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## Extraction and evaluation of nutraceutical molecules in wastes of fruits and vegetables

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**F**ruit and vegetable wastes not only have no commercial value, but also require expensive operations of removal and disposal, representing a significant cost for the manufacturers of plant products. However, this material may represent an important resource of commercially worth phyto-molecules endowed with various nutraceutical properties. In the present work, the possibility of using fruit and vegetable waste materials as a source of bioactive compounds was explored and verified. Several nutraceutical compounds, like sulphoraphane, ursolic acid, phloridzin and other flavonoids of high economic interest,

were extracted and quantified from various waste plant materials deriving from the production phase ("first-gamma products") or discarded during the preparation of fresh ready-to-cook or ready-to-eat packaged products ("fourth-gamma products"). Obtained results showed that, despite the precarious and uncontrolled conditions which plant wastes products are subjected, the levels of the examined bioactive compounds are present in relevant amount, also in the parts of the plant that are discarded during the preparation of the ready-to-eat/cook products.

### Biography

Doria E obtained Master degree of Biological Science and PhD degree in Genetics and Biomolecular Science at the University of Pavia (Italy). He is plant biologist, expert in plant biochemistry and physiology, nutritional improvement of crops, nutrition, extraction and analysis of phytochemicals and bioactive compounds from plants and microalgae. He has been Grantholder of EGovTN-Erasmus Mundus project fellowship at the Institut des Regions Arides in Tunisia e post-doc researcher at the Vaal University of Technology in South Africa where he has dealt with aromatic plants and nutritional improvement for local populations. Currently he is working at the Pavia University on several projects, from recovery of nutraceutical compounds from vegetables and fruits waste, to the nutritional improvement of the orphan cereals, to microalgae for nutrients extraction. He is author of more than 20 scientific papers in peer-reviewed international journals.

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