



Tikrit University
College of Veterinary Medicine

Poultry houses

Subject name: Poultry Management

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SCAN ME

Lecturers link

Poultry houses

Keeping birds in a closed area and providing them with shelter is the first step towards improving them.

If birds are allowed to wander around freely, disease can spread quickly through all the birds. A covered shelter (house) will give chickens protection from wind, rain, snow and predators such as foxes.

Advantages of chicken houses:

- They will be protected from the sun, rain, cold and snow.
- They will be protected from other animals such as foxes and birds of prey, from theft.
- Young birds are protected.
- Food and water can be controlled.
- Birds can be prevented from eating bad food or drinking dirty water.
- Nest boxes can be provided to make it easy to collect eggs.
- The spread of disease can be stopped

How many birds should be kept in a house

There must be enough space to hold all the birds plus the feed and water containers

. If too many birds are kept together they will start to peck (bite) each other.

If any bleed, the problem will become worse, as more birds start to peck. Young birds will need less space than older birds.

The ground or floor area required is:

- 1 meter of perch must be provided for every 5 adult chicken layers.
- 1meter must be provided for every (10-12) adult chicken Broilers.

House Volume Calculation

The length and width of the chicken houses depending on the number of chickens (broilers, layers)

How many need to breeds of broilers in houses have length 100m and width 10 m.

Base

Length X width X number of chickens in one meter

$$100 \times 10 \times 5 = 5000 \quad \text{Layers}$$

$$100 \times 10 \times 12 = 12000 \quad \text{broilers}$$



There are several approaches to setting up a house for brooding.

Suitable housing for chickens should be:

- * Built on high ground close to the home of the owner so that he can keep an eye on it.
- * The house must be fenced around with wire or other suitable material and if possible should be shaded by some trees in order to allow birds moves on rainy days.

Foundation

A good foundation must be solid enough to support the building deep to prevent heaving by frost

1- Floor

The hen house floor must be moisture proof, free from cracks, and easily cleaned, rat-proof and durable, and disinfected.

They are not cold when properly bedded with litter, concrete floor is important used in the floor due to have (7.5–10 cm) thickness

2-roof or ceiling

Large fluctuations in house temperature will cause stress on the chick and reduce feed consumption

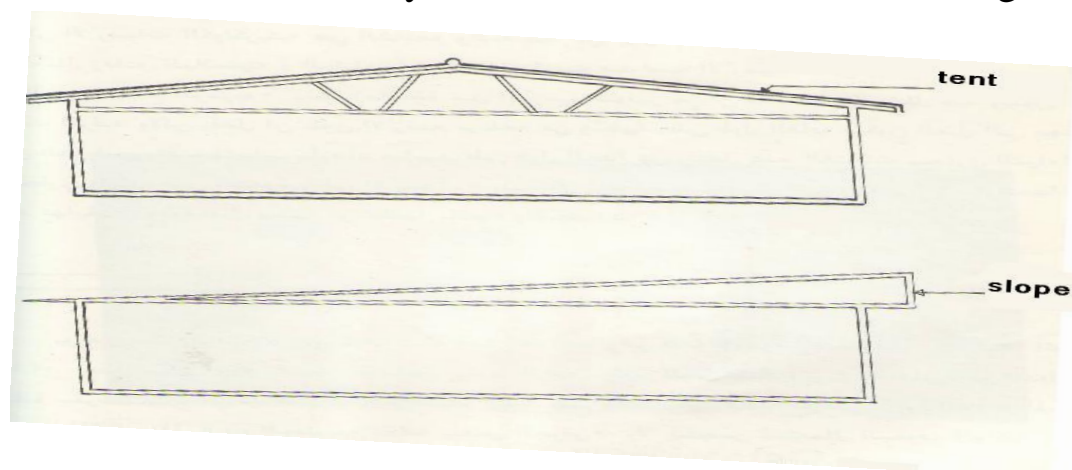
A well-insulated roof will reduce solar heat penetrating the house on warm days, thus decreasing the heat load on the birds. In cold weather a well insulated roof will reduce heat loss and energy consumption needed.

