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MICRONUTRIENT, PHYSICOCHEMICAL AND ACCEPTABILITY RESPONSES OF "MOI-MOI" AS A FUNCTION OF COWPEA (*VIGNA UNGUICULATE L. WALP*) PARTIAL SUBSTITUTION WITH YELLOW MAIZE

I. N. Okwunodulu[1]✉, C. C. Osuagwu[2], A. U. Onwuzuruike[3], S. C. Ubbor[4]

[1,2,3,4]*Department of Food Science and Technology, College of Applied Food Sciences and Tourism, Michael Okpara University of Agriculture, Umudike, Abia State, Nigeria.*
✉*ncntokwu@yahoo.com*

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ABSTRACT

Neither legume nor cereal alone can meet all the nutrient needs of the body to prevent hidden hunger including bone health and development except when both complement and supplement each other. This study aimed at investigating the nutritional and acceptability changes of "moi-moi" from cowpea partially substituted with yellow maize in the ratios of 95: 5, 90: 10 and 80: 20%. The "moi-moi" produced with 100% cowpea served as control. Proximate, mineral, vitamin and physicochemical composition were investigated on both substituted and control with standard methods while sensory characteristics were evaluated subjectively with 20 untrained panellists. With increasing substitution levels of yellow maize, there were significant ($p<0.05$) decrease (lower than the control) in moisture (47.27-32.37%), crude protein (20.09-18.94%), and fat (10.02-8.66%). While ash content (1.45-1.73%), crude fibre (1.38-1.46%) and carbohydrate (18.86-36.85%) increased more than the control. Vitamin A (1.39-1.82 µg/100g) increased significantly ($p<0.05$) more than the control while vitamin C (0.06-0.04 mg/100g had no significant decrease. Mineral contents increased significantly ($p<0.05$) from 17.30-19.06 mg/100g, 12.44-13.43 mg/100g and 7.48-9.42 mg/100g for calcium, magnesium and phosphorous respectively more than their respective controls. The pH (6.12-6.00) and colour intensity (0.12-0.15) decreased significantly ($p<0.05$) lower than their respective controls. Acceptability decreased with yellow maize substitution level increase. The "moi-moi" produced with 100% cowpea had the best organoleptic properties (7.80) followed by 5% yellow maize substitution (6.85). Nutrient composition, calcium to phosphorous ratio, negative correlation of vitamin C with minerals and acceptability changed with increasing yellow maize substitution for all the substituted samples.