



PITHAPUR RAJA'S GOVERNMENT COLLEGE (AUTONOMOUS)
KAKINADA

— DEPARTMENT OF ZOOLOGY —

POULTRY MANAGEMENT - I

PRACTICAL MANUAL





P.R.GOVERNMENT COLLEGE (A)
DEPARTMENT OF ZOOLOGY

POULTRY MANAGEMENT -I
PRACTICAL MANUAL

DEPARTMENT OF ZOOLOGY
P.R. GOVERNMENT DEGREE COLLEGE
KAKINADA

SYLLABUS

1. Different types of Poultry rearing (Students has to observe and draw the different types of poultry rearing systems)
2. Different types of poultry Housing - Models / Images/charts
3. images/charts/ Models (Observation of characters)
4. Types of broilers images/charts/ Models (Identification of important Characters)
5. CARI breeds characters –images/charts
6. Nandanam breeds- images/charts (Identification of characters)

MODEL QUESTION PAPER

MAX MARKS-50

Part A — Major Experiment

20 Marks

1. Different types of poultry housing systems.

Part B — Identification

(4X4= 16 Marks)

Identify the given chart/model/specimen. Draw a neat labelled diagram

- a) White leghorn
- b) Cobb
- c) CARI Priya
- d) Nandanam Chicken II

Part C — Field visit report

(4 Marks)

Part D — Viva Voce

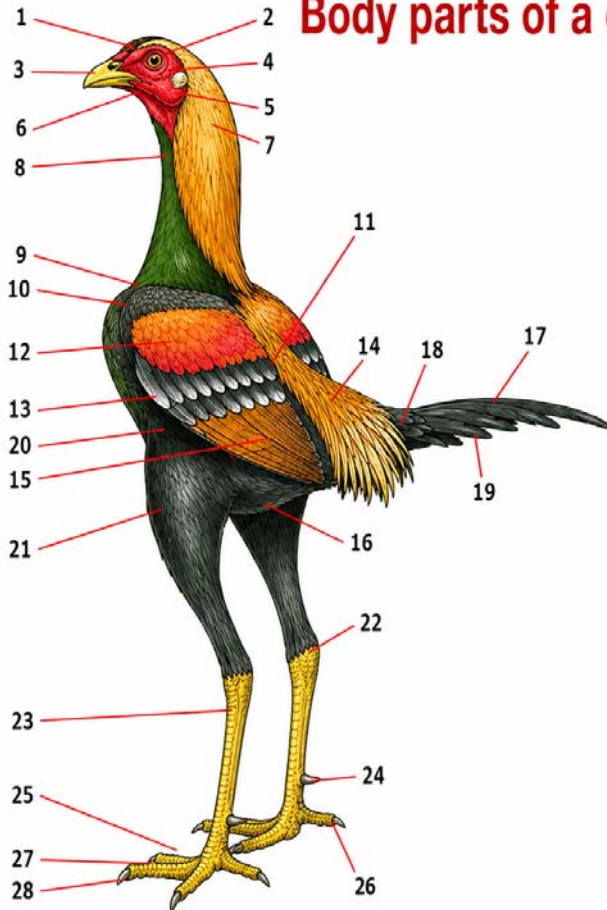
(5 Marks)

Part E — Record and Observation Book

(5 Marks)

TOTAL- 50 MARKS

Body parts of a chick



1. Comb (removed)
2. Eye
3. Beak
4. Ear
5. Ear Lobe (removed)
6. Wattles (removed)
7. Neck Hackle
8. Neck
9. Breast
10. Shoulder
11. Back
12. Wing Bow
13. Wing Bar (Coverts)
14. Saddle Hackle
15. Wing Bay (Secondaries)
16. Abdomen
17. Tail Sickle
18. Tail Coverts
19. Tail
20. Keel
21. Thigh
22. Hock Joints
23. Shank
24. Spur
25. Foot
26. Back Toe
27. Middle Toe
28. Toe Nail

1 Different types of Poultry rearing

1 Different types of Poultry rearing

Different Types of Poultry Rearing

Poultry rearing refers to the method of raising domestic birds such as chickens, ducks, turkeys, quails, and geese for eggs, meat, or both.

A. Free-Range System

- Birds are allowed to roam freely in open fields.
- They obtain part of their food by grazing and scavenging.
- Requires low investment.
- Suitable for rural areas.

Advantages

- Low feeding cost
- Better bird welfare
- Natural growth

Disadvantages

- Lower production
- Higher risk of diseases and predators

B. Semi-Intensive System

- Combination of free-range and confined rearing.
- Birds have access to both shelter and open run.
- Moderate investment and management.

