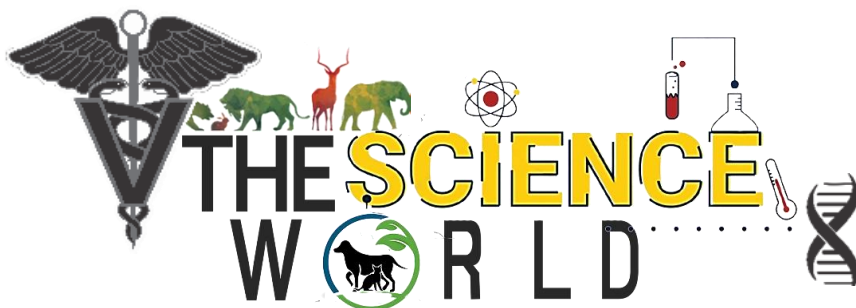




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Popular article

Duck Farming in India: A Sustainable Poultry Enterprise

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Duck production represents an important component of the poultry sector, particularly in low-input farming systems where it contributes to food security, rural livelihoods, and household income. In India, ducks account for approximately 10% of the total poultry population and contribute nearly 7–8% of the country's egg production. More than 90% of the duck population comprises indigenous or non-descript genetic resources, which are primarily maintained by smallholder and marginal farmers under traditional production systems.

Duck husbandry is predominantly practiced in regions endowed with wetlands, rivers, ponds, and coastal ecosystems, where natural water bodies provide an ideal environment for scavenging. Despite its economic importance, duck farming in India has remained largely non-industrialized and continues to rely on extensive, semi-scavenging, and traditional management practices. These systems have evolved over generations and are characterized by low capital investment, efficient utilization of locally available feed resources, and minimal housing requirements, making them particularly suitable for resource-poor farming communities.

Ducks possess several biological and productive advantages over other poultry species. They are hardy birds with a high degree of adaptability to diverse climatic conditions and exhibit greater resistance to many common avian diseases. Their natural scavenging behavior enables them to utilize a wide range of feed resources, including spilled grains in harvested paddy fields, aquatic plants, insects, snails, earthworms, molluscs, small fish and other aquatic organisms, thereby substantially reducing feed costs.



Consequently, duck production can be integrated effectively with rice cultivation and wetland farming systems, enhancing overall farm productivity and resource-use efficiency. From a production perspective, ducks are recognized for their superior egg-laying capacity and longer productive lifespan. High-performing laying breeds, such as Khaki Campbell, can produce more than 300 eggs annually under appropriate management conditions, while Indian Runner ducks are also valued for their excellent laying performance. Duck eggs are generally larger than chicken eggs, with an average weight approximately 18–20 g greater than that of hen eggs, thereby offering enhanced market value.

Duck meat is also gaining commercial importance because of its desirable nutritional and sensory characteristics. Compared with chicken, duck breast contains a greater proportion of red muscle fibers, resulting in darker meat with distinctive texture and flavour. Among meat-type breeds, White Pekin is the most widely utilized owing to its rapid growth rate, efficient feed conversion ratio (approximately 2.3–2.7), and superior carcass quality. Mature White Pekin drakes typically attain a body weight of around 4.0 kg, whereas adult females weigh approximately 3.5 kg. Other recognized meat breeds include Aylesbury, Muscovy, Rouen, Cayuga, Buff, and Swedish ducks.

Importance of Ducks in the Indian Poultry Sector

- **Significant Contribution to Poultry Production:** Duck farming is an important part of India's poultry industry, particularly in states such as West Bengal, Kerala, Assam, Odisha, Tamil Nadu, and Andhra Pradesh, contributing substantially to egg and meat production.
- **Low-Input, High-Output Enterprise:** Ducks require relatively low management and feed inputs while producing 15–20 more eggs annually than backyard chickens. Duck eggs are also 10–15 g heavier, increasing their market and nutritional value.
- **Hardy and Disease-Resistant:** Ducks possess greater natural resistance to several common poultry diseases, including Ranikhet (Newcastle) disease, making them well suited for backyard and free-range production systems.
- **Ideal for Integrated Farming:** Ducks integrate efficiently with rice cultivation and aquaculture. They control weeds, insects, and snails in paddy fields while enriching the soil with nutrient-rich manure, reducing dependence on chemical fertilizers and pesticides.



- **Livelihood and Nutritional Security:** Duck farming generates employment and provides a dependable source of meat and eggs, thereby enhancing household income, nutritional security, and sustainable rural livelihoods.

Major Duck Breeds: - Several duck breeds are reared worldwide for meat and egg production, each possessing unique characteristics suited to different production systems.

1. White Pekin, originating from China, is the most widely reared commercial meat duck breed in the world. It is known for its rapid growth, excellent feed conversion efficiency, and superior meat quality, reaching a market weight of 2.5–3.0 kg within 6–8 weeks, making it highly suitable for intensive meat production.



2. Khaki Campbell: It developed in the United Kingdom, is regarded as one of the best egg-laying duck breeds. Under good management practices, a single duck can produce 250-300 eggs annually. Its exceptional laying ability, adaptability, and efficient feed utilization make it a preferred breed for commercial egg production.



3. Indian Runner: - This breed is originating from Southeast Asia and commonly associated with Indonesia and Malaysia, is easily recognized by its distinctive upright, penguin-like posture. It is an excellent forager and active scavenger, making it well suited for free-range and backyard production systems. Indian Runner ducks are prolific egg layers, producing 200–250 or more eggs per year under suitable management conditions.



