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## Antifungal activity of *Callistemon citrinus* essential oils against phyto-pathogenic fungi

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Fruits and cereal grains are frequently contaminated with deteriorative and mycotoxigenic fungi which are responsible of significant production losses. Plant extracts are generally assumed to be more acceptable and less hazardous than synthetic compounds and can be used as alternative antifungal treatments. The aim of the present work was to evaluate the antifungal activity of the essential oil of *Callistemon citrinus* (EOCC) against the phyto-pathogenic fungi *Aspergillus flavus*, *Aspergillus parasiticus*, *Fusarium verticillioides*, *Alternaria alternata*, and *Botrytis cinerea*. The essential oil was extracted from fresh leaves of *C. citrinus* by hydro-distillation. A spore suspension of every fungus was used to inoculate Petri dishes containing 5 mg ml<sup>-1</sup> of EOCC dissolved in potato dextrose agar (PDA). The diameter of the fungal radial growth was measured every 24 hour of incubation. The Percentage of radial growth inhibition was calculated by comparing the radial growth in PDA medium containing EOCC against that determined in PDA without EOCC. Volatile compounds of EOCC were identified by gas chromatography coupled to a mass spectrometer detector. EOCC was able to inhibit 100% of radial growth of *B. cinerea*, 59.2 % of *A. flavus*, 41.7% of *F. verticillioides*, 25% of *A. alternata* and 14.2% of *A. parasiticus*. The main volatile compounds identified were 1,8-Cineole (72%),  $\alpha$ -Terpineol (12.6%), Myrcene (3.7%), Terpinen-4-ol (3.0%),  $\alpha$ -Pinene (1.6%) and Spathulenol (1.2%). These volatile compounds which have been reported in some antimicrobial plant extracts might have a potential use in food preservation.

### Biography

Ema Carina Rosas-Burgos has completed her PhD in Biotechnology and she is a Professor-Researcher at the University of Sonora, México. She has published more than 20 papers in reputed journals and has served as reviewer of renowned international journals as well as evaluator of research projects for the Mexican National Council for Science and Technology (CONACYT). She is a member of the National System of Researchers (SNI) of Mexico.

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