

OCCURRENCE OF *YERSINIA ENTEROCOLITICA* IN LYMPH NODES AND TONSILS OF FATTENING PIGS AND SOWS IN A SLAUGHTERHOUSE IN SOUTHERN BRAZIL

Authors: Patrícia Moises Davila Battistella^{1*}, Paulo Rogério Franchin², Cleide Rosana Werneck Vieira¹, Roberto Degenhardt²

Institution: ¹Federal University of Santa Catarina, Agrarian Science Center, Posgraduate Program in Food Science, Admar Gonzaga Street, 1346, Itacorubi, Florianópolis, Santa Catarina, Brazil

²University of West of Santa Catarina, Getúlio Vargas Street, 2125, Flor da Serra, Joacaba, Santa Catarina, Brazil

Abstract

Yersinia enterocolitica is an important foodborne enteropathogen and is capable of causing a wide variety of clinical symptoms ranging from mild gastroenteritis to invasive syndrome as terminal ileitis and mesenteric lymphadenitis. In many cases, the symptoms are not severe, but the costs and loss of working days can cause a high economic impact. *Yersinia enterocolitica* is of particular concern for consumers' safety because it is capable of significant growth in food stored at refrigeration temperatures without apparent signs of spoilage. Although these bacteria have been isolated from various vertebrate animals and pigs are the main reservoirs and have often been isolated from the surface carcasses, which is probably due to the spreading of microorganisms via feces, intestine or contamination of the oral cavity during slaughter and evisceration procedures. The aim of the present study was to investigate the occurrence of *Yersinia enterocolitica* in 50 fattening pigs and 50 sows. Sub maxillary, mesenteric, inguinal or retro-mammary lymph nodes and tonsils were sampled from each carcass, totaling 400 samples. Of these, 6 inguinal or retro-mammary lymph nodes, 1 mesenteric lymph node, and 1 tonsil presented positive results for the bacteria. All positive samples were found in fattening pigs, which corresponded to 16% positive results. The contamination in the sows was not observed. According to others research, pigs infected early on farms may excrete the microorganism for a period of up to 2 months, and later found to be negative. Some authors confirmed this decline in a study on pigs fed diets containing the microorganism, in which the contamination levels declined after 70 days. Both the ISO 10273:2003 and BAM methodologies were assessed and the ISO presented better performance for this microorganism. Therefore, appropriate research and quantitative methodologies that reflect the reality of slaughterhouses are required to prevent unnecessary actions and expenses with overestimated results, and to assess the microbial contamination potential.

Keywords: Pig, Lymph nodes, Contamination, *Yersinia enterocolitica*