Advantages

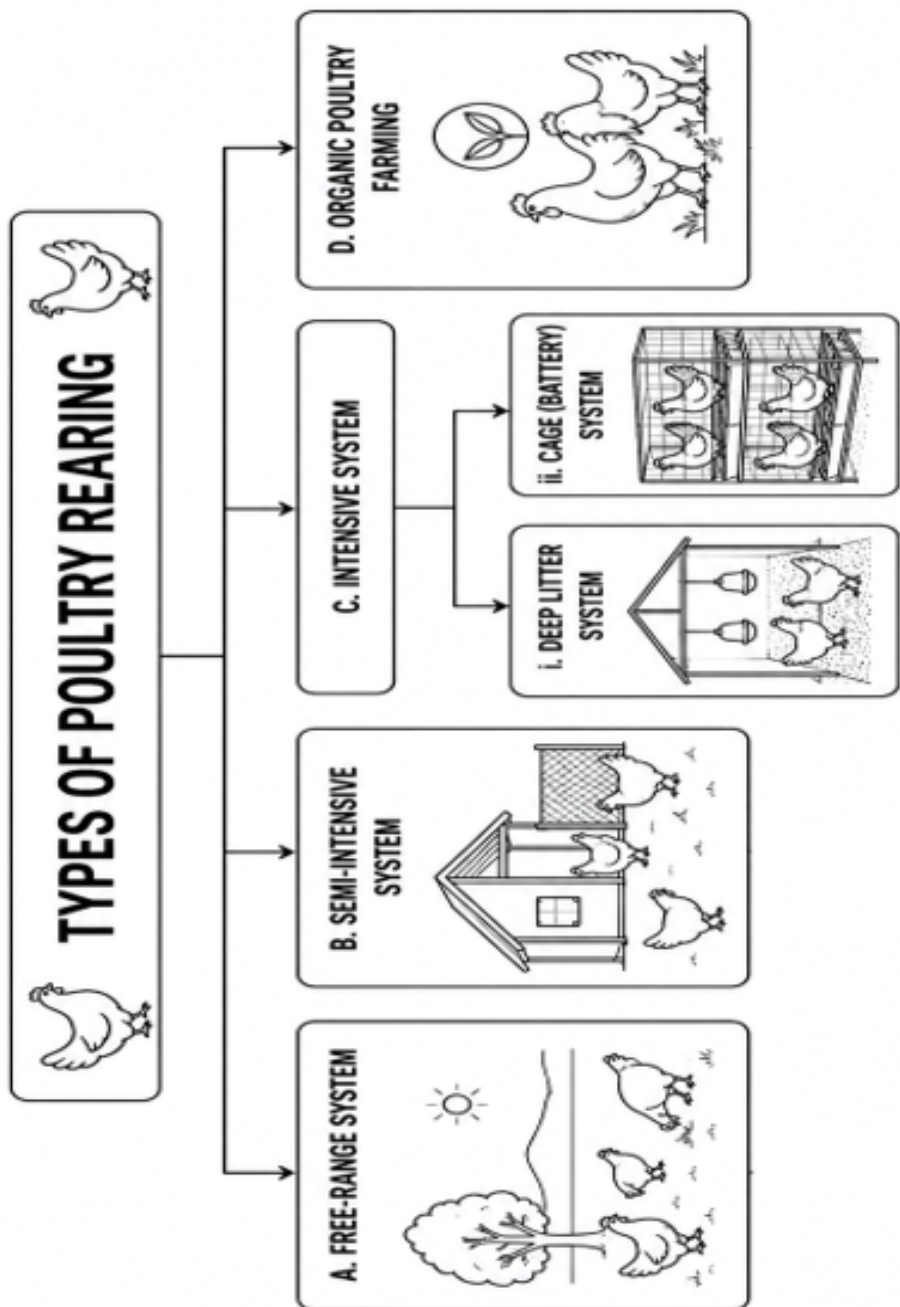
- Better growth than free-range
- Reduced feed cost
- Improved health

C. Intensive System

Birds are completely confined in poultry houses and provided with feed and water.

i. Deep Litter System

- Birds are kept on a floor covered with litter materials such as rice husk, sawdust, or straw.
- Commonly used for broilers and layers.



ii. Cage (Battery) System

- Birds are housed individually or in small groups in wire cages.
- Mainly used for commercial egg production.

Advantages

- High production
- Easy disease control
- Efficient feed utilization
- Easy egg collection

Disadvantages

- High installation cost
- Limited bird movement

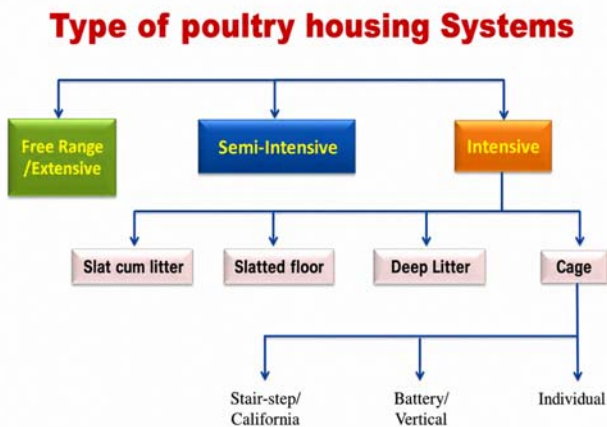
D. Organic Poultry Farming

- Birds are raised under organic standards.
- Organic feed is used.
- Antibiotics and growth promoters are avoided.

Types of Poultry Housing

Types of Poultry Housing

Poultry housing is selected based on the **availability and cost of land, type of farming, climatic conditions, and labour availability**. Poultry are reared under three major housing systems: **Free Range (Extensive), Semi-intensive, and Intensive**. The intensive system includes **Deep Litter, Slatted Floor, Slat-cum-Litter, and Cage systems**.



1. Free Range (Extensive) System

In this system, birds are reared in **open fields** with little or no permanent shelter. They obtain a major part of their feed by **foraging on grasses, insects, and seeds**. It is the oldest method of poultry rearing and is commonly used for **organic and backyard farming**. About **250 adult birds can be reared per hectare**.

Advantages: Low housing cost, less feed requirement, improved leg strength, better soil fertility, and reduced cannibalism.

Disadvantages: Requires large land area, higher risk from predators and diseases, difficult bird management, and egg losses in the field.

2. Semi-intensive System

In this system, birds are **confined in houses during the night** and allowed to **graze in open runs during the day**. It combines the advantages of free-range and intensive systems and is commonly adopted for **duck and backyard poultry farming**. About **750 adult birds can be reared per hectare**.

Advantages: Better land utilization, protection from adverse weather, and easier management than free-range.

Disadvantages: Higher fencing cost and regular cleaning of the runs are necessary.

3. Intensive System

In this system, birds are **completely confined inside poultry houses**, where feed, water, and other management practices are fully controlled. It is the **most efficient and economical system** for large-scale commercial poultry production.

Advantages: Requires less land, higher productivity, easier disease control, and better scientific management.

Disadvantages: Reduced natural behaviour of birds, greater dependence on balanced feed, and faster spread of diseases.

Types of Intensive Housing

a) Deep Litter System

Birds are kept on a **3–5 inch layer of litter** made of paddy husk, sawdust, wood shavings, or chopped straw. The litter is stirred regularly and renewed periodically. It provides comfort to birds and the decomposed litter is used as **organic manure**.

b) Slatted Floor System

Birds are reared on **raised wooden or iron slats**, allowing droppings to fall below the floor. **This improves sanitation, reduces labour, and eliminates the need for litter.**

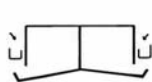
Free Range Chicken Shed



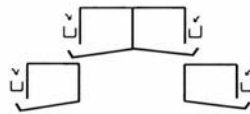




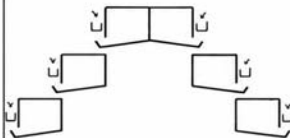
TYPES OF CAGE SYSTEMS



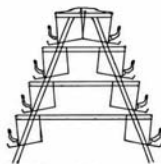
Single Deck



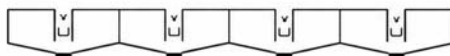
Double Deck Stair Step



Triple Deck Stair Step



Four Deck Reverse Cage

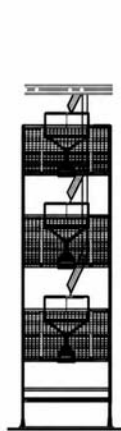


Flat Deck Automatic Egg Pickup

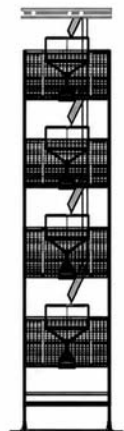
-  = Feeders
-  = Drinkers

(Feeders and drinkers are shown at the front of each cage)

VERTICAL CAGES / BATTERY CAGES



2-TIER SYSTEM



3-TIER SYSTEM

Cages are arranged one above the other in 2-tier or 3-tier (or more) systems. Eggs are collected from the front, and droppings fall to the trays below.

