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Caractérisation moléculaire, phénotypique et fonctionnelle d'isolats de *Trichoderma* sp. antagonistes de *Rhizoctonia solani*.

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The aim of the present study was to characterize sixteen isolates of *Trichoderma* originating from a field of sugar beet where disease patches caused by *Rhizoctonia solani* were observed. The isolates were identified using both molecular and morphological characters and both approaches were found complementary. Production of water-soluble and volatile inhibitors, mycoparasitism and induced systemic resistance in plant host were investigated using *in vitro* and *in vivo* tests in disinfested and non-disinfested soils. This functional approach revealed the intraspecific diversity as well as biocontrol potential of the different isolates. Different antagonistic mechanisms were evident for different strains. The most antagonistic strain, T30 was identified as *T. gamsii*. This is the first report of an efficient antagonistic strain of *T. gamsii* being able to reduce the disease in different conditions. The ability to produce water-soluble inhibitors or coil around the hyphae of the pathogen *in vitro* was not related to the disease reduction *in vivo*. Additionally, the strains collected from the high disease areas in the field were better antagonists. The antagonistic activity was not characteristic of a species but that of a population of strains.

Key words: *Trichoderma gamsii*, *T. velutinum*, water-soluble inhibitors, volatile inhibitors, biocontrol