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## FACT SHEET

# Biosecurity to Prevent Pseudorabies

**I**n order to understand the importance of biosecurity and how biosecurity measures help prevent PRV, you need some basic knowledge of the organism and how it is transmitted. PRV is a disease of pigs that can cause significant economic losses. It may also affect cattle, horses, dogs, cats, sheep and goats. PRV is a herpesvirus that spreads readily from pig to pig primarily via oronasal secretions. Clinical signs vary depending on the age of the pig affected. A high percentage of pigs affected at less than 3 weeks of age will die. Other clinical signs include loss of appetite, vomiting and diarrhea, and prominent neurological signs (incoordination, depression, nervousness and convulsions). Respiratory signs will predominate in older pigs, including coughing, sneezing, pneumonia and fever. Older pigs may also lose their appetites and occasionally will show neurological signs. Adult sows will show reproductive signs, including an increase in abortions, stillbirths and mummified pigs. The primary mode of transmission of the virus is when an uninfected pig comes into direct contact with an infected, shedding pig or its oronasal

secretions. The virus may also be spread mechanically on inanimate objects such as boots, clothing, feed, trucks and equipment if those items are carried directly from one farm to another. PRV has been isolated from semen of naturally infected boars. Flies have been shown to be capable of mechanically transmitting the virus. PRV has been isolated from raccoons and cats found dead on or near PRV-infected farms.

During 1994 through March 1997, over 3000 newly recognized cases of PRV in the U.S. were investigated in an attempt to identify how the organism gained entry to the farm. In this investigation, 20% of new cases were found to have been transmitted by exposure to introduced, infected breeding stock or feeder pigs; 2% were due to contact by feral swine; 1% by contaminated feed or bedding. In 38% of the cases, the investigators suspected interherd movements of companion or wild animals, trucks and other vehicles, people, insects, air or water but could not differentiate between the suspected vectors and be specific. In 39% of the cases, potential exposure sources could not be identified. Unlike many other organisms of which the capability of aerosol transmission is suspected the ability of PRV to travel relatively long distances in the air given appropriate environmental conditions has been well documented.

Biosecurity has been defined as security from transmission of infectious diseases, parasites and pests. Given the ability of PRV to be transmitted in a variety of ways, a biosecurity program to prevent PRV must be comprehensive and detailed. The program should address all potential routes of entry of PRV into a herd. The single most important

factor in a biosecurity program is location. Herds located in areas with a high pig population face a bigger challenge in preventing PRV entry than those herds located in areas with a low pig population. Given that the only opportunity for choosing location occurs when a farm is built and that the desirability of a location relative to pig population can change with time, existing farms must focus on other aspects of biosecurity in order to prevent entry of PRV. All farms, in spite of location, can provide a perimeter fence to discourage pet and wildlife traffic and unwanted human traffic. Bird-proof buildings will decrease the potential for birds to serve as mechanical vectors.

After location, the second consideration in preventing entry of PRV is the source of breeding animals. Replacement breeding animals should only be purchased from qualified PRV-negative herds with a good reputation. These animals should be placed into an isolation facility separate from the main herd for a minimum of 21 days. If they have exhibited no clinical signs of PRV and then are serologically tested negative for PRV antibodies they can be safely added to the herd. Acclimatization practices and consideration of other diseases often dictate longer isolation periods. Many states have a requirement for a 30-60 day serological test for adult breeding animals entering a herd. Work with your veterinarian to ensure that all state regulations are followed and that the most appropriate isolation and acclimatization program for your herd is developed.

Transportation of breeding and slaughter animals is another key area in prevention of PRV. Transport should occur only in properly washed

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and dried trucks, which ideally have not been to other swine premises that day and certainly have not been to known PRV-infected premises. Load-in and load-out areas should be separate, should have well-defined clean and dirty sides and should be cleaned and disinfected between uses. Loading areas should be located at perimeter areas if possible so that transport vehicles do not enter the main farm site. Likewise, feed bins should be located so as to minimize the need for feed trucks to drive between buildings or for feed truck drivers to get out of the vehicle.

Unnecessary visitors should be excluded from the farm. Necessary

service personnel should not have been on other pig farms or around other pigs on the day of the visit. Minimally, a change of clothes and boots into those provided by the farm should be required. Many farms require a shower prior to entering the farm and longer "downtimes" than overnight but the real effectiveness of these procedures in preventing the spread of PRV is not known. Equipment should not be carried from one farm to another if possible; if it is necessary for service people to bring in equipment it should be cleaned, disinfected and dried before entry.

Although the primary concern should be to prevent entry of PRV, biosecurity

measures within a herd can be important in preventing spread of the organism if it does gain entry. Because of differences in immune status and susceptibility, pigs should be maintained in groups determined by their age and should be moved through each stage of production in an "all-in, all-out" manner. Strict cleaning and disinfection procedures should be performed following each group movement within a farm. Other pig movement strategies such as segregated weaning at 21 days of age or less may be used in herd eradication plans or to produce negative pigs from positive sow herds.



**NATIONAL PORK PRODUCERS COUNCIL**

P.O. BOX 10383 • DES MOINES, IA 50306  
515 223 2600 • FAX 515 223 2646  
[pork@nppc.org](mailto:pork@nppc.org)