Conventional layer cage

These cages can hold 3 to 4 birds. They are arranged either in 2-tier or 3-tier. A slope of 1/6 is provided in conventional cages, whereas in reverse cages the slope is 1/5.

Specifications for each box

Front feeding length : 15 inch

Front height : 18 inch

Back height : 15 inch

Depth : 18 inch

Types of cages

Based on the number of birds in a cage, it is classified as

Single or individual bird cage (Only one bird in a cage)

- Multiple bird cage (From 2 to 10 birds, usually 3 or 4 birds per cage)
- Colony cages (Holding birds more than 11 per cage)

Based on the number of rows

- Single-deck: Birds are kept in Single row of cages
- Double-deck: Birds are kept in Double Rows of cages
- Triple-deck: Birds are kept in triple rows of cages
- Four-deck: Birds are kept in Four rows of cages
- Flat-deck: Birds are kept in single row but spread throughout the floor.

Based on arrangement of cages

Based on the arrangement of cages the cagesystem is divided into two categories.

- Battery/vertical cage system: here the cages are arranged one above the other. It can be three or four or five decked. The disadvantage of egg collection can be reduced by providing a gap between two rows to pick up the eggs. The fecal matter cleaning will be difficult.

- Stair Step/Reverse cage/Californian cage system: in this type the cages are arranged in such way that many rows can be built. It will be easier to collect the fecal matter . This is the most popular system. It can be of K, L or M type based on the shape and rows of the cages.

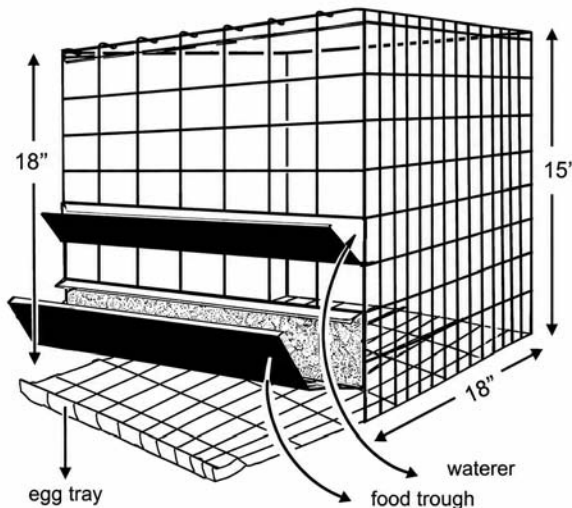
Based on the type of bird reared

- Brooder / chick cages
- Grower cages
- Layer cages
- Breeder cages
- Broiler cages

Conclusion

The choice of a poultry housing system depends on the purpose of farming, available resources, and management practices, with intensive housing being the most suitable for commercial production due to its high efficiency and productivity.

a).Conventional cages



Specifications for each box:

Front feeding length	: 15 inch
Front height	: 18 inch
Back height	: 15 inch
Depth	: 18 inch

LAYER BREED - WHITE LEGHORN

Layer breeds are specialized chickens developed for high egg production, early maturity, and efficient feed utilization

White Leghorn

1. It is an Italian breed originating from Arman of Tuscany in central Italy.
2. The bird is named initially named as Italian, but by 1865 the breed was renamed as Leghorn.
3. White Leghorns are commonly used as layers in many countries of the world
4. Most Leghorns have single combs though rose combs are seen in some. The legs are bright yellow
5. Cock weighs 2.5 kg and hen weighs 2.0 kg.
6. Leghorns lay about **280 eggs** per year and may cross even 300- 320. The eggs are white and weigh a minimum of **55 g**.
7. Among a number of Leghorn varieties including white, red, light brown, dark brown, black and silver **White Leghorns are common**
8. This chicken breed become mature quickly and they have a very good feed to egg conversion ratio. On an average, each bird need around **125 grams** of feed daily.
9. Leghorn chickens are very active and efficient foragers. Calm, Flighty, Shy, Very Active
10. They lay throughout the year and eggs are white and are of good size. They grow faster and mature quickly.

Identification marks

Pure white plumage, light body, large single comb, white ear lobes, and yellow beak and shanks; an excellent egg-layer.

LEGHORN



LAYER BREED - BV 300

BV 300 (Commercial Layer Variety)

1. **BV 300** is a high-performing commercial layer strain developed by **Babcock-Venkateshwara Hatcheries (India) Pvt. Ltd.**, through scientific breeding and selection.
2. It is one of the most widely reared **commercial layer varieties in India**, suitable for both cage and deep-litter systems.
3. BV 300 birds are bred specifically for **high egg production, early maturity, and excellent feed efficiency**.
4. The birds are generally **white-feathered**, with **single combs, yellow beak and shanks**, and are light in body weight.
5. Adult **cock weighs about 2.3–2.5 kg**, while the **hen weighs about 1.6–1.8 kg**.
6. A healthy BV 300 hen lays **300–330 brown eggs per year**, with an average egg weight of **58–62 g**.
7. The birds attain **sexual maturity at about 18–20 weeks** and maintain a high peak production for a long laying period.
8. BV 300 has an excellent **feed-to-egg conversion ratio**, requiring about **105–115 g of feed per bird per day** under standard management.
9. The birds are **active, hardy, and adaptable** to diverse climatic conditions, with good livability under commercial farming.
10. Due to their **high productivity, uniform egg size, and economic performance**, BV 300 is one of the most preferred commercial layer strains in India's poultry industry.

Identification marks

White-feathered commercial layer with a light body, single comb, and high egg-laying capacity.

