Mini data sheet on *Pepper golden mosaic virus* and *Texas pepper virus*

Added in 2000 – Deleted in 2001

Reasons for deletion:
In 2000, both *Serrano golden mosaic begomovirus* and *Texas pepper begomovirus* were added to the Alert List. However, it was considered that these viruses were already covered by the list of *Bemisia*-transmitted viruses in EU regulations. They were not considered to be an alert situation. In 2001, it was agreed to remove them from the EPPO Alert List.

Additional note:
Both *Serrano golden mosaic begomovirus* and *Texas pepper begomovirus* were later synonymized with *Pepper golden mosaic virus.*

Texas pepper begomovirus

Why	*Texas pepper begomovirus* came to our attention as causing an emerging disease of capsicum and tomato in the Americas.
Where	First described on capsicum in Texas (US) by Stenger *et al*. (1990). The virus is reported in Mexico (Coahuila, Sinaloa, Tamaulipas), Guatemala, USA (Arizona, Texas) (Polston & Anderson, 1997) and also in Costa Rica, Honduras, Tabasco state in Mexico (internet). Distribution: Costa Rica, Guatemala, Honduras, Mexico (Coahuila, Sinaloa, Tabasco, Tamaulipas), USA (Arizona, Texas). Mixed infections with Chino del tomate and pepper huasteco begomoviruses have been found.
On which plants	Capsicum (*Capsicum annuum*), tomato (*Lycopersicon esculentum*). Tobacco (*Nicotiana_tabacum*) is also reported as a natural host.
Damage	Symptoms on capsicum are leaf curling, malformation, vein clearing and stunting. Symptoms on tomato are leaf curling, mosaic and stunting. Polston & Anderson (1997) noted that the disease was first seen in Texas in 1987, but outbreaks lasted only for a few years. Nevertheless, the disease was still important in Tamaulipas (Mexico). Lotrakul *et al*. (2000) observed rather high levels of infection (25 to 75%) in Costa Rica on capsicum and considered that this virus was a new threat for capsicum production in Central America.
Transmission	Transmitted by *Bemisia tabaci*.
Note	The virus tentatively called *Pepper jalapeño*, occurring on capsicum in Sinaloa and other states of Mexico is considered as a strain of *Texas pepper begomovirus* (Torres-Pacheco *et_al*., 1996).
Pathway	Infected tomato and capsicum plants, fruits?, viruliferous *B. tabaci* from countries where *Texas pepper begomovirus* occurs.
Possible risks	Tomato and capsicum are important crops in the EPPO region, both indoor and outdoor. Data on disease incidence is lacking. The vector is present in many parts of the EPPO region.

Source(s)
Lotrakul, P.; Valverde, R.A.; De la Torre, R.; Sim, J. (2000) Occurrence of a strain of Texas pepper virus in Tabasco and Habanero pepper in Costa Rica. Plant Disease, 84(2), 168-172.
Polston, J.E.; Anderson, P.K. (1997) The emergence of whitefly-transmitted geminiviruses in tomato in the Western Hemisphere. Plant Disease, 81(12), 1358-1369.
Stenger, D.C.; Duffus, J.E.; Villalon, B. (1990) Biological and genomic properties of a geminivirus isolated from pepper. Phytopathology, 80(8), 704-709.
Torres-Pacheco, I.; Garzón-Tiznado, A.; Brown, J.K.; Bercerra-Flora, A.; Rivera-Bustamante, F.R. (1996) Detection and distribution of geminiviruses in Mexico and the Southern United States. Phytopathology, 86, 1186-1192.
INTERNET
GEMINI DETECTive Web site by Dr. Judith Brown, University of Arizona and Dr. Stephen D. Wyatt, Washington State University (US)
http://ipmwww.ncsu.edu/nipmn/GEMINI/descriptions/TPV.html (description and pictures)

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Serrano golden mosaic begomovirus

Why	*Serrano golden mosaic begomovirus* came to our attention as causing an emerging disease of capsicum and tomato in the Americas.
Where	*Serrano golden mosaic begomovirus* was first reported by Brown & Poulos (1990) in tomato and capsicum crops in Sinaloa (Mexico) and Arizona (USA). On internet, its presence is also reported in Sonora (Mexico) and Texas (USA). Distribution: Mexico (Sinaloa, Sonora), USA (Arizona, Texas).
On which plants	Tomato (*Lycopersicon esculentum*), capsicum (*Capsicum annuunm*). In transmission experiments, the virus can cause symptoms to *Capsicum frutescens*.
Damage	Symptoms on tomato: golden foliar mosaic; on capsicum: yellow mosaic. Fruit deformation. It is reported that in 1989, the disease could affect 80-100 % of the plants in symptomatic fields in Sinoaloa, and that the virus was detected in numerous tomato and pepper samples.
Transmission	Transmitted by *Bemisia tabaci*.
Pathway	Infected tomato and capsicum plants, fruits? viruliferous *B. tabaci* from countries where *Serrano golden mosaic begomovirus* occurs.
Possible risks	Tomato and capsicum are important crops in the EPPO region, both indoor and outdoor. Data on severity and extent of the disease is lacking, and very little data is available in the literature on this virus. The vector is present in many parts of the EPPO region.
Source(s)	Brown, J.K.; Poulos, B.T. (1990) Serrano golden mosaic virus a newly identified whitefly-transmitted geminivirus of pepper and tomato in the United States and Mexico. Plant Disease, 74(9), p720. Polston, J.E.; Anderson, P.K. (1997) The emergence of whitefly-transmitted geminiviruses in tomato in the Western Hemisphere. Plant Disease, 81(12), 1358-1369. INTERNET GEMINI DETECTive Web site by Dr. Judith Brown, University of Arizona and Dr. Stephen D. Wyatt, Washington State University (US) http://ipmwww.ncsu.edu/nipmn/GEMINI/descriptions/SGMV.html (description and pictures)

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