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The Onion Thrip Trick

"The Onion Thrip Trick" experiment's objective is to determine whether the entomopathogenic nematode *Heterorhabditis bacteriophora* is an effective alternative biological control agent for Thrips Tabaci. *T.tabaci* is a parasitic insect that often targets onions as a host. Once it infects the onion, *T.tabaci* pierces the epidermal cells of the onion causing photosynthesis to cease, which results in severe discoloration of the onion leaves. Onion cells infected by *T.tabaci* turn the plant tissue of the onion white, making the crop highly unmarketable, and the crop's over all yields can be reduced by up to 60%. The researcher hypothesized that onion crops infested with *T.tabaci* could be treated with the entomopathogenic nematode *Heterorhabditis bacteriophora* as a biological control agent as opposed to synthetic pesticides. The researcher tested the effects of *H.bacteriophora* on *T.tabaci* in both lab and field trials. In the lab trials, *H. bacteriophora* killed at least 90% of all thrips in all tests. *H.bacteriophora* caused a mortality rate of at least 30% in all test plots in the greenhouse trial. The data from this experiment confirms that *H. abcteriophora* nematodes are a reliable alternative to synthetic pesticides and could be implemented into integrated pest management programs for treating onion crops infested with *T.tabaci* onion thrips.