BV 300 CHICKEN

(Commercial Layer Variety)

MALE (COCK)

FEMALE (HEN)



- Comb : Single
- Feather colour : White
- Shank colour : Yellow
- Body weight : 2.3 – 2.5 kg (average)



- Comb : Single
- Feather colour : White
- Shank colour : Yellow
- Body weight : 1.6 – 1.8 kg (average)

LAYER BREED - HY-LINE BROWN

Hy-Line Brown (Commercial Layer Variety)

1. **Hy-Line Brown** is a commercial layer strain developed by **Hy-Line International, USA**, through advanced genetic selection for high egg production.
2. It is one of the **most popular brown egg-laying varieties** reared in India and many other countries.
3. The birds are bred for **high egg production, excellent livability, and efficient feed conversion**.
4. Hy-Line Brown birds have **reddish-brown plumage, single comb, yellow beak and shanks**, and a compact body.
5. Adult **cock weighs about 2.5–2.8 kg**, while the **hen weighs about 1.8–2.0 kg**.
6. A healthy hen lays about **300–330 brown eggs per year**, with an average egg weight of **60–63 g**.
7. The birds attain **sexual maturity at 18–20 weeks** and maintain excellent peak egg production for a long laying cycle.
8. Hy-Line Brown has an excellent **feed-to-egg conversion ratio**, requiring only **110–115 g of feed per bird per day**.
9. The birds are **calm, hardy, adaptable, and possess high disease resistance**, making them suitable for commercial farms.
10. Due to their **high productivity, large brown eggs, and good persistence of lay**, Hy-Line Brown is one of the most preferred commercial layer strains worldwide.

identification marks

Brown plumage with a light, compact body, red comb, and brown egg production

Hy-Line Brown

(Commercial Layer Variety)

MALE (COCK)



- Comb : Single
- Body weight : 2.5 – 2.8 kg (average)
- Feather colour : Reddish Brown
- Egg production : 300 – 330 eggs/year

FEMALE (HEN)



- Comb : Single
- Body weight : 1.8 – 2.0 kg (average)
- Feather colour : Reddish Brown
- Egg production : 300 – 330 eggs/year

LAYER BREED - RHODE ISLAND RED

Rhode Island Red (Dual-purpose Breed)

1. **Rhode Island Red (RIR)** is an American breed developed in the states of **Rhode Island and Massachusetts, USA**, during the late nineteenth century.
2. It was developed by crossing **Malay, Brown Leghorn, Shanghai, and Red Malay** breeds to obtain a hardy dual-purpose chicken.
3. Rhode Island Red is one of the **most popular dual-purpose breeds** and is widely used for egg and meat production as well as in breeding programmes.
4. The birds have **deep mahogany-red plumage, a single or rose comb, yellow beak and shanks**, and a rectangular body.
5. Adult **cock weighs about 3.8 kg**, while the **hen weighs 2.8–3.0 kg**.
6. A healthy hen lays about **250–280 brown eggs per year**, with an average egg weight of **55–60 g**.
7. The birds attain **sexual maturity at about 20–22 weeks** and are good, persistent layers.
8. Rhode Island Reds have **good feed conversion efficiency**, are hardy, and perform well under both intensive and backyard management systems.
9. The birds are **active, docile, disease-resistant, and highly adaptable** to different climatic conditions.
10. Due to their **high egg production, good meat quality, and excellent adaptability**, Rhode Island Red is widely used as a **parent breed for developing improved poultry strains** in India

Identification marks

Deep reddish-brown plumage, rectangular body, single comb, and yellow legs; a dual-purpose breed.

RHODE ISLAND



LAYER BREED - ASTRALORP

Australorp

1. **Australorp** is an Australian breed developed in the early 20th century from **Black Orpington** chickens imported from England.
2. The breed was developed mainly for **high egg production** and later became a popular **dual-purpose breed** for eggs and meat.
3. Australorp is widely reared in many countries and has been extensively used in poultry breeding programmes.
4. The birds have **glossy black plumage with a green metallic sheen**, a **single comb**, black beak, and dark slate-coloured shanks.
5. Adult **cock weighs about 3.5–4.0 kg**, while the **hen weighs about 2.5–3.0 kg**.
6. A healthy hen lays about **250–300 light brown eggs per year**, with an average egg weight of **55–60 g**.
7. The birds attain **sexual maturity at about 20–22 weeks** and are known for their excellent laying ability.
8. Australorps have **good feed conversion efficiency**, excellent livability, and adapt well to both intensive and free-range systems.
9. The birds are **calm, docile, hardy, and good foragers**, making them suitable for backyard as well as commercial farming.
10. Due to their **high egg production, good meat quality, and adaptability**, Australorp is one of the most important **dual-purpose breeds** used in poultry improvement programmes worldwide.

Identification marks

Glossy black feathers with a greenish sheen, black legs, and a broad body; known for high egg production.

AUSTRALORP

(Dual-purpose Breed)

MALE (COCK)



- Body weight : 3.5 – 4.0 kg (average)
- Egg production : 250 – 300 eggs/year

FEMALE (HEN)



- Body weight : 2.5 – 3.0 kg (average)
- Egg production : 250 – 300 eggs/year

LAYER BREED - DEKALB LOHMANN

Dekalb Lohmann

1. **Dekalb Lohmann** is a high-performing commercial layer strain developed through advanced genetic selection by **Dekalb** and **Lohmann** breeding programmes.
2. It is one of the **widely reared commercial layer varieties** in many countries, including India, for intensive egg production.
3. The birds are specially bred for **high egg production, early maturity, and excellent feed efficiency**.
4. Dekalb Lohmann birds are generally **white-feathered**, with a **single comb, yellow beak and shanks**, and a light body.
5. Adult **cock weighs about 2.3–2.5 kg**, while the **hen weighs about 1.6–1.8 kg**.
6. A healthy hen lays about **300–330 white eggs per year**, with an average egg weight of **60–63 g**.
7. The birds attain **sexual maturity at about 18–20 weeks** and maintain a high peak of egg production for a long laying period.
8. Dekalb Lohmann has an excellent **feed-to-egg conversion ratio**, requiring about **105–115 g of feed per bird per day** under good management.
9. The birds are **active, hardy, and adaptable**, with good livability under commercial farming conditions.
10. Due to their **high egg yield, uniform egg size, and economic performance**, Dekalb Lohmann is one of the **preferred commercial layer strains** in modern poultry farming.

Identification Marks

White-feathered commercial layer with a light body, single comb, yellow beak and shanks, and excellent feed efficiency.

