

Quails are probably the smallest avian species used for production of table eggs and meat. Because of their prolific egg production and meat yield, quail farming is an economically very profitable venture.



# Quail Farming For Beginners

Everything you need to  
know



Zambia Agribusiness Society

# Quail Farming For Beginners

## Table of Contents

<b>Introduction</b> .....	<b>1</b>
<b>Advantages of Quail Farming</b> .....	<b>1</b>
Chicken Egg Vs Quail Egg .....	2
Health Benefits.....	2
Complementary Benefits .....	2
Employment.....	2
<b>Lay Out of Quail House</b> .....	<b>3</b>
Orientation.....	3
Size .....	3
Roof.....	3
Walls.....	3
Floor .....	3
Door .....	3
Light.....	3
<b>Types of Quail Farms</b> .....	<b>3</b>
Layer Quail Farm .....	3
Broiler Quail Farm .....	4
Breeding Quail Farm .....	4
<b>Best Quail Varieties</b> .....	<b>5</b>
<b>How To Ensure Maximum Productivity</b> .....	<b>6</b>
<b>Quail Rearing Systems</b> .....	<b>7</b>
Deep Litter System .....	7
Cage System .....	7
<b>Brooding</b> .....	<b>8</b>
<b>Bedding Materials: Litter and It's Management Procedure</b> .....	<b>8</b>
<b>How To Create Litter For Quails</b> .....	<b>8</b>
<b>Materials For Creating Litter</b> .....	<b>9</b>
<b>Feeding</b> .....	<b>9</b>
<b>Disease Management In Quail Farming</b> .....	<b>10</b>
<b>References</b> .....	<b>10</b>

## Introduction

[Quails](#) are probably the smallest avian species used for production of table [eggs](#) and [meat](#). Because of their prolific egg production and meat yield, quail farming is an economically very profitable venture.

Quails belong, along with chickens, pheasants and partridges to the Family Phasianidae of Order [Galliformes](#) of the Class Aves of the Animal Kingdom. Species or subspecies of the genus *Coturnix* are native to all continents except the Americas. One of them, *Coturnix coturnix* or common quail called *Icipingila* in one of the Zambian local languages (Bemba), are migratory birds of Asia, Africa and Europe. Several interbreeding subspecies are recognized. The more important being the European quail, *Coturnix coturnix*, and the Asiatic or [Japanese quail](#), *Coturnix japonica*. They were first domesticated in Japan in 1595. Later, in other countries of the world including the USA, Canada, Kenya, Zimbabwe, India, and Zambia.

'**Quail farming**' means, raising quails commercially (like other [poultry](#) birds) for the purpose of profitable eggs and meat production. Almost all types of weather conditions are suitable for starting a quail farming business. Meat and eggs of quails are very tasty and nutritious. Quail eggs are very nutritious than other poultry eggs, because quail eggs contain comparatively more *protein, phosphorus, iron, vitamin A, B1* and *B2*. Quail farming can play a vital role in meeting the demand of food and nutrition. And quails can be raised along with your other poultry birds for meat or egg production.

## Advantages of Quail Farming

There are many benefits of modern day quail farming, for example:

- Low space requirement (5– 6 adult quails can be reared in one sq. ft.)
- Very low initial start-up cost, anyone can start a business with a small amount of capital
- Are hardy and adaptable
- Early maturity (egg production starts at 6–7 weeks of age)
- High rate of egg laying (280 eggs in a year / bird)
- Short generation interval (3– 4 generation in a year)
- Fast growth (170–190 gm body weight at 5th week)
- Low feed consumption (550–600 gm of feed / bird up to 5th week)
- Low cost of production
- Resistant to common diseases of [chicken](#)
- Quail meat is tastier than chickens' and has low fat content. And it promotes body and brain development in young ones
- As per the nutritional criteria, the quail eggs are far better compared to that of chicken eggs. It has low cholesterol percentage. Quail meat and eggs are good for pregnant women and infant feeding

## Chicken Egg vs. Quail Egg

- Chicken eggs are considerable larger
- Quail eggs are packed with vitamins and minerals
- Even with their small size, their nutritional value is three to four times greater than chicken eggs
- Quail eggs contain 13 percent proteins compared to 11 percent in chicken eggs
- Quail eggs also contain 140 percent of vitamin B1 compared to 50 percent in chicken eggs
- In addition, quail eggs provide five times as much iron and potassium
- Unlike chicken eggs, quail eggs have not been known to cause allergies or diathesis. Actually they help fight allergy symptoms due to the ovomucoid protein they contain

## Health Benefits

- Regular consumption of quail eggs helps fight against many diseases
- They are a natural combatant against digestive tract disorders such as stomach ulcers
- Quail eggs strengthen the immune system, promote memory, health, increase brain activity and stabilize the nervous system
- They help with anaemia by increasing the level of haemoglobin in the body while removing toxins and heavy metals
- The Chinese use quail eggs to help treat tuberculosis, asthma, and even diabetes
- If you are a sufferer of kidney, liver, or gallbladder stones quail eggs can help prevent and remove these types of stones

## Complementary Benefits

- Children eating quail eggs are less inclined to suffer from infectious diseases than other children
- In men, quail eggs provide the prostate gland with phosphorus, proteins, and vitamins that can be a powerful stimulant for sexual potency
- Women find that the egg improves skin colour and strengthens hair. This is why quail eggs are in facial and in hair care products

## Employment

Quail farming is a cheap enterprise compared to chicken farming. It is useful as choice of food. The quail is an important bird for scientific research. The species can be reared indoors. It does not require vaccination and medication. Quail litter has high fertilizer value and can be used for increasing yields of crops. Quails weigh up to 100 gm and lays 100 eggs a year.

