

Characteristic Features of Indigenous Poultry Breeds of India: A Review

Alok Kumar Yadav^{1*}, Jitendra Singh² and Shiv Kumar Yadav³

¹Ph.D. Scholar, Division of Dairy Cattle Breeding, ICAR-National Dairy Research Institute, Karnal-132001, Haryana, India

²Veterinary officer, Department of Animal Husbandry, Lucknow, U.P.

³Department of Veterinary Physiology & Biochemistry, CVSc & AH., NDUAT, Kumarganj, Faizabad-224 229 (UP) India

*Corresponding Author E-mail: alokvet1000@gmail.com

Received: 8.02.2017 | Revised: 15.02.2017 | Accepted: 16.02.2017

ABSTRACT

Indigenous/native breeds of chickens are playing an important role in rural economies in most of the developing and underdeveloped countries. They are part of balanced farming system that have vital roles in the rural households as a source of high quality animal protein and emergency cash income and play a significant role in the socio cultural life of the rural community and woman empowerment. Performance of native fowl can be improved by change in husbandry, feeding, and better health cover. However, genetic improvement may be made either through selection and crossbreeding or by utilization of both selection and crossbreeding. Improvement through selection may be time consuming but the improvement will be permanent. Through crossbreeding improvement may be faster but research has to aim for the production of native-type birds with higher production potential. In the present review efforts have been made to present the importance of native fowl to rural economy and their improvement for higher production performance.

Key words: Indigenous Poultry, Biodiversity, Characteristics features, Conservation

INTRODUCTION

Domestic chicken (*Gallus gallusdomesticus*) is one of the most important animal species worldwide because it provides a large proportion of animal protein in human diet. Chickens have also been used for ornamental purposes (e.g. silkie or bantams) and entertainment (e.g. gamecocks used for cockfighting). The contemporary chicken was most probably developed from its main wild ancestor, the red jungle fowl (*Gallus gallus*),

after its domestication in Southeast Asia in 3,200 BC. Over the years, chicken evolved from the wild form to the multiple contemporary layers, broilers, bantams, game and fancy breeds, as well as the indigenous village chicken available today. At first sight the diversity within domestic chicken is extensive, which should provide an excellent base for breeding animals that are well adapted to a variety of local environmental conditions.

Cite this article: Yadav, A.K., Singh, J. and Yadav, S.K., Characteristic Features of Indigenous Poultry Breeds of India: A Review, *Int. J. Pure App. Biosci.* 5(1): 884-892 (2017). doi: <http://dx.doi.org/10.18782/2320-7051.2567>

However, the industrialization and globalization of chicken production in the 20th century adversely affected the distribution of chicken genetic resources worldwide, practically limiting the breed composition to commercial stocks of broilers and egg-type, laying hens. Consequently, many chicken breeds have already become extinct or are seriously endangered with extinction.

The Indian birds are mostly non-descripts, and are of very little value as layers. A large number of flows of different size, shapes and colours, and for the most part resembling the jungle fowls, are found all over India. They vary in appearance according to the locality in which they have been bred.

These with Chittagong, Aseel, Langshan or Brahma blood in them are bigger in size and better in meat quality than the common flows. India has made considerable progress in broiler production in the last two decades. High quality chicks, equipments, vaccines and medicines are available. With an annual output of 41.06 billion eggs and 1000 million broilers, India ranks fourth largest producer of eggs and fifth largest producer of poultry broiler in the world. The broiler production has also sky rocketed at an annual growth rate of about 15 percent at present. Broiler farming has been given considerable importance in the national policy and has a good scope for further development in the years to come.

1-Ankaleshwar



The native tract is Bharuch and Narmada districts of Gujarat. The name of the breed is derived from the Ankleshwar region of district Bharuch. The breeding range extends to Jumbusar, Zagadia, Bharuch, Hansot and Valia of Bharuch and Dediapada, Rajpipla, Tilakwada and Nadod of the Narmada district of Gujarat. Average Flock Size: 5 – 10 birds. Comb shape is single, rose-coloured. Annual egg production: 81. Average age at first laying cycle: 181 days. Average egg weight: 34.3 gms. Fertility: 91.3%. Hatchability of Fertile Eggs: 92.4%. Body Weight: 542gms at 8

weeks in male and 450gms in female, 885gms at 12 weeks in males and 772 gms in females and at 72 weeks 1800 gms in males and 1578 gms in females. These birds are mainly reared by tribal communities in South Gujarat for backyard poultry farming. The estimated population in the Bharuch and Narmada districts of Gujarat, is 4,500 birds. They are maintained without vaccination and medication, and have reasonable feed efficiency as they survive on 25-30 gms of grains, scavenging and maintain excellent fertility.

