Deadly plant disease threatens $250M rose business

September 19 2018, by Janet Mcconnaughey

A rose displaying signs of rose rossette virus, with thickened succulent stems growing from thinner stems, is pictured at Oklahoma State University's Plant Disease and Insect Diagnostic Laboratory research plot in Perkins, Okla., Tuesday, Sept. 11, 2018. (AP Photo/Sue Ogrocki)

The outlook for American-grown roses is becoming a bit less rosy, with the spread of an incurable virus that's causing major damage to the nation's $250-million-a-year rose business.

U.S. rose bush producers account for the bulk of that business and face a growing challenge from rose rosette disease, which can kill roses within three years. Its many symptoms include super-thorny stems and clusters of stems called rosettes or witches' brooms.

One producer spent $1 million getting rid of rose rosette disease and some smaller nurseries have had to destroy 10,000 plants, said Dr. David Byrne of Texas A&M University, leader of a $4.6 million multistate project to study the virus and the mite that spreads it, and to find resistant rose varieties.

"It moves real easily and it's hard to detect initially. ... That's really scary for someone in production," Byrne said. "If it gets in their pots in their production areas, they've got to eliminate thousands of plants. Even then they don't know if they've got rid of it."

He also said, "I think we're seeing it in more areas now than 10 years ago."

The virus, spread by wind-blown mites about half the length of a grain of salt, has been found in at least 30 states . In Texas, the Fort Worth Botanic Garden had to replace its entire rose collection. The virus recently was found to have spread in northwest Louisiana, including the home city of the American Rose Society and its gardens—the largest U.S. park devoted to the national flower.

Jen Olson, with the Plant Disease and Insect Diagnostic Laboratory at Oklahoma State University shows rose bush with a normal stem, left, and a stem infected with rose rosette virus, at a research plot in Perkins, Okla., Tuesday, Sept. 11, 2018. (AP Photo/Sue Ogrocki)

Rose rosette has been known since the early 1940s—and was once hailed as a possible way to eradicate an invasive plant .

The disease was first identified on wild multiflora roses in California, the Rocky Mountains and Manitoba, Canada. In the 1990s and even the early 2000s, scientists considered it a possible way to control those invasive plants.

It became recognized as a problem for cultivated roses only in the last decade or so, Byrne said.

It's the latest blow to the business. South American competition forced

most U.S. growers out of the cut flower market over the past several decades. That market has withered from $200 million in 1990 to $22 million in 2015.

A rose bush with the telltale signs of rose rosette virus is pictured at Oklahoma State University's Plant Disease and Insect Diagnostic Laboratory research plot in Perkins, Okla., Tuesday, Sept. 11, 2018. Signs include super-thorny stems and clusters of stems called rosettes or "witches' brooms." (AP Photo/Sue Ogrocki)

This virus threatens the rose bush business, valued at more than $200 million in 2015. It appears to be a growing issue as more and more cultivated roses are used in landscapes, according to a website created by a coalition of rose producers and scientists.

In Louisiana, where rose rosette disease was first detected in 2015, it's spreading at an alarming rate in commercial and residential plantings in Bossier City and in Shreveport, where the rose society's American Rose Center is located, said Dr. Raj Singh, an LSU AgCenter plant pathologist.

The center's 40 acres (16.2 hectares) with rose gardens are free of the disease so far, said the society's executive director, Laura Seabaugh.

Unless an infected bush is removed, experts say, mites will spread the virus throughout a garden and beyond.

