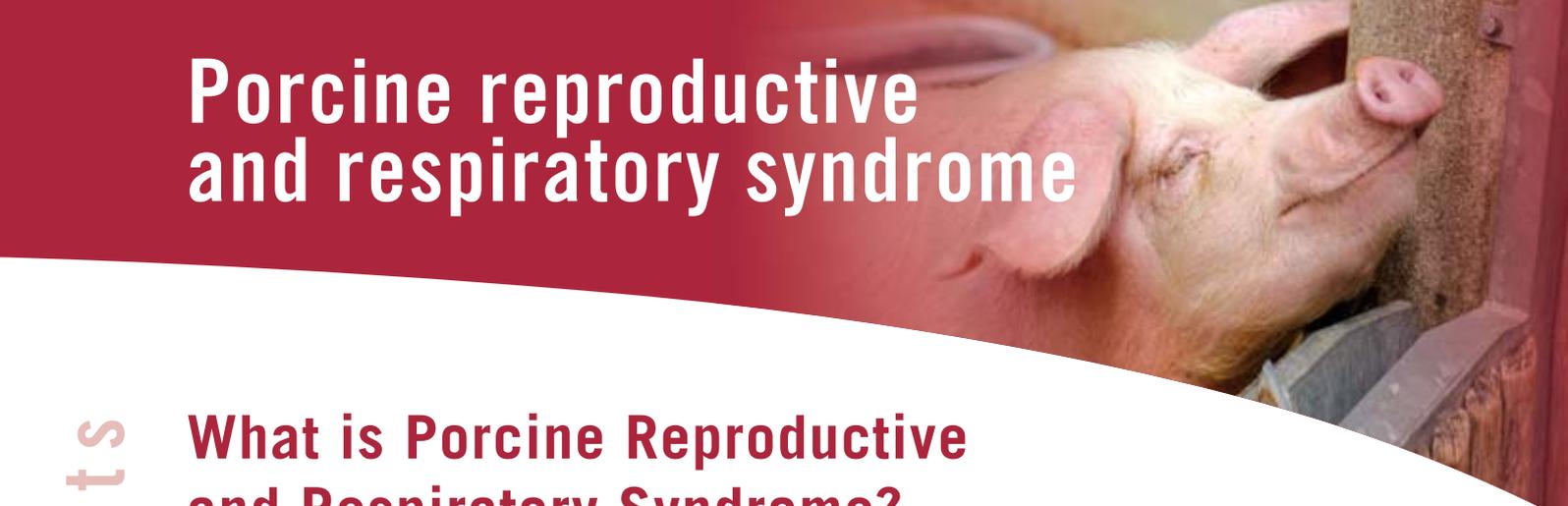


Porcine reproductive and respiratory syndrome



What is Porcine Reproductive and Respiratory Syndrome?

Porcine reproductive and respiratory syndrome, (PRRS), also named blue ear disease, is a widespread disease affecting domestic pigs. The symptoms include reproductive failure, pneumonia and increased susceptibility to secondary bacterial infection. It is caused by a virus classified as a member of the genus *Arterivirus*.

PRRS was first recognized in the United States in 1987, and the causative virus was identified in the Netherlands in 1991.

PRRS is a disease listed in the OIE *Terrestrial Animal Health Code* and OIE Members are committed to report outbreaks to the OIE according to the OIE *Terrestrial Animal Health Code*.



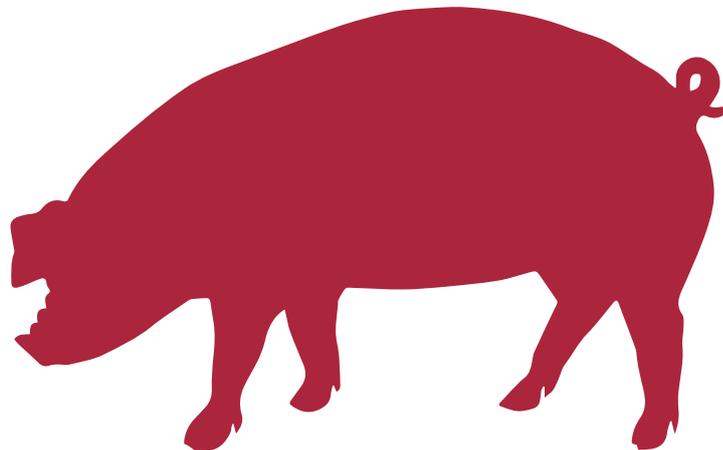
Where is the disease found?

