



Isolation Procedures for Farrowing Operations

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Almost every swine breeding herd will at some time receive breeding stock replacements. These incoming animals are a possible source of herd disease. Diseases like Porcine Reproductive and Respiratory Syndrome (PRRS), pseudorabies (PRV), Actinobacillus Pleuropneumonia (APP), transmissible gastroenteritis (TGE), and swine dysentery, once introduced, may be very difficult and costly to control or eliminate. Procedures for preventing or minimizing the risk of introducing these diseases include:

- Isolating incoming breeding swine for 30 to 60 days.
- Blood testing before introducing the replacement animals into the main herd.
- Vaccinating the replacements.
- Following other management techniques.

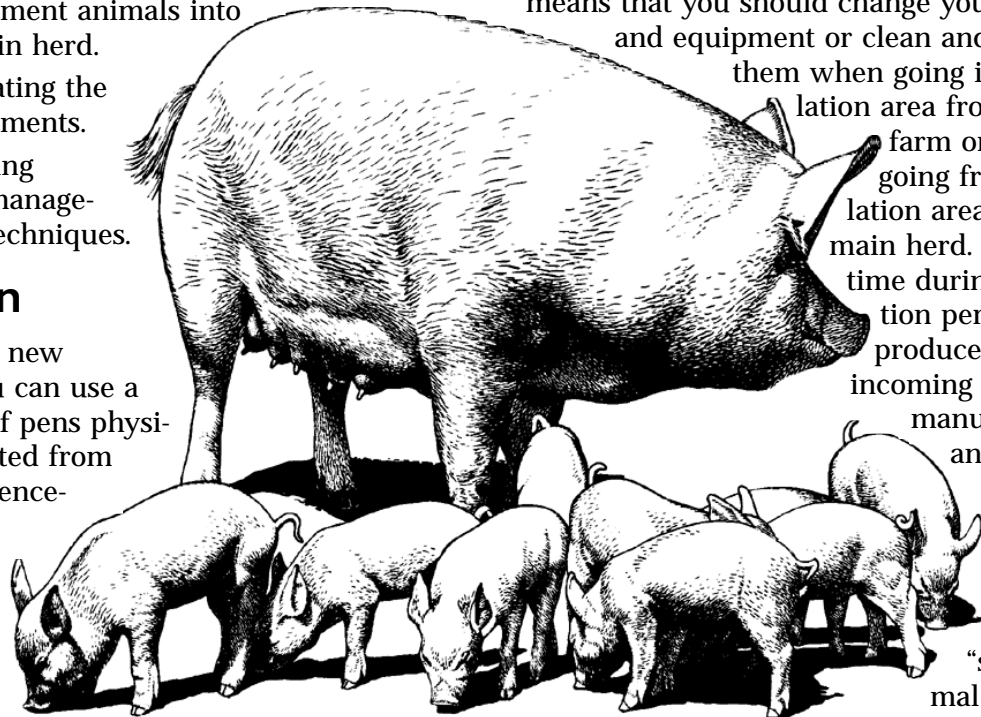
Isolation

To isolate new arrivals, you can use a simple set of pens physically separated from and not in fence-line contact with the main herd. Locate the isolation area on the

north side of the main herd, since predominantly southerly winds can prevent the spread of airborne viruses and bacteria from the isolated animals. Although isolation areas are sometimes within 50 yards of breeding and finishing areas, most producers prefer them in a remote area, well away from the main herd. And, of course, providing adequate shelter, feed, and water and following other good swine management practices are also important.

When going to and from the isolation area, always think of the main herd as “cleaner” than the incoming, isolated swine, and off-farm areas as the “least clean” of all. This means that you should change your footwear and equipment or clean and disinfect

them when going into the isolation area from off the farm or when going from the isolation area back to the main herd. At some time during the isolation period, many producers expose incoming swine to manure or cull animals from their main herd. These “natural vaccination” or “sentinel animal” techniques



are based on the idea that the main herd is “cleaner” than the new arrivals and are effective methods for stimulating immunity in the replacement animals against disease-causing microorganisms in the herd. If a “sentinel” cull animal gets sick or dies after being exposed to the isolated animals, this may mean that the new stock have a serious disease not already present in the main herd.

Remember that the main reason for isolating new breeding swine is to prevent exposure of the herd to new disease-causing organisms. During the isolation period, keep feed and water free of antibacterial agents to avoid “covering up” signs of disease. If breeding swine in isolation become sick, treat them individually after a diagnosis is made. When a serious disease is diagnosed, cull the sick animals (after they recover) and all the swine in contact with them (after the appropriate drug withdrawal time, if they have been treated).

Blood Testing

Blood testing of the isolated swine may prevent certain major diseases from entering the herd. PRRS, pseudorabies, APP, TGE, brucellosis, and leptospirosis (*L. pomona* and *L. bratislava*) may be diagnosed through blood-testing. Blood testing helps to identify serious disease-causing organisms that new breeding swine may carry, but do not show signs of. Most producers have their veterinarian collect blood and test only once, at the end of the 30- to 60-day isolation period. However, some producers sample and test twice, at the beginning and at the end of isolation. If any animal tests positive for a serious disease, the whole group in isolation should be culled and sent to market—unless that particular disease is already present in the herd. For example, previous TGE infection in a breeding herd lessens the importance of TGE testing in isolated swine.

