



## Agdia Releases Rapid Molecular Test for Detection of *Dahlia mosaic virus* and *Dahlia common mosaic virus*

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Agdia, Inc. is pleased to announce the launch of a [rapid molecular diagnostic test](#) for the detection of *Dahlia mosaic virus* (DMV) and *Dahlia common mosaic virus* (DCMV). In addition to the do-it-yourself (DIY) test kit, detection of these pathogens is now [offered as a service](#) in Agdia's Testing Services division for customers who wish to submit plant samples to an ISO 17025-accredited laboratory.

*Dahlia mosaic virus* (DMV) is the causal agent of dahlia mosaic disease and a member of the *Caulimovirus* genus. In addition to DMV, a second *Caulimovirus*, *Dahlia common mosaic virus* (DCMV), was identified in direct association with disease symptomology. Like DMV, DCMV is a circular, double-stranded DNA virus. Neither virus is limited to a geographical region, and both pathogens are widespread in cultivated dahlias, with mixed infections being common.

Transmission of both viruses occurs via mechanical means (grafting, propagation cuttings, etc.). Furthermore, both viruses are transmitted in a non-persistent or semi-persistent manner by aphids after feeding on infected plants.

Symptoms vary by cultivar but typically include random chlorophyll loss (chlorosis), vein clearing, necrotic lesions, leaf distortion and general stunting. Stunting of the plant often inhibits or prohibits flowering, rendering plants unmarketable. Some cultivars can exhibit mild symptoms or remain asymptomatic indefinitely. Early and accurate detection of DMV and DCMV is paramount to management of these viruses throughout dahlia cultivation.

Agdia's new AmplifyRP® XRT assay for detection of DMV and DCMV is based on recombinase polymerase amplification (RPA). This technology promotes the rapid amplification and detection of nucleic acid targets, DNA or RNA, while maintaining a single operating temperature of 39–42 °C. The AmplifyRP® XRT products achieve sensitivity and specificity comparable to PCR, while having clear advantages over the lab-



Figure 1: Vein-clearing caused by *Dahlia mosaic virus* (Photo provided courtesy of Claudia Nischwitz and Melanie Stock, Utah State University)



based technology. AmplifyRP® XRT products do not require a nucleic acid purification step; crude sample extracts are prepared using a simple extraction buffer and tested directly. When paired with Agdia's [AmpliFire® isothermal fluorometer](#) the XRT system is a user-friendly tool that can be implemented in the field or the lab by personnel with limited experience in molecular diagnostics. Total assay time is less than 30 minutes when used with the AmpliFire® as a real-time assay.



Figure 2: Symptoms caused by *Dahlia mosaic virus* (Photo provided courtesy of Claudia Nischwitz and Melanie Stock, Utah State University)

Agdia states their [new assay](#) was validated against a diverse panel of DMV/DCMV isolates from multiple geographic regions, detecting all true positives. Sensitivity for this assay is comparable to that observed with published conventional PCR, qPCR and LAMP assays to which it was compared. Furthermore, this product exhibited a high level of exclusivity against a comprehensive panel of potential cross reactors, including *Carnation etched ring virus*, *Cauliflower*

*mosaic virus*, *Chrysanthemum stunt viroid*, *Cucumber mosaic virus*, *Dahlia latent viroid*, *Impatiens Necrotic Spot Virus*, *Potato virus Y*, *Rudbeckia flower distortion virus*, *Tobacco streak virus* and *Tomato Spotted Wilt Virus*. This assay does not detect the endogenous pararetroviral element (DMV-D10). This assay includes an endogenous internal DNA control and was developed to be used with flower, leaf, petiole, root, seed, stem and tuber tissue.

## About Agdia

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

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