Antimicrobial susceptibility and occurrence of resistance genes among Salmonella enterica serovar Weltevreden from different countries - DTU Orbit (16/10/2019)

**Antimicrobial susceptibility and occurrence of resistance genes among Salmonella enterica serovar Weltevreden from different countries**

**Objectives:** This study was conducted to investigate the occurrence of antimicrobial resistance among Salmonella Weltevreden isolates from different sources in South-East Asia (Indonesia, Laos, Malaysia, Taiwan, Thailand, Vietnam), Australia, Denmark, New Zealand and the USA. Methods: A total of 503 isolates were examined for susceptibility to antimicrobial agents, and resistant isolates were examined for the presence of selected resistance genes by PCR.

**Results:** Only 48 (9.5%) of the isolates were resistant to one or more of the antimicrobial agents tested. A low frequency of resistance was found towards ampicillin (1.8%), chloramphenicol (1.6%), florfenicol (0.4%), nalidixic acid (1.6%), neomycin (0.6%), streptomycin (4.4%), sulfamethoxazole (4.2%), tetracycline (4.0%) and trimethoprim (1.4%), whereas all isolates were susceptible to co-amoxiclav, ceftiofur, ciprofloxacin, colistin and gentamicin. All nine ampicillin-resistant isolates contained a sequence similar to the bla(TEM-1b) gene, one of the eight chloramphenicol-resistant isolates a sequence similar to the catA1 gene, all three neomycin-resistant isolates a sequence similar to the aphA-2 gene, 16 (73%) of the 22 streptomycin-resistant isolates a sequence similar to the aadA gene, the remaining six (27%) a sequence similar to the strA gene, and all 21 sulfamethoxazole-resistant isolates a sequence similar to the sul2 gene. Thirteen (65%) of the 20 tetracycline-resistant isolates contained the tet(A) gene, four (20%) the tet(B) gene, and one (5%) the tet gene.

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