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Enterococci as indicator of potential growth of Salmonella in fresh minced meat at retail - DTU Orbit (08/11/2017)

Enterococci as indicator of potential growth of Salmonella in fresh minced meat at retail

The present study had the purpose of demonstrating a positive correlation between enterococci and Salmonella in minced pork and beef. Data from 2001 to 2002 from retail minced pork and beef in Denmark were used and the association between concentration of enterococci and prevalence and concentration of Salmonella was examined. A total of 2187 and 2747 samples of minced pork and beef, respectively, were collected from butcher shops and supermarkets throughout the country. In pork, 2.1% of all samples were positive for Salmonella whereas 1.5% of beef samples were positive. Among samples with ≥100 CFU/g of enterococci, prevalence of Salmonella positive samples was 3.4%, which was significantly higher than 1.2% observed in minced meat with less than 100 CFU/g of enterococci (P <0.001). A positive association between occurrence of enterococci and presence of Salmonella in retail minced meat was supported as both prevalence and concentration of Salmonella in positive samples increased with increasing concentrations of enterococci in minced meat. From our data, we suggest that minced meat containing more than 500 enterococci per gram is suspected of having been exposed to temperatures allowing growth of Salmonella. This is to our knowledge the first report, which links presence of an indicator to potential growth of Salmonella.

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