



Seasonality Effect on Essential Oil Chemical Composition of Fresh Leaves of *Syzygium cumini* Collected in the Amazon Region

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Essential oils with medicinal importance can be found in Apiaceae, Asteraceae, Geraniaceae, Lamiaceae, Lauraceae, Liliaceae, Myrtaceae, Piperaceae, Pinaceae, Poaceae, Rutaceae, Rosaceae, Santalaceae and Zingiberaceae (1). The main chemical constituents present in the essential oil are hydrocarbons (pinene, limonene, bisabolene), alcohols (linalool, santalol), acids (benzoic and geranic acid), aldehydes (citral), cyclic aldehydes (cuminal), ketones (camphor), lactones (bergaptene), phenol (eugenol), phenolic ethers (anethole), oxide (1,8-cineole) and esters (geranyl acetate) (2). The chemical composition of essential oils can vary according to geoclimatic location, culture conditions (type of soil, climate, altitude and water availability), plant development stage (e.g., before or after flowering), harvest time, etc. (2,3,4). The medicinal properties of essential oils include antimicrobial, analgesic, sedative, anti-inflammatory, anesthetic, etc. (5). *Syzygium cumini* (L.) Skeels belongs to the Myrtaceae family, is original from India and Java. In Brazil, it is found in various states of the Southeast, Northeast and North (6). The essential oil from leaves was obtained by hydrodistillation of fresh material (1000 g) in Clevenger apparatus (6 h), analyzed by GC-MS Shimadzu QP2010 mass spectrometer in a DB-5MS column, 30 m X 0.25 mm X of 0.25 μ m. Identification of the constituents was made by interpretation of their mass spectra with the aid of the library database NIST, the Kovat's index calculation and by comparison with literature (7). Essential oil yield was obtained in a minimum of 0.072 % in Feb/ 2013 and up to 0.130 % in Dec/ 2014 (volume/mass). The chemical composition varied in all periods analyzed. In October/2013, 37 substances were identified and in June/ 2014, 22 substances, corresponding to a composition of 93.6 % and 97.9 %, respectively. The major constituents were α -pinene (56.1 %), camphene (1.2 %), β -pinene (13.9 %), β -myrcene (3.9 %), *p*-cymene (1.0 %), limonene (7.7 %), (*Z*)- β -ocimene (23.9 %), (*E*)- β -ocimene (8.1 %), α -terpineol (7.0 %), bornyl acetate (2.4 %), *trans*-caryophyllene (12.4 %), α -humulene (5.6 %) and caryophyllene oxide (5.9 %). The α -pinene was the substance with the highest percentage in area in the whole period.

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