Resistance assessment of sugarcane clones and varieties to *Sugarcane mosaic virus* under greenhouse conditions.

Gonçalves, MC[1]; Reis, RF[1]; Pinto[2], LR; Xavier, MA[2]; Creste, SA & Landell, MGA. [1]Inst. Biológico/Lab. Fitovirologia, Av. Conselheiro Rodrigues Alves, 1252, 04014-002 São Paulo, SP, Brazil; [2]Centro Cana IAC, CP 206, 14001-970 Ribeirão Preto, SP. mcgon@biologico.sp.gov.br.

Sugarcane mosaic virus (SCMV), *Potyvirus*, *Potyviridae*, which induces the sugarcane mosaic, is one of the most important and widespread viruses of sugarcane. The only effective way to control this disease has been the use of resistant cultivars, what makes mosaic a major disease for selection in breeding programmes worldwide. To gain new insights towards resistance of clones and varieties of the IAC Breeding Program, blocks of eighteen plantlets of eight genotypes were sap inoculated with a SCMV severe isolate and grown in aphid proof greenhouses. Two mock inoculated plants per block were used as negative controls. Symptom development was evaluated each three days up to ninety days after inoculation, using a scale varying from zero to three, according to the intensity of symptoms. Confirmation of infection was achieved in detached leaves by PTA-ELISA. First symptoms of SCMV infection appeared twenty four days after inoculation, and the genotypes presented different notes according to the symptom scale. All eighteen plants of three of the eight sugarcane genotypes did not show any symptoms of infection and tested negative in ELISA, being considered resistant to SCMV. The other five genotypes varied from very susceptible, with most of the plants infected and positively tested in ELISA, to intermediate resistant to SCMV. These results are useful in recommending different cultivars according to the region to be planted and in germplasm screening for resistance against SCMV for future breeding tests. This system also offers an alternative tool for time demanding screening tests for resistance in the field.

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