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Proximate And Phytochemical Properties of Bread Produced from Pro-Vitamin A Rich Cassava, Africa Walnut and Tigernut Composite Blends

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Abstract

Pro vitamin A rich sources such as; cassava, Africa walnut and tigernut composite flour were used in the production of bread, where 100 % pro vitamin A rich cassava bread coded AP stands for (-ve control) sample HP had a formulation ratio of (90:5:5 %) while, sample IP produced from 100 % wheat flour serves as the positive control sample respectively. the pro vitamin A rich bread samples were analyzed for its proximate and phytochemicals properties. The results obtained for proximate composite of the bread samples had a moisture content ranged from (21.04 – 23.42 %), ash (1.55 - 3.45 %), crude fibre (2.33 - 2.96 %), crude fat (4.33 - 8.27%), crude protein (7.51 - 11.89 %) and carbohydrate (52.41 – 59.89 %) which showed that there was a significant difference among the samples coded HP, AP and IP at (P<0.05) level of probability, which revealed that sample HP were significant in terms of ash, fiber, Fat and protein content and most highest in proximate composition with low moisture content compared with sample AP and IP respectively. The results the phytochemical properties of composite bread samples revealed that phenolic content had a mean value ranged from (803.89 - 905.70 µg), tannin (107.60 - 147.65 µg), flavonoid content ranged from (201.78 - 339.85 µg), glycoside (1.83 – 1.83 %), alkaloid (3.23 - 3.54 %) and saponins (5.00 - 5.06 %) where sample HP had the highest mean value of phenol, tannin, flavonoids and glycoside, this properties could provide additional health benefits to the consumers. A bread prepared from a blends of Pro-vitamin A rich cassava, Africa walnut and tigernut flour could potentially be used to address protein-energy malnutrition and hence reduce the risk of vitamin A deficiency among vulnerable groups especially in developing countries.

Key words: Pro vitamin A rich cassava, Africa walnut, Tigernut, phytochemical, antioxidant and proximate composition.