There are two types of ceiling:

1-Tent ceiling

2- Sloped ceiling

There are many materials which build ceiling of houses Such as iron palate, aluminum palate, thick piece (mat). We must heat insulation from ceiling by material insulation or by leave a few distances from ceiling as false-ceiling



Some time leave small distance between the roof and ventilation between the primary and secondary roof

3- Walls and partitions

The walls and partitions must be solid enough to support the roof and withstand heavy winds

4-Insulation

Roof insulation helps in winter and summer, the kind and amount depending on the length of the winter season such as:

1-Asphalt shingles 2-matched lumber 3-chopped straw 4-Corrugated metal (sawdust) roof 5-cement 6-Corrugated asbestos 7-mineral wool 8-concrete block

5- windows and ventilators

Used for both light and ventilation especially in warm weathers,

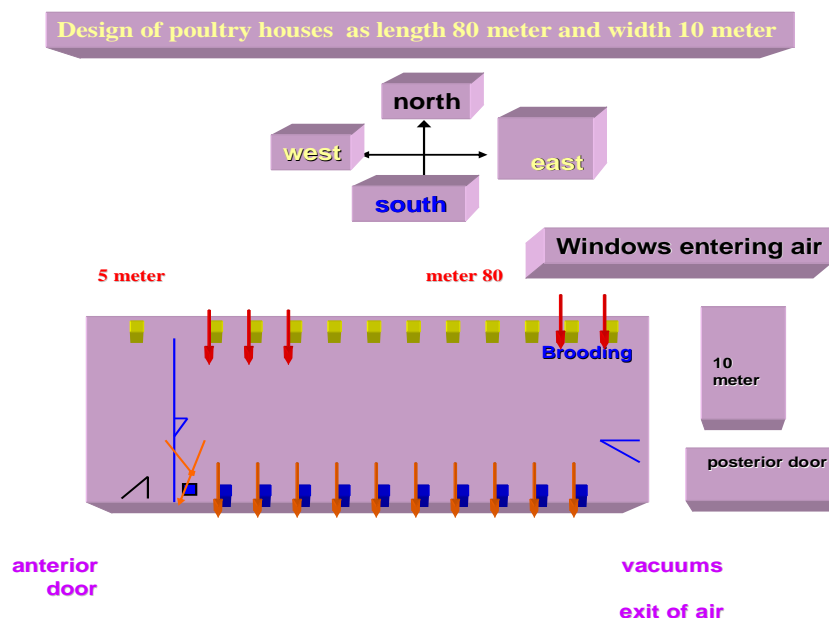
Poultry house ventilation system design

The main purpose of minimum ventilation is to provide good air quality. It is important that the birds always have adequate oxygen and minimum amounts of carbon dioxide (CO₂), carbon monoxide (CO) and ammonia (NH₃) and dust.

Basically consists of exhaust fans and air inlets.

Exhaust fan draw in fresh air, Inlets direct the fresh air to where we want it to go.

