

Jumhadi Saifuddin. NPM 220331100040. Pengaruh Penambahan Tepung Kulit Buah Naga Merah (*Hylocereus sp.*) dan Jenis Pengemulsi terhadap Karakteristik Es Krim. Di bawah Bimbingan **Hamzah Fansuri, S.ST., M.T. dan Dr. Askur Rahman, S.TP., M.P.**

ABSTRAK

Es krim konvensional umumnya berfokus pada perbaikan karakteristik fisik saja dengan bahan tambahan komersial seperti karagenan sebagai penstabil. Penstabil tersebut umumnya belum mampu meningkatkan kandungan antioksidan produk. Beberapa penelitian telah mencoba menambahkan sumber antioksidan ke dalam es krim, tetapi nilai *overrun* yang dihasilkan masih tergolong rendah. Kandungan antioksidan pada es krim penting diperhatikan karena banyak dikonsumsi remaja yang rentan terpapar radikal bebas. Kulit buah naga merah berpotensi sebagai penstabil alami dan sumber antioksidan karena mengandung 10,8% pektin dan 6,92% flavonoid. Keberhasilan pemanfaatan kulit buah naga juga dipengaruhi oleh jenis pengemulsi. Penelitian ini bertujuan untuk mengetahui pengaruh jenis pengemulsi dan jumlah tepung kulit buah naga merah terhadap karakteristik es krim. Penelitian ini menggunakan Rancangan Acak Lengkap (RAL) faktorial dengan dua jenis pengemulsi, yaitu CMC dan SP, serta penambahan tepung kulit buah naga merah. Tahapan penelitian meliputi pembuatan tepung kulit buah naga, pembuatan es krim, dan pengujian *overrun*, resistensi pelelehan, aktivitas antioksidan, serta sensoris. Hasil penelitian menunjukkan jenis pengemulsi memengaruhi karakteristik es krim, dibuktikan dengan SP yang menghasilkan *overrun* 90,99%, lebih tinggi dibandingkan CMC 35,43%, serta nilai IC_{50} berkisar 1,08–35,46 yang tergolong sangat kuat. Peningkatan jumlah tepung kulit buah naga merah menurunkan *overrun* dan meningkatkan resistensi pelelehan pada kedua jenis pengemulsi. Perlakuan SP dengan 20 g tepung memperoleh tingkat kesukaan tertinggi pada warna, sedangkan SP dengan 10 g tepung memperoleh tingkat kesukaan tertinggi pada rasa, tekstur, dan keseluruhan.

Kata Kunci: Antioksidan, *Carboxymethyl Cellulose*, Es krim, *Sponge Emulsifier*.

Jumhadi Saifuddin. NPM 220331100040. *The Effect of Adding Red Dragon Fruit (Hylocereus sp.) Peel Flour and Different Types of Emulsifiers on the Characteristics of Ice Cream. Under the Guidance of Hamzah Fansuri, S.ST., M.T. and Dr. Askur Rahman, S.TP., M.P.*

ABSTRACT

Conventional ice cream generally focuses solely on improving physical characteristics using commercial additives such as carrageenan as a stabiliser. Such stabilisers are generally unable to increase the product's antioxidant content. Several studies have attempted to add sources of antioxidants to ice cream, but the resulting overrun values remain relatively low. The antioxidant content of ice cream is important to consider as it is widely consumed by adolescents, who are vulnerable to exposure to free radicals. Red dragon fruit peel has potential as a natural stabiliser and source of antioxidants as it contains 10.8% pectin and 6.92% flavonoids. The successful utilisation of dragon fruit peel is also influenced by the type of emulsifier used. This study aims to determine the effect of the type of emulsifier and the amount of red dragon fruit peel powder on the characteristics of ice cream. This study employed a factorial Complete Randomised Design (CRD) with two types of emulsifier, namely CMC and SP, and the addition of red dragon fruit peel powder. The research stages included the production of red dragon fruit peel powder, the preparation of ice cream, and the testing of overrun, melting resistance, antioxidant activity, and sensory properties. The results showed that the type of emulsifier influenced the characteristics of the ice cream, as evidenced by SP yielding an overrun of 90.99%, higher than the 35.43% achieved with CMC, and an IC_{50} value ranging from 1.08 to 35.46, which is classified as very strong. Increasing the amount of red dragon fruit peel flour reduced overrun and increased melting resistance for both types of emulsifier. The SP treatment with 20 g of flour received the highest liking ratings for colour, whilst the SP treatment with 10 g of flour received the highest liking ratings for flavour, texture and overall impression.

Keywords: Antioxidants, Carboxymethyl Cellulose, Ice Cream, Sponge Emulsifier.