



Antifungal activity of essential oils, its major constituents and emulsions of *Lippia gracilis* genotypes against *Colletotrichum acutatum*.

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The aim of this study was to evaluate the antifungal activity of emulsions and essential oils of *Lippia gracilis* genotypes against the plant pathogenic fungus *Colletotrichum acutatum* in vitro. The essential oils were obtained by hydrodistillation using a Clevenger apparatus. The emulsions were obtained from the mixture of essential oils from two genotypes of *L. gracilis* with surfactants and water. Samples of essential oils and emulsions were analyzed by GC-MS/FID. For testing the inhibition of mycelial growth of the fungus, according to the methodology described by Costa e Carvalho (1), we used Potato Dextrose Agar (PDA) medium and different concentrations of the essential oils, thymol, carvacrol and emulsions to determine the lethal and inhibition concentrations. Discs of 0.7 cm diameter containing mycelia were transferred to the center of plates containing the solid medium. The major compound identified for genotype LGRA106 was thymol (63 %) and for LGRA109 was carvacrol (46 %). For LGRA106 we observed a minimum inhibitory concentration (MIC) of 0.19 % and a minimum lethal concentration (MLC) of 0.23 %. For LGRA109 we observed a MIC of 0.18 % and a MLC of 0.25 %. For thymol and carvacrol, we observed a MIC of 0.2 % and a MLC of 0.4 %. For the emulsions we observed a MIC of 0.6 %. Essential oils, emulsions and the major compounds showed fungicidal profile, being the lowest concentration tested 0.15 % capable to inhibit the mycelial growth by over 50 % for all tested substances against fungal plant pathogen *C. acutatum* in vitro.

1. Costa e Carvalho, R.R. et al. Quím. Nova, 2013, **36**, 241-244.

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