

Symptom guide of Tomato brown rugose fruit virus (ToBRFV)



*4



**GOBIERNO DE
MÉXICO**

AGRICULTURA
SECRETARÍA DE AGRICULTURA Y DESARROLLO RURAL



SENASICA
SERVICIO NACIONAL DE SANIDAD,
INOCUIDAD Y CALIDAD AGROALIMENTARIA

November 2019

Symptoms in fruit



Brown spots



Dark green spots



Green ridges

Positive to **ToBRFV**



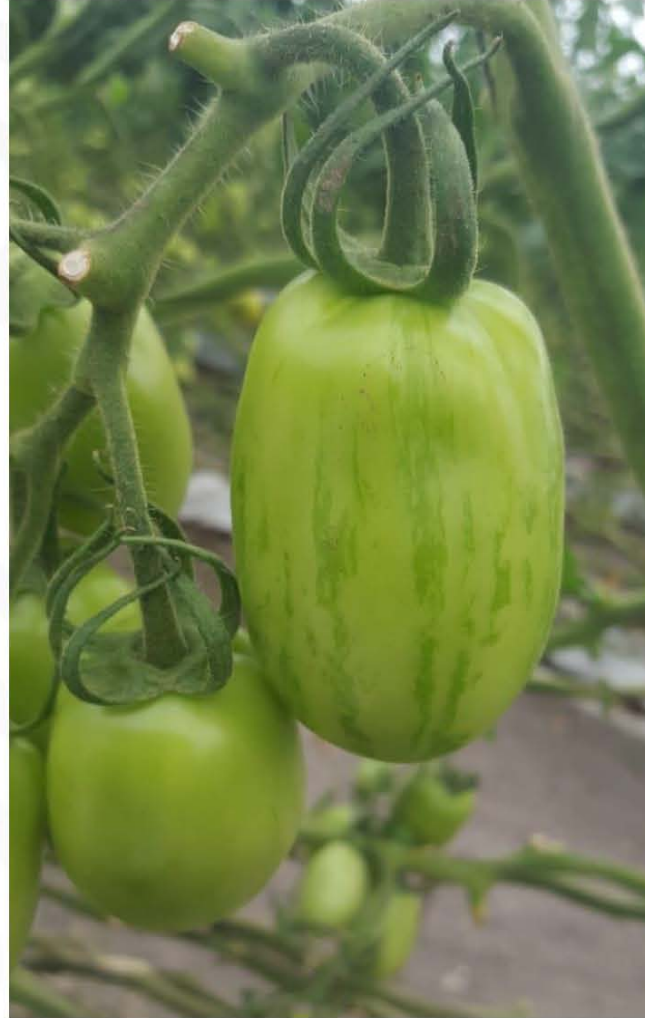
Positive to **ToBRFV**

Irregular ripening



Positive to **ToBRFV**

Symptoms of green ridges in tomato fruits infected by ToBRFV



Symptoms of brown spots in tomato fruits positive to ToBRFV



Symptoms of brown roughness and irregular ripening in tomato fruits infected by ToBRFV



Irregular ripening



Symptoms of calyx necrosis in plants infected by ToBRFV



The peduncle, calyx and petioles become necrotic, dry and cause fruit abscission.





