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**EVALUATION OF FIELD EFFICIENCY OF BACTERIOPHAGES  
IN CONTROLLING BACTERIAL WILT IN CAPSICUM  
(*Capsicum annuum* L.)**

**U. G. W. S. Shilpani, D. M. De Costa**

*Department of Agricultural Biology, Faculty of Agriculture, University of Peradeniya*

Capsicum (*Capsicum annuum* L.) is an important cash crop growing in Sri Lanka. It is highly susceptible to the bacterial wilt disease caused by *Ralstonia solanacearum*. Management of bacterial wilt through cultural practices and host plant resistance have had limited success. The present study was conducted to evaluate the potential of bacteriophages in controlling wilt of capsicum grown in a field where tomato was grown as the previous crop and wilt disease had been recorded.

A mixture of bacteriophages determined to be effective under *in vivo* conditions by a previous experiment was used. The phage mixture included seven different isolates of phages showing different plaque morphologies. In addition to the bacteriophage mixture, talc was incorporated to soil as a soil amendment to enhance the survival efficiency of bacteriophages in the rhizosphere. Eight different treatment combinations (i.e. with and without bacteriophage mixture x pathogen x talc) including negative and positive controls were arranged according to a split-split plot design with two replicates. By using the capsicum variety (Hungarian Yellow Wax), percentage wilt incidence and rate of wilting were recorded up to the fruit formation stage. Significance of the effects of treatment combinations on the development of wilt symptoms was analyzed by ANOVA and mean separation was done using the least significant difference.

The highest percentage wilt incidence and the rate of wilt development were shown in plants inoculated with *R. solanacearum* without the application of the bacteriophage mixture or talc. Application of the bacteriophage mixture without talc to pathogen-inoculated plants significantly decreased both the rate of wilting and percentage wilt incidence. Similarly, application of talc only without the phage mixture also resulted in significant reductions in both measures of disease development. Although, the combined application of the phage mixture and talc to pathogen-inoculated plants did not decrease the percentage wilt incidence, it decreased the rate of wilting. This could be due to sorption of the phage particles to talc and altered soil conditions such as reduced pH.

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