

P.128

**LONGITUDINAL STUDY OF PORCINE REPRODUCTIVE AND RESPIRATORY DISEASE VIRUS IN TWO ENDEMIC FARROW-TO-FINISH FARMS**

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**Introduction**

It is a common assumption that porcine reproductive and respiratory syndrome virus (PRRSV) spreads easily among weaners and fatteners. Moreover, in endemic farms, seroprevalence of PRRS is close to 100% in finishers. Under natural conditions, the infection is assumed to be transmitted horizontally through oral or nasal fluids, either in aerosols or through injured/abraded skin (1,2). Nonetheless, few studies have been done to assess the dynamics of PRRSV infection in weaners and fatteners under field conditions. The objective of the present work was to study the dynamics of PRRSV in endemic farms.

**Material and methods**

Two seropositive to PRRSV farrow-to-finish farms (F1 and F2) were selected for this study. In each farm a batch of pigs (n=79 and n=115, respectively) was followed from weaning to slaughtering age. Blood samples were obtained weekly from the 3 to the 21 week of age in F1. In F2, blood sampling was done weekly from 3 to 13 weeks of age and then animals were bled at 15, 17 and 24 weeks of age. In each visit to the farms clinical observation and pen allocation of each individual pig at each given time was recorded. A commercial ELISA (Ingezim PRRS, Ingenasa) was used for the detection of PRRSV antibodies.

**Results**

In F1, seroconversions started between 12 and 15 weeks of age. In F2, seroconversions started after the decay of maternal antibodies in between 3-6 weeks of age. Both farms presented some negative animals at the end of the study. The tables 1 and 2 show the incidence for each three-week period and the cumulative incidence for both farms. Figure 1 shows the temporal and spatial distribution of cases.

**Table 1.** Incidences of PRRSV infection in Farm 1.

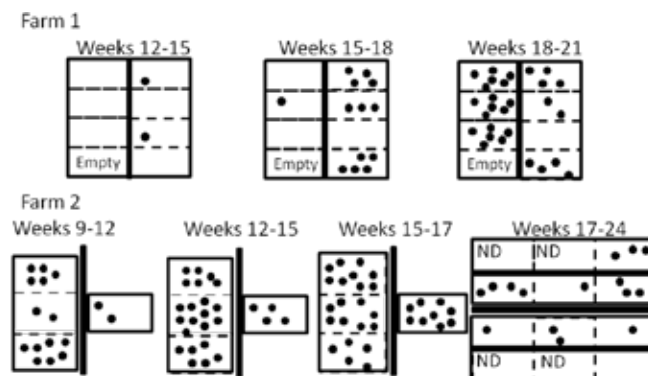
Farm 1		
Weeks	3-week Incidence	Cumulative incidence (%)
3-6	0	0
6-9	0	0
9-12	0	0
12-15	2.6	2.6
15-18	17.6	19.7
18-21	54.1	63.2

**Table 2.** Incidences of PRRSV infection in Farm 2.

Farm 2		
Weeks	3-week Incidence	Cumulative Incidence (%)
3-6	4.3	4.3
6-9	0	4.3
9-12	15.7	19.6
12-15	31.7	45.2
15-17	51.9	73.5
17-24*	68.2	93.3

\* Incidences were calculated for a 7- week period.

**Figure 1.** Temporal and spatial distribution of seroconversions in farms 1 and 2



Seroconversion; - - Discontinuous separation; ND=not done

**Discussion**

Results obtained in this study show that a relatively long period of time (9-12 weeks) was needed for the virus to spread to the majority of pigs although seronegative pigs remained at the end of the fattening period. The situation observed would be compatible with a low infection transmission and where close and repeated contact between animals would be needed to produce effective transmission.

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**References**

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