

# UNDERSTANDING ILEITIS AND BEST CONTROL METHODS

Ileitis, also known as porcine proliferative enteropathy, is an intestinal disease of swine caused by the bacterium *Lawsonia intracellularis* (*L. intracellularis*). *L. intracellularis* resides primarily in the epithelial cells lining the ileum; thus, the common name “ileitis.” If left uncontrolled, this potentially deadly disease can cause significant economic impact.

It is likely that most swine facilities have *L. intracellularis* present despite proper cleaning and disinfection practices.

The clinical picture varies from one population to another; infection can build up either quickly or slowly in barns and can infect either a low or high percentage of pigs at any one time. The length and the severity of the *L. intracellularis* infection and clinical signs in individual pigs can widely vary. The presence of *L. intracellularis* in the cells lining the pig’s intestinal tract disrupts the orderly maturation of the cells, which results in proliferation, thickening and inflammation of the affected intestine. These changes interfere with normal digestion and absorption of nutrients. It is believed that there is a correlation between the level of infection and the magnitude of the negative impact on feed efficiency and average daily gain, which ultimately impacts a producer’s bottom line.<sup>1</sup>

## THREE FORMS OF ILEITIS

There are three forms of ileitis: subclinical, chronic and acute (or hemorrhagic). Subclinical and chronic forms of ileitis commonly affect pigs between 10 to 26 weeks of age. The chronic form presents as a mild diarrhea without the presence of mucous. Variation in growth rate and size within a population of pigs is common in this form of the disease. It is important for producers to note the subclinical and chronic forms commonly occur without any significant change in feed intake. However, the changes in the intestinal architecture due to the presence of an *L. intracellularis* infection negatively impact the feed efficiency and therefore, the average daily gain of the infected pigs. The impact on feed efficiency is within a range between six and 25 percent, and the impact on average daily gain can be six to 20 percent. The subclinical

form of the disease can often be overlooked and can also have a significant impact on both feed efficiency and average daily gain. A research study has shown high-health-status pigs infected with a subclinical level of *L. intracellularis* infection can have a 20 percent impact on both average daily gain and feed efficiency over a 6-week period versus their uninfected contemporary controls.<sup>1</sup>

The hemorrhagic form usually occurs after 18 weeks of age in late-finishing pigs and is occasionally accompanied by sudden death. It is not uncommon for producers to see the clinical signs in hemorrhagic form around the time they are marketing pigs or a few

administered vaccines require stringent shipping, handling and administration protocols that if not followed correctly can negatively affect the vaccines’ ability to protect individual pigs or all pigs in a population against a *L. intracellularis* infection. Producers should also be aware that antibiotics cannot be given in the feed or water for several days before or after the oral vaccines are administered or the vaccine organisms may be rendered ineffective.<sup>2</sup> Antibiotics are often used in the post weaning phase of a pig’s life to both treat and control disease, which then establishes its health and performance throughout the finishing period. Studies have

## “THE NURSERY AND EARLY AGES OF A PIG’S LIFE ESTABLISHES HEALTH AND LEVEL OF PERFORMANCE FOR THE REMAINDER OF ITS LIFE.”

– Greg Armbruster, DVM, Merck Swine Technical Service Veterinarian

days after a load of pigs has been removed from the operation. The presentation of the feces is usually black and tarry, and can also have some reddish, bloody stools. Most pigs will show paleness in their skin related to the volume of blood loss into their intestinal tract. Replacement gilts of late finishing age can also have this form and the economic impact can be significant due to the genetic premiums of these pigs and not meeting subsequent breeding targets.

## CONTROLLING ILEITIS – IMPORTANCE OF THE NON-MEDICATED WINDOW

Methods to control *L. intracellularis* infections and ileitis need to be evaluated within the context of all health and production issues within the operation. An operation’s hygiene practices and the use of some antibiotics can have an impact on when a significant infection occurs, the level of infection, and the negative impact on pig performance.

Vaccination for *L. intracellularis* is an important pillar to ileitis control. There are currently two routes of administration for commercially available *L. intracellularis* vaccines: oral and intramuscular. The orally

shown the use of therapeutic antibiotics significantly improves a pig’s performance.<sup>3</sup> If antibiotics are removed so that an oral *L. intracellularis* vaccine can be administered while the animals are experiencing health challenges, the pigs cannot receive the benefits of disease control and may lose out on the subsequent performance benefits.

Intramuscular administration of Porcilis® Ileitis vaccine from Merck Animal Health allows the use of therapeutic antibiotics at any time necessary. Since viral infections like PRRSv or swine influenza commonly affect recently weaned pigs, appropriately chosen antibiotics are used to control other primary or secondary bacterial pathogens. With its 20-week duration of immunity, Porcilis Ileitis delivers 13 more weeks of proven protection than any other vaccine. The vaccine also comes in a single bottle, which means no mixing or prepping. Through stringent hygiene practices, the use of vaccines such as Porcilis Ileitis and a watchful eye, ileitis can be controlled, leading to healthier herds and greater profitability.

For more information about the Porcilis Ileitis vaccine, talk to your local Merck Animal Health sales representative or visit [www.merck-animal-health.com](http://www.merck-animal-health.com).

<sup>1</sup> Armbruster, et al. 2013 AASV Proceedings.

<sup>2</sup> Boehringer Ingelheim. (2013, August.) Antibiotic Susceptibility Patterns For Live Oral Vaccines. Retrieved from [https://www.bi-vetmedica.com/sites/default/files/dam/internet/ah/vetmedica/com\\_EN/documents/Disease%20Assets/Swine/Antibiotic%20Susceptibility%20Chart%20TB.pdf](https://www.bi-vetmedica.com/sites/default/files/dam/internet/ah/vetmedica/com_EN/documents/Disease%20Assets/Swine/Antibiotic%20Susceptibility%20Chart%20TB.pdf).

<sup>3</sup> Steidinger, et al. 2009 K-State Swine Day Report.