## Lay Out Of Quail House

### Orientation

- East West-in hot climate & North South-in cold climate
- Should not open to sea side- in coastal area & Should not located on or near top of the hill in hilly area

### Size

- Length-does not influence; Width-should not more than 9 m
- If more than 9 m chimneys or ridge ventilation is must

### Roof

- Shed type-3-4 m wide; Gable & Pagoda type-9 m; Over hang-1.5 m

### Walls

- Height of side wall-2.5-3.0 m above the ground; Mid height-4-5 m
- Lower part should be solid & rest may be wire mesh(1x1")

### Floor

- 2-3 ft. above the ground with cement/concrete & good drainage system

### Door

- two doors at two solid long axis ends; In compartments door should be 0.7 m wide X1.8 m height

### Light

- 2 ft. from the ground
- Quails egg production is very dependent on light. Hence, to get enough number of eggs, ensure there is enough lighting. There should be 16 hours daily of lighting (including daylight)

## Types of Quail Farms

According to the purpose, commercial quail farming can be divided into three categories. These are:

### 1.0 Layer Quail Farm

Layer Quail Farm is dedicated to egg production. Usually, Japanese quail from the age of 6-7 weeks and the bobwhite quail at the age of 8-10 weeks start laying eggs. If the management is accurate, then every Japanese quail lay yearly 250-300 and bobwhite birds lay 150-200 eggs.





**Figure 1.** Layer Quail Farm

### **2.0 Broiler Quail Farm**

Broiler farm is dedicated to meat production. If you want to produce the soft and delicious meat, the broiler is raised in this procedure. These species are little bigger than layer birds and gain maximum weight quickly.



**Figure 2.** Broiler Quail Farm

But, Farmers do not raise them for that long period of time. Average Northern Bobwhite is weighed in at about 170 grams. But Jumbo Coturnix species gains 450 to 460 grams at their adulthood. Although they are dedicated to meat production the average egg production of broiler bird raising is about 150-250 in a year.

### **3.0 Breeding Quail Farm**

The breeder quail lays egg and give birth to new babies for up to 30 weeks of its age. The breeding birds are used to produce eggs for the production of new babies. The general purpose of this method of is to sell chicks.



**Figure 3.** Breeding Quails Cage

Typically it takes 7-8 weeks for the Japanese quail and 10-weeks for the bobwhite quail to mature. And the small varieties like Button Quail are a perfect choice. The ratio of male and female should be kept in pairs (1: 1) on your farm.

### **Best Quails Varieties**

Though quail farming is not spread out all over the world yet, there are some awesome varieties.

The best varieties for starting farming from beginning are given below. There are more than 140 kinds of varieties. Here are the most popular and profitable breeds. (Tab.1)

<b>Species Name</b>	<b>Identification</b>	<b>Time to Mature</b>	<b>Weight (At Adulthood)</b>	<b>Eggs Per Year</b>
Japanese quail	Length Range: 17-19 cm Size: Small (5 – 9 in) Colour Primary: Brown	5-6 weeks	90 g	250-300
Northern Bobwhite	Medium, morphologically variable birds.	8-10 Weeks	179 g	150-200
Jumbo Coturnix	The bigger selectively bred Coturnix plus	6-7 weeks	450 g	150-220

	are commonly adopt for meat.			
The Texas A&M	Heavily Muscled Coturnix	6-7 weeks	370 g	150-200(App.)
Button Quail	Button Quail are small breeder birds.	5 weeks	130 g	100-120

**Table 1.** Best quail varieties for beginners

Beside them, there are other numbers of species. Depending on your need, you can farm one or more.

### **How to Ensure Maximum Productivity**

To get the desired product from the farm, you should take care of the following factors.

- Collect healthy birds. Always buy the baby birds from a well-established hatchery.
- From the 1st day of birth, ensure the right temperature, light, food, and water for them in the brooder.
- The regular productivity-raising formula for layers is: "Pure water and daily 13-16 hours of light."
- Plus, provide adequate air circulation in the bird's house.
- Always keep the houses and cages clean.
- And please do not disturb them by any means.



## Quail Rearing Systems

### 1. Deep Litter System

6 quails can be reared in a sq. feet of floor space. (Fig. 4) After 2 weeks, Quails can be reared in cages. (Fig. 5) This will help to gain good body weight, as unnecessary wandering of animals is avoided.



