

# ASSESSMENT OF THE PHYSICOCHEMICAL PROPERTIES OF COCONUT (*COCOS NUCIFERA*) AND WALNUT (*TETRACARPIDIUM CONOPHORUM*) OILS AND COMPARISONS WITH SOME SELECTED OILS SOLD IN NIGERIA MARKET

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Oils from *Cocos nucifera* and *Tetracarpidium conophorum* seeds were extracted using cold extraction method in the present study. The physicochemical properties of oils extracted from the seeds were compared with selected commercial available oils in the Nigerian market for its safety use for human consumption and possible for industrial uses. From the result, the percentage oil yields of *Cocos nucifera* and *Tetracarpidium conophorum* seeds were 42.5% and 24% respectively. The colour and odour of coconut and walnut oils were determined using the visual and sensory evaluation respectively and the result revealed that the oils have agreeable odour as compared with the commercially available oils. The colour of the oil extracted from *Cocos nucifera* seed and conformed with the colour of the commercially available oils while the oil from *Tetracarpidium conophorum* seeds was golden yellow. The results of the present study also revealed specific gravity of 0.89 and 0.91, refractive index of 1.46 and 1.48, viscosity of 10.96 mm<sup>2</sup>/s and 21.69 mm<sup>2</sup>/s at 40°C for the coconut and walnut oils respectively. The oils extracted from *Cocos nucifera* and *Tetracarpidium conophorum* were further characterized and compared with commercially available oils based on their acid value, saponification value, peroxide value and iodine value respectively. All the physicochemical properties observed for the oils from the samples and those of the commercially available oils were in agreement with those recommended by Codex standard for Vegetable oils (1999) and as such indicate edibility. The physical and chemical properties of oils extracted from *Cocos nucifera* and *Tetracarpidium conophorum* seeds were compared well with the selected commercial available oils in the Nigerian market and therefore, *Cocos nucifera* and *Tetracarpidium conophorum* may be valuable as non-conventional sources of oils for the increasing oil needs for both human consumption and industrial uses although the percentage yield of *Tetracarpidium conophorum* was low.

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