2-Aseel

Aseel is noted for its pugnacity, high stamina, majestic gait and dogged fighting qualities. The best specimens of the breed, although rare, and encountered in parts of Andhra Pradesh, especially the East Godavari, Visakhapatnam, Vizianagaram districts, Dantewada district of Chhattisgarh, Uttar Pradesh and Rajasthan. The most popular varieties are peela (golden red), yarkin (black and red), Nurie 89 (white), kagar (black), chitta (black and white silver), Teekar (brown) and Reza (light red). Although poor in productivity, the birds of this breed are well-known for their meat qualities. Broodiness is most common and the hen is a good sitter and efficient mother. They possess pea combs which are small but firmly set on head. Wattles and ear lobes are bright red, and the beak is hard. The face is long and slender, and

3-Busra

Busra birds are found in the Navapur Taluk of Nandurbar and the Sakri Taluk of Dhule districts of Maharashtra, and the Songadh and Uchhal Taluks of Surat district of Gujarat. Plumage is mostly white mixed with black feathers on the neck, back, tail, and reddish brown feathers on shoulders and wings. Comb is red, single, small to medium in size, stands erect. Beak is yellow and wattles are red, with a yellow shank. Standard Weight: Cocks: 0.85

not covered with feather. The eyes are compact, well set and present bold looks. The neck is long, uniformly thick but no fleshy. The body is round and short with broad breast straight back and close - set strong tail root. The general feathering is close, scanty and almost absent on the breast. The plumage has practically no fluff and the feathers are tough. The tail is small and drooping. The legs are strong, straight, and set well apart. Standard weight (kg): Cocks, 4 to 5; hen 3 to 4; cockerels, 3.5 to 4.5; pullets, 2.5 to 3.5. Body weight at 20 weeks: 1,220 gms. Age at sexual maturity: 196 days. Annual egg production : 92. Average Egg weight at 40 weeks: 50 gms. Fertility: 66%. Hatchability of fertile eggs: 63%. Size of a good specimen of an Aseel Cock from head to toe: 28 inches.

to 1.25 kgs and Hens: 0.8 to 1.2 kgs. Average age at first laying cycle: 5-7 months. Annual egg production: 40-55. Hatchability of eggs: 60-85%. Eggs are small weighing about 28 – 38 gms. The shell colour is primarily light brown. The birds are reared in a free range system for home consumption as well as for sale of live birds and eggs. The bird is preferred as a meat bird, since the egg laying capacity is poor.

4- Chittagong (Malay)



Found in the North Eastern states of India bordering Bangladesh. Average weight: Cock: 3.5 – 4.5 kg and Hen: 3 - 4 kg. A large bird very strong and hardy with a quarrelsome temperament. Possesses all the characteristics of a good game bird such as colouring (primarily bay, chestnut, gray, roan, palomino, black, etc.), large eyes, long mane and tail, strong, yet refined legs, high headset when in action, and low tail set.

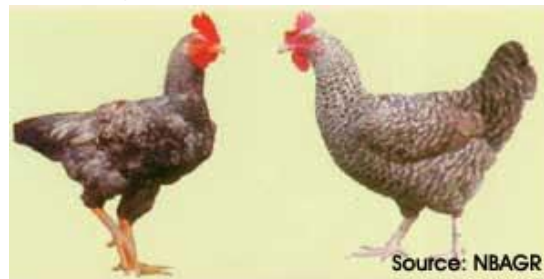
5-Danki



Distributed in the Vizianagram district (Bobli region) and adjoining parts of Srikakulam district of Andhra Pradesh bordering Odisha. Plumage colour: mainly brown followed by black. Cocks have shining bluish black feathers on wings, breast, tail and thighs. The neck is darker compared to the rest of the body. Wattles are absent. Comb is red, pea type and compressed. Spur is long and sharp in cocks and small in hens. Average Weight: Cocks: 3.12 kg and Hens: 2.22 kg. Average

age at first laying cycle: 6-8 months. Number of eggs laid in one egg laying cycle of 15-20 days: 8 - 12. Annual egg production: 25 - 35. Average egg weight: 46.16 gms. The Danki is basically used as a fighter bird.

6-Daothigir



Found in the districts of Kokrajhar, Chirang, Udalguri and Baska in Assam. Plumage colour is mostly black interspersed with white feathers. Comb is red, single, erect and large in size. Average weight: Cock: 1.79±0.13 kg and Hen: 1.63±0.13 kg. Annual egg production: 60 – 70. Average egg weight: 44.42 gms. These birds are reared by Bodotribals in Assam under backyard or free-range rearing systems.