**Figure 4.** Deep litter system

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

**Table 2.** Relationship of quail age, cage size and No. of birds

A broiler (meat purpose) quail can be sold at 5 weeks. Quails start laying eggs at about 6 weeks to continue to give high egg production up to 24 weeks of age. The meat of quails is considered as a delicacy.

### 2. Cage System

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 up to 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. (Fig. 5)



**Figure 5.** Cage System

### **Brooding**

*Quail chicks are very sensitive to temperature. And absence of adequate temperature leads to clustering of young chicks and causes high mortality rate.*

Recommended warmth should be provided for the first 3-4 weeks of age for which heat lamps needs to be used. The heat lamps should be placed at least 18 inches above the floor. The best guide for adjusting the heat is the behaviour of the chicks-if they crowd near the heat source and seem cold, the temperature is low, if they tend to settle a few inches from the hottest area the temperature is about right. And if the chicks scatter far away from the heat source then it is too hot.

<b>Age</b>	<b>Temperature (Degree Celsius °C)</b>	<b>Light (Hour)</b>
1 week	37	24
2 weeks	35	24
3 weeks	32.2	12

**Table 3.** Warmth schedule

### **Bedding Materials: Litter and its Management Procedure**

Building a comfortable bedding is not costly. However, quails are very sensitive, which normally affect production directly.

#### **How to Create Litter for Quails**

- In the beginning, spread 5 cm thick litter material on a clean floor.
- Then gradually add more litter material, and increase the thickness to 10 cm in 4-5 weeks.

- In the case of brooder foster child, before placing quails put 10 cm thick litter.

### Materials for Creating Litter

Generally, use Rice husk, Wood powder, Paddy or wheat dry, Straw, Wood Stove, Nuts powder Etc.

### Feeding

Approved Nutrient requirement for quails is as indicated below.

Nutrients	Broiler Quails		Layer Quail (For Egg)		
	Starter (0-4 wks.)	Finisher (4-6 wks.)	Starter (0-4 wks.)	Grower (4-5 wks.)	Layer (> 6 wks.)
Energy (Kcal /Kg)	2800	2800	2750	2750	2700
Protein %	27	24	24	20	19
Calcium %	0.8	0.6	0.8	0.6	3.0
Phosphorus %	0.3	0.3	0.3	0.3	0.45

**Table 4.** Quail nutrient requirement

Broiler Pre starter followed by starter ration can be used.

- **Feed material should be made into 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.**

Wholesome adequate drinking water should be made available.

**Quails** have certain distinct characteristics that make them suitable for both egg as well as meat production. These are:

- Early marketing age (Five weeks for meat purposes, which is slightly below six weeks for broiler chicken)
- Early sexual maturity (They require six to seven weeks of age to produce eggs) High rate of lay (280 eggs per year)



- Occupation of a minimum floor space (Eight to ten birds can be kept in the same space housing a single chicken)

### **Disease Management in Quail Farming**

Generally, diseases in quails are less compared to other types of poultry. A Japanese quail suffers from various diseases like chickens. They are quite resistant to RD, Fowl pox, ascaridiasis etc.

- **Ulcerative enteritis:** the causative agents are *Corynebacterium perdicum*, *Clostridium perfringens* and other gram positive and negative bacilli and rods of bacteria. In acute form mortality may go up to 100% in young quails. Its occurrence is more on litter than wire. Birds die without any typical signs with feed in crops. The important symptoms are watery droppings with urates, Birds became dull, humped up, ruffled feather, partially opened eyes. Important lesions are ulceration in intestine and caeca. Haemorrhagic enteritis in the upper part of intestine seen. Liver lesions vary from yellow spots to yellowish areas of necrosis along the edge of liver. Spleen may be enlarged and haemorrhagic. This can be treated with bacitracin, streptomycin, Chloromycetin.
- **Bronchitis:** caused by filterable virus serologically distinct from infectious bronchitis. Disease characterized by tracheal rales, sneezing and coughing but no nasal discharge. It may cause 80% mortality in young birds. Here prevention is better than cure.
- **Aspergillosis:** caused by *Aspergillus fumigatus*.
- **Coccidiosis:** Sporadic cases have been observed but not so aggressive like chicken.
- RD-Sporadic cases have been observed. But the same has been controlled through lasota vaccination.
- **Vaccination:** No vaccination is required for quails. But some sporadic RD cases have been reported. In such cases, it recommended for Lasota vaccination through drinking water is essential in RD prone areas.

### **References**

- Chewe .N. (2008), Determinants of Market Participation and Animal Health Management of Smallholder Livestock Producers in Zambia, Purdue University, West Lafayette, Indiana.
- Salathe L.E. (1979). "The Effects of Changes in Population Characteristics on U.S. Consumption of Selected Foods." *American Journal of Agricultural Economics*: 1036-1045.
- Tey Y.S, Shamsudin M.N, Mohamed Z, Abdullah A. M, and Radam A. (2007). A Complete Demand System of Food in Malaysia, in the proceedings of the USM-UPM-PETA Conference: Agriculture as a Business, Penang, Malaysia.
- Shim K.F. (2005). The Nutrition and Management of Japanese (Coturnix) Quail in the Tropics.