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Agro-Food Supply Chains in Peri-Urban Agricultural Areas: Do They Contribute to Preserve Local Biodiversity? The Case of Baix Llobregat Agrarian Park

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Abstract: Peri-urban regions, especially in the Mediterranean, face challenges like farmland loss due to urban pressure. This study emphasizes retail stores as strategic focal points for evaluating societal, economic, and production systems. It hypothesizes that analyzing retail stores in agricultural areas provides insights into traded and cultivated agrobiodiversity. Using the Baix Llobregat Agrarian Park (Catalonia, NE Iberian Peninsula) as a case study, this research examines different food retailers from short and conventional food supply chains. Results indicate variations in plant diversity, origin, and seasonality among different retail stores. Farmers' markets exhibit higher intraspecific diversity, contributing to local agrobiodiversity conservation. This study observes temporal changes in farmers' markets, highlighting shifts influenced by socioeconomic factors and climate change perceptions. Finally, this research underscores certain strategies to promote sustainable peri-urban local food systems and preserve agrobiodiversity, offering valuable insights into food supply chain dynamics in peri-urban agricultural regions.

Keywords: agrobiodiversity; farmers' market; peri-urban region; short food supply chain; Spain

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1. Introduction

The European Environment Agency [1] has emphasized that peri-urban agricultural regions experience urbanization impacts, leading to the loss and fragmentation of farmland and threatening it. These dynamics of urban pressure are particularly pronounced in Mediterranean countries [2–4].

Urban pressure not only affects the potential productivity of agricultural areas, but also the ecosystem services associated, which provide important supporting and regulating services, such as maintenance of agrobiodiversity conservation, soil fertility, wildlife protection, cultural heritage, rural landscapes, and maintenance of recreational areas for tourism [5–10].

The European Regulation n.1305/2013 on support for rural development defines a short food supply chain (SFSC) as "a supply chain involving a limited number of economic operators, committed to cooperation, local economic development, and close geographical and social relations between producers, processors and consumers" [11]. Thus, the local dimension is certainly underlined in opposition to the globalized one typical of conventional food supply chains (CFSC) [12–14]. From the perspective of physical proximity, it is considered that a food system is more sustainable when food is produced, harvested, processed, sold, and consumed as closely as possible [15].

Particularly in peri-urban areas, the adoption of SFSC is often considered a sign of farmers adapting to their proximity to urban areas [16]. The literature on SFSC generally asserts that these farming systems are environmentally beneficial [17–19]. However, some authors assert that, in some cases, there are no clear boundaries between SFSC and CFSC [20,21] or even hybridization of food chains [2,22].

Within a peri-urban area, agro-food retailers of both typologies coexist. The study of SFSC and, therefore, hybridization usually has the main focus on the producers [23], and there are still few studies that focus on wholesalers and retailers [22,24]. Retail stores serve as strategic focal points for evaluating society, the economy, and production systems, influencing the interconnected relationship between plants and people [25]. In addition, food retailers occupy a critical point in the food supply chain, which makes them well-positioned to encourage changes of practice across the entire agro-food system [26–28], such as the promotion of local agrobiodiversity [25,29].

Our hypothesis suggests that food retailers play a crucial role in conserving and promoting local agrobiodiversity. Specifically, we anticipate that different types of retailers, both from SFSC and conventional food supply chains (CFSC), will exhibit relevant differences in terms of plant diversity, origin of products, and seasonality. Furthermore, we anticipate that farmers' markets, as representatives of SFSC, will demonstrate greater proximity to the origin of products and higher diversity at interspecific and intraspecific levels, compared to other types of retailers. Ultimately, we expect this study to provide valuable insights into the role of food retailers in conserving and promoting local agrobiodiversity in the peri-urban region of BLAP. The main objectives are (I) to reflect the differences—in terms of plant diversity and origin—between different distribution channels in the specific area and (II) to check the potential contribution of food supply chains, specially SFSC, to the conservation of agrobiodiversity.

