STRUCTURAL BIOSECURITY

What to take home after this lesson

1. What Biosecurity in Poultry is?

2. Poultry housing designs.

3. Common Housing Systems used in Ghana.

4. Things to consider when building your poultry house.

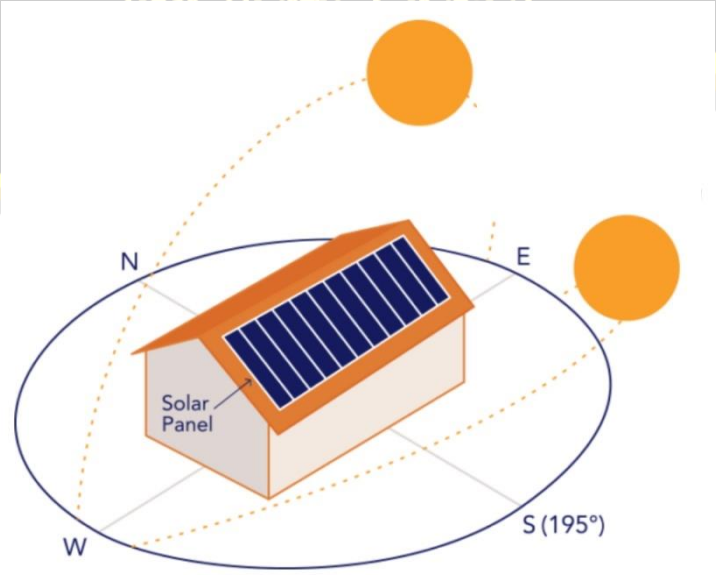
Structural Biosecurity is another level of defense against diseases and disease pathogens.

This line of defense suggests to a farmer to take care of farm layout, drainage construction, road construction, and erection of fences in a way that promotes disease prevention. For this aspect of biosecurity all structural components of the farm are carefully considered with disease prevention in view. For chickens, a healthy living environment naturally includes the right temperature and the right amount of light, air, food and water.

Let's look at how best to design your Poultry House:

Orientation/Direction of a Poultry House

The length of the house should be in the east-west direction in order to prevent direct sunshine over the poultry.



#PoultinnTraining

Overall Size of a Poultry House

The full size of the house will depend on the number of birds you want to keep. If you are using the deep litter system, broilers will require **one square foot** while layers require **2 square feet**. For example, if you intend to keep 5000 broilers in one house, the poultry house plan for the 5000 chicken should cover 5000 square feet. If you intend to keep 2000 layers, the poultry house plan for the 2000 layers should cover 4000 square feet.

Length of a Poultry House

There is no limit to the length of the poultry house. This is determined by the number of chicken and the size of the land.

Height of a Poultry House

The recommended height of a poultry house is 6 to 7 feet (eaves) and 10 to 12 feet at the center. If keeping the bird n cages, the height is determined by the tiers of the cages. This can be 3 or 4 tiers.

Width of a Poultry House

The width of a poultry house in tropical areas should not exceed between 25 feet, in order to allow for enough ventilation at the middle. If the width is wider than 25 feet, there will not be ample aeration when it is hot.

Foundation of your Poultry House

It is important to have a well-done foundation in order to prevent water from getting into the poultry house. The foundation should be concrete extending 1 to 1.5 feet underground and 1 to 1.5 feet above the ground.

The Floor of a Poultry House

The floor of a poultry house should be made of concrete and free from any dampness. It should extend 1.5 feet outside the wall so as to deter vermin like rats and snakes.

Lighting In a Poultry House

The lighting should be placed at 7 to 8 feet, hanging on the roof. Incandescent bulbs should have a spacing of 10 feet while fluorescent lights should have a spacing of 15 feet.

Doors of a poultry house

The doors should open to the outside of the poultry house. The preferred door size is 6 feet by 2.5 feet. At the entry, there should be a foot bath.

