

# IMPROVEMENT OF PRODUCTIVE PARAMETERS AFTER USING ERYSENG® PARVO LEPTO ON A FARM IN COLOMBIA

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## INTRODUCTION

Reproductive problems in sows are multifactorial and can be divided into two large groups: non-infectious problems, which are those produced by genetics, nutrition, management or environmental causes, and infectious problems, which may be caused by viruses or bacteria<sup>1</sup>. In this study, we will focus on infectious problems, and namely those caused by three of the most prevalent pathogens worldwide and which cause the most significant reproductive and economic losses, namely Swine Erysipelas (SE), Porcine Parvovirus (PPV) and *Leptospira sp.*. In any case, there are significant differences between different vaccines available on the market, in relation to humoral immune response and safety<sup>2,3</sup>.

The study objective was to compare the productive and reproductive performance before and after implementing a vaccine programme using ERYSENG® PARVO/LEPTO (inactivated vaccine against SE, PPV and *Leptospirosis*) adjuvanted with HIPRAMUNE® G on a Colombian commercial farm.

## MATERIALS AND METHODS

The study was conducted on a 700 sows farrow to finish farm located in the Valle del Cauca (Colombia). The farm was negative for PRRS, Progressive Atrophic Rhinitis, *Haemophilus parasuis* and Flu, and has not had any disease outbreaks during the last few years. The farm had good biosecurity, and there were no changes to staff, management or genetics in the past few years.

In this study, two consecutive time periods were studied (April 2016 to March 2017) and (April 2017 to March 2018), and thus seasonal bias was avoided.

In the first period on the farm, the vaccine A adjuvanted with Amphigen® was used following the vaccination programme recommended by the manufacturer, and in the second period the ERYSENG® PARVO/LEPTO (EPL) vaccine was used. The vaccination programme used with EPL was one vaccination in the whole herd plus re-vaccination three weeks later, and after that two doses before inseminating the nulliparous sows, and one dose in each cycle in the multiparous sows. All productive and reproductive data was collected from both periods and was analysed statistically using the Wilcoxon test.

## RESULTS

The total piglets born per sow per farrowing (TPBS) significantly increased from  $13.25 \pm 0.35$  to  $14.48 \pm 0.27$  ( $p < 0.001$ ) and consequently the piglets born alive per sow (PBAS) also increased from  $12.38 \pm 0.318$  to  $13.34 \pm 0.27$  ( $p < 0.001$ ).

	Vaccine A	ERYSENG® PARVO/LEPTO	Difference	P-value (Wilcoxon test)
PWSY	28.27 ± 0.72	30.3 ± 0.90	+2.03	0.002
TPBS	13.25 ± 0.35	14.45 ± 0.27	+1.2	< 0.001
PBAS	12.38 ± 0.32	13.34 ± 0.27	+0.96	< 0.001
SS	0.507 ± 0.03	0.63 ± 0.06	+0.12	0.003
ML	0.37 ± 0.05	0.48 ± 0.08	+0.11	0.035
WPS	11.60 ± 0.31	12.59 ± 0.24	+0.99	< 0.001
%LL 7 PBA	7.57 ± 1.77	3.83 ± 1.53	-3.74	0.004

**Table 1.** Productive and reproductive parameters between April 2016–March 2017 (Vaccine A), and April 2017–March 2018 (EPL). Terminology: PWSY: (Piglets weaned per sow per year) TPBS: (Total piglets born per sow) PBAS: (Piglets born alive per sow) SS: (Stillbirths per sow) ML: (Mummified per litter) WPS: (Weaned piglets per sow) %LL7: (% of litters with less than 7 piglets born alive).

The fact that the total born and live born increased implies that the mummified and stillborn piglets increased slightly, since the litter size is larger, but ultimately, the piglets weaned per sow per year (PWSY) increased by more than 2 piglets per sow  $28.27 \pm 0.72$  to  $30.3 \pm 0.90$  ( $p < 0.05$ ). Another parameter that was significantly reduced was the percentage of litters with less than 7 piglets born alive (%LL7) which changed from  $7.57 \pm 1.77$  to  $3.83 \pm 1.53$  ( $p < 0.05$ ). This may indicate better control of infectious diseases such as PPV.

## CONCLUSIONS AND DISCUSSION

Following implementation of ERYSENG® PARVO/LEPTO, the productive parameters increased significantly, which entails greater productive and economic profitability for the farm. This study demonstrates the importance of having a good vaccination plan against Swine Erysipelas (SE), Porcine Parvovirus (PPV) and *Leptospira sp.* which produces a robust herd immunity and consequently significant improvement in the farm.

## ACKNOWLEDGMENTS

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## REFERENCES

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