

## ABSTRACT

Steven Ibrahim (01034170119)

### **EFFECT OF RATIO OF PURIFIED *ILES-ILES* FLOUR TO JACKFRUIT SEED FLOUR AND PUMPKIN PUREE AS FAT REPLACER ON PHYSICOCHEMICAL AND ORGANOLEPTIC PROPERTIES OF COOKIES**

Thesis, Faculty of Science and Technology (2021).

(xvi + 58 pages; 13 figures; 25 tables; 11 appendices)

Cookies is quite a fattening snack food product. The utilization of *Iles-iles* (*Amorphallus muelleri*) flour, jackfruit seed flour and pumpkin puree as a fat replacer might improve the nutritional value of cookies. The objectives of this research were to produce cookies using jackfruit seed flour and purified *iles-iles* flour as a substitution for all-purpose wheat flour and pumpkin puree as fat replacer. This research consisted of a preliminary step and main research. The preliminary step involves the production and analysis of purified *iles-iles* flour, jackfruit seed flour and pumpkin puree. The main research involved the production and analysis of formulated cookies and the selection of three best formulations. Selected formulations were chosen based on highest dietary fiber content and lowest fat content. The selected formulations were cookies made from (Jackfruit seed flour-%: purified *iles-iles* flour-% and Pumpkin puree-%) 50:50 and 100, 50:50 and 75 and 25:75 and 100 which have dietary fiber and fat content of  $12.36 \pm 0.84\%$  and  $4.77 \pm 0.41\%$ ,  $14.81 \pm 1.68\%$  and  $8.11 \pm 1.04\%$  and  $15.79 \pm 0.81\%$  and  $3.69 \pm 0.40\%$  respectively. The physical analysis on the three selected formulation showed that cookies made from 50:50 and 75 had the highest spread ratio, lightness and hue with values of  $5.24 \pm 0.01$ ,  $63.32 \pm 1.30$  and  $72.69 \pm 2.20$  respectively. But it has the lowest hardness of  $5970.2 \pm 459.0$ g. Cookies made from 50:50 and 100 has the lowest spread ratio, lightness and hue with value of  $4.61 \pm 0.02$ ,  $53.11 \pm 1.20$  and  $63.27 \pm 1.33$  respectively. Cookies made from 25:75 and 100 have the highest hardness of  $7937.1 \pm 411.3$ g. Scoring sensory tests shows that cookies made from 50:50 and 75 have the highest aroma with the lowest color and taste score with values of  $4.80 \pm 0.06$ ,  $2.36 \pm 0.06$  and  $3.48 \pm 0.11$  respectively. Cookies made from 50:50 and 100 has the highest texture and the lowest aroma score of  $3.92 \pm 0.11$  and  $4.46 \pm 0.08$  respectively. Cookies made from 25:75 and 100 has the highest color and taste score. But, has the lowest texture score of  $2.98 \pm 0.08$ . Hedonic sensory test shows that cookies made from 25:75 and 100 was the most accepted while cookies made from 50:50 and 75 was the least accepted.

Keywords : Jackfruit seed, *iles-iles*, pumpkin, fat replacer, cookies

References : 47 (1995-2020)