Purity evaluation and antifungal activity of *Cinnamomum camphora* essential oil

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Background. Phytopathogenic fungi such as *Monilinia laxa*, *Sclerotinia sclerotiorum*, and *Botrytis cinerea* can destroy up to 30% of agricultural products, compromise food safety through the production of mycotoxins, and reduce the nutritional value of food. Controlling these fungi is essential for improving food safety. Several studies have described the effectiveness of essential oils and their components against fungal pathogens of crops and agricultural products.

In this context, the antifungal activity of *C. camphora* essential oil against several phytopathogenic fungi was investigated, and FTIR analysis was used to determine its purity by identifying the functional groups present. The results showed strong antifungal activity with complete inhibition of the growth of many species (*Monilinia laxa*, *Monilinia fructicola*, *Sclerotinia sclerotiorum*, *Colletotrichum gloeosporioides* and *Botrytis cinerea*) at a concentration of 10,000 ppm, encouraging its use as an alternative to chemical fungicides.

Keywords: *Cinnamomum camphora*, Essential oil, antifungal activity, food safety, FTIR analysis.