



# Current Report

PUBLISHED BY OKLAHOMA STATE UNIVERSITY  
DISTRIBUTED THROUGH COUNTY EXTENSION OFFICES

## An Update on Pseudorabies

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The swine production industry of the Midwestern United States has suffered through two years of a disastrous disease.

Fortunately, Oklahoma has been able to limit the spread of this disease up to now.

Pseudorabies is not a new disease in this country. "Mad itch" was first described in the U.S. in 1824. Aujeszky again described the disease in 1913 in Hungary. In 1931 Shope proved that Mad itch, Aujeszky's disease, and Pseudorabies (PRV) were identical. The disease appeared as a fatal disease in cattle, sheep, and carnivores and a mild disease in swine for the most part until 1960. In 1962 highly virulent strains of the virus first appeared in Indiana swine herds. From that time the disease has spread across the United States.

### The Cause and Spread of PRV

The virus that causes Pseudorabies (referred to as PRV) is one of the Herpes viruses. Some of the diseases caused by this family of viruses are "red nose" in cattle, Rhinopneumonitis in horses, rhinotracheitis in cats, and herpes simplex or fever blisters in humans. In pigs, PRV affects the respiratory system, genital tract, and the nervous system. A characteristic of all herpes viruses is their ability to go into a latent state in animals that have recovered from an infection. This means they can and do become spreaders of the disease while showing no signs of the sickness themselves. Hence infec-

tion can be transmitted to uninfected premises by "healthy" carrier animals.

PRV is a rather stable virus. It can remain alive and active on straw or feed troughs for longer than 10 days at 75°F and 30 days at 65°F. It can live in dead carcasses for up to 5 weeks and survive in a refrigerator (38° F) for more than 6 months. At 0°F it will survive only 1 month. Most disinfectants however will inactivate the virus in a very short while, a matter of minutes usually.

The virus develops an immunity that protects the animal but does not prevent reinfection. Vaccinated pigs or those who have recovered from the disease can be reinfected. They usually do not show signs of the disease but are spreaders of the virus to other susceptible animals. Therefore a herd of so called immune pigs can be a ready source of virus to infect other animals and facilities.

This disease may be transmitted to and from cattle, sheep, raccoons, opossums, dogs, cats, and other meat eating animals. Rats and mice are thought to be of minor importance in transmission.

### Symptoms

The signs or symptoms of PRV infection in pigs can be many and varied. In many cases in adult pigs all clinical signs may be absent. Nursing pigs may die before any signs develop. Or, all or none of the following signs may develop: off feed, depressed, fever of

105° F or higher, vomiting, diarrhea, convulsions or trembling, and death loss up to 100 percent. After weaning age some signs or lack of signs may develop but the death loss decreases as the pigs get older. Market-age pigs may have a death of only 5 - 10 percent.

In adult pigs the signs may be very mild and include fever, off feed, coughing, sneezing, vomiting, diarrhea, constipation, convulsions, itching, middle ear infections and blindness. Reproductive failure is manifested by abortions, mummies, fetal reabsorptions, weak pigs at birth and shakers. Death of the entire litter in 1-2 days after birth is common.

#### Diagnosing PRV

Pseudorabies is diagnosed by virus isolation and a blood serum test known as the serum neutralization test (or S-N test). The S-N test is also used to determine if the virus has been present in the herd. Vaccination with the modified live virus vaccine will also give a positive S-N test. Vaccination will reduce the severity of the disease but does not keep the animal from becoming infected and being a spreader of the disease. This is why the vaccine will be used only in pigs on infected farms. The vaccine cannot be used except by a licensed and accredited veterinarian and then only after receiving written permission from the state veterinarian. All vaccinated pigs must have a 1/2 inch hole punched in their left ear and remain under quarantine until they go to slaughter.

In Oklahoma the incidence of PRV is very low. There have only been three cases diagnosed in the state. There have been over 6,000 S-N tests conducted and only 15 positive results have been recorded; all from the three previously mentioned herds.

#### PRV - Control Rules

To keep this disease out of Oklahoma the following rules were put in effect by the Oklahoma Department of Agriculture concerning all breeding swine.

1. Must have a permit from Oklahoma before entry.
2. Must have passed a negative S-N test to PRV within the last 30 days.
3. Must originate from a farm that has not had Pseudorabies on it for at least six months.
4. Must remain in strict quarantine for 30 days after arrival in the state.

In addition to these requirements a real good manager would want to retest these animals for PRV after the quarantine period before allowing them into the herd.

At this time Pseudorabies is not a big problem in Oklahoma. Lets keep it that way by staying up-to-date with new information and by carefully following the rules on bringing breeding swine into our state.