

Backyard Chicken Farming: For Income, Health and Happiness

M. A. Pradeep* and S. R. Krupesha Sharma

Central Marine Fisheries Research Institute, Kochi 682018, Kerala, India

Email*: drpradeepma@gmail.com

37

Chicken

Chickens (*Gallus gallus domesticus*) are gregarious, omnivorous, ground-dwelling birds that in their natural surroundings search among the leaf litter for seeds, invertebrates, and other small animals. They seldom fly except as a result of perceived danger, preferring to run into the undergrowth if approached.

With a population of more than 19 billion in 2011, there are more chickens in the world than any other species of bird or domestic animal. They are one of the most common and widespread domestic animals and is the second most widely eaten type of meat globally. Chicken along with eggs, provides nutritionally beneficial food containing high-quality protein accompanied by a low proportion of fat.

Origin

The modern breeds of chicken (*Gallus gallus domesticus*) is supposed to be evolved in India from Red Jungle fowl (*G. gallus*), whose original habitat is South and Central India, the Himalayan Terrain, Assam, Burma, Ceylon, Sumatra and Java. Domestication of chicken is believed to have taken place between 7,000 and 10,000 years ago. Apart from *G. gallus* scientists have identified three closely related species that might have bred with the red junglefowl.



Chicken rearing in India and Kerala

Kerala was considered to be one of the major sources of poultry meat and egg and the state was exporting large quantities of egg, meat and fowls to other neighboring countries and states until 1970, all through backyard rearing with indigenous breeds

of fowls. With the advent of commercial layer poultry farming in other states, this position is reversed. Now Kerala has to import at the rate of 4 lakh eggs a day for internal requirements from neighboring states like Tamil Nadu, Karnataka and Andhra Pradesh.

Chick eggs come second only to mother's milk in terms of nutritive value. As per the ICMR recommendations, the average per capita egg consumption should be 180 and meat 11Kg. The per capita consumption of eggs in Kerala is only 74 and meat 1.4Kg. Hence there is an urgent need of scaling up production. In Kerala even now 80% of egg production comes from backyard poultry. Fairly significant proportion of landless and marginal farmers makes out their living from poultry and other small ruminants. Besides subsidiary income generation, rural backyard poultry provides nutrition supplementation in the form of valuable animal protein and empowers women.

Backyard poultry Farming

Backyard poultry rearing requires hardly any infrastructure setup. Besides targeted egg production, it is a potent tool for upliftment of the poor. It has a very positive impact to improve the socio-economic factors of the socio economically backward people. Backyard poultry production can cater to the nutritional requirements of the family as well as cater to a niche market, thus providing a source of subsistence income.

Backyard poultry can be taken up by every household as a subsidiary occupation, as a source of additional income or to cater to the egg and meat requirements of the family by taking up colored bird units ranging from 10-20 birds per family in their backyards. Such units require very little hand feeding and can give a fairly handsome return with bare minimum night shelter.

Commercial Poultry Production in Kerala is not feasible owing to various reasons. For Kerala to be self-sufficient in poultry egg and meat, the only alternative is strengthening of Backyard Poultry Production, which was once Kerala's own method of bulk and quality egg production at bare minimum cost.

Chicken varieties suitable for Backyard Rearing

Native (Desi) Chicken

Native chicken have undergone natural selection and are best adapted for the local climatic conditions, they can survive on kitchen and agricultural wastes and survives well on scavenging and left over feed. They are hardy and resistant to many diseases. They survive well from predators. Native hens are good brooders and have good mothering ability. Native chickens are capable of self propagation; they can set their own nest, lay eggs in nest, brood and take care of their young ones. But native chicken are low on productivity, so to increase productivity improved varieties of chicken need to be reared.

Indian Breeds of Chicken		
S. No.	Breed	Home Tract
1	Ankaleshwar	Gujarat
2	Aseel	Chhattisgarh, Orissa and Andhra Pradesh
3	Busra	Gujarat and Maharashtra
4	Chittagong	Meghalaya and Tripura
5	Danki	Andhra Pradesh
6	Daothigir	Assam
7	Ghagus	Andhra Pradesh and Karnataka
8	Harringhata Black	West Bengal
9	Kadaknath	Madhya Pradesh
10	Kalasthi	Andhra Pradesh
11	Kashmir Favorolla	Jammu and Kashmir
12	Miri	Assam
13	Nicobari	Andaman & Nicobar
14	Punjab Brown	Punjab and Haryana
15	Tellichery	Kerala
16	Mewari	Rajasthan



Aseel



Chittagong



Busra



Tellichery

Improved Varieties

Vanaraja

Vanarajaisa dual-purpose variety for free range farming in rural and tribal areas. Males weigh about 1.2 to 1.5 kg at 10 wks and females lay about 120-140 eggs in lying year. The bird is hardy and has better immune competence. Because of its multi coloured plumage and brown eggs, it is well accepted by the rural people across the country.



