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Poster Abstract – C.05

EVALUATION OF THE ACTIVITY OF TEA TREE OIL AND SINGLE ESSENTIAL OIL COMPONENTS AGAINST PLANT PATHOGENS

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The aim of this study was to examine the effect of Tea Tree Oil (TTO), extracted from *Melaleuca alternifolia*, and of five molecules, taking part in the composition of essential oils, on different classes of plant pathogens. More in details, starting from previous results (Terzi et al, 2007), the antimycotic properties of TTO, terpinen-4-ol, eugenole, carvon, 1,8-cineole (eucalyptol) and thymol were evaluated *in vitro* on ten different species of mycotoxigenic fungi, like *Fusarium subglutinans, Fusarium cerealis, Fusarium verticilloides, Fusarium proliferatum, Fusarium oxysporum, Fusarium sporotrichioides, Aspergillus tubigensis, Aspergillus carbonarius, Alternaria alternata, Penicillium.* The efficacy of the essential oil and of the single components in reducing powdery mildew infection was evaluated in barley through *in vivo* approaches. Dressing tests were done to test the effect of these molecules on fungi responsible for seed borne disease, like *Pyrenophora graminea*.

The results obtained have shown that TTO and tested molecules have strong activity in reducing *in vitro* and *in vivo* growth of the fungal pathogens. Moreover, there is variability in the response of the different fungi to the different molecules.

In conclusion, essential oils and their components are natural substances potentially useful for the control of a wide range of plant pathogens.

TERZI V, MORCIA C, FACCIOLI P, VALE' G, TACCONI G, MALNATI M. 2007. In vitro antifungal activity of the Tea Tree (Melaleuca alternifolia) essential oil and its major components against plant pathogens. Letters in Applied Microbiology (LAM) 44:613-618.