

DISEASE NOTE

FIRST REPORT OF *ONION YELLOW DWARF VIRUS* IN GARLIC FROM NIGERIA

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Garlic (*Allium sativum* L.) is one of the most important culinary herbs in the world. Several viruses belonging to genera *Potyvirus*, *Carlavirus*, and *Allexivirus* are known to infect garlic (Dijk, 1994; Walkey and Antill, 1989). This study was undertaken to investigate the status of viral infection in Nigerian garlic. Ten garlic plants showing mild to severe mosaic symptoms were collected in March of 2015 from two fields in Kano and Sokoto regions of Nigeria. Direct antigen coated (DAC)-ELISA was performed with antisera to *Onion yellow dwarf virus* (OYDV) (Bioreba, Reinach, Switzerland). All the samples were positive for OYDV. To confirm the presence of OYDV, reverse transcription (RT)-PCR was performed using primers published earlier (Majumder and Baranwal, 2014) and total RNA extracted from 100 mg of leaves with the RNeasy Plant Mini kit (Qiagen, Germany) according to the manufacturer's instructions. Expected amplicons of ca. 320 bp for OYDV were obtained from all the samples tested, indicating infection by OYDV. Direct sequencing of the PCR products produced 276 bp long nucleotide sequences with 87% identity with sequence of an OYDV isolate from leek in Vietnam (GenBank accession No. DQ925454.1). Sequence obtained from the Nigerian isolate was deposited in GenBank under accession number KU854388. To our knowledge, this is the first report of OYDV in garlic from Nigeria.

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DISEASE NOTE

FIRST REPORT OF *CUCURBIT APHID-BORNE YELLOWS VIRUS* AFFECTING SUMMER SQUASH AND MELON IN MONTENEGRO

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The phytosanitary status of cucurbit crops in the central and coastal regions of Montenegro was evaluated with a survey in 2015. Leaf samples of summer squash, zucchini squash (*Cucurbita pepo* L.) and melon (*Cucumis melo* L.) showing mosaic, interveinal mottling or yellowing, bright yellowing, blisters and distortions were collected from 101 plants. All samples were screened by DAS-ELISA (Bioreba, Switzerland) for *Cucumber mosaic virus* (CMV), *Watermelon mosaic virus* (WMV), *Moroccan watermelon mosaic virus* (MWMV), *Zucchini yellow mosaic virus* (ZYMV), *Zucchini yellow fleck virus* (ZYFV) and *Papaya ringspot virus* (PRSV). Serological analysis showed that 91.1% of the samples were infected with at least one of three viruses, the most prevalent of which was CMV (62.4%), followed by WMV (50.5%) and ZYMV (12.9%). Samples from 20 plants showing symptoms resembling those caused by poleroviruses were analyzed by RT-PCR using the coat protein (CP) gene-specific primers CE9/CE10 of *Cucurbit aphid-borne yellows virus* (CABYV) (Juarez *et al.*, 2004). An amplicon of the expected size (600 bp) was generated from six samples of summer squash and one of zucchini squash. Single infections by CABYV were found in two of seven positive samples, while other five were co-infected with CMV, WMV and/or ZYMV. Nucleotide sequences of the complete CP gene from four Montenegrin isolates (accession Nos. KX398662-KX398665) were identical to one another, sharing the highest nucleotide identity (99.1%) with an isolate from France (X76931). A previous survey in the former Yugoslavia did not reveal the presence of CABYV (Dukic *et al.*, 2002). Afterwards, the virus has been reported in several neighboring countries (Tomassoli and Meneghini, 2007; Vucurovic *et al.*, 2011), but to our knowledge, this is the first report of CABYV infecting *C. pepo* in Montenegro.

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