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Molecular detection of tomato yellow leaf curl virus in tomato crops in Kuwait

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Viral diseases of plants are widespread in Kuwait and are causing significant economic losses in many crops. Since effective cures for plant viruses are not technically available, control practices are focusing on detection in planting stock and reducing the transmission. The aim of this study is to adapt and optimize a very sensitive, rapid method for the detection of tomato yellow leaf curl virus (TYLCV) and other white fly-transmitted viruses in the tissues of tomato plants and their vectors. Tomato leaf samples were collected on monthly bases for two growing seasons of tomato plants which covers two periods of collection from October 2012 till January 2013 (first period), and from November 2013 till February 2014 (second period). DNA was extracted from collected infected tomato leaf samples and PCR detection was conducted. TYLCV was detected, and sequencing of the full length genome TYLCV-KISR (JF451352) showed that it was most closely related to a Jordanian isolate TYLCV-IL[JO:Ju:08] with 92% nucleotide homology, all tomato varieties studied were found to be susceptible to the virus. Practicing strict farm hygiene and control of whitefly were recommended by the research team.

Biography

Ebtesam M Al-Ali has completed her BSc studies in 1993 from Kuwait University and started working as a Scientific Researcher at Kuwait Institute for Scientific Research with the molecular genetics group. She led 5 completed projects, and published more than 7 papers in reputed journals and international conferences.

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