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Biosecurity and the Poultry Flock
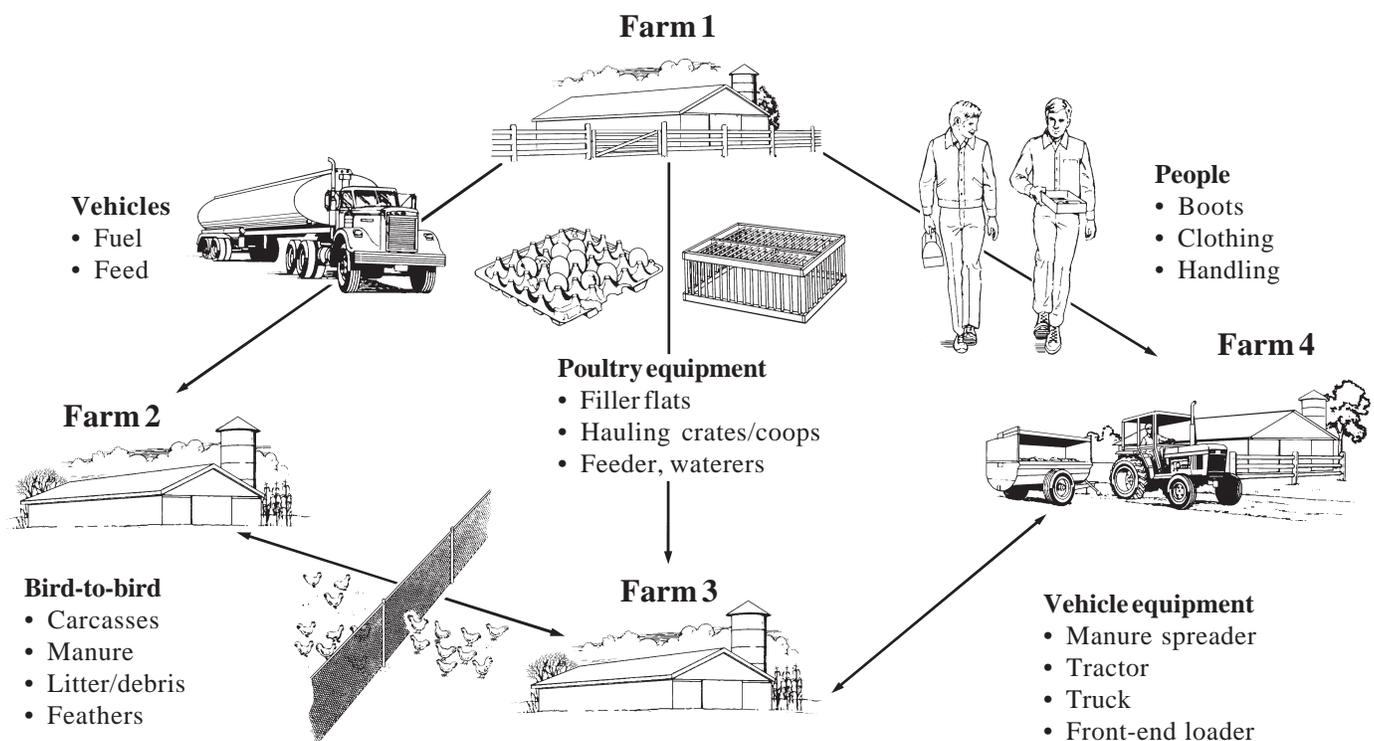
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What is biosecurity?

Biosecurity is a modern term created out of a need to protect, in our case poultry, from an intentional or unintentional threat from a biological agent. In our everyday management, biosecurity is an endless endeavor to keep viral disease agents and/or the spread of such disease agents at bay. We have learned for our own personal welfare that by keeping our environment clean *i.e.* "cleanliness is next to godliness" and by reducing contact with infected people or animals *i.e.* "being a good neighbor," we can reduce our chance of catching or spreading disease.

