

## Poster Abstracts

## Risk Analysis

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**DETECTION AND QUANTIFICATION OF DNA FROM TOXOPLASMA GONDII IN PORK, BEEF AND LAMB MEAT AT RETAIL IN CANADA USING MAGNETIC CAPTURE DNA EXTRACTION AND QPCR**

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**Abstract Content:** *Toxoplasma gondii* is a parasite with multiple public health implications worldwide. Ingestion of undercooked meat is one of the multiple transmission routes involved in human toxoplasmosis. The Canadian's exposure to *T. gondii* via meat products is expected to be low, given the current biosecurity measures applied at the farm level. However, the data required to assess this risk are either non-existent or outdated among different meat commodities. This project aims to estimate the prevalence and to quantify *T. gondii* in pork, beef and lamb retail meat in Canada. Sampling began in September 2015 and will take place over an 8 months' period. In collaboration with the Canadian Integrated Program for Antimicrobial Resistance Surveillance (CIPARS), retailed meat samples (~100g) are purchased in food stores across Canada. Approximately 300 samples of each commodity will be included in the study. To date, 483 meat samples have been collected. Meat juice from pork and lamb samples were screened for antibodies against *T. gondii* using a commercial ELISA kit. A qPCR was subsequently performed on seropositive samples to detect and quantify the parasite. To increase detection sensibility, a magnetic capture DNA extraction technique (adapted from Opsteegh et al. (2010)) was performed prior to qPCR. To date, all pork samples tested (n = 190) were negative in ELISA on meat juice. Out of the 62 beef samples analysed so far with qPCR, one has been found positive (prevalence 1.61%, exact confidence interval 0.04% < P < 8.66%) with a very low concentration of *T. gondii* DNA. This project will provide essential data for the refinement of a risk assessment model which is central in the ongoing modernization of the Canadian Food Inspection Agency risk management system and will enrich the knowledge on the role of meat in the transmission of toxoplasmosis in the Canadian population.

**Disclosure of Interest:** None Declared

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