

# Oral vaccination against *Lawsonia intracellularis*, an alternative to antibiotic treatments and a tool to improve the performance in an Iberian pig farm



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## INTRODUCTION

Porcine Proliferative Enteropathy (PPE) caused by *Lawsonia intracellularis* (L.i.) is an enteric disease of pigs affecting most of the Spanish farms<sup>1</sup>. Most of pigs are infected subclinically, but the economic impact is estimated between 1.3 € and 18.5 € per affected pig<sup>2,3</sup>. Different antimicrobials can be used for the treatment of PPE, but nowadays the meat industry and its costumers ask for a reduction of antibiotic use in animals. In contrast oral vaccination against Ileitis can be considered as an effective prophylactic tool to control clinical and subclinical PPE<sup>4</sup>.

The aim of this study was to evaluate the efficacy of Enterisol® Ileitis (Boehringer Ingelheim Vetmedica GmbH) on antibiotic use reduction and performance improvement in a Spanish Iberian pig farm.

## MATERIALS AND METHODS

This study was conducted in a multi-site farm with 2.500 Iberian sows located in the central area of Spain. Pigs at fattening were suffering subclinical Ileitis and L.i. infection was confirmed by ELISA (IgG). A total of 2,880 fattening pigs were included in the study (1,440 non-vaccinated and 1,440 vaccinated with the oral live vaccine Enterisol® Ileitis Boehringer Ingelheim Vetmedica GmbH). Thus 4 weekly batches were vaccinated and 4 consecutive batches were kept unvaccinated in order to minimize the seasonal impact on results. The pigs were orally vaccinated 3 weeks after weaning via drinking water in the nursery unit using Thiosulfate Blue (Boehringer Ingelheim Vetmedica GmbH) as stabilizer. Pigs were raised under the same conditions and housed in pens with 40 pigs, male and female ones separated and were individually weighed weekly.

The recorded parameters were average daily gain (ADG, kg/d), end weight (Kg), heaviest pigs at the end (%), lightest pigs at the end (%), mortality rate (%), and antibiotics costs (€).

Data was analyzed using ANOVA with SPSS v 15.0 (SPSS Inc, Chicago, IL, USA) software.

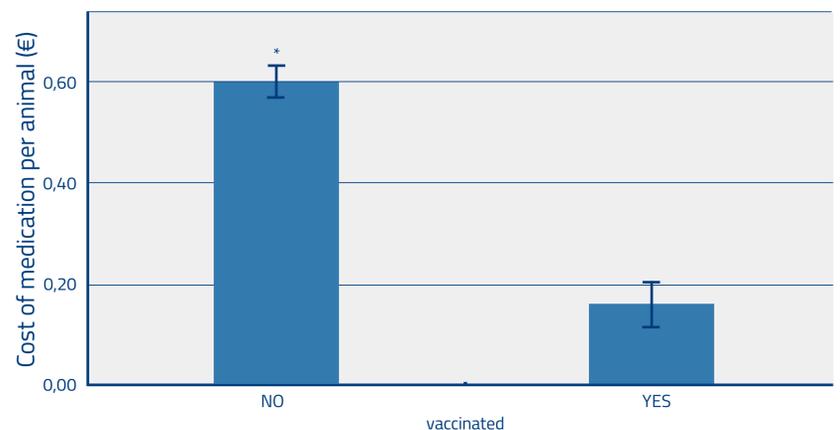
## RESULTS

The results are summarized in table 1.

**Table 1: Efficacy of Enterisol® Ileitis® at fattening.**

	No vaccine (n = 1440)	Vaccine (n = 1440)	P value
Start weight	21.21 ± 0.75	21.47 ± 0.94	p > 0.05
End weight	147.99 ± 0,30a	151.06 ± 1.02b	p = 0.028
ADG (Kg / d)	639.75 ± 7.53	657.75 ± 5.94	> 0.05
Heaviest pigs (%)	26.00 ± 7.08	36.75 ± 1.60	p > 0.05
Lightest pigs (%)	13.50 ± 1.29	8.75 ± 5.55	p > 0.05
Antibiotics (€)	0.59 ± 0.03	0.15 ± 0.04	P < 0001
Mortality (%)	2.60 ± 0.33	3.55 ± 0.53	p > 0.05

**Figure 1: Statistic graph showing the impact of the vaccination on antibiotics use reduction**



The reduction on antibiotic use in the vaccinated group represents 74.6% compared to those animals that were not vaccinated.

The weight at the end of the fattening was 3.97kg more in the vaccinated group and the ADG was 18 g / day better in the vaccinated group too. The percentage of heavy-weight animals was higher in the vaccinated group (36,75% vs 26,0%) and the percentage of less-weight animals was lower in the vaccinated group (8,75 vs 13,50%). There were no significant differences in mortality between both groups.



## DISCUSSION AND CONCLUSION

In this field experience, it was demonstrated that antibiotic use can be reduced with vaccination with Enterisol® Ileitis. So, the vaccination is an alternative to the use of antibiotics in the growing of Iberian Pigs because the immunization improved pigs' health. Growing parameters were also better.

## REFERENCES

1. Salleras et al. (2006). Proc 19th IPVS P 174
2. McOrist, S. Et al (1997): Vet rec 140, 579 – 581
3. Hardge, T. Et al (2005) Proc APVS P 114

