



## Comparative analysis of the essential oil yield and chemical composition of leaves and fruits of *Campomanesia xanthocarpa* Berg and *C. guaviroba* (DC.) Kiaersk. (Myrtaceae).

Teomar D. Silva<sup>1,2</sup>, Michele Trombin-Souza<sup>1</sup>, Mireli Trombin-Souza<sup>1</sup>, Humberto R. Bizzo<sup>3</sup>,  
Cícero Deschamps<sup>1</sup>

<sup>1</sup> Graduate Program in Agronomy, Federal University of Paraná (UFPR) - Curitiba, Brazil

<sup>2</sup> Federal Institute Catarinense (IFC) – Araquari, Brazil

<sup>3</sup> Embrapa Food Technology - Rio de Janeiro, Brazil  
cícero@ufpr.br

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Native to the Atlantic Forest biome, the *Campomanesia* genus is represented by trees and shrubs, which fruits are consumed fresh and processed in the form of candy, ice cream, soft drinks and flavoring in alcoholic distillates. Thus, it is greatly important to analyze the yield and chemical composition of the essential oil of leaves and fruits, considering the possibility of new applications in manufactured products. This research aimed to evaluate the essential oil yield and chemical composition of leaves and fresh fruits of *Campomanesia xanthocarpa* and *Campomanesia guaviroba* in a segment of Araucaria Forest, in the state of Parana. Fresh leaves (100 g), and fresh fruit (200 g) of *C. xanthocarpa* and *C. guaviroba* were collected in the municipality of Piraquara - PR. The essential oil extraction was performed by hydrodistillation in a Clevenger apparatus for 4.5 hours, in triplicate. To calculate the essential oil yield, 20 g of samples of leaves and fruits were dried in an oven with air circulation at 65 °C for 24 hours. Quantitative and qualitative analyses of essential oil were performed by GC and GC-MS in an Agilent 7890-A and Agilent 5973-N, respectively. A capillary column of fused silica was applied, coated with HP - 5MS (30 m x 0.25 mm x 0.25 µm). Injector and flame ionization detector (FID) were kept at 250 °C and 260 °C, respectively; the oven temperature ranged from 60 °C to 240 °C for 3 °C min<sup>-1</sup>; helium gas as the carrier gas (1.0 mL min<sup>-1</sup>). The percentage compositions were obtained from electronic integration measurements using FID. The analysis of GC-MS was performed in the same conditions of GC; MS was operated in electron ionization mode (70 eV) at a rate of 3.15 scan min<sup>-1</sup> and scan range from 40 to 450 Da. The transfer line was maintained at 260 °C, the ion source at 230 °C and the analyzer (quadrupole) at 150 °C. Identification of essential oil component was done by comparison of their fragmentation spectrum patterns to the reference spectrum (1). Additionally, comparing the KIs based on bibliographical references. The quantification of all compounds was calculated by electronic integration of the FID from the corresponding peak area, calculated from the average of three injections. The essential oil yield in the leaves of *C. xanthocarpa* and *C. guaviroba* were 0.03 and 1.36%, respectively. In fruits, the essential oil yields were 0.02 to 0.08% for *C. xanthocarpa* and *C. guaviroba*, respectively. The fruits of *C. xanthocarpa* and *C. guaviroba* showed 41 (92.5%) and 16 (100% of the oil) components, respectively. In leaves, the major components of *C. xanthocarpa* were limonene (41.5%) and spathulenol (5.8%); and the species *C. guaviroba* were β-eudesmol (16.8%) and α-eudesmol (10.3%). In fruits, the major compounds were spathulenol (19.1%) and α-cadinol (13.3%), and for *C. xanthocarpa* were limonene (30.0%), sabinene (16.8%), α-pinene (13.4%) and spathulenol (7.2%).

1. Wiley Registry of Mass Spectral Data, 6th edn. Wiley Interscience, New York (1994).

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