First report of barley yellow dwarf virus in maize in Tunisia

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Barley yellow dwarf virus (BYDV) was identified on barley in Tunisia by Najar et al. (2017). No data is currently available on whether this virus is present on maize (*Zea mays*).

A field survey was conducted during spring of 2018 in the northeastern region (El Alia) of Tunisia. A total of 140 samples were randomly collected from five maize fields and tested by tissue-blot immunoassay using antiserum against BYDV (Makkouk and Kumari 1996). Fifty-two maize samples (37%) were positive for BYDV. In parallel, 38 out of 52 (73%) maize samples tested by DAS-ELISA using a polyclonal antibody raised against BYDV-PAV (Bioreba) were positive, suggesting a prevalence of BYDV-PAV in maize in Tunisia.

The occurrence of BYDV was confirmed by RT-PCR using total RNA (Foissac et al. 2005) and the specific BYDV-PAV primer pair BYDV-F (5'-GTTCTGCCTCAACATCGGAT-3') and BYDV-R (5'-GTTCTGCCTCAACATCGGAT-3') to amplify a 740 bp fragment of the coat protein gene (Ratsgou et al. 2005). An amplicon of the expected size was obtained for all the ELISA-positive samples. Then, four amplicons were randomly selected and used for Sanger sequencing. The four BYDV-PAV sequences (GenBank accession numbers MK224487-MK224489 and MK224491) share >96% identity amongst them and with sequences of BYDV-PAV isolates

from barley in Tunisia (KJ467220–23 and KJ410741) and Iowa, USA (KY593457), and from wheat in Kansas, USA (KU170668). To the best of our knowledge, this is the first report of BYDV-PAV on maize in Tunisia.

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