

Save The Date
April 9, 2013, 9 a.m. - 1 p.m.



"UC Davis Viticulture and Enology On-the-Road in Lodi"

Speakers from the University of California, Davis
Department of Viticulture and Enology

David Block, Department Chair, Professor and Chemical Engineer

David Mills, Professor and Microbiologist

Anita Oberholster, Cooperative Extension Specialist in Enology

Andrew Waterhouse, Professor and Chemist

Dario Cantu, Systems Biologist

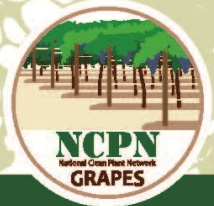
Register by email to reserve your place, capacity is limited:
RSVP to Karen Block at klblock@ucdavis.edu

To be held at Constellation Brands Woodbridge Winery,
in the old barrel room
5950 E. Woodbridge Rd., Acampo, CA 95220

At the end of the talks we would like to have a discussion about what people in the industry see as issues (both immediate and future, on both the viticulture and enology sides) and what research they would like to see pursued.

FACT SHEET

National Clean Plant Network



Start clean, stay clean.

Grapevine Red Blotch Disease

What is red blotch?

Grapevine red blotch-associated virus (GRBaV), is the latest addition to the list of more than 75 graft-transmissible agents that have been identified in grapevines. This recently reported virus is associated with the emerging red blotch disease that was described for the first time on Cabernet Sauvignon in Napa Valley in 2008. There is a very good correlation between the presence of GRBaV and red blotch symptoms, but this correlation does not prove causality.

What are the symptoms of red blotch?

Vines with red blotch disease show symptoms much like leafroll disease. Like leafroll, leaves turn red in early fall primarily at the base of the shoots. Unlike leafroll, vines with red blotch disease show pink/red veins on the leaf undersides and no rolling.

How serious is it?

Red blotch disease can result in a significant reduction in sugar accumulation - up to 5 °Brix. Much is still unknown about effect on yield and possible differences in cultivars and rootstocks.

Where has it been found?

Findings suggest a wide geographic distribution, as well as a widespread occurrence in red and white vinifera cultivars. Infected vines have been identified in California, New York, Virginia, Maryland, Pennsylvania, Texas and Washington. GRBaV was found both in young (first leaf) and mature (5-20-yr old) vineyards. The sequence of a virus nearly identical to GRBaV was also obtained in Canada. GRBaV has been detected in Cabernet franc, Cabernet Sauvignon, Chardonnay, Malbec, Merlot, Mourvèdre, Petite Syrah, Petit Verdot, Pinot noir, Riesling and Zinfandel.

Red blotch vs. Leafroll in Cabernet franc.



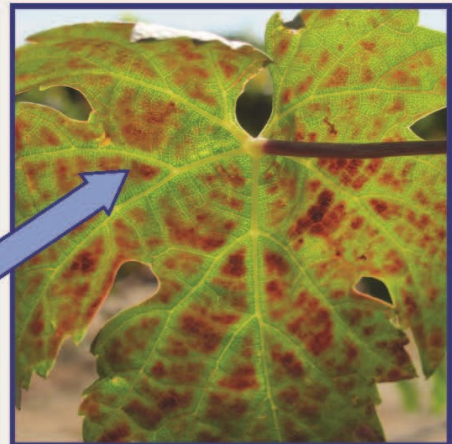
Red blotch has flat margins.

Leafroll has leaf margins that roll downward.



Red blotch has pink veins.

Leafroll has green veins.



Photos: M. R. Sudarshana, USDA-ARS Davis, CA

When was it found?

Investigations into what appeared to be a new disease began in 2009. Grapevine red blotch-associated virus was reported in independent studies in California and New York in 2012.

How does it spread?

Based on the wide host and geographic distribution of GRBaV and the fact that the virus is transmitted by grafting, it is likely that spread primarily occurs through propagation material. Also, an increased incidence of GRBaV over time in young, healthy vineyards that are adjacent to old, infected vineyards suggests the existence of a vector.

How is it treated?

Like other viruses, once it is present in a vineyard there is no cure. However, evidence suggests that GRBaV can be eliminated using microshoot tip culture, the same method used to eliminate other viruses, to establish clean Foundation vines.

