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# Economic impact of Enterisol® Ileitis in clinical and subclinical herds

M. Adam

Boehringer Ingelheim Animal Health GmbH, Ingelheim, Germany

## Introduction

Worldwide, ileitis is prevalent in 3 forms: acute, chronic and subclinical. All forms are associated with loss of potential <sup>(1)</sup>.

They create lower performances and generate economic loss at the farm level; but is the economic impact for clinical (acute and chronic) and subclinical comparable?

Boehringer Ingelheim has developed a vaccine to control all forms of ileitis: Enterisol® Ileitis. Its usage throughout Europe has enabled the establishment of a large database which can be used to investigate the economic benefit of vaccination in infected herds.

## Materials and methods

The database comprises 46 farms in 12 European countries (from mid-2005 to April 2007):

- ✓ 15 side-by-side trials.
- ✓ 15 longitudinal trials.
- ✓ 16 effectivity trials.

All farms are positive for ileitis and have used the vaccine as a control tool. The form of disease has been clearly defined at each farm: 14 subclinical and 32 clinical. All trials included vaccinated and non-vaccinated animals. 5 farms are finishing units with 40,000 places. All others are farrow-to-finish units with 25,625 sows.

The main performance parameters (from 30-115 kg) were average daily gain (ADG), feed conversion rate (FCR) and percentage loss. The economic impact is expressed by the return on investment (ROI), i.e. the extra profit of X € generated per 1 € invested. A value equal and/or superior to 1 is a positive ROI. It is calculated based on the aforementioned main performance parameters.

All methods of vaccination were represented: drench, trough and proportioner. Vaccination took place between the 3<sup>rd</sup> and 15<sup>th</sup> week of life.

## Results and discussion

On average, vaccinated pigs grew faster (+46 g/day). They showed a better FCR (-0.07 kg/kg) and a lower mortality (-3.78 %). ROI was 3.7:1 in favour of the vaccine (table 1).

The economic benefit of vaccination was similar between clinical and subclinical farms (table 2).

**Table 1:** Improvements for all farms.

	No vaccine	Vaccine
<b>ADG (g/day)</b>	<b>711</b>	<b>757</b>
<b>FCR (kg/kg)</b>	<b>2.93</b>	<b>2.86</b>
<b>Losses (%)</b>	<b>8.89</b>	<b>5.11</b>
<b>ROI</b>		<b>3.7:1</b>

**Table 2:** Improvements in clinical and subclinical herds with Enterisol® Ileitis.

	Clinical	Subclinical
<b>ADG (g/day)</b>	<b>+ 48</b>	<b>+ 43</b>
<b>FCR (kg/kg)</b>	<b>- 0.06</b>	<b>- 0.10</b>
<b>Losses (%)</b>	<b>- 4.50</b>	<b>- 1.31</b>
<b>ROI</b>	<b>4.0:1</b>	<b>3.0:1</b>

A higher reduction in mortality for the clinical farms can be explained by the presence of the disease. Despite this, improvement in FCR was greater on the subclinical farms. Fourchon <sup>(2)</sup> already associated the presence of *Lawsonia intracellularis* with higher FCR and lower ADG even if no clinical symptoms are present. Paradis <sup>(1)</sup> reported that performance parameters such as FCR and ADG are worsened in *Lawsonia intracellularis* challenged pigs at a subclinical infection level.

## Conclusion

Vaccination with Enterisol® Ileitis improves farm performance and results in an ROI of 3:1 and 4:1 for herds with subclinical and clinical infection. Additionally with the development of ethanol production, new market adjustments will extend in crops such as corn or soybean, as well as to the livestock industry <sup>(3)</sup>. In such circumstances, it appears even more that ileitis is a disease of economic relevance for all farms.

## References

1. Paradis M.A. et al. 2005. Proceeding AASV. 189-191.
2. Fourchon P. et al. 2000. Proceeding IPVS. 62.
3. Westcott P.C. 2007. Ethanol expansion in the USA, How will the agricultural sector adjust. <http://www.ers.usda.gov>