



Roundworms

Ascaris suum is the most common and most economically important intestinal parasite of pigs. **An adult female roundworm can produce up to 2 million eggs a day!** The eggs are passed in the feces and contaminate the environment. They have a sticky coating which makes it difficult to remove them when cleaning and they are **capable of surviving for up to 15 years in the environment.** The loss of livers can be economically significant to abattoirs when a large number of infected pigs are presented for slaughter. **During the period October 1 2014 to March 31 2015, in provincially-licensed abattoirs in Ontario, 3.5% of livers were condemned due to ascarid migration.** Equivalent data for federal plants were not available.

Lifecycle in the pig:

After roundworm eggs are consumed, they hatch into larvae in the intestine. The larvae penetrate the intestinal wall, and pass via the bloodstream to the liver and lungs. They reach the liver 2-4 days after ingestion and reach the lungs, via the liver, within 10 days. After arriving in the lungs, the larvae are coughed up and swallowed. Eggs will be passed in the feces 6-9 weeks after initial ingestion. The eggs become infective to other pigs in 14-35 days, depending on temperature conditions.

Clinical signs: All ages of pigs can be affected, but signs are more severe in young pigs and can include unthriftiness, slow growth rate, rough hair coat, and coughing. Severe, sometimes fatal, respiratory disease may occur 7-14 days after naïve (previously unexposed) pigs are placed in facilities heavily contaminated with ascarid eggs. Affected pigs have a normal temperature and are thumping and gaunt. The condition may be mistaken for bacterial or viral pneumonia.

Impact on swine production: Ascarids cause local inflammation in the intestine and compete for nutrients required by the pig. The negative impact on growth rate and feed conversion can add to the cost of production. With heavy infections, the most significant effect of the disease is a result of the migrating larvae causing lesions in the liver and lungs.

Scarring in the liver first appears by 7-14 days after exposure as scattered “milk spots”. In heavy infections, the entire liver may be affected with fibrosis, resulting in its condemnation at slaughter. In less severe infections, liver scarring can be repaired in 30 to 60 days and no lesions will be detected at slaughter; therefore the presence of milk spots in market hogs indicates that exposure occurred in the finishing stage.

In the lungs, the migrating larvae cause small hemorrhages and an inflammatory reaction that may result in secondary bacterial infections. Ascarids also produce immunosuppressive substances that may affect the duration and severity of other diseases such as mycoplasma pneumonia.

Diagnosis: Diagnosis of chronic roundworm infection can be made by fecal examinations or, on post mortem, by the presence of worms in the small intestine. Diagnosis of acute infections (less than eight weeks) requires post-mortem examination since eggs will not be present in the feces at that stage.

Control: Swine raised in confinement and with a good deworming program usually have few roundworms. Producers who have livers condemned in their market hogs should work with their veterinarian to develop a parasite control program specific to their operation.

Zoonotic potential: Rarely, swine roundworms infect humans in North America. Symptoms of infection can include coughing, shortness of breath, weight loss, fatigue, and abdominal pain. Sanitation (hand washing) is important after being in contact with swine manure.