DEKALB LOHMANN

(Commercial Layer Variety)

MALE (COCK)



- Body weight : 2.3 – 2.5 kg (average)
- Egg production : 300 – 330 eggs/year

FEMALE (HEN)



- Body weight : 1.6 – 1.8 kg (average)
- Egg production : 300 – 330 eggs/year

BROILER CHICKEN BREED- COBB

Broiler chicken breeds in India are commercial meat producing chickens bred for rapid growth, high feed efficiency, and excellent meat yield under intensive farming systems

Cobb Chicken Breed (India)

1. **Cobb** is a world-renowned commercial broiler strain developed through advanced breeding programmes by **Cobb-Vantress**, primarily for efficient meat production.
2. It is one of the most widely reared **broiler chicken strains** in India
3. Cobb birds are specially bred for **fast growth, superior feed conversion efficiency, high breast meat yield, and excellent livability**.
4. The birds are generally **white-feathered**, with a **single red comb, yellow beak, yellow shanks, and a broad, compact body**.
5. An adult **cock weighs about 4.5–5.5 kg**, while the **hen weighs about 3.5–4.5 kg** under standard management conditions.
6. Cobb broilers attain a **market weight of about 2.0–2.5 kg within 35–42 days**, making them highly suitable for commercial meat production.
7. The birds have a **broad breast, strong legs, and well-developed muscles**, producing a high dressing percentage and good-quality meat.
8. Cobb chickens exhibit an **excellent feed conversion ratio (FCR) of about 1.5–1.7**.
9. They are **hardy, adaptable, and perform well under intensive farming systems**.
10. Due to their **rapid growth, high meat yield, efficient feed utilization, and economic profitability**, Cobb is one of the most preferred commercial broiler strains in modern poultry farming in India

Identification Points

White-feathered broiler with a broad breast, compact muscular body, yellow beak and shanks, and rapid growth.

COBB CHICKEN BREED (INDIA)

MALE (COCK)



- **Body weight :** 4.5 – 5.5 kg (at 35 – 42 days)
- **Egg production :** Not applicable (meat type)

FEMALE (HEN)



- **Body weight :** 3.5 – 4.5 kg (at 35 – 42 days)
- **Egg production :** Not applicable (meat type)

BROILER CHICKEN BREED- KUROILOER

Kuroiler Chicken Breed

1. **Kuroiler** is a dual-purpose chicken breed developed by **Keggfarms Pvt. Ltd., India**, for both meat and egg production.
2. It is widely reared in **rural and backyard poultry systems** across India due to its adaptability and hardiness.
3. Kuroiler birds are specially bred for **rapid growth, higher egg production, disease resistance, and good survivability**.
4. The birds have **multi-coloured plumage, a single comb, strong yellow or grey shanks, and a well-developed body**.
5. An adult **cock weighs about 3.5–4.0 kg**, while the **hen weighs about 2.5–3.0 kg** under good management.
6. A healthy **hen lays about 160–200 brown eggs per year**, with an average egg weight of **50–55 g**.
7. Kuroiler birds attain **sexual maturity at about 22–24 weeks** and continue laying eggs for a long period.
8. They efficiently utilize **locally available feed resources** and require less intensive management than commercial poultry.
9. The birds are **hardy, active, disease-resistant, and well adapted to diverse climatic conditions** in India.
10. Due to their **good meat quality, higher egg production, adaptability, and economic returns**, Kuroiler is one of the most popular backyard poultry breeds in India.

Identification Points

Multicoloured dual-purpose breed with a sturdy body, long legs, hardiness, and adaptability to backyard rearing.

KUROILER CHICKEN BREED (INDIA)

MALE (COCK)



- **Body weight** : 3.5 – 4.0 kg (at 40 – 45 weeks)
- **Egg production** : Not applicable (meat type)

FEMALE (HEN)



- **Body weight** : 2.5 – 3.0 kg (at 40 – 45 weeks)
- **Egg production** : 160 – 200 brown eggs/year

BROILER CHICKEN BREED- HUBBARD

Hubbard Broiler Breed

1. **Hubbard** is a commercial **broiler chicken strain** developed by **Hubbard Breeders**, France, for efficient meat production.
2. It is widely reared in **India and many other countries** due to its rapid growth, high meat yield, and excellent feed efficiency.
3. Hubbard birds are specially bred for **fast growth, superior feed conversion ratio (FCR), and high dressing percentage**.
4. The birds are generally **white-feathered**, with a **single red comb, yellow beak, yellow shanks, and a broad, compact body**.
5. An adult **cock weighs about 4.5–5.5 kg**, while the **hen weighs about 3.5–4.5 kg** under good management conditions.
6. Hubbard broilers attain a **market weight of about 2.0–2.5 kg within 35–42 days**, making them suitable for commercial meat production.
7. The birds possess a **broad breast, strong legs, and well-developed muscles**, producing high-quality meat with good dressing yield.
8. Hubbard chickens have an **excellent feed conversion ratio (FCR) of about 1.5–1.7**, requiring less feed for body weight gain.
9. They are **hardy, adaptable, and show good livability** under intensive poultry farming with proper nutrition and vaccination.
10. Due to their **rapid growth, efficient feed utilization, high meat yield, and economic profitability**.

Identification Points

White-feathered broiler having a broad breast, strong legs, compact body, and excellent feed conversion efficiency.

HUBBARD CHICKEN BREED (INDIA)

(Commercial Broiler Variety)

MALE (COCK)



- **Body weight** : 4.5 – 5.5 kg (at 35 – 42 days)

FEMALE (HEN)



- **Body weight** : 3.5 – 4.5 kg (at 35 – 42 days)

BROILER CHICKEN BREED- CORNISH

Cornish Chicken

1. Cornish is a meat-type chicken breed developed in Cornwall, England, and is one of the parent breeds of modern commercial broilers.
2. It is widely used in poultry breeding programmes for high meat production and superior growth performance.
3. Cornish birds are specially bred for rapid growth, broad breast, excellent muscle development, and high dressing percentage.
4. The birds have a compact, muscular body, pea comb, short legs, yellow beak, yellow shanks, and short, hard feathers.
5. An adult cock weighs about 4.5–5.5 kg, while the hen weighs about 3.0–3.5 kg.
6. Cornish hens lay about 100–120 light brown eggs per year, but the breed is mainly reared for meat production.
7. The birds exhibit an excellent feed conversion ratio (FCR) and produce high-quality, tender meat.
8. Cornish chickens are hardy, active, and adaptable under intensive poultry farming systems.
9. Cornish is widely used as the male parent line in commercial broiler breeding because of its superior carcass and growth traits.
10. Due to their rapid growth, muscular body, and high meat yield, Cornish is one of the most important meat-type chicken breeds in the poultry industry.

