

RINGKASAN

Penelitian ini dilatarbelakangi oleh meningkatnya kebutuhan inovasi produk pangan berbasis nabati yang menarik dan memiliki karakteristik sensoris yang dapat diterima konsumen. Susu kacang tanah memiliki kandungan protein dan lemak nabati yang cukup tinggi sehingga berpotensi digunakan sebagai bahan dasar es krim nabati. Selain itu, penggunaan bahan alami seperti ekstrak bunga telang sebagai pewarna alami serta rasio sukrosa dengan *brown sugar* sebagai pemanis diduga dapat memengaruhi karakteristik sensoris produk. Namun, penelitian mengenai kombinasi susu kacang tanah, ekstrak bunga telang, dan rasio sukrosa dengan *brown sugar* dalam formulasi es krim masih terbatas. Oleh karena itu, penelitian ini bertujuan untuk mengetahui pengaruh penambahan ekstrak bunga telang dan rasio sukrosa dengan *brown sugar* terhadap karakteristik sensoris es krim susu kacang tanah meliputi warna, aroma, rasa, tekstur, dan kesukaan keseluruhan, serta menentukan perlakuan terbaik.

Penelitian dilaksanakan di Laboratorium IPA Terpadu Universitas Nahdlatul Ulama Purwokerto pada Januari - April 2026 menggunakan Rancangan Acak Lengkap (RAL) faktorial 3×3 dengan dua faktor, yaitu konsentrasi ekstrak bunga telang (0 gram, 8 gram, dan 16 gram) serta rasio sukrosa dengan *brown sugar* (100%:0%, 25%:75%, dan 50%:50%). Setiap perlakuan diulang sebanyak tiga kali sehingga diperoleh 27 unit percobaan. Pengujian sensoris dilakukan oleh 25 panelis semi terlatih menggunakan metode skoring dengan skala penilaian 1–5 terhadap parameter warna, aroma, rasa, tekstur, dan kesukaan keseluruhan. Data dianalisis menggunakan uji Friedman dan perlakuan terbaik ditentukan menggunakan uji indeks efektivitas.

Hasil penelitian ini menunjukkan bahwa penambahan ekstrak bunga telang dan rasio sukrosa dengan *brown sugar* berpengaruh nyata terhadap parameter warna, aroma, rasa, dan tekstur, namun tidak berpengaruh nyata terhadap kesukaan keseluruhan. Perlakuan 16 gram ekstrak bunga telang dan rasio sukrosa : *brown sugar* sebesar 100% : 0% (A3B1) memperoleh nilai tertinggi pada parameter warna karena menghasilkan warna biru yang lebih disukai panelis. Perlakuan 16 gram ekstrak bunga telang dan rasio sukrosa : *brown sugar* sebesar 25% : 75% (A3B2) memperoleh nilai tertinggi pada parameter aroma dan rasa, sedangkan perlakuan tanpa penambahan ekstrak bunga telang dan rasio sukrosa : *brown sugar* sebesar 100% : 0% (A1B1) memperoleh nilai tertinggi pada parameter tekstur dan kesukaan keseluruhan. Berdasarkan uji indeks efektivitas, perlakuan terbaik diperoleh pada 16 gram ekstrak bunga telang dan rasio sukrosa : *brown sugar* sebesar 25% : 75% (A3B2) karena menghasilkan karakteristik sensoris yang paling optimal berdasarkan parameter yang diamati.

Kata kunci: *brown sugar*, ekstrak bunga telang, pewarna alami, susu kacang tanah, uji organoleptik.

SUMMARY

*This study was motivated by the increasing demand for innovative plant-based food products with appealing characteristics and sensory properties acceptable to consumers. Peanut milk contains relatively high levels of plant-based protein and fat, making it a potential ingredient for plant-based ice cream production. In addition, the use of natural ingredients such as butterfly pea flower extract as a natural colorant and the ratio of sucrose to brown sugar as a sweetener was expected to influence the sensory characteristics of the product. However, studies regarding the combination of peanut milk, butterfly pea flower extract, and the ratio of sucrose to brown sugar in ice cream formulation remain limited. Therefore, this study aimed to determine the effect of butterfly pea flower extract (*Clitoria ternatea* L.) addition and the ratio of sucrose to brown sugar on the sensory characteristics of peanut milk ice cream, including color, aroma, taste, texture, and overall acceptability, as well as to determine the best treatment.*

This study was conducted at the Integrated Science Laboratory of Nahdlatul Ulama University Purwokerto from January to April 2026 using a 3×3 factorial Completely Randomized Design (CRD) with two factors, namely butterfly pea flower extract concentration (0 g, 8 g, and 16 g) and the ratio of sucrose to brown sugar (100%:0%, 25%:75%, and 50%:50%). Each treatment was repeated three times, resulting in 27 experimental units. Sensory evaluation was conducted by 25 semi-trained panelists using a scoring method with a 1–5 scale for color, aroma, taste, texture, and overall acceptability parameters. Data were analyzed using the Friedman test, and the best treatment was determined using the effectiveness index method.

The results of this study showed that the addition of butterfly pea flower extract and the ratio of sucrose to brown sugar had a significant effect on color, aroma, taste, and texture parameters, but had no significant effect on overall acceptability. The treatment of 16 g butterfly pea flower extract and a sucrose sugar ratio of 100%:0% (A3B1) obtained the highest score for color because it produced a blue color preferred by the panelists. The treatment of 16 g butterfly pea flower extract and a sucrose sugar ratio of 25%:75% (A3B2) obtained the highest scores for aroma and taste, while the treatment without butterfly pea flower extract and a sucrose sugar ratio of 100%:0% (A1B1) obtained the highest scores for texture and overall acceptability. Based on the effectiveness index method, the best treatment was obtained from 16 g butterfly pea flower extract and a sucrose sugar ratio of 25%:75% (A3B2), as it produced the most optimal sensory characteristics based on the observed parameters.

Keywords: brown sugar, butterfly pea flower extract, natural colorant, peanut milk, sensory evaluation.