# **Titre d’article**: Research and characterization of Escherichia coli O157 strains isolated from ovine carcasses of two slaughterhouses of Algiers city

**Abstract :**

Abstract. Objective: This study aims to identify and characterize Escherichia coli O157 strains isolated from ovine carcasses of two slaughterhouses of Algiers city. Material and method: One hundred and fifty-one (151) parts of sheep carcasses were swabbed by a non-destructive method based on double swabbing process (wet/dry) at two slaughterhouses of Algiers city for the identification and investigation of E. coli O157 strains. The E. coli O157: H7 isolation required a non-selective enrichment step followed by one of immuno-concentration of the bacteria throughout the immunomagnetic separation (IMS) technique and another one for bacteria isolation (on CT-SMAC agar - Cefixime Tellurite Sorbitol–MacConkey). The presence of O157 somatic antigen and H7 flagellar antigen in the isolated suspicious doubtful colonies was confirmed by the anti-O157 latex and H7 antiserum agglutination assays. Confirmation of the virulence of the isolated E. coli O157: H7 strain was obtained performed by gene amplification (PCR – Polymerase Chain Reaction). Results: The presence of E. coli O157: H7 was shown in eleven ovine carcasses out of the 151 tested with a prevalence rate of 7.26%. Nine of these carcasses came from the first slaughterhouse and two of them from the second one. Amongst the eleven positive carcasses, thirteen strains of E. coli O157: H7 were isolated: ten strains are sorbitol and β-glucuronidase-negative, and three of them are sorbitol and β-glucuronidase-positive. Among them, seven strains (53.85%) showed an eae stx2 pathotype, one strain (7.69%) showed eae stx1 pathotype, one strain (7.69%) showed the eae pathotype, and three strains (23.08%) showed stx2 pathotype. Only one strain (7.69%) had no gene encoding the virulence factors. Conclusion: The obtained results revealed that sheep are carriers of E. coli O157: H7 in Algeria. Appropriate hygiene and control measures at the slaughterhouse level must be implemented to provide a safe product for the consumer.