

PRRSv INFECTION BY SEMEN IN A PIG UNIT IN NORTHERN IRELAND

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PRRSv is enlisted as a Notifiable Disease in Northern Ireland (The Diseases of Animals . Northern Ireland- Order 1981) after it was first diagnosed in 1997. The prevalence of infection in 2011 was 36.6% of the Northern Irish pig producers.

In April 2013, the main boar stud of the island, located in the Republic of Ireland, was diagnosed with PRRSv infection. This stud was supplying semen to around 70% of producers in the whole island. There was not guarantee of freedom of PRRSv infection from the whole month of March up to the 4th of April.

PRRSv negative units that purchased semen during the period of infection were visited by the vet in order to assess clinical signs, blood testing of breeding and finishing pigs, and collecting unused semen bags dated up to the 4th of April.

One 100 SPF sow unit had PRRSv clinical signs of early farrowings, stillborns, agalactia, lack of appetite in sows, newborn piglet scour with poor antibiotic response and cachexia in piglets and weaners. Sows inseminated before March 2013 were negative to PRRSv (ELISA) whereas the ones inseminated from March 2013 were positive to PRRSv (ELISA). Six of the 23 PRRSv positive (ELISA) serum samples collected were positive (RT-PCR) to PRRSv EU nucleic acid indicating viremia in the sows. Finishing pigs were still negative to PRRSv (ELISA) two weeks after the closure of the stud farm.

Three of 5 semen bags collected were positive (RT-PCR) to PRRSv EU nucleic acid. These bags were dated the month of March indicating infection in the stud farm was for a period of time before closing it down. Nucleotide sequence identification of orf7 gen in the semen and serum supplied matched 97% with the PRRSv EU reference Lelystad. This finding proved that the herd became infected by semen.

Production parameters were affected with a reduction of -1.4% in Conception Rate, -1.6 pigs Live Born/Litter, +0.3 pigs Born Dead/Litter, -1.6 pigs Weaned/Litter, +7.9% Pre-Weaning Mortality, +4.6 days Non-Productive Days, -4.6 pigs Weaned/Sow/Year when comparing data 6 months before PRRSv infection with 6 months after PRRSv infection.

An attenuated-live PRRSv vaccine was introduced to the breeding herd immediately after diagnosis. Clinical signs disappeared within 3 months and production parameters recovered slightly.

Semen was been described as a route of infection experimentally. This is a concern due to the widespread use of artificial insemination in pig production. Better biosecurity protocols are required to be implemented in stud farms in order to avoid the spread of PRRSv to naïve herds, as has occurred in Ireland (2013) or Switzerland (2012).