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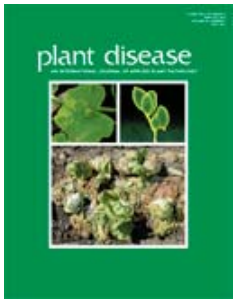

plant disease

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Disease Notes

First Report of an Isolate of *Pelargonium zonate spot virus* in Commercial Glasshouse Tomato Crops in Southeastern France

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In summer 2000, symptoms similar to *Pelargonium zonate spot virus* (PZSV) were observed for the first time on tomato plants in southeastern France. The plants were from commercial glasshouse fresh-market crops. Symptoms observed were chlorotic mottling with bright yellow distinct rings on leaves and curved line patterns on stems. Fruit symptoms included chlorotic and necrotic spotting, marked concentric ring patterns, and distortions. Diagnosis was made from symptomatic leaves and fruits by mechanical inoculation on a set of host plants. Local chlorotic and necrotic lesions were observed on *Chenopodium amaranticolor*, *C. quinoa*, *Cucumis sativus* cv. Marketer, *Cucumis melo* cv. Vedrantais, *Phaseolus vulgaris* cv. Pinto, *Vicia faba* cv. D'Aguadulce, *Vigna unguiculata* cv. Black Eye, and systemic symptoms were observed on *Capsicum annuum* cvs. Yolo Wonder, Yolo Y, Florida VR2, and Criollo de Morelos 334, *Datura stramonium*, *Lycopersicon esculentum* cvs. Momor and Stevens, *L. hirsutum* (PI 134417 and PI 247087), *Nicotiana benthamiana*, *N. clevelandii*, *N. tabacum* cv. Xanthi nc, *Ocimum basilicum* cv. Latino, *Petunia hybrida* cv. Rose du ciel, and *Physalis floridana*. No reaction was observed on *Pisum sativum* cv. Douce Provence, *Salvia splendens* cv. Etna, or *Zinnia elegans* cv. Liliput. Symptoms on tomato of PZSV, *Parietaria mottle virus* (PMoV), and *Tomato spotted wilt virus* (TSWV) are similar, particularly those elicited in fruits. Therefore, the field samples were checked using double-antibody sandwich enzyme-linked immunosorbent assay against antisera of the type-strain of PZSV and tomato strain of PMoV and their homologous antigenes, which were supplied by D. Gallitelli and P. Roggero respectively, and our antiserum of TSWV. Electron microscopy of negatively stained preparations from leaves of tomato and *D. stramonium* showed that the sap contained very few paraspheric shaped particles, 26 to 29 nm in diameter. Three isolates collected from two different regions (Vaucluse and Bouches du Rhône) showed a very close serological relationship with the Italian type-strain of PZSV and tested negative against antisera of PMoV and TSWV. The French isolates were biologically different from the type-strain, but were similar to the Spanish strain of PZSV because they infected *D. stramonium*, *N. benthamiana*, *O. basilicum*, and *V. unguiculata* (2). Moreover, in transverse tissue sections, virions were not observed in the nucleus and tubular structures, unlike the Italian isolates, (1) but were present in the cytoplasm and particularly in the mesophyll cells. There are only a few records of the occurrence and distribution of PZSV in Mediterranean countries.

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