

DISEASE REPORTS

Occurrence of *Tomato ringspot virus* on grapevines in Jordan

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Grapevine (*Vitis vinifera* L.) is the second major crop after olive in Jordan. It is distributed throughout the country on an area of about 39,000 ha (Anonymous, 2003). The health status of Jordanian viticulture is little known as there are few published reports; those that are available record the occurrence of leaf roll, rugose wood and fan leaf (Boscia *et al.*, 1995; Al-Tamimi *et al.*, 1998). Several virus-like disease symptoms, including yellowing, leaf distortion, stunted growth and decline have been observed during the last few years. A survey was conducted between March and July 2003 in the most important grapevine growing areas of Jordan. A total of 1,088 leaf samples were collected from 60 commercial vineyards and 10 nurseries. The samples were individually tested for *Tomato ringspot virus* (ToRSV) by a double-antibody sandwich enzyme-linked immunosorbent assay (DAS-ELISA), using a commercial kit from Bioreba (Bioreba AG, Reinach, Switzerland) following manufacturer's instructions. About 6.5% of the

samples (71 out of 1,088) were infected with ToRSV, however, remarkable differences in its incidence were observed between regions. The infection rate was higher in commercial vineyards (7.1%) than in nurseries (2.7%). Mechanical inoculation with sap extracts from ToRSV-positive leaf samples caused symptoms on four herbaceous indicators: i) on *Cucumis sativus*, chlorotic or necrotic ringspots on inoculated leaves followed by systemic chlorotic ringspot, tip necrosis and mottling; ii) in *Chenopodium amaranticolor* and *C. quinoa*, chlorotic and necrotic local lesions followed by systemic mottling; iii) necrotic local lesions in *Vigna unguiculata*. These symptoms are characteristic of ToRSV as described by Brunt *et al.* (1996). The presence of ToRSV was confirmed in the herbaceous plants by DAS-ELISA. This is the first report of ToRSV in grapevines in Jordan.

Literature cited

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