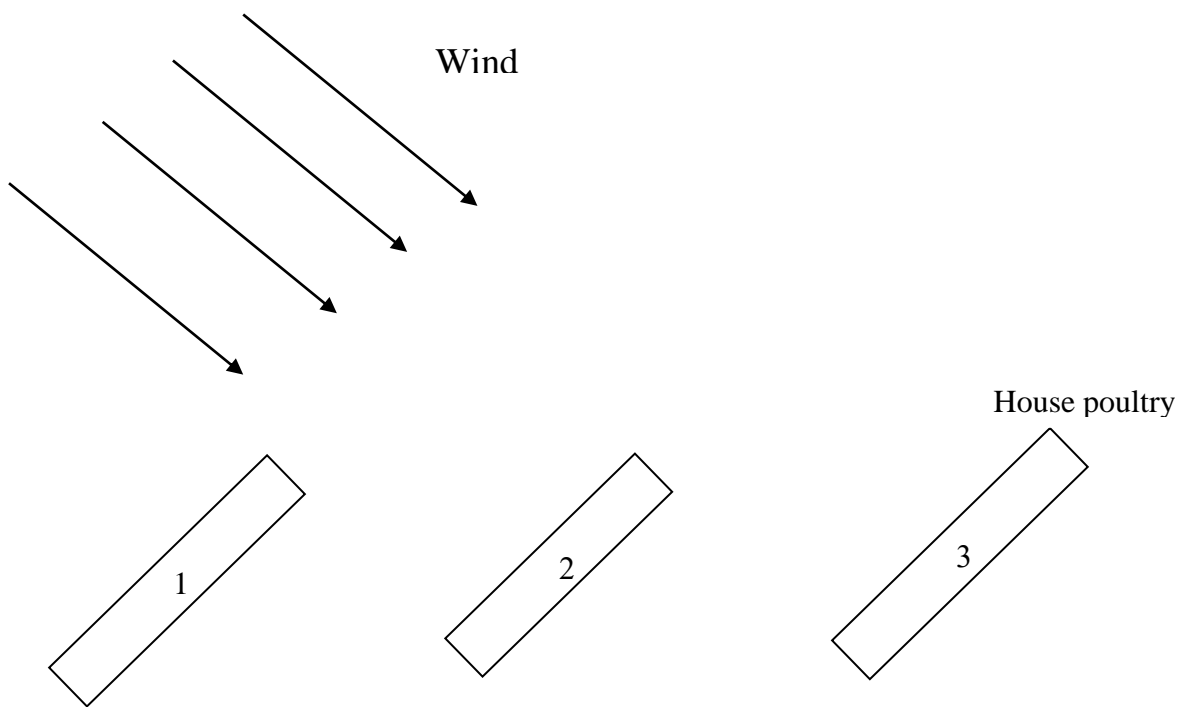
6- Holocaust : Remove of viscera and dead chickens by fire



Choose site of poultry houses

When you present many of poultry houses in single flock You can arrangement of poultry houses agonist of prevailing wind and parallel between

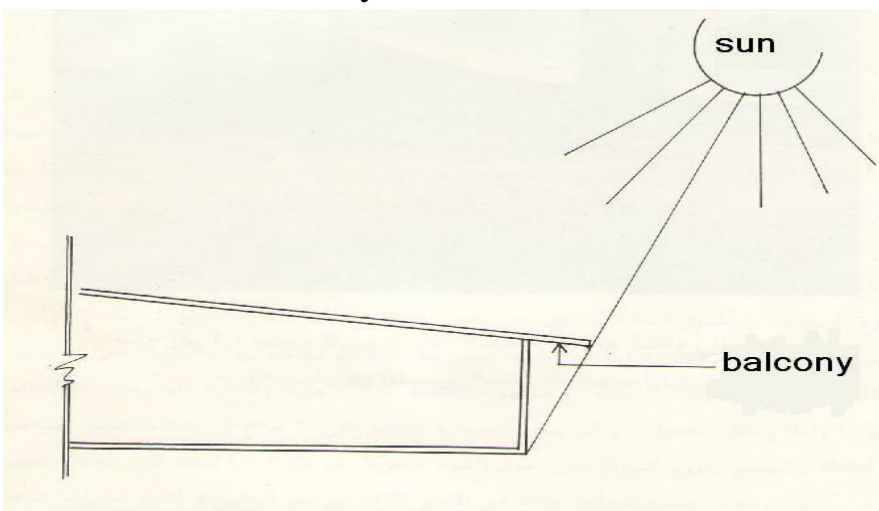
them as extending in the same direction and move away indifferent distance to prevent contamination the second poultry houses from first.



Direction of poultry houses

The direction of poultry houses is very important especially in the high warm region.

To prevent the solar heat we must built the houses in (east to west) orientations to allow the sun light down with both small walls of houses , in midday when the sun is vertically on the house or sloping on the houses you must be built small balcony about 75cm to obstruct the solar heat from north walls .



