

Physicochemical and Sensory Characteristics of Hard Candy containing Muntok White Pepper (*Piper nigrum* Linn.) Oleoresin

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Abstract

Background - Muntok white pepper (*Piper nigrum* Linn.) has a higher piperine content, a distinctive spicy flavor, a stronger aroma compared to other types of white pepper; and has health benefits.

Purpose - The aims were to produce candy containing Muntok white pepper oleoresin that warms the throat and is liked by the panelists.

Methodology - The experimental design used was a Completely Randomized Design with the treatment factor being the ratio of oleoresin pepper concentration to water, with three treatment levels (0.5% : 99.5%), (0.75% : 99.25%), and (1% : 99%). Analysis of the hard candy product included hardness testing, color testing using CIELAB, piperine content testing, proximate analysis, sensory quality testing, hedonic quality testing, and calorie value calculation. Data analysis was performed using ANOVA with Duncan's Multiple Range Test at a 95% confidence interval.

Findings - The selected product was the candy with a pepper oleoresin and water ratio of 0.5% : 99.5%. This product has a hardness value of 6.3 Kg/cm², Lab* values of 55.5, 0.7, and 3.15, respectively, which are described as Barley Corn color. This product has a moisture content of 1.11%, ash content of 0.99%, reducing sugar content of 11.30%, sucrose content of 70.63%, protein content of 1.90%, fat content of 6.54%, and piperine content of 0.04%. The sensory quality test results of the selected candy show that the aroma was tend to not having a pepper scent, the taste leaned toward spiciness, very hard, non-sticky, and gave warm sensation in the throat. Overall, the product was liked by the panelists.

Originality - This research showed that piperine was still exist in the final product even though the product has been processed with physical treatment and high temperature treatment.

Keywords: health, functional food, confectionery, sweet, herbs
