horticulturae

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Editorial

Chemical Properties, Nutritional Quality, and Bioactive Components of Horticulture Food

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Introduction

The Special Issue "Chemical Properties, Nutritional Quality, and Bioactive Components of Horticulture Food" is here presented. Horticultural crops mainly include fruits, vegetables, and ornamental trees [1]. Horticultural crops and products are an important source of compounds of nutritional and nutraceutical interest for human nutrition. Physiological, nutritional, nutraceutical quality and potential of horticultural products should be explored.

To give a current overview of the interest of this topic, a search throughout the Scopus online database has been carried out using the string TITLE-ABS-KEY ("horticulture" OR "horticulturae" AND "food quality *"). The functions of the Scopus web online platform named "Analyze" and "Create Citation Report" were utilized for carrying out basic analyses, whereas the "full records and cited references" have been exported for further processing to the VOSviewer software (version 1.6.16, 2020; www.vosviewer.com, accessed on 15 November 2021) [2–4].

The search returned 144 documents covering the period 1997 to 2021, and a total of 83 terms were identified and visualized as a term map in Figure 1. The main terms are: horticulture, food quality, fruit, crop yield, harvesting, cultivar, nonhuman, food storage, fruit quality, yield, quality, vegetable, agriculture, fruits, orchard (Figure 1). The most recent document is published by Biel et al. [5] addressed on-farm reduced irrigation and fertilizer doses, and arbuscular mycorrhizal fungal inoculation improve water productivity in tomato production [5]. Among the "Review" category, some examples are as follows: (i) current understanding and use of quality characteristics of horticulture products [6]; (ii) salinity as eustressor for enhancing quality of vegetables [7]; (iii) the cuticle as a key factor in the quality of horticultural crops [8]; (iv) preharvest factors influencing bruise damage of fresh fruits—a review [9]; (v) use of light quality manipulation in improvement vegetable quality at harvest and postharvest [10].

Narrowing the search exploring chemical properties, nutritional quality, and bioactive components features using the string TITLE-ABS-KEY ("horticulture" OR "horticulturae" AND "food quality*" AND "bioactive compound*" OR "bioactive component*" OR "bioactive molecule*" OR "nutrient*" OR "nutritional" or "chemical*"), the search resulted in 50 documents covering the time period 1997–2021 mainly *Agricultural and Biological Sciences* area.

The oldest work is by Haglund et al. [11] in 1997 on sensory quality of tomatoes cultivated with ecological fertilizing systems, whereas the most recent is by Mwinuka et al. [12] and it addresses optimizing water and nitrogen application for neglected horticultural species in tropical sub-humid climate areas, with particular regards of a case of African eggplant.

Among the most cited documents: —a review of antimicrobial and antioxidative activities of chitosans in food [13]; —a study on how vine growth, yield, berry quality attributes and leaf nutrient content of grapevines can be influenced by seaweed extract (*Ascophyllum nodosum*) and nanosize fertilizer pulverizations [14]; —a study on how rootstocks can enhance tomato growth and quality characteristics at low potassium supply [15].