Foot bath with disinfectant to disinfect before entering the house

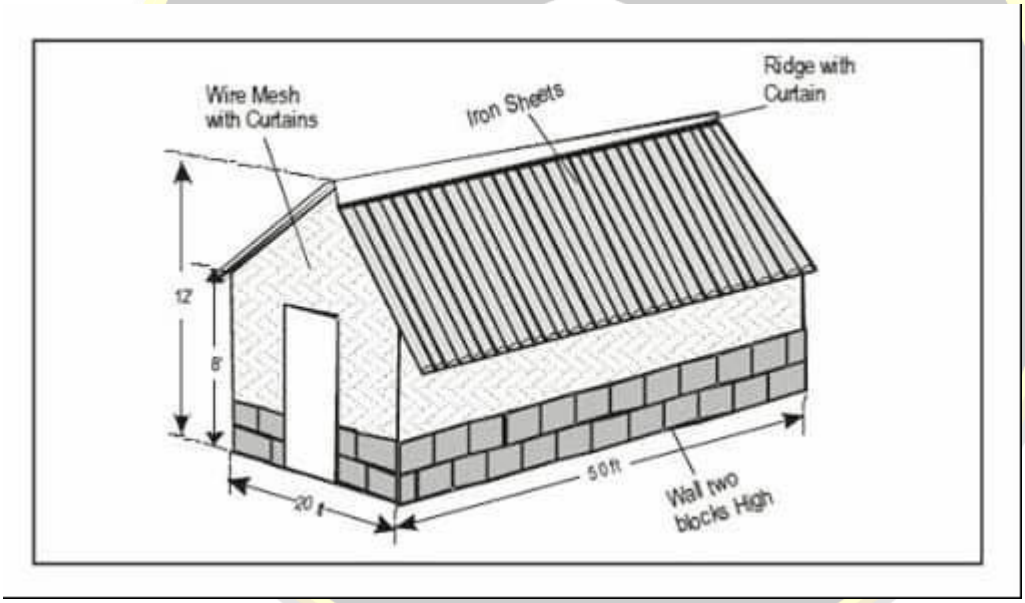
Walls of a Poultry House

The sidewalls of an open-sided poultry house should be 1 foot to 1.5 feet. The sidewall will protect the chicken from extreme direct wind and rain.

The roof of a poultry house.

The roof of a poultry house can be made of any cost-friendly roofing material. It can be on any design that allows good airflow and water drainage when it rains. The overhang of the roof should be at least 3.5 feet so as to prevent rainwater from getting into the house.

A typical example of a poultry house but bear in mind that yours will depend on your land available and the number of birds you are rearing.



Some Essential Information about Chicken Housing for Making a Suitable and Proper Poultry House.

- The poultry house must have to be well ventilated.
- Ensure sufficient entrance of sunlight and fresh air inside the house.
- The proper distance of one house to another house is about 40 feet.
- Clean and disinfect the house properly before keeping the birds inside the poultry house.

- Make a deep liter and keep it dry and clean always.
- Wooden and rice bran can be used for making liter.
- Keep feed and feeding equipment in proper distance inside the poultry house according to the number and demand of poultry birds.
- The poultry house and all equipment must have to be free from virus, parasites and germs.
- Build the poultry house in such a place where all the poultry birds are free from all types of wild animals and other predators.
- The poultry housing area will be free from loud sound/sound pollution.
- Make the poultry house in quiet and calm place
- It would be better if the house located in an open air place.

Common Poultry Housing System

Deep Litter System

Involves keeping the birds on the floor, with litter on the floor. The starting depth of the litter is 3 inches to 5 inches, with litter being added on top every time the bird's droppings seem to exceed the amount of litter.

Advantages of the deep litter system

Ease of management - hence less labour. In a well-managed deep litter system, the litter in changed once a year. This means there is less labour required when it comes to cleaning. Bacterial activity in the litter produces vitamin B2 and B12, which are beneficial to the birds. The heat from the bacterial activity provides both cooling and heating for the birds. During hot seasons, the hot air rises and cool air comes in, giving the birds a cooling effect. In cold seasons, the heat from the litter provides warmth for the birds.

