DISEASE NOTE

FIRST REPORT OF RICE BLACK-STREAKED DWARF VIRUS INFECTING BARLEY IN JIANGSU, CHINA

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Rice black-streaked dwarf virus (RBSDV; genus *Fijivirus*, family *Reoviridae*) causes rice black-streaked dwarf, maize rough dwarf and wheat dark-green dwarf diseases, which cause severe economic damage to rice, maize, barley and wheat (Lee *et al.*, 2005). RBSDV is transmitted to cereal crops by the small brown planthopper *Laodelphax striatellus*. In the spring of 2010, barley (*Hordeum vulgare*) plants showing extreme dwarfing were found in Jiangsu province (China). Twelve leaf samples were collected from symptomatic plants in a barley field and tested for the presence RBSDV by enzyme-linked immunosorbent assay (ELISA) using RBSDV-specific monoclonal antibodies. The presence of RBSDV was also ascertained by RT-PCR using total RNA extracted with Trizol and RBSDV-specific primers 376f (5'-GATAGACAGGCAAATATAAGCGT-3') and 1462r (5'- GGATTACAACACACACAACGAAA -3'). RBSDV was detected by ELISA and amplicons of the expected 1200 bp in size were obtained from infected but not from healthy leaf samples. Alignment of the sequences of two barley isolates showed 98% sequence identity at the nucleotide level with RBSDV isolates from rice (accession No. AJ297430.1) (Zhang *et al.*, 2003) and maize (accession No. AF536564.2), respectively. These results indicate that the virus associated with dwarf disease of barley in Jiangsu is an isolate of RBSDV. To our knowledge, this is the first report of RBSDV infecting barley in the People's Republic of China.

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DISEASE NOTE

FIRST REPORT OF THE SPOT FORM OF NET BLOTCH OF BARLEY CAUSED BY *PYRENOPHORA TERES* f.sp. *MACULATA* IN EGYPT

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In summer 2010, ovoid necrotic spots with chlorotic halo 15×20 mm in size were observed on barley (*Hordeum vulgare* L.) in a commercial farm in Tahreer province (Bohara Governorate, Egypt). The disease affected about 40% of the plants. Conidiophores from diseased tissues were dark brown, single or in small groups and bore several hyaline to olive-brown, almost cylindrical conidia 75.5-100.0×16.6-18.8 µm in size, with three to seven pseudosepta. Cultures were gray to olive green, cottony, and did not form conidia and sexual structures on potato dextrose agar (PDA). These characteristics indicated that the pathogens belonged to the genus *Pyrenophora*. Species identity was confirmed by PCR assays with primers developed for *Pyrenophora* spp pathogenic to barley (Taylor *et al.*, 2001). For pathogenicity tests, the fungal isolate, identified as *Pyrenophora teres* f. *maculata*, was grown on two 9 cm PDA plates at 24°C in the dark. After 10 days, aerial mycelium was scraped off, blended in 100 ml of sterile distilled water, and filtered through two layers of cheesecloth. Twenty seedlings at the three-leaf stage were sprayed with the mycelial suspension and a water control until runoff. Seedlings were kept in a growth chamber at 100% relative humidity and 20°C in the dark for 24 h, then at 70% relative humidity and 24/20°C (day/night) with a 12 h photoperiod. Within 3 weeks, one to four brownish ovoid spots, typical of the spot form of the net blotch syndrome, developed on the inoculated leaves. The fungus was reisolated and identified by specific PCR and according to Kingsland (1991), thus fulfilling Koch's postulates. To my knowledge, this is the first report of the occurrence of *P. teres* f. *maculata* in Egypt.

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