Local Seasonal Foods, Sustainable Consumption

Subjects: Food Science & Technology

Contributor: Luís Miguel Cunha

The analysis of the 116 selected studies suggests that local seasonality is an appropriate concept for the investigation of sustainable consumption. However, it is crucial to define what is local for adequate use of this concept. The definition of “local food” and its impact on sustainable consumption has long been explored in the literature.

seasonal | local food | food chain | consumer behavior | sustainability

1. Introduction

Unlike organic food, which already has a more concrete and regulated concept in many countries, the interpretation of local and seasonal food can vary depending on the context that is being used, and who is using it. When exploring the other narratives that have been produced about local and seasonal foods, there are varied understandings. For example, many consumers associate seasonal with locally produced food, but by other definitions, local is not a necessary criterion for seasonal food [1].

Concerning seasonal food, some articles considered the implications of seasonality on the different sustainability elements [2][3][4][5]. Those articles concluded that consuming seasonal foods as the only sustainable action has little impact on sustainable consumption.

A growing body of articles and reviews examine the environmental and socio-economic impacts of local food consumption. However, this literature has not yet yielded consistent results on how seasonality affects sustainable food consumption practices, and neither do those articles study the effects of the relationships between local food and seasonality in the sustainability of food consumption.

In this perspective, it appears necessary to carry out a critical work of systematization and organization of the existing literature, which is helpful to highlight the definition of seasonal and local food, the stakeholders’ perspective of the effects of eating local seasonal food in all dimensions of sustainability, and prominent trends that emerged in the analysis of sustainable consumer consumption.

2. Systematic Literature Review

A systematic review of the literature was conducted in June 2021 using Scopus and Clarivate's Web of Science database in line with the recommendations from the Preferred Reporting Items for Systematic Reviews and Meta Analyses (PRISMA) guidelines [6].

A search for "seasonal food" or "local food" produced 12,319 articles in June 2021. After the first attempt, the search fields were narrowed searching the two main keywords separately with: "sustainability"; "short supply chain"; "consumer"; "circular economy". To cover both "seasonal" and "seasonality" when adding the other keywords, the term "seasonal*" was embraced. The symbol "*" broadens a search for finding words that start with the same letters. To optimize the systematic review, searches for seasonal food and local food were categorized into search 1 and search 2, respectively. The search strategy is detailed in **Table 1** .

Table 1. Search strategy with presentation of the keywords used to evaluate information about seasonal and local food. The symbol "*" broadens a search for finding words that start with the same letters, such as "seasonality".

Database		Search Strategy
Scopus and Web of Science	Search 1 #1	Seasonal food
	Search 1 #2	Seasonal* AND Sustainability
	Search 1 #3	Seasonal* AND Short Supply Chain
	Search 1 #4	Seasonal* AND Consumer
	Search 1 #5	Seasonal* AND Circular Economy
	Search 2 #1	Local food
	Search 2 #2	Local food AND Sustainability
	Search 2 #3	Local food AND Short Supply Chain
	Search 2 #4	Local food AND Consumer
	Search 2 #5	Local food AND Circular Economy

The search scope was then limited to "journal articles" with the language in "English" while excluding conference papers, short surveys, notes and errata, reducing the number of articles to 9170. Original peer-reviewed articles were considered if they included aspects of the seasonal and local agri-food supply chain: definitions, member relationship, composition and governance, quality, and factors affecting sustainable development.

Literature reviews and articles using mathematical modeling or geospatial methods for local production capacity calculation and other articles that did not directly cover the local or seasonal agri-food chain were excluded. In this research, no timeframe inclusion or exclusion criteria were established. **Figure 1** shows the flow diagram of the search and selection process.