1.1. A Peri-Urban Agricultural Area: The Baix Llobregat Agrarian Park

The Baix Llobregat Agrarian Park (BLAP) is a local public consortium that aims to preserve and enhance territorial values. It is located in the central coast of Catalonia, in its turn situated in the NE Iberian Peninsula. It comprises 14 municipalities, and it takes part of the south of the Metropolitan Area of Barcelona, which refers to the urban agglomeration and surrounding areas connected to the city of Barcelona. BLAP comprises 2938 ha, primarily dedicated to the cultivation of vegetables and fruit trees. Within this area, there are approximately 250 agricultural holdings ranging from two to five hectares in size. BLAP is recognized as a Spanish paradigm for its conservation of agricultural activity in a heavily urbanized environment [30]. Artichoke is the most important vegetable crop (covering 8% of the area), and lettuce, tomato, cauliflower, and cucumber are other important crops [31]. It is estimated that approximately 80% of its production is distributed through the wholesale market Mercabarna (CFSC), and 20% is distributed through SFSC (Figure 1). When the economic income of farmers is observed, the percentages are reversed [32].

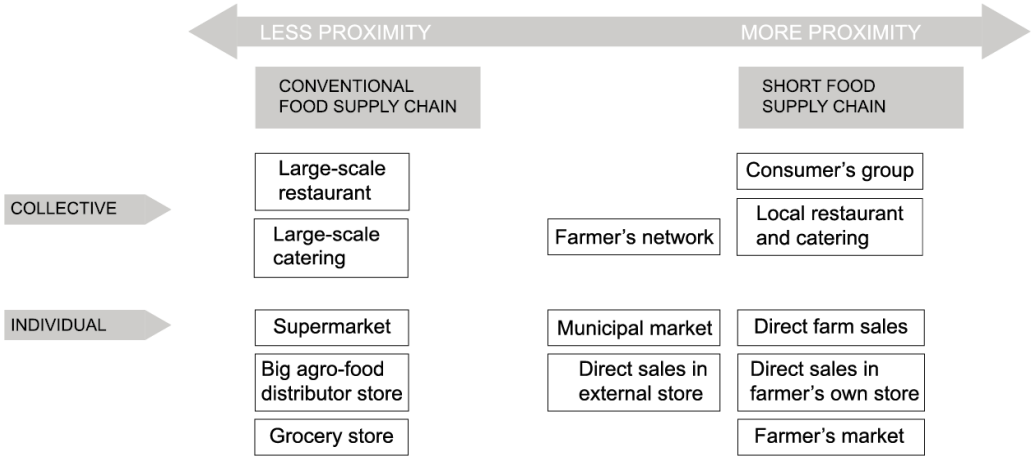

Figure 1. Food supply chain in BLAP. Note: own elaboration from [33,34].

1.2. Farmers' Markets as a Paradigm of SFSC in BLAP

Farmers' markets ("mercats de pagès" in Catalan) are one type of SFSC that provide a direct avenue for farmers to connect with consumers [17,35,36]. These markets provide local food products, as well as a sense of community, agricultural awareness, and education about the food system [37–40].

In BLAP, there are nine mobile markets that take place once a week in pre-established locations in several municipalities. In some cases, these farmers' markets are integrated within flea markets, where all kinds of products are sold (clothing, household accessories, and food products that may not necessarily be local). In other cases, farmers' markets operate independently. These two modalities differ in terms of the type of consumer, and therefore, differences in the type of product and price can also be observed. Farmers' markets are a true reflection of the cultivated agrobiodiversity of the area, as the products sold must be grown within the BLAP.

2. Materials and Methods

The present work is based on a case study conducted in 2015–2016 and 2022–2023 in BLAP. Two rounds of data collection were conducted for this research.

