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**Ileitis prevention by oral vaccination – European experiences**  
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**Boehringer Ingelheim Animal Health**

**Introduction**

Ileitis due to *Lawsonia intracellularis* infections is one of the most common enteric diseases of post weaning pigs in the world. The economic efficacy of Enterisol® Ileitis, the first vaccine against *L. intracellularis*, was investigated in two commercial farms in Germany.

**Material and Methods**

Pigs were vaccinated orally via drinking water in troughs during a four hour period (Vaccination age farm A: seven weeks; farm B: three weeks.) All treatments were blinded to investigators. No in-feed antibiotics were applied (Farm B) or only for the first 18 days post weaning (Farm A). For statistical analysis, a General Linear Model with the initial body weight as covariate effect was applied.

**Results**

Both farms tested positive for *L. intracellularis* in weaning, breeding and fattening units by PCR and IFAT but showed no clinical signs apart from increased growth variation around the 18<sup>th</sup> week of age in farm B. This sub-clinical presentation of ileitis typical for the majority of European farms infected with *L. intracellularis*. Vaccinated groups performed substantially better than controls in both farms (Table 1).

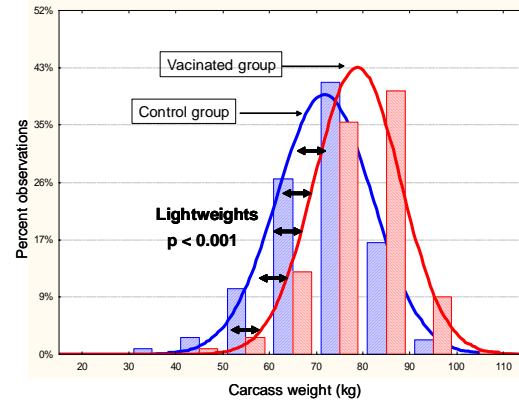
Table 1. LS-Means of growth traits, slaughter traits and in the control and vaccinated groups

Trait/group	Farm A		Farm B	
	Vac.	Contr.	Vac.	Contr.
Pig number (n)	555	278	546	271
ADWG (g)	709 <sup>a</sup>	674 <sup>b</sup>	703 <sup>a</sup>	682 <sup>b</sup>
ADFI* <sup>1</sup> (kg)	1.93 <sup>a</sup>	1.85 <sup>b</sup>	-	-
Feed con. * <sup>1</sup>	2.71 <sup>a</sup>	2.74 <sup>a</sup>	-	-
Mortality (%)	4.68 <sup>a</sup>	3.62 <sup>a</sup>	5.3 <sup>a</sup>	3.68 <sup>a</sup>

\*Different letters indicate significant differences within the respective farm (p < 0.05). \*<sup>1</sup> Feed intake (ADFI) was measured in farm A only

Vaccinated pigs had significantly higher daily weight gains and feed intakes, consistent with prior laboratory challenge experiments.<sup>1,2</sup> The variation in slaughter weight and percentage of lightweight pigs (<60 kg) was lower in vaccinated pigs and led to significantly reduced

slaughter weight discounts for vaccinated pigs (Farm A; Graph 1).



Graph 1: Distribution of the carcass weight in vaccinates and controls in farm A

The economic impact of vaccination was also analyzed (Table. 2). For the calculation of the slaughter sales and weight discounts the Euro-Reference grading grid with a base price of 1.4 € was applied. A feed price of 175 €/t and piglet prices depending on the weight were assumed. Mortality was considered in calculating all costs per pig sold.

Table 2. Sales, costs and gross margins of pigs vaccinated with Enterisol® Ileitis vs. controls\*<sup>1</sup>

Economic trait/group		Vaccinated group	Control group
Slaughter sales (€/pig)		107.1 <sup>a</sup>	98.6 <sup>b</sup>
Piglet costs (€/pig)		50.3 <sup>a</sup>	47.8 <sup>b</sup>
Feed costs (€/pig)		35.1 <sup>a</sup>	33.7 <sup>b</sup>
Mortality costs (€/pig)		3.7 <sup>a</sup>	3.6 <sup>a</sup>
Gross margin (€/pig)		17.98 <sup>a</sup>	13.51 <sup>b</sup>

\*<sup>1</sup>Because of missing feed intake data in farm B, the economic analysis was

done in farm A only.

Vaccinated pigs had gross margin of +4.47 € (\$5.36) versus non vaccinated pigs. Enterisol® Ileitis is an economically efficient tool to control sub-clinical Ileitis and allow a fuller expression of the genetic growth potential of pigs.

**References**

- [1] Kroll, J.J.; Roof, M.B.; McOrist, S. (2004): Res. Am. J. Vet. Res. 65, 559 – 565
- [2] Kroll, J.J.; Roof, M.B.; Elber, K.; P. Utley (2004): Proc. Of the 18th IPVS, Hamburg