First report of tomato spotted wilt virus infecting *Arachis hypogaea* in Korea

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Arachis hypogaea, commonly known as the peanut or the groundnut, is a crop primarily grown in Korea for its edible seeds and seed oils. During a survey in 2017–2018, peanut plants in Andong and Gochang in the South Korean provinces of Gyeongbuk and Jeonbuk were found to have devastating tospovirus-like symptoms, including foliar chlorotic ring spots, and yellowing. Initial diagnosis using tomato spotted wilt virus (TSWV) Immunostrip Tests (Agdia, IN) yielded positive results in all six peanut samples. To confirm the presence of TSWV, the symptomatic leaf samples were tested using reverse transcription (RT-) PCR. Total RNA was extracted using an RNeasy Plant Mini Kit (Qiagen, Hilden, Germany). RT-PCR was performed using the AccessQuick RT-PCR system (Promega, Madison, WI) and the following primers: TOSPO L For/L Rev, TOSPO M For/Rev (Batuman et al. 2014), and TSWV N 2011F/2908R (5'-ACACACTA AGCAAGCATAAGCAAT-3')/(5'-ACATACGGTCAAAG CATATAACAAC-3') (developed in this study based on the sequence of GenBank accession no. AY744477). RT-PCR yielded the PCR products of the expected size indicative of reactions to partial L and M segments, and full-length nucleocapsid protein (NP) gene of TSWV (897-bp, 450-bp, and 849-bp, respectively). The amplicon was cloned into the pGEM-T vector (Promega) and the sequences of five clones were determined for each amplicon, confirming the identification of TSWV. Sequences of the viral genes were submitted

to GenBank under accession nos. MK372884, MK372883 (NP); MK798148, MK798149 (RdRp); MK803409, and MK803408 (NSm) for isolates andong17 and gochang18, respectively, and each showing >99% identity with both TSWV isolate MJ (MF159072, pepper), isolate GS (MF159043, pepper), and isolate Pap (MF326510) from Korea. TSWV has been reported in soybean in Korea (Yoon et al. 2018), but to our knowledge, this is the first report of the occurrence of TSWV in peanuts in Korea.

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