

Isolation and Identification of Allelochemicals from Ascocarp of *Tuber* Species

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Abstract Truffles (*Tuber* spp.) belong to the fruiting bodies of certain hypogeous ascomycetes, which may grow in ectomycorrhizal symbioses with specified shrub and tree species. Some truffles, notably *Tuber melanosporum* and *T. aestivum*, form ‘burnt’ area, also known as ‘burn’ or ‘brûlé’ around their symbiotic hosts. Increasingly focused interest has been centred on an in-depth research and study of truffle methanolic extracts and their fatty acid allelochemicals. These metabolites have been recognised as biochemical and have great influence in the burnt formation. This present chapter contributes the knowledge of truffle methanolic extracts and fatty acids regarding allelopathic activity to understand the applicability and sustainability of truffles in agricultural practices for the management of weed and plant pathogens. However, it will also be helpful to the companies specialising in the processing of truffle and the recovery and reinsertion of waste truffles through the production process for the isolation of important allelopathic compounds.

Keywords Bioassay • Fatty acids • LC/MS analysis • *Tuber aestivum* • *T. borchii* • *T. magnatum* • *T. melanosporum*

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