2.1. Study Area

The city of Viladecans has been selected as a best-representative municipality of BLAP for the present study. Viladecans is located in the region of Baix Llobregat (Catalonia, NE Iberian Peninsula), and it covers 20.40 km^2, of which 18% is dedicated to agriculture. The farmland in Viladecans represents 27% of the surface area of the BLAP, so it can be considered both a food-consuming and food-producing city. Viladecans has a population of 66,720 inhabitants and a population density of 3270 inhabitants/km^2, well above the Catalan average. This is attributed to its status as a city within the peri-urban area of Barcelona. Notably, a significant majority (80%) of the population is employed in the service sector, whereas only 0.18% work in agriculture [41].

The farmers' market of Cornellà de Llobregat has been selected to compare the data obtained with those of Viladecans. Cornellà de Llobregat is also situated in the Baix Llobregat region (Catalonia, NE Iberian Peninsula, Spain) but with different demographic features due to its greater proximity to the city of Barcelona. It encompasses an area of 22.50 km^2, with approximately 12% dedicated to agricultural activities. Cornellà de Llobregat is home to a population of 80,000 residents, boasting a population density of 3560 inhabitants/km^2, surpassing the Catalan average [41].

2.2. Field Work

In 2015–2016, field data were gathered from all agro-food retail stores in Viladecans, one of the municipalities within BLAP, which served as a prime representation. All agro-food retail stores from Viladecans (27, in total) were categorized into supermarkets (4), fruit shops (12, one of them exclusively online), grocery stores (8), municipal food markets (2), and farmers' markets (1). Short food supply chains where farmers and/or consumers are grouped, such as consumer cooperatives, were discarded due to the inexistence or difficulty of finding them in the area. Data were collected from 13 retail stores, representing all categories. Furthermore, in order to have extended information about farmers' markets in BLAP, data from the farmers' market in Cornellà de Llobregat were also included. Both farmers' market features are described below.

A second round of data collection was conducted in 2022–2023, encompassing farmers' markets in both Viladecans and Cornellà de Llobregat.

During both rounds, each retail store was surveyed five times annually to ensure a comprehensive overview for the whole year. The methodology was based on the observation of marketed products and semi-structured interviews with vendor–producers [42]. In our observations, we focused on noting the place of origin, the species, and intraspecific entities (IEs). These observations were complemented with questions to the vendors and, in some cases, with semi-structured interviews with them. A total of 140 retail store observations and 57 interviews with the vendors were conducted (ST1). Observations consisted of conducting an inventory of agri-food commodities. Interviewees were asked about range of products, origin, cultivation methods, commercial outputs, and climate change constraints and adaptations. Prior to conducting the interviews, the researchers adhered to the ethical guidelines outlined in the International Society of Ethnobiology Code of Ethics [43] to obtain informed consent and address related ethical considerations. All information was registered and documented for subsequent analysis.

Data were collected from various taxa and IEs, encompassing all intraspecific classifications lacking a taxonomic category, such as landraces, cultivars, and variants. Identification of these intraspecific entities was established through a combination of commonly used nomenclature, cross-referencing with data provided by stallholders, and thorough literature reviews. In this context, as an example, 'mongeta del ganxet' and 'mongeta perona' are recognized as two IEs within *Phaseolus vulgaris* L. However, 'mongeta seca' has not been considered an IE because the collected common name refers to a physical characteristic (dry, in this illustrative case) of the most common specific form. Finally, some common names are regarded as synonymous, denoting a singular intraspecific entity based on information provided by informants or consulted literature. As an illustration, both 'mongeta rodona' and 'mongeta bobi' denote a singular intraspecific entity within *Phaseolus vulgaris.*

The number of taxa and IEs has been calculated for each type of agro-food retail store throughout the year, considering the seasonality and origin of the distributed agricultural products. The IE/taxa ratio has also been calculated, which represents the relationship between the number of IEs and the number of taxa present in each type of agro-food retail store. A comparison between farmers' markets in 2014–2015 and 2022–2023 has also been conducted.

