

## Development and Characterization of Kefir Drinks from Pumpkin (*Cucurbita moschata*) and Winter Melon (*Benincasa hispida*)

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**Abstract :** This research is to study the utilization of pumpkin and winter melon as the main substrate for kefir fermentation in the production of pumpkin and winter melon-based fermented drinks. Optimized temperature and time were chosen for fermentation of pumpkin and winter melon. Physicochemical and microbiological evaluations were conducted to the end products: P (fermented pumpkin juice) and K (fermented winter melon juice). Ethanol content was detected at low concentration of 0.9% (v/wt) in P, and 1.0% (v/wt) in K. Level of glucose and fructose increased significantly ( $p < 0.05$ ) in both fermented drinks when compared to unfermented pumpkin (CP) and winter melon (CK) juices. Total phenolic content in P & K was higher than CP and CK, while %DPPH inhibition of both decreased significantly. Total Lactobacilli counts in P & K were 8.9 and 7.88 log cfu/ml respectively, while acetic acid bacteria counts were 8.62 and 7.57 log cfu/ml respectively, yeast counts were 4.71 and 5 log cfu/ml, and no *E.coli* was detected in all samples. Sensory evaluation yield comparable properties in P & K. This concluded that pumpkin and winter melon fermented drinks inoculated by water kefir grains could be promising source of nutrients with probiotic potency.

**Keywords :** fermented drinks, functional beverage, kefir, pumpkin, winter melon

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