

The Prevalence of Verocytotoxin-Producing Escherichia Coli O157 (VTEC) in Dairy Cattle in Tripoli Area, Libya

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Abstract : Infection with verocytotoxin-producing Escherichia coli O157 in humans can lead to mild or bloody diarrhea with the hemolytic uremic syndrome (HUS) as a possible complication. Cattle appear to be important reservoirs for VTEC O157. Epidemiologic studies on the prevalence of VTEC O157 in dairy cattle in Libya have never been conducted. To investigate the prevalence and the risk factors associated with VTEC O157 on dairy farms in Tripoli region, fecal samples from 200 apparently healthy cows were collected once from 15 randomly selected dairy farms in the period July 2010 through September 2010. All fecal samples were examined for the prevalence of VTEC O157 by conventional plating using Sorbitol-MacConkey agar (SMAC). Isolated of E. coli were subjected to slide agglutination test using E. coli O157 antiserum. The results pointed out that the prevalence within-herd and among herds were 9% and 60% respectively. The prevalence of VTEC O157 in fecal samples of dairy cattle was significantly associated with husbandry practices on farm-level such as signs of diarrhoea ($p=0.02$, $OR=3.2$) and sharing water trough ($p= 0.03$, $OR=3.0$). It was concluded that dairy cattle in Tripoli area are important reservoirs of VTEC O157 strains that are potentially pathogenic for humans. When aiming at reducing risks for human by intervention at farm-level, it is of importance to reduce the number of positive animals and farms. For this, more research is needed to devise mitigation strategies that will reduce the on-farm contamination of VTEC O157.

Keywords : VTEC O157, prevalence, dairy cattle, tripoli

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