

International Conference on

Sustainable Bioplastics

November 10-11, 2016 Alicante, Spain

Potential natural additives and agro-industrial by-products in biopolymer formulations for active food packaging

María Carmen Garrigós, Ana Cristina Mellinas, Marina Ramos and Arantazu Valdés
University of Alicante, Spain

The addition to natural additives and/or agro-industrial by-products discarded from food processing operations is an innovative trend in polymer science with clear application in active food packaging. A variety of natural compounds have been proposed for incorporation to polymer matrices to improve the packaging's functionalities as well as food quality and safety. The demand for the use of natural additives in polymer formulations has produced in recent years a clear increase in the number of studies based on natural extracts from plants, essential oils or agricultural waste products as well as their original compounds (including phenolic acids, tannins, proanthocyanidins and flavonoids) for food packaging applications. Their action is essential in preventing food oxidation, off-flavors development, nutritional losses, spoilage from food-borne bacteria and organoleptic deterioration by microorganism proliferation. The use of biopolymers such as poly(lactic acid), PLA; poly(ϵ -caprolactone), PCL; bio-polyethylene, bio-PE; starches; gelatines, caseinates, etc., offer an attractive approach for the development of sustainable materials. These biopolymers can be excellent carriers for active compounds in food packaging applications. In this speech, the potential of some natural bioactive compounds and agro-industrial by-products and their incorporation into different biopolymer materials will be presented as a result of the research performed by the authors.

Biography

María Carmen Garrigós has done her PhD in Chemistry from the University of Alicante (2003). She is an Associate Professor in Analytical Chemistry at the University of Alicante from 2015. She is the Author of 38 research papers published in journals related to Analytical Chemistry, Food Technology and Polymer Science. The main research areas are: Chemical modification of biopolymers; Natural additives for active packaging; Edible films; TPUs obtained from vegetable oils; Valorisation of agro-food residues; Carbohydrate-based advanced biomaterials; Extraction and encapsulation of bioactive compounds; and Quality control methods and multivariate analysis for food authentication.

mc.garrigos@ua.es

Notes: