

## ABSTRACT

Snack food is one of the fastest growing segments in the food industry, however, often lacks nutritional content. To improve the nutritional content of puffed snacks, especially in protein, this study aimed to evaluate the proximate composition and sensory acceptance of different concentrations (F0 = 0%, F1 = 5%, F2 = 10%, and F3 = 15%) of *Moringa oleifera* leaf powder (MOLP) supplemented into the adlay puffed snacks. Protein and fat analysis were done using Kjeldahl and Soxhlet method, while ash and moisture content were analyzed using the muffle furnace and draft oven method. Sensory acceptance was done using the 9-point hedonic scale with 50 panelists. Protein and ash were increased significantly ( $p < 0.05$ ) with the highest score observed in F3, with the value of  $17.85 \pm 0.20$  and  $1.52 \pm 0.02$  respectively, while carbohydrate content were significantly decreased with the highest score observed in F0 ( $78.31 \pm 0.13$ ). Fat content was also significantly different ( $p < 0.05$ ) where the highest found in F2 ( $1.56 \pm 0.20$ ). Fortification with MOLP to the puffed snacks increased the protein content by 9.82, 19.28, and 31.83% from the control. For the sensory acceptance, appearance, taste, aroma, and overall liking were significantly decreased ( $p < 0.05$ ) and bitterness were significantly increased ( $p < 0.05$ ) at incorporation of MOLP, mostly at 10 and 15%. Overall liking of the puffed snacks for F0 and F1 received a score above 7. In conclusion, fortification of 5% MOLP into the adlay puffed snacks could increase the nutritional content, especially protein without affecting the sensorial properties of the products.

**Keywords :** *Puffed snacks, adlay, Moringa oleifera leaf powder, food fortification, extrusion*