

BIOSECURITY MEASURES TO BE ADOPTED AT POULTRY FARMS

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BIOSECURITY MEASURES TO BE ADOPTED AT POULTRY FARMS

Biosecurity is a practice designed to prevent the spread of disease on the poultry farm.

- Accomplished by maintaining the facility with minimal traffic of biological organisms (viruses, bacteria, rodents, etc.) across its borders.
- Biosecurity is the cheapest and most effective means of disease control available. No disease prevention program will work without it.

BIOSECURITY IS AN INVESTMENT

**Flock
Health**

**Animal
Welfare**

**Flock
Performance**

**Sustainable
Production**

Biosecurity is an investment providing a foundation to attain critical goals for a commercial operation

MANAGING RISK FACTORS



Managing risk is a process leading to the development and implementation of an action plan (biosecurity program) to suppress or mitigate the risk of disease introduction

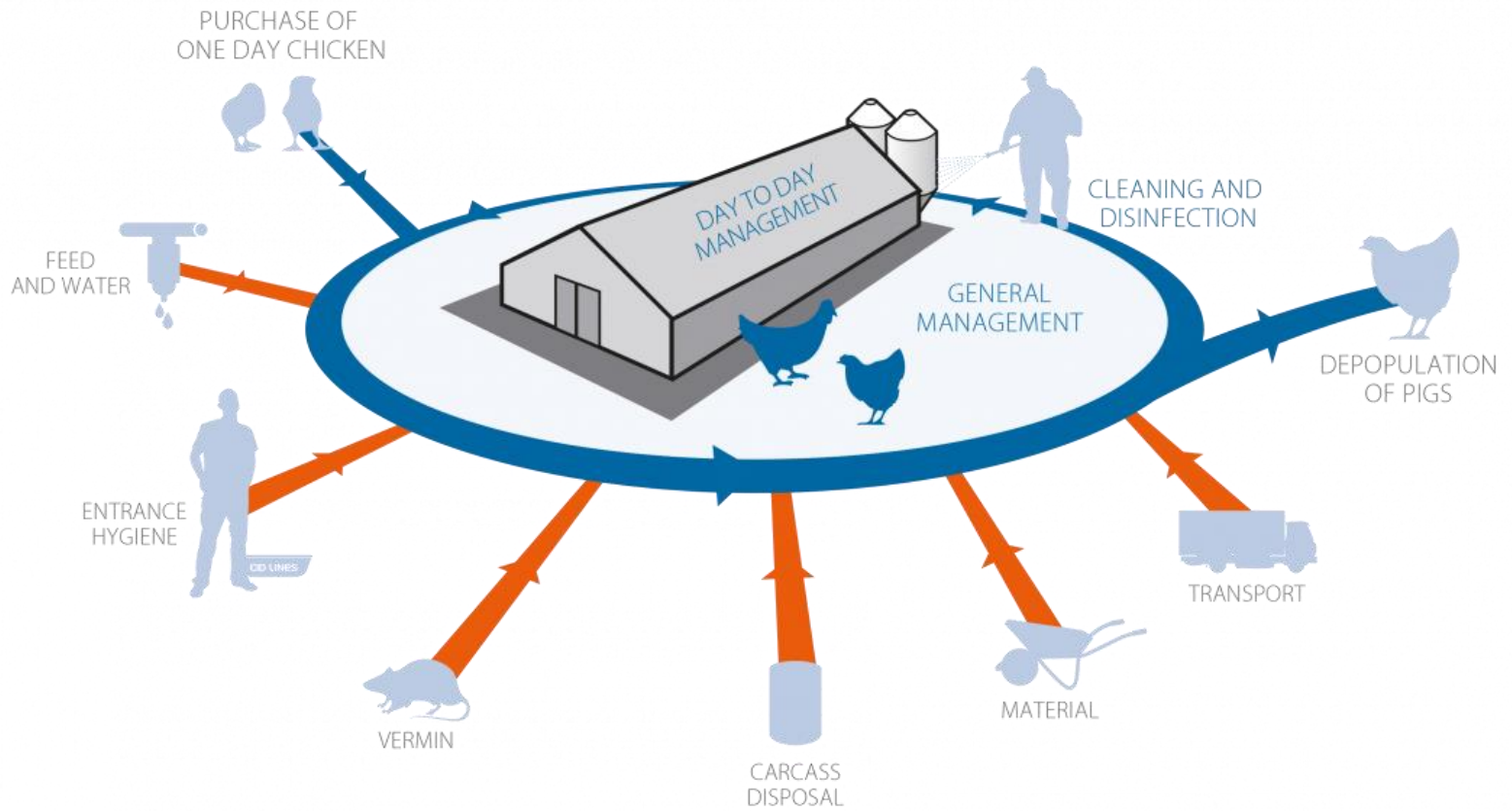
Biosecurity has three major components:

