

Parasites in Swine: An outline

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Parasites have been a problem for livestock producers for as long as there has been livestock. These parasites can cause economic loss to the producer in many ways including: decrease feed efficiency, increase time to market, and decrease carcass value. With modern swine rearing techniques, the emphasis on swine parasites has shifted toward three internal parasites and one external one. The internal parasites include the large roundworm (*Ascaris suum*), the whipworm (*Trichuris suis*), and the nodular worm (*Oesophagostomum* spp.). The major external parasite of concern is mange (*Sarcoptes scabiei* var. *suis*).

Large Roundworm

Ascaris suum is the most common parasite in modern swine operations with approximately 70-80% of facilities infected. This parasite is also the largest one measuring in length more than eight inches during its adult form. The adult lives in the small intestine where it swims against the flow of the intestinal contents. They can sometimes migrate into the pigs stomach where they cause the host to vomit both feed and worms. These worms compete for nutrients in the intestine which leads to one form of their economic damage. This can be as much as \$5.56 in additional feed cost per animal during heavy infections.

A single female can lay up to one million eggs a day. These eggs can remain viable in the environment for up to thirty years. They become infective 10 days after being laid. Then they can be swallowed by a host allowing larvae to be released which migrates through the intestinal wall, travels via the blood stream to the liver and then to the lungs. *Ascaris suum* are then coughed up, swallowed and return to the intestines to complete their live cycle. The entire process takes approximately seven to eight weeks to complete. Major damage can be caused by the larvae as they migrate through the liver and lungs. During the liver migration white scar lesions are formed which are commonly referred to as "milk spots". The lung migration makes the host animal more susceptible to respiratory problems such as mycoplasma and viral pneumonias.

Whipworm

Trichuris suis can be isolated from approximately 30-40% of swine farms in the United States. It can infect animals at any age, but is often associated with scour problems in the grower animals that are between 50-100 pounds. Whipworm infection can be the most economically devastating common parasite with heavy infections costing up to \$13.76 per animal due to decreased feed efficiency and weight gain. A possible sign of infected animals is several poor doing animals within a group of animals that appear to be growing normally.

The adult worm is about two inches long and lives in the cecum where it burrows into the cecal and intestinal wall disrupting nutrient absorption and allowing secondary bacterial and viral infections to infect the host. The females lay eggs that are passed in the feces and can become infective in approximately three weeks. These eggs are also very hardy and can last in the environment up to ten years. Another pig ingests the infective egg which then hatches into a larvae and travel to the cecum to become an adult and start the cycle all over again.

Nodular Worms

Oesophagostomum spp. are about an inch long when they reach their adult stage in the large intestine. This parasite is most common in herds where sows are outside during their gestation period or are in heavily bedded areas. The eggs of the nodular worm, which are passed in feces, are not as hardy as those of the roundworm and whipworm. They require bedding, manure, or some other form of protection from desiccation. When conditions are right the egg will form a larvae within a week that can then be swallowed by a pig. The larvae migrate to the large intestine and burrow into the walls forming nodules. This can decrease feed efficiency costing up to \$3.69 per animal.

Infected pigs may have diarrhea, decreased appetite and poor weight gain. Piglets as young as two to three week of age can be infected leading to a grayish-yellow diarrhea. This problem can be corrected by treating infected sows and improving the hygiene of the farrowing crates.

Mange

Sarcoptes scabiei var. suis is a mite that lives in the skin of swine and has been declared the most common disease in both breeding and farrow to finish pigs. The mite burrows through the skin layers digesting and consuming the tissue as it goes. Transmission is most often via direct animal to animal contact with natural service boar use being an excellent way to pass the mite throughout a herd. Infected animals have thickened and reddened skin around the ears, shoulders, stomach, and between the legs. Animals will also scratch to the point of skin damage which can allow secondary bacterial infections to occur. This scratching can become so intense that infected animals may damage the facilities they are being kept in such as the farrowing crates.

Treatment

A veterinarian should be contacted to conduct fecal studies at least once a year on your herd. This can determine what parasites are prevalent within your herd and which deworming medications would be best to control any problems that may exist. A treatment/prevention program should be tailored to your facilities which will provide you with the most protection for the unit cost. Depending on the farms parasite status and facilities, it can cost a few dollars up to forty dollars per year for each sow and her offspring to control parasites. Producers will always have to deal with parasites, the key is to figure out the most cost affective way to do this.

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By Kurt Strueh, Purdue University