

Title Fecal Shedding of Non-0157 Shiga Toxin-producing *Escherichia coli* (STEC) and *Escherichia coli* 0157 in Fattening Pigs at Slaughter in Switzerland

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Abstract

Since a high degree of genetic relatedness between 0101 strains harboring stx2e of human and porcine origin was demonstrated, the role of pigs as asymptomatic carriers of STEC needs further research. Fecal samples from slaughtered fattening pigs were examined by polymerase chain reaction for stx (STEC, n = 458) and *rfbE* (0157, n = 400). Strains were isolated by colony hybridization and were further characterized. The proportion of positive samples was 10% for stx and 7% for *rfbE*. The 32 isolated STEC strains (31 sorbitol-positive) belonged to non-0157 STEC and comprised ten serotypes (08:H9; 065:H-; 0100:H-; 0103:H2; 0141:H17; 0159:H-; ONT:H10; ONT:H19), three of them (09:H-; 0100:H-; ONT:H-) accounting for 69% of strains. Stx1, stx2, and both toxin genes were detected in 3%, 97%, and 0% of strains. Among stx2-positive strains, 29 were positive for stx2e, one for stx2/stx2e, and one for stx2c/stx2e. One strain of serotype 0141 harboring stx2e and *fedA* (fimbria F18) contained a virulence pattern typically associated with diarrhea or oedemic disease in pigs. None of the strains belonged to serogroup 0101, and in only one strain harboring stx1, *eae* (intimin) and *ehxA* (Enterohemolysin), which are strongly correlated with human disease, were identified. Moreover, among the 18 isolated *Escherichia coli* 0157 strains, 17 were positive for sorbitol fermentation, all were negative for stx, and one (sorbitol-negative) was positive for *eae* and *ehxA*. Therefore, the fact is emphasized that *E. coli* with the 0157 antigen are not always STEC.