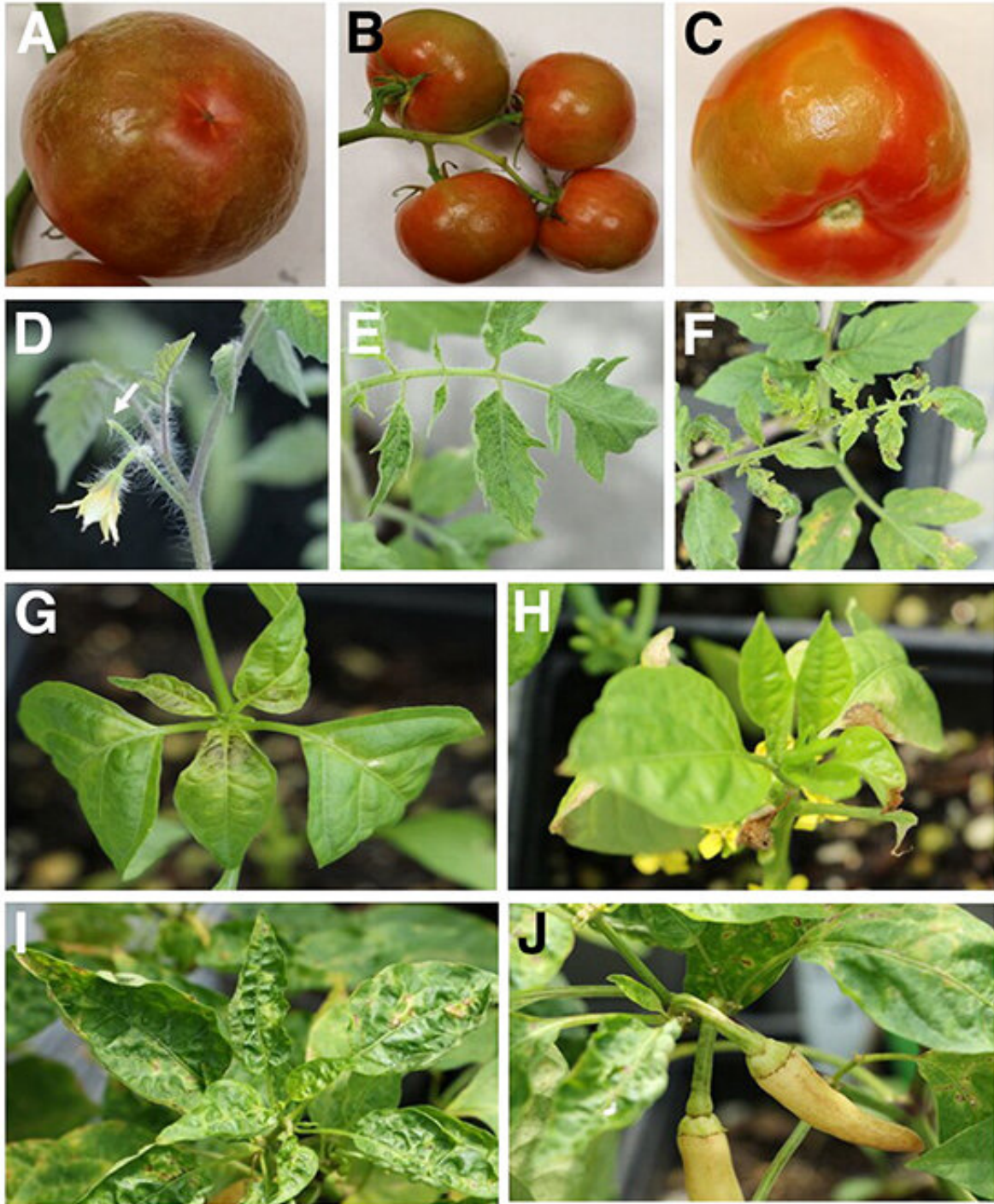


New research offers insight into emerging tomato virus – and advice about a popular resistance

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Typical symptoms of tomato brown rugose fruit virus infection on tomato and pepper. Credit: Bidisha Chanda, Andrea Gilliard, Namrata Jaiswal, and Kai-Shu Ling

Tomato brown rugose fruit virus (ToBRFV) is an emerging virus that is damaging to tomatoes as well as other crops, including peppers. In a recent study, Dr. Ling and colleagues at the USDA Agricultural Research Service, U.S. Vegetable Laboratory in Charleston, South Carolina conducted comprehensive experiments to evaluate two key properties: experimental host range and disease resistance in tomatoes.

Dr. Ling and colleagues compared ToBRFV to two related viruses (tomato mottle mosaic [virus](#) and tomato mosaic virus) to better understand the epidemiological factors and identify host plant species that could be used to differentiate these three viruses. They also discovered that all three viruses were able to infect tomatoes, albeit often to varying degrees, with the popular [disease resistance](#) gene *Tm-2²*.

"For the first time, our results revealed that current tomato cultivars are vulnerable to the emerging ToBRFV and the other two [related viruses](#)," explained Dr. Kai-Shu Ling.

Dr. Ling and his team also developed a molecular detection tool that allows for easier identification of the specific harmful organism. This new detection tool could help identify infectious virus particles carried on contaminated seeds, preventing disease on newly germinated seedlings.

Both the sensitive detection tool and the knowledge about ToBRFV generated by this study should help concerned parties make better assessment on the risks associated with this emerging disease and recommend proper disease management strategies. To learn more about tomato brown rugose fruit virus, read "Comparative Analysis of Host Range, Ability to Infect Tomato Cultivars with *Tm-2²* Gene, and Real-Time Reverse Transcription PCR Detection of Tomato Brown Rugose Fruit Virus" published in *Plant Disease*.

More information: Bidisha Chanda et al, Comparative Analysis of Host Range, Ability to Infect Tomato Cultivars with Tm-22 Gene, and Real-Time Reverse Transcription PCR Detection of Tomato Brown Rugose Fruit Virus, *Plant Disease* (2021). [DOI: 10.1094/PDIS-05-20-1070-RE](https://doi.org/10.1094/PDIS-05-20-1070-RE)

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