B-38: Preparation of ready to eat barbecue chicken product

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In this study, 2 experiments were conducted. The same barbecue sauce and broiler chicken drumsticks were used. In experiment I sauce was injected into chicken (sample X) and chicken was dipped in sauce (sample Y) (same volume of barbecue sauce was used). Salt and water were injected into chicken (sample Z, control). Treated samples were matured (18°C for 20 h), smoked (70°C for 40 min) and baked (150°C for 1 1/2 h). Then samples were stored at 0°C and 18°C. Objective measurements such as pH, loose water content, TBA value and shear force were taken at 3 day intervals for 12 days. pH values increased slightly in all samples with storage. During storage, loose water content increased significantly in all samples. The highest increase (3.25 to 5.72%) was found in sample Z, stored at 0°C and the lowest increase (3.175 to 5.2%) was found in sample Y stored at 18°C. TBA values of all samples increased during storage. TBA values increased more rapidly in treatment X at 0°C (from 0.1170 to 0.4446) than other treatments. Shear values of all samples decreased slightly during storage. Bacterial counts on the day of preparation were higher in sample Z (Total colony counts (TCC) = 3.7×10^7/g food, presumptive coliform counts (PCC) = 240/100ml). Bacterial counts were lowest in sample Y (TCC = 7×10^4/g and PCC=4/100 ml).

A taste panel was conducted on the day of preparation. There was only a slight difference between treatments. But sample Y received highest median value for general acceptabilty. The colour of the product was too dark.

Experiment II was conducted to overcome that problem, by reducing the levels of soya sauce cooking sauce and tomato sauce by half. In sample A, only the levels of sauce were reduced. Saltpetre was added to the barbecue sauce in sample B. The vinegar level was increased upto 30% in sample C. The prepared barbecue chicken was stored at 18°C. Objective measurements were taken at 3 day intervals. pH values increased slightly in all samples during storage. Loose water content of all samples increased significantly during storage, having the highest increase in sample A (7.82 to 24.5%) and the lowest increase in sample B (9.65 to 20.1%). During storage, TBA

values of all samples increased significantly, highest increase in sample B (0.117 to 0.6552) and lowest increase in sample Y (0.0234 to 0.5538). Shear values of all samples decreased significantly during storage. Shear value decreased more rapidly in treatment Y (2.85 to 1.7) than in other treatments. Bacterial counts were highest in sample A (TCC = 2.8×10^5/g food and PCC = 1100/100ml) and lowest in sample B (TCC = 1×10^4/g food and PCC = 0) on the day of preparation. Treatment B received the highest scores for all quality characteristics in the taste panel conducted on the day of preparation.