

2nd International Conference on

FOOD CHEMISTRY & NUTRITION

July 24-26, 2017 Vancouver, Canada

Organoleptic characteristics of refrigerated beef pre-marinated with garlic

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This study was conducted to evaluate the effect of garlic marination on the organoleptic characteristics of stored beef. Clean fresh beef was purchased from the slaughterhouse in Kabba town 1 h post-slaughter, diced into equal cubes of 100 g each and randomly allotted to four treatments. These include: T1 (fresh beef stored at $\pm 4^{\circ}\text{C}$ as negative control), T2 (fresh beef treated with garlic extract and stored at $\pm 4^{\circ}\text{C}$), T3 (fresh beef treated with garlic powder and stored at $\pm 4^{\circ}\text{C}$) and T4 (fresh beef stored at -18°C as positive control). Each treatment contained three replicates with fourteen (14) cubes per replicate. Samples were stored for seven (7) days and sensory analysis was performed on days 1, 3 and 7. Panelists consisting of seven (7) untrained members were recruited from among the students and staff of Kabba College of Agriculture to assess the beef using five point, six point and seven point (7) hedonic scale for color, odor and acceptability respectively. Data was subjected to ANOVA using GLM Procedure of SAS for complete randomized design. There was marked discoloration ($P=0.0004$) in the negative control samples compared with the positive control and samples treated with garlic. Odor of spoilage was also more intense in the negative control samples. Overall, samples stored at -18°C had the best color, odor and highest acceptability. However, this study showed that treatment of beef with either garlic powder or water extract of garlic can improve its keeping quality when stored at 4°C .

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