

## Bioactive Foods and Ingredients for Health

Sahnur Irmak\*

Department of Food Science and Technology, Olive Research Institute, Turkey

### Short Communication

Foods containing bioactive chemicals are gaining popularity, and strategies for incorporating them into public health recommendations are being studied. The evidentiary basis, on the other hand, is tough to put together. Causation is difficult to establish, and there is rarely a single compound–single effect relationship. Furthermore, rather than the dietary component itself, health benefits may be attributed to metabolites created by the host or gut flora. Properties that can be assessed in a food may not correspond to health impacts in humans. Compounds under investigation could promote gut microbial diversity, endothelial function, cognitive function, bone loss prevention, and so on. Epigenetic alterations by our diet, such as microRNA transfer from our diet, are resulting in the emergence of a new type of bioactive component that can affect the expression of human genes. To identify the amount of evidence needed to make nutritional guidance and policy recommendations, as well as to create research agendas, policy processes are required.

A national and worldwide conversation is taking place to see if public health recommendations on bioactive foods and ingredients with health benefits may be produced. Bioactive chemicals are described by the National Institutes of Health's Office of Dietary Supplements as food or dietary supplement elements that are responsible for changes in health status but are not required to meet basic human nutritional needs [1]. Bioactive components' readiness for public health recommendations was assessed in recent publications from a conference and symposium [2]. Although the Food and Nutrition Board of the Institute of Medicine's present methodologies for determining essential nutrient requirements may not be applicable to bioactive components of health, these publications lay the groundwork for an evidence-based process. For bioactive foods and ingredients, this process has yet to be defined. This article advocates for the creation of a system for providing public health guidelines for bioactive foods and ingredients. Before consensus messaging can be communicated to health care professionals, such a procedure is required to establish a framework for research and the evidence foundation required. The consumer is the ultimate recipient of public health messages.

There is a fast developing body of scientific evidence and literature examining the impact of food processing by-products and secondary products on human health. Interestingly, there is an increase in consumer awareness of non-communicable diet-related disorders [3]. As a result, there is an increasing need for nonchemical, natural, safe, and health-improving food components. Large volumes of agricultural secondary or by-products generated during food processing have become a major worry for the food industry around the world, as they can pollute the environment (soil, water, air).

Furthermore, under certain government rules, the treatment of agricultural by-products could cost a lot of money. As a result, discarding by-products is no longer a viable option; instead, by-product use has emerged as a viable approach to address this problem [4]. Food processing by-products, in particular, can be useful for both technological and medicinal applications since they include a significant amount of important and desirable raw bioactive functional chemicals.

Various conventional approaches, including solvent-based extraction, have been utilised to recover physiologically active compounds in food by-products. However, novel techniques are superior to traditional ways due to increased demand for eco-friendly, low-cost, and high-efficiency methods, and novel methods have been explored and analysed. Membrane-based technologies such as microfiltration, ultrafiltration, and Nano filtration, ultrasound-assisted extraction, microwave-assisted extraction, electro technologies, ultrasound, high hydrostatic pressure, nanotechnology, and pressurised fluid are among the techniques employed. The purpose of this review was to discuss and provide an overview of the most prevalent biologically active component found in a variety of foods. In addition, the review discusses by-product bioactive compounds found in a variety of foods, including milk, eggs, meat, cereals, fruits and vegetables, herbs and spices, coffee and tea, honey and sugar, and additives. Furthermore, the bioactive chemicals' health and pharmacological benefits will be discussed [5].

Color, flavour, and taste are the most important factors in the acceptance of foods. Since a result, food colouring products have lately been introduced, as they have largely accepted the common interest of people all over the world. Consumers were interested in the food's safety, nutritional value, and aesthetic value as a result of these items. Betacyanins, betaxanthins, betalains, anthocyanin, amaranthine, chlorophylls, and carotenoids are among the natural pigments consumed by these goods. The betalains (betaxanthins and Betacyanins) found in vegetable amaranth are a unique source of free radical-scavenging activity [6]. Betacyanins have higher pH stability than anthocyanins and could be employed as a food colorant in low-acid foods. The antioxidant potential of amaranthine, a primary pigment of Betacyanins found in vegetable amaranth, was quite high. It could be utilised as a replacement for the well-known betalains from red beets in food colouring and antioxidants. Drought and salinity are two abiotic conditions to which vegetable amaranth can adapt.

### References

1. Biesalski HK, Erdman JW, Hathcock J, Ellwood K, Beatty S, et al. (2013) Nutrient reference values for bioactives: new approaches needed? A conference report. *Eur J Nutr* 52:1-19.
2. Cai Y, Sun M, Corke H (2003) Antioxidant activity of betalains from plants of the Amaranthaceae. *J Agric Food Chem* 51:2288-2294.
3. Stintzing FC, Carle R (2007) Betalains-emerging prospects for food scientists. *Trends Food Sci Technol* 18:514-525.

\*Corresponding author: Sahnur Irmak, Department of Food Science and Technology, Olive Research Institute, Turkey, E-mail: sahnurirk@gmail.com

Received: 2-Mar-2022, Manuscript No: JNDI-22-57739, Editor assigned: 4-Mar-2022, PreQC No: JNDI-22-57739(PQ), Reviewed: 18-Mar-2022, QC No: JNDI-22-57739, Revised: 23-Mar-2022, Manuscript No: JNDI-22-57739(R), Published: 30-Mar-2022, DOI: 10.4172/jndi.1000141

Citation: Irmak S (2022) Bioactive Foods and Ingredients for Health. *J Nutr Diet* 5: 141.

Copyright: © 2022 Irmak S. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

4. Sarker U, Oba S (2018) Catalase, superoxide dismutase and ascorbate-glutathione cycle enzymes confer drought tolerance of *Amaranthus tricolor*. *Sci Rep* 8:16496.
5. Sjögren K, Endhal C, Henning P, Lerner UH, Tremaroli V, et al. (2012) The gut microbiota regulates bone mass in mice. *J Bone Miner Res* 27:1357-1367.
6. Sarker U, Oba S (2019) Salinity stress enhances color parameters, bioactive leaf pigments, vitamins, polyphenols, flavonoids and antioxidant activity in selected *Amaranthus* leafy vegetables. *J Sci Food Agric* 99:2275-2284.