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# MICROBIOLOGICAL CONTAMINATION OF BEEF MEAT FROM SELECTED RUMINANT ABATOIRS IN MALAYSIA

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## ABSTRACT

Beef meat is a highly nutritious source of animal protein that is ideal for the growth of most microorganisms. Microbiological contamination of meat can lead to spoilage and food borne infection, resulting in health and economic losses. The aim of this study is to assess the microbiological contamination of beef meat from ruminant abattoirs in Malaysia. A total of 68 beef meat samples were collected during February to November 2018 from six ruminant abattoirs in three states of Malaysia (Selangor, Negeri Sembilan and Melaka). All the samples were subjected to aerobic plate count (APC), coliform and E.coli count as well as Salmonella detection. The results revealed that the average value for aerobic plate count for the total of 68 samples was 3.81 x 105 CFU/g. Coliform was detected from 52.9% of total samples with the average reading of 1.55 x 102 CFU/g while E. coli was isolated from 23.5% of total samples with an average reading of 5.3 x 101 CFU/g. A total of 4 samples (5.9%) were tested positive for the presence of Salmonella spp. Moreover, 1.5% of samples exceeded the permissible limit for APC (106), 3% for coliform count (103), 4.4% for E.coli count (102) and 5.9% for Salmonella. This study showed the microbiological contamination of locally produced beef in Malaysian abattoirs. More efforts from the related authorities are still needed to ensure the safety and quality of locally produced beef.

**Keywords**: Beef meat, ruminant abattoirs, aerobic plate count (APC), coliform, E.coli, Salmonella spp.