❖ **Isolation**

❖ **Traffic Control**

❖ **Sanitation**

Poultry house



- **Isolation** refers to the confinement of animals within a controlled environment.
- A fence keeps birds in, but it also keeps other animals out. Isolation also applies to the practice of separating birds by age group.
- In large poultry operations, all-in/all-out management styles allow simultaneous depopulation of facilities between flocks and allow time for periodic clean-up and disinfection to break the cycle of disease.

- **Traffic Control** includes both the traffic to the farm and the traffic patterns within the farm.
- **Sanitation** addresses the disinfection of materials, people and equipment entering the farm and the cleanliness of the personnel on the farm.

Infectious diseases spread from farm to farm by:

- Introduction of diseased birds.
- Introduction of healthy recovered carrier birds.
- Shoes and clothing of visitors or caretakers.
- Contact with inanimate objects contaminated with disease organisms.
- Carcasses of dead birds not disposed of properly.
- Impure water.

- Rodents, wild animals and free-flying birds.
- Insects.
- Contaminated feed and feed bags.
- Contaminated delivery trucks, rendering trucks, live hauling trucks.
- Contaminated premises through soil or old litter.

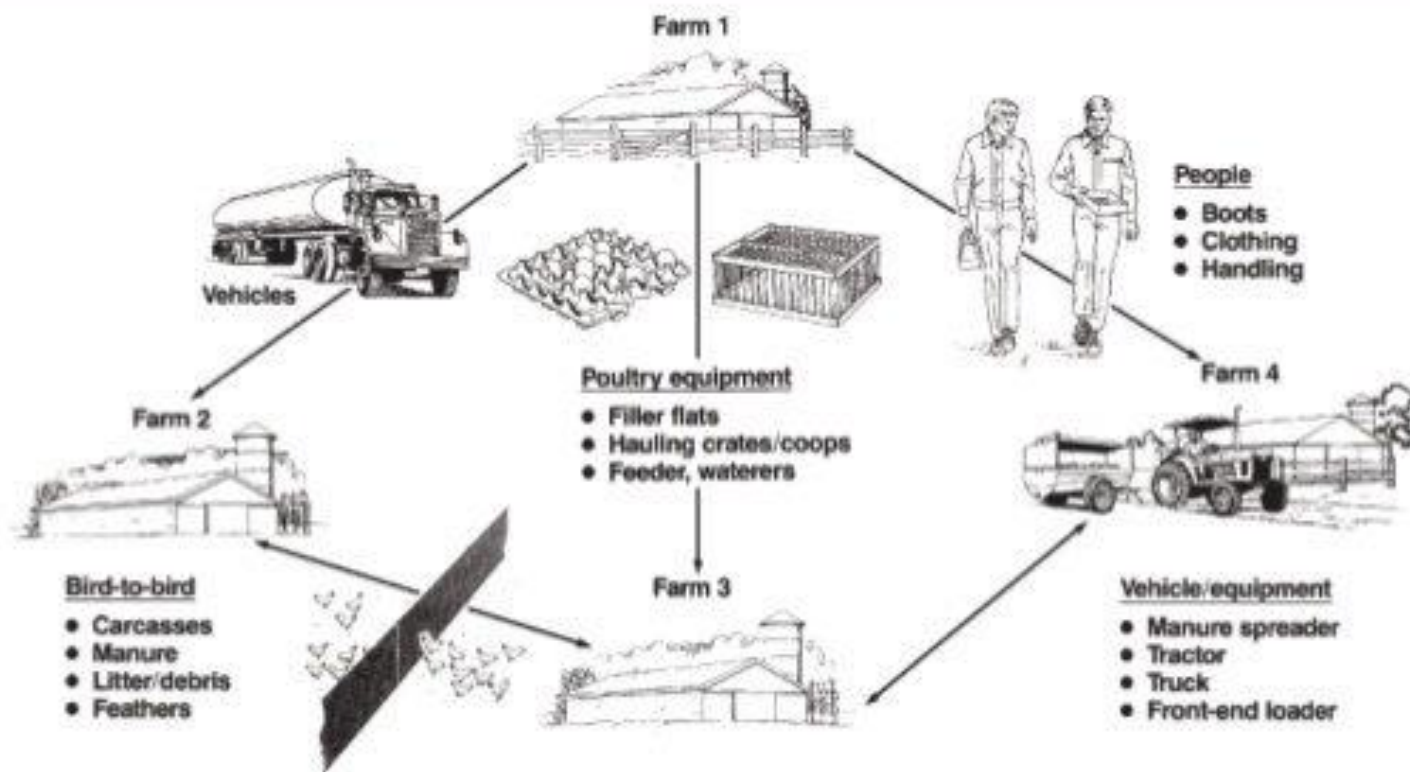
- Air-borne fomites.
- Egg transmission.