Symptoms of irregular ripening in tomato fruits infected by ToBRFV

1



2



2

Symptoms caused by a mixture of
*TSWV and ToBRFV infections

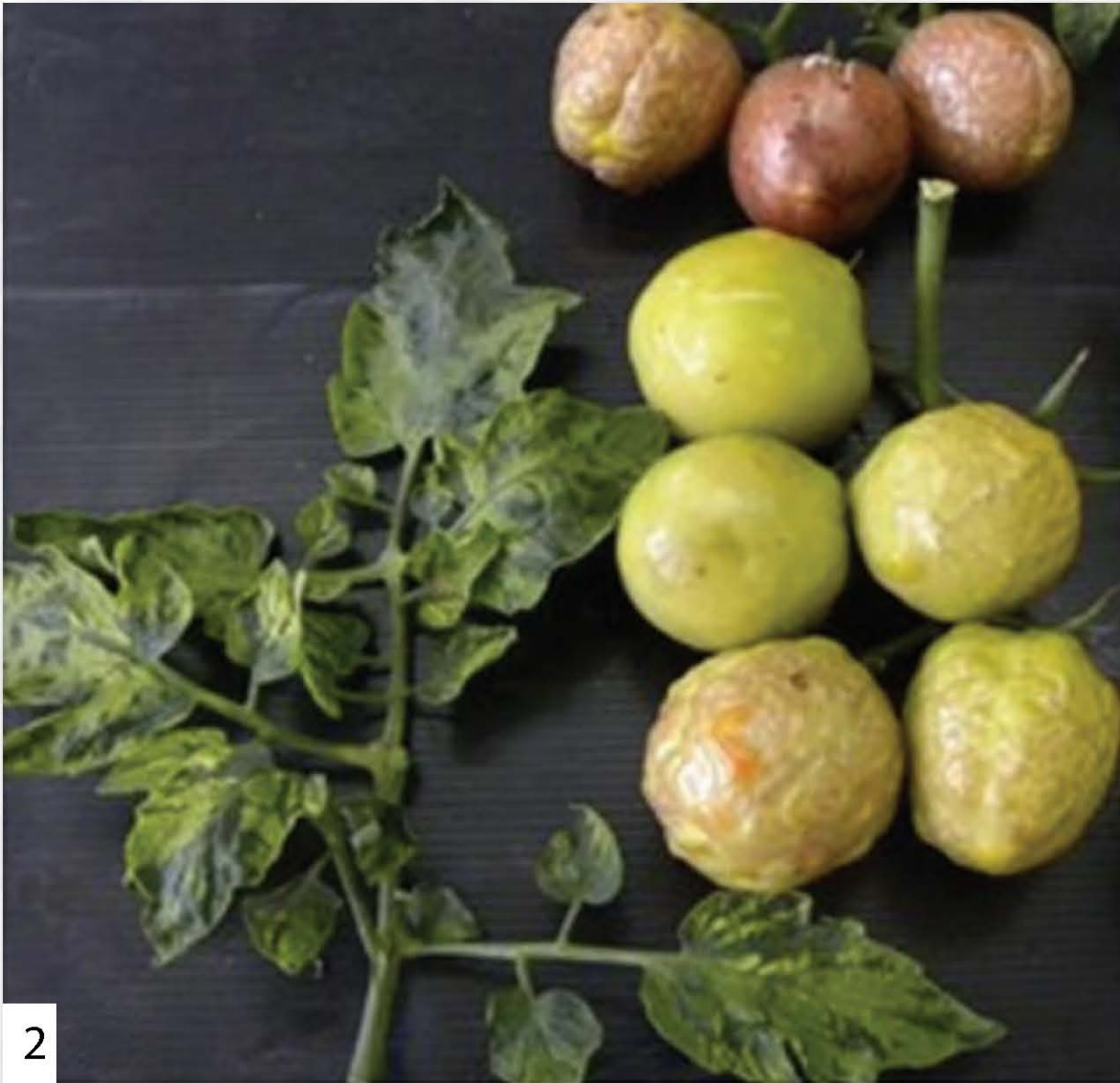


Typical symptoms of roughness in fruits



*Tomato spotted wilt virus (TSWV)

Symptoms of brown roughness in fruits



2



2

Symptoms of yellow spots and streaking of chili fruits infected by ToBRFV



Symptoms of irregular ripening and brown spots in chili fruits infected by ToBRFV



Symptoms of irregular ripening and brown spots in chili fruits infected by ToBRFV