Poultry houses design

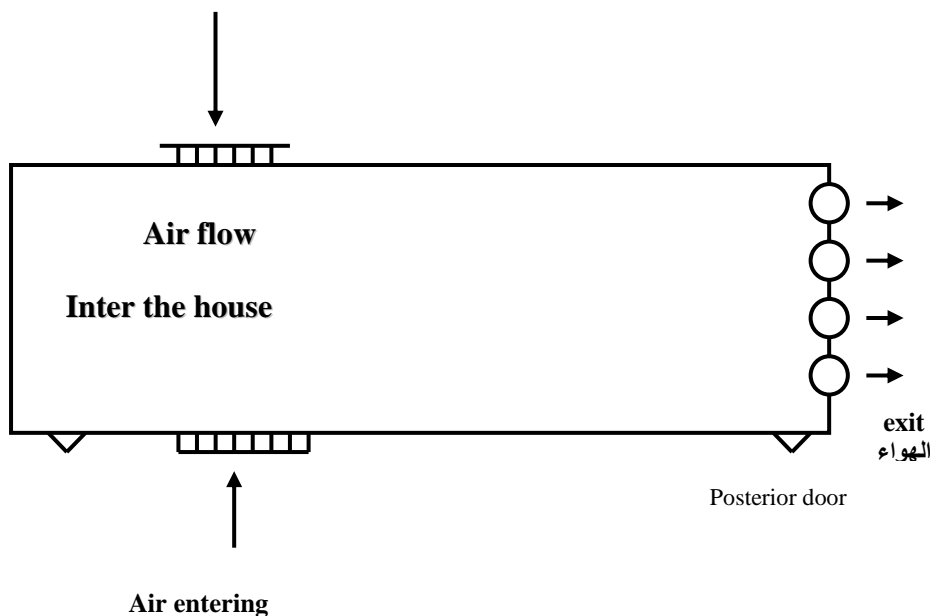
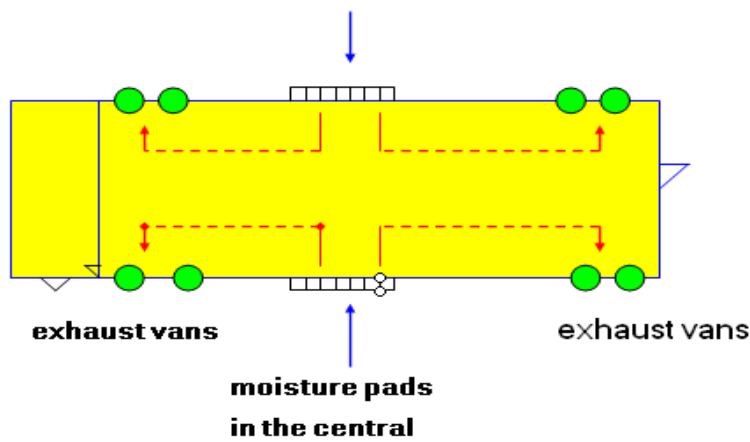
There are two types of poultry houses design

1- Opened houses

The ventilation of this depending on opened windows from one side and pull the air in the other side or the windows with Exhaust Vans , the amount of air entering equal the amount of air leaving, the number of vacuums depending on size of houses and type of chickens.

2- Closed houses

The ventilation of this system depending on the negative pressure ventilation (no windows) but contain Exhaust Vans that's pulling of all air inside the houses and then imbalance in atmospheric pressure in side the houses and become low pressure in order to entering the new air from the (outside to inside) the new air enter through moisture pads that cooling the air



Temperature

The chicken is the animal can be height effective by temperature in side the houses. warm-blooded vertebrates

Normal for chickens: 105 to 107 F

Chickens are comfortable up to 100 F with 65% relative humidity.

Birds keep cool through the comb and by respiration – panting and spreading their wings when too hot.

Heat management is more important for young than for older birds.

If the temperature decrease under the natural line causes the following:

- 1- Increase of diet uptake.
- 2- Increase of conversion rate of feed.
- 3- Decline production (eggs–meat).
- 4- Rise in respiratory signs.

