



## Grapevine Red Blotch Disease through the Looking Glass: Update and Detailed Photo Gallery

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[www.eurofinsus.com/stalabs/red-blotch-photos.html](http://www.eurofinsus.com/stalabs/red-blotch-photos.html)

Eurofins STA Laboratories has been testing for Grapevine red blotch associated virus (GRBaV) for over a year. As we pass this anniversary, we reflect on what is known about Grapevine Red Blotch disease, GRBaV (the virus associated with the disease), and have prepared a special WEB page ([www.eurofinsus.com/stalabs/Red-blotch-disease.html](http://www.eurofinsus.com/stalabs/Red-blotch-disease.html)) compiling useful information about Red Blotch Disease including a link to a comprehensive gallery of photos showing Red Blotch symptoms in grapevines of many different wine grape varieties.

Grapevine red blotch associated virus is a newly described virus associated with grapevine Red Blotch disease found infecting vineyards in California and throughout USA and Canada. Initial concern was based on the family of virus that GRBaV belongs to, namely the Geminiviridae, which is important in tomatoes. GRBaV is different from most other known grapevine infecting viruses in that it is DNA-based, rather than RNA-based, in its genetic code. Presumably, GRBaV has been in

vineyards for quite a while, but has only received attention after it was discovered during a recent search for new viruses in grapevines with a novel technique. Once discovered, it was associated with the presence of red, blotchy leaves and reduced sugar content in red fruited grape varieties. Hence, the names of the disease and the virus, Red Blotch and Grapevine red blotch associated virus, respectively.

It is likely that Red Blotch disease might have been confused with other grapevine disorders that manifest similar symptoms. These disorders include infection by leafroll viruses or fungal pathogens, insect feeding damage, vine nutritional deficiencies, environmental stresses (freeze, heat, lack of or excessive moisture), soil conditions, physical damage (gophers, machine injuries), poor vineyard management, etc. Not surprisingly, our laboratory also reported that specific fungi were found in vines showing symptoms

similar to Red Blotch prior to the discovery of GRBaV. In short, determining the cause for Red Blotch symptoms is still confusing.

Adding to the confusion, in spite of its name, GRBaV does not always produce Red Blotch symptoms. For example, it affects white fruited varieties such as Chardonnay or Sauvignon Blanc without showing red blotch symptoms. While leaf discoloration is disconcerting, more importantly, GRBaV has been reported to affect sugar accumulation in grapevines resulting in reduced Brix values and delayed fruit maturity.



GRBaV in Malbec

## Grapevine Red Blotch Continued



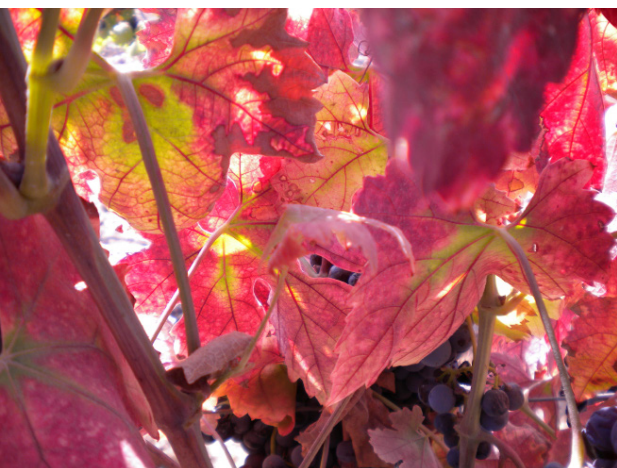
GRBaV in white fruited varieties- note the discrete patchy yellow areas in the leaf blade represented by Chardonnay (right) and Sauvignon Blanc (left)

Presently there is no information on the biology of GRBaV. While there are anecdotal reports that Red Blotch is spreading rapidly throughout California vineyards, there is no field data supporting this viewpoint. Within a laboratory setting it has been reported by Washington State researchers that the "Virginia Creeper" leafhopper is able to transmit the GRBaV. While this is interesting, clearly more data and research are needed to confirm transmission in the

vineyard and determine if other insects are capable of spreading the GRBaV from vine to vine. As soon as GRBaV was reported at the International Grapevine Virus Congress in October 2012, Eurofins STA Laboratories developed a reliable testing method (HealthCheck Panel RB) to detect GRBaV (we are likely the first lab to offer the test to growers and nurseries). During HealthCheck Panel RB qualification period, we tested a great number of vines that were infected with the virus. We determined that our method can reliably detect GRBaV from any portion of the vine, in contrast to others reporting there are sampling limitations regarding Red Blotch detection. We are confident that GRBaV can be accurately detected in all tissues: leaf blades (both mature

and new), petioles, green or lignified canes, as well as cordons and trunks. In addition, the virus is detectable throughout the different seasons. Consequently, we are able to offer HealthCheck Panel RB in combination with other popular HealthCheck Panels (A, B, or PD).

You can always trust Eurofins STA Laboratories to have the most complete and reliable grapevine testing program anywhere. We offer a wide menu of services to the viticulture industry including bacterial, fungal, and viral testing as well as disease elimination using meristem tissue culture. Feel free to call our lab with questions about Red Blotch symptoms or any other general vineyard health issue. Our website is always a resource with articles and information on grapevine diseases- please click on the link: [www.eurofinsus.com/stalabs/products-services-grapevine-testing.html](http://www.eurofinsus.com/stalabs/products-services-grapevine-testing.html) or call us at (408) 846-9964 or toll free at (888) 782-5220.



GRBaV in Zinfandel



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