TOP PRIORITY

Of all the possible breakdowns in biosecurity, the introduction of new birds and traffic pose the greatest risk to bird health which needs proper management.

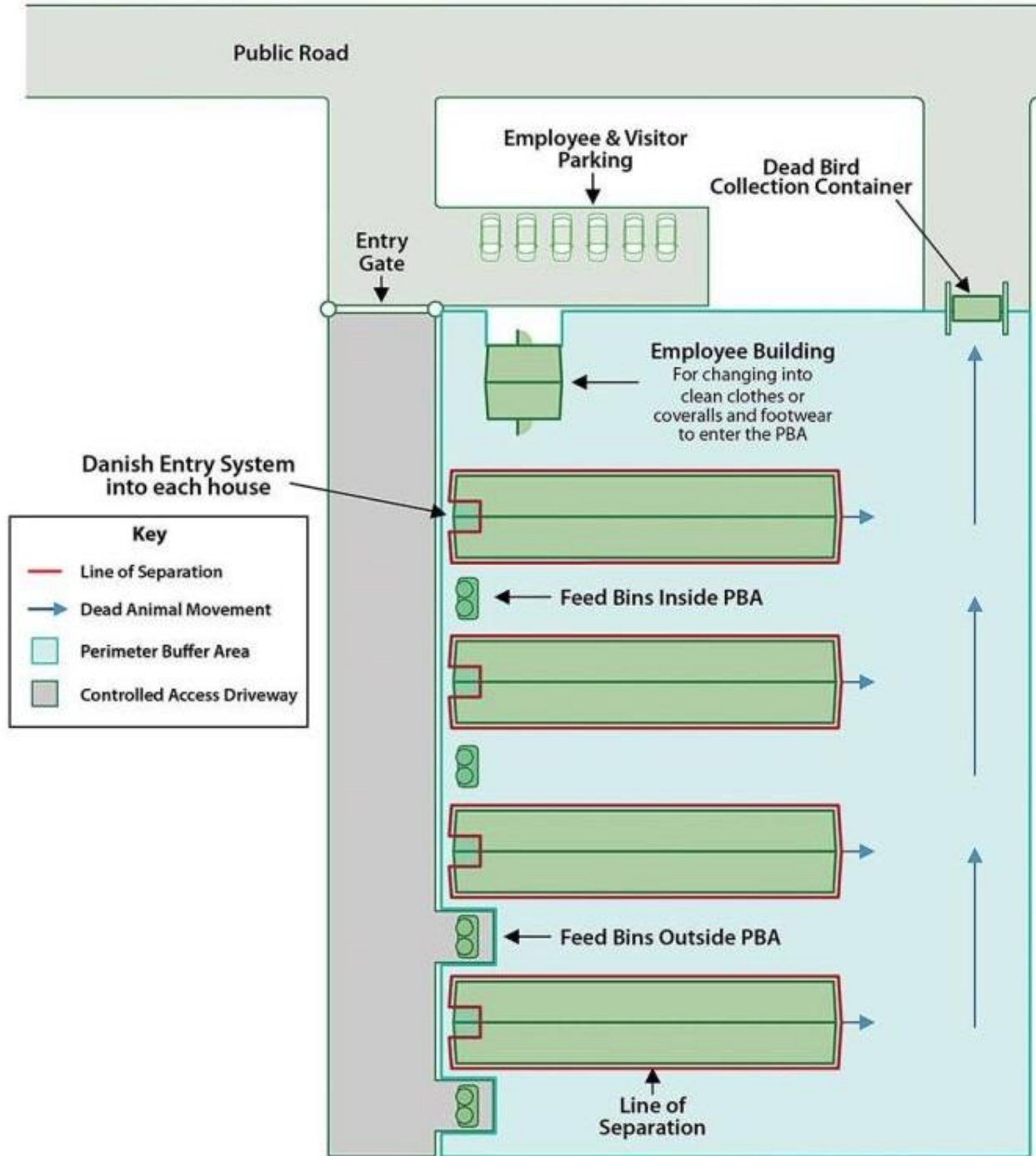
Biosecurity

Transmission of agents



Components of a biosecurity culture





Assessment of Practical Biosecurity at Poultry Farm

1. Economics

2. Common Sense

3. Relative Risk

- New birds represent a great risk to biosecurity because of unknown disease status.