3. Results and Discussion

3.1. Agro-Food Retail Stores in Viladecans

In the city of Viladecans, 90% of residents have walking access to food stores offering fruits and vegetables within a distance of less than 400 m. The remaining 10% have access within the range of 400 to 800 m (Figure 2). These data align with the results of other studies conducted in European cities [44,45] and show the easy access to healthy and diverse agro-food within walking distance by Viladecans' citizens. These data also suggest the reasonable access that residents have to locally produced food, understanding "local"

as food that is "produced and sold within a given locality, including neighboring counties" [26].

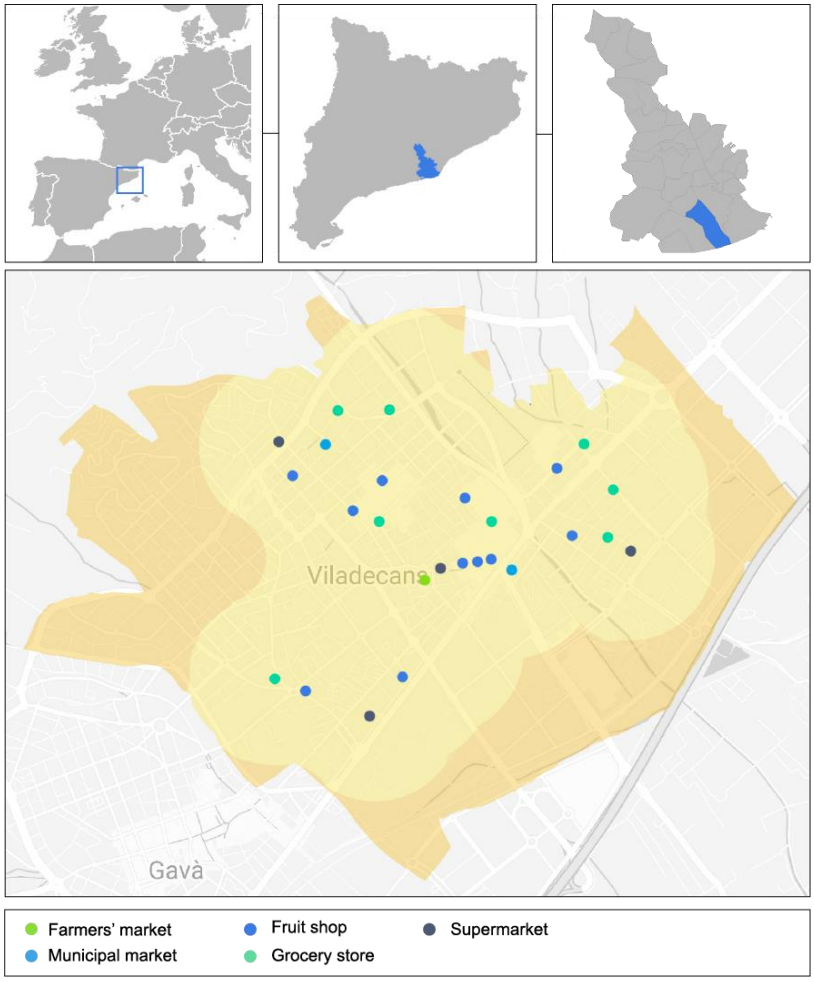

Figure 2. Map of the different agro-food stores within the study area. The light yellow represents residents who live within 400 m of a food store with fruits and vegetables, and dark yellow those who live within 400–800 m of these food stores.

3.2. Agro-Food Inventory

Agricultural products exhibit differences based on the type of stores, which are explained below. A total of 124 taxa were identified throughout the year in agro-food retail stores (Table 1). These findings align with analogous studies conducted in the Mediterranean region, such as those at the Figueres market [46]. The most prominently represented families are Rosaceae (11%), followed by Brassicaceae (8%), and Apiaceae (7%), which are botanical families known for their significant consumption within the Mediterranean region [47].

Table 1. Number of taxa and intraspecific entities (IEs) and IE/taxa ratio regarding type of agro-food retail store in Viladecans (2015–2016).

