



NAPPO

North American Plant Protection Organization
Organización Norteamericana de Protección a las Plantas
MEXICO - USA - CANADA

Executive Committee Decision

Decision Sheet 8 (DS 08)

Issue: Diagnostic Protocols for Tomato Brown Rugose Fruit Virus (ToBRFV) in tomato and pepper seeds in the NAPPO region

Background

From 2021-2024, a NAPPO Expert Group evaluated five molecular diagnostic protocols to detect tomato brown rugose fruit virus (ToBRFV) in tomato (*Solanum lycopersicum* L) and pepper (*Capsicum annuum* L) seed. The Expert Group used an inter-laboratory test (ring test) to determine which of the protocols performed optimally to detect ToBRFV. The results of this project have been published (Mavrodieva *et al.*, 2025¹) and can be found on the NAPPO website². Three of the five protocols tested were superior in their ability to detect ToBRFV and could be used to test tomato and pepper seeds for the presence of ToBRFV in phytosanitary testing laboratories in the North American region.

The Expert Group recommends the three protocols in Table 1 of this document. Implementing this Executive Committee decision will simplify and streamline the regional trade of tomato and pepper seeds.

Decision

The NAPPO Executive Committee supports the expert group's recommendation to use the selected protocols in Table 1 for phytosanitary purposes to detect ToBRFV in tomato and pepper seeds in the three NAPPO member countries (Canada, the United States, and Mexico).

The NAPPO member countries agree to use the protocols in Table 1 to test tomato and pepper seeds to detect ToBRFV when required for import or export among NAPPO member countries.

¹ Published Online: January 3, 2025 | PhytoFrontiers <https://doi.org/10.1094/PHYTOFR-06-24-0070-FI>

² NAPPO Expert Group Final Report: https://nappo.org/application/files/8016/8728/3348/20230510_Final_Report-e.pdf

Table 1. Selected protocols for the detection of ToBRFV in the NAPPO region

Protocol ³	Reference
B	ISF ISHI-Veg. 2020. https://worldseed.org/wp-content/uploads/2020/11/Tomato-ToBRFV_2020v1.5.pdf?_ga=2.66722734.1075065090.1644270496-1579089872.1623958967
C	USDA 2019. WI-B-T-1-75. Detection of tomato brown rugose fruit virus (ToBRFV) on <i>Solanaceous</i> seeds and plant material using a multiplex real-time RT-PCR. Protocol is available upon request at APHIS-PPQCPHSTBeltsvilleSampleDiagnostics@usda.gov
D	USDA 2019. WI-B-T-1-89. Confirmatory Diagnostic of tomato brown rugose fruit virus (ToBRFV) on <i>Solanaceous</i> seeds and plant material using a conventional RT-PCR. Protocol is available upon request at APHIS-PPQCPHSTBeltsvilleSampleDiagnostics@usda.gov

³ Protocol names are as indicated in Mavrodieva *et al.*, 2025 (*Pilot for harmonization of diagnostic protocols for Tomato brown rugose fruit virus (ToBRFV) in tomato and pepper seeds*. Published Online: January 3, 2025 | <https://doi.org/10.1094/PHYTOFR-06-24-0070-FI>)

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