

Research Organization for Innovative Products

Newsletter June/2023

> NAC Technology from IAC incorporated into two foliar fertilizers proves the relevance of the public-private partnership



The results of NAC technology (N-Acetyl-Cysteine), developed and patented by the Agronomic Institute (IAC) and incorporated into the products GRANBLACK and IKONE, were presented to citrus growers during the Top Citros event, held by Amazon Agrosciences in partnership with CiaCamp, in December 2022. By presenting the obtained gains, reinforced by testimonials from technology users, the expectation is to contribute to citrus growers' increasing belief in Brazilian science, the relevance of partnerships, and the importance of adopting scientific results.



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Partnership between research and companies accelerates the technology transfer

Palma comments that the public-private partnership is essential to bring Brazilian research to agriculture. "When this happens, we see the results of research transformed into various products that help different crops produce more efficiently and/or solve or mitigate productivity-related issues," he analyzes.

Centro de Citricultura "Sylvio Moreira"/IAC establishes canopy and rootstocks plants and new clonal gardens

After decades of research, since obtaining through crosses between Sunki mandarin and Poncirus trifoliata Rubidoux and experimentation, the Centro de Citricultura "Sylvio Moreira" makes the first seeds available to the sector producing seedlings of six new rootstocks: citrandarins IAC 3128 Guanabara, IAC 3152 Itajobi, IAC 3026 Santa Amélia, IAC 3010 Pindorama, IAC 3070 Capão Bonito and IAC 3299 Muriti



General view of the screened greenhouse containing the basic plants of canopy varieties available for citrus sector



Basic plants recently registered in MAPA and CDA (PB12)

Visit of Dr. Cyril Zypfel to the "Sylvio Moreira" Citrus Center -IAC



Lecture by Dr. Zypfel in the auditorium of the "Sylvio Moreira" Citriculture Center - IAC

On January 31, 2023, the "Sylvio Moreira" Citrus Center - IAC welcomed researcher Dr. Cyril Zypfel from the University of Zurich, Switzerland. On this occasion, the researcher became acquainted with the research conducted at the institution and visited the facilities of the citrus center



Visit by Dr, Zupfel to the field trial of pathogen-resistant genetically modified citrus plants. The visit was guided by CCSM researcher, Dr. Alessandra de Souza, Dr. Raquel Boscariol-Camargo, Dr. Helvévio Coletta-Filho, by postdoctoral Dr. Mariana Esteves and biologist Luis Carvalho

Researcher at the Max Planck Institute of Molecular Plant Physiolog lecture at IAC

Camila Caldana, research from the Max Planck Institute of Molecular Plant Physiology, Germany, who is part of the Steering Committee of the CCD_CROP_IAC, with the support of the project, held a lecture on "The balance of holding on and letting it grow: uncovering new branches in the plant TOR network", at the VIII Brazilian Symposium on Molecular Plant Genetics promoted by the Brazilian Society of Genetics and, on 06/07/2023, gave a lecture on the same topic at the "Sylvio Moreira" Citriculture Center/IAC.



Camila Caldana, research from the Max Planck Institute of Molecular Plant Physiology, Germany, who is part of the Steering Committee of the CCD_CROP_IAC, giving a lecture at the "Sylvio Moreira" Citriculture Center/IAC

Application of Agile Management in the CCD-CROP-IAC Project

Are you familiar with agile management? It is a model focused on people, agility, and team motivation, aiming to deliver value to the customer and achieve excellent results. How does agile management apply to scientific and technological projects in the agricultural field? This was the research theme explored in the master's thesis conducted by Christopher Martinez Tsen, a student in the Postgraduate Program at the Agronomic Institute (IAC), under the guidance of researcher Alessandra Alves de Souza from IAC.



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Researcher represents the Citriculture Center team at an international conference in the field of genomics

Mariângela Cristofani Yaly participated in the International Conference, Plant & Animal Genome 2023 (PAG 30), from January 13-18, 2023, in San Diego, CA, USA. The Conference is the largest agro genomics meeting in the world, with over 3,000 participants, 130 exhibitors, 150 workshops, 1,100 posters and over 1,800 abstracts. Topics were addressed in the areas of -omics sciences (genomics and proteomics), genetic engineering, genetic improvement, environmental conservation, climate change, among others.



