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Systemic Acquired Resistance - SAR in the Control of Huanglongbing

Bagio, T.Z.^{1,2}, Barreto, T.¹, Canteri, M.G.², and Leite, R.P., Jr.¹

¹Instituto Agronômico do Paraná –IAPAR, Londrina, Brazil

²Universidade Estadual de Londrina, Londrina, Brazil

In Brazil, ‘*Candidatus Liberibacter asiaticus*’ is the main causal agent of Huanglongbing (HLB), and responsible for major losses in Brazilian citrus production. HLB management includes the elimination of diseased citrus trees and control of the insect vector, *Diaphorina citri*. These measures have allowed maintaining HLB incidence at very low levels in different citrus producing areas of Brazil, but with high economic costs. Therefore, the objective of this study was to examine the use of a systemic acquired resistance (SAR) based procedure for the control of this disease under greenhouse conditions. For each treatment, ten one year old plants of Valencia sweet orange (*Citrus sinensis* Osbeck) grafted onto Rangpur lime (*Citrus limonia* Osbeck) were pre-treated with acibenzolar-S-metil (0.2 g/plant), imidacloprid (4 g/plant) and thiamethoxam (1.5 g/plant), alone or in combination. The SAR inducers were applied 2 to 4 times at 60 day intervals. The inoculation was carried out by tissue graft using diseased plant material, seven days after the first application of the SAR inducers. HLB symptoms were observed 180 days after inoculation in the check citrus plants. Furthermore, ‘*Ca. L. asiaticus*’ was also detected by PCR in these check plants, as well as in the thiamethoxam-treated Valencia sweet orange plants. No HLB symptoms nor bacterium detection by PCR were observed for the plants treated with imidacloprid, acibenzolar-S-metil, imidacloprid plus acibenzolar-S-metil, and thiamethoxam plus acibenzolar-S-metil. Imidacloprid- treated plants showed phytotoxicity under the conditions of this experiment.