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Microbiological Evaluation Of Slaughtering And Hygienic Practices In Local Abattoir Of Pakistan During Covid Scenario

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Background:

Fresh meat is a more perishable product because it's a rich source of nutrients, and unsanitary processing methods can produce an atmosphere conducive to the development of spoilage microorganisms and foodborne pathogens. Therefore, the present study aimed to analyze the microbial profile of meat and processing equipment at a local abattoir. A total of 224 samples, including 70 meat samples from cattle carcasses and 154 swab samples from processing equipment, were collected at different steps of the processing line of an abattoir and were used for 7 days. For microbial profile determination, the sample was homogenized in buffered peptone water, and the homogenate was used for bacteriological evaluation using relevant agar at appropriate conditions. After incubation, microorganism growth was studied on the Quebec colony counter. The results showed that the total plate count, coliform count, and E. coli count of meat were significantly high ($P<0.05$) on the 2nd, 7th, 6th and 7th day of the study compared to the other days. Bacteriological examination of equipment showed a higher total plate count in walls; the lowest was observed in the brisket cutter ($P<0.01$) compared to other equipment. The Staphylococcus aureus counts and meat pH remained unchanged ($P>0.05$), and salmonella was not detected in meat samples on different days of analysis. Equipment analysis revealed no effect ($P>0.05$) of the processing equipment on coliform and staphylococcus aureus counts. In addition, salmonella and E. coli were not detected in the samples from different equipment. Similarly, on different days, the total plate count, E. coli, salmonella, coliform and staphylococcus aureus counts were similar ($P>0.05$). It can be concluded that the slaughtering process in the local abattoir is done in hygienic conditions. This study enlightens the pathway for the preparations of SOPs at the abattoir and future studies.

Biography

Dr. Sher Ali, Assistant Professor in the Department of Meat Science and Technology, University of Veterinary & Animal Sciences Lahore, Pakistan, holds B.Sc. (Hons.) and M.Sc. (Hons.) degrees in Food Science & Technology from the University of Karachi, Pakistan. In 2011, he won a grant to pursue Ph.D. under the overseas Ph.D. program of the Chinese Scholarship Council and completed his Ph.D. with distinction in 2015 from Nanjing Agricultural University, China. In 2015, he joined as Assistant Professor in the Department of Meat Science and Technology, UVAS. Dr. Sher Ali is an meat science and technology expert and has several SCI publications in renowned peer-reviewed journals. Furthermore, he has expertise in meat quality, Safety and nutrition

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