

KARAKTERISTIK FISIKOKIMIA DAN SENSORIS ES KRIM DENGAN MENGGUNAKAN TEPUNG KEDELAI (*Glycine max*) SEBAGAI SUBSTITUSI SUSU SKIM

Gregorius Essava Rettiano Gading

21/478993/PT/08965

INTISARI

Penelitian ini bertujuan untuk mengetahui karakteristik fisikokimia dan sensoris es krim dengan tepung kedelai (*Glycine Max*) sebagai substitusi susu skim. Penelitian ini terdiri dari tiga perlakuan dengan presentase substitusi susu skim dengan tepung kedelai 0, 25, dan 50%. Penelitian ini terdiri dari lima uji yang terdiri dari uji fisik berupa *overrun* dan waktu leleh, uji kimia berupa uji protein dan total padatan serta uji sensoris. Data pengujian fisik dan kimia dianalisis menggunakan metode *one way ANOVA* dilanjutkan dengan Duncan's New Multiple Range test. Data pengujian organoleptik dianalisis menggunakan uji Kruskal Wallis dan dilanjutkan dengan uji Mann-Whitney Test. Hasil Penelitian menunjukkan substitusi susu skim dengan tepung kedelai memberikan pengaruh signifikan ($P < 0,05$) terhadap *overrun*, waktu leleh, total padatan, warna, rasa, aroma dan kesukaan keseluruhan. Rerata *overrun* es krim substitusi susu skim dengan tepung kedelai dengan level 0%, 25% dan 50% berturut-turut $38,22 \pm 1,53$, $24,79 \pm 0,86$ dan $22,34 \pm 0,76$. Waktu leleh $19,65 \pm 0,37$, $27,56 \pm 0,29$ dan $28,93 \pm 0,34$. Total padatan $62,41 \pm 2,16$, $57,37 \pm 2,25$ dan $47,13 \pm 3,61$. Warna $5,73 \pm 0,980$, $5,47 \pm 1,074$ dan $4,87 \pm 1,332$. Aroma $5,93 \pm 1,015$, $4,90 \pm 1,269$ dan $4,40 \pm 1,476$. Rasa $5,93 \pm 0,980$, $4,50 \pm 1,167$ dan $4,10 \pm 1,605$. Kesukaan keseluruhan $5,70 \pm 0,651$, $4,80 \pm 1,095$, dan $4,37 \pm 1,273$. Substitusi yang dilakukan tidak mengubah kadar protein, meningkatkan waktu leleh namun dapat menurunkan *overrun*, total padatan dan sensoris pada es krim. Waktu leleh, kadar protein dan total padatan es krim yang disubstitusi tepung kedelai memenuhi standar mutu es krim menurut SNI (1995).

Kata Kunci: Tepung Kedelai, Susu skim, Es krim

PHYSICOCHEMICAL AND SENSORY CHARACTERISTICS OF ICE CREAM USING SOY FLOUR (*Glycine max*) AS A SUBSTITUTION FOR SKIM MILK

Gregorius Essava Rettiano Gading

21/478993/PT/08965

ABSTRACT

This study aims to determine the physicochemical and sensory characteristics of ice cream using soybean flour (*Glycine max*) as a substitute for skim milk. The study consists of three treatments with substitution levels of skim milk with soybean flour at 0%, 25%, and 50%. The research included five types of tests: physical tests (overrun and melting time), chemical tests (protein content and total solids), and sensory evaluation. The data from physical and chemical tests were analyzed using one-way ANOVA followed by Duncan's New Multiple Range Test. The sensory evaluation data were analyzed using the Kruskal-Wallis test followed by the Mann-Whitney test. The results showed that the substitution of skim milk with soybean flour had a significant effect ($P < 0.05$) on overrun, melting time, total solids, color, taste, aroma, and overall preference. The average overrun of ice cream with 0%, 25%, and 50% substitution levels were 38.22 ± 1.53 , 24.79 ± 0.86 , and 22.34 ± 0.76 , respectively. Melting time values were 19.65 ± 0.37 , 27.56 ± 0.29 , and 28.93 ± 0.34 . Total solids were 62.41 ± 2.16 , 57.37 ± 2.25 , and 47.13 ± 3.61 . Color scores were 5.73 ± 0.980 , 5.47 ± 1.074 , and 4.87 ± 1.332 . Aroma scores were 5.93 ± 1.015 , 4.90 ± 1.269 , and 4.40 ± 1.476 . Taste scores were 5.93 ± 0.980 , 4.50 ± 1.167 , and 4.10 ± 1.605 . Overall preference scores were 5.70 ± 0.651 , 4.80 ± 1.095 , and 4.37 ± 1.273 . The substitution did not affect protein content, increased the melting time, but decreased overrun, total solids, and sensory attributes of the ice cream. The melting time, protein content, and total solids of the ice cream with soybean flour substitution met the quality standards of ice cream according to the Indonesian National Standard (SNI, 1995).

Keywords: Soybean Flour, Skim Milk, Ice Cream