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## An Economic Evaluation of Ileitis Intervention Strategies

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**Introduction:** Porcine proliferative enteropathy (PPE, ileitis) is a common and costly disease in grow-finish pigs. *Lawsonia intracellularis* (*Li*) has been confirmed as the causative agent of PPE.<sup>1</sup> Multiple challenge studies have reproduced ileitis which is usually severe.<sup>2-7</sup> Producers and veterinarians have multiple options to control ileitis from in-feed antibiotics to an avirulent live vaccine.<sup>8-11</sup> This study was performed to help evaluate the cost effectiveness of common control strategies.

**Objective:** To compare four ileitis interventions on growth performance and feed efficiency in finishing pigs with a known *Li* exposure.

**Methods:** 9-week old pigs were exposed to *Li* challenged pigs that were actively shedding *Li* at comingling. Treatment groups were: 1) a commercial *Li* vaccine administered 3 weeks before exposure 2) two 10-day courses of tiamulin in-feed (35 g/ton) spaced 6 weeks apart, starting 5 days after exposure; 3) two 21-day courses of tiamulin in-feed (35 g/ton) spaced 6 weeks apart, starting 3 weeks after exposure; and 4) two 21-day courses of tylosin in-feed (100 g/ton) spaced 6 weeks apart, starting 3 weeks after exposure. Challenged pigs were removed from all pens 3 weeks after placement.

**Results:** Seroconversion to *Li* by immunoperoxidase monolayer assay (IPMA) was unequal between treatment pens. A pen was considered positive when it contained a pig that tested positive (**Figure 1**). Performance statistics are summarized in **Table 1**. While differences were not statistically significant, they were assumed to be economically significant and were included in the economic analysis (**Table 2**).

**Discussion:** When controlling ileitis it is important to evaluate the economic impact of the intervention strategy through the subsequent performance effects. When evaluating an ileitis control program; therapy costs, feed savings,

and improved growth (**Table 2**) should be considered to maximize cost savings. With today's high feed costs feed savings are a major component in any ileitis control strategy as demonstrated in **Table 2**. Selecting an ileitis control program based on therapy cost alone will not always maximize total savings.

Figure 1: Percent IPMA positive by pen

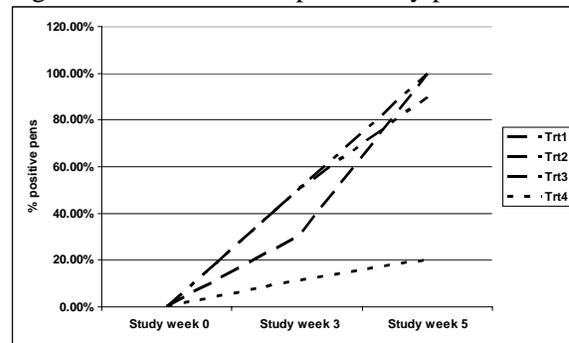


Table 1: Production parameters for the finishing period (17 weeks)

Trt	ADG	F/E	Mortality
1	1.63	2.77	4.5% <sup>b</sup>
2	1.63	2.76	8.00%
3	1.69	2.70 <sup>a</sup>	6.50%
4	1.66	2.85 <sup>a</sup>	9.00% <sup>b</sup>

<sup>a</sup> = probability of the indicated means being different from each other at p = 0.15

<sup>b</sup> = probability of the indicated means being different from each other at p = 0.11

Mortality percent were considered within historic levels.

Table 2 Estimated costs used for the Economic Analysis

Trt	Adj pig cost <sup>1</sup>	Feed cost <sup>2</sup>	Adj Th'y cost <sup>3</sup>	Est. cost
1	\$47.03	\$60.94	\$1.05	\$109.00
2	\$48.60	\$60.72	\$0.75	\$110.07
3	\$47.93	\$59.40	\$1.57	\$108.89
4	\$49.05	\$62.70	\$1.49	\$113.25

<sup>1</sup> \$45x(1 + mortality), <sup>2</sup> Feed/gain x weightgain x feed cost <\$0.10/lb>, <sup>3</sup> ((Days on treatment x ADG)x FE)x (Grams/ton x cost/gram)x(1 + mortality)

**References:** Supplied upon request.