- While all-in/all-out management isn't feasible for breeding farms/farms raising exotic fowl/game birds.
 - So, maintain a separate pen to isolate and quarantine all new, in-coming stock to the resident population.
 - Isolation pens should be as far from the resident birds as possible.
- At least 2-4 weeks of quarantine is suggested. Watch birds for any signs of illness.
- Diagnostic blood tests for infectious diseases can also be performed at this time.

- Use only clean plastic coops for transfer of poultry.
- Avoid putting new birds, including baby chicks, in contact with droppings, feathers, dust and debris left over from previous flocks.
- Some disease-causing organisms die quickly, others may survive for long periods.
- Direct the flow of on-farm traffic from the youngest to the oldest birds.
- Direct the traffic flow from the resident to the isolation area.

- Establish a "clear zone" free of vegetation around buildings to discourage rodent and insect traffic into the buildings.
- Use a different pair of foot-covers in the isolation area and in the resident bird area to prevent the mechanical transfer of disease organisms on footwear.
- Footwear should be disinfected at each site.
- Disinfectant footbaths to decrease the dose of organisms on boots.
- But a supply of cleanable rubber boots or strong-soled plastic boots for visitors is best.

- Wash your hands after handling birds in isolation or birds of different groups.
- Disinfect waterers and feeders on daily regular basis.
- Plan periodic clean-out, clean-up and disinfection of houses and equipment, at least once a year.

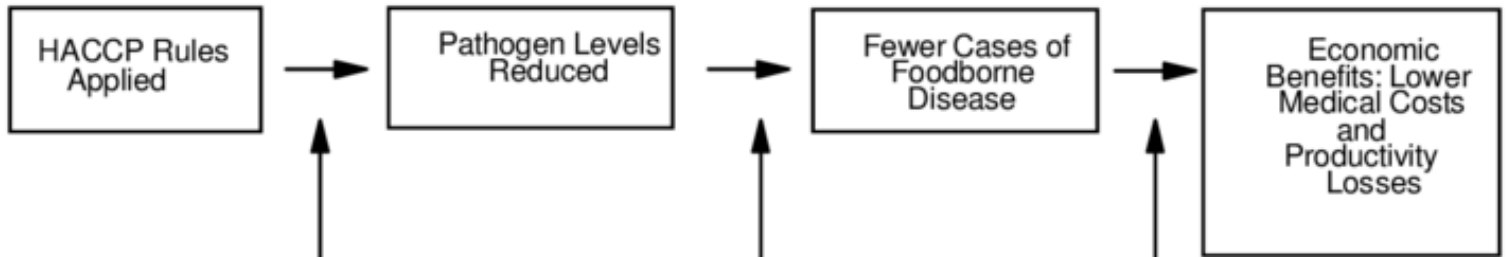
- Remember that drying and sunlight are very effective in killing many disease-causing organisms.
- Dispose of dead birds promptly by rendering, burning, burying, composting or sending them to a sanitary landfill.

Longevity of Disease Causing Organisms:

Disease	Lifespan away from birds
Infectious Bursal Disease	Months
Coccidiosis	Months
Fowl Cholera	Weeks
Coryza	Hours to days
Marek's Disease	Months to years
Newcastle Disease	Days to weeks
Mycoplasmosis (MG, MS)	Hours to days
Salmonellosis/Pullorum	Weeks
Avian Tuberculosis	Years

HACCP

- Used to identify the area where pathogens may enter the system, methods to eliminate them and methods to show that the chain of production is being continually and consistently audited.



Key Assumptions:

How effective is HACCP in reducing pathogen levels?

By how much do lower pathogen levels reduce foodborne illness?

Economic assumptions:
- What is the discount rate?
- What method is used to value premature deaths?

Source: Economic Research Service

Hazard Analysis: To identify hazards, both microbiological and physical, at each step in the process, from receiving to delivery. Ex.: Salmonella, Campylobacter, Gumboro.

Critical Control Points: At critical control points, action can be taken to reduce/eliminate the hazard.

- Within a broiler farm, there are control points at which pathogen reduction can take place as a biosecurity measure programme.

Critical Limits: Establish acceptable limits for each hazard identified.

