

Sensory Acceptability and Characterization of Papaya Flower (*Carica papaya*) Syrup: An Alternative Sweetener

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Abstract: This study aimed to develop and evaluate a syrup made from *Carica papaya* (papaya flower) tincture as an alternative sweetener, focusing on its phytochemical composition, sensory acceptability, and nutritional profile. Sensory evaluation of three syrup formulations with varying levels of tincture concentrations—was conducted with 120 purposively selected respondents composed of TLE/TVL students and food experts, who assessed the products based on appearance, aroma, taste, texture, and composite appeal using a 9-point hedonic scale. The study employed a descriptive and experimental research design and was conducted at the Food Technology Innovation Center of Surigao del Norte State University. Mean and standard deviation were used to describe sensory ratings. Repeated measures MANOVA and Bonferroni tests were conducted to determine significant differences among the three formulations. Nutritional content was determined through chemical analysis based on the 100-gram sample and standard dietary references. The results revealed that Formulation B (between 50% and 100% tincture concentration) was the most preferred in all sensory attributes. Nutritional analysis also showed that the formulation was low in calories, fat, sodium, and protein, making it suitable for health-conscious individuals. The study concludes that papaya flower syrup, particularly Formulation B, has strong potential as a natural, plant-based sweetener that supports sustainable food innovation, local agricultural utilization, and health-forward consumer preferences.

Keywords: Papaya flower syrup, alternative sweetener, sensory evaluation, phytochemical analysis, sustainable food innovation

