

Pengaruh Penambahan Rumput Laut (*Eucheuma cottonii*) terhadap Kandungan Gizi dan Sifat Fisik *Fruit Leather* Buah Naga Merah dan Albedo Semangka

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ABSTRAK

Latar belakang: *Fruit leather* merupakan olahan buah dengan kandungan yang bermanfaat bagi tubuh dan mempunyai umur simpan yang panjang serta dapat menjadi pengganti selai. Buah naga merah dan albedo semangka dapat diolah menjadi *fruit leather*. Penambahan rumput laut (*Eucheuma cottonii*) diharapkan mampu memperbaiki kandungan gizi dan sifat fisik *fruit leather* karena mengandung kapa karagenan dan 35.3 mg/100 g vitamin C, 9.76% protein, 1.10% lemak, dan 26.49% karbohidrat, serta 46.19% abu.

Tujuan: menganalisis pengaruh penambahan rumput laut terhadap kandungan gizi dan sifat fisik *fruit leather* buah naga merah dan albedo semangka serta menentukan formulasi terbaik.

Metode: Penelitian eksperimental acak lengkap satu faktor, yaitu variasi penambahan rumput laut sebesar 0%, 10%, 20%, dan 30%. Analisis vitamin C menggunakan spektrofotometri, kadar air menggunakan metode termogravimetri, abu menggunakan pengabuan kering, protein menggunakan Kjeldahl, lemak menggunakan Soxhlet, karbohidrat menggunakan *by difference*, a_w menggunakan a_w meter, dan kuat tarik serta elongasi menggunakan *texture analyzer*. Analisis statistik kandungan gizi dan sifat fisik menggunakan one-way anova atau kruskall walis. Penentuan formulasi terbaik menggunakan metode *multiattribute decision using compensatory model (additive weighting technique)*.

Hasil dan pembahasan: Penambahan rumput laut meningkatkan kadar air, abu, protein, vitamin C, aktivitas air, kuat tarik, dan elongasi, namun menurunkan kadar karbohidrat, sedangkan kadar lemak tidak menunjukkan perbedaan. Kandungan gizi 15 g *fruit leather* lebih unggul daripada selai komersial. Penambahan rumput laut sebanyak 30% merupakan formulasi terbaik.

Simpulan: Penambahan rumput laut berpengaruh terhadap kandungan gizi dan sifat fisik kecuali kadar lemak. Penambahan 30% rumput laut merupakan formulasi terbaik *fruit leather*.

Kata kunci: *Fruit leather*, buah naga merah, albedo semangka, *Eucheuma cottonii*, kandungan gizi, sifat fisik

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Effect of Seaweed Addition (*Eucheuma cottonii*) on Nutritional and Physical Properties of Red Dragon and Watermelon Albedo Fruit Leather

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ABSTRACT

Background: Fruit leather is a processed fruit contains beneficial properties for human health, has long shelf life, and can be consumed as jam substitute. Red dragon fruit and watermelon can be processed to be fruit leather. Seaweed (*Eucheuma cottonii*) addition is expected to increase nutritional and physical properties because it contains kappa carrageenan and 35.3 mg/100 g vitamin C, 9.76% protein, 1.10% fat, dan 26.49% carbohydrate, also 46.19% ash.

Objective: To analyze effect of seaweed addition on nutritional and physical properties and determine the best formulation.

Method: A completely randomized experimental study with one factor, namely variations in the seaweed addition in 0%, 10%, 20%, and 30%. vitamin C was analyzed using spectrophotometer, moisture was analyzed using Thermogravimetri, ash was analyzed using dry ash procedure, protein was analyzed using Kjeldahl, fat was analyzed using Soxhlet, carbohydrate was analyzed using by difference, water activity was analyzed using a_w meter, and tensile strength was analyzed using texture analyzer. Nutritional and physical data were analyzed by one-way anova or kruskall wallis. Best formulation was determined by multiattribute decision using compensatory model (additive weighting technique).

Results and discussion: The addition of seaweed increased moisture, ash, protein, vitamin C content, water activity, tensile strength, and elongation, but decreased carbohydrate, meanwhile fat content showed no difference. Fruit leather contains is better than commercial jam. 30% seaweed addition fruit leather became the best formulation

Conclusion: seaweed addition affects nutritional and physical properties, except fat content. 30% seaweed addition fruit leather is the best fruit leather formulation.

Keywords: Fruit leather, red dragon fruit, watermelon rind, moisture content, *Eucheuma cottonii*, nutritional contents, physical properties.

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