

Quality of Bali Beef and Broiler after Immersion in Liquid Smoke on Different Concentrations and Storage Times

Authors : E. Abustam, M. Yusuf, H. M. Ali, M. I. Said, F. N. Yuliaty

Abstract : The aim of this study was to improve the durability and quality of Bali beef (*M. Longissimus dorsi*) and broiler carcass through the addition of liquid smoke as a natural preservative. This study was using *Longissimus dorsi* muscle from male Bali beef aged 3 years, broiler breast and thigh aged 40 days. Three types of meat were marinated in liquid smoke with concentrations of 0, 5, and 10% for 30 minutes at the level of 20% of the sample weight (w/w). The samples were storage at 2-5°C for 1 month. This study designed as a factorial experiment 3 x 3 x 4 based on a completely randomized design with 5 replications; the first factor was meat type (beef, chicken breast and chicken thigh); the 2nd factor was liquid smoke concentrations (0, 5, and 10%), and the 3rd factor was storage duration (1, 2, 3, and 4 weeks). Parameters measured were TBA value, total bacterial colonies, water holding capacity (WHC), shear force value both before and after cooking (80°C - 15min.), and cooking loss. The results showed that the type of meat produced WHC, shear force value, cooking loss and TBA differed between the three types of meat. Higher concentration of liquid smoke, the WHC, shear force value, TBA, and total bacterial colonies were decreased; at a concentration of 10% of liquid smoke, the total bacterial colonies decreased by 57.3% from untreated with liquid smoke. Longer storage, the total bacterial colonies and WHC were increased, while the shear force value and cooking loss were decreased. It can be concluded that a 10% concentration of liquid smoke was able to maintain fat oxidation and bacterial growth in Bali beef and chicken breast and thigh.

Keywords : Bali beef, chicken meat, liquid smoke, meat quality

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