

# Tomato Brown Rugose Fruit Virus Fact Sheet

## What is *Tomato brown rugose fruit virus*?

*Tomato brown rugose fruit virus* (ToBRFV) is a virus of tomatoes and peppers. The virus is easily spread when infected material makes contact with equipment, people, and other host plants. It was first reported in tomatoes in Israel in 2014. Since then, it has been reported in China, Mexico, Germany (eradicated), Italy, Greece, the United Kingdom, Jordan, Turkey, and the Netherlands.

## What are the symptoms?

ToBRFV symptoms are similar to those caused by other tobamoviruses including *Tobacco mosaic virus* and *Tomato mosaic virus*. On pepper, it causes bubbling and mosaic patterns on leaves, while on tomato foliage it causes mosaic patterns and a “fern leaf” symptom. Infected fruits of both hosts are smaller, discolored, and may have rough, dead patches on the surface (see photos). Infected tomato fruits can be unmarketable or reduced in quality. Necrosis can occur on susceptible pepper fruit.

## What is USDA doing?

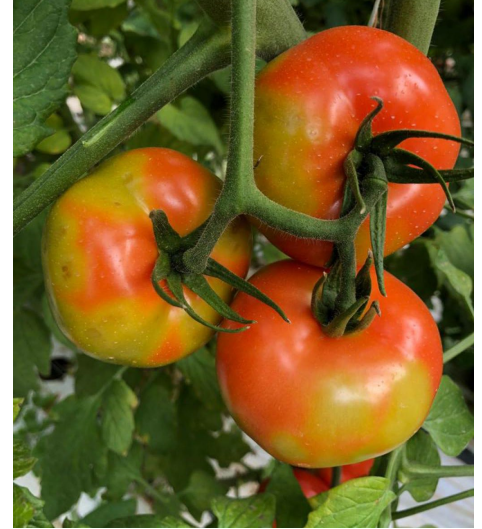
In response to recent detections of ToBRFV in imported fruit, the U.S. Department of Agriculture’s Animal and Plant Health Inspection Service (APHIS) has taken immediate science-based action to

safeguard against the introduction of the virus. APHIS issued a Federal Order imposing restrictions on imports of tomato and pepper seed lots and transplants from all countries where the disease is known to occur, as well as restricting tomato and pepper fruit imports to commercial shipments only, with additional requirements for fruit from Mexico, Israel, Canada and the Netherlands.

Once the virus is introduced in an area, control measures mainly rely on elimination of infected plants and the use of strict sanitation measures. We urge U.S. tomato and pepper producers, the nursery transplant industry, and the seed industry to follow necessary sanitation practices to safeguard against the introduction of this virus into the production environment and to report any signs of symptoms to their State Plant Regulatory Official.



Symptomatic tomato leaves (EPPO.int, Diana Godínez)



Symptomatic tomato fruit (EPPO.int, Prof. Salvatore Davino)

## For More Information

To learn more about ToBRFV and our efforts to safeguard against its introduction into the United States, please visit: <https://www.aphis.usda.gov/planthealth/tobrfv>.



Symptomatic tomato leaves (EPPO.int, Diana Godínez)

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