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Efficacy of *Streptomyces* spp. strains against different strains of *Botrytis cinerea*

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Grey mould caused by the fungus *Botrytis cinerea* is an economically important disease in numerous crops. Biocontrol is a promising method to control the disease. Species of *Streptomyces* are potential biological control agents since they are ubiquitous in the environment and many of them produce various secondary metabolites with diverse biological activities including the ability to inhibit this plant pathogenic fungus. Strains RM-1-138 and RL-1-178 of *S. philanthi* and SS-2-243 of *S. mycarofaciens*, isolated from the rhizosphere soil of chili peppers grown in southern Thailand, have shown a good efficacy to control *Sclerotium rolfsii*, *Ralstonia solanacearum* and *Rhizoctonia solani* but their effect against *B. cinerea* is not known.

In this study we evaluated the efficacy of the three strains of *Streptomyces* spp. against *B. cinerea* *in vitro* and on tomato plants. Results indicated that the three strains inhibit the growth of *B. cinerea* in Petri plates and have a significant protective efficacy, although variable between strains of *Streptomyces* spp., against *B. cinerea* on tomato plant.

To assess the possible variability in susceptibility to these antagonistic strains in populations of *B. cinerea*, the protective efficacy of these bacteria were evaluated against 41 strains differing in their geographic origin, host of isolation and level of aggressiveness. Results based on confrontation tests in Petri plates suggest a diversity in the sensitivity of the different strains of *B. cinerea* to these biological control agents. The relevance of these results to ensure durability of the efficacy of these biological control agents will be discussed.



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