

IMPROVING PIGLET PERFORMANCE WITH A PRRSV1 VACCINE UNDER FIELD CONDITIONS IN THE PHILIPPINES

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INTRODUCTION

PRRS is a swine disease with a very important economic impact on the swine industry (1). The huge economic and productive losses due to its endemic distribution and the high levels of mortality caused by both types (PRRSV1 and PRRSV2) makes the immunization of pigs a necessity in order to minimize the impact on affected farms (2). Immunization by modified live vaccines (MLV) has proved to be effective in controlling PRRSV1 and PRRSV2 infection (3). The purpose of this study was to evaluate the field efficacy of UNISTRAIN[®] PRRS (MLV PRRSV1, HIPRA, Spain) against PRRSV2 field infection and to determine whether there were differences in terms of piglet performance between UNISTRAIN[®] PRRS and a commercial MLV PRRSV2 vaccine.

MATERIALS AND METHODS

184 piglets from a 500-sow commercial farrow-to-finish farm in the south of the Philippines positive for PRRSV2, were randomly selected and divided into two groups within litters (92 piglets per group).

Group A was vaccinated with UNISTRAIN[®] PRRS (2 ml) and group B was vaccinated with a commercial MLV PRRSV2 (2ml). Both groups were vaccinated at 18 days of age (DOA). Blood samples were collected at 2,8,12 and 19 weeks of age (WOA) to perform ELISA and PCR tests. The efficacy of the vaccine was studied by the piglets' performance (weight at birth, at weaning, at 75 days of age and at slaughter) and the mortality rate during the nursery period. Moreover, the cost of antibiotic treatments was measured throughout the study duration as an extra measure.

RESULTS

No differences were found between groups in the ELISA titres. As regards the PCR results, whilst group A was already negative for PCR from 8 WOA onwards until the end of the study, group B was still PCR positive at 8 and at 12 WOA until 19 WOA when it became negative. These results show a longer shedding period after vaccination of the PRRSV2 vaccine compared with UNISTRAIN[®] PRRS (Table 1).

	PCR result			
	2 weeks	8 weeks	12 weeks	19 weeks
Group A	Negative	Negative	Negative	Negative
Group B	Negative	Positive	Positive	Negative

Table 1. PCR results from blood samples extracted at 2,8,12 and 19 WOA.

With regard to piglet performance, no differences were found between groups in terms of weight. As for the mortality rate during the nursery period, this was higher in group B (10.87%) compared to group A (3.26%) with a significant difference between the groups (7.61%). (Fig 2).

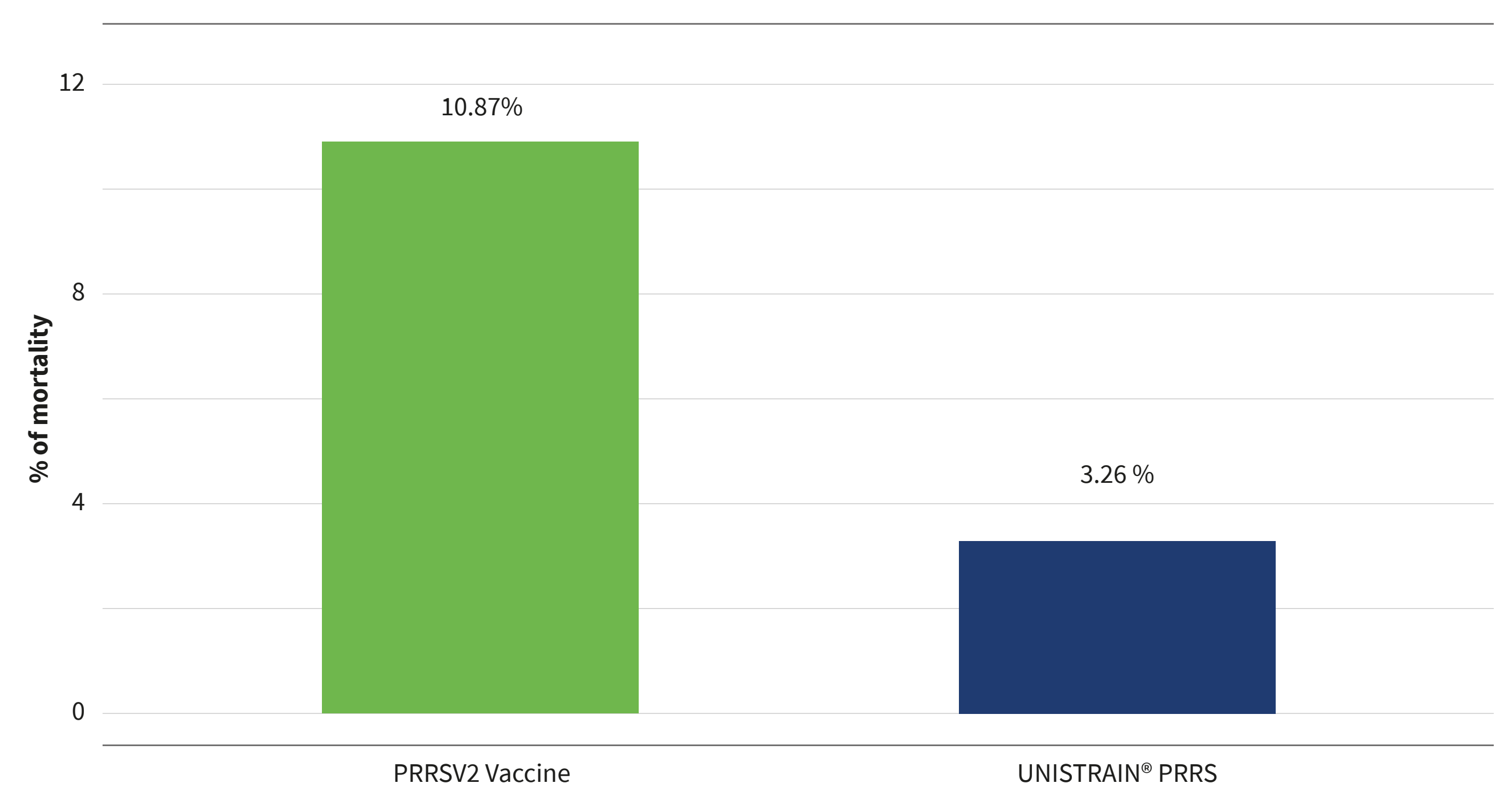


Figure 2. Mortality rate during the nursery period. p=0.08

Assuming an average loss of 3,500 Philippine pesos (PHP) per each dead animal during the nursery period, the decrease in mortality could result in a PHP 25,000 benefit during the period of the study.

The cost of the antibiotic treatments within the nursery unit during the study period was PHP 412.5 in group A whilst in group B it was PHP 519.6.

CONCLUSIONS AND DISCUSSION

Efficacy conferred by UNISTRAIN[®] PRRS (PRRSv1 vaccine) against a field PRRSV2 infection in piglets was effective based on the outcome achieved, showing an improvement in piglet performance as a result of a reduction in the mortality rate during the nursery period, as well as a shortening of the shedding period.

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