

PFGE characterization of *Salmonella enterica* isolates from pigs at slaughter in Italy

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In 2005-2008, 1,152 samples (451 faecal samples, 451 carcass swabs and 250 tonsils) were collected from 451 finishing pigs at slaughter in Northern Italy. *S. enterica* was isolated from 21.5% of faecal samples, 10.9% of the carcasses and 10.4% of the tonsils. Seventeen different serotypes were identified among 155 *S. enterica* isolates genotyped by PFGE (Pulsed-field gel-electrophoresis) method. The prevalent serotypes were *Derby* (42), *Rissen* (12.3%), *S. enterica* 4,[5],12:1:- (10.3%), *Typhimurium* (7.1%), *London* (4.5%) and *Give* (3.9%). The aim of this study was to investigate the genetic variability among prevalent serotypes of *S. enterica* genotyped by XbaI-PFGE according to standard protocols. Among serotypes *Derby* and *Typhimurium* we observed the highest variability with 6 main profiles per serotype. *S. Derby* was the predominant serotype in faecal samples, carcasses and tonsils, followed by *S. Rissen* on carcasses and in tonsils. PFGE typing was also useful to investigate self-contamination and cross-contamination of pig carcasses. *Salmonella*-positive carcasses were evaluated for positivity in tonsils and intestine. Only in few cases pharyngeal carriers had the same *Salmonella* serotype on their carcasses showing identical PFGE profiles. Similar results were obtained for positive carcasses of intestinal carriers. In addition our data indicated that serotypes and PFGE profiles were diverse within a single slaughtering day with some exceptions that suggest the likely occurrence of cross-contaminations.