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Layout of poultry farm

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Housing means giving shelter to the poultry birds to a particular confinement house for getting better performance (egg, meat etc).

Advantages of housing:

- To provide more comfortable environment.
- To protect the birds from inclement climate (rain, sunshine, storm etc.)
- To protect the birds from thieves.
- To protect the birds from insect, pest, predators.
- To protect the birds from parasites.
- To protect birds from infectious & contagious diseases.
- It helps a close supervision.
- Easy treatment procedure.
- Easy to follow vaccination schedule.
- Individual care is possible.
- To make birds more docile.
- Easy management procedure.
- It is easy to supply feed and water to the birds.
- Desire breeding is possible.
- Easy to collect eggs
- Easy to clean litter.
- Less labor cost.
- Reduces per unit production cost of egg and broiler.
- Increases work efficiency farm employees.
- Saves unnecessary land wastage.

- Easy to maintain farm records.
- Easily identify diseased birds.
- To protect birds from adverse climatic conditions
- To ensure easy and economic operation
- To ensure scientific feeding in a controlled manner
- To facilitate proper micro-climatic conditions in a near vicinity of bird For effective disease control measures
- To ensure proper supervision

Selection of location

- Poultry house should be located away from residential and industrial area.
- It should have proper road facilities.
- It should have the basic amenities like water and electricity.
- Availability of farm labourers at relatively cheaper wages.
- Poultry house should be located in an elevated area and there should not be any water-logging.
- It should have proper ventilation.

Layout of poultry farm

A small size poultry farm doesn't require any special layout as it involves construction of only one house. The medium and large size farms require special considerations for placement of building in the farm premises. The basic principles to be observed for layout are

- Layout should not allow visitors or outside vehicles near the birds.
- The sheds should be so located that the fresh air first passes through the brooder shed, followed by grower and layer sheds.
- This prevents the spread of diseases from layer houses to brooder house.
- There should be a minimum distance of 50-100 feet between chick and grower shed and the distance between grower and layer sheds should be of minimum 100 metre.
- The egg store room, office room and the feed store room should be located near entrance to minimize the movement of people around the poultry sheds.
- The disposal pit and sick room should be constructed only at the extreme end of the site.

Different types of poultry houses

Brooder / chick house-It is used to brood and rear egg-type chicks from 0 to 8 weeks of age.

Grower house-It is used to grow egg-type birds from 9 to 18 weeks of age.

Brooders cum grower house-Here, the birds are reared from 0 to 18 weeks of age (entire brooding and growing period of egg-type chicken).

Layer house-In which birds over 18 weeks of age are reared, usually up to 72 weeks of age.

Broiler house-In which broilers are reared up to 6 weeks of age.

Breeder house-In which both male and female breeders are maintained at appropriate sex ratio.

Environmentally controlled (EC) house-In which, entire environment is manipulated in such a way that is optimum for the bird's growth.

Optimal environmental conditions for rearing broilers

Temperature - 22-300C (70-850F)

Relative Humidity - 30-60 %

Ammonia level - Less than 25 ppm

Litter moisture - 15-25%

Air flow - 10-30 metres/minute

House Orientation (Direction): The poultry house should be located in such a way that long axis is in east-west direction. This will prevent the direct sunshine over the birds.

Size: Each broiler require one square foot of floor space while a layer requires two square feet of floor space under deep-litter system of rearing. So the size of the house depends on the number of birds to be reared.

Length: The length of the house can be of any extent. The number of birds reared and availability of the land determines the length of poultry house.

Width: The open sided poultry houses in tropical countries should have a width not more than 22 to 25 feet in order to allow ample ventilation and aeration at the mid-portion. Sheds wider than this will not provide adequate ventilation during the hot weather. If the width of the shed is more than 25 feet, ridge ventilation at the middle line of the roof top with proper overhang is a must. Hot air and obnoxious gases which are lighter than air move upward and escape through ridge ventilation. In environmentally controlled poultry houses, the width of the house may be even 40 feet or more since the ventilation is controlled with the help of exhaust fans.

Height: The height of the sides from foundation to the roof line should be 6 to 7 feet (eaves height) and at the centre 10 to 12 feet. In case of cage houses, the height is decided by the type of cage arrangements (3 tier or 4 tier).

Foundation: Good foundation is essential to prevent seepage of water into the poultry sheds. The foundation of the house should of concrete with 1 to 1.5 feet below the surface and 1 to 1.5 feet above the ground level.

Floor: The floor should be made of concrete with rat proof device and free from dampness. The floor of the house should be extended 1.5 feet outside the wall on all sides to prevent rat and snake problems.

Doors: The door must be open outside in case of deep-litter poultry houses. The size of door is preferably 6 x 2.5 feet. At the entry, a foot bath should be constructed to fill with a disinfectant.

Side walls: The side wall should be of 1-1.5 feet height, and generally at the level of bird's back height. This side wall protects the bird during rainy days or chill climate and also provides sufficient ventilation. In case of cage houses, no side wall is needed.