Gramapriya

Gramapriya is alayer type variety developed for free range farming in rural and tribal areas. The bird has the production potential of 230-240 eggs in a year and can lay 160-180 eggs in free-range conditions with minimum supplementary feeding. The males weigh around 1.2 to 1.5kg at 15 wks of age and suitable. The bird has coloured plumage and lays bigger (57-59g) and brown eggs. It is hardy and livability is high.



Giriraja

Giriraja breed of chicken suited for mixed and backyard farming developed by Karnataka Veterinary, Animal, and Fishery Sciences University in Bangalore, India. Females lay 130-150 eggs per year, with each egg weighing 52-55 grams. The eggs have a good hatchability (80-85 per cent), and enable farmers to raise their own stock. Their shells are brown in colour and thicker than that of other commercial eggs. The bird's exhibit better growth compared to local varieties, they can be raised as free-roaming birds and can be fed with locally available materials. Being good scavengers, they feed on a variety of insects and green foliage. They can also be fed on farm and kitchen waste. The birds are resistant to many diseases, an exception being Ranikhet disease.



Swarnadhara

Swarnadhara is a hybrid chicken breed developed at department of Avian Production and Management (DVPM), Hebbal, Bangalore. It is a Hardy bird having high egg production potential along with better growth compared to other local varieties and are suited for mixed and backyard farming. The bird can be reared for



its eggs and meat. Hens attain a body weight of about 3 kg and the cocks about 4 Kg by 23rd week. They lay about 180-190 eggs in a year. The eggs have good hatchability (80-85 per cent) and enable the farmers to raise their own stock. A day-old chick weighs about 35-40 gm. The eggshell is brown in colour and thicker than that of other commercial eggs and does not break easily. The birds are only layers and not brooders (that is, they only lay eggs and do not incubate them). The eggs have to be hatched by local brooder hens. For backyard rearing, a flock of five hens and one cock can be ideally grown. They can be raised as free roaming birds and can be fed with locally available materials, being good scavengers; they feed on a variety of insects and green foliage. They can also be fed on farm and kitchen wastes. The birds have a high longevity, they are sturdy and resistant to major infections except new castle disease.

Gramalakshmi and Gramasree

These two varieties have a high production potential along with better growth rate suited for mixed and backyard farming developed by College of Veterinary and Animal Sciences, Mannuthy. Gramalakshmi birds are white in colour with black speckles throughout the body while Gramasree birds are dark brown with a sprinkling of black, and grey on different parts of the body. The hens attain a body weight of 1.4 kg in five months and start laying eggs after 160 days.



The males attain a body weight of 1.5 kg in three months and are popular for their meat, which is low in fat content compared with present day broilers. Both the varieties lay about 200 eggs each year with each egg weighing about 50 gms.

The eggshell is brown in colour and thicker than that of other commercial eggs and does not break easily. It can be stored for 8-10 days at room temperature. The birds are hardy and require little care and can be reared in the open. They can be fed on farm and kitchen waste. In addition, they have to be provided with a special protein feed to meet their high production requirement. These varieties have lost their brooding character so native broody hens should be used to brood eggs laid by these birds.



Athulya

High producing heat tolerant Athulya strain (ILM-90) of layer chicken is developed for high egg production with desirable egg weight at college of veterinary and animal sciences, Mannuthy. Athulya is a white coloured bird that attains maturity at an early age of 123 days. It produces 280-290 eggs an year.



ORNAMENTAL POULTRY BREEDS

Apart from keeping for meat and eggs, chickens are also kept as ornamental pets. Some ornamental breeds of chicken even fetch more than 10,000 rupees per bird. Some popular ornamental chicken breeds are given below

Phoenix

The Phoenix is an ancient Japanese breed of chicken. Phoenix is a remarkably beautiful chicken breed with long tail and is kept primarily for its exhibition and aesthetic purposes. It lays medium sized white eggs, but not frequently enough to call it a utility trait.



