



Agdia Launches Rapid Molecular Test Kit for Tomato Mottle Mosaic Virus (ToMMV)

Agdia, Inc. (Elkhart, IN) is happy to announce the commercial launch of a rapid, user-friendly, RNA-based assay, on their AmplifyRP® XRT platform, for the [detection of Tomato mottle mosaic virus \(ToMMV\)](#).

Global tomato and pepper production has been significantly disrupted in recent years by emerging pathogens. One such pathogen, [Tomato brown rugose fruit virus](#) (ToBRFV, *Tobamovirus*), is thought to have caused billions of dollars in damage to the tomato industry alone over the past few years. While advancements in breeding for pathogen resistance traits over the past two decades have largely protected tomato and pepper crop production from viral threats, ToBRFV was able to bypass resistance with devastating consequences. The virus continues to cause disruption of the global seed supply chain along with affecting yield and marketability of tomato fruit when not properly excluded from production facilities.

Much like ToBRFV, *Tomato mottle mosaic virus* is also able to breakthrough well-established viral resistance traits, and thus represents yet another significant threat to tomato and pepper production worldwide.

Initially found in tomato crops in Mexico in 2013, *Tomato mottle mosaic virus* has since been detected in the United States, Brazil, Europe, Africa, Asia and Iran. Several other *Tobamovirus*-infected samples collected prior to 2013 which were previously attributed to *Tobacco mosaic virus* (TMV) or *Tomato mosaic virus* (ToMV) have since been distinguished as ToMMV infections via high-specificity molecular methods which were not previously available.

Symptoms caused by ToMMV infection include mottling, necrosis, flower abortion and leaf distortion. Much like other *Tobamoviruses*, ToMMV is highly transmissible via mechanical means (pruning, harvesting, etc.) and may also be present in seed, although further studies are needed to demonstrate whether vertical transmission occurs at any significant level.

Agdia's [AmplifyRP® XRT for ToMMV](#) has been validated for use with tomato and pepper seeds and leaf in addition to other secondary matrixes such as peas (*Pisum sativum*) and petunia. As a rapid, field-deployable molecular method requiring far less training than traditional PCR methods, this assay provides users with greater flexibility to deploy detection capabilities where they need it, when they need it. Use cases for this assay include, but are not limited to:



Figure 1: AmplifyRP® assay used with Agdia's AmpliFire isothermal fluorometer



- In-field monitoring at remote production sites as a stand-alone assay.
- Screening incoming plantlets & monitoring production crops in commercial greenhouses
- Laboratory-based molecular diagnosis with crude or purified extracts with faster time-to-result than traditional PCR or qPCR methods. This assay can be used with [Agdia's AmpliFire® isothermal fluorometer](#) or with most real-time PCR machines.

Agdia's [AmplifyRP® XRT for ToMMV](#) is highly specific to ToMMV and has been proven through experimentation and *in-silico* analysis to detect isolates from around the world. No cross-reactivity was observed with high titer samples from other Tobamoviruses, including *Cucumber green mottle mosaic virus* (CGMMV), *Kyuri green mottle mosaic virus* (KGMMV), *Pepper mild mottle virus* (PMMoV), *Tobacco mosaic virus* (TMV), *Tomato brown rugose fruit virus* (ToBRFV), *Tomato mosaic virus* (ToMV), *Tobacco mild green mosaic virus* (TMGMV), *Zucchini Green Mottle Mosaic Virus* (ZGMMV) and more.

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 their Testing Services Laboratory is ISO 17025:2017 accredited. 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. AmplifyRP® is a registered trademark of Agdia, Inc.

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