

## PHYSICO-CHEMICAL AND SENSORY PROPERTIES OF *KLUIKLUI* SUPPLEMENTED WITH PORANG GLUCOMANNAN AND BANANA FLOUR

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### ABSTRACT

*Kluiklui*, a snack from Benin was made with a high quality, on the basis of increasing indigestible contents, that can be benefits for consumers. In this study, the *kluiklui* were produced by supplemented deoiled peanut paste with native banana flour, or type 3 resistant starch banana flour at levels 4 and 5%, and porang glucomannan (1%). The chemical composition of the flours and formulated *kluiklui*, physical and sensory properties of the formulated *kluiklui* were evaluated using standard methods.

The chemical composition such as moisture, protein, fat, ash, carbohydrates contents and energy values of formulated *kluiklui* ranged from (6.39 to 9.3%), (32.26 to 34.16%), (26.42 to 31.95%), (3.62 to 3.7%), (23.83 to 29.33%), (487.14 to 511.97 kcal) respectively. The flour enriched *kluiklui* were significantly ( $p < 0.05$ ) higher in moisture and fat, while the control was significantly higher in carbohydrate and protein. The flour-enriched *kluiklui* samples were significantly ( $p < 0.05$ ) higher in fat as a consequence of remained fat and frying. The addition of flour increased the indigestible fraction in the *kluiklui*, due to the synergistic presence of certain components, and the sample with type 3 resistant starch banana flour and glucomannan exhibited the highest total indigestible fraction content (30.76%). The same sample exhibited lower fracturability and higher hardness than others. The color values of formulated *kluiklui* showed significant changes, with a darkening of the *kluiklui* surface and a lowered browning index compared to the control. Although the use of flour does not arouse consumer's acceptability. Flour-enriched *kluiklui* was significantly higher in all the sensory attributes considered and was favorably and acceptable.

This study reveals that acceptable and nutritious *kluiklui* can be produced by supplemented with banana flour and glucomannan and confirms their potential as a functional food especially for those are looking for food rich in indigestible fractions

**Keywords:** *kluiklui*, flour-enriched *kluiklui*, banana flour, glucomannan, indigestible fraction