

**EFFECT OF GUAR GUM ADDITION IN  
CHAPATI SUPPLEMENTED WITH  
PUMPKIN (*Cucurbita maxima*)  
FLOUR**

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## ABSTRACT

In response to the rise of non-communicable diseases in Malaysia, many Malaysians are interested in foods which are tasty yet healthy and would aid in the prevention of diseases. The aim of this research is to study the effect of guar gum addition at levels of 1%, 2% and 3% on flour basis in chapatias supplemented with pumpkin flour. Five chapati samples formulations were produced namely A, AP, APG1, APG2 and APG3. Proximate analysis, were carried out on both the chapati flours (namely FAP, FAPG1, FAPG2 and FAPG3) and the resultant chapatias (A, AP, APG1, APG2 and APG2). Besides that, physical analysis (bake loss), physicochemical composition (water activity) and acceptance testing were carried out on the chapati samples. For proximate analysis, the supplementation of pumpkin flour significantly increased ( $p < 0.05$ ) the moisture content of the flours (8.40% to 8.54%) compared to 7.47% in the control, and resultant chapatias (28.57% to 29.68%) compared to 25.35% in the control. Ash content was also significantly higher ( $p < 0.05$ ) in flours (3.76% to 3.80%) compared to the control (1.29%) and resultant chapatias (2.78% to 2.97%) content compared to the control (1.22%). The fat content of the flours (1.77% to 1.85%) and resultant chapatias (3.64% to 3.94%) were not significantly different from each other ( $p > 0.05$ ). The protein content was significantly lower ( $p < 0.05$ ) in the flours (11.10% to 11.12%) and resultant chapatias (7.99% to 8.15%) supplemented with pumpkin flour compared to the control (13.11% in flour and 9.46% in chapati). The bake loss of control A (16.87%) was significantly higher ( $p < 0.05$ ) compared to the rest of the samples. Water activity of the chapatias ranged from 0.81 to 0.91. An acceptance test was carried out to evaluate the marketability and the acceptability of the chapatias. A, APG1, APG2 and APG3 were chosen for the sensory evaluation. APG3 had the highest mean score for all the attributes (texture, flavour, aroma, and appearance). Besides that, APG3 was the most accepted followed by sample APG2, APG1 and A.

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