

RNA interference technology may help stop citrus greening disease

The GLP aggregated and excerpted this blog/article to reflect the diversity of news, opinion and analysis.

[Nabil] Killiny, an assistant professor of entomology, is researching ways to genetically disable the Asian citrus psyllid, the insect that hosts the deadly citrus greening bacteria, that would render it incapable of spreading the disease, or at least greatly inhibit its ability to do so. He works at the Citrus Research and Education Center. . .

Citrus greening poses the greatest threat to the Florida citrus industry. . . The disease is responsible for a 70 percent reduction in the state's biggest citrus crop, oranges, since its discovery in 2005.

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Psyllids spread greening by acquiring the bacteria when feeding on an infected plant, retaining the deadly microorganisms in its intestines, then transmitting bacteria through saliva when it feeds on a healthy tree, Killiny said.

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Killiny works with a technique called "RNA interference," or RNAi. RNA stands for "ribonucleic acid," a chemical present in all living cells that carries genetic information.

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He has already demonstrated RNAi can alter a psyllid's wing formation, rendering it unable to fly and spread bacteria, Killiny said. He has also identified RNAi could alter the psyllid's ability to host greening bacteria, to mate and to suppress the insect's ability to develop a resistance to pesticides.

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Killiny acknowledged a successful RNAi would not be 100 percent effective, just as no pesticide will destroy 100 percent of insects.

For that reason, RNAi would become another important tool in an "integrated pest management" strategy, Killiny said. . . .

Killiny said he hopes to have a successful RNAi tool for Florida growers within five years. When that would become widely available would depend upon state and federal regulatory approval.

Read full, original post: [Citrus greening: Building a wall against deadly bacteria](#)