RINGKASAN

Luluk Nur Aini Mufidah. 2023. Karakteristik Es Krim Susu Beras Dengan Perbedaan Penambahan Emulsi Putih Telur dan Lama Proses *Mixing*. Dibawah Bimbingan Cahyaning Rini Utami, S.Si., M.Sc.

Susu beras merupakan salah satu susu nabati rendah lemak dan memiliki nutrisi sama dengan beras yang dikonsumsi sebagai nasi. Putih telur merupakan bagian dari telur utuh yang memiliki banyak kandungan nutrisi seperti energi, protein, karbohidrat, lemak, air dan abu. Putih telur juga salah satu pengemulsi alami yang biasa digunakan untuk berbagai jenis makanan. Es krim merupakan salah salah produk olahan pangan yang terbuat dari bahan dasar susu dengan tambahan bahan pangan lainnya dan melalui dua proses pengolahan yaitu *mixing* dan *cooling.* Penelitian ini bertujuan untuk mengetahui karakteristik es krim susu beras dengan pengaruh penambahan konsentrasi putihtelur sebagai emulsi dan lama proses *mixing.* Sehingga didapatkan es krim dengankarakteristik yang baik dan bisa diterima oleh konsumen.

Metode penelitian menggunakan rancangan acak kelompok dengan dua faktorial yaitu penambahan konsentrasi putih telur (50 gr, 100 gr, 150 gr) dan lama proses *mixing* (10 menit dan 20 menit). Dari kedua faktor tersebut didapatkan 6 perlakuan dan diuji debanyak 3 kali ulangan, sehingga diperoleh 18 kali percobaan. Parameter uji fisikokimia yang dilakukan terhadap produk es krim susu beras meliputi *overrun*, kecepatan meleleh, kadar lemak, kadar air, dan kadar abu. Sedangkan untuk parameter uji organoleptik terhadap es krim meliputi rasa, warna dan tekstur. Penelitian ini dilaksanakan di Laboratorium Pengolahan pangan dan Biokimia Pangan Universitas Yudharta Pasuruan yang dilaksanakan pada bulan juni sampai juli 2023. Analisa data kimia menggunakan aplikasi minitab 19 untuk mengolah data *Analysis of Variance* (ANOVA) dan untuk menentukan notasi huruf data menggunakan *Tukey Method.* Analisa uji organoleptik menggunakan metode Friedman. Dan untuk menentukan perlakuan terbaik dari analisa uji fisikokimia dan organoleptik menggunakan metode Indeks Efektifitas De Garmo termodifikasi oleh susrini (1998).

Hasil peneitian analisa fisikokimia dan organoleptik es krim susu beras yaitu overrun sebesar 3,59% - 13,70%, kecepatan meleleh sebesar 83 menit 24 detik sampai 114 menit 34 detik. kadar lemak sebesar 6,68% - 8,07%, kadar air sebesar 72,02% - 79,36%, dan kadar abu sebesar 1,97% - 2,52%. Hasil uji organoleptik es krim susu beras rasa sebesar 3,34 — 4,56 (suka-sangat suka), warna sebesar 2,8-3,82 (tidak suka-suka), dan tekstur sebesar 2,7-4,24 (tidak suka-sangat suka). Hasil uji indeks efektifitas tertinggi yaitu parameter rasa dengan bobot sebesar 0,16 diikuti oleh parameter overrun dan tekstur dengan bobot sebesar 0,14, kecepatan meleleh sebesar 0,13, warna sebesar 0,12, kadar lemak sebesar 0,11, kadar air sebesar 0,1 dan kadar abu sebesar 0,06. Perlakuan terbaik doperoleh pada perlakuan Pt3M2 dengan kombinasi putih telur 150 gr dan lama *mixing* 20 menit dengan parameter uji fisikokimia meliputi kadar lemak 8,07%, kadar air 79,36%, kadar abu 2,52%, overrun 13,7%, kecepatan meleleh 114 menit 34 detik, dan uji organoleptik rasa 4 (sangat suka), warna 3,82 (suka)dan tekstur 4 (sangat suka).