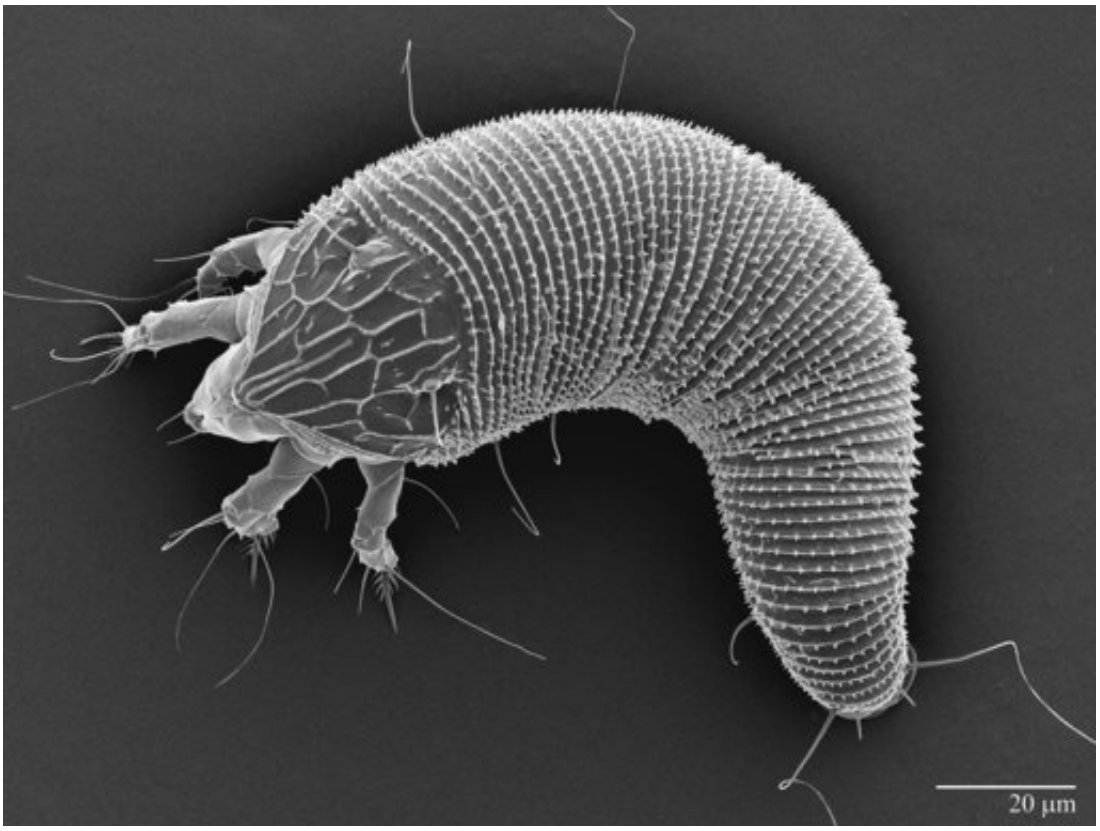
Jen Olson, with the Plant Disease and Insect Diagnostic Laboratory at Oklahoma State University takes notes at a research plot studying rose rosette virus in Perkins, Okla., Tuesday, Sept. 11, 2018. (AP Photo/Sue Ogrocki)

That can mean hard choices, said Dr. Mark T. Windham, who's testing plants at the University of Tennessee-Knoxville to find resistant varieties.

"I've had people tell me, 'The bush that has it, it's the only surviving clone of my great-grandmother's rose.' I hate to say it, but are you going to try to save that rose and put your 500-bush rose garden in jeopardy?" he said.

The Fort Worth Botanic Garden uprooted about 2,000 bushes in 2015, rosarian Jeffrey Myers said. He said their close-set rows let mites "crawl through like a highway from rose to rose." The botanic garden now has about 350 rose bushes, set at least 3 to 4 feet (1 to 1.3 meters) apart, with other plants in between as mite roadblocks.

Byrne says some large landscapers are not using roses because it's too expensive to maintain them.



In this scanning electron microscopy image, provided by the U.S. Department of Agriculture's Agriculture Research Service, the tiny mite that carries the virus for rose rosette disease is pictured in a black and white photo dated Oct. 16, 2016. The mite is roughly half as long as a grain of salt, too small to see with the naked eye. (USDA\ARS Electron and Confocal Microscopy Unit, Beltsville, Maryland via AP)

Customers still want them but won't pay to replace infected plants, said Joe Ketterer, with Ruppert Landscape of Laytonsville, Maryland, which works in six states and the District of Columbia. He said his company uses roses but prunes out affected branches, using hormones to stimulate growth in parts of the same plant without symptoms.

At Tennessee-Knoxville, the University of Delaware and Oklahoma State, researchers lodge infected, mite-infested twigs in the foliage of

healthy plants to see which stay well.

"So far we have 20 roses that look good. This is their fourth year," Windham said. But their test won't be over until they've lasted a full four years without infection, he said.

A rosa rugosa blooms at Oklahoma State University's Plant Disease and Insect Diagnostic Laboratory research plot in Perkins, Okla., Tuesday, Sept. 11, 2018. After nearly three years, the plant appears to be resistant to the rose rosette virus. (AP Photo/Sue Ogrocki)

Jen Olson, with at Oklahoma State University's Plant Disease and Insect Diagnostic Laboratory, shows a rose bush with telltale signs of rose rosette virus at a research plot in Perkins, Okla., Tuesday, Sept. 11, 2018. Signs include super-thorny stems and clusters of stems called rosettes or "witches' brooms" growing from one stem. (AP Photo/Sue Ogrocki)