

Get to know the first results of the tolerance of citrus rootstocks to HLB



Figure 1. Illustration of the citrandarins genotype graftings challenging Candidatus Liberibacter asiaticus CLas infections. A. Sweet orange plants which received citrandarins graftings. B. Moist chamber utilized stimulate the graft to start growing in the form of the fork method. C. General view of the experiment.

The team of the Science Center for the Development of the (CCD-CROP-IAC) project has reaped the first results of the project "Biotechnological and genomic strategies for quality, productivity and sustainable management of citrus, coffee and sugarcane in the State of São Paulo" as to the tolerance of the citrandarins rootstocks (hybrids of Citrus sunki x Poncirus trifoliata) to the huanglongbing (HLB) to pest or citrus greening. This study paves the way for new research works aimed at managing the HLB utilizing combinations of canopy/rootstocks more resilient to the harmful effects of the disease to the root system of the plants.



Figure 2. Response of the hybrid H222 as interspecies graft and rootstock to the infection by Candidatus Liberibacter islaticus – CLas. A. Aspect of the volume of the root system of the treatments where the Citrus sinensis canopy resented a high concentration of CLas. B. Analysis of the clusterization process of the analyzed variables (diameter o he ground portion of the main stem, volume and dry weight of the root system and CT values (cycle threshold) as a esponse to treatments 11, 12, 13 and 14 to infection by CLas if compared with non-infected treatments. The variables vere jointly analyzed using the multivariate technique.

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IAC gets approval from CTNBIO to conduct on-farm trials on transgenic sugarcane plants

The Sugarcane Center of the Agronomic Institute of Campinas (IAC) was granted an extension to the Biosafety Quality Certificate (CQB), by the National Technical Biosecurity Committee (CTNbio)

Meeting with international researchers addresses genomic selection and genome-wide association

Leader of the CCD-CROP-IAC, chaired the meeting with the international researchers, members of the project. The meeting, held remotely on May 12th, 2022

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CCD-CROP-IAC team comes up with a methodology for large scale selection of genome-edited plants and starts a capacity building course



IAC and Esalq-USP scientists attended the training course.

The knowledge acquired on the High Resolution Melting technique in order to use this tool for selecting plants genome-edited via CRISPR/Cas9 was shared with the team of researchers from CCD-CROP-IAC.

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IAC and Embrapa have an INPI patented method for the identification and selection of naturally decaffeinated coffee

Research conducted by the Agronomic Institute of Campinas (IAC), in partnership with Embrapa Coffee, resulted into a method for the identification and selection of Arabica coffee plants with reduced caffeine content, which was patented by the National Institute of Industrial Property (INPI).





How do "genetic scissors work": citrus as model

Gene editing and its application on citrus was the theme addressed by researchers of the IAC-Citrus Center, in the magazine Current Citriculture no 131, of November 2021. The application of the technology makes it possible to speed up the research works with genome editing and take a step forward in search of citrus, coffee and sugarcane varieties tolerant to diseases and pests.



1st Workshop at the Science Center for the CCD-CROP-IAC development project

Professionals coffee, from product sugarcane and citrus chain/or productive sector had the opportunity to attend, on 4th May 2022, the 1st Workshop at CCD-CROP-IAC, promoted the by Agronomic Institute (IAC), hosting institution of the project financially supported by the Research Support Foundation of the State of São Paulo (FAPESP) and partner companies.

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Public-private partnership: The triple helix research and innovation group is on the move

The Science Center project for CCD-CROP-IAC Development (Citrus, Coffee and Cane: Research organization for Innovative Products), funded by the Research Support Foundation of the State of São Paulo (FAPESP) and by private companies, started officially in December 2021. Previously, the activities were related to the procedures between the research institutions and partner companies. The project, initially referred to as the Research Nucleus Geared Toward the Problems of São Paulo (NPOP), is hosted by the Agronomic Institute (IAC), reference in Brazil in the three research areas involved with: citrus, coffee and sugarcane.



