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BIOSECURITY FOR POULTRY FLOCKS

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Biosecurity is a practice designed to prevent the spread of disease onto your farm. It is accomplished by maintaining the facility in such a way that there is minimal traffic of biological organisms (viruses, bacteria, rodents, etc.) across its borders. Biosecurity is the cheapest, most effective means of disease control available. No disease prevention program will work without it.

What is biosecurity?

Biosecurity has three major components:

1. **Isolation**
2. **Traffic Control**
3. **Sanitation**

Isolation refers to the confinement of animals within a controlled environment. A fence keeps your 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 onto your 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 can be spread from farm to farm by:

- **Introduction of diseased birds**
- **Introduction of healthy birds who have recovered from disease but are now carriers**
- **Shoes and clothing of visitors or caretakers who move from flock to flock**
- **Contact with inanimate objects (fomites) that are contaminated with disease organisms**
- **Carcasses of dead birds that have not been disposed of properly**
- **Impure water, such as surface drainage 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**

Of all the possible breakdowns in biosecurity, the introduction of new birds and traffic pose the greatest risk to bird health. Properly managing these two factors should be a top priority on your farm.

How much biosecurity do I need?

In order to assess how much biosecurity is practical for your farm, look at these three factors.

1. **Economics**
2. **Common Sense**
3. **Relative Risk**

New birds represent a great risk to biosecurity because their disease status is unknown. They may have an infection or be susceptible to an infection that is already present in birds that appear normal (healthy carriers) on your farm.

While all-in/all-out management isn't feasible for many breeding farms or farms raising exotic fowl or gamebirds, it is possible to maintain a separate pen or place to isolate and quarantine all new, in-coming stock from the resident population. Isolation pens should be as far from the resident birds as possible. At least 2 weeks of quarantine is suggested; 4 weeks is better. 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. Wooden coops are difficult to clean and have been responsible for distributing poultry diseases over long distances.

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. For examples, see Table 1.

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 or pens. 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 may help to decrease the dose of organisms on boots. But, because footbaths can be hard to correctly maintain it is a good idea to have a supply of cleanable rubber boots or strong-soled plastic boots for visitors.

Wash your hands after handling birds in isolation or birds of different groups. Disinfect waterers and feeders on a regular basis (daily). Plan periodic clean-out, clean-up and disinfection of houses and equipment, at least once a year. Use this time to institute rodent and pest control procedures. 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.

Table 1. Longevity of Disease Causing Organisms

Disease	Lifespan away from birds
Infectious Bursal Disease	Months
Coccidiosis	Months
Duck Plague	Days
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