Researcher and her presentation at the International Conference on Plant and Animal Genomics (PAG30), held in San Diego (USA)

IAC Research published in C3offee Magazine

Research conducted by the Agronomic Institute (IAC) on coffee cultivation, specifically related to the development of cultivars since the 1930s, was discussed in an interview given by Oliveiro Guerreiro Filho, a researcher from the Coffee Center "Alcides Carvalho" at IAC, to columnist Tony Chen from C3offee magazine.

The publication specializes in coffee-related topics and is a prominent reference in the Asian continent.



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Sensory attributes of caffeine-free coffee

can be preserved by new breeding technologies

The researcher Mirian Perez Maluf (Embrapa/IAC) explains in this interview how strategies based on molecular breeding are used to develop caffeine-free coffee cultivars, without modifying other bean sensory and chemical aspects. The subject was discussed on the Café em Prosa Podcast in March 2023. The researcher presented a history of the research developed so far by the Coffee Center /IAC regarding caffeine content, indicating the potential of gene editing to develop caffeine-free versions of coffee cultivars widely used today.



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Interview on the "Hiperconectado" Program

Research on varietal development in citrus and coffee crops was the subject of a feature aired on TV Cultura, on the "Hiperconectado" program hosted by biologist Átila lamarino. The program explored the impact of plant domestication in people's daily lives and featured the participation of researchers from the Agronomic Institute (IAC), Mariângela Cristofani-Yaly from the Citrus Center "Sylvio Moreira," and Oliveiro Guerreiro Filho from the Coffee Center "Alcides Carvalho."



IAC Sugarcane Center and USP/RP offers training to students from different Latin American countries in plant genome editing



Estudantes de diferentes estados brasileiros e da América Latina durante o treinamento no Centro de Cana, IAC

In this proposal, a cooperation between researchers of IAC Sugarcane Center and University of Sao Paulo/USP, Ribeirao Preto provided opportunities for knowledge exchange, including training of students from different countries and regions of Brazil to learn about plant genome editing.



Students from different Brazilian states and Latin American countries in training at IAC Sugarcane Center

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Researchers from CCD_CROP_IAC project present work with sugarcane genomics at Plant and Animal Conference (PAG) in San Diego, CA, USA

Dr. Silvana Creste (left) presented the work "Comparative transcriptional profiling of contrasting sugarcane genotypes for drought tolerance under water deficit", highlighting a set of sugarcane strategies adopted by tolerant genotype to cope with drought stress, including better water use efficiency. On the right, Prof. Dr. Cláudia Vitorello presenting the lecture: "The exploring of sugarcane-smut molecular cross-talking using biological networks".



Dr Silvana Creste and Dr Claudia Monteiro Vitorello at USA conference

CCD_CROP_IAC sugarcane team visits GCCRC to exchange knowledge in searching solutions to climate changes

On march 6, 2023, sugarcane team visited the Genomics for Climate Change Research Center (GCCRC), located in Campinas, SP. In line with research conducted with sugarcane in the context of the NPOP, the GCCRC proposal is also to develop disruptive technologies capable of promoting the best performance of maize cultivars within the context of climate change, via transgenics and genome editing.



Learning and relaxation during the visit of Sugarcane team to the GGCRC, in Campinas, SP

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Participation of the CCD-CROP-IAC team in the brazilian symposium on molecular genetic of plant

Researchers and students from the CCD-CROP-IAC participated in the Brazilian Symposium on Molecular Plant Genetics (VIII SBGMP). The SBGMP is a biannual event held since 2007. An initiative of researchers in the plant area from different regions of Brazil and supported by the Brazilian Society of Genetics. The congress was held in May 2023, in Costão do Santinho, on the island of Florianópolis, in Santa Catarina. The meeting was an opportunity for both researchers and graduate and undergraduate students to update their knowledge and interact with scientists who are producing knowledge and modifying vision and concepts in the field of plant genetics.



Team participated in the VIII Brazilian Symposium on Molecular Plant Genetics, organized by the Brazilian Society of Genetics

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Conheça mais sobre o projeto CCD-CROP-IAC

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