Ebtisam Al-Ali

Kuwait Institute for Scientific Research, Kuwait

Phylogeonography and molecular characterization of Tomato yellow leaf curl virus in Kuwait

Tomato is one of the most important vegetables cultivated in the world, and is a critical component of nutritional security. Tomato crops in Kuwait are frequently infected with viruses, causing considerable losses, and dramatic reduction in crop production. A Begomovirus isolated from severely diseased tomatoes collected over two- tomato growing seasons in the main tomato-growing areas of Kuwait and characterised at the molecular level, the complete genomic sequence determined based on the genome structure, organization, and phylogenetic analysis, the Begomovirus found to be a strain of *Tomato yellow leaf curl virus* (TYLCV). Two isolates that characterized in this study had 97% and 95% nucleotide sequence identity, with previously characterized Kuwaiti isolate. TYLCV-KISR and the highest sequence identity (95%) was with that of TYLCV-Almeria (Spain) isolate. Phylogenetic analysis showed that the three Kuwait isolates formed a separate clade, which is suggestive of a different lineage from known TYLCV sequences, and the isolate KW 15 could be a novel variant of TYLCV.

Biography

E Al-Ali obtained her BSc in 1993 from Kuwait University, worked for Kuwait University as Research Assistant, and then joined KISR on October 5, 1993 and led six projects. She has published more than 25 papers in reputed journals and international conferences. Her field of experience is in plant virus detection, primer design, cloning and sequencing, ELISA, DNA Extraction, PCR Amplification, RCA Rolling Circle Amplification, TYLCV detection on tomatoes. She was also trained twice in the University of Wisconsin Madison under the supervision of Prof. Amy Charkowski as well as University of Washington state under supervision of Prof. Hanu Pappu.

ebtisam_alali@hotmail.com

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