Frizzle

The Frizzle is a breed of chicken with characteristic curled or frizzled plumage, they are the best birds to have as pets, are popular due to their sweet personality and fantastic mothering qualities. The Frizzles are fun to look at and their feathers are very soft.



Silkie

The Silkie is a breed of chicken named for its typically fluffy plumage, which is said to feel like silk. The breed has several other unusual qualities, such as dark blue flesh and bones, blue earlobes, and five toes on each foot (most chickens only have four). They come in several colors (red, gold, blue, black, white, and partridge). In addition to their distinctive physical characteristics, Silkies are well known for their calm, friendly temperament. Among the most docile of poultry, Silkies are considered an ideal pet. Hens are also exceptionally broody, and make good mothers. Though they are fair layers themselves, laying about three eggs a week, they are commonly used to hatch eggs from other breeds and bird species.



Golden Sebright and Silver Sebright

They are very small birds and have a sweet nature, they are excellent flyers. Their voice or cry is somewhat higher-pitched. They lay a small white egg.



Polish

The Polish (Also called the Poland) is a European breed of chicken known for its crest of feathers and v-shaped comb.



Kadaknath

Kadaknath is an Indian breed of chicken local to the Madhya Pradesh, where it is known as "Kali masi" ("fowl having black flesh") because the bird is black inside – out – skin, feathers, legs etc. The Kadaknath is popular mainly for its adaptability, and the good-tasting black meat, which is believed to infuse vigor. Its colour stems from the deposition of melanin pigment. Due to the meat's alleged medicinal properties, it is in high demand. The bird is high in iron and amino acids and low in fat. It tolerates extreme heat and cold climatic conditions and requires minimal management inputs. The breed is disease resistant and is valued for the quality and flavour of its black meat.



Housing and Management

In backyard Poultry rearing particular attention may be given to these important aspects namely,

- i. To give better ventilation in the night shelter.
- ii. Timely preventive vaccinations and deworming.
- iii. To provide some amount of balanced feed rather than leaving the birds entirely for scavenging.

Given below is a all-purpose premix developed at College of veterinary and animal sciences, Mannuthy exclusively for the use of backyard poultry. Fairly good egg production can be achieved by providing 50 per cent of daily requirement of feed in the form of balanced feed/commercial feed.

Concentrate mixture for backyard poultry

Ingredients	Premix I (%)	Premix II (%)
Groundnut cake (expeller)	52	60
Gingelly oil cake	20	-
Unsalted dried fish	20	32
Broken rice/wheat/dried tapioca	4	4
Mineral mixture for poultry	4	4
Total	100	100

(Source: Kerala Agricultural University)

Disease Management

In addition, strict sanitation, good litter management and adequate floor space will help to check the occurrence of diseases.

Vaccination programme for layer type chicken

Age	Disease	Vaccine	Route
1. 1 day	Marek's	HVT vaccine	I/M
2. 5-7 days	RD	Lasota/F	Occulonasal
3. 10-14 days	IBD	IBD Live	Drinking water
4. 24-28 days	IBD	IBD Live	Drinking water
5. 8th week	RD	R2B/RDVK	S/C
6. 16-18 week	RD	Killed/Live	S/C

(Source: Kerala Agricultural University)

Deworming

Birds should be dewormed starting from 7th week and repeated at 3-week intervals so as to give a total of 4 deworming. Piperazine compounds, albendazole, mebendazole etc. can be used against round worms. Against tape worms, Niclosamide, Praziquintel, Albendazole can be used. While medicating through drinking water, it should be done by mixing the required quantity of medicine in the quantity of water that chicks normally consume in 4 hours' time (say approximately 6 litres per one hundred, 6 week-old chicks, per day). Additional water should be given only when all the medicated water is consumed by the chicks.

Ectoparasites

On the slightest indication of ectoparasites, the birds should be dusted or dipped and houses fumigated. The following may be used for dusting and dipping, while dipping care should be taken to avoid head dipping. Dipping should be avoided on rainy days.

1. Tick tox – synthetic pyrethrin compound. Dose – as per manufacturer's instructions
2. Butox – Deltamethrin compound. Dose – as per manufacturer's instructions

In addition to these, general measures of sanitation such as keeping young stock away from adult stock, keeping the poultry houses and equipments clean, prohibiting visitors into the poultry house, proper disposal of dead birds, prevention of entry of rodents and other birds into the pen and periodical culling will greatly help in checking diseases.