

Investitionen in Wachstum und
Beschäftigung EFRE 2014-2020

Investimenti a favore della crescita e
dell'occupazione FESR 2014-2020

R&D Project SMARTJUICE

Development of an eco-sustainable bioprocessing for making low sugar fruit juices

The main source of excess sugar in the human diet is constituted by sugary drinks. Excessive sugar consumption is considered one of the determining causes of obesity and, consequently, is associated with a higher prevalence of risk factors for metabolic and cardio-metabolic diseases. Although natural juices are perceived to be healthier, they favour the energy and calorie intake of more portions of fresh fruit. Consequently, natural juices have a sugar content similar to that of sugary drinks, and once metabolised they induce the same biological response. In addition, the political orientation to introduce the sugar tax in many countries might limit the production of drinks with a high sugar content, and consequently reduce the daily intake of sugars.

The project Smartjuice aims to develop a new fruit drink with reduced sugar content produced in a natural way, in which the nutritional and sensory quality of the fruit is preserved.

The challenge of the project is monitoring and controlling the catabolism of sugars and the synthesis of natural sweeteners within fruit juices and natural smoothies without altering their organoleptic characteristics. The use of functional microorganisms and “food grade” enzymes combined with guided fermentation will constitute the natural and sustainable way to achieve this goal. Fermentation is considered one of the most traditional, eco-sustainable and effective examples of biotechnology to ensure the hygienic, sensory and shelf-life properties, and the improvement of the nutritional value of many foods and beverages.

Contacts

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