

TITLE

BENCHMARKING ON DIFFERENT SAMPLE TYPES FOR EARLY DETECTION OF PRRSV INFECTION

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CONTENT

Introduction: Alternative diagnostic sampling for detection of Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) might be advantageous with respect to easy transportation (dry swabs) or animal friendly stress less sampling without the need for fixation. However, the alternative sampling technique is requiring an equal or even better sensitivity of the sample, at least in monitoring of herds free from PRRSV.

Material and Methods: PRRSV PCR testing was validated on blood samples and saliva collected with serum tube, GenoTube® swabs or polyester swabs. Twenty PRRSV naive gilts were randomly assigned to four groups. Mimicking a PRRSV infection two groups of 5 pigs each received a PRRSV genotype 1 vaccine intranasally (IN) or intramuscularly (IM), and correspondingly two groups got a PRRSV genotype 2 vaccine. Gilts were sampled before vaccination and at day 0.5, 1, 1.5, 2, 2.5, 3, 4, 5, 6 after exposure.

Results: The first gilts became positive in serum from the jugular vein by 12h, in GenoTube® soaked with blood from ear vein by 36 h. One standard swab soaked with blood from the ear vein was positive at one day. Standard swabs soaked with saliva were positive earliest by day 5 post vaccination. All exposed pigs were detected positive in serum on day 6, while GenoTubes® resulted in 20-75% positive pigs. Oral swabs were only positive for genotype 1 in 20-40%. Pen-wise oral fluids were earliest positive for genotype 1 on day 5 and for genotype 2 on day 6 after exposure.

Discussion and Conclusion: Compared to serum from jugular veins, GenoTube® swabs soaked with blood from ear veins are less sensitive in the early detection of PRRSV infection mimicked by administration of PRRSV vaccine. The lack of sensitivity might be less important for screening PRRSV infected herds but cannot be recommended for the monitoring of PRRSV-free herds.