Biosecurity then is an issue we all need to be concerned with and need to integrate into our daily lives and the care of our poultry flock because a viral disease agent knows no boundary. Just as there are safe handling practices we follow to keep our environment safe from disease for ourselves, our family and our neighbors, there are practices we need to extend to our poultry flock. For example just as we wash our hands after using the restroom or before handling food, we also need to wash our hands before and after handling poultry. Being a good neighbor is not only doing what we can to keep our own flock healthy, but also

How Poultry Disease Spreads

Farm 1

Vehicles
• Fuel
• Feed

People
• Boots
• Clothing
• Handling

Farm 4

Poultry equipment
• Filler flats
• Hauling crates/coops
• Feeder, waterers

Farm 2

Bird-to-bird
• Carcasses
• Manure
• Litter/debris
• Feathers

Farm 3

Vehicle equipment
• Manure spreader
• Tractor
• Truck
• Front-end loader

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managing our flock to avoid contact or risk to the health of a neighbor's flock.

What needs to be part of a biosecurity plan?

A biosecurity plan can be as comprehensive as you would like to make it, keeping in mind that a viral disease needs a path for transmission and that the more paths you disrupt the better your plan will work for you. The following list has some important ideas to keep in mind as you formulate a biosecurity plan for your facility. All of these are presented as the ideal situation you should want to attain. No doubt the level to which you do implement them will depend on your time and resources, the size of your operation, your experience with disease, and your resolve to do what you can do to reduce your flock's chance of becoming infected with a viral disease.

Tips for Limiting Viral Diseases

1. Wash! Wash! Wash!
   - Wash hands before and after handling poultry.
   - Wear work clothes that are only used around your poultry.
   - Wash and disinfect boots (which are only used on the farm) at the entrance to the poultry house.
   - Clean any vehicles and machinery that come in contact with other poultry.
   - If you have more than one flock, wash between flocks and work from youngest to oldest. Attend unhealthy flocks last.

2. Eliminate contact with pests, especially insects and rodents.
   - Block all pest entry points by plugging holes and keeping doors and windows tight and secure.
   - Eliminate hiding places for pests by maintaining a three-yard perimeter around the poultry house that is clean of debris or tall vegetation.
   - Keep bedding dry and change or add to it frequently.
   - Maintain a two-week clean out period between flocks.

3. Eliminate contact with poultry from outside the flock.
   - If you do visit another farm, change all your clothes before you return to your flock.

4. Eliminate contact with other poultry flock owners in or around your flock.

5. Eliminate traffic from other poultry flocks.
   - You should be the only one to work with your flock.
   - Any outside help should follow a biosecurity plan.

6. Eliminate contact with wild birds.
   - Waterfowl are natural carriers for disease in poultry *e.g.* Avian flu.

7. Quarantine any new poultry for 30 days.

Why biosecurity is important today

Avian flu, which has been in the news lately, is a Type A influenza. Wild water birds are natural carriers of this viral disease that can make domestic poultry very sick and sometimes result in mortality. Type A influenza can take many forms. People and some other animals are susceptible to a few of these forms, but poultry are susceptible to all of them. Any time there is an outbreak, health officials are concerned because influenza viruses are always changing and if people are infected, officials need to determine how it happened and if others can be infected, potentially leadng to an epidemic.

Two forms that are of particular interest and have been mentioned in the news are the H5 and H7. These two forms are watched carefully because they can change quickly between what is called a high path and a low path state of virulence. The high path virus is very virulent in poultry, killing at least 60 percent of those exposed to it. When the flu is a high path, the entire flock needs to be destroyed to prevent the spread of the disease.

What are we doing at the University of Nebraska?

The University of Nebraska has received a grant which has a four pronged approach to help the poultry producer:

1. To develop a mailing list of poultry flock owners for education programs.

2. To offer free diagnostic tests on blood and other tissue samples during the period of this grant.

3. To develop and distribute educational materials as an ongoing function of Cooperative Extension.

4. To monitor and improve Cooperative Extension's educational programs which will be impacted through the involvement of poultry owners.

For more information about biosecurity for your flock and information on our disease monitoring program contact Dan McGuire, Poultry Extension Assistant, University of Nebraska-Lincoln, C206b Animal Science, P.O. Box 830908, Lincoln, NE 68583-0908, (402) 472-5625.

Acknowledgment

The illustration on page 1 is from USDA Animal and Plant Health Inspection Service Disease Alert Number 91-55-66, issued June 2002.