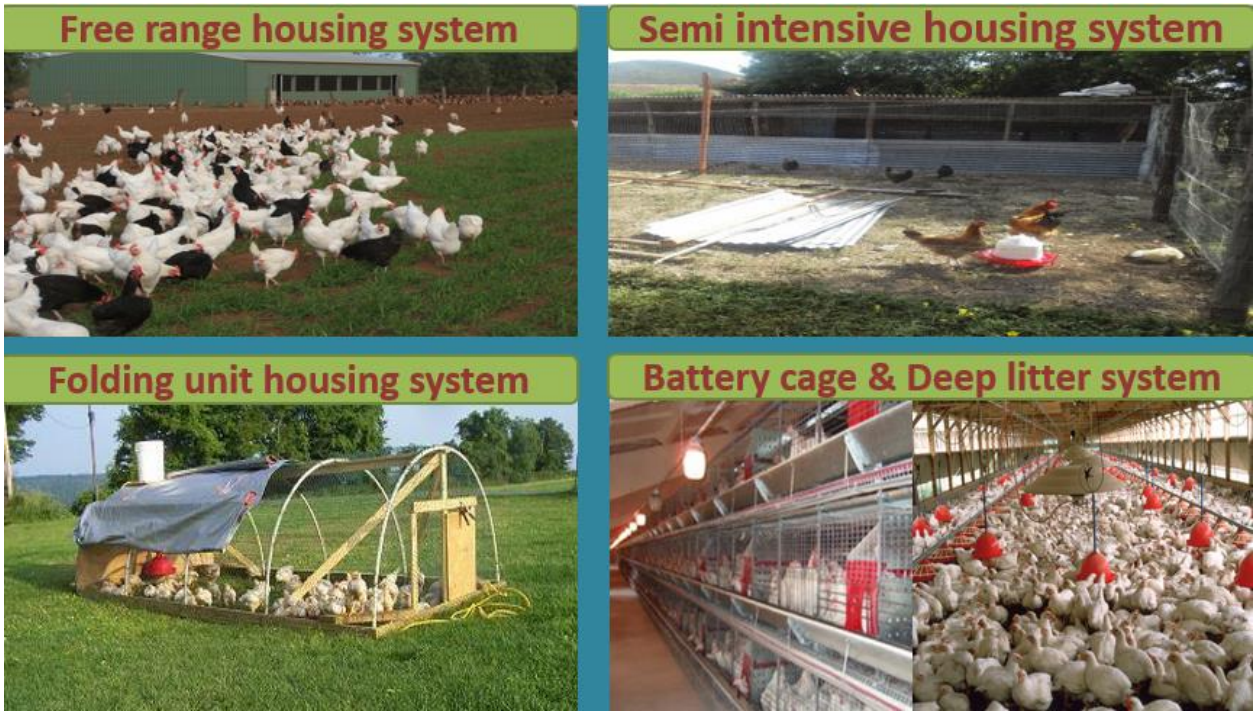
Roof: The roof of the poultry house may be thatched, tiled, asbestos or concrete one depending upon the cost involvement. Different types of roofs are Shed, Gable, half-monitor, full-monitor (Monitor), Flat concrete, Gambrel, Gothic etc. Gable type is mostly preferred in tropical countries like India.

Overhang: The overhang of the roof should not be less than 3.5 feet in order to prevent the entry of rain water into the shed.

Lighting: Light should be provided at 7-8 feet above the ground level and must be hanged from ceiling. If incandescent bulbs are used, the interval between two bulbs is 10 feet. In case of fluorescent lights (tube lights) the interval is 15 feet.

Systems of Poultry Housing

Poultry can be housed under different systems based on following factors,



1. Availability of land

2. Cost of land

3. Type of farming activity

4. Climatic condition

5. Labour availability

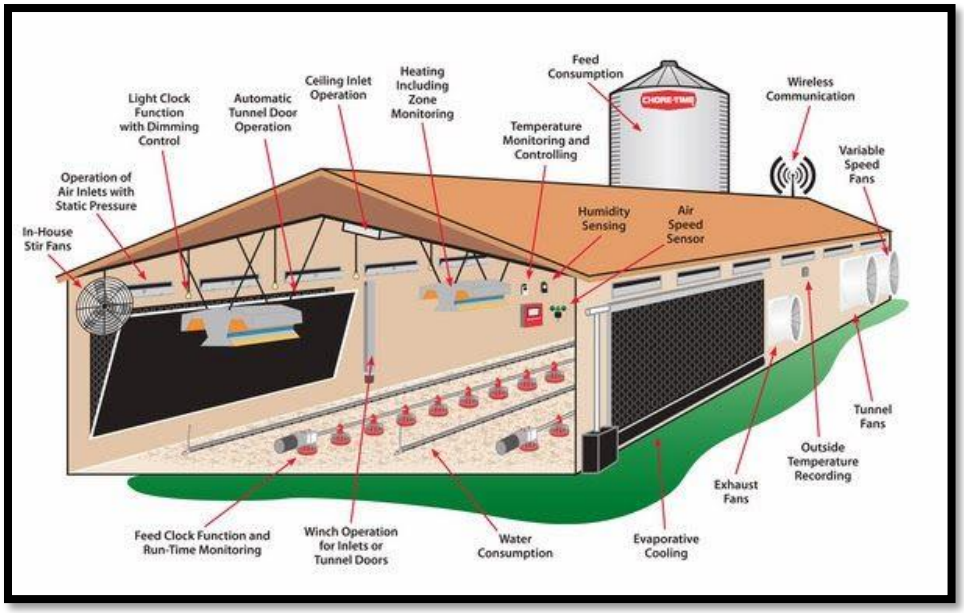
Broadly, poultry housing systems are classified into three systems:

1. Free range or extensive system

2. Semi-intensive system

3. Intensive system

a. Deep-litter system
b. Slatted floor system
c. Slat cum litter system
d. Cage system



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