

## Isolation of Bacteriophages and Determination of Their Efficiency in Controlling *Ralstoniasolanacearum* Causing Bacterial Wilt of Tomato

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**ABSTRACT:** Bacterial wilt caused by *Ralstoniasolanacearum* is a devastating disease of many economically-important crops. Management of *R.solanacearum* is difficult using a single method hence, incorporation of a biological component in an integrated programmewould be a promising approach. In the present study,biocontrol potential of bacteriophages in controlling bacterial wilt of tomato (variety Thilina) was investigated. Bacteriophages were isolated from soil collected from vegetable fields or locations rich with organic matter.A mixture of six different phages were used in the study. Their effectiveness in controlling bacterial wilt caused by two isolates of *R.solanacearum* (isolate 6 and AB3) was investigated under planthouse conditions. Bacteriophage mixtures at a concentration of  $2.86 \times 10^6$  pfu/ml were applied to the rhizosphere as a soil drench by several methods. The phage isolates had different lytic patterns on host *R.solanacearum* isolates and varied in their plaque morphology. Percentage wilt incidence by isolate 6 was reduced by 10%, due to application of the phage mixture immediately before the inoculation of the pathogen or when applied three times as a soil drench. Wilt incidence by isolate AB3 was reduced by 20% due to the application of the phage mixture by the two methods. Survival of the bacteriophage in soil treated with phages ranged from  $0.2 \times 10^3 - 3.5 \times 10^4$  pfu/g of soil, after 15 days of the last application of phages.

**Keywords:** Biological control, lytic pattern, percentage wilt incidence

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