7-Ghagus



Found in the Kolar district, and adjoining locations of Karnataka and Andhra Pradesh. The plumage colour is mainly brown, followed by black. The colour pattern is usually patchy in males and spotted in females. Shining bluish black feathers are found on the breast, tail and thighs of cocks. The neck is covered with golden feathers. Wattles are absent. Comb is red and pea or single type. Spur is short in cocks. Average adult body weight: Cock: 2.16 ± 0.25 kg and Hens: 1.43 ± 0.81 kg. Average age at first laying cycle: 5–7 months. Number of eggs laid in one egg laying cycle of 20-26 days: 15–20. Annual egg production: 45–60. Average egg weight: 40.25 ± 2.39gms. It is a breed reared mainly by the nomads of

Karnataka and Andhra Pradesh. The birds are maintained largely for eggs and/or game purposes and reared in a backyard farming system. The hens are fairly good layers.

8-Harringhata Black



Reared throughout West Bengal. The core-breeding tract comprises the northern part of North 24 Parganas and the southern part of Nadia districts of West Bengal. Jet black in colour with red comb and wattles while the shanks are white in colour. Average weight: Cock: 1.5 kg and Hen: 1.2 kg. Annual average egg production: 130. A small bodied-black bird with typical features of a layer. The breed is very alert, highly mobile, and capable of escaping predator attack while scavenging. Farmers maintain the birds on scavenging with negligible supplements of crop residue and kitchen waste. The breed's strong broodiness and mothering ability is used by farmers to hatch and brood eggs of other fowl and even ducks. The breed demonstrates effective tolerance to common diseases.

9-Kadakhnath



The original name of the breed seems to be Kalamasi, meaning a fowl with black flesh. However, it is popularly known as Karaknath. Bred by the tribals in the Jhabua and Dhar Districts of western Madhya Pradesh. The eggs are light brown. Day-old chicks are

bluish to black with irregular dark stripes over the back. Adult plumage varies from silver and gold-spangled to bluish-black without any spangling. The skin, beak, shanks, toes and soles of feet are slate like in colour. The comb, wattles and tongue are purple. Most of the internal organs show intense black colouration, which is pronounced in trachea, thoracic and abdominal air-sacs, gonads and at the base of the heart and mesentery. The blood is darker than normal. The black pigment is the result of melanin deposition. Average adult body weight: Cock: 1.5 kg and Hens: 1.0 kg. A medium layer, lays about 80 eggs per year. The eggs are light brown in colour. Average egg weight: 46.8 gms. The original name of the breed is Kalamasi, meaning a fowl with black flesh, which, though not very appealing to the eye, is very tasty. The bird is resistant to diseases in its natural habitat in free range conditions but is more susceptible to Marek's disease under intensive rearing conditions. Kadakhnath chicken is said to contain many kinds of amino acids and vitamins and are a powerful source of protein.

10-Kalasthi



These are native to the Chittoor district, and adjoining regions of Nellore district in Andhra Pradesh. The common plumage colour is bluish black but brown birds are also noticed. The colour pattern is generally patchy in males and spotted in females. Cocks possess shining golden feathers on the neck and wings. Legs are proportionately longer. Wings are dorsally set revealing thighs enveloped with smooth feathers. Wattles are absent. Comb is red, pea type and compressed. Spur is small in size. Average adult weight: Cock is 2.48 ± 0.13 kg and Hen is 1.85 ± 0.10 kg. Average age at first

laying cycle: 6-8 months. Number of eggs laid in one egg laying cycle of 15-25 days: 9-14. Annual egg production: 30-40. Average egg

weight: 42.91 ± 1.94 gms. The birds are reared in the backyard farming system primarily for meat.

11-Kashmir Favorolla



The indigenous chicken of Kashmir thrives at an altitude of 1,500 to 2,000 meters above sea level. They are small sized birds with small single combs and wattles. Their feathered comb is the peculiarity of this breed. Average

adult weight: Cock: 1.72 ± 0.04 kg and Hen: 1.25 ± 0.02 kg. Average egg weight: 46.06 ± 0.48 gms. This breed is most suitable for cold climates and mountainous terrains.

