First report of zucchini yellow mosaic virus in muskmelon (*Cucumis melo*) in Korea

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Green vein banding and severe mottle on leaves of *Cucumis melo* L. (muskmelon cv. ‘Santafe’) were observed in plants grown in almost 90% of plastic houses examined in Waju, Korea in 2017. Disease incidence of more than 90%, and losses of 90% were estimated across 15 plastic houses (6600 m²). Flexuous filamentous particles (approximately 710 × 13 nm) typical of potyviruses were observed by electron microscopy of leaves with virus-like symptoms. The presence of two potyviruses infecting Cucurbitaceae, zucchini yellow mosaic virus (ZYMV) and watermelon mosaic virus, as well as other viruses infecting Cucurbitaceae, such as cucumber mosaic virus, cucurbit aphid-borne yellow virus, tobacco ringspot virus and squash mosaic virus was tested by RT-PCR using specific primers. Results showed that ZYMV, but no other cucurbit virus, was detected. To confirm specific amplification of ZYMV, the coat protein (CP) gene product that was obtained by RT-PCR using primers ZYMV-895-For: CAAGGAGACACCGTAATGCTCCAA and ZYMV-895-Rev: TGCATTGTTACACCTAACAGG, designed based on a multiple sequence alignment, was sequenced and submitted to GenBank as accession No. MF804411. The ZYMV isolate identified in this study was named ZYMV-me-SR.

Characterizing the phylogenetic relationship of ZYMV-me-SR and other ZYMV isolates within the CP gene by the neighbor-joining method with 1000 bootstrap replications using MEGA 7 (Kumar et al. 2016) showed that ZYMV-me-SR clustered with other isolates in group A previously described by Wang and Li (2017). Although ZYMV was first reported to infect melon crops in 1979 (Lecoq et al. 1981), this is the first report of ZYMV in *Cucumis melo* L. (muskmelon) in Korea.

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