Food Retail Store	Taxa	IE	IE/Taxa Ratio
Supermarket	81	60	0.74
Fruit shop	96	82	0.85
Municipal market	76	44	0.58
Online sales	99	64	0.64
Grocery store	58	32	0.55
Farmers' market	53	66	1.24

Fruit shops and online sales show the highest diversity of taxa, whereas farmers' market and grocery stores show the lowest variety. When examining intraspecific diversity, we observe that the highest IE/taxa ratio occurs at the farmer's market. This demonstrates the high intraspecific variability found in locally sourced products.

On produce seasonality, food retail stores with the highest percentage of species available year-round are online fruit shops (W; 65% of the products available), supermarkets (S; 54%), and fruit shops (F; 46%). Food retail stores with the lowest percentage of species available year-round are grocery stores (G; 24%) and farmer's markets (FM; 26%). Conversely, food retail stores where the majority of the identified taxa appear only during a single annual season are grocery stores (G; 36%) and farmers' markets (FM; 32%) (Figure 3).

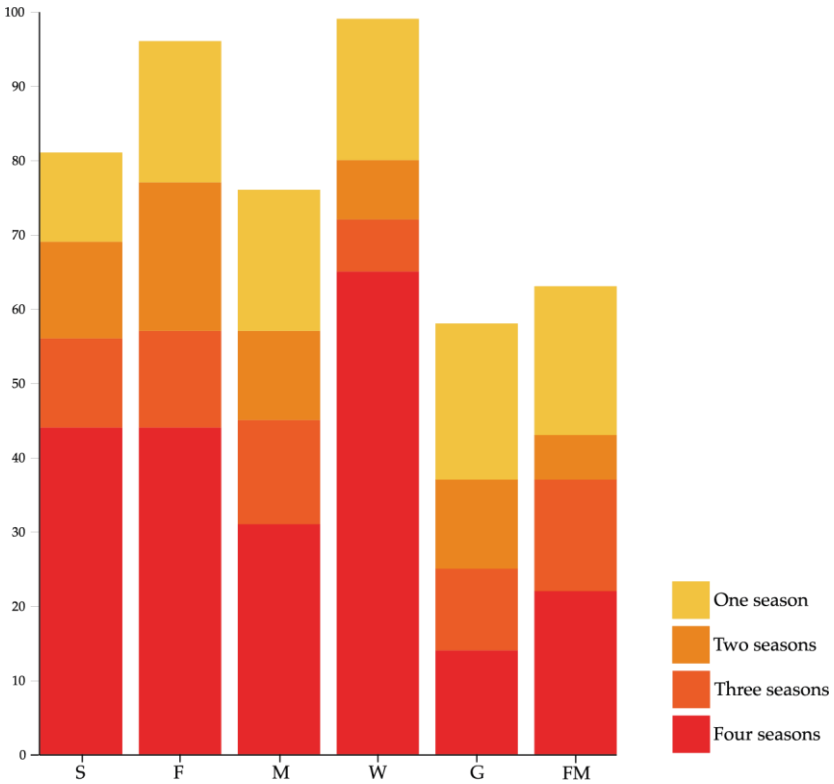

Figure 3. Number of taxa per type of food retail store and their seasonality. S: supermarket; F: fruit shop; M: municipal market; W: online sales; G: grocery store; FM: farmers' market. Colors represent number of taxa found per season.

The presence of seasonality indicates that local crops are synchronized with the natural cycle of the region. This means that the timing of planting, growth, and harvest aligns with the specific seasons characteristic of the area. The observation of seasonality reflects the adaptation of agricultural activities to the climatic conditions and environmental factors unique to that particular region. These crops are predominantly found in SFSC, such as farmers' markets. They not only hold cultural significance but also contribute to dietary diversity and the preservation of agricultural biodiversity [48]. Within CFSC, perishability and seasonality represent two crucial attributes that create a challenging imbalance between supply and demand [49,50]. The consistent availability of products throughout the year in food retail stores signifies the globalization of the food supply and the application of technologies to maintain supply during periods of restricted local production.

