

ABSTRAK

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PEMANFAATAN UBI JALAR UNGU PADA PEMBUATAN ES KRIM SUSU KEDELAI DENGAN PENAMBAHAN RUMPUT LAUT SEBAGAI *STABILIZER*

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(xv + 65 halaman; 12 gambar; 9 tabel; 12 lampiran)

Es krim merupakan salah satu produk pangan yang banyak dikonsumsi masyarakat. Es krim dibuat dari campuran susu, pemanis, *stabilizer*, emulsifier, dan pewarna yang umum menyebabkan permasalahan kesehatan. Oleh karena itu, es krim dikembangkan menggunakan susu kedelai dengan penambahan ubi jalar ungu dan rumput laut. Ubi jalar ungu digunakan dalam bentuk bubur ubi jalar ungu dengan perbandingan ubi jalar ungu : air yaitu 70:30, 80:20, 90:10, 100:0. Bubur ubi jalar ungu dianalisis aktivitas antioksidan, total fenolik, total flavonoid, dan warna. Bubur ubi jalar ungu terpilih adalah perbandingan ubi jalar ungu : air 90:10. Bubur ubi jalar ungu tersebut memiliki nilai IC_{50} 2109,15±106,39 ppm, total fenolik 3870,49±140,71 mg GAE/mL, total flavonoid 1,03±0,03 mg QE/mL, dan memiliki warna ungu dengan nilai °Hue 327,37±2,38. Bubur ubi jalar ungu terpilih kemudian digunakan untuk pembuatan es krim susu kedelai dengan konsentrasi 0% (kontrol), 15%, 30% dan konsentrasi bubur rumput laut 0% (kontrol), 0,3%, 0,4%, dan 0,5%. Sampel-sampel tersebut kemudian dianalisis aktivitas antioksidan, total fenolik, total flavonoid, warna, waktu leleh, dan *overrun*. Es krim susu kedelai terpilih adalah es krim dengan konsentrasi bubur ubi jalar ungu 30% dan bubur rumput laut 0,3%. Es krim susu kedelai tersebut memiliki nilai IC_{50} 556022,98±21680,5179 ppm, total fenolik 2,82±0,2 mg GAE/mL, total flavonoid 0,90±0,05 mg QE/mL, memiliki warna merah keunguan dengan nilai °Hue 347,18±4,43, waktu leleh 54,91±0,51 menit/ 30 g, dan *overrun* 23,05±2,42%. Es krim susu kedelai terpilih dilanjutkan dengan uji proksimat dengan kadar karbohidrat 22,54%, kadar abu 0,815%, total padatan 28,79%, kadar protein 2,74%, dan kadar lemak 2,695%.

Kata kunci : Aktivitas antioksidan, Konsentrasi ubi jalar ungu, pewarna alami, perbandingan ubi jalar ungu : air, konsentrasi rumput laut, stabilizer

Referensi : 60 (1992-2020)

ABSTRACT

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UTILIZATION OF PURPLE SWEET POTATO IN SOY MILK ICE CREAM WITH THE ADDITION OF SEAWEED AS STABILIZER

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(xv + 65 pages; 12 figures; 9 tables; 12 appendices)

Ice cream is one of the food products that many people consume. Ice cream is made from a mixture of milk, sweetener, stabilizer, emulsifier, and coloring which often leads to health problems if it is consumed too much. Therefore, ice cream is developed using soy milk with addition of purple sweet potato and seaweed. Purple sweet potato is used in the form of mashed purple sweet potato with ratio of purple sweet potato : water 70:30, 80:20, 90:10, and 100:0. Samples are analyzed for antioxidant activity, total phenolic, total flavonoids, and color. The selected ratio of purple sweet potato : water is 90:10. The mashed purple sweet potato has IC_{50} 2109,15±106,39 ppm, total phenolic 3870,49±140,71 mg GAE/mL, total flavonoid 1,03±0,03 mg QE/mL, dan is purple colored with °Hue value 327,37±2,38. The selected mashed purple sweet potato then is used to make soy milk ice cream with variation of concentration 0% (control), 15%, and 30% and seaweed with variation of concentration 0% (control), 0,3%, 0,4%, and 0,5%. The samples were then analysed for antioxidant activity, total phenolics, total flavonoids, color, melting rate, and overrun. The selected soy milk ice cream formulation is the soy milk ice cream with 30% mashed purple sweet potato and 0,3% seaweed. The selected soy milk ice cream has IC_{50} 556022,98±21680,5179 ppm, total phenolic 2,82±0,2 mg GAE/mL, total flavonoid 0,90±0,05 mg QE/mL, is purplish red colored with °Hue value 347,18±4,43, melting rate 54,91±0,51 menit/ 30 g, and *overrun* 23,05±2,42%. Proximate analysis of the selected soy milk ice cream shows results of carbohydrate, protein, fat, ash, and total solids content which the ice cream has total carbohydrates 22,54%, ash 0,815%, total solids 28,79%, protein 2,74%, dan fat 2,695%.

Keywords : Antioxidant activity, purple sweet potato concentration, natural food coloring, purple sweet potato : water ratio, seaweed ratio, stabilizer

Reference : 60 (1992-2020)