

Antifungal effect of *Ocotea indecora* leaves extracts obtained by Different polarities solvents in *Aspergillus* spp.

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Fungal contamination represents a significant global issue affecting food security and human health. In 2022, approximately 830 million people experienced hunger, while 25% of the world's cereal and fruit production was lost annually due to fungal and mycotoxin contamination. Moreover, around 1.2 billion people suffer from fungal infections and mycotoxin poisoning each year. Among the main fungal contaminants, species of the *Aspergillus* genus are notable for causing aspergillosis and producing aflatoxins, posing serious risks to public health and food safety. Considering the need for safer and more sustainable control strategies, plant-derived bioactive extracts have emerged as promising alternatives. *Ocotea indecora* (Lauraceae), a plant known for its medicinal and antifungal properties, was investigated for its potential to inhibit *Aspergillus* species. The study evaluated the antifungal activity of leaf extracts obtained using solvents of different polarities—ethanol, dichloromethane, ethyl acetate, and hexane—against *A. flavus* RC 2054, *A. parasiticus* NRRL 2999, and *A. westerdjikiae* NRRL 3174. The extracts (512 µg/L) were tested in SDA medium at 25°C for 96 hours, with daily monitoring of colony diameter. Results demonstrated that only the dichloromethane extract produced significant inhibition (20–25%) of *A. flavus* and *A. parasiticus* growth, maintaining this effect for 96 and 72 hours, respectively. For *A. westerdjikiae*, both dichloromethane and ethyl acetate extracts showed more than 40% inhibition during the first 48 hours; however, only the dichloromethane extract sustained inhibition above 25% for up to 96 hours. These findings suggest that metabolites of intermediate polarity, such as those extracted by dichloromethane, may interact more effectively with fungal membranes, facilitating intracellular penetration and exerting fungistatic effects. In conclusion, the dichloromethane leaf extract of *O. indecora* exhibits stable fungistatic activity against multiple *Aspergillus* species for at least 72 hours, while the ethyl acetate extract demonstrates a more limited and short-term effect, particularly against *A. westerdjikiae*. The study highlights the potential of plant-derived metabolites as environmentally friendly and health-safe alternatives for fungal control, contributing to food safety and sustainable biotechnological development.

Keywords: Flavi Section, fungistatic, natural products, preservatives.

Development Agency: CAPES; FAPERJ e CNPq.