The Effects of Polod (Arenga undulatifolia) Powder towards Physicochemical Properties and Sensory Attributes of Chicken Patties

ABSTRACT

Meat products have high biological value protein and essential nutrients needed for human sustenance, but it is deficient in complex carbohydrates like dietary fibre. Thus, various strategies have been explored to increase the dietary fibre content in meat products because plants are potentially rich sources of dietary fibres and bioactive compounds. Arenga undulatifolia, commonly known as polod, is a member of the family Arecaceace and grows natively in Borneo. This study examined how incorporating polod powder produced from the stem pith of Arenga undulatifolia affects nutritional, physicochemical, and sensory aspects of chicken patties. The polod powder showed comparable functional properties to other plant powders. The chicken patties were formulated as control samples F0 (0% polod powder), F1 (2% polod powder), F2 (4% polod powder), F3 (6% polod powder). Adding 4% polod powder significantly increased ($p > 0.05$) the patty's protein, ash, lipid, crude fibre, dietary fibre, and energy contents. Increasing the level of polod powder considerably lowered the moisture content ($p < 0.05$). The chewiness of the patties decreased significantly ($p < 0.05$) at 4% and 6% polod powder levels with no significant changes in other textural parameters ($p > 0.05$). Compared to the control sample (F0), the chicken patties with polod powder showed greater cooking yield and lower cooking loss. Compared to other formulations, F1 was most liked by sensory panellists. In conclusion, polod powder is potentially useful as a functional ingredient in the production of chicken patties.