

Evaluation of Harpin for the Control of Insect-Vectored Bacterial Wilt of Pumpkin and Testing of PMR-Pumpkin and Squash Varieties for Their Reaction to Beetle Feeding Activity and Bacterial Wilt Inoculations

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ABSTRACT

The goals of this project were 1) to determine if harpin can suppress the transmission of bacterial wilt (BW) vectored by cucumber beetles and 2) to compare cucurbit crops and varieties for their attractiveness to cucumber beetles and susceptibility to bacterial wilt. Recently there has been a dramatic increase in the occurrence of BW, especially in pumpkin and squash, and a new disease has appeared that is caused by the same bacterium (*Erwinia tracheiphila*). Harpin, the active ingredient in Messenger, is a protein originating from *Erwinia amylovora*. It has been shown to induce the natural defense system of plants (known as Systemic Acquired Resistance or SAR) for several diseases and to reduce insect attractiveness of treated plants. Messenger would be a safer alternative to chemicals that may be restricted or eliminated for cucumber beetle control as a result of The Food Quality Protection Act.

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