

## Did You Know?

There's nothing like a glass of orange juice, half a grapefruit, or a slice of lemon in a cool drink. Citrus remains a popular food for many of us.

But did you know that an emerging disease now threatens the Nation's citrus industry, and that ARS scientists are working hard to protect it?

The disease, called "Huanglongbing" (Chinese for "yellow dragon disease"), is also known as citrus greening disease. Since being discovered in Florida in 2005, it has infected millions of citrus trees in that important citrus-producing State.

Citrus greening is a bacterial disease spread by the Asian citrus psyllid. Plants can be infected for 2 years before characteristic yellow shoots and mottled leaves begin to appear. Infected trees produce unmarketable, bitter fruit and become unproductive in 5 to 7 years.

ARS researchers are taking a number of approaches to deal with the problem. In one study, they developed a test that reveals whether the psyllids are in fact carrying *Candidatus Liberibacter asiaticus*, one of three microbial species thought to cause the disease.

Also, scientists are using a high-tech method to rapidly identify, with 95-percent accuracy, citrus plant leaves infected with the citrus greening. Researchers have sequenced more than 95 percent of the genome of *Candidatus Liberibacter asiaticus* and have posted results in GenBank, an online genetic resources database.

Finally, scientists also are looking at the psyllids themselves to determine which ones are capable of spreading the disease. And they have experimented with essential oils—emitted by citrus plants and their relatives—to attract psyllids. As lures, these essential oils could be used to detect psyllids and monitor their movement.

Some of the oils studied so far include petitgrain oils, which are essential oils used as perfume bases, and Orange Jessamine, a popular ornamental plant related to citrus.

With this and other research, ARS scientists are doing their part to make sure our favorite citrus products remain a healthy part of our diets.

### Did you know that...

- Per capita consumption of orange juice in the United States was 3.6 gallons in 2010-11?
- About 23.5 million boxes of lemons were produced in the United States in 2010-11?
- Grapefruit production in the United States was about 30.2 million boxes in 2010-11?

(Data from [Fruit and Tree Nuts Outlook](#), published by USDA Economic Research Service.)

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