



### Composition of the essential oil of *Schinus terebinthifolius* Raddi (Anacardiaceae) cultivated with poultry manure and Organosuper

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*Schinus terebinthifolius* Raddi (Anacardiaceae, Brazilian pepper) is native from Brazil and used in traditional medicine as anti-inflammatory, anti-hemorrhagic, for respiratory disorders, among others. Scientifically, its leaves and fruits showed anti-inflammatory, antioxidant, antimicrobial and antitumor potential. The species is used in cooking and there are studies that confirm its low oral toxicity. This study aimed to investigate the chemical composition of the essential oil of Brazilian pepper cultivated under different organic residues. The plants were grown at the *Garden of Medicinal Plants* from the Federal University of Grande Dourados (UFGD). A voucher specimen was deposited in the herbarium (DDMS 4602). The treatments resulted from the addition of semi-decomposed poultry manure or Organosuper<sup>®</sup> to the ground as coverage or incorporated at a dose 10 t ha<sup>-1</sup>. Treatments were arranged as 2 (residues) x 2 (way of addition) factorial + 1 (control without residue), in a randomized block design with five replications. Samples of fresh fruits (50 g) from each treatment were collected in January 2015 and submitted to hydrodistillation, separately, in a Clevenger-type apparatus for 4 hours each. The oils were analysed by GC/MS using capillary column DB-5 (30 m x 0.25 mm x 0.25 mm). The analysis conditions were: carrier gas helium (99.999%, and flow rate of 1.0 ml/min), injection volume 1 µl in split mode (1:20). Initially, the oven temperature was kept at 50°C reaching 250°C at a rate of 3°C/min. The temperatures of the injector, detector and transfer line were kept at 250°C. The parameters included scanning MS voltage electron impact ionization of 70 eV, a range of mass 45-600 m/z scan a range of 0.5 s. Oil components were identified by comparison of both mass spectra and linear retention indices with spectral library and literature (1). In the essential oil obtained from the fruits, 32 compounds were identified, in which 20 compounds were found in the treatment with incorporated poultry manure, 8 in poultry manure coverage, 13 in incorporated Organosuper<sup>®</sup>, 19 in Organosuper<sup>®</sup> coverage and 13 in the control sample. The components α-pinene, β-pinene, myrcene, α-phellandrene, δ-carene, limonene, terpinolene e γ-murolene were identified in all samples. The major components were α-pinene in the control sample (80.3%) and in the Organosuper<sup>®</sup> coverage (71.9%), whereas in incorporated Organosuper<sup>®</sup>, δ-carene (51.8%) was the major compound, followed by α-pinene (30.8%). In both applications of poultry manure, δ-carene was the major compound.

1. Adams, R.P. Identification of essential oil components by Gas Chromatography/ Mass Spectroscopy. 4<sup>th</sup> ed. Allured Publishing Corporation, Carol Stream, IL, 2007, 804 p.

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