First report of tobacco mild green mosaic virus in Turkey

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Tobacco (*Nicotiana tabacum*) is one of the agricultural products with the highest added value in Turkey. To date, there has been no record of virus infections in Turkish tobacco plants, excluding tobacco mosaic virus and cucumber mosaic virus (CMV). However, tobacco growers have reported that virus epidemics caused severe economic losses in recent years.

Therefore, during 2017, field surveillance was performed in the Manisa province, the most important tobacco production area in Turkey. Six fields were surveyed for the presence of viral symptoms, and 46 tobacco samples showing severe systemic mosaic symptoms on the leaves were collected. RNA was extracted from samples using CTAB method (Li et al. 2008), and nucleic acid extracts were tested by RT-PCR with universal tobamovirus (specific to complete coat protein–CP gene) (Letschert et al. 2002) and CMV specific primer (Karanfil et al. 2016) pairs. In total, 44 samples were found to be infected with tobamovirus and one with CMV. The remaining sample was found to have a mixed infection of CMV and tobamovirus.

To identify the causal agent of the tobamovirus infection, one of the randomly chosen RT-PCR products was sequenced (MK944273). A BlastN analysis of this sequence against the GenBank database identified it as tobacco mild green mosaic virus (TMGMV) isolates with more than 96.48% identity. Consequently, all tobamovirus-positive RNA extracts were

retested with TMGMV specific primers (specific to the complete CP gene) (Letschert et al. 2002). All were found to be positive for TMGMV. Further specific PCR products belonging to four samples from different fields were sequenced (MK944274, MN327577, MN327578, and MN327579). BlastN analyses indicated 97.50–99.84% identities among all Turkish sequenced isolates and 97.03–99.22% identities with other TMGMV isolates in GenBank. To the best of our knowledge, this is the first report of TMGMV in Turkey.

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Compliance with ethical standards

Conflict of interest All authors declare that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

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