

## ABSTRAK

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### **PEMANFAATAN *PUREE* BUNGA ROSELLA (*Hibiscus sabdariffa* L.) DAN *PUREE* BUAH KURMA (*Phoenix dactylifera* L.) DALAM PEMBUATAN SELAI RENDAH GULA**

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(xix + 96 halaman + 16 tabel + 35 gambar + 44 lampiran)

Bunga rosella dan buah kurma diketahui memiliki aktivitas antioksidan karena senyawa fenolik, flavonoid, antosianin, dan vitamin C yang terkandung didalamnya. Buah kurma juga memiliki serat pangan yang tinggi. Tujuan dari penelitian ini adalah memanfaatkan bunga rosella dan buah kurma sebagai sumber antioksidan dan serat pangan untuk menghasilkan selai rendah gula dengan berbagai rasio *gelling agent*. Dalam penelitian ini, *puree* bunga rosella dihasilkan dengan menambahkan air pada rasio 1:1. *Puree* kurma dibuat dengan berbagai rasio penambahan air (1:1, 1:2, dan 1:3). Rasio 1:1 dipilih sebagai rasio terbaik untuk *puree* kurma. Formulasi terbaik dari rasio *puree* kurma dan *puree* rosella di analisis karakteristik fisikokimia (pH, total padatan terlarut, dan warna), aktivitas antioksidan, total fenolik, total flavonoid, total antosianin, vitamin C, dan serat pangan. Selai dibuat dengan rasio *puree* rosella dan *puree* kurma yang berbeda (1:0 (kontrol), 1:2, 1:1, 2:1) dan rasio pektin dan CMC yang berbeda (100:0, 70:30, 50:50, dan 30:70). Setiap formulasi di analisa karakteristik fisikokimia dan organoleptik. Selai dengan formulasi rasio *puree* rosella:*puree* kurma 2:1 dengan rasio pektin:CMC 50:50 dipilih sebagi formulasi terbaik. Selai dengan formulasi terbaik memiliki total padatan terlarut 48°Brix, pH 3.38, sineresis 0%, L\*(*lightness*) 35.78, °Hue 17.69, *hardness* 71.55, *adhesiveness* -0.55, IC<sub>50</sub> 24634,32 ppm total fenolik 69.91 mg GAE/100 g, total flavonoid 43.78 mg QE/100g, total antosianin 21.96 mg/L, vitamin C 55.44 mg/100g, serat pangan 2.31%, dan kalori 1.82 kkal/g. Selai dengan formulasi terbaik dapat di klaim sebagai selai sumber serat, rendah kalori, dan rendah gula.

Kata kunci: aktivitas antioksidan, kalori, kurma, rosella, selai, serat pangan

Referensi: 97 (1995 – 2018)

## ABSTRACT

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### ***UTILIZATION OF ROSELLE FLOWER PUREE (*Hibiscus sabdariffa* L.) AND DATE PALM FRUIT PUREE (*Phoenix dactylifera* L.) IN THE MAKING OF LOW SUGAR JAM***

*Thesis, Faculty of Science and Technology (2019)*

*(xix + 96 pages+ 16 tabels + 35 figures + 44 appendices)*

*Roselle and date palm are known to have antioxidant activity because of phenolic, flavonoids, anthocyanins, and vitamin C compounds. Dates palm also have high dietary fiber. The aim of this research was to use roselle and date palm as a source of antioxidants and dietary fiber to produce low sugar jam with various gelling agent ratios. In this research, roselle flower puree was made by adding water at a ratio of 1:1. Date puree was made with various ratios of addition of water (1:1, 1:2, and 1:3). The 1:1 ratio was chosen as the best ratio for date palm puree. The best formulation of the ratio of date palm puree and roselle puree was analyzed for physicochemical characteristics (pH, total dissolved solids, and color), antioxidant activity, total phenolic, total flavonoids, total anthocyanin, vitamin C, dietary fiber, and calories. Jam was made with different ratios of roselle puree and date palm puree (1:0 (control), 1:2, 1:1, and 2:1) and different pectin and CMC ratios (100:0, 70:30, 50:50, and 30:70). Each formulation was analyzed for physicochemical and organoleptic characteristics. Jam with the formulation of the ratio of roselle puree:date palm puree 2:1 with a ratio of pectin:CMC 50:50 selected as the best formulation. The best formulated jam has a total soluble solids of 48°Brix, pH 3.38, syneresis 0%, L\*(lightness) 35.78, °Hue 17.69, hardness 71.55, adhesiveness -0.55, IC<sub>50</sub> 24634,32 ppm, total phenolic 69.91 mg GAE/100 g, total flavonoids 43.78 mg QE/100g, total anthocyanin 21.96 mg/L, vitamin C 55.44 mg/100g, dietary fiber 2.31%, and calories 1.82 kcal/g. The best formulated jam can be claimed to be a source of fiber jam and low sugar/calorie jam.*

*Keywords: antioxidant activity, calorie, date palm, dietary fiber, jam, roselle*

*Reference: 97 (1995 – 2018)*