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Use of broccoli byproducts to obtain bioactive compounds

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Broccoli (*Brassica oleracea L. var. italica*) is an important crop since along with other Brassica vegetables its world commercial production is estimated over more than 90 million tons per year. Broccoli sprouts have attracted particular attention due to their high nutritional and functional values since they are an excellent source of a variety of vitamins (A, C, E, K, among others), essential nutrients and minerals, dietary fibre and many bioactive compounds among which stand out glucosinolates (i.e., glucoiberin, glucoraphanin, glucoalyssin, glucobrassicin, neoglucobrassicin) and carotenoids (β -carotene, lutein and zeaxanthin among them). In fact, the data available reveal broccoli to be a healthy food due to the beneficial biological effects of these bioactive compounds. In fact, glucosinolates are the most important health-promoting compounds commonly found in broccoli due to their antioxidant, antimicrobial, cardiovascular, antidiabetic, and antitumoral activities. On the other hand, broccoli byproducts, produced after harvest, can represent an important environmental problem. They have been used traditionally as an animal feedstuff, for fibre extraction and as a source of glucosinolate standards. However, the increase in broccoli cultivation in the last few years has made it difficult to find uses for the total amount of byproducts generated. For these reasons, broccoli byproducts have been proposed as a source of bioactive compounds. In this work, we have identified and quantified both hydrophilic and lipophilic bioactive compounds found in broccoli byproducts since they could be used as ingredients in the development of novel functional foods, thus adding value to them and reducing agricultural wastes.

Biography

María Angeles Pedreño holds a degree in Chemistry and a PhD in Sciences, Section Chemistry. She did a Post-doctoral stay in the Plant Biotechnology Department of the Agricultural School of Toulouse (ENSAT). In 1993, she got a permanent position as a Lecturer in Plant Physiology in the Department of Plant Biology, University of Murcia. She is a full Professor of Plant Physiology at the same University since 2006. She has published more than 130 papers in reputed journals and her research lines have been developed in the field of Plant Physiology and Biotechnology

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