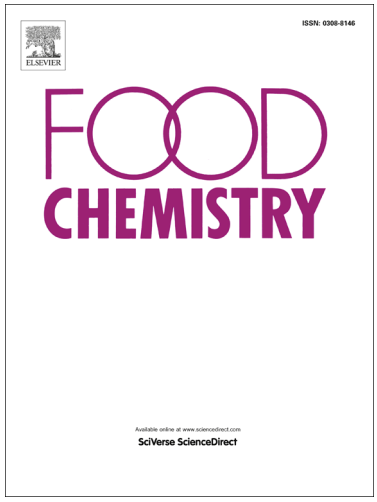

Curcuma longa L. Leaves: Characterization (bioactive and antinutritional compounds) for use in Human Food in Brazil

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Curcuma longa L. Leaves: Characterization (bioactive and antinutritional compounds) for use in Human Food in Brazil

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Abstract

This study evaluated the physicochemical characterization of *Curcuma longa* L. leaves with respect to proximate composition, mineral content, the presence of antinutritional factors, content of bioactive compounds and antioxidant capacity, and color measurements of leaves *in natura* and leaves subjected to microwave drying, oven drying, and freeze-drying methods. The proximate composition showed appreciable levels of protein (39.5g.100g^{-1}), carbohydrates (44.74g.100g^{-1}), total fiber (34.47g.100g^{-1}), soluble fiber (22.65g.100g^{-1}), insoluble fiber (11.81g.100g^{-1}), ash (13.81g.100g^{-1}), and low lipid contents (2.47g.100g^{-1}). No cyanogenic compounds were detected in both samples. Freeze-drying stood out as the method that led to the greatest reductions of the bioactive compounds (33.12 to 73.86%, dry basis) and antioxidant capacity when compared to the leaves *in natura*. Microwave drying was the preservation method that produced dry leaves with higher content of bioactive compounds and antioxidant capacity. Therefore, microwave drying produced dehydrated *Curcuma longa* L. leaves with the highest bioactive compounds and antioxidant activity.

Keywords: *Curcuma longa* L.; proximate composition; antinutritional factors; oven drying; microwave drying; freeze-drying; bioactive compounds.