What kind of virus is it?

Analysis of the genomic nucleotide sequence indicates a new circular, monopartite DNA virus that is tentatively assigned to the family *Geminiviridae*.

How is it detected? How can I get my vines tested?

GRBaV can be detected by a PCR test. Several labs offer a test for GRBaV.

What is the status of vines at Foundation Plant Services at Davis?

All of the vines planted at the new Russell Ranch Foundation vineyard have been tested for red blotch and none of them are infected. The Classic Foundation Vineyard has been partially tested and the incidence of GRBaV is very low. Test records are available on the Foundation Plant Services website <http://fps.ucdavis.edu>

What is being done?

Studies are ongoing to investigate the role of GRBaV in red blotch disease, monitor incidence and spread, improve detection techniques, and evaluate the efficacy of microshoot tip culture for virus elimination.

For the latest information see:

<http://iv.ucdavis.edu>

References:

Al Rwahnih, M., Dave, A., Anderson, M., Uyemoto, J. K., and Sudarshana, M. R. 2012. Association of a circular DNA virus in grapevines affected by red blotch disease in California. Proc. 17th Congress of the International Council for the Study of Virus and Virus-like Diseases of the Grapevine (ICVG), Davis, California, USA, October 7-14 2012, pp. 104-105.

Krenz, B., Thompson, J., Fuchs, M. and Perry, P. 2012. Complete genome sequence of a new circular DNA virus from grapevine. *Journal of Virology* 86:7715.



Red blotch in Cabernet franc.

Photo: Marc Fuchs, Cornell University, Geneva, NY



Leafroll in Cabernet franc.

Photo: Marc Fuchs, Cornell University, Geneva, NY



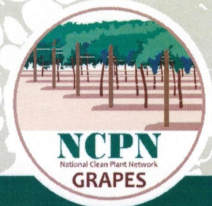
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Feb 2013

WEBINAR

National Clean Plant Network



Start clean, stay clean.

NCPN Grapes Special Webinar

Grapevine Red Blotch Disease: An Emerging Issue

Wednesday, March 27, 2013 3:30 to 5:00 PM EST

Grapevine red blotch disease was first identified in 2008 as a syndrome that affects fruit ripening. Virologists in New York and California have identified a graft-transmissible virus, called Grapevine red blotch-associated virus (GRBaV) that is associated with the symptoms. Infected vines have been identified in California, New York, Virginia, Maryland, Pennsylvania, Texas and Washington.

Join Cornell University virologist **Marc Fuchs**, University of California Cooperative Extension Farm Advisor **Rhonda Smith**, and University of California-Davis Foundation Plant Services director **Deborah Golino** for an informational session on red blotch disease. We will describe the virus, its impact on vine health, what informal field observations have told us, and what measures are being taken to test and identify infected vines and planting material.

- *GRBaV, its association with Red Blotch disease and presence in vineyards.* **Marc Fuchs**, Department of Plant Pathology and Plant Microbe Biology, Cornell University (with contributions from Mysore Sudarshana and Keith Perry).
- *An Extension Perspective: Field observations and impact on vines.* **Rhonda Smith**, UCCE Farm Advisor, Sonoma County.
- *Testing and identification of vines and planting material.* **Deborah Golino**, UC Davis Foundation Plant Services.

We intend this webinar to be interactive, with time set aside between presentations to answer your questions. Bring your questions and submit them during the webinar via the 'chat bar'.

Tim Martinson, Senior Extension Associate, Cornell University, will moderate.



Marc Fuchs



Rhonda Smith



Deborah Golino



*** To register, fill out the on-line form posted at:**

https://cornell.qualtrics.com/SE/?SID=SV_9RWAGgg3sXYHC85

by 8 AM EST on Tuesday, March 26. You will receive an email with connection instructions later in the day.

This webinar is a product of the NCPN-Grapes outreach committee, and is funded by USDA Farm Bill Section 10201 funds awarded to Cornell University.

nationalcleanplantnetwork.org
ncpngrape.org



Grapevine Red Blotch Disease

Fact Sheet and Webinar information

Save the Date!

April 9, 2013

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Paul Verdegaal, Farm Advisor
March 2013

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