The origin of the taxa varies among food retail stores (Figure 4). Market access for local food products is available to all types of retail stores. However, supermarkets have fewer locally sourced species (6%) due to their limited contacts with local food producers [26]. Conversely, farmers' markets show a notably high proportion of locally sourced species (98%), representing the paradigm of short food supply chains in the region [33,34] (Figure 5). Local grocery stores, fruit shops, and municipal markets distribute 31–38% of local agricultural products in relation to the total distributed. These retail stores combine conventional food suppliers and short food suppliers in a balanced proportion, what some authors describe as "hybridization of food supply chains" [2,22]. Unlike other studies such as Feenstra & Hardesty [51] or Forsman [52], retailers do not use value-added local food products to differentiate themselves from other retail stores. The interviews suggest that these retailers purchase locally as a result of their direct connections with local farmers, which are often driven by familial ties, friendships, or long-standing relationships of trust with local producers. Further research is warranted to determine if this is a typical characteristics of peri-urban agricultural areas.

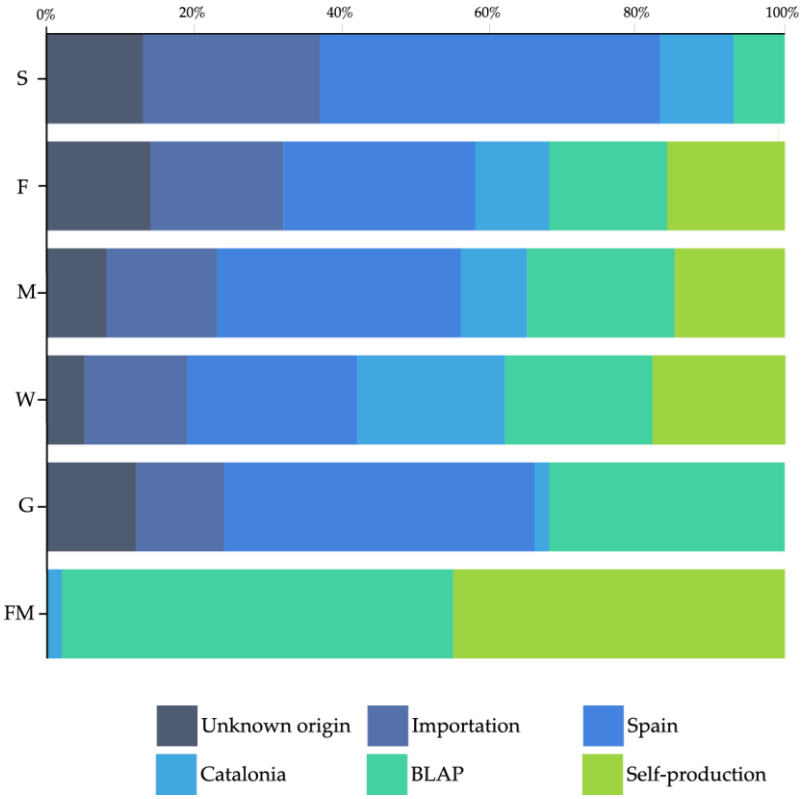

Figure 4. Percentage of taxon regarding provenance. S: supermarket; F: fruit shop; M: municipal market; W: online sales; G: grocery store; FM: farmers' market.

