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# Leafroll Virus Hits Clean-Stock Program

In spite of the discovery of leafroll virus in California's grape clean-stock program, there should not be a problem for nurseries trying to fill growers' needs

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By Will Stockwin

**T**HE discovery of leafroll virus last fall in California's Foundation Plant Materials Service (FPMS) grape clean-stock program at the University of California-Davis will temporarily decrease the supply of certified wood to nurseries. The large amount of clean wood existing around the state in nursery increase blocks, however, should fill growers' needs until the problem is resolved.

"Some of the scion clones that tested positive — particularly Merlot 1 and 3, Cabernet Sauvignon 7 and 8, and Chardonnay 4 and 5 — make up 80% of California plantings, and they are still available either as certified or one generation from certified wood," says John Duarte, Duarte Nursery, Inc. in Hughson. "All my customers are looking for information on this, and I'm telling them we have sources of clean budwood that have been out of Davis for 10 years or more."

## Infection Levels Low

It is believed that the problem at FPMS began five or six years ago, based on disease-free vineyards propagated then from what are now infected mother vines. Initial concerns over the possibility of tremendous levels of infection within FPMS haven't been realized. ELISA (Enzyme-Linked Immunosorbent Assay) testing of the program's rootstock materials was completed by March, with only one out of 600 vines registering positive.

ELISA is a two-day lab test relying on antibodies specific to the agent being tested, and is used in many crops to test for viruses, bacteria, and fungi.

"Something else to keep in mind, however, is that the ELISA test is new and we don't yet know how it correlates with the old index," says Deborah Golino, USDA/ARS plant pathologist. "There's a little uncertainty about the test and we'll need to see final data before we can confidently say the disease is there and to what extent."

## Final Report Due In June On Extent of Infection

A final report is expected from FPMS in June, once retesting to resolve all of the 'questionable' results is completed. Nurseries testing their increase blocks at private laboratories are finding the disease occurring in roughly the same percentage of vines as at FPMS, and very rarely in blocks propagated before 1989.

"We tested all of our rootstock and scion increase blocks and everything came back negative," says a relieved Rich Kunde of Sonoma Grapevines in Santa Rosa.

"It meant a big lab bill for us and some sleepless nights until the testing was completed, but it won't affect availability to our customers at all. And if FPMS acts quickly to replace infected vines and re-establish supply, it shouldn't have much impact on growers," he says.

"If these are recent infections at FPMS, then we've dodged a bullet by finding out now, rather than after we'd built those selections up and put them in the field," Duarte says. "Now more than ever, any grower making an investment without knowing when budwood came from FPMS and what's been done with it since the nursery got it, is taking a big risk."

## Infections' Cause Unknown

How the leafroll infection got started at FPMS is still unknown, but its spread implies the old assumption — that leafroll doesn't move in the field — was wrong.

"The 25-year-old block that had the highest number of positive responses was put in when it was common practice to plant material known to have leafroll right next to clean vines," says Golino. "We think leafroll out there may have been spread by mealy bugs, and we're beginning research to find out."

"There's also a little bit of a hint that phylloxera might be involved, which is related to the coincidental spread of leafroll and phylloxera in some Napa vineyards," she says.

## Committee To Focus On Leafroll Problem

Golino will chair a 30-member, industry-wide committee just formed by UC-Davis, the California Department of Agriculture, and USDA, which will initially focus on resolving the leafroll problem before turning its attention to upgrading FPMS grape certification programs.

"The industry needs to figure out what it wants from the program, and how much money it's willing to invest in it," Golino says. "California's FPMS program was the world's best 20 years ago, but it has stagnated while foreign programs have progressed. We need a state-of-the-art program here and I'm hoping the committee can define what it would entail, so we can then go out and aggressively seek funding." □

Stockwin is an agricultural writer and former staff member of *Fruit Grower*.