



Agdia Launches Rapid Molecular Test Kit & Service for Emerging *Coguviruses* in Cucurbit Crops

Agdia, Inc. has launched a new [rapid, field-deployable molecular test kit](#) for onsite detection of *Watermelon crinkle leaf-associated virus 1* (WCLaV-1) and *Watermelon crinkle leaf-associated virus 2* (WCLaV-2).

Growers can also send samples to Agdia's [Testing Services diagnostic laboratory](#) for expanded cucurbit pathogen screening that now includes WCLaV-1 and WCLaV-2 testing.

WCLaV-1 (*Coguvirus citrulli*) and WCLaV-2 (*Coguvirus henanense*) are plant-pathogenic viral species in the *Coguvirus* genus and are known to cause disease in various cucurbit crops.

First identified in China around 2015, the viruses started showing up in the southern United States in the early 2020s. Other countries where WCLaV-1 and/or WCLaV-2 have been found include Australia, Brazil, Iran, Greece, Italy, Slovenia, Spain and Türkiye (Turkey).

The known host range for these viruses includes cucumber, melon/muskmelon, squash, watermelon, and zucchini. According to the [European Plant Protection Organization \(EPPO\)](#), symptoms of infection include:

- Leaf crinkling (**Figure 1**)
- Yellow mosaic patterns
- Yellow mottling and chlorosis
- Wrinkling along with thickened, bunched upward curling.
- Fruit deformation
- Circular fruit lesions



Figure 1. Leaf crinkling symptoms in watermelon infected with *Watermelon crinkle leaf-associated virus 1* in southeastern Spain. Image provided courtesy of C. de Moya-Ruiz, M. Juárez, I. Ferriol, P. Gómez from New Disease Reports, Volume: 51, Issue: 2, 04 June 2025, DOI: (10.1002/ndr2.70040)

Some of these symptoms [mirror those found in other viruses](#) such as *Cucurbit leaf crumple virus* (CuLCrV), several potyviruses and *Squash leaf curl virus* (SLCuV). Misidentification can lead to ineffective pest management, making accurate diagnosis essential to effective crop protection.

While there is no official consensus on how these viruses spread, recent studies indicate that both WCLaV-1 and WCLaV-2 may be seed-transmitted. Other limited studies suggest mechanical transmission. While no insect vectors have been identified, these viruses belong to the *Bunyavirales* order, a group known for transmission by arthropods like thrips and leafhoppers.



Extensive validation studies demonstrated the performance characteristics of Agdia's new molecular assay for detecting WCLaV-1 and WCLaV-2:

- Diagnostic specificity is 100% (69 of 69 true negatives detected). No cross reactivity was observed with other pathogens tested during product validation.
- The new assay detected 182 of 186 positive samples, resulting in a diagnostic sensitivity of 97.8%.
- This test detects or is predicted to detect (via *in silico* analysis) all known isolates from various geographic regions, including Australia, Brazil, China and the United States.

To view the full validation report, see the "Technical Information" tab on the [product page](#).

About AmplifyRP®

Agdia's new [AmplifyRP® XRT assay for the detection of WCLaV-1 and WCLaV-2](#) is based on recombinase polymerase amplification (RPA). This technology enables the rapid amplification and detection of nucleic acid targets (DNA or RNA) at a single operating temperature of 39–42 °C.



Figure 2. Pair the new test with Agdia's AmpliFire® Pro portable isothermal fluorometer (coming soon)

AmplifyRP® products achieve sensitivity and specificity comparable to PCR, with clear advantages over the lab-based technology. AmplifyRP® products eliminate the need for a nucleic acid purification step; crude sample extracts are prepared using a simple extraction buffer and tested directly. When paired with Agdia's AmpliFire® Pro isothermal fluorometer (**Figure 2**, coming soon), the AmplifyRP® system is a user-friendly tool that can be implemented in the field or the lab by personnel with limited molecular diagnostic experience. Total assay time is less than 30 minutes when used with the AmpliFire® as a real-time assay.

About Agdia

A leading provider of diagnostic solutions for agriculture, Agdia, Inc. has been serving plant breeders, propagators, growers, universities, and private testing laboratories since 1981. The company offers a comprehensive portfolio of validated, easy-to-use diagnostics for identifying plant pathogens, hormones, and transgenic traits. In addition, Agdia operates an ISO accredited, in-house testing services laboratory. Agdia's quality management system is ISO 9001:2015 certified and its Testing Services Laboratory is ISO/IEC 17025:2017 accredited by ANAB. Visit the company's website at www.agdia.com, e-mail info@agdia.com, phone 1-574-264-2615 (toll-free 800-622-4342), or fax 1-574-264-2153.

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