

# Red Blotch

*Grapevine Red  
Blotch-associated  
Virus (GRBaV)*



PD/GWSS BOARD

## Origin

Red blotch (GRBaV) is of unknown origin at this time, but it may have been in the U.S. for a number of years since it appears to be widely distributed in North America and Canada.

## Current Distribution

Findings suggest an extensive geographic distribution, as well as occurrences in both red and white *vinifera* vines. Infected vines have been identified in California, New York, Virginia, Maryland, Pennsylvania, Texas, and Washington. In California, a DNA virus closely associated with red blotch disease has been detected in vineyards in the North Coast, Central Coast and San Joaquin Valley. GRBaV appears in both young (first leaf) and mature (5-20-yr old) vineyards.

## Biology

GRBaV is a unique monopartite DNA virus that is tentatively assigned to the family *Geminiviridae*. Red blotch infected vines show symptoms much like that of vine leafroll disease, where leaves turn red in the early fall, primarily at the base of shoots. Unlike leafroll, which exhibits green veins, Red blotch vines have red or pink veins and no rolling.

## Host Range

GRBaV has been detected in Cabernet Franc, Cabernet Sauvignon, Chardonnay, Malbec, Merlot, Mourvèdre, Petite Syrah, Petit Verdot, Pinot Noir, Riesling and Zinfandel. It is believed to infect table grapes, raisin grapes and rootstock as readily as winegrapes. Non-grape hosts are currently unknown.



## How It Spreads

The disease is spread by grafting and propagation of infected plant material, and may also be spread by insect vectors. It is not known whether red blotch can also be spread with unsanitary equipment (i.e. mechanical transmission).

## Potential Damage

GRBaV can result in a significant reduction in sugar accumulation in grape berries, with a difference of up to 5° Brix being reported. However, some growers report good sugar numbers in infected vineyards, so there may be variation in the severity of different strains. Much is still unknown about its effect on yield and in different cultivars and rootstocks.

## Current Control Measures

Like other viruses, once GRBaV is present in a vineyard there is no cure. However, evidence suggests that microshoot tip cultures can be used to establish clean foundation vines.