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Detection of 16Sr IX phytoplasma (HLB phytoplasma) in Sunn Hemp (*Crotalaria juncea*) in São Paulo State, Brazil*

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In São Paulo State, besides the occurrence of *Candidatus Liberibacter americanus* and *Ca. L. asiaticus*, a 16Sr IX group phytoplasma was associated with HLB symptoms, indistinguishable from those caused by liberibacters. This phytoplasma is called HLB phytoplasma and was found widespread in citrus orchards, although at low incidence. The same phytoplasma was found in Sunn Hemp (*Crotalaria juncea*) in 2008 and witches'-broom was commonly found associated with 16Sr group IX detection. The aim of this work was to assess the phytoplasma diversity in Sunn Hemp with emphasis at the detection of group 16Sr IX phytoplasma and to establish an association between the occurrence of HLB phytoplasma and symptoms. Sunn Hemp samples were harvested close to the blooming period. Plants were selected in the field when showing symptoms common to phytoplasma infection. We employed universal primers to amplify phytoplasmas in general and group specific primers for 16Sr group IX. PCR products were sequenced to allow grouping of phytoplasmas. We identified five phytoplasma groups in 48 out of 99 Sunn Hemp plants, belonging to phytoplasma groups 16Sr I, III, VII, IX and XV. The most abundant phytoplasma was the group 16Sr IX, present in 70% of the samples, found in central and north São Paulo State. The occurrence of HLB phytoplasma in Sunn Hemp samples, showing 100% of similarity to the citrus phytoplasma, was highly related to virescence and the second most conspicuous symptom for this infection was witches'-broom.

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