

Geneva experiment station helps N.Y. fight plum pox virus

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Plum pox symptoms (ring patterns) on plum leaf.

When two plum trees and one peach tree in Niagara County, N.Y., tested positive for the plum pox virus (PPV) in 2006, a team dedicated to eradicating the virus sprang into action and within months turned to Cornell pathologist Marc Fuchs for help.

Last year 16 trees in New York state tested positive for PPV. As a result, 26 acres of orchard were destroyed. Yet there is hope that, through stringent surveying and identification efforts, PPV can be eradicated from New York.

Plum pox was seen first in Bulgaria in 1915 and is now the major disease

of Prunus trees in Europe, affecting plums, peaches, nectarines and apricots as well as ornamentals. Because the disease can be spread by aphids, regulatory officials in New York had been watching for plum pox for some time. In 2006 the U.S. Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) declared an agricultural emergency in New York, which freed up funding for eradication efforts that include an in-depth survey of Prunus orchards and susceptible Prunus ornamentals in parks and backyards.

Fuchs, an assistant professor of plant pathology at the New York State Agricultural Experiment Station in Geneva, N.Y., analyzes samples from Prunus trees to identify PPV for the team of APHIS and New York State Department of Agriculture and Markets officials. His lab analyzes all samples collected in New York state, which last season numbered 91,000. Fuchs expects to analyze more than 110,000 samples this season.

Fuchs' lab, like all labs associated with the survey, is required to follow strict protocols for sample collection and analysis, which includes not knowing where samples come from so researchers are not biased by information pertaining to grower or location. Once a sample tests positive and the USDA's National Germplasm Resources Laboratory in Beltsville, Md., confirms that the sample is positive, the corresponding tree must be removed along with every susceptible tree within a 50-meter (about 55 yards) radius.

A positive test result can be devastating for the grower, destroying both orchard and source of income. Yet growers understand that PPV has the potential to destroy Prunus orchards across the country, said Fuchs, and are compensated by the government for tree removal and loss of production. Ongoing extension efforts educate growers and keep them informed so that growers are included as part of the team.

The huge number of plum pox survey samples over a survey season (3.5

months) and the short timeframe for analysis (one week) have posed a significant organizational challenge for Fuchs. He has hired an assistant to run the lab and supervise 16 full-time helpers, all high school or college students, this summer.

Source: Cornell University

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