Es krim susu beras dengan kombinasi perlakuan penambahan kosentrasi putih telur dan lama *mixing* berpengaruh nyata terhadap parameter uji kadar lemak, kadar air, kadar abu untuk perlakuan Pt1M2. Pt2M2 dan Pt3M2, oveerun,

kecepatan meleleh dan uji organoleptik pada parameter tekstur. Tetapi tidakberpengaruh nyata pada parameter kadar abu dengan perlakuan Pt1M1, Pt2M danPt3M1 serta uji organoleptik rasa dan warna. Saran dalam penelitian ini yaiu diperlukan penelitan lebih lanjut terkait total padatan, kadar protein dan viskositas es krim susu beras. Serta adanya bahan tambahan yang mengandung karbohidrat dan lemak nabati tinggi untuk memperleh kualitas es krim yang baik.

Kata kunci : Es Krim, Kadar Lemak, *Mixing,* Putih Telur.

SUMMARY

Luluk Nur Aini Mufidah. 2023. Characteristics of Rice Milk Ice Cream with Differences in the Addition of Egg White Emulsion and the Long Process of Mixing. Under the Guidance of Cahyaning Rini Utami, S.Sc., M.Sc.

Rice milk is one of the low-fat vegetable milks and has the same nutrition as rice which is consumed as rice. Egg white is part of a whole egg which contains many nutrients such as energy, protein, carbohydrates, fat, water and ash. Egg white is also a natural emulsifier that is commonly used for various types of food. Ice cream is one of the processed food products made from milk as a base with the addition of other food ingredients. Ice cream is processed using two processing processes, namely mixing and cooling. This study aims to determine the characteristics of rice milk ice cream with the effect of adding egg white concentration as an emulsion and mixing process time. So that obtained ice cream with good characteristics and can be accepted by consumers.

The research method used a randomized block design with two factorials, namely the addition of egg white concentration (50 gr, 100 gr, 150 gr) and the mixing process time (10 minutes and 20 minutes). From these two factors, 6 treatments were obtained and tested with 3 repetitions, so that 18 trials were obtained. The parameters of the physicochemical tests carried out on rice milk ice cream products included overrun, melting speed, fat content, moisture content, and ash content. Meanwhile, the organoleptic test parameters for ice cream include taste, color and texture. This research was conducted at the Food Processing and Biochemistry Laboratory, Yudharta University, Pasuruan, which was held from June to July 2023. Chemical data analysis used the Minitab 19 application to process Analysis of Variance (ANOVA) data and to determine the notation of data letters using the Tukey Method. Organoleptic test analysis using the Friedman method. And to determine the best treatment from the analysis of physicochemical and organoleptic tests using the De Garmo Effectiveness Index method modified by Susrini (1998).

The results of the physicochemical and organoleptic analysis of rice milk ice cream were overrun of 3.59% - 13.70%, melting speed rate of 83 minutes 24 seconds to 114 minutes 34 seconds. fat content of 6.68% - 8.07%, water content of 72.02% - 79.36%, and ash content of 1.97% - 2.52%. The organoleptic test results for ice cream rice milk flavor were 3.34 – 4 (liked very much), color was2.8-3.82 (didn't like it), and texture was 2.7-4 (didn't like it very much). The highest effectiveness index test results were the taste parameter with a weight of 0.16 followed by overrun and texture parameters with a weight of 0.14, a melting speed of 0.13, a color of 0.12, a fat content of 0.11, a moisture content of 0.1 and an ash content of 0.06. The best treatment was obtained in PT3M2 treatment with a combination of 150 gr egg white and a 20 -minute mixing time with physical physical test parameters including 8.07%fat content, 79.36%water content, 2.52%ash content, 13.7%overrun, 114 minutes 34 seconds, and organoleptic tests.

Rice milk ice cream with the combination treatment of adding egg white concentration and mixing time had a significant effect on the test parameters for fat content, moisture content, ash content for the Pt1M2 treatment. Pt2M2 and Pt3M2, oveerun, melting speed and organoleptic test on texture parameters. However, it did not significantly affect the parameters of ash content with Pt1M1, Pt2M and Pt3M1 treatments as well as taste and color organoleptic tests. Suggestions in this study are that further research is needed regarding total solids, protein content and viscosity of rice milk ice cream. As well as the presence of additional ingredients that contain carbohydrates and high vegetable fat to obtain good quality ice cream.

Keywords: Ice Cream, Fat Content, Mixing, Egg White.