



## The Species Specific Educational Resource Team (SSERT)

### A Series for Small-Scale Producers and Hobby Owners

# Biosecurity for Swine Producers



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**B**iosecurity is a series of management practices you implement to protect the health of your animals. Two biosecurity goals include preventing diseases from entering the operation, and, if one does enter, preventing its spread. Regardless of the size of the operation, the basics are the same: manage movement of animals, people and equipment coming onto the farm, and clean and disinfect as much as possible.

Zoonotic diseases are diseases that are transmitted from animals to humans. Foreign animal diseases are those that are not currently in the U.S.

#### Disease Transmission

- Indirect transmission occurs when an at-risk animal comes in direct or close contact with an infected, contagious animal and is exposed to the disease through respiratory air droplets, saliva, nasal, ocular (eyes) or genital (external sex organs) mucus, fetal fluids, feces or urine, milk, skin or

blood. Direct transmission also occurs during breeding and fetal development inside the uterus.

- Indirect transmission occurs when animal come in contact with infected or contaminated vehicles or equipment; disease transmitting objects such as soil, feed or water; and living disease carriers such as mosquitoes, flies, birds, rodents, cats and dogs. People also can carry pathogens on clothing, shoes and their body.

#### Immunity

Immunity refers to an animal's ability to protect itself from pathogens or toxins causing illness. Immune animals carry antibodies that attack and destroy the pathogen before the illness starts. Immunity may be:

- **Natural:** Exists without exposure to a disease agent
- **Active:** Acquired through vaccination or after the body battles an infection
- **Passive:** Acquired when antibodies are passed from one animal to another, as in utero or from mother to newborn through the colostrum secreted for the first day or two after giving birth.

## Vaccinations

After vaccination, an animal's body makes antibodies to protect it from that disease. Vaccines must be administered and stored properly to be effective. Before vaccinating a herd, consult a veterinarian and read the label and/or package insert; by law, all vaccines must come with instructions on proper usage. Some vaccines require only a one-time injection; others require two injections a few weeks apart and an annual booster. For best protection, vaccinate animals before, not after, they are exposed to a specific disease. Consult a veterinarian about the proper timing and use of vaccinations as part of an overall health plan.

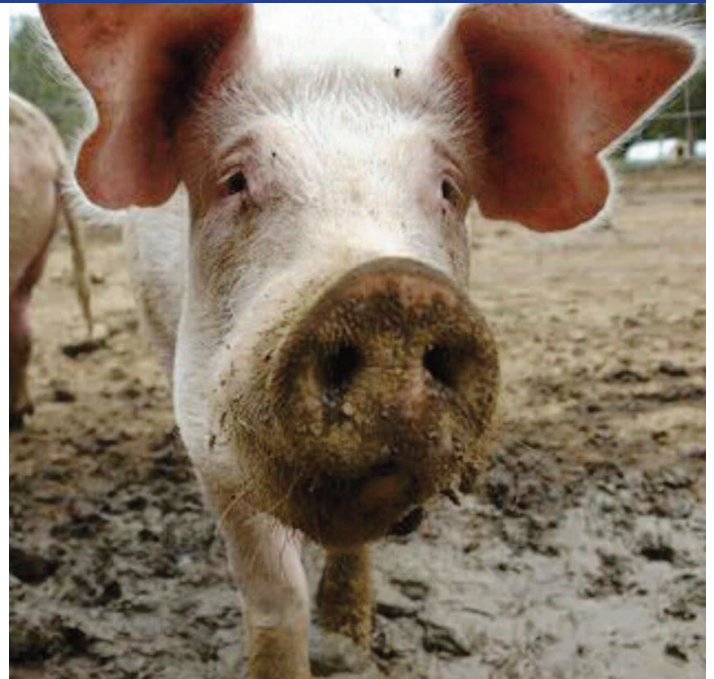
## General Biosecurity Practices

Not all biosecurity practices are feasible or necessary for each operation. Producers must assess their risks and possibly consult a veterinarian or state extension program when deciding which biosecurity practices to adopt.

**Isolation and Testing of New Animals.** New animals coming onto the farm may look healthy but could still carry pathogens that can be passed to the other animals. It is a sound herd health practice to isolate incoming animals for at least 30 to 60 days in order to determine if they are potentially ill at entry and/or to test for diseases that are not present in the current herd. Test these animals for diseases that are a major threat, such as porcine reproductive and respiratory syndrome and circovirus, both upon arrival and 30 days later while the animals are still in isolation. Before implementing, discuss these steps with a veterinarian as part of the herd health management plan.

The isolation unit should be as far from the existing herd as possible. Consider wind direction when selecting a site. If possible, feed and care for animals in isolation at the end of the day to prevent exposing the other animals; it is always important to change clothes and boots and to clean equipment between working with different groups of animals.

