

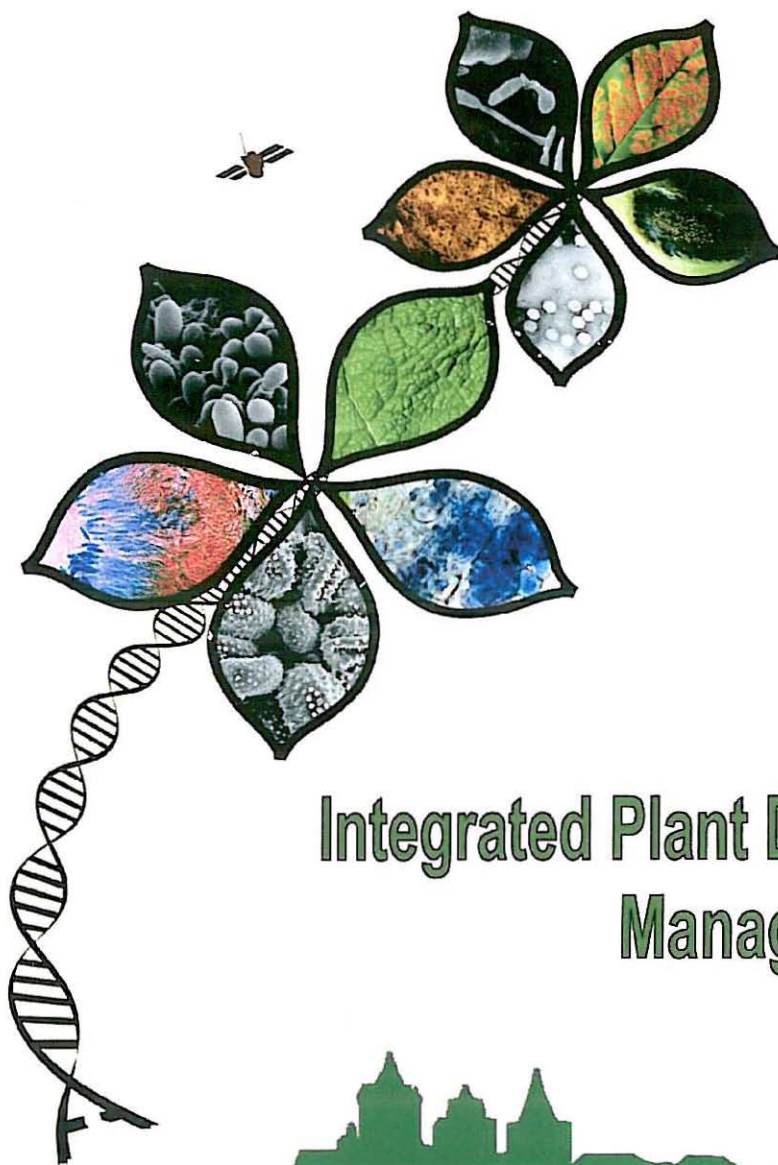
Book of Abstracts



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P3.9 Effects of wild plant essential oils on the growth of *Phytophthora cinnamomi* and *Castanea sativa*

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In regions that have chestnut as the main economic resource such as in Bragança, in the North of Portugal, chestnut ink disease caused by *Phytophthora cinnamomi* causes major economic losses. The prospect of an active natural product agent has a great appeal, especially if it comes from a wild plant common in the region. Essential oils are natural compounds that can have bactericidal, fungicidal and allelopathic effects, and these characteristics can be an interesting tool to control the development of plant pathogenic agents and prevent infections caused by *P. cinnamomi*. The essential oils were tested in different concentrations from 100% to 2% dilutions in 70% ethanol, on mycelial growth of *P. cinnamomi* after 1, 2, 3, and 4 weeks in pure culture. Since the pathogen can be found in water and can be transmitted through water, their growth was also tested in the presence of filter paper imbibed with the same essential oils and concentrations in liquid medium to determine if the essential oil can affect their development in these conditions. The essential oils from *Mentha pulegioides*, growing wild in the Northeast region of Portugal were tested also *in vitro* for their effect on the growth of *C. sativa*, to establish that the oils are not phytotoxic. Preliminary results show that essential oils of *Mentha* species at concentrations of less than 80% can reduce and even stop the growth of *P. cinnamomi*, and in concentrations of less than 90% do not affect drastically the development of *C. sativa in vitro*.

Keywords: *Phytophthora cinnamomi*, *Mentha* essential oils, *in vitro* culture