Identification Points

Heavy meat-type breed with a broad chest, muscular body, short legs, pea comb, and hard, close-fitting feathers.

CORNISH CHICKEN BREED (INDIA)

(Meat Type Breed)

MALE (COCK)



- **Body weight** : 4.5 – 5.5 kg (at 35 – 42 days)

FEMALE (HEN)



- **Body weight** : 3.0 – 3.5 kg (at 35 – 42 days)

BROILER CHICKEN BREED -ROSS (308/708)

Ross (308/708) Broiler Strain

1. **Ross (Ross 308/Ross 708)** is a world-renowned commercial broiler strain developed by **Aviagen** for efficient meat production.
2. It is widely reared in **India and many other countries** due to its rapid growth, excellent feed efficiency, and high meat yield.
3. Ross birds are specially bred for **fast growth, superior feed conversion ratio (FCR), and high breast meat yield**.
4. The birds are generally **white-feathered**, with a **single red comb, yellow beak, yellow shanks, and a broad, compact body**.
5. An adult **cock weighs about 4.5–5.5 kg**, while the **hen weighs about 3.5–4.5 kg** under good management.
6. Ross broilers attain a **market weight of about 2.0–2.5 kg within 35–42 days**, making them ideal for commercial meat production.
7. The birds possess **well-developed breast muscles, strong legs, and a high dressing percentage**, producing premium-quality meat.
8. Ross chickens exhibit an **excellent feed conversion ratio (FCR) of about 1.5–1.7**, requiring less feed for body weight gain.
9. They are **hardy, adaptable, and show excellent livability** under intensive poultry farming with proper nutrition and management.
10. Due to their **rapid growth, efficient feed utilization, and high meat yield**, Ross is one of the most preferred commercial broiler strains worldwide.

Identification Mark

White plumage, broad muscular breast, compact body, yellow beak and shanks, and rapid growth are the characteristic identification features of the Ross broiler strain.

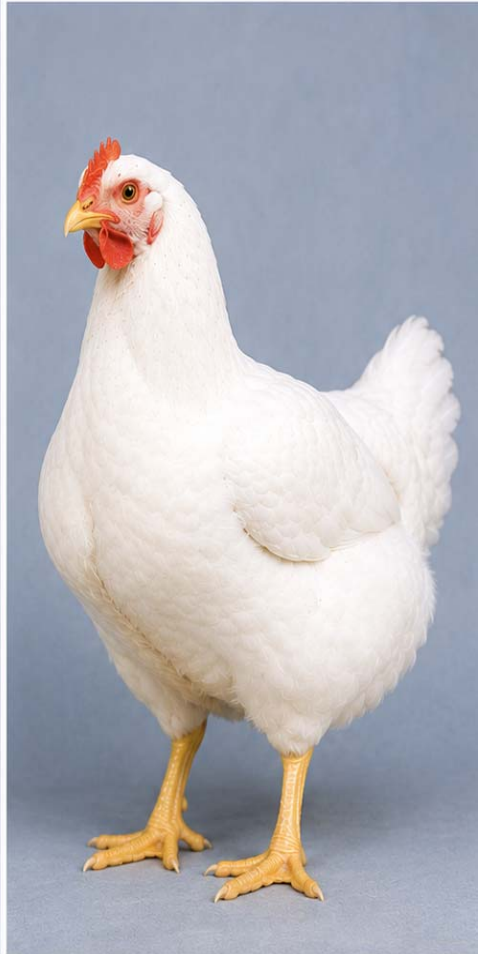
ROSS 308 BROILER

MALE (COCK)



- **Type** : Commercial broiler strain
- Fast growth with excellent feed conversion

FEMALE (HEN)



- **Type** : Commercial broiler strain
- Fast growth with excellent feed conversion

CARI BREEDS - CARI-PRIYA

CARI (Central Avian Research Institute) chicken breeds are improved poultry varieties developed by ICAR–CARI, Uttar Pradesh, India for backyard and rural poultry farming. They are known for good growth, better egg production, disease resistance, and adaptability to Indian climatic conditions.

CARI Priya (Commercial White Layer Variety)

1. **CARI Priya**, formerly known as **ILI-80**, is a commercial white egg layer developed by the **ICAR–Central Avian Research Institute (CARI)**, **Izatnagar, Uttar Pradesh**.
2. It was developed by crossing **superior male and female strains of White Leghorn** for high egg production.
3. CARI Priya is a **high-performing commercial white egg layer**, suitable for cage, deep-litter, and semi-intensive management systems.
4. The birds have **pure white plumage**, a **single comb**, **yellow beak and shanks**, and a light, compact body.
5. Adult **cock weighs about 2.3–2.5 kg**, while the **hen weighs about 1.6–1.8 kg**.
6. A healthy hen lays **more than 298–301 white eggs up to 72 weeks**, with an average egg weight of **57 g**.
7. The birds attain **sexual maturity at 17–18 weeks**, reach **50% egg production at 150 days**, and attain **peak production at 26–28 weeks**.
8. CARI Priya has **excellent feed conversion efficiency**, requiring only **1.77 kg of feed per dozen eggs** (2.57 kg feed per kg egg mass).
9. The birds have **high livability (96% during growing and 94% during laying)**, excellent egg quality, low mortality, and are easy to manage.
10. Due to their **high egg production, efficient feed utilization, and excellent economic returns**, CARI Priya is one of the **most popular commercial white layer varieties** in India.

Identifying Marks

Pure white plumage, single bright red comb, yellow beak and shanks, white eggs. Light-bodied, active, excellent feed efficiency, and high egg-producing commercial layer.

CARI PRIYA

(COMMERCIAL WHITE LAYER VARIETY)

MALE (COCK)



- Body weight : 2.3 – 2.5 kg
- Pure white plumage, single comb, yellow beak & shanks

FEMALE (HEN)



- Body weight : 1.6 – 1.8 kg
- Pure white plumage, single comb, yellow beak & shanks

IDENTIFYING MARKS

- Pure white plumage, single bright red comb, yellow beak and shanks, white eggs.
- Light-bodied, active, excellent feed efficiency, and high egg-producing commercial layer.

