

**PROTECTION OF HOT PEPPER AGAINST MULTIPLE INFECTION OF
VIRUSES BY UTILIZING ROOT COLONIZING BACTERIA**

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ABSTRACT

Mixed virus infection is a common phenomena in nature. It results in severe disease symptoms and yield loss. We utilized seven selected root colonizing bacteria (rhizobacteria) isolated from the hot pepper rhizosphere to improve the effectiveness of virus management. The efficacy of those rhizobacteria in inducing plant growth and systemic resistance (ISR) on hot pepper against multiple infection of *Tobacco mosaic virus* (TMV), and *Chili veinal mottle virus* (ChiVMV) was evaluated in greenhouse trials. The rhizobacteria was applied as seed treatment and soil drench. All bacteria treated plants showed better growth character, milder symptom expressions than control and increased peroxidase enzyme activities and ethylene but these depended on the species. It affected slightly the accumulation of TMV, however it suppressed the ChiVMV accumulation. Based on the morphological characters and full length nucleotide sequences analysis of 16S r-RNA, *Bacillus cereus* (I-35) and *Stenotrophomonas sp* (II-10) were the potential isolates as PGPR.

Key words : multiple viral infection, rhizobacteria, *Bacillus cereus*, *Stenotrophomonas sp*, ISR