



Sensory Properties, Proximate composition and Overall Acceptability of Selected Fortified Local Snacks

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Extended Abstract

Introduction:

In Nigeria, local snacks have seen a surge in popularity recently due to their distinctive flavours, simple preparation methods, and low cost. Frequently seasoned with ingredients like pepper, onions, and various spices, they offer a unique taste and aroma (Obadina et al., 2015). Despite their ubiquity, detailed information on their sensory profiles and chemical makeup is scarce,

Materials and Method

Materials include cowpea, maize, water yam, groundnut, vegetable oil, seasoning cubes, salt, garlic, dry pepper, and onions purchased at Oja-Odan local market, Yewa North Local Government Area, Ogun state. Equipment was drawn from household source. The data was analyzed using both descriptive and inferential statistics, including ANOVA using SPSS version 23.0. The proximate composition would be interpreted based on AOAC (2010) guidelines, and statistical significance was tested using Duncan's Multiple Range Test.

Results and Discussion

Sensory scores for the samples fell within the following ranges: color (7.44–8.00), appearance (7.58–8.04), aroma (7.56–7.85), taste (7.38–8.02), mouthfeel (7.44–7.94), texture (7.52–7.88), and overall acceptability (7.66–8.14). Notably, the unfortified akara (NAK) sample consistently scored high for colour, appearance, mouthfeel, texture, and overall acceptability. Proximate composition varied significantly among the snacks. Moisture content ranged from 8.70% to 69.87%, and dry matter from 30.14% to 91.30%. Fat content spanned 4.94% to 36.70%, ash 0.68% to 3.99%, crude fiber 0.25% to 8.31%, crude protein 3.25% to 16.71%, and carbohydrates 9.75% to 37.86%. Among the fortified samples, the non-spiced akara (NDK) exhibited the highest dry matter and fat

Sensory Properties of samples

For **colour**, the ratings varied from 7.44 to 8.00, depending on the sample. Sample NAK (normal akara) had the highest score, likely influenced by the frying time and choice of ingredients. The lowest score was recorded for sample FKL (fortified kulikuli). The differences in color across samples were statistically significant and align with findings by Supatchalee, Apinya, & Apinya (2019). The **appearance** scores



ranged from 7.80 to 8.44. Again, NAK (normal akara) received the highest rating, while FKL (fortified kulikuli) had the lowest. This outcome is consistent with the results reported by Ajayi & Ojusa (2018).

Proximate Properties of samples

Proximate composition of spiced snack samples shows the mean values of dry matter across all samples ranged from 30.14% to 91.30%, highlighting substantial differences between them. Sample **NDK** had the highest mean dry matter content (91.30%), whereas **NOJ** recorded the lowest (30.14%). Such variation may also impact visual characteristics of the snacks, as appearance is often influenced by ingredient composition. These findings align with earlier research by Azuku (2015). Fat content also showed marked variation, ranging from 4.94% to 36.70%. These differences were significant ($p < 0.05$) and are consistent with results from Bhat (2015),

Conclusion

This study shows that fortifying local snacks with spices led to increased levels of proximate composition of the samples indicating an improvement in the nutritional composition of the snacks.

Keywords: Dietary diversity, Food processing, Food quality, Ingredients...