

RESEARCH ARTICLE

In vitro screening of plant growth promoting rhizobacteria to control bacterial wilt (*Ralstonia solanacearum*) of tomato (*Lycopersicon esculentum*)

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SUMMARY

Ralstonia solanacearum is the causative agent of bacterial wilt that causes considerable damages in the yield of various crop plants. The intent of the study was to evaluate potential of bacterial antagonists to suppress bacterial wilt disease development and evaluate the role of the strains as plant growth-promoting rhizobacteria (PGPR) in tomato. One hundred rhizosphere bacterial isolates were screened against virulent strain of *Ralstonia solanacearum*. After *in vitro* screening 10 antagonistic strains designated PR3, PR17, PR26, 1NAB15, 1NAB20, 3NAA1, 3NAA2, 2CBA2, 2CBA4, 2CBA18 showed antagonistic effect by producing inhibition zone suppressing the growth of *R. Solanacearum*. The isolate PR3 showed the highest inhibition zone measuring 33.3mm whereas 1NAB15 showed the lowest zone measuring 10mm. The present study, therefore, suggests that the use of PGPR isolates which showed the antagonistic activity can be used as inoculants/ bioantagonists might be beneficial for the control of bacterial wilt of tomato in field studies.

Key Words : *Ralstonia solanacearum*, PGPR, Bacterial wilt, Tomato

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