



First report of potato blackleg caused by a biovar 3 *Dickeya* sp. in Georgia

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In Western and Northern Europe, *Dickeya* species are causing increasingly severe economic losses in potato (*Solanum tuberosum*) crops. The costs of seed potato production resulting from *Dickeya* spp. infection are high due to rejection and declassification of seed tubers (Sławiak *et al.*, 2009). Potato blackleg caused by *Dickeya* spp. is primarily a seed tuber-borne disease (Tsrer *et al.*, 2009). Symptoms including blackening of the stem base, wilting of plants and rotten seed tubers are observed. Recently, outbreaks of potato blackleg were recorded in Georgia on three cultivars, in Samtskhe-Javakheti region, Akhalkalaki district, in an area in excess of 100 hectares.

During the spring of 2008, samples of potato plants with symptoms of blackleg, wilting and soft rots, and their daughter tubers, were sent to Israel for detection of potential infection with *Dickeya* spp. Representative samples were collected from Akhalkalaki district, Georgia (cvs. Picasso, Milva and Jelly, the origin of the seed tubers being the Netherlands and Germany). Plant material was surface sterilised with hypochlorite. Ten segments from the stem base of each plant or a tissue sample from the stolon end (including both the vascular bundles and the peel) of each tuber were removed, using a sterile scalpel and homogenized with 10 ml sterile distilled water. Sample homogenates were plated on crystal violet pectate medium (CVP). Cavity forming bacteria were transferred to nutrient agar and analysed. DNA extracted from bacteria of all samples was positive in PCR amplification using *pelADE* specific primers which are specific for *E. chrysanthemi* (Nassar *et al.*, 1996), corresponding to the newly-described genus *Dickeya*. Isolates were identified by biochemical assays as biovar 3 (Palacio-Bielsa *et al.*, 2006). They were characterised as the new genetic clade, using REP-PCR analysis (Tsrer *et al.*, 2009) and *dnaX* sequence (Sławiak *et al.*, 2009) (GenBank Accession No. HQ678686). 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). During the winter of 2009, samples of 200 progeny tubers from the same region in Georgia (cvs. Picasso, Milva and Jelly) were shipped to Israel for detection of latent infection by *Dickeya* spp. Stolon ends were removed from tubers, placed in polypectate enrichment broth and incubated for 48 h. DNA extracted only from bacterial pellets from cv. Picasso were positive in PCR amplification using *pelADE* specific primers. To the best of our knowledge this is the first report on the presence of

Dickeya sp. on potato in Georgia, indicating the dissemination of this pathogen in Europe.

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