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First report of *Xanthomonas vasicola* pv. *vasculorum* causing bacteria leaf streak of maize (*Zea mays* L.) in Argentina.

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Bacterial leaf streak of maize is caused by the bacterial pathogen *Xanthomonas vasicola* pv. *vasculorum* (Xvv). The disease is known to naturally infect maize in South Africa (Karamura et al. 2015) and was recently reported in the United States (Korus et al. 2017; Lang et al. 2017). Since 2010 the Plant Pathology Laboratory at the Universidad Católica de Córdoba has observed the presence of bacterial leaf streak symptoms on maize leaves in the northern region of Córdoba, Argentina. The disease has since expanded its range and prevalence, from a few of the more susceptible hybrids to infecting all of the commercial hybrids available in the region. The severity can reach up to 60% of leaf area affected in the most severe cases. Each year from 2010 to 2017, the range of the disease has expanded from the initial reports in northern Córdoba province to the rest of the corn producing areas of Argentina confirmed by isolation. By the 2017 growing season, which in Argentina is from September to May with some variation between regions, symptoms and signs (bacterial ooze) of the disease were present in Córdoba, Buenos Aires, Santa Fe, San Luis, Entre Ríos, Santiago del Estero, Corrientes, Chaco, Tucumán and Salta provinces. Initial symptoms were small, water-soaked lesions on the leaves that expanded along the veins producing irregular long necrotic streaks, and dark yellow to brown colored lesions. Bacterial ooze was observed coming out of infected leaf tissue 4 days after symptom development. Then the lesions became dry, often with shredding of the infected tissue. Disease symptoms often first appeared 4-5 days after a hard rain or windstorm. Mucoid, convex, and yellow colonies were isolated on nutrient agar from the streak tissue. Pathogenicity was confirmed by spray inoculating isolates on to maize plants at the six-leaf stage with a bacterial suspension of 1x10⁸ CFU/ml. No symptoms were observed on control, mock inoculated plants. Disease symptoms on inoculated plants were observed within 5 to 14 days after inoculation. The bacteria were then re-isolated in order to complete Koch's postulates. The bacterium is rod-shaped, gram-negative, motile and non-fluorescing. For a rapid method of identification to species level, all colonies were identified based on matrix assisted laser desorption/ionization time-of-flight mass spectrometry (MALDI-TOF MS) Bruker Biotyper. This method confirmed the pathogenic bacteria was similar, high-confidence score (2.32), to the *Xanthomonas vasicola* biotype DSM3851T in the Bruker database, which corresponds to NCBI ID 56459. In order to determine the pathovar status the genome of the Xvv isolate Arg1-A, recovered from maize near Adelia Maria, Córdoba, Argentina was sequenced and compared to the genomes of other Xvv recovered from maize in the U.S. and South Africa as well as *X. vasicola* pv. *holcicola* (Xvh) recovered from sorghum and known to be present in Argentina. Using a whole genome SNP phylogeny approach, we revealed that Xvv and Xvh are phylogenetically distinct and the isolate recovered from maize in Argentina was aligned closely (99% similarity) with isolates of Xvv recovered from maize in South Africa and the U.S. This group of maize infecting Xvv isolates included the genomes of isolates NE744 and SAM119 (the pathotype strain) used by Lang et al. (2017), to designate the *X. vasicola* pv. *vasculorum* pathovar. The Genome of Arg-1A Xvv was deposited in NCBI Genbank under BioProject number PRJNA413069 and WGS Accession PCMZ00000000. This is the first report of bacterial leaf streak caused by *Xanthomonas vasicola* pv. *vasculorum* on maize in Argentina. This also represents the first report of the disease in South America. References Karamura G., Smith J., Studholme D.J., Kubiriba J., and Karamura E. Comparative pathogenicity studies of the *Xanthomonas vasicola* species on maize, sugarcane and banana. African Journal of Plant Science. 2015: 385-400. Korus, K., Lang, J., Adesoye, A.O., Block C.C., Leach J.E., Jackson-Ziems T.A. 2017. First report of *Xanthomonas vasicola* causing bacterial leaf streak on corn in the United States. Plant Disease. 101:1030 Lang, J. E., DuCharme E, Ibarra-Caballero J., Luna E., Hartman T., Ortiz-Castro M., Korus K., Rascoe J., Jackson T.A., Broders K.D. and Leach J.E.. Detection and characterization of *Xanthomonas vasicola* pv. *vasculorum* (Cobb 1894) comb. nov. causing bacterial leaf streak of corn in the United States. Phytopathology. 2017, In Press.