4. Muscovy Duck: - Muscovy duck native to South America, is unique because it belongs to a different species (*Cairina moschata*) than most domestic ducks (*Anas platyrhynchos domesticus*). It is highly valued for its lean, flavourful red meat with lower fat content compared to other duck breeds. Muscovy ducks are also known for their excellent brooding and maternal abilities, strong disease resistance and adaptability to a wide range of environmental conditions.



Indian Duck Breed

- 1. Pati:-** The Pati duck is the first recognized indigenous duck breed of India, originating from Assam. It is widely reared by rural households and plays an important role in income generation, employment, and nutritional security. Known for its adaptability and cultural significance, the breed is an integral part of traditional farming systems in Assam. However, its population is threatened by habitat loss, indiscriminate crossbreeding, and inadequate scientific breeding and disease management programmes. Conservation efforts, including genetic improvement, habitat protection, community participation, and organized breeding programmes, are essential to ensure the sustainable development and preservation of this valuable native duck breed.
- 2. Maithili:-** Maithili duck is an indigenous duck population found primarily in North Bihar, India. It is characterized by its attractive plumage, relatively light body weight, and excellent adaptability to the local climatic conditions. Well suited to backyard and smallholder farming, Maithili ducks require minimal land and management inputs, making them an ideal choice for resource-poor farmers. They are also integrated effectively with fish farming systems, where duck–fish farming enhances farm productivity and sustainability. The breed is highly valued by local communities for its flavourful meat, which is traditionally believed to possess medicinal properties.
- 3. Andamani:-** Andamani duck is an indigenous duck breed of the Andaman and Nicobar Islands, recognized for its excellent dual-purpose performance, providing both quality meat and high egg production. It is distinguished by its striking black plumage with characteristic white markings. Adult birds have an average body weight of approximately 1,406 g and can produce up to 266 eggs annually under suitable management conditions. The breed is well adapted to the humid tropical climate of the islands and performs efficiently under free-range and backyard production systems. Owing to its hardiness, adaptability, and high productivity, the Andamani duck represents a valuable indigenous genetic resource with significant potential for sustainable poultry farming and conservation.
- 4. Tripureswari:-** The Tripureswari duck is an indigenous duck breed of Tripura officially recognized for its adaptability, resilience, and economic importance. It is valued for its high egg production, good-quality meat, and excellent suitability to wetland ecosystems, making it an important source of livelihood and nutritional security for rural communities. The breed contributes significantly to sustainable poultry farming due to its efficient foraging ability and adaptability to local conditions. However, challenges such as large-scale breeding, disease management, and market development need to be addressed.



Conservation, scientific breeding programmes, and policy support are essential to promote and preserve this valuable indigenous duck breed.

5. Kodo:- The Kodo duck is a newly recognized indigenous duck breed native to Jharkhand, India, predominantly found in the districts of West Singhbhum, Saraikela-Kharsawan, Ranchi, and Pakur. Traditionally reared by tribal communities, the breed is well adapted to the local agro-climatic conditions and thrives under low-input backyard production systems. Kodo ducks are valued for their dual-purpose utility, providing both quality meat and eggs, making them an important source of livelihood, nutritional security, and income for rural households. Their hardiness, adaptability, and efficient performance under scavenging conditions highlight their potential for sustainable duck farming and conservation of indigenous genetic resources.

6.Kudu:- The Kudu duck breed native to the Mayurbhanj district of Odisha, India. This small-sized breed is primarily reared by tribal communities and is highly valued for its egg-laying ability. Well adapted to the local agro-climatic conditions, Kudu ducks thrive under free-range and backyard production systems, requiring minimal management inputs. Their hardiness, efficient scavenging ability, and adaptability make them an important genetic resource for sustainable rural poultry production and livelihood security in the region.

7. Kuttanad:- The Kuttanad duck is native to the Kuttanad wetlands of Kerala, India, the breed is well adapted to the unique waterlogged ecosystem of the region. It comprises two major varieties: Chara, primarily reared for meat production and Chemballi, known for its superior egg-laying performance. Kuttanad ducks are renowned for their excellent free-range foraging ability, high egg production, and natural resistance to common diseases. Their adaptability to integrated rice duck farming systems and wetland environments makes them a valuable indigenous genetic resource, contributing significantly to the livelihoods of rural farmers and the sustainability of duck farming in Kerala.

8. Manipuri:- The Manipuri duck, locally known as Meitei Nganu or Eshing Nganu, is an indigenous duck breed native to Manipur, India. Well adapted to the region's wetlands and agro-climatic conditions, it is primarily reared under low-input backyard and free-range production systems. This hardy and resilient breed is valued for its dual-purpose utility, providing both eggs and quality meat, and serves as an important source of livelihood, nutritional security, and income for rural households. Its excellent adaptability, efficient scavenging ability, and suitability for traditional farming systems make the Manipuri duck a valuable indigenous genetic resource deserving of conservation and genetic improvement efforts.



9. Nagi:- The Nagi duck, locally known as Nageswari, is an indigenous duck breed native to the Barak Valley of Assam, India, and adjoining regions of Bangladesh. It is recognized as a highly productive egg-laying breed, well adapted to the humid agro-climatic conditions of the region. Nagi ducks are hardy, climate-resilient, and perform efficiently under low-input backyard and free-range production systems. They produce approximately 150 eggs per year, making them an important source of eggs, income, and nutritional security for rural households. Their adaptability, productivity, and resilience make the Nagi duck a valuable indigenous genetic resource that warrants continued conservation and genetic improvement.

