

# ISOLATION AND SELECTION ANTAGONISTIC MYCORRHIZAE ISOLATES AGAINST *Sclerotium* sp. AND *Fusarium* sp.

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## Summary

Vietnam's climate is good for cultivation of different plant species, but also favourable to development of fungal pathogens including *Sclerotium* sp. and *Fusarium* sp. which caused dramatical damage on productivity and quality of agricultural produce, affected on agri-economics. Now, most farmers apply chemical pesticides to manage *Sclerotium* and *Fusarium* diseases, leading to bad effect to human health and environment. Therefore, research was carried out to isolate, purify, select some vegetable's antagonistic mycorrhizae against the plant pathogens of *Sclerotium* sp. and *Fusarium* sp., then identified the best antagonistic isolate. The results from 150 soil samples of vegetable gardens in Angiang province and Cantho city, 35 isolates of mycorrhizae were isolated, among them, 18 isolates had antagonistic ability. Among 18 antagonistic isolates, 5 isolates having good antagonistic ability to *Sclerotium* sp. were AGND-1301, CTND-2102, AGND-0701, AGND-0101 and CTND-2602, with averaged antagonistic efficiency of 7 days at 40.19, 36.00, 32.64, 32.55 and 29.24%, respectively. These five antagonistic isolates were continued to evaluate antagonistic ability to *Fusarium* sp. The results indicated that all five isolates had good antagonistic to *Fusarium* sp., among them, the isolate of AGND-1301 had highest averaged antagonistic efficiency at day 7, gained 66.14%. The colony of AGND-1301 was at first white and downy, later developing typically pale green compact tufts after 24 h, smooth and flat margins, often only in small areas or in concentric ring-like zones on the agar surface. The mycelial growth rate of the AGND-1301 on PDA medium was averaged 5.92 mm per day. This isolate was identified *Trichoderma harzianum*.

**Keywords:** Antagonistic ability, *Fusarium* sp., mycorrhizae, *Sclerotium* sp.