**Footbaths.** Step-through footbaths with a commercial disinfectant (e.g., chlorine bleach) are relatively inexpensive and easy to maintain as an



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added precaution. However, disinfectants will not be effective unless the surface is clean. Muddy boots may still carry pathogens, even after they have been through a footbath. Many outside operations have an initial footbath with water and a scrub brush, followed by a disinfecting footbaths. Change footbath regularly and frequently, depending on the amount of traffic, and exposure to sunlight. Footbaths should be located at all entry and exit points to animal facilities and the primary office.

**Foot Traffic.** Manage all movements throughout the operation by limiting the number of people moving between pens and between phases of production. Protect critical areas of your operation like the boar stud and farrowing areas by working these areas first or by dedicating staff, clothing, and equipment to them. Change clothes/boots and clean equipment between areas, especially if workers move from finishing and cull holding areas back to farrowing or the boar stud. Manage worker movements by planning work activities with biosecurity as a priority.

**All-In, All-Out Production.** Cleaning and disinfecting all floors, ceilings, light fixtures, feeders

and other equipment between groups of pigs is effective in breaking a disease cycle. If possible, groups of animals should be moved in and out of a building together, allowing time for cleaning, disinfecting and drying the facility before moving in a new group. Organic matter such as dust and manure cannot be disinfected so remember to clean all surfaces first and disinfect second. If you cannot remove all organic materials, make sure to remove the soiled materials and replace with new (e.g., bedding; shavings; straw; sand) for each turn of new pigs.

**Visitors.** Manage the traffic on your operation by limiting visitors, including feed trucks, mechanics, delivery and salesmen, and prospective buyers. Many farms have a specific area where animals are housed. This area should follow the same rules as the rest of the operation, including using footbaths, cleaning and disinfecting between groups of animals, and using disposable plastic boots for visitors. Animals brought to this area should not be allowed back into the herd without first going through isolation.

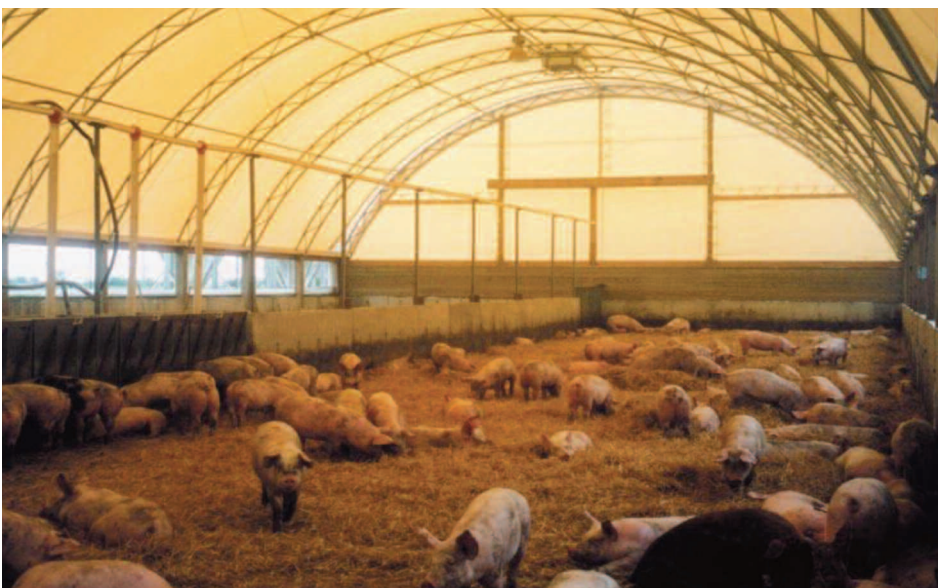
Each visitor should:

- Always make and an appointment before going to a producer's operation.
- Enter accurate information into the visitor's log every visit.

- Thoroughly clean and disinfect trailers.
- Spray a disinfectant on truck and trailer tires before reaching the producer's operation.
- Tell the producer if he or she has been around any other pigs recently, including their own pigs, or pigs at a recent sale or at other farms.
- Never enter a barn without the producer.
- Never enter a pen without the producer's permission.

**Birds, Rodents, and Other Vectors.** Birds, rats, mice, cats, dogs, raccoons and other vermin carry pathogens between operations. Cats and dogs should not be allowed inside pens or buildings. Netting and mesh covering should be used to discourage birds from entering facilities, especially for nesting. Rodents and other pests should be controlled.

**Feral Swine Exposure.** Feral (wild) swine can carry both pseudorabies and brucellosis along with other diseases that can make your pigs sick. So exposure to these pigs could risk the health of the herd. Double fencing around the perimeter is recommended, but may not be feasible. Do not let pigs commingle with feral swine. Keep feed spills and other attractants to a minimum to avoid drawing wildlife to the farm. Also monitor water sources, especially if it is a surface source versus a well.



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## For More Information

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National Pork Board

<http://www.pork.org/filelibrary/features/BY.pdf>  
<http://www.pork.org/Resources/102/SecurityandBiosecurity.aspx>

## References:

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