

High Path PRRS virus

This summary has been excerpted from the full report at SHIC
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Key Points:

- High path PRRS virus strains were first reported in China in 2006 and have become the dominant genotype in the region.
 - These strains have not been detected in North America, although we have strains that can produce similarly high clinical losses.
 - Vaccines derived from high path isolates have been produced and are available in China.
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Etiology:

- High Path PRRS was first described in China in 2006 and this strain has become the dominant strain.
- Since 2006, the strain also has been detected in Vietnam, Laos, Thailand, Cambodia, and India.
- Whole genome sequencing of HP-PRRSVs showed that all were type 2 (North American) viruses originating from a PRRSV already present in the country and were likely a result of natural recombination.
- Although PRRSV strains with increased virulence have been reported in the U.S. (e.g. PRRSV 1-7-4), these strains were not classified as HP-PRRSV, having originated from existing wild-type midwestern PRRSVs, not from Chinese isolates.
- Although traditional RT-PCR assays cannot distinguish PRRSV from HP-PRRSV, newer RT-PCR variations available in China are capable of differentiation. These tests are not yet widely available in the U.S.

Epidemiology & clinical impact:

- The first HP-PRRSV epidemic (2006) was characterized by fever (104–107.6°F), neurological signs, petechiae, an erythematous blanching rash, and blue ears. Lameness, respiratory signs, and diarrhea were also reported, as well as depression, anorexia, and lethargy. Signs consistent with the original outbreak have also been reproduced in pigs experimentally infected with HP- PRRSV

Control:

- PRRSV vaccination will moderate clinical signs and reduce virus shedding.
- Attenuated HP-PRRSV vaccine strains such as JXA1-R, HuN4-F112, and TJM- 92 have demonstrated protection against homologous challenge. Partial heterologous protection has also been reported following vaccination with attenuated type 1 and type 2 MLVs.
- New vaccine candidates are continuing to be described. Current candidates include a highly attenuated derivative from the HP-PRRSV strain QY1, suspected to be a novel virus caused by vaccine recombination that results in low morbidity and mortality in pigs.
- Two instances of natural recombination between a PRRSV vaccine strain and a recently circulating HP- PRRSV have been reported (JXA1-P80).

Complete Report

Leedom Larson K. Highly pathogenic porcine reproductive and respiratory syndrome virus. Swine Health Information Center and Center for Food Security and Public Health, 2016.

<http://www.cfsph.iastate.edu/pdf/shic-factsheet-highly-pathogenic-prrsv>.