

## RINGKASAN

Buah carica adalah jenis buah pepaya yang tumbuh di Dataran Tinggi Dieng, dan tergolong buah yang tidak mudah ditemukan di Indonesia. Salah satu alternatif pengolahan buah carica yang belum banyak diproduksi adalah pembuatan es krim carica. Penelitian ini bertujuan untuk: (1) mendapatkan formula optimum es krim carica dengan kajian proporsi buah carica A : buah carica B dan proporsi sorbitol yang memiliki atribut sensori dengan tingkat kesukaan maksimal, tekstur kelembutan maksimal dan karakter fisik : *overrun* maksimal, dan waktu meleleh maksimal oleh panelis terlatih menggunakan metode *Response Surface Methodology* (metode permukaan respon); (2) analisis deskriptif kuantitatif es krim carica dengan formula optimum; (3) mengkaji karakteristik sensori produk formula optimum dibanding dengan kontrol.

Penelitian ini dilaksanakan secara eksperimental di Laboratorium Pengolahan, Teknologi Pertanian, Universitas Jenderal Soedirman. Penelitian dilaksanakan dari Desember 2018 sampai dengan Juni 2019. Penelitian pendahuluan dilakukan untuk menentukan formula, proses dasar, dan faktor yang paling berpengaruh pada pembuatan es krim carica. Selanjutnya dilakukan penelitian utama untuk mendapatkan formula optimum dan deskripsi atribut mutu es krim carica. Optimasi formula menggunakan rancangan *Central Composite Design* dengan metode permukaan respon menggunakan 2 faktor yang terdiri atas faktor pertama bahan baku utama yaitu proporsi buah carica A : buah carica B dan faktor yang selanjutnya bahan baku pendukung yaitu proporsi sorbitol. Respon yang diamati dalam menentukan formula optimum adalah waktu leleh, *overrun*, kelembutan, dan kesukaan. Deskripsi atribut mutu es krim carica menggunakan metode *Quantitative Descriptive Analysis* (QDA) yang diukur oleh panelis terlatih. Deskripsi atribut dilakukan Uji T independen untuk mengetahui pengaruh perlakuan dibanding produk kontrol.

Hasil penelitian menunjukkan bahwa perlakuan proporsi buah carica A : buah carica B (14,64% : 85,36%) dan proporsi sorbitol (6,83%) menghasilkan formula optimum es krim carica dengan *desirability* 0,58. Produk es krim formula optimum memiliki atribut sensoris meliputi : kenampakan (warna kuning dan homogenitas), aroma (*coconut milk like, fruity, sweet, dan sour*), rasa (*coconut milk like, fruity, acid, sweet, dan asin*), dan *mouthfeel* (*softness, fibery, dan cohesiveness*). Produk es krim carica formula optimum memiliki karakter fisik *overrun* 25,97%, waktu leleh 16,47 menit, serta skor sensoris kelembutan (7,54 = lembut-sangat lembut), kesukaan (7,36 = suka-sangat suka). Karakter sensori es krim carica produk optimasi dibanding kontrol, warna lebih kuning, aroma dan rasa *coconut milk like* lebih rendah, aroma dan rasa *fruity* lebih kuat, memiliki aroma dan rasa *sweet* yang lebih baik, rasa *acid* yang kuat berasal dari buah carica, rasa asin yang lebih rendah, dan memiliki *mouthfeel* yang *fibery* dan *cohesiveness*.

## SUMMARY

*Carica fruit is a type of papaya fruit that grows in the Dieng Plateau. It's classified as a fruit that is not easily found in Indonesia. One alternative for processing carica fruit that has not been widely produced is carica ice cream. This study aims to: (1) obtain the optimum formula for carica ice cream by studying the proportion of carica A : carica B and the proportion of sorbitol which have sensory attributes with maximum preference level, maximum softness and physical character: maximum overrun, and maximum melting time by trained panelists using the Response Surface Methodology method; (2) quantitative descriptive analysis of carica ice cream with optimum formula; (3) examines the sensory characteristics of optimum formula products compared to control product.*

*This research was carried out experimentally at the Laboratory of Processing, Agricultural Technology, Jenderal Soedirman University. The research was done from December 2018 until June 2019. Preliminary research was conducted to determine the formula, basic processes, and factors that most influence in production of carica ice cream. Then the main research was conducted to obtain the optimum formula and description quality attributes of the carica ice cream. The experimental design used was Central Composite Design with the Response Surface Methodology using 2 factors consisting of the first factor of the main raw material namely the proportion of carica A: carica B and the next factor supporting raw material is the proportion of sorbitol. The responses observed in determining the optimum formula were melting time, overrun, softness, and hedonic. Analysis attribute description of carica ice cream using QDA (Quantitative Descriptive Analysis) measured by trained panelists. The attribute description was carried out by Independent T test to determine the effect of the treatment compared with control product.*

*The results showed that the proportion of Carica A : Carica B (14.64%: 85.36%) and the proportion of sorbitol (6.83%) produced the optimum formula for carica ice cream with desirability 0.58. Optimum ice cream carica have sensory attributes: appearance (yellow color and homogeneity), aroma (coconut milk like, fruity, sweet, and sour), flavor (coconut milk like, fruity, acid, sweet, and salty), and mouthfeel (softness, fibery, and cohesiveness). Optimum ice cream carica has overrun 25.97%, melting time 16.47 minutes, sensory scores of softness (7.54 = soft-very soft), and hedonic (7.36 = like-very like). The sensory character of optimum carica ice cream compared to control product, the color is yellow, the aroma and taste of coconut milk like is lower, the aroma and taste of fruity is stronger, has a better sweet aroma and taste, has a stronger acid taste comes from carica fruit, salty taste is lower, and has a mouthfeel that is fibery and cohesiveness.*