Pennsylvania Game Commission Wildlife Disease Reference Library

Pseudorabies

<u>Other Names</u>: Aujeszky's Disease, Mad Itch

Cause

Pseudorabies is caused by a herpes virus of swine that is actually not related to the rabies virus. The name means false rabies because in its last stages it is a severe neurologic disease. The disease was first described in Europe in 1902 and a similar illness was reported as early as 1813 in the United States in cattle, dogs, and cats. The virus was isolated in 1910 and its association with the clinical signs was established in 1931.

Significance

Pseudorabies is not known to cause disease in humans, but is a major concern in the swine industry. Infected feral swine can potentially spread the virus to domestic swine resulting in economic losses. Other domestic animals such as dogs, cats, cattle, sheep, and goats rarely become infected following contact with swine.

Feral swine can spread pseudorabies to domestic swine. Photo courtesy of extension.missouri.edu

Species Affected

Domestic and wild swine are the primary hosts of pseudorabies, but the disease can be transmitted to many other species. The virus is known to infect deer, foxes, raccoons, skunks, bears, rats, coyotes, and mink. Pseudorabies has also been reported in a Florida panther. Cattle, goats, dogs, and cats are susceptible to the disease, but horses appear to be immune.

Distribution

Pseudorabies occurs worldwide except Canada, Norway, Finland, England, Switzerland, and Australia. The United States along with many

other countries have implemented an eradication program. As a result, all states in the US are currently considered free of pseudorabies. However, feral swine present the constant threat of reintroducing pseudorabies to domestic swine in the United States. Psedorabies is currently not known to occur in Pennsylvania wildlife.

Transmission

In domestic swine the virus is primarily transmitted via inhalation of or direct contact with infected nasal or oral fluids. In feral swine pseudorabies is transmitted mainly during mating. The virus can also be acquired by feeding on infected carcasses. Pseudorabies virus can be carried from farm to farm on boots, clothing, trucks, and other equipment.

Clinical Signs

Adult swine may exhibit respiratory distress. Pregnant females may abort or have still born young. Infected adults will survive and become lifelong carriers of the virus with minimal or no clinical signs. Pseudorabies causes neurologic disease and high death rates in newborn piglets. Other animals often experience "mad itch", which causes them to scratch and bite at themselves. Other clinical signs in non-swine species include respiratory problems, other general neurologic signs, and fever. Pseudorabies can also cause sudden death and is highly fatal in species other than swine.

Diagnosis

Pseudorabies is diagnosed by isolating the virus from tonsil, brain, spleen, lung tissue, or from nasal or genital swabs.

Treatment

There is no treatment for pseudorabies, so efforts are focused on prevention.

Management/Prevention

In 1989 the United States Department of Agriculture began a voluntary pseudorabies eradication program. This program establishes state regulations and focuses efforts on surveying, and monitoring domestic swine herds for the disease and cleaning up the herds if pseudorabies is found. Pennsylvania has been considered free of pseudorabies since November of 2004. Management efforts must focus on eradication of feral swine and prevention of contact with other susceptible species in order to prevent the disease from negatively impacting wildlife, as well as domestic swine.

Suggested Reading

Bureau of Animal Health and Diagnostic Services. Pseudorabies. Pennsylvania Department of Agriculture. <http://www.agriculture.state.pa.us/portal/server.pt/gateway/PTARGS_6_2_75292_10297_0_43/AgWebsite/ProgramDetail.aspx?name=Pseudorabies&navid=12&parentnavid=0&palid=42&>.

Ohio Department of Natural Resources Division of Wildlife. Wildlife Resources. Swine brucellosis & pseudorabies. <http://www.dnr.state.oh.us/Default.aspx?tabid=19574>.

Pseudorabies (Aujeszky's Disease) and its eradication: a review of the U.S. experience. October 2008. United States Department of Agriculture Animal and Plant Health Inspection Service.

Stallknecht, D. E., and E. W. Howerth. 2001. Pseudorabies (Aujeszky's Disease). Pages 164-170 *in* E. S. Williams and I. K. Barker, editors. Infectious diseases of wild mammals. Iowa State University Press, Ames, Iowa, USA.

Tilley, L. P., and F. W. K. Smith, Jr. 2007. Blackwell's five-minute veterinary consult: canine and feline. Fourth edition. Blackwell publishing, Ames, Iowa, USA.