

ABSTRACT

A Preliminary Investigation Into The Utilization Of Shark Muscle In Sausage Production

Helen Margaret Kennedy

Fish and fish products represent a relatively cheap source of protein; high in biological value, vitamins and minerals; low in fat and cholesterol (Campbell, 1975; Horn, 1986) but unfortunately, Trinidad and Tobago are marked by low consumption levels (FAO, Santiago, 1986). This problem may be addressed, at least in part, by incorporating underutilized fish species into high quality processed products.

Thus, the possible utilization of edible muscle of the Blacktip/Blackfin shark (Carcharhinus limbatus) in the production of a coarse ground, cooked sausage was investigated. A Kenwood Chef grinder/mixer was used in the sausage batter preparation. The fillets were ground through a 1.25 cm plate followed by the incorporation of the salt, spice, sodium nitrite, sodium acid pyrophosphate, binder (corn or cassava starch) and vegetable shortening. The final mixture was then stuffed into synthetic casings and sealed with 4-ply cotton thread. The sausages were immediately heat processed in water at 85⁰ C for 20 minutes, then 90⁰ C for 50 minutes and cooled in ice water for 40 minutes. After draining, they were packaged in polythene bags and stored at 0-2⁰ C.

A Consumer Preference Evaluation study was employed in the investigation of the effect of the addition of different levels of fat and different types and levels of starch on the organoleptic quality attributes of aroma, taste, texture/mouthfeel and overall acceptability. Proximate chemical and microbiological analyses were also performed on the sausage samples.

The use of 5% and 10% vegetable shortening and 0%, 5% and 10% corn and cassava starch did not significantly affect aroma or taste but created significant differences in texture/mouthfeel and overall acceptability, as perceived by 35 consumers. Consumers showed a definite preference for those formulations which contained a 5% addition of both vegetable shortening and starch. The incorporation of salt and spices which were calculated on the basis of the weight of the ground fish and sodium acid pyrophosphate and sodium nitrite which were calculated on the basis of the weight of the sausage product, was a satisfactory means of obtaining a relatively constant taste and aroma and product stability of up to 4 weeks at 0-2 °C.