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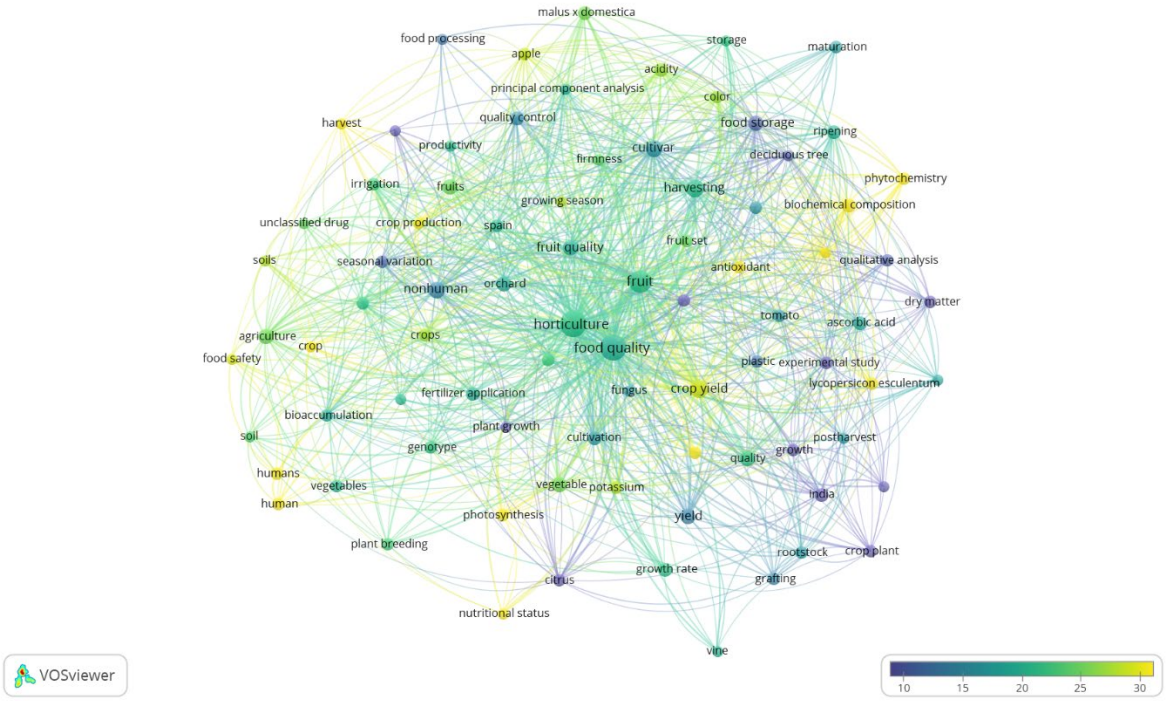

Figure 1. Term map for the relationship of horticulture/horticulturae and food quality research. Bubble size represents the number of publications. Bubble color represents the citations per publication (CPP). Two bubbles are closer to each other if the terms co-appeared more frequently (Bibliometric data were extracted from the Scopus online database and elaborated by the VOSviewer software).

In this context, the investigation on pre- and postharvest factors, storage and processing conditions under the food product quality perspective is a key issue to investigate and it represents one of the main focuses of the Special Issue. Studies on different factors influencing the food quality of horticultural crops under different agricultural production systems are welcome; particularly emerging strategies to maximize the content of bioactive components are considered.

Noteworthy research should be addressed towards the conventional and innovative, modern methodologies and technologies in light of scientific progress and green and eco-friendly approaches. In this regard, the book published by Bauddh et al. [16] focused on ecological and practical applications for sustainable agriculture is here mentioned.

New models of horticultural commodities should be analyzed, and new monitoring parameters should be proposed. Studies on classification of horticultural products should be promoted.

The use of deep learning and chemometrics for management of large datasets represents a new goal of horticultural research [17,18].

Moreover, studies on the use of nanotechnologies for improving productivity and quality of food represent new frontiers [19]

The quality of horticultural products should be explored from local and rural communities to urban ones, and also territories reconversion should be taken into account. The work of Ansari et al. [20] is addressed on converting primary forests to cultivated lands, with a focus on long-term effects on the vertical distribution of soil carbon and biological activity in the foothills of Eastern Himalaya. Studies on the use and applications of horticultural products and waste/byproducts are welcome. Utilization of high-value horticultural waste should be promoted [21]. Attention should be given to sustainable crop production systems, in the perspective of the tight bridge between food quality, territory and biodiversity [22].

Horticulture meets consumer demand through new solutions and challenges. Studies of promotion of underutilized horticultural crops and diversification for food security should be taken into account.

The effect of climate change on horticultural production and product quality should be considered.

An emerging and modern image of horticultural systems and product status should be based on a multidisciplinary approach that involves agronomy, chemical science, food science, and nutrition. Trends and challenges on horticultural status will be delineated and promoted.

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