Porcine reproductive and respiratory syndrome is now found in most areas of the world where pigs are raised. Besides Europe and North America, it was identified in China in 1995 and is present in Japan, Vietnam, the Philippines, Malaysia, and Korea among other countries in Asia. Australia, New Zealand, several European countries, parts of Africa and India are currently free of the disease.

How is the disease transmitted and spread?

It seems that transmission of PRRS virus in practical terms is most often due to the movement of infected animals. Pigs born to infected dams may not show disease signs but can still be virus shedders.

However, the virus is also found in faeces, urine, and semen and can be spread by vehicles or supplies and even insects have been found as a potential source of spread. As well there is the possibility of windborne spread. There is evidence that the disease can also spread through artificial insemination when semen is contaminated with the virus.





What are the clinical signs of the disease?

As the name suggests there are two syndromes associated with PRRS; reproductive failure in sows, and respiratory disease in young pigs. The reproductive failure is characterised by infertility, abortions, stillbirths, or the birth of weak piglets that often die soon after birth from respiratory disease and secondary infections. The stage of gestation, the immune status of the sow, and the virulence of the virus determine the effects of infection.

In boars and unbred replacement gilts and sows, transient fever and anorexia may be observed, but often

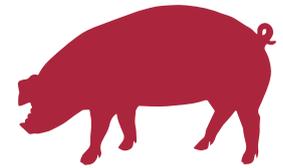
The virus has a predilection for macrophages (white blood cells) in the lungs where it reproduces diminishing the immune response. The respiratory syndrome is recognised by laboured breathing, fever, loss of appetite, and listlessness, red discoloration of the body, and blue ears. Younger pigs are more affected than older animals. There is often high mortality, though infected animals can also show no disease at all. And in spite of the name, the blue ears, due to restricted blood supply, are only a transient sign of the disease.

With more virulent strains, as happened in the outbreaks in China in 2006, pigs may be found dead with no warning signs.

How is the disease diagnosed?

Since isolation of the virus requires porcine cells and is technically demanding, serological testing is common. The guidelines for diagnosing the disease are described in the *OIE Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*.

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What is being done to prevent or control the disease?

Where the disease exists in a country or a zone, control measures applied at the individual farm level can work to prevent the introduction of the disease. This requires knowing the health status of replacement gilts and boars, as well as proper isolation and acclimatization of incoming stock. Pigs should be retested on arrival at the isolation facility and 45-60 days later, before entry to the herd.

Where the disease breaks out in a farm, depopulation with subsequent cleaning and disinfection and proper disposal of the carcasses has been used to eliminate the infection. The use of multisite production and segregated early weaning with test and removal has also been tried.

A vaccine exists and is effective. Commercial vaccines, both modified live and killed, have been used and they have been effective in controlling outbreaks and preventing economic losses. Vaccines must be produced following the guidelines in the OIE *Manual of Diagnostic Tests and Vaccines for Terrestrial Animals*.

What is the public health risk associated with this disease?

There is no evidence of human infection with PRRS virus.



More Information?



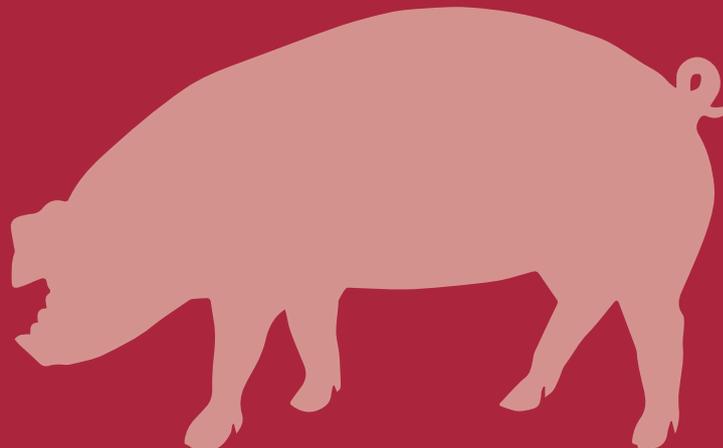
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Key Facts

- Multiple strains of the virus with considerable variation in virulence explain the broad spectrum of clinical manifestations of the disease.
- Nonetheless, it has become the most important disease in intensively raised pigs in North America and Europe, and its importance is dramatically increasing in Asia.
- Each year, PRRS costs the United States \$560 million by causing reproductive failure in adult females and deadly pneumonia in nursing pigs. (USDA)

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