

## **Composition and quality of artisanal red palm oils in Cameroon in link with production factors**

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Red palm oils (RPOs) are used in Cameroon and other African countries to prepare several popular dishes. Artisanal processing of the palm fruits leads to different oils meeting the expectation of the population for traditional dishes. RPO production factors and quality of the oils vary from one small-scale processing unit to another. To relate the composition and nutritional quality of artisanal RPOs to the production factors, we collected and analyzed RPO samples from 32 artisanal producers located in 4 production regions and related the data to the production factors and extraction conditions (planting material, harvest to extraction delay, extraction equipment and process).

In 3 production regions, most of the producers used manual or motorized continuous small-scale mills (Caltech type) while in the last one, less concerned by oil palm development actions, motorized water extractors are used. Artisanal RPOs samples presented high contents in tocopherols + tocotrienols (268-779 µg/g oil), carotene (380-990 µg/g oil) and free fatty acids (acid value: 3.59 to 38.56 mg KOH/g oil), and low oxidation levels. Covariance analysis evidenced that FFA and carotene contents were influenced by artisanal process, especially by harvest to extraction delay. The planting material also influenced β-carotene and fatty acid composition.

Cameroonian artisanal RPOs present healthy nutritional properties but FFA contents higher than current oil standards due to harvest to extraction delays. The role played by FFA in typicality of artisanal RPOs and achievement of local dishes should be explored.

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