

Food Processing & Technology

October 27-29, 2016 Rome, Italy

Implementation of a new partial destoner machine in an industrial olive oil plant: Evaluation of olive paste's rheology, olive oil yield and quality

Antonia Tamborrino¹, Roberto Romaniello² and Alessandro Leone²¹University of Bari Aldo Moro, Italy²University of Foggia, Italy

In this scientific paper, an industrial prototype of a partial de-stoner machine was specified, built and implemented in an industrial olive oil extraction plant to evaluate its quantitative and qualitative performance compared to the traditional mechanical crusher. The extraction efficiency of the olive oil extraction plant, olive oil quality, sensory evaluation and rheological aspects were investigated. The research demonstrated that leaving 40% of pits in olive paste (as pits fragments) the extraction efficiency loss at decanter level is avoided. The extraction efficiency measured when partial destoner machine and mechanical crusher were used did not show statistical differences. The oils obtained using partial destoner machine are characterized by higher green fruitiness, flavor and aroma with respect to those produced using traditional processing systems. In addition, the partial destoner machine allows the pits recovery to be used as biomass. It is to be noted that nowadays the goal of environmental sustainability is oriented to the use of renewable energy instead of fossil fuels and the global goal is to increase the use of biomasses for energy-consuming processes.

Biography

Antonia Tamborrino is an Assistant Professor in Agricultural Mechanics and Food Processing Plants at University of Bari, Department of Agricultural and Environmental Science. Her scientific research deals with the innovation and optimization of agro-food industry equipment and plants, design of the food pilot plants and their implementation in the industrial environment; sensors and real time process for the food industry; processes settings; influence of industrial processes on food quality. She has participated on different national and UE projects to develop innovative processes and prototypes of agro-industry plants.

antonia.tamborrino@uniba.it

Notes: