

EFFICACY OF *AUREOBASIDIUM* STRAINS BELONGING TO DIFFERENT SPECIES AGAINST *BOTRYTIS CINEREA* OF TOMATO

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yeasts, enzymes, N-VOCs, FT-IR spectroscopy

The difference in antagonistic activity against the causal agent of grey mould (*Botrytis cinerea*) of tomato between *Aureobasidium* strains belonging to three different species, namely *A. pullulans*, *A. melanogenum* and *A. subglaciale*, was evaluated by in vitro and in vivo assays. In the yeast–pathogen direct interaction experiment, all the strains significantly reduced *B. cinerea* growth, with *A. melanogenum* the least efficient species (17.8% of reduction) compared to *A. pullulans* and *subglaciale* (22 and 27.8%). The non-volatile metabolites produced by all three species reduced mycelial growth between 95 and 100%. These metabolites were characterised by FT-IR spectroscopy as polysaccharides, lytic enzymes, siderophores and antibiotics. The inhibitory effect of *Aureobasidium* strains on pathogenic enzymes such as xylanase, polygalacturonase and pectinase was measured showing *A. pullulans* strains as capable of strong inhibition of xylanase, an enzyme directly related to the virulence of necrotrophic pathogens such as *B. cinerea*. Our data demonstrate that the different species of *Aureobasidium* isolated from a range of non-conventional environments exerted variable efficacy against *B. cinerea*, with *A. pullulans* as the most active species followed by *A. subglaciale* and *A. melanogenum* as ineffective and not suitable for biocontrol applications.