New Disease Reports

First report of latent infection of *Cyperus rotundus* caused by a biovar 3 *Dickeya* sp.(Syn. *Erwinia chrysanthemi*) in Israel

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Recent outbreaks of potato blackleg in Israel, caused by *Dickeya* spp., on plants grown from seed tubers imported from Northern Europe, are of a great concern. The warm climatic conditions during the growing season favour disease expression, and may result in the establishment of the pathogen in the potato ecosystem and a spread to weeds and other crops (Tsror *et al*., 2009). Until recently, most of *Dickeya* spp. strains found in association with potato blackleg in Europe were characterised as *D. dianthicola* (biovars 1 or 7). These strains have a relatively lowgrowth temperature compared with other *Dickeya* spp. and seem to be more adapted to cool European climate conditions. However, during the last three years, *Dickeya* spp. strainsbelonging to a new biovar 3 clade, probably constituting a newspecies, have been isolated from potato tubers inseveral countries in Northern Europe (Sławiak *et al*., 2009 and references therein).

To study dissemination to weeds, surveys were conducted in potato fields where *Dickeya*-infected potato plants were detected during two consecutive spring seasons (2009 and 2010). Symptomless plants of 12 species of local weeds were randomly collected: *Cyperus rotundus,Orobanche aegyptiaca*, *Amaranthus spinosus*, *Polygonum equisetiforme*, *Chenopodium sp., Heliotropium sp., Centaurea iberica, Sorghum haepense*, *Malva nicaeensis*, *Cynodon dactylon*, *Amaranthus blitum* and *Solanum elaeagnifolium*. Roots or tubers (in the case of *C. rotundus*)of 15 plants of each weed were washed, surface sterilised and then sample homogenates were plated on crystal violet pectate medium (CVP). Cavity forming bacteria were transferred to nutrient agar and analysed. *Dickeya* spp. were isolated only from the perennial weed *C. rotundus*.Incidence of infected plants was 6.7 and 14.3% in 2009 and 2010, respectively). DNA extracted from the bacteria isolated from *C. rotundus* was positive in a PCR amplification procedure using *pelADE* specific primers which are specific for *E. chrysanthemi* (Nassar *et al*., 1996).Isolates were identified by biochemical assays as biovar 3 (Palacio-Bielsa *et al*., 2006). They were characterised as the new genetic clade, using *dnaX* sequence (Sławiak *et al*., 2009) and REP-PCR analyses (Tsror *et al*.,2009). These isolates caused maceration of potato tubers at 30°C (Laurila *et al*., 2008) and formed clear haloes on a polygalacturonic acid medium (Collmer *et al*.,1988). This is the first report of *Dickeya* spp. latent infection in one of the most prevalent weeds in potato fields in Israel. *C. rotundus* is difficult to control because of resistance to most herbicides. Therefore, it may serve as an alternative host for *Dickeya* spp. allowing the pathogen to survive in the absence of a host crop.

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