

Tests of mechanical transmission with *Sorghum yellow banding virus* (SYBV)

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Abstract

Sorghum yellow banding virus (SYBV) is mechanically transmitted with difficulty (2-10 % of transmission), and the symptoms appear 15-25 days after inoculation. Vectors have not been reported yet. However, some results evidence that a mechanism through the soil could be involved in the transmission of this virus. In this study the transmission of SYBV was evaluated through types of mechanical inoculation: conventional mechanical inoculation, air gun, and vascular puncture of maize seeds. For the conventional mechanical inoculation, the following treatments were tested: dilution of the infective sap, two extraction solutions, different buffers, variation in the pH and molarity of the buffers, addition of reducing substances, chelating agents and solutions for removing tannins. The SYBV was efficiently transmitted through air gun (65-80%) and by means of vascular puncture of maize seeds (60-85%); however, it was transmitted mechanically (conventional) in low proportion (4.35-12.02%). The used additives did not increase the infection percentage. This is the first report of transmission of the SYBV by vascular puncture of maize seeds.

Key words: virus, mechanical transmission, sorghum, *Sorghum bicolor*, SYBV.

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