KARAKTERISTIK FISIKOKIMIA DAN SENSORIS ES KRIM DENGAN TAHU SUTRA SEBAGAI SUBSTITUSI *WHIPPED CREAM*

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INTISARI

Kualitas es krim dapat ditingkatkan melalui penambahan atau substitusi bahan yang berpotensi menaikkan atau menurunkan kadar lemak sesuai yang diinginkan. Penelitian ini bertujuan untuk mengetahui pengaruh substitusi *whipped cream* dengan tahu sutra terhadap kualitas fisikokimia serta kualitas sensoris es krim. Penelitian menggunakan tiga tingkat persentase substitusi tahu sutra dengan *whipped cream*, yaitu 0%, 25%, dan 50%. Analisis kualitas fisik meliputi *overrun* dan waktu leleh. Analisis kualitas kimia meliputi total padatan, kadar protein, dan kadar lemak. Uji sensoris dilakukan oleh 40 panelis menggunakan lima parameter penilaian, yaitu warna, aroma, rasa, tekstur, dan keseluruhan kesukaan dengan skala hedonik 7 poin. Penelitian dilakukan dengan tiga kali pengulangan. Data fisikokimia dianalisis menggunakan metode One Way ANOVA dan dilanjutkan dengan uji DMRT (*Duncan's Multiple Range Test*) untuk karakteristik sensoris menggunakan uji *Kruskal-Wallis*, dan apabila terdapat perbedaan signifikan, maka dilanjutkan dengan uji *Mann-Whitney*. Hasil penelitian menunjukkan bahwa substitusi *whipped cream* dengan tahu sutra pada taraf 0%, 25%, dan 50% memberikan pengaruh nyata terhadap nilai *overrun* es (60,95%; 75,00%; 84,25%). Substitusi tidak berpengaruh nyata terhadap waktu leleh dengan nilai 29.88 menit. Pada karakteristik kimia, substitusi berpengaruh nyata terhadap total padatan (40,43%; 41,53%; 39,63%), kadar protein (5,88%; 6,40%; 6,53%), dan kadar lemak (13,85%; 10,95%; 9,55%). Pada karakteristik sensoris, substitusi tidak berpengaruh nyata terhadap warna (5,33) dan aroma (4,98). Namun, substitusi berpengaruh nyata terhadap rasa (6,15; 4,43; 4,00), tekstur (6,03; 5,48; 4,78), serta keseluruhan kesukaan (6,05; 4,90; 4,35). Kesimpulannya, karakteristik fisik, kimia, dan sensoris es krim substitusi *whipped cream* dengan tahu sutra yang paling baik pada penelitian ini yaitu pada substitusi 50% karena dapat menurunkan kadar lemak, meningkatkan kadar protein dan total padatan, meningkatkan karakteristik fisik (*overrun* dan waktu leleh) es krim, serta tidak mempengaruhi sensoris (warna dan aroma) es krim, namun dapat mempengaruhi sensoris (rasa, tekstur, dan keseluruhan kesukaan) es krim.

Kata kunci: es krim, *whipped cream*, tahu sutra, lemak, kualitas fisikokimia, kualitas sensoris

PHYSICAL, CHEMICAL, AND SENSORY CHARACTERISTICS OF ICE CREAM WITH SILKEN TOFU AS A SUBSTITUTE FOR WHIPPED CREAM

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ABSTRACT

The quality of ice cream can be improved by adding or substituting ingredients that have the potential to increase or decrease the fat content as desired. This study aims to determine the effect of substituting whipped cream with silken tofu on the physicochemical and sensory quality of ice cream. The study used three levels of silken tofu substitution with whipped cream, namely 0%, 25%, and 50%. Physical quality analysis included overrun and melting time. Chemical quality analysis included total solids, protein content, and fat content. Sensory testing was conducted by 40 panelists using five assessment parameters, namely color, aroma, taste, texture, and overall preference using a 7-point hedonic scale. The study was conducted with three repetitions. Physicochemical data were analyzed using the One Way ANOVA method and followed by the DMRT (Duncan's Multiple Range Test) for sensory characteristics using the Kruskal-Wallis test, and if there were significant differences, it was followed by the Mann-Whitney test. The results showed that substituting whipped cream with silken tofu at levels of 0%, 25%, and 50% had a significant effect on ice overrun values (60,95%; 75,00%; 84,25%). Substitution had no significant effect on melting time, which was 29.88 minutes. In terms of chemical characteristics, substitution had a significant effect on total solids (40,43%; 41,53%; 39,63%), protein content (5,88%; 6,40%; 6,53%), and fat content (13,85%; 10,95%; 9,55%). In terms of sensory characteristics, substitution had no significant effect on color (5,33) and aroma (4,98). However, substitution had a significant effect on taste (6,15; 4,43; 4.00), texture (6,03; 5,48; 4,78), and overall liking (6,05; 4,90; 4,35). In conclusion, the physical, chemical, and sensory characteristics of ice cream substituted with whipped cream and silken tofu were best in this study at a 50% substitution rate because it reduced fat content, increased protein and total solids content, improved the physical characteristics (overrun and melting time) of the ice cream, and did not affect the sensory characteristics (color and aroma) of the ice cream, but it can affect the sensory characteristics (taste, texture, and overall preference) of the ice cream.

Keywords: ice cream, whipped cream, silken tofu, fat, physicochemical quality, sensory quality