

[< back](#)

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[< Previous](#)[Next >](#)

Disease Notes



# First Report of the Pale Potato Cyst Nematode *Globodera pallida* from Slovenia

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Published Online: 10 Apr 2012 | <https://doi.org/10.1094/PDIS-01-12-0066-PDN>

## Abstract

The potato cyst nematodes (PCN) *Globodera rostochiensis* (Woll.) Behrens and *G. pallida* (Stone) Behrens are considered the most important nematode threat to potato production worldwide, and they are subject to strict quarantine regulations in many countries. The first report of the PCN in Slovenia dates back to 1971, when a single cyst of *G. rostochiensis* was detected (3). In the last decade, *G. rostochiensis* was detected several times, mainly in the central and northern parts of the country (2). Interceptions of *G. pallida* in imported consignments of ware potato were made several times, but had not been detected in soil in Slovenia. Therefore, the country was declared as a protected zone for *G. pallida* in the European Union by the national authorities in 2003. During the official PCN systematic survey in autumn 2011, the pale potato cyst nematode, *G. pallida*, was found in a soil sample. Two viable cysts were extracted and the nematode species was identified. The posterior part of the cysts containing eggs and juveniles were used for morphometrical analysis, while the anterior parts were used for DNA extraction and molecular analyses. The ribosomal internal transcribed spacer (ITS) region was amplified using ITS5 and PITSp4 primers and detected in real-time PCR using ABI7500 (Applied Biosystems, Life Technologies, Carlsbad, CA) (1). Also, the ribosomal DNA region that extends from the 3' end of the 18S ribosomal subunit and includes all of ITS1, 5.8S, and ITS2, to the 5' end of the 28S ribosomal subunit, was used to generate a DNA sequence. The sequence obtained was compared with those from several *Globodera* species, revealing unequivocal similarity to *G. pallida*. The infested soil sample originated from a ware potato field near Ivancna Gorica, central Slovenia. Subsequently, an additional 69 samples were taken from the surroundings and viable *G. pallida* cysts were found in another five samples taken from two neighboring fields (one of grassland and the other of clover). Three fields, totaling 1.9 ha, were declared as *G. pallida*-infested. The eradication of the pest will take place by enforcing strict phytosanitary measures. Ware potatoes originating from areas where the pests occur is considered to be the most probable pathway for the introduction of *G. pallida* in Slovenia. A ware potato processing facility is situated in very close proximity to the infested fields. The waste waters from potato tuber washing were discharging onto the grassland, never used for potato or other field crop production in which the *G. pallida* infestation was found. The facility processes imported ware potato from several European and non-European countries. This case demonstrates that ware potato may pose a serious risk for the introduction of such pests, and should be therefore subjected to more intensive phytosanitary inspection.

< back

49:361, 2010. (3) G. Urek et al. *Nematology* 5:391, 2003.



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