

## **Virus Diseases of Tomatoes**

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Based on investigations on tomato with virus disease symptoms from different regions of Iran, 4 groups of viruses were determined based on host range, serological methods and electron microscopy. The first isolates caused local lesion on inoculated leaves of the cultivars of *Nicotiana* spp., *Datura* spp. and pinto bean cv. III. In serological test and TEM, these isolates were identified as Tomato mosaic virus (ToMV). This virus causes malformation and mosaic on the leaves by sap inoculation and isolated from the fruits with ring spot symptoms from Tehran and Hormozgan provinces. The second isolates caused local lesions on the same hosts as first group but in serological test they belonged to Tobacco mosaic virus (TMV). One isolate of this virus caused mosaic and blister on the leaves of tomato. The spreading of TMV was limited to the fields near the tobacco fields at Hormozgan and Mazandaran. The third isolates caused local lesions on *Vigna unguiculata* L., *Phaseolus vulgaris* cv. Bountiful and *Chenopodium* spp. and systemic symptoms on *Nicotiana* spp. and *Datura* spp. One isolate causes narrow leaves of *Datura*. These isolates were identified as cucumber mosaic virus (CMV). The isolates of CMV appeared as mosaic, twisting and blister on leaves and one isolate caused narrow leaves and rugose, necrosis and mosaic of the outside fruits and brownish of the inside flesh of the fruits. The fourth group of isolates causes local lesion on inoculated leaves of *Petunia* sp. and *Nicotiana* spp. thereafter became systemic and caused wilting of the whole plant. The isolates of Varamin were identified as tomato spotted wilt virus (TSMV). These isolates caused necrotic local lesions on the leaves, stems and fruits of tomato and wilting of the whole plant.

procedure or to consider the relative importance of various problems encountered. Therefore no practical protocol is available for routine micropropagation of pistachio. In this paper after reporting trials which have been done to find the practical solutions for difficulties such as severe contamination, shoot tip necrosis, leaf chlorosis, browning of the explants and culture medium, acclimatization and transfer of plantlets to *in vivo* conditions, a practical protocol for micropropagation of *P. vera* cv Ghazvini, an important rootstock for commercial cultivars is presented. Also the efficiency of the protocol for propagation of pistachio has been estimated using the obtained results.