



Plant density and harvest season influence the essential oil yield and α -humulene content in *Varronia curassavica* DC.

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Varronia curassavica is a native species from Brazil, known as “erva-baleeira” and traditionally used as anti-inflammatory. This activity is scientifically validated and assigned to the essential oil constituents stored in their leaves (1). It is known that the yield of active compounds and therefore the therapeutic properties can be changed due to several factors, including the harvest season and cropping system (2). This work aimed to evaluate the essential oil yield and α -humulene content in plants grown at different densities between plants and harvested in three seasons. *V. curassavica* seedlings were obtained from CPQBA-UNICAMP and transplanted in five densities between plants (0.4 x 1.0 m; 0.6 x 1.0 m; 0.8 x 1.0 m; 1.0 x 1.0 m; 1.0 x 1.6 m) at the Experimental Research Station of EPAMIG, Oratórios-MG, Brazil. They were harvest on three seasons: December 2013 (summer), April 2014 (autumn) and August 2014 (winter). The leaves were separated of stems, weighed and dried in an oven with forced air circulation (40 °C) to constant weight. Dried leaves (100 g) were subjected to hydrodistillation separately in a Clevenger-type apparatus for 3 hours each. The oils were analyzed by GC/FID and GC/MS. The content of α -humulene were identified by comparison of both mass spectra and linear retention indices with spectral library and literature. Oil yields were significantly higher (1% and 0.8 %) in winter for 0.8 x 1.0 m and 1.0 x 1.0 m spacing between plants, respectively. The α -humulene content changed between seasons: summer (4.91%), autumn (4.89%) and winter (3.9%).

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