Disadvantages of the deep litter system

When not well managed, the direct contact of the birds and the bird droppings in the litter can lead to parasitic and bacterial diseases. Dust from the litter might lead to respiratory diseases

Poor ventilation might lead to diseases

CAGE SYSTEM

Rearing of poultry on raised wire netting floor in smaller compartments, called cages. At present, 75% of commercial layers in the world are kept in cages. Suitable for keeping high density of birds, when space is limitation. Scientific management practices can be followed. Feeders and drinkers are attached to cages from outside, except nipple drinkers, for which pipeline is installed through or above cages.

Cages with attached tanks

Auto-operated feeding trolleys and egg collection belts can also be used. The droppings are either collected in trays underneath cages, on belts or on floor or deep pit under the cages. So it normally has an advantage over the deep litter.

Disadvantages

Difficulties in ensuring proper ventilation to birds especially in summer season and under very high densed conditions. Incidence of leg problem, cage layer fatigue, fatty liver syndrome, flies and obnoxious gases in the house will be on increases.

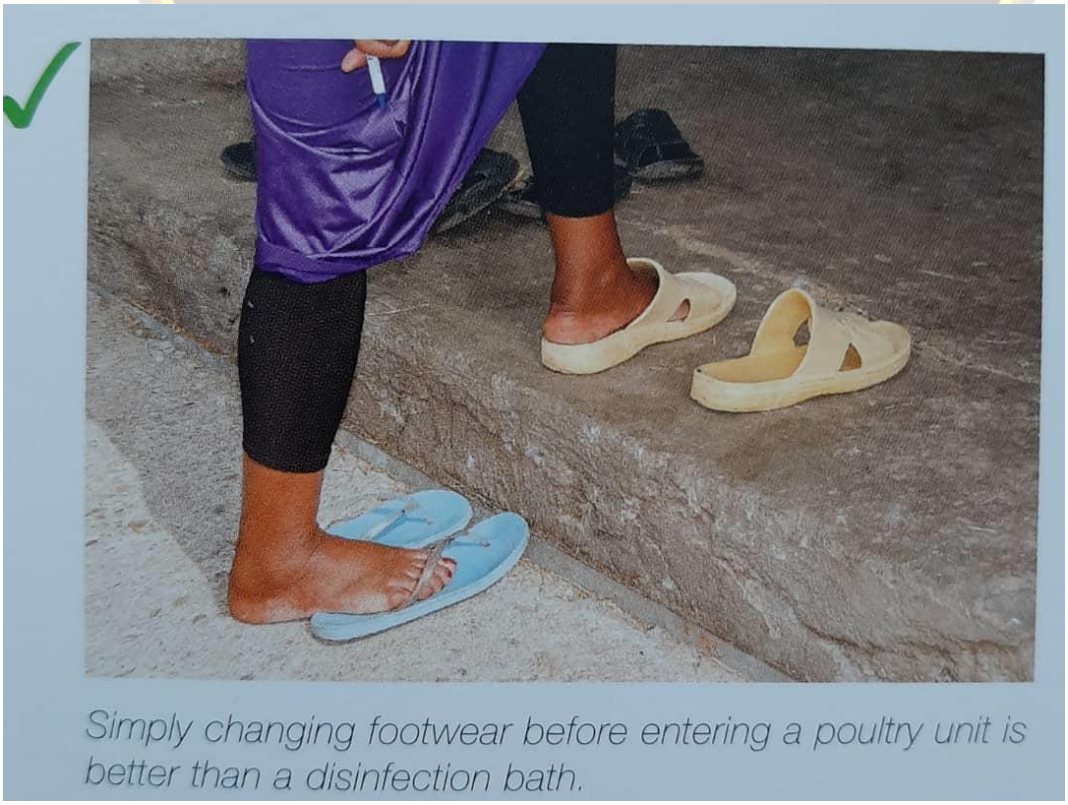
Finally

Avoid spreading diseases in the house itself: internal biosecurity.

