

# Economic impact of a porcine reproductive and respiratory syndrome (PRRS) stabilization program in a farrow-to-finish farm using mass vaccination with a modified live vaccine and strict biosecurity measures

Bouchet, F.<sup>1</sup>; Berton, P.<sup>1</sup>; Teixeira-Costa, C.<sup>1</sup>; Lebret, A.<sup>1</sup>; Ardies, C.<sup>2</sup>; Brissonnier, M.<sup>1</sup>; Jeusselin, J.<sup>1</sup>; Chevance, C.<sup>1</sup>; Normand, V.<sup>1</sup>; Boulbria, G.<sup>1</sup>.

<sup>1</sup> PORC.SPECTIVE, Swine Vet Practice, ZA de Gohélève, 56920 Noyal-Pontivy, France

<sup>2</sup> HIPRA FRANCE, Orvault, France.

## Introduction

In the last two decades, in France, PRRSV stabilization protocols have been implemented using mass vaccination with modified live vaccines, herd closure and biosecurity measures. The aim of the study was to evaluate performances and economic improvements after implementation of such protocol in a farrow-to-finish farm using Unistrain® PRRS.

## Materials & Methods

The stabilization protocol was conducted in a 195 sow-farrow-to-finish farm located in a high-density pig area, implementing a 5-week batch farrowing system. For many years, this herd has suffered from abortions, high return-to-estrus rate and high usage of antibiotics in all stages. In end 2019, an active circulation of PRRSV-1 was diagnosed in this farm. The stabilization protocol and its monitoring was implemented as described by Pauline Berton<sup>1</sup> and according to the recommendations of AASV<sup>2</sup>. Production performances, together with antibiotic consumption were compared before and after implementation of the protocol using Student's t-test with R Studio.

## Results

Results of the monitoring showed the absence of transmission of PRRSV-1 from sows to their piglets and the absence of circulation within the sow herd and in growers in four batches. We observed a significant increase in fertility rate, respectively 90.16 % (Q1 85-Q3 94.65) and 95.14 % (93.58-97.33), before and after the stabilization protocol ( $p=0.02$ ). Weaning-to-estrus intervals (WtO) were more gathered (4.88-6.37 days before and 5.03-5.16 days after the stabilization). Thus, both improvements in reproductive parameters reduced the sows' unproductive time. Feed conversion ratio (FCR) decreased from 2.74 to 2.63 and veterinary costs were reduced from 9.15€ to 6.40€ per pig produced, linked to a huge reduction of antibiotics usage. Finally, we estimate the return on investment at 4,2 € per pig.

**Table 1.** Evolution of reproductive, productive and economic parameters before and after stabilization.

Parameter	Before stabilization	After stabilization
Fertility rate	90.16 %	95.14 %
WtO intervals	4.88-6.37 days	5.03-5.16 days
FCR	2.74	2.63
Veterinary costs	9.15 €	6.40 €

## Discussion and Conclusion

This stabilisation protocol was successful and economical results were clearly improved

## References

1. Pauline Berton, Valérie Normand, Guy-Pierre Martineau, Franck Bouchet, Arnaud Lebret, *et al.*. Evaluation of porcine reproductive and respiratory syndrome stabilization protocols in 23 French Farrow-to-finish farms located in a high-density swine area.. *Porcine health management*, BioMed Central, 2017, 3, pp.11.
2. Holtkamp DJ, Polson DD, Torremorell M, *et al.* Terminology for classifying swine herds by porcine reproductive and respiratory syndrome virus status. *J Swine Health Prod.* 2011;19(1):44–56.