12-Miri



This bird is native to Assam, and specifically the Dhimaji, Lakhimpur and Upper Assam regions. The body weight ranges from: DOC: 0.024 to 0.026 kg, 5 months: 0.7 to 0.8 kg and at 10 months: 1.0 to 1.3 kg. Average age at

first laying cycle: 168 days. Number of eggs laid in one egg laying cycle: 11 - 15. Annual egg production: 60 - 70. Average egg weight: 38.91 ± 1.94 gms. This bird is reared by the Mishing or Miri Tribes of Assam

13-Nicobari



As the name suggests, the bird is native to the Nicobar islands. Brownish matte in colour.
Copyright © February, 2017; IJPAB

Comparatively a smaller sized, short legged bird, somewhat round and compact in

appearance with a stout neck. The bird is well adapted to the tropical environment of the

Nicobar Islands and is a good layer among native breeds.

14-Punjab Brown



Found in rural areas of Gurdaspur in Punjab and in Ambala and Yamunanagar in Haryana. Plumage colour is mostly brown and the pattern is usually solid but is sometimes spotted or striped. Males in particular have black spots/stripes on their neck, wings and tail. The comb is red, of single type and erect in position. Average flock size: 9 birds. Average Weight: Cock: 2.15 ± 0.94 kg and

Hen: 1.57 ± 0.04 kg. Average age at first laying cycle: 5 – 6 months. Clutch size: 4 - 5. Annual egg production: 60 - 80. Average egg weight: 46.0 ± 1.91 gms. Egg shell colour is mostly light brown. A multi-purpose breed, yielding good quality meat and eggs. Birds are reared in the backyard system and shelter is provided only at night in the form of small enclosures mostly made up of mud and sometimes of wood.

15-Tellichery



Found mainly in the Calicut district but also in the surrounding areas in Kannur and Malappuram districts of Kerala, and the adjoining Mahe region of Puducherry. Plumage color is black with a shining bluish tinge on hackle, back and tail

feathers. Comb is red, single and large in size. Average weight: Cock: 1.62 ± 0.16 kg and Hen: 1.24 ± 0.10 kg. Eggs are tinted. Annual egg production: 60 – 80. Average egg weight: 40.02 ± 0.94 gms.

16-Mewari

Mewari chicken is found in Central and Southern part of Rajasthan. It is reared for egg and meat under free range or scavenging system. Adult weight is about 1.9 kg in cocks and 1.2 kg in hens. Annual egg production ranges from 37 to 52. Egg weight is about 53g. Citing the benefits of the indigenous varieties, scientists claim that these are well adapted to the local climate and thrive better in adverse environmental conditions and nutritional scarcity. This breed does not easily fall prey when attacked by dogs and cats and their meat & eggs fetch five times more compared to other chicken breeds.

17-Kaunayen chicken:

Breeding tract consists of Thoubal, Imphal West, Imphal East and Bishnupur districts in the valley region. Some birds are also available in hill region consisting of Chandel, Churachandpur, Senapati, Ukhrul, Tamenglong districts. Kaunayen birds have elongated body with long neck and long legs.

The predominant plumage color is black followed by brown (or red) with or without patches. Hens are generally black, grey, blackish grey or whitish grey with few brown feathers on neck, breast and wings. Cocks generally have shining bluish black feathers on wings, breast, tail and thighs. Comb is red in colour, mainly pea type. Neck, breast and thighs are generally bare, hard and rose red colored in fighting cocks. Spur is long and sharp in cocks. Used for cock fighting. Estimated population is approximately 60,000-80,000.

CONCLUSIONS

The importance of native breeds of poultry birds for rural economy in developing and underdeveloped countries mostly in Asia and Africa is very high. They play a major role for the rural poor and marginalized section of the people with respect to their subsidiary income and also provide them with nutritious chicken egg and meat for their own consumption. One of the most important positive characters of native chicken is their hardiness, which is ability to tolerate the harsh environmental condition and poor husbandry practices without much loss in production. The native breed chickens are the reservoir of genomes and major genes for improvement of high yielding exotic germplasm for tropical adaptability and disease resistance. The low production performance of native breeds of chickens may be improved through improvement in husbandry practices, better healthcare, and supplementary feeds during lean season and also through selection and crossbreeding. Crossbreeding with exotic germplasm showed the improvement quickly; however, selection in native breeds can bring the improvement permanently. Upgradation of the native breeds of chickens through different breeding technique helps to increase the productivity of the germplasm and also their conservation in their natural habitat as the rural people will be very happy to rear them for their adoptability to harsh environment.

REFERENCES

1. Belsare, R. M., Narayan khedkar, S.G. (2004). Relative selection efficiency and expected selection estimates in Kadakanath breed of poultry. *The Journal of Bombay Veterinary College*.12: 64.
2. www.agritech.tnau.ac.in/expert_system/poultry/index.html
3. www.icar.org.in
4. www.icar.org.in/cari/native.html
5. www.nbagr.res.in/regchi.html
6. www.vikaspedia.in/agriculture/poultry