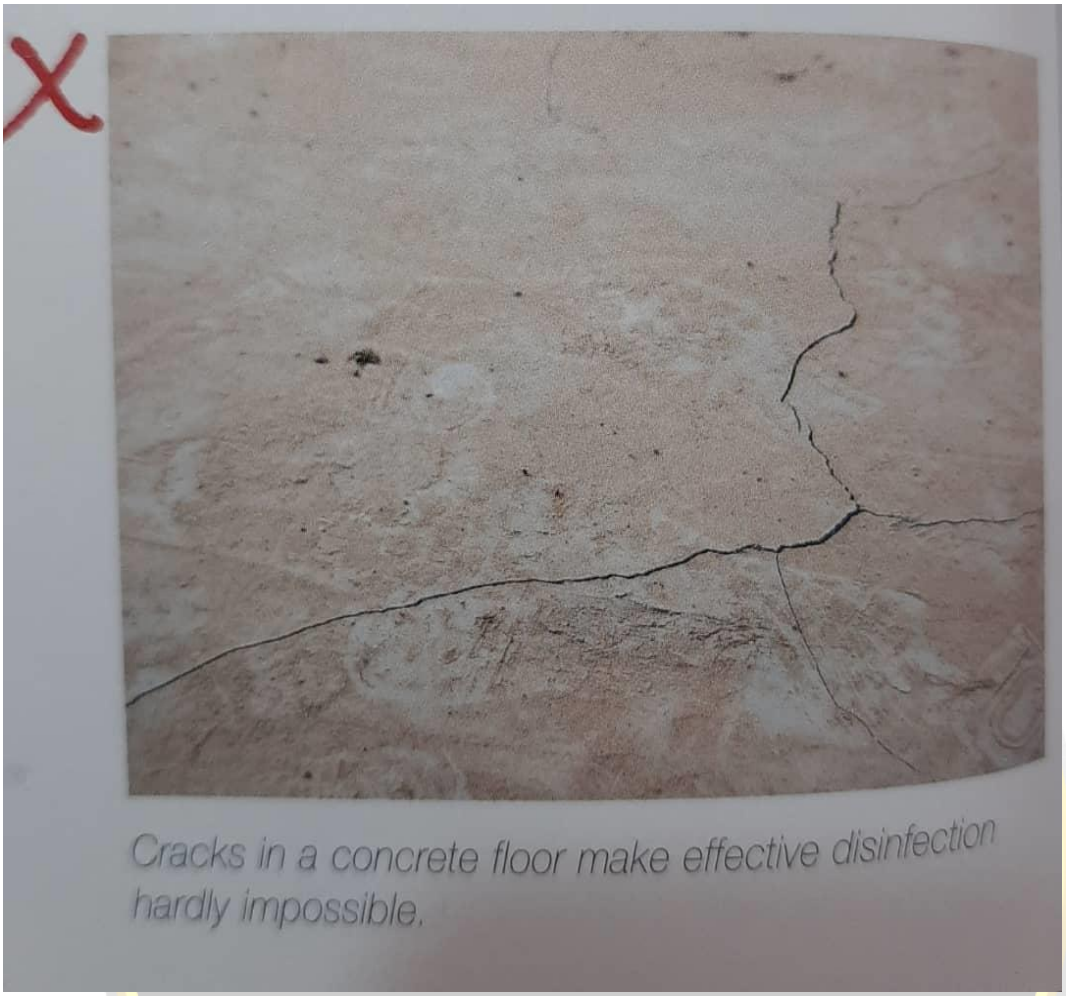
Take a critical look at your own working methods.

How clean are your overalls and boots?

There are potential pathogens in the manure and dust you carry around with you. Always walk from the area with the youngest birds to the area with the oldest ones. Do you always make sure you go from clean to dirty, and do you wash your hands and change your clothing or boots when you go to a different section or house? Don't allow affected to run around: always remove them.



Simply changing footwear before entering a poultry unit is better than a disinfection bath.



Cracks in a concrete floor make effective disinfection hardly impossible.