Applications of the LAMP assay for Grapevine red blotch virus

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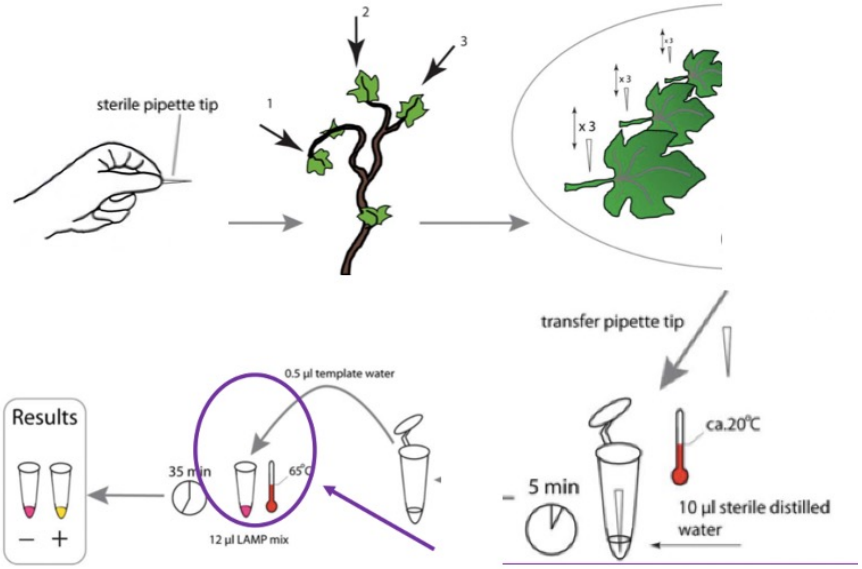
LAMP Assay for GRBV

The loop mediated isothermal amplification (LAMP) method is a point-of-use, DNA-based assay that has been developed for detection of grapevine red blotch virus (GRBV). LAMP is a rapid, colorimetric assay designed to be used "in-house" because it does not require special facilities, expensive equipment, or highly trained laboratory personnel.



Romero Romero et al. 2019. *Archives of Virology* 164: 1453-1457

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Applications of the LAMP assay for GRBV

LAMP can be used in many situations, primarily to confirm visual symptoms of red blotch disease (RBD) and facilitate identification of infected vines for removal. For example, LAMP is a cost-effective and rapid tool to screen large numbers of vines.

Applications of the LAMP assay for GRBV[2]

LAMP can be used in the following situations:

When RBD symptoms are light or subtle

When vines become symptomatic late in the growing season

When vines are senescing

When young vines have RBD symptoms

When symptoms are present on only one part of the vine

When RBD symptoms are absent (white cultivars)

[2]These photographed vines tested **positive** for GRBV using the LAMP assay.

Biotic & abiotic factors can complicate the visual identification of RBD. LAMP can be used to decipher confusing symptoms, such as[3]:

Nutrient Deficiency

Leafhopper feeding damage

Webspinning spider mite damage

Girdling damage

Unknown or unattributed symptoms

Mixed infections with other viruses

[3]These photographed vines tested **negative** for GRBV using the LAMP assay.