Short Report

FIRST REPORT OF CITRUS HUANGLONGBING IN THE ORZOOIYEH REGION IN KERMAN PROVINCE (ORZOOIYEH)*

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Abstract

Huanglongbing is an important disease of citrus and has been regarded as a quarantine diseases in Iran. The disease has been recently reported from some parts of Sistan-Baluchistan and Hormozgan (Alizadeh 2009). The causal agent of the disease in Iran is the bacterium Candidatus Liberibacter asiaticus vectored by citrus psylla. Proximity of Kerman province with Sistan-Baluchistan and Hormozgan provinces, observation of huanglongbing-like symptoms and difficulties of symptomatic diagnosis of the disease prompted us to use a molecular method for identification in Orzooiyeh District. In September, 2010, in an attempt to trace the disease, samples were collected from 120 suspected trees. Total DNA was extracted from vein of the samples using DNA Extraction Kit (Fermentas). DNA samples were tested by PCR using two pairs of primers. Primers A2 and J5 amplified a 703 bp segment of ribosomal protein genes in Asian species while the primers OI1 and OI2C amplified a 1160 bp segment of 16s rDNA. The amplified DNAs (PCR products) were analysed on %1 agarose gel stained with ethidium bromide. For both primer pairs, the expected band of PCR product was observed in one sample. Presence of 703 bp band in product of PCR test using A2 and J5 primers, and also result of enzymatic digestion of PCR product related to OI1 and OI2C primers by enzyme XbaI and observing two bands of about 520bp and 640bp confirmed the presence of Candidatus Liberibacter asiaticus. PCR products were sequenced for further investigation. The infected tree was a four years old tangerine, Kara variety, in Qader-abad, Orzooiyeh, exhibiting symptoms such as dark and bright patches of yellow, bright green and dark green without any definite margin on the surface which may also be caused by other agents. Moreover, other symptoms such as pox-like irregular distortions on the fruit, tiny, shrunken, hollow, sterile and dark brown seeds and asymmetry of the fruit were observed. This is the first report of huanglongbing in Kerman province (Orzooiyeh). The infected tree was eradicated according to the instruction received from Plant Protection Organization.