

Testing for *Trichinella spiralis* in Wild Boars in Alberta

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Tissues and body fluids were collected and frozen immediately at -80°C from wild boars (*Sus scrofa*) shipped to provincial abattoirs for slaughter. A total of 195 wild boars were examined. The samples collected were tongues (N = 174), diaphragms (N = 181), sera (N = 167) and meat juices (N = 167). The sera and meat juices were tested for *Trichinella spiralis* specific antibodies using an enzyme linked immunosorbent assay (ELISA, SafePath, USA). The tongue and diaphragm were tested for the presence of trichinae by the digestion test. Two pigs tested positive using ELISA. No parasitic larvae were recovered from tissues using the direct digestion method. Since finding *Trichinella* larvae in the wild boar tissue is the confirmation test for pig trichinellosis, therefore no notification of CFIA was necessary,

This was the first study of *Trichinella spiralis* in farmed wild boars in Alberta, Canada. Its objectives were to assemble information that can be used to support the *Trichinella* free status of Alberta pork, which will enhanced market access through increased confidence in the safety and quality of pork products. The serologic results indicated the possibility that the wild boar population had been exposed to the parasite or its parasitic antigen. These test results could also represent false positive reactions, because the ELISA was manufactured for pig trichinellosis and has not been validated with wild boar samples. There were no reported human cases of trichinellosis during the year when the project specimens were collected that could be traced back to the consumption of wild boar meat in Alberta. This ELISA kit was validated according to the requirements of the ISO/IEC 17025 standard. The manual test was further automated using a robotic workstation.

Implications:

This automated ELISA could be a potential substitute for artificial digestion methods in epidemiological/surveillance studies of the parasite. It is suitable for both ante mortem and post mortem testing for the *Trichinella spiralis* infection.