

Diversity in the susceptibility of *Botrytis cinerea* strains to the biological control agent *Pseudomonas helmanticensis*.

Author(s) : Bouaoud, Y. ; Troulet, C. ; Aissat, K. ; Bardin, M.

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Abstract : The strain *Pseudomonas helmanticensis* CT22 isolated from tomato stem in a tomato greenhouse in Bejaia (Algeria) has shown a good protective efficacy against *Botrytis cinerea* in controlled conditions but its effect against various strains of *B. cinerea* was not assessed. In this study, we evaluated the diversity in the sensitivity of sixty two strains of *B. cinerea* strains to *P. helmanticensis* CT22 both *in vitro* and on tomato. *In vitro* effect of the biocontrol agent is variable according to the strain of *B. cinerea*, both in dual culture assay or in volatile assay. Due to the very high level of efficacy against all tested strains of *B. cinerea* on detached tomato stem when *P. helmanticensis* CT22 was applied at 10^7 CFU/ml, the dose of application was reduced 10-fold at 10^6 CFU/ml. In this condition, the protective efficacy of the biocontrol agent is significantly influenced by *B. cinerea* strains with protection levels ranging from 24% to 100%. These results suggest a diversity in the sensibility of the different strains of *B. cinerea* to the biological control agent and emphasize the importance to consider several strains of a given plant pathogen species when screening a biocontrol agent.

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