Microbiological Evaluation of Some Edible Bovine By-products

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Abstract:

Microbiological evaluation of edible bovine by-products (intestine, lung, rumen meat, head flesh, heart, tongue, kidney and liver) commonly consumed in Assiut city, Egypt were determined by enumerating total viable bacterial count (TVBC), total enterobacteriaceae count, yeast and mold contaminants and determine the presence of Salmonella spp. and E. coli O157:H7 organisms. The obtained results showed that the mean TVBC of intestine, lung, rumen meat, head flesh, heart, tongue, kidney and liver were 9×10⁶, 14×10⁶, 6×10⁷, 8×10⁷, 9×10⁶, 7×10⁶ and 5×10⁶ cfu/g, respectively. While, the mean enterobacteriaceae count of intestine, lung, rumen meat, head flesh, heart, tongue, kidney and liver were 3×10⁶, 3×10⁶, 3×10⁷, 4×10⁶, 7×10⁵, 3×10⁶, 3×10⁶ and 3×10⁶ cfu/g, respectively. Furthermore, the mean total fungal count of intestine, lung, rumen meat, head flesh, heart, tongue, kidney and liver were 3×10⁴, 8×10⁴, 2×10⁴, 6×10⁴, 1×10⁴, 7×10⁴, 9×10⁵ and 8×10⁴ cfu/g, respectively. Two S. enteritidis could be isolated from intestine and lung samples. One isolate of S. typhimurium was detected in intestinal sample. E. coli 157:H7 contamination was found in intestine, lung, rumen meat and head flesh, respectively. The results of this study show that edible bovine by-products are crosscontaminated by E. coli 0157:H7, S. enteritidis and S. typhimurium and thus may pose potential risk for public health. It is recommended that hygiene improvements are needed in the establishments selling edible bovine by-products to protect public health.

Keywords:

Microbiological evaluation, Edible Bovine Byproducts, Salmonella spp., E. coli 0157:H7

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