# RINGKASAN

Es krim merupakan salah satu makanan bergizi. Namun kandungan utamanya yang berupa susu sapi membuat harga produksinya relatif tinggi, selain itu penderita *lactose intolerance* tidak dapat mengkonsumsinya. Sehingga perlu dikembangkan es krim berbasis nabati yang dapat menekan harga produksi lebih rendah serta aman dikonsumsi oleh *lactose intolerant* salah satunya adalah santan kelapa. Dalam penelitian ini digunakan santan kelapa dan gula kelapa cetak untuk menghasilkan es krim nabati dengan nilai fungsional yang relatif baik, bercita rasa khas kelapa serta dapat dikonsumsi oleh *lactose intolerant* dengan harga yang relatif lebih terjangkau. Penelitian ini dilakukan dengan tujuan untuk : (1) Mengetahui pengaruh konsentrasi santan kelapa terhadap karakteristik es krim santan kelapa. (2) Mengetahui pengaruh konsentrasi gula kelapa terhadap karakteristik es krim santan kelapa. (3) Mendapatkan kombinasi perlakuan antara konsentrasi santan kelapa dengan konsentrasi gula kelapa yang menghasilkan es krim dengan karakteristik terbaik.

Penelitian ini merupakan eksperimental dengan metode Rancangan Acak Kelompok (RAK) dengan 2 faktor, yaitu konsentrasi santan kelapa (P) sebanyak 4 taraf (P1) : 20%, (P2) : 25%,(P3) : 30%, (P4) 35% dan konsentrasi gula kelapa (A) sebanyak 4 taraf (A1) : 15%, (A2) : 20%, (A3) : 25%, (A4) : 30% . Pembuatan es krim santan kelapa dilakukan dengan cara: (1) Pencampuran seluruh seluruh bahan seperti air, CMC, garam serta santan kelapa dan larutan gula kelapa kemudian dipanaskan hingga suhunya mencapai 80$^{o}$C sambil dilakukan pengadukan selama 30 detik lalu adonan didiamkan hingga suhu sekitar 30$^{O}$C. (2) Dilakukan homogenisasi I dengan *mixer* selama 10 menit kemudian dilanjutkan dengan proses pembekuan I selama 5 jam pada suhu -20$^{o}$C. (3) Dilakukan homogenisasi II dengan *mixer* selama 10 menit sambil ditambahkan mono-digliserida kemudian dilanjutkan proses pembekuan II selama 24 jam pada suhu -20$^{o}$C.

Es krim santan kelapa kemudian dianalisis sifat fisikokimianya meliputi overrun, total padatan terlarut, daya leleh, kadar air, kadar protein terlarut, kadar gula total dan kadar lemak serta sifat sensori es krim santan kelapa meliputi rasa, flavour, aroma kelapa, dan tingkat kesukaan. Data variabel fisiokimia dan sensori yang diperoleh dianalisis dengan menggunkan analisis sidik jari ragam (ANOVA) dengan tingkat kepercayaan 95 persen ($\alpha$ =0,05). Apabila terdapat keragaman maka akan dilanjutkan dengan uji lanjut *Duncan Multiple Range Test* pada tingkat kepercayaan 95 persen ($\alpha$ =0,05) dan uji regresi. Penentuan kombinasi perlakuan terbaik dilakukan dengan metode Indeks Efektivitas terhadap variabel fisikokimia dan sensori.

Hasil penelitian menunjukan bahwa konsentrasi santan kelapa memberikan pengaruh terhadap kadar lemak es krim santan kelapa. Konsentrasi santan kelapa 35% menghasilkan es krim santan kelapa dengan kadar lemak lebih tinggi dari perlakuan lain. Konsentrasi gula kelapa memberikan pengaruh terhadap total padatan terlarut, overrun, flavour, rasa (manis), tekstur, tingkat

kesukaan, kadar air, kadar gula total dan kadar protein terlarut es krim santan kelapa. Konsentrasi gula kelapa 30% memiliki nilai total padatan terlarut, flavour, rasa (manis), tekstur, kadar gula total dan kadar protein terlarut yang lebih baik dari perlakuan lain. Berdasarkan hasil uji indeks efektifitas kombinasi antara santan kelapa 25% dan gula kelapa 30% menghasilkan es krim santan kelapa dengan karakteristik terbaik.

Kata kunci: es krim, gula kelapa cetak, kelapa, santan kelapa

## *SUMMARY*

*Ice cream is a nutritious food. However, the main content in the form of cow's milk makes the production relatively high, besides that, people with lactose intolerance cannot consume it. What needs to be developed plant-based ice cream that can reduce lower prices and is safe for consumption by lactose intolerance, one of which is coconut milk. In this study, coconut milk and solidified coconut sugar were used to produce vegetable ice cream with relatively good functional values, with a distinctive coconut flavour and can be consumed by lactose intolerance at a relatively more affordable price. This research was conducted with the aim of: (1) Determining the effect of coconut milk concentration on the characteristics of coconut milk ice cream. (2) Knowing the effect of coconut sugar concentration on the characteristics of coconut milk ice cream. (3) Obtaining a combination of treatment between coconut milk concentration and coconut sugar concentration that produces ice cream with the best characteristics.*

*This research is an experimental study with a randomized block design (RBD) method with 2 factors, namely the concentration of coconut milk (P) of 4 levels (P1): 20%, (P2): 25%, (P3): 30%, (P4) 35% and coconut sugar concentration (A) as much as 4 levels (A1): 15%, (A2): 20%, (A3): 25%, (A4): 30%. Making coconut milk ice cream is done by: (1) Mixing all ingredients such as air, CMC, salt and coconut milk and coconut sugar solution then heating it to 80oC while stirring for 30 seconds then the dough is left to stand until a temperature of around 30$^{o}$C. (2) First homogenization was carried out with a mixer for 10 minutes, then the freezing process I for 5 hours at a temperature of -20$^{o}$C. (3) The second homogenization was carried out with a mixer for 10 minutes while adding mono-diglyceride, then freezing process II for 24 hours at a temperature of -20$^{o}$C.*

*Coconut milk ice cream then analyzes its physicochemical properties including overrun, total dissolved solids, melting power, moisture content, dissolved protein content, total sugar content and fat content as well as sensory properties of coconut milk ice cream including taste, flavor, aroma of coconut, and level of preference. The physiochemical and sensory data variables obtained were analyzed using a fingerprint analysis of variance (ANOVA) with a confidence level of 95 percent ($\alpha = 0.05$). If there is diversity, it will be tested with the continued Duncan Multiple Range Test at the 95 percent confidence level ($\alpha = 0.05$) and regression test. Determination of the best treatment combination is done by using the Effectiveness Index method on physicochemical and sensory variables.*

*The results showed that the concentration of coconut milk had an effect on the fat content of coconut milk ice cream. The 35% concentration of coconut milk produces coconut milk ice cream with higher fat content than other treatments. Coconut sugar concentration has an effect on total dissolved solids, overrun, typical coconut flavor, taste, texture, preference level, total sugar content and dissolved protein content of coconut milk ice cream. The coconut sugar*

*concentration of 30% had a total value of dissolved solids, flavor, taste (sweetness), texture, total sugar content and dissolved protein content which were better than other treatments. Based on the results of the effectiveness index test, the combination of 25% coconut milk and 30% coconut sugar produces coconut milk ice cream in the best way.*

*Key words: coconut, coconut milk, ice cream, solidified coconut sugar*