

KARAKTERISTIK FISIKOKIMIA DAN SENSORIS ES KRIM DENGAN TEPUNG BIJI LABU KUNING (*Cucurbita moschata*) SEBAGAI SUBSTITUSI WHIPPED CREAM

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INTISARI

Es krim merupakan salah satu produk olahan susu yang banyak digemari oleh semua kalangan karena rasanya yang khas dan kaya akan gizi seperti lemak, protein, karbohidrat, dan mineral. Tujuan dari penelitian ini adalah untuk mengetahui karakteristik fisikokimia dan sensoris es krim dengan tepung biji labu kuning (*Cucurbita moschata*) sebagai substitusi *whipped cream*. Penelitian ini terdiri dari tiga variasi level tepung biji labu kuning 0%, 15%, dan 30% (b/b) sebagai substitusi *whipped cream* dengan tiga kali pengulangan sampel. Data kualitas fisik dan kimia dianalisis menggunakan *one-way ANOVA* dan dilanjutkan dengan *Duncan's Multiple Range Test* (DMRT). Data kualitas sensoris dianalisis dengan uji Kruskal Wallis dilanjutkan dengan uji Mann-Whitney. Parameter kualitas es krim yang dianalisis meliputi kualitas fisik (*overrun* dan titik leleh), kualitas kimia (kadar total solid, abu, lemak, protein, dan karbohidrat), dan sensoris (warna, aroma, tekstur, rasa, dan keseluruhan). Hasil penelitian menunjukkan bahwa substitusi tepung biji labu kuning berpengaruh signifikan ($P < 0,05$) terhadap kualitas fisik (*overrun* dan titik leleh), kualitas kimia (kadar total solid, abu, lemak, protein, dan karbohidrat), dan kualitas sensoris (tekstur, rasa, dan keseluruhan), tetapi tidak berpengaruh signifikan terhadap kualitas sensoris warna dan aroma es krim. Rerata hasil uji es krim dengan substitusi tepung biji labu kuning 0%, 15%, dan 30% secara berurutan yaitu nilai *overrun* 42,99, 40,00, dan 37,17%, titik leleh 57,67, 61,00, dan 65,00 menit, kadar total solid 35,14, 37,95, dan 42,80%, kadar abu 0,80, 0,98, dan 1,18%, kadar lemak 13,51, 14,27, dan 15,13%, kadar protein 4,11, 6,05, dan 7,94%, kadar karbohidrat 16,71, 16,64, dan 18,56%. Kesimpulan dari penelitian ini adalah variasi tepung biji labu kuning sebagai substitusi *whipped cream* meningkatkan kualitas fisik titik leleh dan meningkatkan kualitas kimia es krim, namun menurunkan kualitas fisik *overrun* es krim dan menurunkan kualitas sensoris es krim. Konsumsi es krim (100 g) dapat menyumbang kebutuhan karbohidrat 5,32%, protein 10,06%, dan lemak 21,35%, serta kebutuhan energi harian 10,33%.

Kata kunci: Es krim, Biji labu kuning, Kualitas fisik, Kualitas kimia, Kualitas sensoris

PHYSICOCHEMICAL AND SENSORIAL CHARACTERISTICS OF ICE CREAM WITH PUMPKIN SEEDS FLOUR (*Cucurbita moschata*) AS WHIPPED CREAM SUBSTITUTION

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ABSTRACT

Ice cream is one of the most popular dairy products among all age groups due to its distinctive taste and rich nutritional content, including fat, protein, carbohydrates, and minerals. The aim of this study was to determine the physicochemical and sensory characteristics of ice cream made with yellow pumpkin seed flour (*Cucurbita moschata*) as a substitute for whipped cream. This study consisted of three variations of yellow squash seed flour levels 0%, 15%, and 30% (w/w) as a substitute for whipped cream, with three replicates of each sample. Physical and chemical characteristics data were analysed using one-way ANOVA and continued with Duncan's Multiple Range Test (DMRT). Sensory quality data were analysed using the Kruskal Wallis test and continued with the Mann-Whitney test. The ice cream quality parameters analysed included physical quality (overrun and melting point), chemical quality (total solids, ash, fat, protein, carbohydrates), and sensory quality (colour, aroma, texture, taste, overall). The results showed that the substitution of yellow pumpkin seed flour had a significant effect ($P < 0.05$) on physical quality (overrun and melting point), chemical quality (total solids, ash, fat, protein, and carbohydrates), and sensory quality (texture, taste, and overall), but did not affect the sensory quality of colour and aroma of ice cream. The average test results of ice cream with yellow pumpkin seed flour substitutions of 0%, 15%, and 30% were as follows: overrun values of 42.99, 40.00, and 37.17%, melting point 57.67, 61.00, and 65.00 minutes, total solids content 35.14, 37.95, and 42.80%, ash content 0.80, 0.98, and 1.18%, fat content 13.51, 14.27, and 15.13%, protein content 4.11, 6.05, and 7.94%, carbohydrate content 16.71, 16.64, and 18.56%. The conclusion of this research indicated that the variations of yellow pumpkin seed flour as a substitute for whipped cream improves the physical quality of the melting point and enhances all chemical qualities of the ice cream, but reduces the physical quality of the ice cream's overrun and decreases sensory qualities. Consumption of ice cream (100 g) could contribute 5.32% of carbohydrate needs, 10.06% of protein needs, and 21.35% of fat needs, as well as 10.33% of daily energy needs.

Keywords: Ice cream, Pumpkin seeds, Physical quality, Chemical quality, Sensory quality