

Pighealth BYTES

Number: 129

Roundworms VI

Your own reference source on pig health



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Trichinellosis

Trichinellosis occurs in many mammalian species including man. Once it was thought that all cases in pigs were caused by *Trichinella spiralis*, but DNA technology has found a number of species of this worm exist, including *T. spiralis* in Europe and North America, *T. nativa* in the polar regions, *T. britovi* in Eurasia and *T. nelson* in equatorial Africa.

Regulations pertaining to swill feeding of pigs, public health programmes and improved trichoscopic and serodiagnostic tests have all led to a reduction in trichinellosis over recent decades.

Life cycle

The adult *Trichinella* Sp. is a very small worm no longer than 4mm. They are also short lived and so are not frequently seen.

The adult worms live in the intracellular tunnels in the epithelium of the villi and within five days of mating deposits larvae into the lamina propria of the gut wall and does so for their 2-3 week life. These larvae are then distributed around the pig's body via the bloodstream.

When they penetrate the sarcolemma of skeletal muscle cells they continue to mature to an infective state in about two weeks. In this process the muscle cell becomes a nurse cell and can support the encysted larva for long periods of time – this can be years. Circulating larvae that do not become encysted die as granulomas. After several months these muscle cysts can start to calcify.

When the muscle cysts are ingested the larvae come out of the cysts and mature into adult *Trichinella* worms.

Trichinella transmission in this fashion can occur via tail biting, scavenging carcasses (such as those of rats and raccoons) and eating food waste that contains trichinous meat scraps.