

The task of a *bioprofiler*: use of molecular markers in taxonomy, geographical discrimination, pre and post harvest treatments, processing and traceability of vegetable food matrices

Laura Siracusa

Abstract

Plant kingdom is characterized by a huge bio- and chemo-diversity, comprising more than 200.000 different secondary metabolites isolated to date. Among these, 25.000 are terpenoids, 12.000 are alkaloids, and 8000 are phenolics. Phenolics, which can be considered ubiquitous in plants, comprise different chemical classes, namely flavonoids, hydroxybenzoic and hydroxycinnamic acids, gallotannins, proanthocyanidins, stilbenoids, and lignans. The study of where, when, how and why these molecules vary in a given vegetable food matrix represents an extraordinary tool to assess its origin and typical features, as well as its stability and response to pre and post-harvest treatments. In this talk, a series of examples will be given on how the identification of molecular markers and the study of their variability in vegetable food matrices helped us in chemotaxonomic studies, in the choice of the best storage conditions, in assessing the typicality of foods.