

## Variability and host range of Blackberry chlorotic ring spot virus

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One of the newer components of Blackberry yellow vein disease is Blackberry chlorotic ringspot virus (BCRV). The virus was discovered in 2006 in blackberry in the UK and consecutively in rose and raspberry in the US. BCRV belongs to the genus *Ilarvirus*, viruses transmitted in nature by pollen and seed, whereas there are some reports of bee and thrips transmission, presumably by being pollen carriers. BCRV was very widespread in Arkansas where about 90% of wild roses carry the virus, giving us reasons to believe that it may also be widespread in blackberry fields.

The virus is indeed also widespread in blackberry- more than 40% of wild blackberries collected in Arkansas were tested positive for BCRV. We tested several wild and commercial field samples from WA, WV, NC, SC, GA, FL, MS, and AR and the virus is present in every state. The virus populations are very homogeneous and we were able to develop detection tests that are able to detect all US isolates with ease. Given that blackberry, raspberry, and rose belong to the same family we tested several other rosaceous hosts for the virus and we found that apple is another, asymptomatic host of BCRV. We also tested the ability of the virus to move from generation to generation through seed and results indicate that in rose and goosefoot transmission rates are about 50%, a very high number by any standards. Our experiments with blackberry and apple are ongoing.

In a nutshell, it appears that BCRV is very widespread in the South and its mode of transmission does not allow much of control methods other than thrips control, which, as noted above can be indirect vectors of the virus.