

KARAKTERISTIK FISIKOKIMIA DAN SENSORIS ES KRIM DENGAN TEPUNG BENGKUANG (*Pachyrhizus erosus*) SEBAGAI SUBSTITUSI SUSU SKIM

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INTISARI

Penelitian ini bertujuan untuk mengetahui karakteristik fisikokimia dan sensoris es krim dengan tepung bengkuang (*Pachyrhizus erosus*) sebagai substitusi susu skim. Penelitian ini terdiri dari tiga perlakuan substitusi tepung bengkuang pada susu skim sebanyak 0, 15, dan 30%. Masing-masing perlakuan dilakukan tiga kali pengulangan terhadap karakteristik fisik dan kimia, sementara uji organoleptik dilakukan satu kali dengan melibatkan 30 panelis. Data kualitas fisik dan kimia dianalisis dengan metode *one way* ANOVA dilanjutkan dengan *Duncan's New Multiple Range Test*. Data sensoris dianalisis dengan uji *Kruskal-Wallis* dilanjutkan dengan *Mann-Whitney Test*. Hasil pengujian es krim menunjukkan bahwa substitusi tepung bengkuang sebanyak 0, 15, dan 30% pada susu skim berpengaruh nyata ($P < 0,05$) berturut-turut terhadap *overrun* 37,37; 22,31; dan 18,97%, total padatan 50,17; 44,66; dan 38,08%, kadar protein 5,35; 4,96; dan 4,75%, serat kasar 0,80; 0,87; dan 1,77%, kesukaan aroma 5,87; 5,47; dan 4,57, rasa 5,93; 5,37; dan 4,93, tekstur 5,93; 5,67; dan 4,60, serta kesukaan keseluruhan 6,13; 5,43; dan 4,67. Substitusi tepung bengkuang pada susu skim tidak berpengaruh nyata ($P > 0,05$) terhadap waktu leleh dan kesukaan warna. Berdasarkan karakteristik fisik, kimia, dan sensoris, es krim substitusi susu skim dengan tepung bengkuang yang paling baik pada penelitian ini yaitu dengan substitusi tepung bengkuang 30% karena dapat meningkatkan kadar serat kasar paling tinggi. Konsumsi satu *cup* (100 g) es krim dapat memenuhi sekitar 8,33 sampai 9,38% dari kebutuhan protein harian.

(Kata kunci: Es Krim, Susu Skim, Tepung Bengkuang)

PHYSICOCHEMICAL AND SENSORY CHARACTERISTICS OF ICE CREAM USING BENGKUANG (*Pachyrhizus erosus*) FLOUR AS A SUBSTITUTION OF SKIM MILK

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ABSTRACT

This study aimed to determine the physicochemical and sensory characteristics of ice cream using bengkuang flour (*Pachyrhizus erosus*) as a substitution of skim milk. This study consisted of three treatments of bengkuang flour substitution in skim milk as much as 0, 15, and 30%. Each treatment was repeated three times for physical and chemical characteristics, while the organoleptic test was conducted once involving 30 panelists. Physical and chemical quality data were analyzed by one way ANOVA method followed by Duncan's New Multiple Range Test. Sensory data were analyzed by Kruskal-Wallis test followed by Mann-Whitney Test. The results of ice cream testing showed that the substitution of 0, 15, and 30% bengkuang flour in skim milk had a significant effect ($P < 0.05$) on overrun 37.37; 22.31; and 18.97%, total solids 50.17; 44.66; and 38.08%, protein content 5.35; 4.96; and 4.75%, crude fiber 0.80; 0.87; and 1.77%, likeability of aroma 5.87; 5.47; and 4.57, taste 5.93; 5.37; and 4.93, texture 5.93; 5.67; and 4.60, and overall acceptability 6.13; 5.43; and 4.67. Substitution of bengkuang flour in skim milk had no significant effect ($P > 0.05$) on melting time and color acceptability. Based on physical, chemical, and sensory characteristics, the best ice cream substitution of skim milk with bengkuang flour in this study is the 30% bengkuang flour substitution because it can increase the highest crude fiber content. Consumption of one cup (100 g) of ice cream can fulfill about 8.33 to 9.38% of daily protein needs.

(Keywords: Ice Cream, Skim Milk, Bengkuang Flour)