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ANTIOXIDANT ACTIVITY AND PHYSICOCHEMICAL PROPERTIES OF *Carissa carandas* (L.) (Apocynaceae) DURING DIFFERENT MATURITY STAGES

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Background: *Carissa carandas* (L) is a native fruit, which grows wild in bushes and fruits are generally consumed freshly in its all stages immature, matured and ripen. Physicochemical, antioxidant and sensory properties of fruits shows a significant different between each stage. **Aims/Objectives:** The aim of this study was to analyze the physicochemical and antioxidant properties at different maturity stages of the fruit and find the best maturity stage for commercialization. **Methods:** Fruits were collected from Galle, Sri Lanka and maturity stages were selected sorted according to the progressive fruit development by its colour change, MS1, immature - white colour, MS2, mature - red and white colour, MS3, ripen - reddish purple colour. Each maturity stage was randomly divided into two subgroups for antioxidant analysis and physiochemical testing. Antioxidant analysis was preformed to freeze dried fruit samples. **Results:** Weight, volume, length, width, titratable acidity, total soluble solids and moisture content of fruits were increased while pH was decreased significantly ($P < 0.05$) and color of the fruits in terms of lightness (L*) and yellowness (b*) were decreased significantly ($P < 0.05$) while increasing the redness (a*) all through maturation. According to antioxidant activity variation, total phenol content value showed no significant different between immature and ripen stages but having with a slightly increment in mature stage. 2,2-diphenyl-1-picrylhydrazyl, ferric reducing antioxidant power and Oxygen radical absorbance capacity values were increased with maturation and ripening of *C. carandas* fruit. **Conclusions and Recommendations:** The study revealed that reddish purple ripen fruits contained significantly high amount of antioxidant activity and can be used as a natural antioxidant in food industry.

Key words: native fruit, purple colour, effect of ripening, bio assays