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Effect of Citric Acid and Clove on Cured Smoked Meat: A Traditional Meat Product

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Abstract : Smoking of meat enhances the taste and look of meat, it also increases its longevity, and helps preserve the meat by slowing down the spoilage of fat and growth of bacteria. The Lean meat from the forequarter of beef carcass was obtained from the Maiduguri abattoir. The meat was cut into four portions with weight ranging from 525-545 g. The meat was cut into bits measuring about 8 cm in length, 3.5 cm in thickness and weighed 64.5 g. Meat samples were washed, cured with various concentration of sodium chloride, sodium nitrate, citric acid and clove for 30 min, drained and smoked in a smoking kiln at a temperature range of 55-600°C, for 8 hr a day for 3 days. The products were stored at ambient temperature and evaluated microbiologically and organoleptically. In terms of processing and storage there were increases in pH, free fatty acid content, a decrease in water holding capacity and microbial count of the cured smoked meat. The panelists rated control samples significantly ($p < 0.05$) higher in terms of colour, texture, taste and overall acceptability. The following organisms were isolated and identified during storage: Bacillus specie, Bacillus subtilis, streptococcus, Pseudomonas, Aspergillus niger, Candida and Penicillium specie. The study forms a basis for new product development for meat industry.

Keywords : citric acid, cloves, smoked meat, bioengineering
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