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Editorial

Food industry wastewaters and Nutrition, Dietetics & Nutraceuticals

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Editorial

I am pleased to present the inaugural issue of the journal of Nutrition, Dietetics & Nutraceuticals (NDN) from the open access international publishing house Research Open World. NDN provides a platform covering in an interdisciplinary manner all areas of Nutrition, Dietetics & Nutraceuticals. The goal of NDN is to publish actual, original and high-quality research articles, reviews, and short communications, which can be divided into three categories: The science of nutrition, Community Nutrition and Therapeutic nutrition and dietetics.

Specific studies and developments of interest for the journal comprise Nutrition and Food Sciences and Food Biotechnology. Food industry uses extensively a high quantity of water in the industrial processes, namely, heating and cooling systems and washing of equipment and facilities. Consequently, it produces a large quantity of problematic wastewaters. Food industry wastewaters constitute a complex subject for the environment and public health due to the presence of high concentrations of organic matter monitored by chemical oxygen demand (COD), biochemical oxygen demand (BOD) and total organic carbon (TOC), salinity (high conductivity values), total and suspended solids and nutrients (calcium, magnesium, phosphorus, potassium, sodium and chloride). Food industry wastewater can be responsible for soil contamination, accumulation of toxic compounds in ecosystems, eutrophication phenomena, rapid oxygen depletion, and surface and groundwater contamination. Within this type of wastewater, it can be highlighted the dairy, winery, slaughterhouse and olive oil mill wastewater. However, appropriate and innovative treatment processes are required. Conventional treatment processes of food industry wastewaters are based on biological principles, for instance, aerobic [1, 2] and anaerobic [3] digestion and wetlands [4]. However, these biological processes have some limitations. Several physicochemical processes have been applied in order to reduce organic and inorganic contamination, for example, coagulation–flocculation with $FeSO_4$, $Al_2(SO_4)_3$, and $FeCl_3$ for cheese whey wastewater [2] and winery wastewater [5], coagulation with chitosan, starch, alum and ferric chloride for olive oil wastewater [6], acid precipitation with H_2SO_4, HNO_3 and HCl for cheese whey and slaughterhouse wastewater [7, 8], basic precipitation with NaOH and $Ca(OH)_2$ for cheese whey wastewater [9, 8], oxidation with $Ca(ClO)_2$, H_2O_2 and CaO_2 for slaughterhouse wastewater [7], Fenton-like oxidation system for pretreated cheese whey wastewater [10], ozone-based advanced oxidation processes (O_3, O_3/UV and O_3/UV/H_2O_2) for winery wastewater [11], photocatalytic/photolytic reactor system for winery wastewater [12], solar photochemical for winery wastewater [13], electrochemical advanced oxidation [14] and solar driven advanced oxidation [15] for the pretreated winery wastewater, use of clay–polymer nano composites for olive oil mill and winery wastewater [16], reverse osmosis for winery wastewater [17], electrolysis system for olive oil mill wastewater [18], electro-coagulation for olive oil mill wastewater [19] and slaughterhouse wastewater [20], Fenton's Reagent for olive oil mill wastewater [21], conductive-diamond electrooxidation (CDEO), ozonation and Fenton oxidation for olive oil mill wastewater [22] and alkaline and enzymatic hydrolysis for slaughterhouse wastewater [23]. The application of these effluents on the soil can also be an alternative [24, 25]. However, some precautions should be taken when these effluents are applied at long-term. Thus, NDN can receive important works in the area of biological and physicochemical treatment, recovery and reuse of the food industry wastewaters.

Thank you for your contribution to the Journal of Nutrition, Dietetics & Nutraceuticals

Sincerely,
Ana R. Prazeres

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