

## Evaluation of Antioxidant Properties and Total Phenol Content of Bark Exudates of *Lannea coromandelica* & *Mangifera Indica* and Its Application as a Functional Fruit Coating

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The bark exudates of *Lannea coromandelica* and *Mangifera indica* are rich sources of health beneficial bioactive compounds. The bark extractions of these plants have been consumed and used in the traditional medicine for centuries. The objective of the present study was to investigate the total phenolic content and antioxidant capacity of the gum exudates of *Lannea coromandelica* and *Mangifera indica* and to evaluate the variation of physicochemical characteristics of a moderate respiratory fruit after applying the waxes. The application of these bark exudates for the food industry to develop a nutraceutical and functional fruit coating is promising. The waxes were prepared by dissolving 6 g of the exudates in 100 mL of water at 60 °C and then evaporating water to get the final volume of the wax to 40 mL. The waxes were further enhanced by adding Neem extract to the waxes. Antioxidant capacity was determined using the free radical 2, 2- diphenyl- 1- picrylhydrazyl (DPPH) method, the total phenolic contents were measured using Folin-Ciocalteu reagent assay. DPPH radical scavenging assay: *1050* value for gum exudates of *Lannea coromandelica* was  $9.327 \pm 0.286$  mg of Gallic acid equivalents per mL, *IC50* value for gum exudates of *Mangifera indica* was  $2.375 \pm 0.413$  mg of Gallic acid equivalents per mL. Total phenolic contents in gum exudates of *Lannea coromandelica* and *Mangifera indica* were  $6.49 \pm 1.88$  ppm and  $242.7 \pm 34.2$  ppm respectively. The gum exudates of *Mangifera indica* contained more antioxidants and phenols when compared to the gum exudates of *Lannea coromandelica*. Therefore, natural bark exudates of these plants can be recommended as a functional coating for low respiratory fruits.

**Keywords:** *Lannea coromandelica*, *Mangifera indica*, Antioxidant capacity, Total Phenolic Content