

Sponsors

University of Minnesota

College of Veterinary Medicine

College of Food, Agricultural and Natural Resource Sciences

Extension Service

Swine Center

Thank you to **IDEXX Laboratories** for their financial support to reproduce the conference proceeding book.

Production Assistant

Janice Storebo

Formatting

Tina Smith

CD-ROM

David Brown

Logo Design

Ruth Cronje, and Jan Swanson;
based on the original design by Dr. Robert Dunlop

The University of Minnesota is committed to the policy that all persons shall have equal access to its programs, facilities, and employment without regard to race, color, creed, religion, national origin, sex, age, marital status, disability, public assistance status, or sexual orientation.

An Economic Evaluation of Ileitis Intervention Strategies

JM Hammer¹, LG Luempert III¹, D Mechler², N Winkelman³, D Holtkamp⁴

¹ Novartis Animal Health US, Greensboro, NC 27408; ² Suidae Health and Production, Algona, IA; ³ Swine Services Unlimited, Inc., St. Cloud, MN; ⁴ Iowa State University Ames, IA

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.¹ Multiple challenge studies have reproduced ileitis which is usually severe.²⁻⁷ Producers and veterinarians have multiple options to control ileitis from in-feed antibiotics to an avirulent live vaccine.⁸⁻¹¹ 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

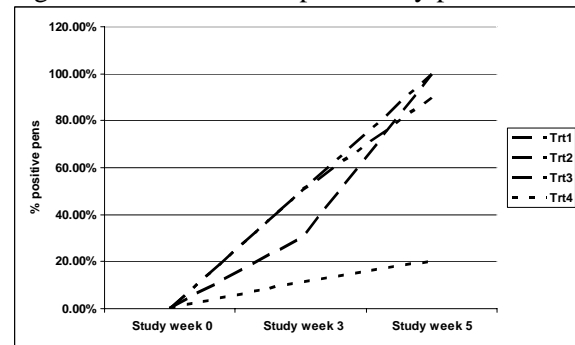


Table 1: Production parameters for the finishing period (17 weeks)

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

^a = probability of the indicated means being different from each other at p = 0.15

^b = 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 ¹	Feed cost ²	Adj Th'y cost ³	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

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

References: Supplied upon request.