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The green image of processed food by MAPs raw material quality

In the last few years, the reduction or elimination of pathogens in food has increasingly oriented to substitution of synthetic food additives with different types of MAPs (Medicinal and Aromatic Plant) derivatives, which are added directly to foods or incorporated in the food packages. These new food formulations may answer simultaneously to the WHO recommendation to reduce the consumption of salt to decrease the incidence of cardio-vascular disease as well as to satisfy the worldwide demand of products with a reduced impact on the environment. Spices, essential oils, and plant extracts have been studied for their antibacterial and antioxidant properties since long time, but it is only recently that these data are used in the food production with safe and natural or green image. In fact, the addition of MAP derivatives in processed foods can extend their shelf life without the more toxic effects of chemical preservatives. Most of essential oils (EOs) in food industry have been recognized as generally safe by the American Food and Drug Administration and have a broad spectrum of antimicrobial action against different pathogenic and spoilage microorganisms. In addition, due to their wide range of phytochemicals, MAPs and derivatives are still debated on the possibility they can even result in beneficial health effects for the consumer. Most studies on the raw EOs generally show that they are slightly more active against gram positive than gram negative. This activity has to be related to EO quali-quantitative composition and the interactions among the different compounds. Further data have to be recorded to quantify microbial resistance or to explain the mechanism in the foodstuffs directly as bacterial sensitivity can also influenced by several factors due to both intrinsic food properties and extrinsic processing parameters. However, whatever MAPs derivatives have been used as additives, food production protocols should make their green image coherent with their effectiveness as food preservative by guarantying first of all MAP raw material quality.

Biography

Alessandra Bertoli is a Researcher in Department of Pharmacy at University of Pisa. She completed her Master's Degree at University of Parma; Post-doctoral studies in Department of Pharmaceutical Sciences at University of Calabria and; PhD in Medicinal Plants at University of Pisa. She is involved in national and international research projects and is an invited Lecturer. She is the Co-author of more than 100 publications.

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