

## SELECTION AND CHARACTERIZATION OF BACTERIAL STRAINS APPLICABLE AGAINST WET AND DRY BUBBLE DISEASES

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Cultivated mushrooms like the oyster mushroom (*Pleurotus ostreatus*), shiitake (*Lentinula edodes*) and the white button mushroom (*Agaricus bisporus*) have their pathogens with detrimental effects on the crop such as *Cladobotrium mycophilum*, *Hypomyces perniciosus*, *Lecanicillium fungicola*, *Trichoderma aggressivum*, *Trichoderma pleuroti*, *Trichoderma pleuroticola*, and *Pseudomonas tolaasii*, from which *Trichoderma aggressivum* is the most devastating, especially the subspecies *Trichoderma aggressivum f. aggressivum*.

We selected biocontrol bacteria from the genus *Pseudomonas* and the *Bacillus* group, that were isolated from the casing and compost layer of white button mushroom growing medium, by testing them against two strains of *L. fungicola* and two strains of *H. perniciosus*. We tested the selected strains against white button mushroom, shiitake and oyster mushroom. We examined the tolerance of the selected bacterial strains to various abiotic stress factors such as pH, salinity and temperature, and also their resistance to fungicides. We also tested the extracellular enzyme activities in the cell-free supernatant of the bacteria for proteases, lipases, and chitinases.

The characterisation of selected strains helps us to understand their interactions with the pathogenic fungi and their mechanisms of antagonism, and also provides possibilities for their application in a targeted environment, such as the growing substrate used in mushroom cultivation facilities.

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