

***Bacillus thuringiensis* translocation inside citrus plants and insecticidal activity against *Diaphorina citri*, vector of HLB causal agents**

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Oral Presentation

Effectiveness of *Bacillus thuringiensis* (Bt) insecticidal Cry toxins have been shown to control insect pests either in spray products or expressed in transgenic crops. The discovery of Bt strains as plant endophytic opened new perspectives for studies to control phloem-sucking insects, such as the Asian citrus psyllid (ACP) *Diaphorina citri*. Such insect is the vector of *Candidatus Liberibacter* spp., the causal agents of Huanglongbing (HLB), the main citrus disease in the world. In previous studies, we identified Bt strains effectively control *D. citri* nymphs. The aims of this study were to confirm the mortality caused by the Bt strains previously identified as pathogenic to *D. citri*, to demonstrate their translocation inside sweet orange seedlings, and to select the best Bt strains to control ACP. All the bioassays were performed confining ten 3rd instar *D. citri* nymphs on *Citrus sinensis* (L.) Osbeck seedlings (six replicates/treatment and replicated twice). The treatments consisted of suspensions of different strains of Bt spores, in addition to the distilled water control. Each Bt strain suspension or the control treatment was placed on the substrate, close to the crown of the plantlet. The nymphs' mortality was evaluated every 24 hours up to 120 hours post-inoculation. The presence of the bacteria was confirmed in young leaves through isolation in NYMS medium and PCR detection with specific primers. The Bt strains translocation was confirmed in all of the *C. sinensis* seedlings used in the bioassays. Eight Bt strains were evaluated and three of those showed nymphs mortality percentage above 60%. The results revealed that the concentrations of 106 and 107 spores ml⁻¹ yielded the best nymph control, reaching up to 80% of mortality.