

ROUND WORMS AND NODULAR WORMS IN SWINE

By

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As new disease problems arise within a community steps must be taken to combat them. North Dakota has very few droves of hogs that are not infested with the common round worm, *Ascaris suis*, and in some cases the whip worm, *Trichuris suis*. The other common worm parasites such as the kidney worms, stomach worms, lung worms, thorny headed worms, and nodular worms have with the exception of the nodular worm not been observed in routine post mortem examinations of swine submitted to this laboratory.

During the last two years there have been three separate cases of swine infested with nodular worms submitted to the laboratory. These were from the following points in North Dakota.

Mapleton 8/21/46—339 *Oesophogostomum dentatum**

Chaffee 1/7/47—626 *Oesophogostomum dentatum*

Mapleton 7/28/47—*Oesophogostomum nodules*

The life history of the nodular worm is in some ways similar and in some ways quite different from that of the common round worms. In both cases the diseases are spread by eggs eliminated in the droppings of infected swine. The round worm eggs hatch in the stomach and the larvae bore through the stomach walls and migrate to the liver. Scars from these worms may be observed as white or purple spots on livers of swine slaughtered for meat. From the livers the immature round worms go to the lungs where they grow and later are coughed up and swallowed by the pig. The irritation caused by these worms in the lungs produce the symptoms spoken of as "thumps". After the worms are swallowed by the pigs they pass to the intestines where they develop into the large worms one observes at post mortem examination.

The nodular worm egg hatches in the intestine and the small worm burrows into the wall of the cecum or colon (large intestines) and goes through a developmental period. Later the worms migrate back into the intestine and grow to maturity.

The damage done by the round worm is much greater than that done by the nodular worm, however, a large number of nodular worms will produce symptoms suggestive of necrotic enteritis.

The control of both of these worms must be based on the prevention of young pigs eating the infective eggs in the droppings of infested swine. If one could start with pigs that were not infected with any kind of worms and raise them on clean soil and in clean houses they would never become infected. This of course

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is not possible. Most farms are contaminated with round worm eggs and may become contaminated with nodular worm eggs. The use of the McLean County (Illinois) System of Swine Husbandry will do much to prevent the infection of swine with worm parasites.

Common round worms can be eliminated from swine by use of sodium fluoride treatment. NDAC Extension Circular A-110 describes in detail this treatment. Sodium fluoride, however, is ineffective against the nodular worm. The nodular worm can be killed by use of rather large doses of phenothiazine.

In general phenothiazine is not recommended for use on swine. There have been repeated cases of phenothiazine poisoning in swine dosed with the usual recommended doses.

If at butchering time small nodules are found on the intestines of the pig, specimens should be submitted for examination at a diagnostic laboratory. If a diagnosis of nodular worm disease is made every effort should be directed at eliminating the worms from the swine saved for breeding and from the swine houses. It is very doubtful if the swine nodular worm egg will live in the soil through a North Dakota winter; the common round worm egg will remain infective for several years under our climatic conditions.

Summary

Nodular worms of swine, identified as *Oesophogostomum dentatum*, have been found in the Red River Valley of North Dakota.

A brief discussion of the similarity and differences of the nodular worm and the common round worm as to diseases produced has been presented.