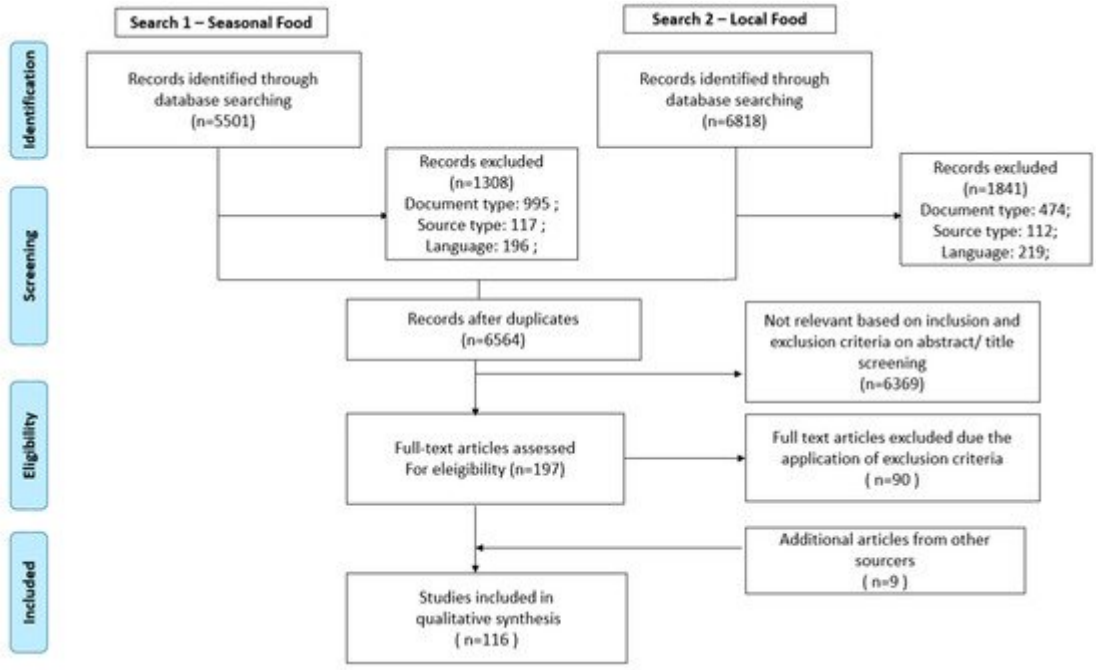

Figure 1. PRISMA flow diagram of the study selection. Adapted from Page et al. [6].

3. Local Seasonal Foods in Enhancing Sustainable Food Consumption

The term “local food”, “local food system” or “short food supply chain” embraces various dimensions. Current definitions of local food are still too vague and contested as they have different interpretations in places with different agro-food contexts [7]. Additionally, it is important to highlight a difference between local food—one produced and consumed locally—and locality food (produced locally and consumed globally) [8].

The meaning of local food is usually related to geographic boundaries, but definitions of “local” vary regarding whether it is presented from a producer, a supplier, or a consumer point of view [9][10].

The regional concept focuses on the identity of local food. In this concept, local food is produced in geographic proximity and contains characteristics such as “specialty” and “identity” that differentiate similar foods produced in other places. Making a distinction between this concept of local food and regional or traditional food is exceedingly difficult as they are often used interchangeably. Such a situation may lead to mistakes in analyzing reasons for customers’ and producers’ behaviors [11].

For the articles selected in this review that had seasonality as a central focus, none of them utilized the holistic concept of local food. Considering the articles that addressed or referenced seasonality and used the “local season” concept, 11 out of 16 (68.7%) used the geographic definition for local food.

4. Discussion on Sustainability of Local Seasonal Food

Eating seasonal food is being promoted as one aspect of a sustainable diet, frequently interpreted as local food, but the social, environmental, and economic benefits and limitations need to be compared with supplying year-round fresh produce [5]. The seasonal marketing of food is becoming gradually more popular, while at the same time the food systems in the developed world have increasingly eliminated seasonality [12].

The availability of wild edible plants is very dependent on seasonality, besides the weather and access to the surrounding where they grow naturally. This variable availability driven by seasonality and climate extremes means that these foods may not be available in sufficient quantities when required [13]. In countries where wild foods continue to be part of the routine cuisine, these foods can be replaced for less expensive foods with less cultural meaning and produced far from its consumption [14].

Concerning the economic dimension, most of the articles included in this systematic review analyzed consumers' preferences and willingness to pay for local food. Hempel and Hamm [15] showed that many studies revealed a high consumer preference and willingness to pay for local food. Werner et al. [16] concluded that consumers participating in the survey favored supporting the local economy, but were only willing to pay price premiums for a few specific local produce options. Moreno and Malone [17] found a positive relationship between collective food identity and consumer preferences for localness; however, the consumer was only willing to pay price premiums for products that are largely locally produced. Although the products studied by Moreno and Malone in the discrete choice experiment were fruits, it is essential to highlight the differences between local food and local products.

Brooks et al. [2] reported that even for a single food, adjustments in the seasonal production pattern can affect the environmental impacts of food production by influencing the scale, timing, and type of fertilizer or pesticide applied. Studying the use of agricultural chemicals, Schoolman [18] showed the results of a two-way, fixed effects regression model indicating that, in the USA, growth in local food systems, whether measured as an increase in the number of farms selling direct market products or as an increase in the total value of direct market sales, was strongly associated with declines in spending on agricultural chemicals in 1997. Across the country, however, the magnitude of this relationship steadily decreased over the following 15 years. One possible explanation proposed by the author is that as the social movement for local food gathered steam after 1997, it increasingly attracted producers, consumers, and marketing outlets that did not necessarily prioritize quasi-organic or low-input farming practices.

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