Rectification of palmarosa essential oil, *Cymbopogon martinii*

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Cymbopogon martinii (palmarosa) is an herbaceous plant of the genus *Cymbopogon* and belongs to a family of grasses that grows in tropical areas. Palmarosa essential oil (EO) is rich in geraniol. Geraniol is a monoterpene alcohol which gives to the oil its aromatic character and commercial interest for its use in the production of repellents, fragrances and cosmetics (1). Palmarosa EO extracted from the plant cultivated in the municipality of Barbosa, Santander, Colombia was obtained by steam distillation. The commercial value of palmarosa EO depends on its content of geraniol. Because of this, the EO was subjected to a process of fractional distillation using a spinning band column *B/R Instruments 800* (BR Instruments, Easton, Maryland, United States) with 15 theoretical plates, at a pressure of 8 Torr (2). Four fractions were obtained, three at the column top and one at the bottom. For each fraction, the equilibrium temperature was measured at the boiling flask and the top of the column. For the first fraction the equilibrium temperature was obtained at 123 °C and 60 ± 5 °C and it was composed mainly of (*E*)-β-ocimene (54.2 %), (*Z*)-β-ocimene (16.8 %), and eucalyptol (6 %); the second fraction was obtained at 124 °C and 80 ± 5°C and it was composed mainly of geraniol (78.5 %) and geranyl acetate (2.3 %); the third fraction at 124 °C and 95 ± 5 °C was composed of geraniol (82.5 %) and geranyl acetate (2.2 %); the fourth fraction was obtained from the bottom of the column with composition mainly of geraniol (83.5 %) and geranyl acetate (2.4 %). The mass percentage for each fraction was around 4.8, 9.2, 22.4 and 56.3% with losses of approximately 7.3 %. Geraniol relative amounts for each fraction were 0, 78.5, 82.5 and 83.5 %. Fraction characterization was performed on an Agilent Technologies 7890A gas chromatograph coupled to an Agilent Technologies 5975C mass spectrometer with quadrupole analyzer. DB-5MS and DB-WAX capillary columns were used; split injection (30:1) was employed. For geraniol quantification, a calibration curve was made and samples were analyzed on an HP 5890 Series II GC with flame ionization detector and a DB-Wax (60m) column.

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