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Diagnosis and genetic identification of *Tomato yellow leaf curl virus* (TYLCV) infecting tomato crops in Kuwait

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In Kuwait, high economic losses induced by white fly-transmitted viruses necessitates a rapid action for identification and molecular characterization of the virus species present in Kuwait in order to develop and recommend appropriate control strategies. TYLCV was reported as a major pest of tomato but it was not fully characterized at the molecular level in addition to TYLCV. Tomato leaf samples were collected on monthly bases. Collections were made from greenhouses farms in south (Wafra) and north (Abdally) agricultural district areas in Kuwait. Gemini viral DNA was extracted from 100 collected infected tomato leaf samples using Dellaporta method. Then, PCR protocol was optimized and used on 50 collected infected leaf tomato samples by using two different primer pairs. Field observations carried out in this project for whole growing period of tomato grown under protection indicated that the symptoms such as leaf yellowing, leaf cupping, leaf curling and stunting of plants were common. Whitefly infestation was very common. Data from this activity showed that TY1(+) & TY2(-) primers were successful in detecting the TYLCV, and partially sequencing of the positive TYLCV done and the amplicon showed a new spp. of TYLCV was detected. These data indicate that the TYLCV present in Kuwait belongs to a separate species from those reported in other countries, and hence, has been named tomato yellow leaf curl Kuwait virus (TYLCKWV).

Biography

Ebtesam Al-Ali completed her BSc at Kuwait University in 1993 and worked for Kuwait University as Research Assistant, then joined KISR on October 5, 1993 and led six projects. She has published more than 25 papers in reputed journals and international conferences. She has experience in Plant Virus Detection, Primer Design, Cloning and Sequencing, ELISA, DNA Extraction, PCR Amplification, RCA Rolling Circle Amplification and TYLCV detection on tomatoes. She was trained twice at University of Wisconsin Madison under the supervision of Professor Amy Charkowski as well as at Washington State University under supervision of Professor Hanu Pappu.

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