

## **Total Fenol, $\beta$ -Karoten, Vitamin C, dan Vitamin E Yoghurt Selai Buah Ciplukan (*Physalis peruviana L.*)**

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### **ABSTRAK**

**Latar Belakang :** Stres oksidatif adalah kondisi yang terjadi akibat ketidakseimbangan antara peningkatan produksi radikal bebas yaitu *Reactive Oxygen Species* (ROS) dan penurunan kapasitas dari antioksidan. Yoghurt selai buah ciplukan dapat menjadi alternatif produk pangan fungsional untuk mencegah stres oksidatif.

**Tujuan :** Mengetahui kandungan total fenol,  $\beta$ -karoten, vitamin C, dan vitamin E yoghurt selai buah ciplukan.

**Metode :** Penelitian eksperimental dengan variasi konsentrasi selai buah ciplukan yaitu F0 (100% yoghurt) dan F2 (85% yoghurt:15% selai). Total fenol dianalisis dengan metode Folin-Ciocalteu (FC), kadar  $\beta$ -Karoten, Vitamin C dan Vitamin E dianalisis dengan metode *High Performance Liquid Chromatography* (HPLC). Analisis statistik data menggunakan uji *Independent T-Test*.

**Hasil :** Penggunaan selai buah ciplukan meningkatkan kandungan total fenol,  $\beta$ -karoten, vitamin C, dan vitamin E yoghurt secara signifikan ( $p < 0,05$ ). Kandungan zat antioksidan yang paling tinggi dalam yoghurt selai buah ciplukan adalah total fenol ( $6,25 \pm 2,26$  mg GAE/g), diikuti dengan vitamin E ( $2,9 \pm 0,03$  mg/100 g), vitamin C ( $2,79 \pm 0,06$  mg/100 g), dan  $\beta$ -karoten ( $2,02 \pm 0,13$   $\mu$ g/g).

**Simpulan :** Kandungan total fenol,  $\beta$ -karoten, vitamin C dan vitamin E pada yoghurt selai buah ciplukan meningkat dan memiliki perbedaan yang signifikan ( $p < 0,05$ ) dibandingkan dengan formula yoghurt kontrol.

**Kata kunci :** Selai buah ciplukan, total fenol,  $\beta$ -karoten, vitamin C, vitamin E

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***Total Phenol,  $\beta$ -Carotene, Vitamin C, and Vitamin E of Yogurt with Golden Berry Jam (*Physalis peruviana* L.)***

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**ABSTRACT**

**Background :** Oxidative stress is a condition that occurs due to an imbalance between increased production of free radicals that was Reactive Oxygen Species (ROS) and a decrease in antioxidant capacity. Golden berry jam yogurt can be alternative functional food product in preventing oxidative stress.

**Objective :** To determine the total phenol,  $\beta$ -carotene, vitamin C and vitamin E content of golden berry jam yogurt.

**Methods :** An experimental study by variations of golden berry jam concentration, were F0 (100% yogurt) and F2 (85% yogurt:15% jam). Total phenol was analyzed by Folin-Ciocalteau (FC) method, while  $\beta$ -Carotene, Vitamin C and Vitamin E levels were analyzed by High Performance Liquid Chromatography (HPLC). Data analysis used the Independent T-Test.

**Results :** Golden berry jam increased the total phenol,  $\beta$ -carotene, vitamin C and vitamin E content of yogurt significantly ( $p < 0.05$ ). The highest antioxidant content in golden berry jam yogurt was total phenol ( $6.25 \pm 2.26$  mg GAE/g), followed by vitamin E ( $2.9 \pm 0.03$  mg/100 g), vitamin C ( $2.79 \pm 0.06$  mg/100 g), and  $\beta$ -carotene ( $2.02 \pm 0.13$   $\mu$ g/g).

**Conclusion :** The content of total phenol,  $\beta$ -carotene, vitamin C and vitamin E in golden berry jam yogurt increased and had a significant difference ( $p < 0.05$ ) compared to the control yogurt formula.

**Keywords :** Golden berry jam, total phenol,  $\beta$ -carotene, vitamin C, vitamin E

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