- Cleaning and disinfecting in accordance with biosecurity programme to ensure that microbiological hazards meet those limits.

Monitoring: Observation and measurement of cleaning and disinfecting to ensure the critical limits are met at each step.

Correction: Action must be taken if the critical limits are not met at any step.

- Review the application procedure to ensure it accordingly.

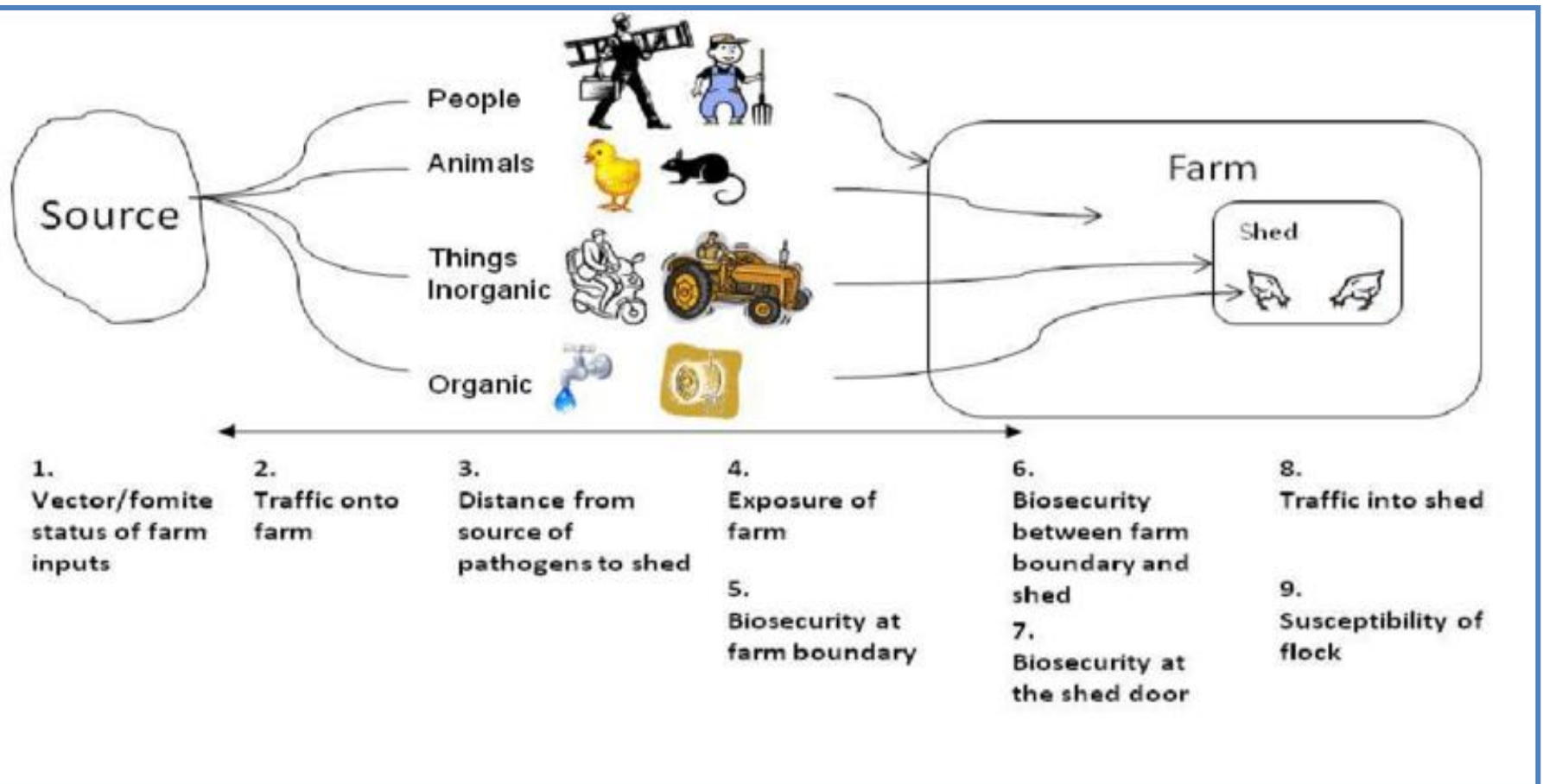
Recording: Records must be kept demonstrating that the biosecurity programme is in place and implemented correctly and continuously.

Verification: Tests and procedures should ensure the HACCP system is working properly.

➤ Often performed by an outside person/organization.

means

➤ Third party verification of bacteriology tests, calibration checks and dosing tests.



THANKS