
Physicochemical Properties and Sensory Evaluation of Mayonnaise Using Soursop Vinegar

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Abstract

The quality and acceptability of mayonnaise are greatly influenced by the type of acidifying agent used in its formulation. The use of natural fruit vinegar in mayonnaise has recently gained attention due to its functional properties and consumer preference for natural ingredients. Therefore, this study aimed to evaluate the feasibility of using soursop vinegar (*Annona muricata*) as a natural alternative to synthetic vinegar in mayonnaise production by assessing its physicochemical properties and sensory acceptance. Three mayonnaise formulations were prepared using different types and concentrations of vinegar, namely synthetic vinegar, soursop vinegar, and soursop vinegar with added soursop essence. Physicochemical analyses included pH and viscosity measurements, while sensory evaluation was conducted through hedonic and scoring tests involving 30 semi-trained panellists from the Department of Food Technology, Politeknik Sultan Haji Ahmad Shah, Pahang. Data were analysed using one-way ANOVA to determine significant differences among formulations. The results indicated that all mayonnaise samples exhibited a safe acidic pH range between 3.6 and 3.8, comparable to commercial mayonnaise products. Viscosity analysis showed acceptable textural characteristics, particularly for formulations containing soursop vinegar. Sensory evaluation demonstrated that the formulation incorporating soursop vinegar with soursop essence achieved the highest overall acceptability, with significantly higher scores for aroma, taste, and texture ($p < 0.05$). In conclusion, soursop vinegar can be successfully utilised as a natural acidifying agent in mayonnaise formulation, maintaining desirable physicochemical qualities while enhancing sensory appeal. This study highlights the potential of soursop vinegar as a functional and healthier alternative to synthetic vinegar in mayonnaise production

Keywords : *mayonnaise, soursop vinegar, natural alternative*
