

Occurrence of Potato Golden Cyst Nematode in Iran and its Distribution in Hamadan Province

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Abstract

The total area under cultivation of potato in Hamadan province is about 26000 hectares that has high economic importance role in the region. In a survey in June 2008 patches of about 200 m² poor growth were observed in three potato fields. Potato plants in these areas exhibited symptoms of severely nutrient deficiency along with chlorosis and wilting. Roots of infected plants showed white, golden mature females and brown cysts. Soil and root samples were transferred to the laboratory and processed by centrifugal floatation technique. The morphological and morphometrical characters of second stages juveniles and perineal area of cysts were determined by light microscope. On the basis of the characters *Globodera rostochiensis* was identified. Complementary diagnosis was done by species specific primers. Potato golden cyst Nematode is the most important pest on potato that can cause a major yield losses in potato crops up to 80 - 100%. Since introduction of PCN to other potato fields could cause remarkable yield losses therefore, implementation of quarantine regulations in infested fields in order to control and eradicate the infestation is necessary. *Rhizoctonia solani* the causal agent of the Rhizoctonia stem and stolon canker was isolated from 90% of infected potato plants with *G. rostochiensis*, the canker scale was determined 2.9. This preliminary study showed possible interactions between *Rhizoctonia solani* and potato cyst nematode. In Bahar city 81 fields with 450 hectares area and in Hamedan city 9 fields with 73 hectares area were infected.

Keywords: Potato Golden Cyst Nematode, *Globodera rostochiensis*, Quarantine, Hamadan

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