CARI BREEDS - CARI-SONALI

CARI Sonali (Commercial Brown Layer Variety)

1. **CARI Sonali** is a commercial brown egg layer developed by the **ICAR–Central Avian Research Institute (CARI)**, Izatnagar, Uttar Pradesh, and was released in **1992**.
2. It was developed by crossing **White Leghorn (male line)** with **Rhode Island Red (female line)** to produce a high-performing brown egg layer.
3. CARI Sonali is suitable for **intensive and semi-intensive poultry farming** and performs well under different management systems.
4. The birds have **golden-brown plumage**, a **single comb**, **yellow beak and shanks**, and a compact, light body.
5. Adult **cock weighs about 2.5–2.8 kg**, while the **hen weighs about 1.8–2.0 kg**.
6. A healthy hen lays **more than 280–283 brown eggs up to 72 weeks**, with an average egg weight of **54 g**.
7. The birds attain **sexual maturity at 18–19 weeks**, reach **50% egg production at 155 days**, and attain **peak production at 27–29 weeks**.
8. CARI Sonali has **good feed conversion efficiency**, requiring about **2.3 kg of feed per dozen eggs** (3.8 kg feed per kg egg mass).
9. The birds have **high livability (96% during growing and 94% during laying)**, excellent egg quality, and are easy to handle.
10. Due to their **high egg production, efficient feed utilization, and excellent adaptability**, CARI Sonali is one of the **most popular commercial brown layer varieties** in India.

Identifying Marks

Golden-brown plumage, single bright red comb, yellow beak and shanks, brown eggs. Light-bodied, easy to handle, efficient feed converter, and high egg-producing commercial layer.

CARI SONALI

(COMMERCIAL BROWN LAYER VARIETY)

MALE (COCK)



- Body weight : 2.5 – 2.8 kg

FEMALE (HEN)



- Body weight : 1.8 – 2.0 kg

IDENTIFYING FEATURES : Pure white plumage, single bright red comb, yellow beak and shanks.

CARI BREEDS - CARI SHYAMA

CARI Shyama (Improved Backyard Chicken Variety)

1. **CARI Shyama** is an improved backyard chicken variety developed by the **ICAR–Central Avian Research Institute (CARI)**, Izatnagar, Uttar Pradesh.
2. It was developed by crossing the **Kadakhnath** breed with **CARI Red** to combine black meat characteristics with better productivity.
3. The birds are specially developed for **backyard poultry farming**, particularly in tribal and rural areas.
4. CARI Shyama birds have **predominantly black plumage**, a **single comb**, and dark grey to black skin, beak, shanks, toes, and soles.
5. Adult **cock weighs about 2.2–2.5 kg**, while the **hen weighs about 1.6–1.8 kg** under good management. (*At 20 weeks: Male – 1.46 kg; Female – 1.12 kg.*)
6. A healthy hen lays about **200–210 brown eggs per year**, with an average egg weight of **53 g**.
7. The birds attain **sexual maturity at about 170 days (24–25 weeks)** and show good fertility and hatchability.
8. CARI Shyama has **good feed conversion efficiency**, excellent survivability, and adapts well to free-range and backyard systems.
9. The birds are **hardy, disease-resistant, active foragers**, and well suited to diverse agro-climatic conditions.
10. Due to their **black meat, high protein, low fat content, and consumer preference**, CARI Shyama is one of the **most popular improved backyard poultry varieties** in India.

Identifying Marks

Predominantly black plumage, single red comb, dark grey to black skin, beak, shanks and toes, black flesh with high melanin pigmentation. Hardy, active, disease-resistant, and well suited for backyard rearing.

CARI SHYAMA CHICKEN

MALE (COCK)



- Body weight: 2.5–3.0 kg
- Black plumage, black skin & shanks

FEMALE (HEN)



- Body weight: 1.8–2.2 kg
- Hardy dual-purpose backyard bird

CARI BREEDS - CARI NIRBHEEK

CARI Nirbheek (Improved Backyard Dual-purpose Variety)

1. **CARI Nirbheek** is an improved backyard dual-purpose chicken variety developed by the **ICAR–Central Avian Research Institute (CARI)**, **Izatnagar, Uttar Pradesh**.
2. It was developed by crossing the **Indian native Aseel** breed with **CARI Red** to combine hardiness with better productivity.
3. The birds are specially developed for **backyard poultry farming** and are well adapted to rural and tribal conditions.
4. CARI Nirbheek birds have **golden-red to reddish-brown plumage**, a **pea comb**, **yellow beak and shanks**, and a large, muscular body.
5. Adult **cock weighs about 3.0–3.5 kg**, while the **hen weighs about 2.0–2.5 kg** under good management.
6. A healthy hen lays about **190–200 brown eggs per year**, with an average egg weight of **54 g**.
7. The birds attain **sexual maturity at about 176 days (25 weeks)** and exhibit good fertility (88%) and hatchability (81%).
8. CARI Nirbheek has **good feed conversion efficiency**, high survivability, and performs well under free-range and backyard management systems.
9. The birds are **active, hardy, disease-resistant, pugnacious, and possess high stamina**, enabling them to protect themselves from predators.
10. Due to their **good meat yield, satisfactory egg production, and excellent adaptability**, CARI Nirbheek is one of the **best improved backyard poultry varieties** recommended for rural India.

Identifying Marks

Golden-red plumage, pea comb, yellow beak and shanks, brown eggs. Large muscular body, active, hardy, high stamina, and strong predator-fighting ability.

CARI NIRBHEEK
(IMPROVED BACKYARD DUAL-PURPOSE VARIETY)

MALE (COCK)



- Body weight : 3.0 – 3.5 kg

FEMALE (HEN)



- Body weight : 2.0 – 2.5 kg

IDENTIFYING FEATURES : Golden-red plumage, pea comb, yellow beak and shanks.

CARI BREEDS - CARI UJJAWAL

CARI Ujjawal (White-breasted Japanese Quail)

1. **CARI Ujjawal** is an improved **White-breasted Japanese quail** developed by the **ICAR–Central Avian Research Institute (CARI)**, **Izatnagar, Uttar Pradesh**.
2. It is a **heavy meat-type quail** developed for rapid growth, efficient feed utilization, and commercial quail farming.
3. The variety is suitable for **different agro-climatic conditions** and can be reared under intensive management throughout India.
4. CARI Ujjawal has **white-breasted plumage**, compact body, short beak, and strong legs.
5. The birds attain an average **body weight of about 140 g at 4 weeks** and **175–180 g at 5 weeks**.
6. The birds have an excellent **feed conversion ratio (FCR) of about 2.8** with a daily feed intake of **25–28 g**.
7. Females lay about **240 tinted eggs per year**, with an average egg weight of **12 g**.
8. The birds show **good hatchability (about 65%)** and attain sexual maturity at **6–7 weeks**.
9. CARI Ujjawal is **hardy, disease-resistant, easy to manage**, and requires **less space and lower investment** than chickens.
10. Due to its **fast growth, good meat yield, high egg production, and low maintenance cost**, CARI Ujjawal is an important quail variety for commercial farming in India.

