

# More profit per pig for ileitis treatment

## Issue

The effect of Denagard (Tiamulin hydrogen fumarate, THF) against Porcine Proliferative Enteropathy (PPE, ileitis) is proven in numerous challenge and field studies. A series of cost benefit studies were conducted worldwide to evaluate the cost benefit profit returns of Denagard medication programmes. The trials were conducted in herds suffering from persistent ileitis infections resulting in longer fattening times and lower throughput.

## Study 1

A trial was conducted in Japan with Denagard Premix - 100ppm, medication 7 consecutive days at the beginning (30kg bw) and in the middle of the fattening period - as a treatment for ileitis.<sup>1</sup>

## Findings 1

Table 1: Comparative performance data in a treatment study (Denagard 100ppm / Lincomix 110ppm) – in-feed medication <sup>1</sup>		Denagard	Lincomix
Number of pigs in		138	138
Number of pigs slaughtered		115	102
Carcass grade slaughtered pigs	excellent	51 (44.3%)	43 (42.2%)
	medium	41 (35.7%)	43 (42.2%)
	average	20 (17.4%)	13 (12.7%)
	out of grade	3 (2.6%)	3 (2.9%)
Number of pigs died		5 (3.6%)	9 (6.5%)
Number of light pigs		18 (13.0%)	27 (19.6%)
Fattening period (days)		110.1	115.2
ADG (kg)		0.716	0.685
FCR		2.91	2.92
Cumulative clinical score	Day 0	18	15
	Day 7	0	4

- Denagard controlled the negative productivity effects of PPE infection. A lower number of light pigs resulted in lower body weight variation and more uniform pigs at slaughter in the Denagard group

*All animals receiving Denagard showed a better productivity performance and a greater uniformity compared to the Lincomix treated pigs.*



**Take pride**

**Table 2: Cost / Benefit (€) evaluation in the treatment study<sup>1</sup>**

	Incomes	Expenses	Benefit	Benefit / pig sold	Benefit vs. Lincomix
Lincomix	26,502	22,507	3,994	39.20	–
Denagard	30,017	22,795	7,221	62.80	+23.60 €

- The therapeutic effect of the Denagard feed medication resulted in improvements of production parameters and higher financial benefits when marketing the pigs

*Denagard treated pigs showed a greater cost benefit (+€23.60 per pig) and ROI than the Lincomix treated pigs.*

## Study 2

In another study, in Germany, the effect of Denagard 45% WSG medication (10mg THF / kg bw, medication 14 days wet feeding system) was evaluated vs. Tylan (10mg tylosin tartrate /kg bw).<sup>2</sup>

## Findings 2

**Table 3: Comparative performance data in a treatment study – medicated water in wet feeding system<sup>2</sup>**

	Tylan	Denagard	Stat difference
Body weight (start/end)	29.57/97.03	31.77/102.71	–
ADG (g/day)	690	740*	*P=0.007
FCR	2.82	2.77	–
Weight gain/sold pig (kg)	67.55	71.27*	*P=0.0147
Weight slaughtered pigs (kg)	82.72	90.64*	* P=0.0018
Fattening period (days)	117	109.7*	* P=0.0121

- The effective reduction of the expression of *Lawsonia intracellularis* infection resulted in significant improved performance and shorter fattening times for the Denagard treated group over the Tylan group

*Denagard treated pigs showed a better production performance and required a shorter fattening period compared to the Tylan treated pigs.*

**Table 4: Cost / Benefit (€) evaluation in the treatment study<sup>2</sup>**

	Incomes	Expenses	Benefit	Benefit / pig sold	Benefit vs. Lincomix
Tylan	14,002	10,192	3,809	41.30	–
Denagard	14,265	10,365	3,900	46.09	+4.79 €

- The cost benefit evaluation demonstrates the economic value of the medication against ileitis. The total benefit due to the effective treatment in the Denagard group was €4.79 more per pig than in the Tylan group

*Denagard treated pigs showed a greater cost benefit (+€4.79 per pig) and ROI than the Tylan treated pigs.*

### Study 3

A study was conducted on a Thai farrow-finish farm with a history of *Lawsonia intracellularis* infections.<sup>3</sup> The farm was also positive for *Brachyspira* and PRRSv infections.

The effect of feed medication with Denagard and Tylan on the health status and pig performance was evaluated.

### Findings 3

Table 5: Comparative performance data in a treatment study (Denagard 150ppm / Tylan 150ppm) – in-feed medication <sup>3</sup>			
Result	Tylan	Denagard	Diff. vs Tylan
No. of pigs start/end	480/461	480/464	0/+3
Av.weight (kg) start	27.60	27.47	-0.13
Av.weight (kg) end starter period	51.93 <sup>a</sup>	54.01 <sup>b</sup>	+2.08
Av.weight (kg) end of trial	92.99	94.10	+1.11
ADG (g/day) starter period	675.62 <sup>a</sup>	753.34 <sup>b</sup>	+11.5%
ADG (g/day) total	705.97	722.40	+2.3%
FCR starter period	2.11 <sup>a</sup>	1.93 <sup>b</sup>	-8.5%
FCR total	2.62	2.52	-3.8%
FCG at starter (€)	0.566 <sup>a</sup>	0.518 <sup>b</sup>	-8.5%
FCG at end of trial (€)	0.576	0.554	-3.8%
Gross Margin per pig (€)	50.41	51.74	+1.33
ROI* (%)	142.7	145.7	+3%

*a, b significantly different at p<0.05*

- The beneficial effect of Denagard in the treatment of the enteric infection lead to improved performance results, an additional gross margin and higher return on investment (ROI)

*Denagard treated pigs showed a better ADG, FCR and ROI than the Tylan treated pigs.*





## Conclusions

- **The pronounced therapeutic effect of Denagard against *Lawsonia intracellularis* prevented productivity losses associated with PPE infection**
- **When administered to ileitis infected pigs in feed or in wet feeding systems, Denagard proved to give greater cost benefit and ROI than Tylan and Lincomix treatment**
- **Shorter fattening times prove the economical value of Denagard ileitis treatment compared with Tylan and Lincomix**
- **The lower number of light pigs in the Denagard treated group resulted in lower body weight variation and more uniform pigs (uniformity) at slaughter**
- **Denagard, is the most active antimicrobial against *Lawsonia intracellularis* and the product of choice for economical treatment regimes against ileitis**

#### References:

1. M.Shimaoka, K.Kubo, S.Ohashi, K.Kajiwara, U.Klein (2006): Efficacy and cost benefit study on the use of tiamulin for the treatment of Porcine Proliferative Enteropathy under field conditions in Japan. Proc. 19th IPVS Congress, Copenhagen Denmark, Vol.2, 183.
2. U.Klein, W.Löhlein, A.Jensen-Atwood (2006): A cost benefit study on the control of Porcine Proliferative Enteropathy in a commercial grower unit in Germany. Proc. 19th IPVS Congress, Copenhagen Denmark, Vol.2, 167.
3. P.Poolperm, N.Rattanawanichroj, S.Punthum, W.Navasakuljinda, C.Ananratanakul, S.Talummuk, M.Makhanon, U.Klein (2006): Treatment comparison between tiamulin and tylosin against mixed enteric infection with PRRS co-infection in Thailand. Proc. 19th IPVS Congress, Copenhagen Denmark, Vol.2, 347.