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Room 217 D, Chemistry Depart., NOVA FCT

Innovations in plant-based ingredients and functional foods from tropical crops: recent R&D at Embrapa Agroindústria Tropical



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The Brazilian Agricultural Research Corporation (Embrapa) was established by the country's federal government in 1973 to develop the technological foundation for a genuinely tropical model of agriculture and animal farming. The initiative has been tasked with providing Brazil with food security and a leading position in the international market for food, fiber, and energy. Embrapa today is one of the largest agricultural research corporations in the world, with over half a century of contributions focused on innovation, efficiency, sustainability, and social inclusion. Embrapa currently has 43 Research Centers distributed across all regions of Brazil, as well as Administrative Units that make up its headquarters in Brasília. Specifically, Embrapa Tropical Agroindustry is located in the state of Ceará, in Fortaleza, and develops technologies to valorize tropical crops and their by-products, turning them into high-quality ingredients and foods that support healthier and more sustainable diets. In this webinar, Ana Paula Dionísio will present recent R&D on agro-industrial processing applied to

plant-based and functional products. Examples include: (i) Upcycling cashew processing streams into shelf-stable plant-based ingredients, such as dehydrated cashew-apple (peduncle) fiber designed to improve texture and nutritional profile (insoluble fiber) across multiple plant matrices; (ii) Characterization of cashew nut oil and its technological applications, including studies on physicochemical quality, volatile profile, oxidative stability, and consumer acceptance; (iii) Development and evaluation of prebiotic ingredients from yacon syrup rich in fructooligosaccharides (FOS), from food applications to clinical nutrition research; (iv) Processing of cashew nuts for the production of protein concentrates and evaluation of their technological functionality in food applications; and (v) Extraction of natural colorants from pitaya and their application as natural additives in food products. The session will also outline collaboration pathways for joint projects and student exchanges between Embrapa and NOVA FCT.

Short Bio

Ana Paula Dionísio is a Researcher at Embrapa Agroindústria Tropical (CNPAT), Fortaleza, Brazil, and a faculty member of the Graduate Program in Food Science and Technology at the Federal University of Ceará (UFC). She holds a BSc in Food Science (University of São Paulo, 2006) and a PhD in Food Science (UNICAMP, 2010), including a research period at the Laboratorio de Biotransformaciones Industriales (Universidad Complutense de Madrid, Spain). Her work focuses on agro-industrial processes and the development of plant-based ingredients and products, with particular emphasis on vegetable proteins, natural food colorants and prebiotic ingredients (especially fructooligosaccharides), supported by experimental design and process optimization.

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Webinar Host

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