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Disease Notes

***Fusarium pseudograminearum* Associated with Barley Kernels in Argentina**

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Barley (*Hordeum vulgare* L.), one of the most widely grown winter cereal crops in Argentina, is primarily grown for use as malted barley for the beer industry. In December 2010, a survey of fungi was conducted in a barley (cv. Shakira) seed lot in a field located in Tres Arroyos, Buenos Aires, Argentina. A sample of 400 seeds was surface sterilized (70% EtOH for 2 min and 5% NaClO for 2 min), rinsed twice in sterilized distilled water, plated on potato dextrose agar (PDA), and incubated at $24 \pm 2^\circ\text{C}$ in a 12-h dark/light cycle. One isolate that was morphologically similar to *Fusarium graminearum* was observed after 6 days of incubation. The isolate was transferred onto PDA and carnation leaf agar (CLA) substrates and grown with the same conditions as described above. On PDA, the isolate produced abundant, white-to-yellow-to-red, aerial mycelium and formed red pigments in the medium. On CLA, macroconidia were abundant, relatively slender and almost straight to moderately curved, and commonly five to six septate. Microconidia were not observed. Chlamydospores were observed after 3 weeks. The fungus was initially identified as *F. graminearum* on the basis of morphology of the asexual stage (1). Pathogenicity was conducted using a hand sprayer to inoculate five barley (cv. Shakira) heads in potted plants with a 5-ml asexual spore suspension (1×10^4 conidia per ml). Two heads were sprayed with sterile distilled water as a control. Plants were covered with polyethylene bags and incubated for 3 days in a growth chamber under a 12-h day/dark cycle at $22 \pm 2^\circ\text{C}$. Plants were unbagged and moved into a greenhouse. Noninoculated spikelets were asymptomatic and inoculated spikelets showed discoloration or a tan-to-dark brown necrosis. The fungus was reisolated from symptomatic kernels. DNA of the isolate was extracted

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(3) and the isolate was identified to species by sequencing the reductase (RED), trichothecene 3-O-acetyltransferase (tri101), and translation elongation factor (TEF) regions (4). The sequences were compared with those in GenBank. The RED sequence (Accession No. JQ350697) showed 100% similarity, the tri101 (Accession No. JQ350698) showed 99% similarity, and the TEF (Accession No. JQ350699) showed 100% similarity with several *F. pseudograminearum* sequences. Additionally, the isolate was tested for the potential to produce deoxynivalenol (DON) using a PCR approach that allows identification of two acetylated forms of DON: 15-acetyl-DON (15-ADON) and 3-ADON (2). A PCR product indicative of a 3-ADON genotype was obtained. To our knowledge, this is the first report of *F. pseudograminearum* associated with barley kernels in Argentina. Considering its potential to cause head blight and produce mycotoxins, a large-scale survey of *F. pseudograminearum* on barley crops in Argentina is underway. A voucher culture (No. 1154) has been deposited in the Culture Collection of the La Plata Spegazzini Institute.

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