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CHANGES IN ORGANIC ACID AND SUGAR CONTENTS OF JACKFRUIT (*Artocarpus heterophyllus* Lam) FLESH WITH MATURITY

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Organic acids and soluble sugar levels, which are highly variable, have a greater impact on jackfruit flavour. This study aims to investigate the changes in levels of organic acids and sugars in the firm variety of jackfruit at different maturity stages. Four maturity stages of jackfruit flesh, including immature stage 1 (6-7 weeks), immature stage 2 (8-10 weeks), mature stage (12-14 weeks) and full ripe stage (14-16 weeks), collected from several jackfruit trees in the Western Province, Sri Lanka, were analyzed for organic acid and sugar contents using High-Performance Liquid Chromatography technique. Organic acid and sugar contents were significantly changed ($p<0.05$) with the maturity stages of jackfruit flesh. The citric acid content increased, with a range of 0.03±0.00- 0.30±0.01%, while the levels of malic and tartaric acids decreased with maturity, ranging between 0.07±0.00 - 0.03±0.00% and 0.08±0.00 - 0.19±0.00%, respectively. Oxalic acid was not detected at any maturity stage. The levels of fructose and glucose in jackfruit flesh showed an increasing trend, ranging between 0.22±0.03 - 3.04±0.02% and 0.31±0.13 - 2.69±0.16%, respectively. Sucrose was not detected in the two immature stages, but it was the dominant sugar in the mature stage (1.04±0.04%) and fully ripen stage (5.32±0.93%). Maltose was not detected at any of the four maturity stages of jackfruit flesh. Results clearly indicated a significant difference ($p<0.05$) in organic acid and sugar contents at different fruit maturity stages of jackfruit flesh.

Keywords: *Artocarpus heterophyllus,* Jackfruit, maturity stage, organic acids, sugars