DISEASE NOTE

THREE SORGHUM CULTIVARS DIFFERENTIATING SORGHUM YELLOW BANDING VIRUS IN VENEZUELA

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In Venezuela, sorghum (*Sorghum bicolor*) is infected by the potyviruses *Maize dwarf mosaic virus* (MDMV), *Sugarcane mosaic virus* (SCMV), *Johnsongrass mosaic virus* (JGMV), the tenuivirus *Maize stripe virus* (MStpV), and Sorghum yellow banding virus (SrYBV) (Garrido *et al*., 2000). The objective of this work was to determine if three sorghum cultivars would distinguish SrYBV from other sorghum-infecting viruses occurring in Venezuela. To this aim, the following virus strains and isolates were used: MDMV-A, MDMV-V, SCMV-D, SCMV-MB, JGMV-O, and SrYBV. Inocula of each virus, prepared by homogenizing tissues from infected leaves, were inoculated mechanically to at least 50 three to four leaf stage sorghum seedlings of cvs 'QL-3', 'QL-11', and 'BTx-3197', grown under glasshouse conditions (27°C and 70% RH). Symptoms were observed at weekly intervals for four weeks after inoculation. Experiments were repeated five times. 'QL-3' and 'QL-11' were infected only by SrYBV, showing chlorotic stripes and bands, severe mosaic and necrosis. SrYBV induced mosaic in 'BTx-3197', whereas potyviruses caused local necrosis (SCMV-MB), local and systemic necrosis (MDMV-V), mosaic and systemic necrosis (JGMV-O), and local and systemic necrosis accompanied by mosaic (MDMV-A and SCMV-D). In conclusion, 'QL-3', 'QL-11', and 'BTx-3197' developed distinctive symptoms, which qualify them as differential hosts to distinguish SrYBV from potyviruses infecting sorghum in Venezuela.

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DISEASE NOTE

TRANSMISSION OF SORGHUM YELLOW BANDING VIRUS BY VASCULAR PUNCTURE OF MAIZE SEEDS

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Sorghum yellow banding virus (SrYBV), a small isometric virus 22-26 nm in diameter, is mechanically transmissible with difficulty (3-12%) and symptoms develop 15-20 days after inoculation (Garrido *et al.,* 2000). The use of a vascular puncture method (Louie, 1995) improved the rate of SrYBV transmission to 60-85%. This result was achieved by using a hand-held inoculator with three pins No 0 mounted on a wooden dowel. Seeds of maize (*Zea mays*) cv. 'Bonanza' were first given a preinoculation soaking in water at 21°C for 24 h, then 10 µl of inoculum (infected crud sap) were placed at the inoculation site. The pins were held at 45°C to the surface of the seeds adjacent to the embryo and pushed through the inoculum and the pericarp covering the scutellum to a depth of 0.5-1.0 mm. The seeds were inoculated on both sides midway along the embryo and were incubated at 30°C for 24 h on moistened towels prior to planting in autoclaved soil. Symptoms usually occurred on the first or second emerging leaf. SrYBV transmission was confirmed by symptomatology and serology (immunodiffusion in agar plates). This is the first report of SrYBV transmission by vascular puncture inoculation.

Garrido M.J., Trujillo G.E., Cuello de Uzcátegui R., 2000. Ocurrencia del virus del bandeado amarillo del sorgo en Venezuela. *Interciencia* **25**: 321-327.

Louie R., 1995. Vascular puncture of maize kernels for the mechanical transmission of maize white line mosaic virus and other viruses of maize. *Phytopathology* **85**: 139-143.

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