Identifying Marks

White breast with white-breasted plumage, compact body, short beak, tinted eggs. Fast-growing, hardy, disease-resistant, and efficient feed converter.

CARI UJJAWAL

(WHITE-BREASTED JAPANESE QUAIL)

MALE



FEMALE



IDENTIFYING FEATURES : White breast, brown mottled plumage, small body, active and hardy Japanese quail.

NANDANAM CHICKEN BREEDS - NANDANAM I

Nandanam chicken breeds are improved backyard poultry varieties developed by the Poultry Research Station, Nandanam, Tamil Nadu Veterinary and Animal Sciences University (TANUVAS), Chennai. These varieties are developed for better egg production, meat yield, disease resistance, and adaptability to rural and backyard farming conditions.

The major Nandanam varieties are Nandanam Chicken I, II, III, and IV, each developed to meet the needs of small and marginal farmers under different agro-climatic conditions in India.

Nandanam Chicken I (Improved Backyard Variety)

1. **Nandanam Chicken I** is an improved backyard chicken variety developed by the **Poultry Research Station, Nandanam, TANUVAS, Chennai**.
2. It was developed for **dual-purpose production (eggs and meat)** under rural farming conditions.
3. The birds are suitable for **backyard, free-range, and semi-intensive systems**.
4. They possess **multi-coloured plumage, a single comb, yellow beak and shanks**, and a compact body.
5. Adult **cock weighs about 2.5–3.0 kg**, while the **hen weighs about 1.8–2.0 kg**.
6. A healthy hen lays about **170–180 brown eggs per year**, with an average egg weight of **52–55 g**.
7. The birds attain **sexual maturity at about 22–24 weeks**.
8. They have **good feed efficiency, high livability, and excellent adaptability** to rural conditions.
9. The birds are **hardy, active foragers, and disease resistant**.
10. Nandanam Chicken I is widely recommended for **backyard poultry farming** in South India.

Identifying Marks:

Multi-coloured plumage, single red comb, yellow beak and shanks, brown eggs. Hardy, active, dual-purpose backyard bird.

NANDANAM CHICKEN I

(IMPROVED BACKYARD VARIETY)

MALE (COCK)



FEMALE (HEN)



IDENTIFYING FEATURES : Reddish brown plumage, single comb, yellow beak and shanks, active and hardy improved backyard chicken.

NANDANAM CHICKEN BREEDS - NANDANAM II

Nandanam Chicken II (Improved Backyard Variety)

1. **Nandanam Chicken II** is an improved dual-purpose variety developed by **TANUVAS, Chennai**.
2. It was developed for **higher egg production and improved body weight**.
3. The birds are suitable for **backyard and semi-intensive farming**.
4. They possess **coloured plumage, single comb, and yellow legs**.
5. Adult **cock weighs about 2.8–3.0 kg**, while the **hen weighs about 2.0–2.2 kg**.
6. A healthy hen lays about **180–190 brown eggs per year**.
7. Sexual maturity is attained at about **20–22 weeks**.
8. The birds exhibit **good feed efficiency and excellent survivability**.
9. They are **active, hardy, disease resistant, and good scavengers**.
10. Nandanam Chicken II is suitable for **rural livelihood and backyard poultry production**.

Identifying Marks:

Brown to multi-coloured plumage, single comb, yellow beak and shanks, brown eggs. Medium-sized hardy backyard bird.

NANDANAM CHICKEN II (IMPROVED BACKYARD VARIETY)

MALE (COCK)



FEMALE (HEN)



IDENTIFYING FEATURES : Light grey to cream plumage, single comb, yellow beak and shanks, active and hardy improved backyard chicken.

NANDANAM CHICKEN BREEDS - NANDANAM QUAIL

Nandanam Quail I

1. **Nandanam Quail I** is an improved Japanese quail variety developed by **TANUVAS, Chennai**.
2. It was developed for **high egg production and excellent reproductive performance**.
3. It is suitable for **commercial quail farming** under intensive management.
4. The birds have **brown-speckled plumage**, short beak, and compact body.
5. Adult **male weighs about 313 g**, while the **female weighs about 347 g**.
6. The birds lay **about 280–300 eggs per year**, with an average egg weight of **14.9 g**.
7. They attain **sexual maturity at about 6–7 weeks**.
8. The birds exhibit **98% livability, 86.3% fertility, and 79.5% hatchability**.
9. They are **hardy, fast-growing, and efficient feed converters**.
10. Nandanam Quail I is widely recommended for **commercial egg production**.

Identifying Marks:

Brown-speckled plumage, compact body, short beak, mottled feathers, and large speckled eggs.

NANDANAM QUAIL I

(IMPROVED JAPANESE QUAIL VARIETY)

MALE



FEMALE



IDENTIFYING FEATURES : Brown mottled plumage, white belly, small body, active and hardy Japanese quail.

Nandanam Turkey II

1. **Nandanam Turkey II** is an improved turkey variety developed by **TANUVAS, Chennai**.
2. It was developed from the **Beltsville Small White turkey**.
3. The birds are suitable for **backyard and commercial turkey farming**.
4. They possess **predominantly white plumage**, broad breast, and strong legs.
5. Birds attain a **market weight of about 3.02 kg at 16 weeks**.
6. Hens lay about **70 eggs between 24 and 44 weeks**.
7. The variety has an **excellent carcass yield (75.36%)**.
8. It exhibits **excellent livability (95%)** under field conditions.
9. The birds are **hardy, fast growing, and well adapted to backyard farming**.
10. Nandanam Turkey II is valued for its **high meat yield and good economic returns**.

Identifying Marks:

White plumage, broad breast, pink beak, strong legs, and large body. Fast-growing, hardy meat-type turkey.

NANDANAM TURKEY I

MALE (TOM)



FEMALE (HEN)



IDENTIFYING FEATURES : White body with black markings, red neck, good growth, active and hardy turkey.