

Campus Universitário - 36570-900 Viçosa, Minas Gerais – Tel. (31) 3612-6705/6760 E-mail:tca@ufv.br

TAL 797 – Seminary
March 29th, 2023

VEGETABLES, FRUITS, AND PLANTS AS INGREDIENTS IN FUNCTIONAL BEVERAGE PRODUCTION

Graduate student: Mariana Ishhanuhi da Silva Sismanoglu

Advisor: Prof. ^a Dr. ^a Ana Clarissa dos Santos Pires (Food Technology Department)

Functional beverages, when combined with healthy diets and the regular practice of physical activities, perform important biological effects for the health of consumers, such as antioxidant, anti-inflammatory, and the prevention of gastrointestinal diseases, cholesterol, and diabetes. Functional beverages are widely accepted in several countries, mainly because they are practical products, easily found in commercial establishments and with pleasant sensory properties. The COVID-19 pandemic promoted a rise in the segment of new functional beverages, as consumers became more careful about their health, seeking better life habits. Therefore, high-calorie carbonated drinks, such as soft drinks, have been less consumed. Among the new products that are currently being developed by industries, there are nutraceuticals, medicines, flavored waters, sports drinks, energy drinks, teas and juices based on vegetables, fruits, plant leaves, flowers, seeds, barks, and roots. Plant-based beverages have significant amounts of bioactive molecules, phenolics, essential oils, terpenoids, alkaloids, phytosterols, saponins, amino acids and fatty acids. The biological effects caused by these compounds are being studied to understand how these substances act in the organism, which technique is the most efficient to extract them (application of nanotechnology and lactic fermentation, for example), and the potential synergistic effects caused by the combination of different plants, fruits, and vegetables in the same functional beverage. In this context, our seminar will cover the main topics on functional plant-based beverages from different origins, as well as their main health effects.

References:

Feitosa, B. F., de Oliveira, E. N. A., de Freitas, F. B. F., de Oliveira Neto, J. O., Feitosa, R. M., Santos Lima, T. L., da Silva Medeiros, M. L., Feitosa, J. V. F., & Coutinho, H. D. M. (2022). Beverage composed of fruits and soy: Microbiology, colorimetry and effects of refrigerated storage on physical-chemical parameters. *Food Bioscience*, 49. <https://doi.org/10.1016/j.fbio.2022.101863>

Maleš, I., Pedisić, S., Zorić, Z., Elez-Garofulić, I., Repajić, M., You, L., Vladimir-Knežević, S., Butorac, D., & Dragović-Uzelac, V. (2022). The medicinal and aromatic

plants as ingredients in functional beverage production. In *Journal of Functional Foods* (Vol. 96). Elsevier Ltd. <https://doi.org/10.1016/j.jff.2022.105210>

Ruiz Rodríguez, L. G., Zamora Gasga, V. M., Pescuma, M., van Nieuwenhove, C., Mozzi, F., & Sánchez Burgos, J. A. (2021). Fruits and fruit by-products as sources of bioactive compounds. Benefits and trends of lactic acid fermentation in the development of novel fruit-based functional beverages. *Food Research International*, 140. <https://doi.org/10.1016/j.foodres.2020.109854>

Todaro, A., Arena, E., Timpone, R., Parafati, L., Proetto, I., Pesce, F., Pisana, F., Fallico, B., & Palmeri, R. (2023). Use of concentrated fruit juice extracts to improve the antioxidant properties in a soft drink formulation. *International Journal of Gastronomy and Food Science*, 31. <https://doi.org/10.1016/j.ijgfs.2022.100649>

Advisor

Graduate student