



Tropentag, September 15-17, 2021, hybrid conference

“Towards shifting paradigms in agriculture
for a healthy and sustainable future”

Composition, Nutritional Value and Uses of *Ricinodendron heudelotii*, *Vitex doniana* and *Cleome gynandra* Seeds Oil

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Abstract

Ricinodendron heudelotii, *Vitex doniana* and *Cleome gynandra* are three indigenous plant species whose seeds contain oil that can provide interesting alternatives to conventional seed oil species. This review focused on the physicochemical characteristics of their seeds and the nutritional properties of the oils extracted from these seeds. For that purpose, scientific articles and reports were collected and needed information was extracted and synthesized. Results showed that, compared to *R. heudelotii* very little work has been done on *V. doniana* and *C. gynandra* seeds and their oil. The oil content of *R. heudelotii* seeds is about twice higher (51.83 mg/100 g) than that of *V. doniana* (28.55 mg/100 g) and *C. gynandra* (27.35 mg/100 g). Seed oils of all the three species are polyunsaturated oils. *R. heudelotii* seed oil is composed mainly of linoleic acid (28.3–51.1 %) and a polyunsaturated fatty acid found to be α -eleaostearic acid (49.3–51.1 %). *C. gynandra* seeds oil is composed mainly of linoleic acid (56.3%–61.1 %) and oleic acid (19.6–23.9%). No information is available on fatty acid composition of *V. doniana* seed oil. Several oil extraction methods have been tested for *R. heudelotii* seeds, including aqueous extraction and extraction by pressing while for *V. doniana* and *C. gynandra* seeds, the oils are extracted by soxhlet using petroleum ether (60–80°C). Some essays have been carried out on the possible applications of the oils. Thus, *R. heudelotii* seed oil is a potential renewable candidate for the preparation of fast drying binder and resins, suitable for industry and surface coating application. *V. doniana* seed oil can be used for the production of resin, paint and skin cream production. No application of *C. gynandra* seed oil has been stated.

Keywords: Applications, composition, nutritional value, oil, seeds