

Composition, nutritional value and uses of *Ricinodendron heudelotii*, *Vitex doniana* and *Cleome gynandra* seed oil, three indigenous oil species sources of omega 3, 6 and 9 fatty acids: a review

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Abstract

Ricinodendron heudelotii, *Vitex doniana* and *Cleome gynandra* are three indigenous species of Benin/West Africa. This review focuses on the physicochemical characteristics of their seeds and the nutritional and functional properties of their oils. In this systematic review, scientific articles and reports were used to collect information. The minima, maxima and mean values were considered and converted into a dry basis and/or the same units by using the international system of units when needed to allow comparison. Seeds of *Ricinodendron*, *Vitex* and *Cleome* fat contents were 51.83 g/100 g dw, 28.55 g/100 g dw and 27.35 g/100 g dw, respectively. The three seed oils contained 58.54 to 87% mono and polyunsaturated fatty acids. *Ricinodendron* seed oil contained a conjugated polyunsaturated fatty acid α -eleostearic acid (49.3–51.1%). Data varied from one author to another due to the methods used. *R. heudelotii* seeds oil is traditionally used for the treatment of several diseases. Its oil showed phytochemical and antimicrobial properties suggesting its possible use in pharmaceutical industries. *Ricinodendron* and *Vitex* seed oil should not be used for cooking at high temperatures or frying because of their high and medium levels of unsaturation.

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