



Chemical composition and fungicide evaluation of the essential oils from the leaves of *Cinnamomum verum* J. Presl (Lauraceae) of Maranhão.

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Cinnamomum verum J. Presl is a tree of great importance in the world market because, apart from its culinary use, it has also pharmacological activities. *C. verum*, known as "cinnamon", "Srilankan cinnamon", "cinnamon India" or "Ceylon cinnamon", is a tree that reaches up to 9 m tall, with leathery leaves, lanceolate and light green (1). Two leaf samples were collected in February 2014, in different locations in the capital São Luís (SL) and inside Santa Inês (SI), Maranhão, Brazil. The herbarium samples were identified in João Murça Pires Herbarium of the Museu Paraense Emílio Goeldi (MPEG) under registration 165477. Dried leaves were subjected to hydrodistillation process separately on a Clevenger-type apparatus. Essential oils were analyzed by GC/FID and GC/MS, in a FOCUS equipment (Thermoelectron) equipped with a capillary column DB-5 (30m X 0.25 mm X 0.25 µm), nitrogen as carrier gas (1.2 mL min⁻¹). Injector splitless and detector temperatures were at 250 °C and heating the column from 60 to 240 °C (3 °C min⁻¹). Essential oils were tested *in vitro* against *Colletotrichum musae*, characteristic of anthracnose and a very common disease in banana fruits. The methodology used was adding the essential oil amid flux BDA and the surfactant agent DMSO. The concentrations tested were 0.0; 0.5; 1.0; 2.0; 3.0 and 4.0 µL mL⁻¹. Standards of the major components of the oils were also tested in the same concentrations. The oil yields were 2.21 (SI) and 2.4 % (SL). The essential oils from the leaves showed two different chemotypes. For the sample SI, we identified benzyl benzoate (95.0 %), followed by linalool (1.2 %). For the sample SL, it was found eugenol (94.6 %), followed by (*E*)-caryophyllene (1.0 %). The other constituents of the essential oils were in percentages lower than 1 %. Chemical composition variations may be related to the phases of growth, environmental conditions, weather effects and altitudes (2). The essential oils of *C. verum* were able to inhibit the mycelial growth, sporulation and speed index of mycelial growth. The standard benzyl benzoate did not lead to good results to the test, different from the standard eugenol, which provided similar results to those of the essential oils of *C. verum* tested. Thus, the essential oils of cinnamon (*C. verum*) appear as an alternative to control the disease caused by the fungus. The study of the chemical composition is necessary, since different components have different biological activity against organisms.

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