



A next-generation PRRSV-2 MLV vaccine in a controlled comparative field trial in an industrial swine system in Cambodia

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Introduction

The control of Porcine Reproductive and Respiratory Syndrome Virus (PRRSV) infection is crucial for swine producers. However, the true efficacy of current PRRSV vaccines remains uncertain due to increasing cases of vaccination failures and the emergence of new genotypes in the field. A next-generation PRRSV2 MLV vaccine developed and attenuated by SAVE (Synthetic Attenuated Virus Engineering) technology, holds promise for effective field control of PRRSV through improved safety and zootechnical performance.

The aim of this field trial was to compare the post vaccination safety and PRRSV2-protection measured on zootechnical performances versus the internationally used, commercial traditional PRRSV2 MLV, already used on the farm.

Materials and Method

A Cambodian 2400-sow two-site farm was selected on being a “PRRSV2-only endemic, stable sow herd”, already vaccinating sows and piglets with a different commercial PRRSV2 MLV.

Pigs weaned at 21 days-of-age (T1) from site-1 followed till slaughter (T2) at site-2, were enrolled.

At 24 days of age, 1,496 pigs were randomly distributed, and vaccinated, 746 with PERSOPORC™ (Ceva, France), Vac-P group, and 750 with the current PRRSV2 MLV vaccine, Vac-C group.

Pigs were monitored and recorded on post vaccination reaction (PVR*) detailed as “affected” (red skin or vomiting), and “severely affected” (shock reactions), plus mortality*, average daily weight gain T1-T2 (ADG**) were calculated, and group averages compared.

Statistical methods, * Chi-square, ** t-test.

Level of significance $p < 0.05$.

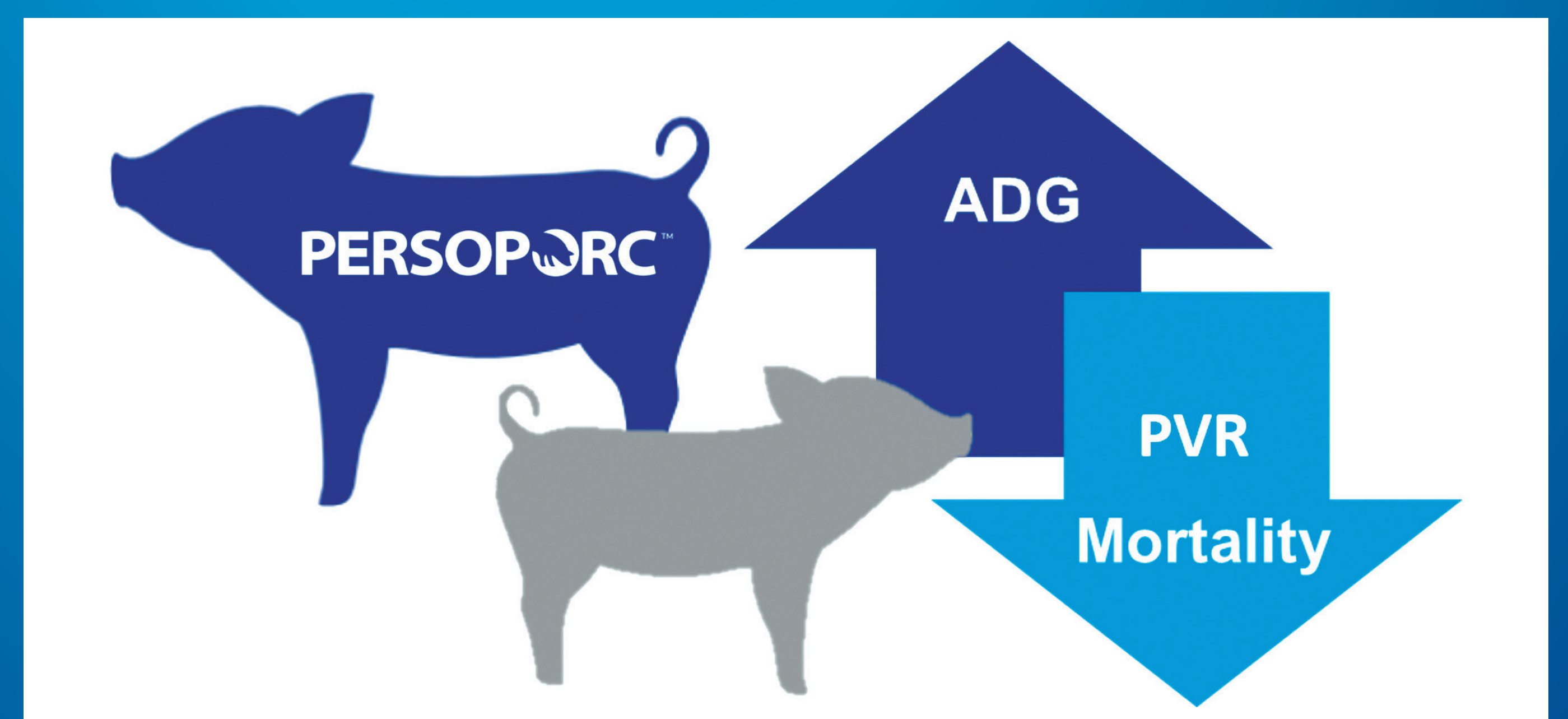
Results

PVR rates

Affected animals 0/746=0% vs 88/750=12% ($p < 0.001$) and severely affected 0/746=0% vs 88/750=3% ($p < 0.001$), in total 0/746=0.0% vs 113/750=15,1% ($p < 0.001$), in Vac-P and Vac-C, respectively (Table 1).

Performance data wean-slaughter

Mortality was 4/746=0.5% vs 19/750=2.5% ($p = 0.0016$), and ADG 658 vs 635 grams/day ($p < 0.001$) in Vac-P and Vac-C, respectively, adding an extra 2.4 kg to the Vac-P group (Table 1).



Conclusion and Discussion

An absolute post vaccination safety for Vac-P.

Additionally for all parameters tested, substantial, highly significant improvements for Vac-P group compared to the Vac-C group was demonstrated from weaning to slaughter: +2 point of percent → 99.5% survival rate and +23grams of daily gain → +2.4 kg of slaughter weight.

These findings align with previous data and confirm the high safety and efficacy of PERSOPORC™. This suggests that it could provide a more robust defense against PRRSV2 in the field compared to traditional MLV vaccines.

Table 1. Study results on PVR rates, and productivity

Vaccine group	Post vaccination reactions (PVR)						Protective efficacy			
	Red skin/vomiting		Shock reaction		Total		Mortality		ADG w-s	
	rate	p-value	rate	p-value	rate	p-value	rate	p-value	g/day	p-value
PERSOPORC (Vac-P)	0.0%	<0.001	0.0%	<0.001	0.0%	<0.001	0.5%	0.0016	658	<0.001
Traditional MLV (Vac-C)	11.7%		3.3%		15.1%		2.5%		635	