Abstract

iMedPub Journals
http://www.imedpub.com

Journal of Nutraceuticals and Food Science

2022
Vol 7 S2

Pulsed Electric Field (PEF) as innovative process for the olive oil extraction process

Antonio Berardi
University of Bari Aldo Moro, Italy

Abstract

The olive oil extraction process is done with known production facilities nowadays it is necessary to take further approaches to improve the long term sustainability of this process. Research is working to build and implement more efficient processing lines, integrated with new machines, in order to obtain products of superior quality and yield, guaranteeing efficient and sustainable processes.

In the last years, many researchers and industries have shown particular interest on the application of pulsed electric fields (PEF) technology which is able to have an action on physical characteristics of products, reducing the processing times and increasing the extraction yields in several variety of foods processed.

An industrial pilot plant capable of applying unipolar pulses to the food load with voltages up to 10 kV, currents up to 200 A and maximum average power of 3 kW was implemented and tested on an industrial olive oil plant. The study demonstrated the easy and immediate implementation of the PEF system unit. The tests carried out on homogeneous batches of olive oil, demonstrated an improving in terms of oil extractability and quality since the content of bioactive substances was enhanced. Based on the flexibility and continuous operation of PEF, the technology can be easily integrated into olive oil extraction plant increasing also the process efficiency.

Received: August 08, 2022; **Accepted:** August 17, 2022; **Published:** August 24, 2022

Biography

Antonio Berardi is researcher at the Department of Agricultural and Environmental Science. He earned his Ph.D. in Dept. Sciences of Production, Engineering, Mechanics and Economics Applied to Agro-Zootechnical Systems, from the University of Foggia, Italy, graduating in Mechanical Engineering in 2009 at Polytechnic of Bari.

His research focused on the machines and plant for agro-food production, he participates in many research on competitive projects. He has co-authored over 10 peer-reviewed scientific articles on innovation in agro-food industry.