DISEASE NOTE

FIRST REPORT OF *POLYMYXA BETAE* AND *POLYMYXA GRAMINIS* IN LEBANON

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Field surveys on sugar beet, wheat and barley crops were conducted between March and May 2007 in the Bekaa valley of Lebanon, to look for soil-borne fungal vectors of viral diseases. In these surveys, 75 soil samples were collected from 15 different fields with a history of Rhizomania disease (Choueiri *et al.*, 2001), regardless of the crop standing at the time of collection. Soil samples were divided into two parts, which were placed separately in pots 12 x 12 cm in size, in a greenhouse at 22-25°C and RH between 80-85%. A mixture of wheat (cv. Cham 4) and barley (cv. Black Arabic) seeds was sown in one of the pots while the other received sugar beet (cv. Hilma) seeds. After eight weeks, plants were collected, their roots were washed thoroughly and examined under a microscope. The presence of resting spores (cystosori) of *Polymyxa* spp. was observed in the roots of plants grown in 20 soil samples, especially those from the central and west Bekaa. The identification of the pathogens was carried out by RT-PCR with primers specific for *Polymyxa betae* (Mutasa *et al.*, 1995) and *P. graminis* (Ward and Adams, 1998), using as template nucleic acids extracted from sugar beet and wheat roots tissues. DNA fragments of 630 bp and 320 bp were amplified, as expected for *P. betae* and *P. graminis*, respectively. *P. graminis* was common in soil samples from Housh El Harime and Rawda areas whereas *P. betae* was spread in soil samples from the Zahle area (Maalaka land) and Rawda. To our knowledge, this is the first report of *P. betae* and *P. graminis* in Lebanon.

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DISEASE NOTE

VIRUSES ASSOCIATED WITH FIG MOSAIC IN HUNGARY

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In Hungary, fig mosaic disease was observed in a small group of trees growing on Gellért Hill, Budapest (Salamon, 2001) and, in 2008, in an orchard and other spots near or within the city of Pécs (P. Salamon, unpublished information). In Summer 2007, leaf samples were collected from two trees from Gellért Hill that showed chlorotic mottling, ringspots, vein clearing and deformation of the leaves. Samples were examined by electron microscopy of thin-sectioned tissues and leaf dips and by RT-PCR assays using primers specific for Fig leaf mottle-associated virus 1 (FLMaV-1), Fig leaf mottle-associated virus 2 (FLMaV-2) (Elbeaino *et al.*, 2006, 2007), an unnamed filamentous virus with molecular properties of a flexivirus (A. Minafra, unpublished information), and a (-)RNA *ca.* 7 kDa in size (T. Elbeaino, personal communication) thought to be part of the genome of an enveloped virus that elicits double-membrane bodies (DMB) typically associated with fig mosaic (Martelli *et al.*, 1993). Parenchyma cells of thin-sectioned tissues contained DMBs and aggregates of filamentous viruses were present in phloem tissues. Filamentous closterovirus-like particles with distinct cross-banding were also seen in leaf dips. RT-PCR assays were positive for both FLMaV-1 (amplified product of 352 bp) and the putative (-)RNA virus (amplified product of 302 bp) but not for FLMaV-2 or the flexivirus. These findings reconfirm the complex nature of fig mosaic disease and represent the first record from Hungary of FLMaV-1 and the putative virus that elicits DMB.

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