

PORCINE REPRODUCTIVE & RESPIRATORY SYNDROME (PRRS) - SOWS

Pathology description

PRRS (Porcine Reproductive & Respiratory Syndrome) is caused by a virus from the arteriviridae group. PRRS appears to have two distinct clinical phases: reproductive failure and post weaning respiratory diseases. The virus has a particular affinity for the macrophages particularly those found in the lung. Macrophages are part of the body defences. They ingest and remove invading bacteria and viruses but not in the case of the PRRS virus. Instead, the virus multiplies inside them producing more virus and kills the macrophages.

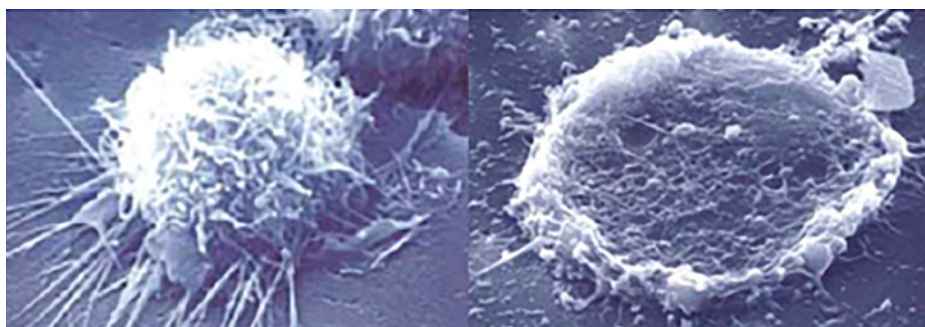


Figure 1: Picture of normal macrophage (left) and a infected macrophage (right)

Once it has entered a herd it tends to remain present and active. Up to 40% of the macrophages are destroyed which removes a major part of the body's defense mechanism and allows bacteria and other viruses to proliferate and do damage.

Symptoms

Clinical signs in dry sows during the first month of infection

- Short periods of inappetence spreading over 7-14 days, 10-15% of sows at any one time.
- The body temperature may be elevated to 39-40°C
- Abortions, often late term, may occur at a 1-6% level. These are often the first signs to be noted.
- Transient discoloration (blueing) of the ears may be seen (2% level. Blue ear disease).
- Some sows farrow slightly early. 10-15% over the first 4 weeks.
- Increased returns occur 21-35 days post-service.
- Prolonged anoestrus and delayed returns to heat post-weaning.
- Coughing and respiratory signs.

Clinical signs in farrowing sow in the first month of infection

- Inappetence over the farrowing period, a reluctance to drink.
- No milk (agalactia) and mastitis - significant symptoms.
- Farrowings are often 2-3 days early.
- Discoloration of the skin and pressure sores associated with small vesicles.
- Respiratory signs.
- Mummified piglets. 10-15% may die in the last 3-4 weeks of pregnancy.
- Stillbirth levels increase up to 30%.
- Very weak piglets at birth.
- Cyanosis or blueing of the ears is a variable finding and less than 5% of sows show it. It is transient and may last for only a few hours.



Figure 2: Pig with blue ears



Figure 3: Weak and stillbirth piglets at birth

Costs of the disease

- Less and weak piglets
- Decreased fertility

Vectors

- **Environment**
 - Wild birds
 - Vehicles
 - Airborne transmission up to 3km (2 miles)
- **Material**

Mechanical means via faeces, dust, droplets and contaminated equipment, lorries etc.
- **Animal**
 - Adult animals excrete virus for much shorter periods of time (14 days) compared to growing pigs which can excrete for 1-2 months.
 - Droplet contamination from older pigs to younger pigs.
 - Nasal secretions, saliva, faeces and urine
- **People:**

Contaminated boots and cloths.
- **Management**
 - Artificial insemination but only if the boar is viraemic. This period is probably only 3-4 days.
 - Permanently populated houses maintain the virus at high levels, particularly in the first and second stage nurseries.
 - Movement of carrier pigs.

→ MAIN VECTOR: The infected pig

Preventive action

- Respect the 48 hours-rule (= no contact with pigs within 48 hours after visit of another pig house)
- Clean and disinfect thoroughly
- before entering the pig house: wash your hands, disinfect your boots (or even change boots) and change clothes (take a shower if possible).
- Clean and disinfect ALL the materials and equipment you bring into the animal house.
- Clean and disinfect all vehicles, that transport pigs to or from your farm away (see protocol for transport and wheel disinfection)
- Vaccinate the pigs preventively (vaccine is not 100% effective!)

Controlling action

Prevention of infection appears to be the primary measure of control. Plan a treatment program with your vet for acute PRRS forms.

Advised Protocols

For every possible vector, a hygiene protocol must be implemented. See these Specific Purpose Protocol:



HOUSING
HYGIENE



PERSONAL
HYGIENE



TRANSPORT