ABSTRACT

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UTILIZATION OF MANGOSTEEN (*GARCINIA MANGOSTANA* L.) PROCESSED PERICARP TO IMPROVE ANTIOXIDANT CHARACTERISTIC OF LOW-FAT YOGURT

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Mangosteen (*Garcinia Mangostana* L.) pericarp contains bioactive compounds such as phenolic acids and flavonoids which has biological and medicinal properties, especially antioxidant properties. Xanthones is one of the main phenolic compounds and anthocynains as natural antioxidant contained in the mangosteen pericarp that has antioxidant activity. The pericarp of the fruit is one of the waste parts of the fruits from consumption and food industry, thereby the aim of this research is to study the antioxidant characteristics of mangosteen pericarp added to yogurt to meet the sensory quality of consumption. Mangosteen pericarp was treated with two different blanching methods and different time intervals and the best results was steam blanching for 4 min due to highest phenolic content (50.514±0.132 mg GAE/L), flavonoid content (17.361±0.113 mg QE/L), and antioxidant activity (53.1480±0.413 ppm). The mangosteen pericarp juice was further extracted with ethanol and the antioxidant characteristics was compared. The antioxidant activity was found higher in mangosteen pericarp juice (53.1480±0.413 ppm) compared to mangosteen pericarp extract (46.240±0.272 ppm). Mangosteen pericarp juice and extract was added to low-fat yogurt with six different concentrations. Yogurt with highest sensory acceptance was found in low-fat yogurt added with mangosteen pericarp juice with ratio of 80:5. The highest antioxidant activity (39.876±0.012 ppm), total phenolic content (30.421±0.198 mg GAE/L), and total flavonoid content (16.180±0.123 mg QE/L) was found in low-fat yogurt added with mangosteen pericarp juice with ratio of 70:15 in comparison to the rest of the formulations.

Keywords: Mangosteen pericarp, Antioxidant activity, Total Phenolic Compound, Total Flavonoid Compound, Low-fat Yogurt.

References: 31 (2000-2016)