

## ABSTRACT

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### **OPTIMIZATION OF SENSORY AND ANTIOXIDANT PROPERTIES OF MANGO (*Mangifera indica* L.) PUREE WITH MANGO PEEL EXTRACT**

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Mango is one of the major tropical fruit. Mango peel was found to have higher antioxidant activity compared to the flesh, but it's often discarded in the industry. Mango puree is a very versatile intermediate product, which can be further processed. The objective of this research was to optimize the sensory acceptability and antioxidant properties of mango puree with mango peel extract. The mango peel was extracted by using microwave and ethanol as the solvent. Mango peel extract was found to be high in antioxidant activity at IC<sub>50</sub> level of 13.43±2.46 mg/L with total phenolic of 77.37±19.04 µg GAE/g dw and total flavonoid content of 26.14±3.55 µg QE/g dw. The peel extract was then added to the puree at the concentration generated by Design Expert®11 Software. The optimum concentration of peel extract added was 1.17%, with predicted value of IC<sub>50</sub> 375.248 mg/L and hedonic result of 4.9 (color); 4.3 (aroma); 4.6 (taste); 4.4 (aftertaste) and 4.7 (overall), with desirability value of 0.790. The verification result for IC<sub>50</sub> was 315.61 mg/L and 5.5 (color); 5.0 (aroma); 5.2 (taste); 4.9 (aftertaste) and 5.3 (overall). In comparison between puree products, the puree added with optimum concentration has the highest antioxidant activity (216.80±2.29 mg/L) compared to puree made from mango flesh only and puree from unpeeled mango (737.95±59.26 mg/L and 614.00±40.35 mg/L). However, in terms of overall acceptability, the optimum product is not significantly different with puree from unpeeled mango.

Keywords: Antioxidant, extract, mango, peel, puree

References: 74 (2000-2018)