Poultry Biosecurity
What is Biosecurity?

- Biosecurity:
  - Addresses measures that should be taken to keep any diseases from a farm.
  - Reduces the transmission of diseases to neighboring farms.
  - Biosecurity reduces the risk of pathogens from forming, which prevents the spread of diseases from one flock to another.
What are Pathogens?

Pathogens may be characterized as:

- **Bacteria:** single-celled organisms that are known to cause infections.
- **Viruses:** tiny microscopic infectious agents that replicate within the cells of living host.
- **Fungi:** organisms that live by breaking down and absorbing the organic material in which they grow.
- **Parasites:** organisms that live on or within a host from which it obtains the nutrients it needs to survive.
What are Diseases?

- A disease is:
  - any abnormal condition that impairs bodily functions in an organism.
  - Diseases can be characterized by specific symptoms and signs.
  - A disease may be caused by:
    - external factors (infectious disease)
    - internal dysfunctions (autoimmune disease)
Why Does the Industry Use Biosecurity?

- Biosecurity’s purpose in the industry is to:
  - Reduce the exposure of diseases and pathogens to birds within a particular flock.
  - Reduce transmission of diseases and pathogens to a neighboring farm.
  - Reduce the transmission of **zoonotic diseases**:
    - Infectious diseases that can be transmitted from animals to humans or humans to animals.
Zoonotic Diseases

- Common Zoonotic Diseases:
  - Salmonella
    - A bacteria transmitted between birds primarily through the air.
    - The bacteria is shed from the infected bird through feces, feather dust, and secretions made from both the eyes and nose.
  - E. Coli
    - A bacteria commonly found in the intestine of birds.
    - The bacteria is harmless as long as it is kept in check by other bacteria in the intestine.
What Are the Economic Benefits of Biosecurity?

- By reducing diseases and pathogens:
  - The producer saves money by not having to euthanize (kill painlessly) all the birds in the infected flock.
  - Depending on the size of the flock, the economic loss could be worth millions of dollars.
How is Biosecurity Achieved?

- Tire Baths
  - Reduces opportunity for incoming traffic, such as feed and delivery trucks, to bring in pathogens from outside the perimeter of the farm.
How is Biosecurity Achieved?

- **Outside Perimeter**
  - High fences prevent intruders such as animals and people from entering the premises and possibly transmitting diseases to the flock.
How is Biosecurity Achieved?

- Footbaths
  - Footbaths are placed outside the door of all facilities and contain disinfectants, reducing the risk of bringing pathogens inside the buildings.
How is Biosecurity Achieved?

- Sanitation of Equipment and Supplies
  - The purpose of sanitizing equipment, surfaces, and supplies is to reduce pathogens.
  - This is especially important in preventing the spread of diseases between neighboring flocks.
How is Biosecurity Achieved?

- Good Hygiene
  - Prior to entering the facility, employees and visitors should demonstrate good hygiene by showering and wearing clean designated clothing such as boot covers, hairnets, and coveralls.
How is Biosecurity Achieved?

- Entrance Order
  - The order of entering facilities depends on the age of the birds.
    - For example, you want to enter the hatchery first (where the youngest birds are), before entering the grower house (where the older birds live.)
      - Older birds have stronger immune systems, making them more resilient to any pathogens that may be present.
How is Biosecurity Achieved?

- Hostile Environment
  - Creating an environment that is non-desirable will reduce the risk of transferring pathogens from infected wildlife.
  - Eliminating any trees, grass, and ponds from the property will deter wildlife from trying to enter.
How is Biosecurity Achieved?

- Bait Stations
  - Reduces the risk of rodents, which are small enough to easily get into facilities and carry many pathogens, from infecting the flock.
How is Biosecurity Achieved?

- No contact with outside birds
  - Since most avian diseases are transmitted through the air, it is highly important to have no contact with outside birds within 72 hours of entering a facility.
  - This includes pets as well as birds from other flocks.