26. Systems of housing- Deep litter and cage systems – merits and demerits.

System of poultry rearing :

In the annals of Poultry Development, one can see a gradual development in respect of the allotment of space, feeding, nutrition and in management etc. on the basis of scientific and technological developments poultry management moved from free range system to semi intensive system and then to intensive system.

Free range system:

Birds are allowed free range, such that it can wander at will, over the allotted paddock or field and are not controlled by fences.

Deforested land was used. 200 birds/acre allotted. In an ordinary land 100 birds/Acre was allotted. They received their bulk quantity of feed from the land in the form of herbage, seeds, insects etc. besides in small quantity by hand feeding. A small housing is provided for night shelter.

Advantages :

1. Maintenance on clean ground decrease the risk of disease.
2. Reduction in cost of management.
3. Birds get good amount of feed from the land
4. Cost of housing is less.
5. Soil fertility is maintained
6. Farming operation is not interfered with

Disadvantages

1. Losses are serious where predatory animals are abundant
2. Wild birds may consume much feed and they transmit disease.
3. Eggs may be lost when laid in hedge rows.
4. Impossible for adoption unless ample land is available.

Semi Intensive systems :

Birds are provided with a pen and run. Pen is an enclosed house and run is an enclosed grass area with fence.

As few as six to as many as 200 can be kept in are acre of land in this system.

3 to 4 sq.ft / bird in the pen.

Floor level should be at least 10" from the ground level

Advantages:

1.Complete control over operation

2.Useful for record purposes

3.Operational throughout the year

4.Economic use of land (free range)

5.Better protection during winter

Disadvantages

1.High cost in fencing

2.Danger of over stocking

Intensive system

1.Deep litter system

2.Cage system

The concept of deep litter system

Birds are raised within four walls, over litter material which is of organic in nature capable of absorbing moisture and releasing moisture to the atmosphere and also to serve as a bedding material for the birds.

Coirpith

Paddy husk

Ground Nut

Saw dust

Wood shavings

straw chopping

paper straw chopping

sugarcane baggase

When moisture is absorbed there will be controlled microbial activity and odour will also be minimum.

Vit. B12 and B2 are available

depth four inches at beginning. 6-8" – later

Qualities of good liter material

1.It should readily absorb moisture

2.should not cause injury to birds.

3.Moisture level should be less than 15%

4.Should get decomposed and form good manure.

5.Should spread evenly

6.Should be non-toxic.

7.Should not cause dust pollution.

Advantages:

1. Land requirement is minimum

2. Easy and economic management

3. Scientific feeding and management

4. High degree of supervision.

5. Minimum Labour.

6. Automation is possible.

7. Manural value is increased.

Disadvantages

If the management is bad, liberation and accumulation of ammonia, wet litter problem dirty eggs, disease problems may result.

Cage system : Battery cages.

Very popular, called as Californian cage system. Birds are kept under total confinement with minimum space feed and water provided from outside. Eggs laid will get rolled out by the inclined floor bottom.

Types of cages

1.Single

2.mutiples

colony cages 20-30

Advantages :

1.Vertical expansion

2.Easy feeding and management.

3.Protection from Vermin and wild birds.

4.Litter borne disease are avoided

5.Spreading of disease minimum

6.Minimum area is required / bird.

Single 1 /sq.ft.

Multiple – 0.75 sq.ft.

colony – 0.5 sq.ft.

7.Cleaner eggs.

8.Research data collection easier

9.Identification of birds, handling and culling of non layers easier.

10.Insects and pests controlled

11.Vices are kept at minimum

12.Birds are of softer flesh than the floor reared birds.

Dis-advantages.

1. High cost of installation

2. Breeding is not possible unless Artificial Insemination is practiced.

3. Cage layer fatigue or paralysis is a problem if not attended to.

Housing management

Poultry should be provided with a good housing which will facilitate 1. shelter 2. Protection from wild animals 3. Bad weather condition. Ideal housing helps the birds to perform well. To establish a viable poultry enterprise capital, land, labour and technical know how are essential.

The housing design should be flexible and it depends on

1.Age and stage of the birds.

2.Functional requirement.

3.The climate and environment.

4.For efficient supervision

5.Minimum structures to have efficiency.

6.Economy in construction.

Selection of site and construction of houses.

1. Hard soil type

2.elevated area should be selected for house construction

3.Cheaper in cost.

4.should have continuous water supply - good and wholesome.

5.Should be away from the urban area and also should be at an easy reach.

6.should have good road/rail facilities for transport.

7.should be easily accessible for supervisor

8.should have good ventilation

9.There should be freely available space for expansion.

10.Marketing- preferential

11.Management of brooder cum grower, layers, breeders should be specified in distinct areas to avoid crisscross movement of birds and inter current infection - such segments should be 100 feet away from each other.

12.Building should be constructed in east-west direction that is long axis should lie in east-west direction

13.Width of the building should be restricted to 30 feet and the length can be extended to the requirement. Height 10-12 feet.

14.North and South sides of the building should be fitted with wiremesh to permit airflow.

15.Roofs can be –thatch, Tiles, asbestos, light roofing or zinc sheet.

16.there should be minimum structures so that there could be good air movement

17.Manure pit and the incineration room should be constructed at the far end in leeward direction.

18.Farm house should be located at the entrance to minimize the movement of visitors into the deeper areas.

19.Agriculture operations can be combined with poultry farming.

Desing of poultry houses.

Shed – lean to roof

Gable

Half Monitor

Full Monitor

Flat roof houses.

kinds of poultry houses.

1. Brooder house.
2. Brooder cum grower house
3. Layer House
4. Breeder House
5. Broiler House
6. Cage House

		Layer	Broiler

Temperature	Comfort Zone	10-24^{o}C	21-25^{o}C
	Optimum	13-20^{o}C	24^{o}C
Humidity	Acceptable	50-75%	50-75%
	Preferable	60%	60%