

Effects of Marinating with Cashew Apple Extract on the Bacterial Growth of Beef and Chicken Meat

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Abstract : Meat is a foodstuff of animal origin. It is perishable because a suitable medium for bacterial growth. That is why meat can be a potential hazard to humans. Several ways have been done to inhibit bacterial population in an effort to prolong the meat shelf-life. However, aberration sometimes happens in the practices of meat preservation, for example by using chemical material that possessed strong antibacterial activity like formaldehyde. For health reason, utilization of formaldehyde as a food preservative was forbidden because of DNA damage resulting cancer and birth defects. Therefore, it is important to seek a natural food preservative that is not harmful to the body. This study aims to reveal the potency of cashew apple as natural food preservative by measuring its antibacterial activity and marinating effect on the bacterial growth of beef and chicken meat. Antibacterial activity was measured by The Kirby-Bauer method while bacterial growth was determined by total plate count method. The results showed that inhibition zone of 10-30% cashew apple extract significantly wider compared to 0% extract on the medium of *E. coli*, *S. aureus*, *S. typhi*, and *Bacillus* sp. Furthermore, beef marinated with 20-30% cashew apple extract and chicken meat marinated with 5-15% extract significantly less in the total number of bacteria compared to 0% extract. It can be concluded that marinating with 5-30% cashew apple extract can effectively inhibit the bacterial growth of beef and chicken meat. Moreover, the concentration of extracts to inhibit bacterial populations in chicken meat was reached at the lower level compared to beef. Thus, cashew apple is potential as a natural food preservative.

Keywords : bacterial growth, cashew apple, marinating, meat

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