



QUALITY EVALUATION AND SENSORY PROPERTIES OF *AGIDI* PRODUCED FROM BLENDS OF MAIZE (*ZEA MAYS*) AND PIGEON PEA (*CAJANUS CAJAN*)

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ABSTRACT

Agidi is a traditional fermented starchy food which is smooth-textured, semi-solid (gel-like) with creamy glassy white color cooked from wet-milled and wet-sieved maize paste. It is rich in carbohydrate but low in protein resulting in protein-energy malnutrition. Pigeon pea is a legume with rich source of protein (20-24%), essential amino acids (Lysine, methionine, tryptophan) and fibers. It has remarkable nutritional profile and health benefits. It is an underutilized crop from the family of Leguminosae (*Fabaceae*) and a good alternative for improving the protein content and nutritional value of carbohydrate dense food products. The influence of 25 %pigeon pea substitution with maize in the processing of 'agidi' was studied producing five samples coded A (100% Maize (control), B (75% Maize and 25% Pigeon pea), C (50% Maize and 50% pigeon pea), D (25%Maize and 75% Pigeon pea), E (100% Pigeon pea) and analyzing the nutritional quality and sensory properties in order to further exploit the functionality and acceptability of 'agidi'. Comparing control (100% maize) and sample E (100 % pigeon pea), significant ($p < 0.05$) differences were observed in terms of the nutritional quality. Sample E has a smaller values of moisture (9.55 %), viscosity (150 Cps,) with a higher protein content (19.50 %), calcium (212.50 mg/100g), potassium (285.50 mg/100g), Iron (1.16 mg/100g), saponin (0.207 mg/g), a slightly decreased sour taste, flavor and mouth-feel intensity with the addition of pigeon pea, and with an important nutritional intake (ash: 0.75%, protein: 19.50%, crude fiber: 13.70%). Hence, combining pigeon pea with maize in the processing of 'agidi' at the substitution level up to 25% did not vary much from the control (100% maize) and was highly accepted by the consumers.