Brown spots

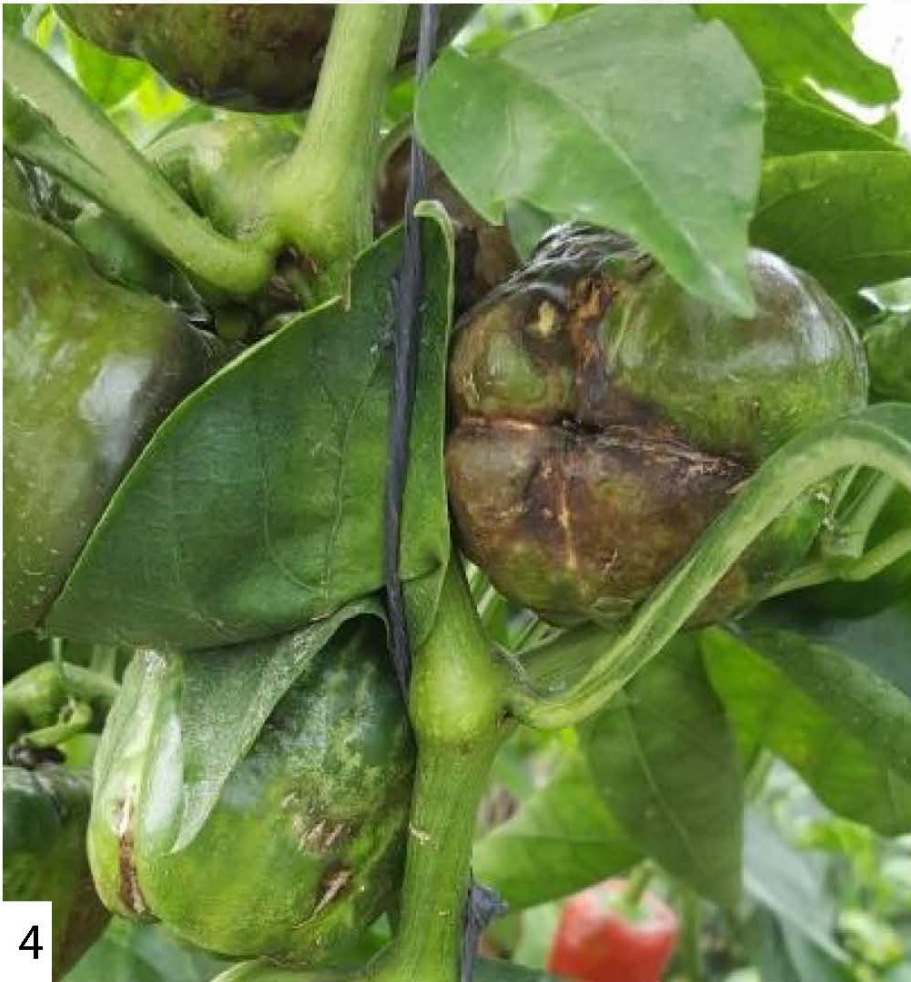


Irregular ripening



Brown spots and uneven ripening

Symptoms of green color in chili fruits infected by ToBRFV



Symptoms of green color in chili fruits infected by ToBRFV



Symptoms in Creole
chili fruits



Fruit deformation

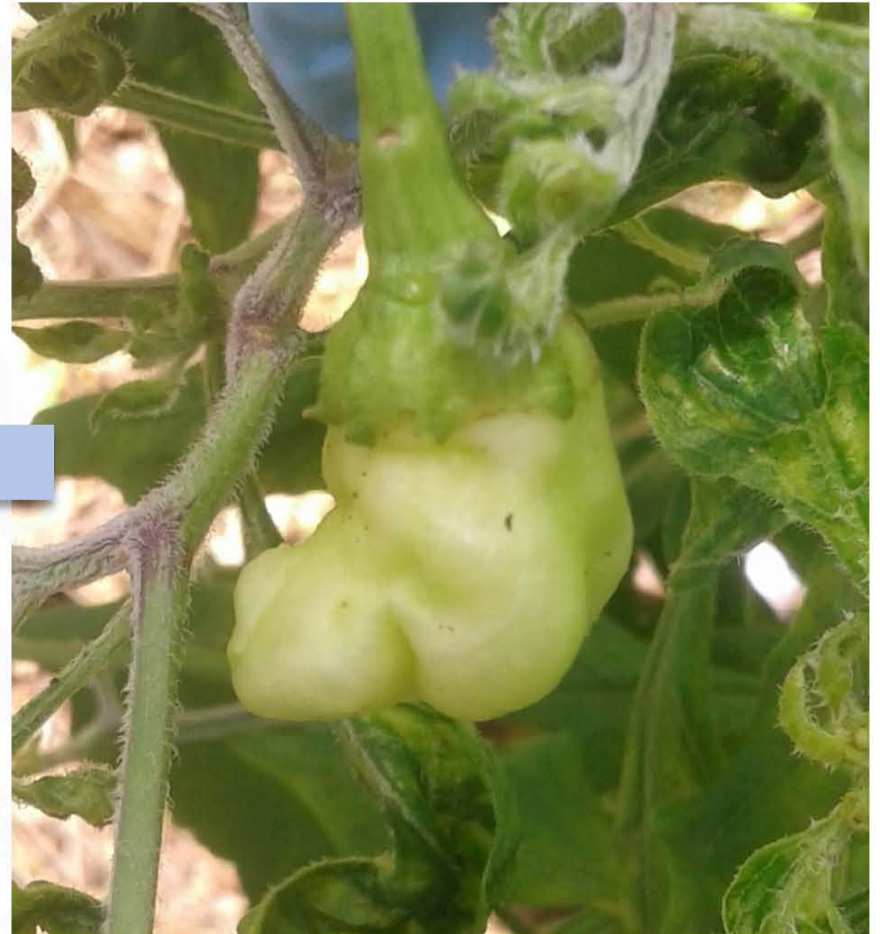


PHOTO CREDITS

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2. **Dombrovsky A, Smith E. 2017.** Seed Transmission of Tobamoviruses: Aspects of Global Disease Distribution. In Advances in Seed Biology. InTech.
3. **EPPO. 2018.** Tomato brown rugose fruit virus(TOBRFV). Online: <https://gd.eppo.int/taxon/TOBRFV/photos> Date of reference: August 6, 2018
4. **National Phytosanitary Reference Center (CNRF, in Spanish) 2018**

STOP!

Important information

Timely detection of pests and diseases is essential to implement management, control and eradication strategies.

Check your crops regularly. If you observe any suspicious symptoms or damages, report them as soon as possible to:

**General Directorate of Plant Health
National Phytosanitary Reference Center
Phytosanitary Epidemiological Surveillance Program
Phone: 01-800-987-9879**

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