

## PORK SAFETY

**Title:** Serological Analysis of *Toxoplasma gondii*, *Trichinella spiralis* and *Salmonella enterica* among niche market antimicrobial-free and conventionally reared pigs - **NPB-04-108**

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### Abstract:

The objective of the proposed project was to determine and compare *Toxoplasma* and *Trichinella* infection in the two swine production systems and evaluate history of *Salmonella* infection based on serological analysis. A total of 675 serum samples from all the three participating states: Wisconsin, North Carolina and Ohio were included. We found significantly higher seroprevalence of *Salmonella* and *Toxoplasma* from antimicrobial-free (ABF) herds (54% and 7% respectively) than conventional (41% and 1% respectively) ( $p=0.001$ ). Two pigs, both from ABF herds, were found to be positive for *Trichinella*. The results from this preliminary study enabled us to understand that all the three pathogens were more commonly present in pigs that were reared in antimicrobial-free, out-door, niche-market type of environment than the commercial conventional indoor types of herds. This warrants the need for a robust epidemiologic study to determine the role of various production factors in the two production systems on the safety and wholesomeness of pork products, particularly on the persistence of bacterial (*Salmonella*) and parasitic (*Trichinella* and *Toxoplasma*) pathogens.

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