

**TITLE**

**RECORDING OF COUGH IN AN EXPERIMENTAL PRRS INFECTION WITH AN 24/7 SURVEILLANCE TOOL REVEALS STRIKING DIFFERENCES COMPARED TO A DAILY BUT SINGLE TIME POINT INVESTIGATION**

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**CONTENT**

Porcine reproductive and respiratory syndrome (PRRS) remains one of the most widespread, and economically devastating disease in swine industry. It is characterized by reproductive losses in breeding herds, increased mortality in newborns and respiratory disorders in growing pigs.

The aim of the study was to investigate the induction of cough after a challenge with a highly pathogenic PRRS strain (AUT15-33) on vaccinated and non-vaccinated piglets.

Method: In this experiment a total of 25 piglets at three weeks of age were included and assigned into three groups. One group of 10 animals were vaccinated with PRRSFLEX EU, while a second group of 10 animals was not vaccinated (challenge control), the third group of five animals served as negative control. Three weeks after vaccination groups 1 and 2 were experimentally challenged with the highly pathogenic strain AUT15-33 ('ACRO' strain) and cough was monitored by daily investigation by the study director. In addition, a sound monitoring system (Sound Talks NV, Belgium) was installed in each room that recorded cough continuously. Data were collected from day of vaccination until 14 days post challenge.

Results: The investigator recorded no respiratory clinical sign in the vaccinated group and one animal was recorded with dyspnoe in the challenge control group 10 to 14 days post challenge. The cough monitor recorded a low amount of cough until time of challenge (cough index: 0-6). After challenge the cough index remained the same for the vaccinated group. In the challenge control group the cough index started to rise above the previous background and was markedly higher (up to cough index 19) for the following seven days.

Conclusion: The continuous recording of cough revealed a distinct difference between vaccinated and non-vaccinated animals after challenge that was not observed with the punctual recording by human staff.