about 500gms of feed in 5 weeks. Quails consume 30-35gm of feed per day. It takes about 400gms feed for production of 12 eggs. By adding 5kg of oilcakes to 75 feed we can use Broiler starter mash. Nutrition is the most important factor required to maintain quails in good physical condition and to obtain normal growth and egg production. A "complete" or well-balanced feed containing all the protein, energy, vitamins, minerals, and other nutrients should be prepared. Nutrient levels of the diet must meet the dietary needs of the birds being produced. Quails grown for meat are

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provided starter and finisher diets, whereas laying or breeder birds are fed starter and breeder diets.

Three types of diet are recommended during commercial rearing: starter (up to 2 weeks of age), grower (from 3 to 5 weeks) and layer mash (> 6 weeks of age). Generally local farmers may use the chicken starter and layer diets for their growing and laying quails and supplement them with high protein ingredients such as fish meal, soyabean meal and skimmed milk. Fast early growth is achieved with high protein diets. These high protein starter feeds will give quick development to growing birds as well as bringing earlier and more consistent laying to hens. The dietary requirement for birds nearing maturity are similar to starter ration except that calcium and phosphorus levels must be increased.

In hot weather, calcium level should be increased as quail eat less food but still require calcium to maintain egg production. Shell grit or ground limestone can be added to the diets after 5 weeks of age. Growing birds are fed a ration containing coccidiostat from hatch until the last week before slaughter.

The feeding of unmediated diets before slaughter is recommended when using any dietary drug, regardless of whether the restriction is required or not. FDA approved two coccidiostats (Monensin sodium & Amprolium) in quail feed. Water is most important nutrient for animals. Quail need clean water at all times. Water must not be too hot or cold. Clean the water troughs at least once daily. Keep water and feed troughs clean of droppings, litter, soil and other contaminants. Feeds and Feeding Three types of

Japanese quail feeds are available : Chick feed (0-2 week), grower/finisher feed (3-4week) and layer/breeder feed (above 6 weeks).

Broiler quail consume 550-600gm up to marketing and adult layer/ breeder quail consume 35-40 gm/day. Feed should be given ad libitum and the feeder should not be filled more than 2/3rd of its capacity to prevent wastage. The optimum energy level of quails is 2800-2900kcal/kg feed during the growth period (0-5 week) and 2700 to 2900 kcal/kg during laying phase (5-30 weeks of age). Protein and amino acid requirement are higher than that of broiler chickens (Mandal et.

al 2004d). Methionine and threonine are the major limiting amino acids in maize-soyabean-meal based diets for growing quail chickens. Broiler quail chickens. Broiler quail chicks give positive response in terms of grain and feed conversion to a diet with higher protein and amino acid levels (120% of NRC, 1994) during 0-3 weeks of age. The growth rate is reduced during 3-5 week of age and 90% levels of amino acids is sufficient to obtain better growth and feed conversion.

Therefore, a biphasic rearing system (0-3 and 3-5 weeks) has been suggested (Kaur et al, 2006, 2007, 2008) for growing quails. Egg mass output as proportion of body weight is more than that of chicken, thus, requirement of energy, protein and amino acids in layer/breeder ration are higher. Egg weight of quail is about 10 g. A 10 g egg contains 7.46g water, 1.31g protein, 1.12g fat and 0.11g of total ash.

The average daily feed intake is about 25 g. The minimum daily protein requirement is less than 4.7g and energy is 60 kcal ME per layer.

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Broiler quails lay eggs almost at a similar rate as egg type quails and the egg size is higher (11-13g). The daily feed intake is about 30g and minimum protein requirement is about 5g (with energy 65kcal) in broiler line breeders. Daily water intake is 1.

7 to 2.3 times of feed intake. All mash diet is preferred. For egg lines, a diet with 21.5% protein and 2700-2900 ME kcal/kg during laying period is sufficient.

Meat type lines require slightly more protein. Management of quail farm: At 6 weeks of age female weigh about 175-200g and the males weigh about 125-150g. Laying period of quail starts at 7 weeks of age up to 22 weeks of age. Quails lay eggs during evening time. Quail egg weight is about 10g. The breast of male quail is narrow and covered with brown and white feathers, but female have broad breast and covered with black dots. Female and male should be separated at the age of 4 weeks. 16 hours of light is required for laying quails.

Nutrient specification for quail feed (BIS 2007) Quail broiler diet Quail Layer Diet