

## Detection of Escherichia coli O157:H7 prevalence in foods of animal origin by cultural methods and PCR technique

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### Abstract

A total of 250 samples (50 each of beef, mutton and chicken and 50 samples each of beef swabs and mutton swabs) collected from various sources were subjected to PCR and cultural methods for the presence of Escherichia coli O157:H7. Primers for hlyA, stx1 & 2 genes were used for the detection of Escherichia coli O157:H7 and shiga toxins respectively. Out of 250 samples, 27 showed presence of Escherichia coli O157:H7 (5 beef, 6 beef swabs, 2 mutton, 12 mutton swabs and 2 chicken out of 50 samples each) by PCR where as only 11 samples (one beef, 2 beef swabs, 1 mutton, 6 mutton swabs and one chicken sample) were positive by cultural method. Of the 27 Escherichia coli O157:H7 positive samples by PCR, 12 showed stx1, 7 showed stx2 and 5 showed both stx1 and stx2. The sensitivity of PCR method for Escherichia coli O157:H7 was 1.7cfu. Enrichment with mTSB broth containing novobiocin gave good results compared to mEC broth with novobiocin by both PCR and cultural methods.

Keywords: Escherichia coli O157:H7, PCR, Laboratory Technique, Prevalence, Cultural method.