Peach and plum blended juice: Trending into nutritional, functional and health-promoting beverage

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Abstract

Peach (Prunus persica) and Plum (Prunus salicina) are short-lived underutilized stone fruits around the world and are rich in flavonoids, essential minerals, vitamins, fiber, phenolic compounds and antioxidants. Peach and Plum are widely utilized mainly in the form of liquid (juices). The presence of various functional components makes them an important commodity in medicinal world as a health promoter. Peach and plum blended juice has a strong potential to serve the beverage industry as a functional beverage as along with providing thirst quenching, nutritious and energizing attributes they greatly enhance the functionality of various pathways in the body including the digestive system, cardiovascular system, nervous system, renal system and oxidative stress.

Over the last decade, demand for "healthy" foods and beverages has increased in many parts of the world (Ozen and others 2012) and the diffusion of functional foods throughout the market has blurred the distinction between pharma and nutrition (Eussen and others 2011).

The idea of health-promoting foods is not new: Hippocrates wrote 2400 years ago "Let food be thy medicine and medicine be thy food" and Asian communities were familiar with the concept of functionality of food products and herbs. Nowadays, the advances in scientific research support the idea that diet may fulfill nutritional needs and exert a beneficial role in some diseases.

Several critical factors have been recognized as the key factors leading to the diffusion of functional foods: health deterioration, due to busy lifestyles, low consumption of convenience foods and insufficient exercise; increased incidence of self-medication; increased awareness of link between diet and health due to information by health authorities and media on nutrition; and a crowded and competitive food market. Above all, the various stakeholders have perceived the economic potential of functional food products as an important part of public health prevention strategies. Some authors reported that an annual reduction of 20% in health-care expenditure is possible through widespread consumption of functional foods.

Nowadays, the range of functional foods includes products

such as baby foods, baked goods and cereals, dairy foods, confectionery, ready meals, snacks, meat products, spreads, and beverages. In particular, beverages are by far the most active functional foods category because of (i) convenience and possibility to meet consumer demands for container contents, size, shape, and appearance; (ii) ease of distribution and better storage for refrigerated and shelf-stable products; (iii) great opportunity to incorporate desirable nutrients and bioactive compounds (Sanguansri and Augustin 2009; Wootton-Beard and Ryan 2011; Kausar and others 2012). The different types of commercially available products could be grouped as follows: dairy-based beverages including probiotics and minerals/ ω -3 enriched drinks,) vegetable and fruit beverages, and sports and energy drinks.

A number of review articles have focused on the main aspects of overall functional foods (Ozen and others 2012; Bigliardi and Galati 2013; Lau and others 2013), probiotic-based (Prado and others 2008; Granato and others 2010; Özer and Kirmaci 2010), fermented (Marsh and others 2014), and fruit-based beverages as well as energy (Heckman and others 2010; Committee on Nutrition and the Council on Sports Medicine and Fitness 2011) and sport drinks. However, none of the cited reports gives a comprehensive picture of the current achievements of functional beverages. Therefore, after a brief summary on the definitions, regulatory framework, and market size of functional foods, a review of the scientific advances on functional beverages is presented, with a focus on the main examples of commercially available products and potential health benefits due to their consumption.

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