

TITLE

PRRSFLEX® EU VACCINATED PIGLETS WERE PROTECTED FROM THE DETRIMENTAL EFFECTS OF AN EXPERIMENTAL INFECTION WITH HIGHLY PATHOGENIC PRRS-1 STRAIN AUT15-33 IN TERMS OF AVERAGE DAILY WEIGHT GAIN AND COUGH

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CONTENT

Porcine reproductive and respiratory syndrome (PRRS) remains one of the most wide-spread and economically devastating disease in swine industry, characterized by reproductive losses in breeding herds, as well as respiratory disorders and a prolonged fattening period.

The aim of the study was to investigate the effect of a PRRS AUT15-33 challenge on the daily weight gain and amount of coughing on vaccinated and non-vaccinated piglets.

Study design: In this experiment five groups of piglets at four weeks of age were either vaccinated (1, 2, 5) or not (3, 4) and subsequent challenged with the highly pathogenic PRRS-1 strain AUT15-33 ('ACRO' strain) with a low dose (10e3, groups 2+4) or a high dose (10e5, groups 1+3), while group 5 remained un-challenged (negative control). Weight was recorded on day of vaccination (D0), challenge (D28), one and two weeks post challenge (D35/41). Cough was monitored continuously with a sound recording device (Sound Talks NV, Belgium) throughout the study.

Results: Sound recording revealed a slightly higher cough index was recorded in the room with vaccinated piglets until day of challenge compared to the non-vaccinated groups, however, the cough index stayed the same after challenge while the non-vaccinated groups started to cough with a more than doubled cough index one week after challenge. The weight gain was comparable in all groups until the day of challenge. After challenge the weight gain was reduced in the non-vaccinated groups one week post challenge and was significantly lower compared to the control and vaccinated group.

Conclusion: An experimental challenge with the highly pathogenic strain AUT15-33 caused a substantial decrease in weight gain and coughing in unprotected animals both with a high and low challenge dose. However, vaccination can ease both effects with a better health status through reduced coughing and significant higher average daily weight gains after challenge.