

VACCINATION WITH A PRRSV MLV IN SOWS INDUCES NEUTRALIZING ANTIBODIES AGAINST PANEL OF CONTEMPORARY FIELD STRAINS

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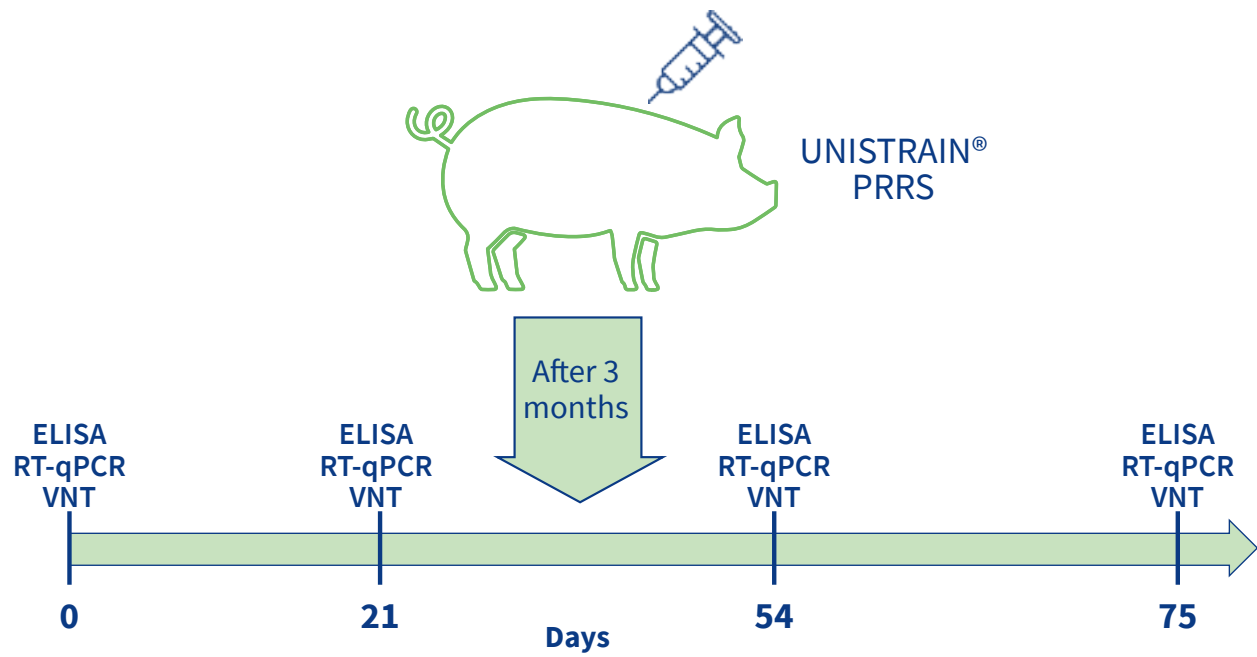
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Background & Objectives

The genetic variability of PRRS virus, along with the complexity of the immune response and the variability of the individual response, are factors that contribute to the difficulty of immunization against current field strains. The present study aimed to assess the capability of neutralizing diverse PRRSV-1 contemporary strains in sows vaccinated with a PRRSV-1 MLV.

Materials & Methods

Sows that were vaccinated with Unistrain® PRRSV (strain VP-046 BIS) every 4 months were used. At 3 months from last vaccination, sows of different parities (0-3) at 45 days of gestation were vaccinated with UNISTRAIN® PRRS:



RT-qPCR = SYBR Green real-time RT-PCR
ELISA = pigtype PRRSV Ab - INDICAL
VNT = viral neutralization test. Realized as described by Yoon et al. (1994) with brief modifications, against 6 standardized PRRSV-1 strains adapted to MARC-145:

Strain	Type	Year of isolation	Region
Unistrain (homologous)	Vaccine strain	-	-
Strain A	Field strains isolated from different farms	2022	Catalonia (North-East Spain)
Strain B		2018	
Strain C		2019	
Strain D		2019	
Strain 3267		2006	Portugal

Results

RT-qPCR

All animals were negative at all analyzed dates.

ELISA

S/P values were positive (S/P > 0.4) at all the analyzed dates without significant differences (Figure 1).

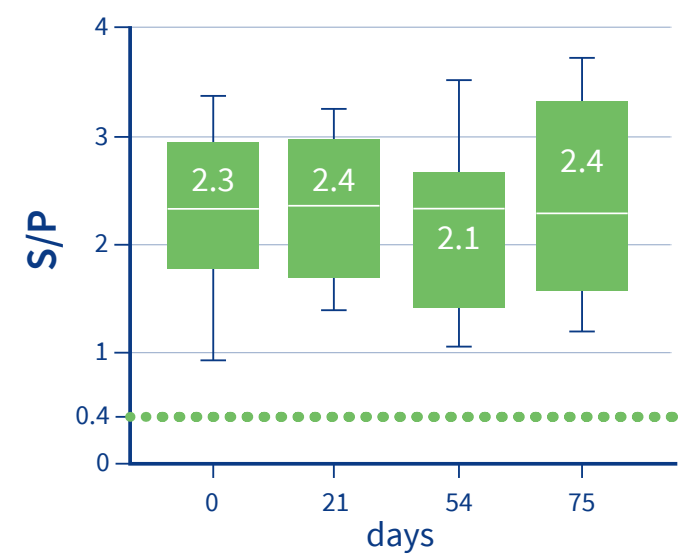


Figure 1. Evolution of S/P ratios as determined by ELISA. The number in the boxplot indicate the mean S/P value