Previous vaccination for TGE, APP, or PRRS may make it difficult for your veterinarian to interpret the blood tests for these diseases. Vaccination for 6-way leptospirosis may be more practical than testing. Pseudorabies vaccine is not routinely used in Texas swine, and no brucellosis vaccine is available for swine.

Pseudorabies and brucellosis are state and federally regulated diseases. You may be required to have all animals in a lot tested for these diseases. Positive blood tests in the isolated swine can result in the quarantine of the animals in both the isolation area and the main herd, if the groups are close together. However, proper management of the isolation area can easily prevent the spread of PRV to the main herd. Generally, when small numbers of replacements are involved (such as boars), all tests to be run should be performed on each individual animal. When you are working with large numbers of replacements (such as gilts), you can test a percentage of the group (but not less than 20 percent of the animals purchased from each source). All tests for the major diseases mentioned above can be performed on a single blood sample per animal.

Even though breeding swine may originate from Qualified-PRV-Free and Validated-Brucellosis-Free herds, or may have individually tested negative for important swine diseases, this does not absolutely guarantee that they are free of these specific diseases. Incoming swine may have been exposed to a disease-causing organism, but they may be in a stage of infection that cannot yet be detected by blood-testing. Also, once a pig recovers from a disease, blood-testing does not always continue to show that pig to be infected. This happens when the pig is not re-exposed to the same disease-causing organism and its immunity (from the original exposure) drops to undetectable levels. In either case, these animals appear healthy, even though they may be disease spreaders. So, even though the incoming swine may not show signs of disease, you must always isolate and test them (even though no single blood test is 100-percent accurate for many disease-causing organisms).

When clinical disease signs such as diarrhea, vomiting, high fever, persistent coughing, or death do occur, consult your veterinarian for a diagnosis. If a serious disease is identified, cull the entire isolated group. When you know that diseases such as PRRS, TGE, or APP already exist in your main herd, you should probably use planned natural infection

(TGE) or vaccination (APP, PRRS) of isolated, incoming animals. This technique is usually more effective than allowing haphazard infection to occur after the new animals are introduced into the main herd.

Vaccination

Use the isolation period as a time to vaccinate new breeding swine against economically important swine diseases:

- that are commonly present in most herds.
- that are difficult or impossible to prevent from entering a herd.
- for which effective vaccines exist.

However, you should wait to vaccinate until blood tests are confirmed to be negative.

Always remember to **vaccinate only healthy swine**. The vaccines generally recommended for use in breeding swine are discussed in detail in Texas Agricultural Extension Service publication L-2192, "Vaccines for Farrowing Operations." They include vaccines for erysipelas, leptospirosis, parvovirus, and *E. coli*. Administer erysipelas, leptospirosis, and parvovirus vaccines twice during isolation, at a 3- to 4-week interval. Give booster vaccines for these three diseases to females at weaning and to boars every 6 months.

You can both test and vaccinate for leptospirosis during isolation. Lepto-negative swine probably do not spread the disease, and vaccination can prevent economic losses if leptospirosis should be transmitted by rodents or other swine to incoming animals.

E. coli vaccines usually are not given to boars, but are administered to female swine about 5 weeks and again at 2 weeks before farrowing. You should also give a booster vaccination 2 weeks before each subsequent farrowing. Vaccinating sows for *E. coli* before farrowing will prevent or minimize diarrhea in young pigs. If scouring disease in piglets is not usually a problem in your operation, or if they develop it at 14 or more days of age, then *E. coli* vaccination of the sows probably would not be useful.

Disease prevention procedures for PRRS are discussed in Texas Agricultural Extension Service publication L-5137, "Porcine Reproductive and Respiratory Syndrome."

Other Important Diseases

By using other specific diagnostic techniques available from your veterinarian, diseases such as internal and external parasites may be minimized or eliminated during isolation. A diagnosis of swine dysentery or severe rhinitis may require culling all the animals in the isolated group. Knowing the health of the herd from which you buy breeding swine is very important. Buying from one "clean" source or as few "clean" sources as possible is extremely important in preventing disease.

Some producers think the risk of introducing disease with live swine is so great that they rely only on artificial insemination (AI) to produce their own replacements. However, AI is not without risks, because some diseases, such as PRRS, may be transmitted via the semen. You should make sure you know the disease status of the boars from which you buy semen.

Summary

Although there are many potential sources for swine disease, isolation procedures can reduce the high risk of introduction of diseases with incoming breeding swine. Isolation, testing, vaccination, and other techniques are all important elements of a properly managed isolation program. One set of isolation procedures probably will not fit every operation, but the flexibility of these procedures allows you and your veterinarian to develop a cost-effective plan that fits your individual farrowing operation.

For More Information

Some of the information in this publication comes from these sources:

Leman, A.D.; B. Straw; W. L. Mengeling; et al (eds). *Diseases of Swine*, 7th edition. Iowa State University Press: Ames, Iowa, 1992.

Proceedings of the American Association of Swine Practitioners, 1979-96.



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