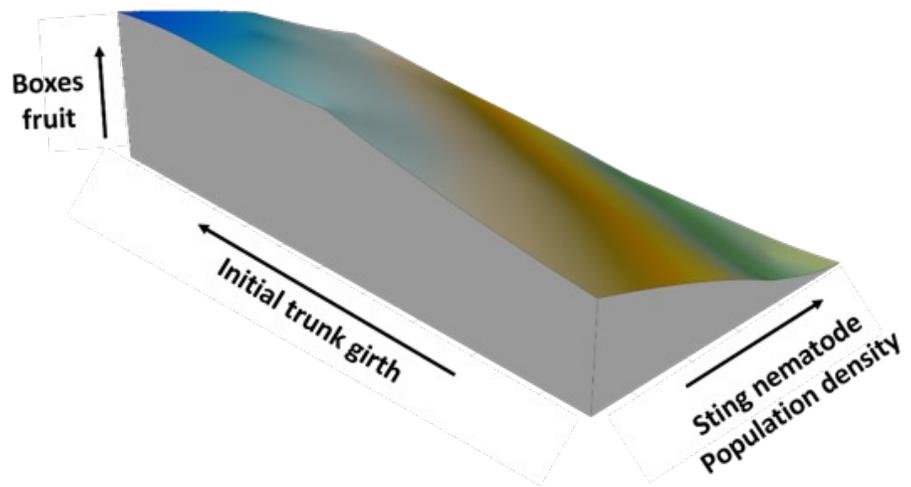


# Integrated Management of Sting Nematode and Citrus Root Weevil in Newly Planted Citrus Trees

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A just-concluded CRDF field experiment evaluated the efficacy of six nematicides for managing the sting nematode *Belonolaimus longicaudatus* in young trees with huanglongbing (HLB). Compared to untreated trees, the growth of the tree trunks and the mass of fibrous roots during 3 years was greater for trees treated with all nematicides than for untreated trees. Oxamyl (Vydate-L) was the best-performing nematicide with fibrous root density as much as 2.27-fold that of untreated trees and 36% greater trunk growth. The cumulative nematode densities during three years were inversely related to trunk girth, fibrous root density and fruit yield. Analysis of

the yield as affected both by the trunk girth prior to treatments and the cumulative sting nematode populations during the trial showed that trees produced more fruit in response to nematode management, and the magnitude of the increase depended on the initial size of the tree (see figure). Despite the improved growth and yield in treated trees, the harvested fruit from the 4.5-year-old HLB-affected trees averaged just 35 boxes per acre in 2022. Accordingly, we are investigating the use of individual protective covers (IPCs) to determine if managing root herbivores such as sting nematode and *Diaprepes* root weevil is more profitable

when newly planted trees are also protected from huanglongbing. We initiated a CRDF project comparing the response to nematode management of newly planted trees with and without IPC protection. And we are working with growers in an ongoing Craft Project to evaluate responses to *Diaprepes* larval management by trees that were initially protected (two years) from psyllids and weevils with IPCs, compared to non-protected trees. We anticipate that IPCs will confer greater tolerance to nematodes and weevils, making additional management tactics more profitable.

## Funding