Viral neutralization test

Results of the VNT are shown in Figure 2. All sows presented homologous neutralizing antibodies along the analyzed dates. Titers of neutralizing antibodies against strain 3267 and contemporary field strain B were similar, with no significant differences throughout the study. Regarding the neutralization of the other field strains, titers were lower and did not show a significant increase.

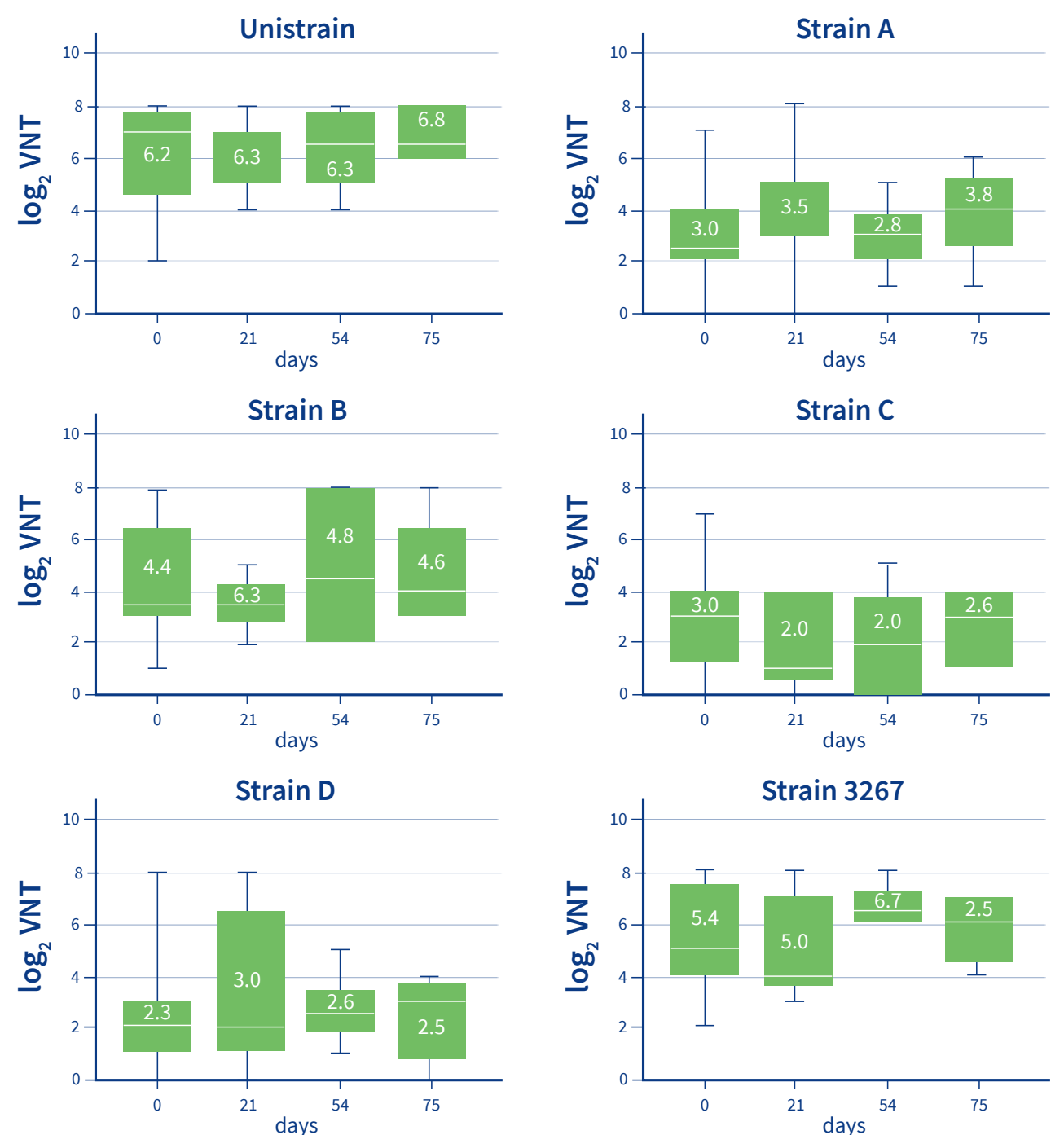


Figure 2. Evolution of the neutralizing titers against the different strains analyzed, expressed as log₂. The number in the boxplot indicates the mean log₂ titer.

Discussion & Conclusion

In this study, sows vaccinated with Unistrain® PRRS presented broad neutralizing activity in vitro, especially against the homologous strain and two of the field strains analyzed.

Code assign: IMM-PP-19