

A Comparative Study of the Nutrient Composition of Tree-Ripened versus Rack-Ripened Ackees (*Blighia sapida*)

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Abstract: *Ackee canners often harvest mature fruits that are placed on sun racks to complete ripening (indicated by pod-opening). It is unknown whether the nutrient composition of rack-ripened fruits differs from those completely ripened on trees. This study compares proximate, mineral and fatty acid composition of raw, mature arils of tree-ripened and rack-ripened fruits. Proximate and mineral compositions were determined, using standard methods, for composite samples of tree-ripened fruits collected from eleven different trees, and for ackees allowed to rack-ripen in the sun over three days. Fatty acid profiles were established by GC-MS analysis of the trans-methylated ackee oils. It was found that rack-ripened ackees had a higher percentage crude fat and crude protein, but lower moisture levels than the tree-ripened ackees ($p < 0.05$). Mineral contents were similar. Higher quantities of oleic acid and linoleic acid ($p < 0.05$) were found in the oils of tree-ripened fruits, while a higher proportion of stearic acid ($p < 0.05$) was present in rack-ripened fruits. In conclusion, the nutritional profiles of tree-ripened and rack-ripened ackees were generally similar. Higher quantities of crude fat and crude protein in rack-ripened ackees were probably a direct consequence of lower residual moisture in the said ackees.*

Keywords: *Ackee; Blighia sapida; proximate analysis; rack-ripened; tree-ripened; nutrient composition*