When the temperature increase above the natural line

- 1- Decrease of diet uptake.
- 2- Decrease of conversion rate of feed.
- 3- Heat shock when reach above (35°C).
- 4- Bite each other's.
- 5- Decrease in eggs production or small size

Heating system

Providing heat source to hens during breeding as the following:

The temperature in first days 35°C then decrease gradually about 2.5C weekly until third week.

The optimum temperature (25-30) °C in side the housing gives better results.

Some poultry housing using another program:

First week	30°C
Second week	27°C
Third week	24°C

Type of heating systems:

- 1- Butane gas heating
- 2- Oil gas heating act on electrical and hold hers in the middle of housing
- 3- Gasoil or kerosene heating.

Cooling system

Using in warm weathers, slightly wet, moist.

Note

The using of air conditioning it's very expansive and depending on Recirculation system, the device pulls air from inside the room to cooled it and pumped into the room again, then there is no change to the air and therefore does not fit at all this type of cooling in the halls of poultry, because we need to air a renewed and in very large quantities.

Types of cooling system :

1- Traditional methods by spray of the walls and roofs by water

2- Moist pads: made by wood fibers the water flow on the pads (top to down) and the air contact on the moist pads in the wood fiber then become cold.

In winter condition, no water supply on the pads.

3- Nozzles; is the type of sprayers of waters as smooth drizzles by ducts or boxes.

Disadvantage of this method

Salts and unclean materials blocked of this sprays.

4- Air cooling

Pushing the air from the outside in the inside in one direct by ducts, someone putting the air cooling against exhaust vans this method cause problems in poultry due to mostly hens not obtained sufficient air around her and increase of ammonia in the houses and all the air go out.

Advantages in location of air cooling

1- No direct of exhaust vans

2- Height locate of air cooling from floor about 90- 120 cm

3-some time using grille in the ducts as Y-shape to distribution of air around the houses.

*** lighting**

The light play role in the hens movement , when reduce of lighting causes absent cannibalism or separation of weathers

And decline in the mortality coming from egg impaction

Lighting intensity: degree of (action) of light in the hens

Lighting duration: interval time of light in the hens daily

Light duration in the broiler we must allow of duration 23-23.5 hours daily and leave half hours of hens in darkness.

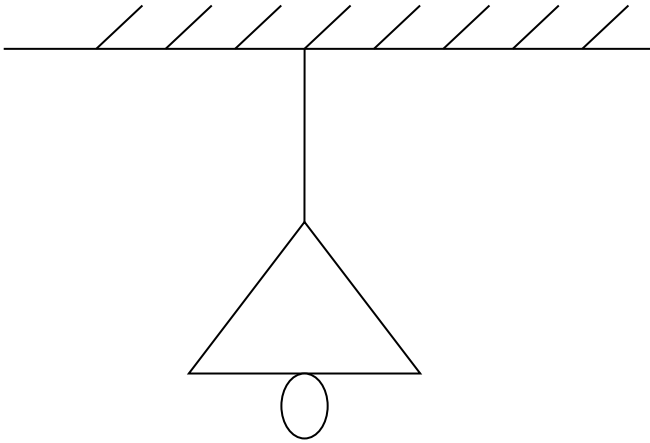
In the laying

0-1 week	18 light	6 hours darkness
2-18 weeks	6 hours light	18 hour darkness
19-22 weeks	increase of lighting 45 minutes one weeks	
23-48 weeks	increase of lighting 20 minutes one weeks	
49 weeks	stabling light 18 hours daily.	

Lighting intensity

In both hens (broilers and laying) uses normal light (lamp) and not fluorescent light causes crazy chick

All the lamps should be having timer to reduce intensity of light, some time uses reflector plate above the lamp to bend of light down and reduce of dust on his surface



Location of lamps lighting in the houses

The height of lamps from the floor 1.5 meters

If the length of floor 180 m the location of each light from another's 2.7 m

Note Lamp bulb: 60-watt light.