NUTRITIONAL AND SENSORY EVALUATION OF CHICKEN SAUSAGE INCORPORATED WITH SWEET POTATO FLOUR.

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ABSTRACT

This study explores the nutritional, sensory, and microbial qualities of chicken sausages incorporating sweet potato flour (SPF) as a sustainable binder and fiber source. The research aimed to develop a healthier sausage variant by substituting conventional binders (0–100%) with SPF. Proximate analysis revealed that SPF-enhanced formulations significantly increased dietary fiber content (up to 3% in 100% SPF) while reducing fat levels, maintaining acceptable protein concentrations. Physicochemical evaluations demonstrated improved cooking yields (up to 92.4%) and water-holding capacity, though higher SPF levels (75–100%) slightly elevated cooking loss. Texture profile analysis indicated retained hardness and elasticity across treatments, with 25% SPF (T_1) achieving the highest sensory scores for flavor, color, texture and overall acceptability. Sensory evaluations highlighted consumer preference for moderate SPF incorporation, as higher substitutions altered texture and color. Microbial analysis revealed increased total plate counts in SPF-rich treatments, emphasizing the need for optimized preservation techniques. The study concludes that SPF, particularly at 25% substitution, enhances nutritional value without compromising sensory appeal, offering a viable gluten-free alternative for healthier processed meats. Further research is recommended to address microbial stability, optimize formulations for industrial scalability, and validate health benefits through clinical studies. This innovation aligns with global trends toward functional foods, leveraging local agricultural resources to improve dietary fiber intake and reduce reliance on imported ingredients.

Keywords: Chicken sausage, sweet potato flour, Nutritional enhancement, Sensory evaluation, Microbial stability.

TABLE OF CONTENT