



VIRAL DISEASES

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A PHENOTYPING METHOD TO IDENTIFY PRRSV RESILIENT SOWS IN ENDEMIC INFECTED FARMS

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Introduction

Porcine reproductive and respiratory syndrome (PRRSV) is a viral disease with negative impact on sow reproduction. An alternative to control this virus is to select animals more resilient to the infection. A key issue to deal with disease resistance is to set up a cost-efficient phenotyping strategy. The aim was to develop a phenotyping criterion to discriminate susceptible from resilient sows in endemic infected farms.

Material & Methods

A total of 296 Landrace x Large White gilts were classified as resilient (R) or susceptible (S) to PRRSV virus following vaccination with MLV-PRRSV at 6-7 weeks of age. Gilts were phenotyped as R if serum was negative to PRRSV at 0, 7 and 21 days post-vaccination (DPV) or as S if any of the samples at 7 and/or 21 DPV was positive. All the gilts were transferred to the same reproduction farm, where the total number of piglets born, born alive, dead and mummified in each parity were recorded for two years. A binomial model was used to assess the difference between R and S sows for piglet mortality. The heritability for the resilience criterion was estimated using a threshold model.

Results

The percentage of lost piglets (dead plus mummified) over the total born was lower in the R sows as compared to the S sows (2.6% and 2.2%, for first and all parities, respectively, $P < 0.05$). The heritability of the resilience criterion was 0.47 (SD 0.06).

Discussion & Conclusion

The criterion used to identify resilient sows can effectively reduce the probability of piglet mortality at farrowing. There is also evidence that this trait could display enough genetic variation to respond to selection.