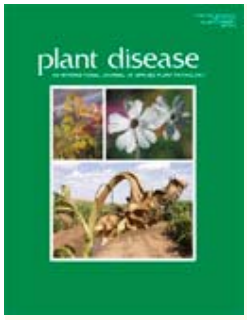

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Editor-in-Chief: R. Michael Davis
Published by The American Phytopathological Society

ISSN: 0191-2917

April 2010, Volume 94, Number 4
Page 487

DOI: 10.1094/PDIS-94-4-0487A

Disease Notes

First Report of Leaf Spot Disease of Maize Caused by *Pantoea ananatis* in Argentina

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From 2007 to 2008, an uncharacterized disease of maize (*Zea mays* L.) was observed in commercial fields of Laguna Blanca, Formosa, Argentina and from different fields of Santa Fe and Catamarca provinces of Argentina. Symptoms included light-colored necrotic streaks on leaves and tan or white irregular blotches that sometimes were surrounded by reddish purple-to-dark brown margins. Severity of symptoms varied greatly from one field to another. Abundant bacterial streaming was observed from lesions when examined at ×150. Gram-negative, facultatively anaerobic bacteria were consistently isolated from lesions. These formed light yellow-to-orange, glistening, convex colonies on yeast dextrose calcium carbonate agar incubated at 30°C. Ten isolates from ten different symptomatic plants were selected for further study. All isolates were motile, induced a hypersensitive response in tobacco plants, and were oxidase negative. Colonies developed at 37°C. Physiological and biochemical characterization with the API 20E test strips and database (bioMerieux, Buenos Aires, Argentina) showed that the strains belonged to the genus *Pantoea*. All strains were positive for β-galactosidase, utilized citrate and tartrate, and produced acid from D-glucose, D-mannitol, D-melibiose, L-arabinose, sucrose, meso-inositol, glycerol, D-sorbitol, and amygdalin. All were negative for arginine dihydrolase, lysine decarboxylase, ornithine decarboxylase, tryptophane deaminase, H2S production, urease, and reduction of nitrate to nitrite. Variable results were obtained for indole, gelatinase, and L-rhamnose. Their identity was confirmed by sequencing the 16S rRNA gene strain F327 (GenBank Accession No. GU068363). A BlastN search of GenBank revealed 99% nt identity with strains LMG 20103 (AF364847.1), LMG 20105 (AF364845.1), and LMG 2665 (FJ611815.1) of *Pantoea ananatis*. Pathogenicity was verified on *Z. mays* (EM 6079 HX, Dow Morgan) by injection-infiltration of bacterial suspensions at 10^5 CFU/ml. Controls were infiltrated with sterile distilled water. Plants were kept at 26 ± 3°C in a greenhouse. Symptoms were first detected 15 to 17 days after inoculation and then lesions expanded to resemble natural infections within 30 days. Bacteria were reisolated and the original and reisolated strains were compared by using repetitive sequence-based (rep)-PCR with ERIC primers (1) and fingerprints of the reisolated strains were identical to those of the original strains, thereby fulfilling Koch's postulates. No lesions were observed on controls. Known strains of *P. stewartii* from the United States (SW2, DC400, DC441, and DC283) were also tested for comparison. On the basis of sequencing data, pathogenicity, and physiological tests, the pathogen was identified as *P. ananatis* (4). To our knowledge, this is the first report of *P. ananatis* causing a disease of maize in Argentina, although a similar disease has been reported in Brazil (2) and Mexico (3).

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