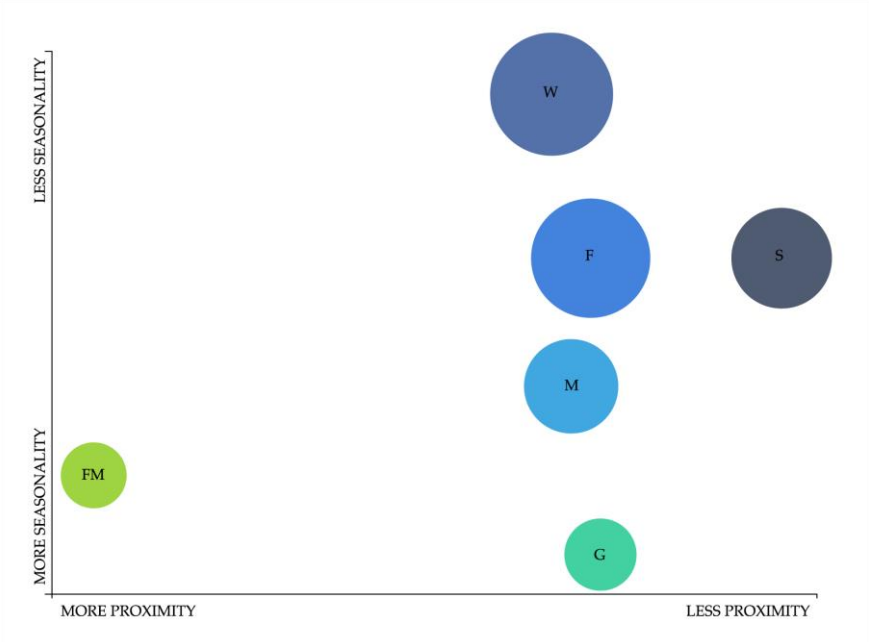

Figure 5. Diagram illustrating the relationship between proximity and seasonality in distribution centers. The size of each circle corresponds to the number of taxa. S: supermarket; F: fruit shop; M: municipal market; W: online sales; G: grocery store; FM: farmers' market.

About intraspecific diversity, 106 races were found. Farmers' markets are the food retail stores where there is greater intraspecific diversity, especially of Solanaceae and Fabaceae. These data resemble findings from other studies in the Mediterranean region [46,53] and other areas [25,54]. The ratio between variants and species peaks within farmers' markets (Table 1). This suggests that plant diversity thrives more at the intraspecific level rather than at the species taxonomy level. The presence of a wide range of variants in the farmers' markets is an indicator of the richness of agrobiodiversity in the region [25,55]. Driven by consumer demand for natural, local, innovative, and high-quality agricultural products, farmers' markets contribute to the conservation of local agrobiodiversity [19,48,56]. Furthermore, through SFSC, they establish a direct link with consumers, fostering innovation and experimentation for the cultivation of new races in their home gardens [9].

3.3. Temporal Changes in Farmers' Markets

In order to establish a comparative analysis over time of agrobiodiversity in regional farmers' markets, two types of markets were studied in 2015 and 2023.

Viladecans farmers' market takes place on a weekday market, whereas Cornellà farmers' market takes place on Sundays in a central park. Viladecans' audience tends to be residents, usually homemakers, who are looking for affordable and quality products, whereas Cornellà's audience comes from nearby municipalities, such as Barcelona, and is looking to spend a leisurely morning. Those users make more impulsive goods purchases and, as a result, stallholders offer a greater number of agricultural products—reflected in a higher specific and intraspecific diversity—and they are generally priced higher than in Viladecans.

Stallholders in Viladecans were reduced to 50% between 2015–2016 and 2022–2023 (from four to two), whereas five stallholders were established in Cornellà farmers' market in 2015–2016, as well as in 2022–2023. Each farmers' market has a particular context that influences producer and consumer motivations and perspectives [57–60], but, in this case, both are part of the AFN of the BLAP and, thus, have evolved in parallel over the past eight years from the agrobiodiversity perspective.

A total of 68 taxa were found in 2015–2016, whereas 78 taxa were found in 2022–2023. Concerning seasonality, the number of taxa that appear only during a single annual season decreases from 35% to 27%. On the contrary, the number of taxa available year-round increases over time from 37% to 45% (Figure 6). Some taxa, such as *Brassica oleracea* subsp. *oleracea* var. *botrytis*, *Brassica oleracea* subsp. *oleracea* var. *capitata, Cucurbita maxima*, *Lactuca sativa*, and *Solanum lycopersicum*, are available year-round with different variants throughout the seasons. For example, 'tomàquet d'esquena verda' is just found in summer time, whereas 'tomàquet cebrino` is just found in winter time, being both of them variants of *Solanum lycopersicum*.

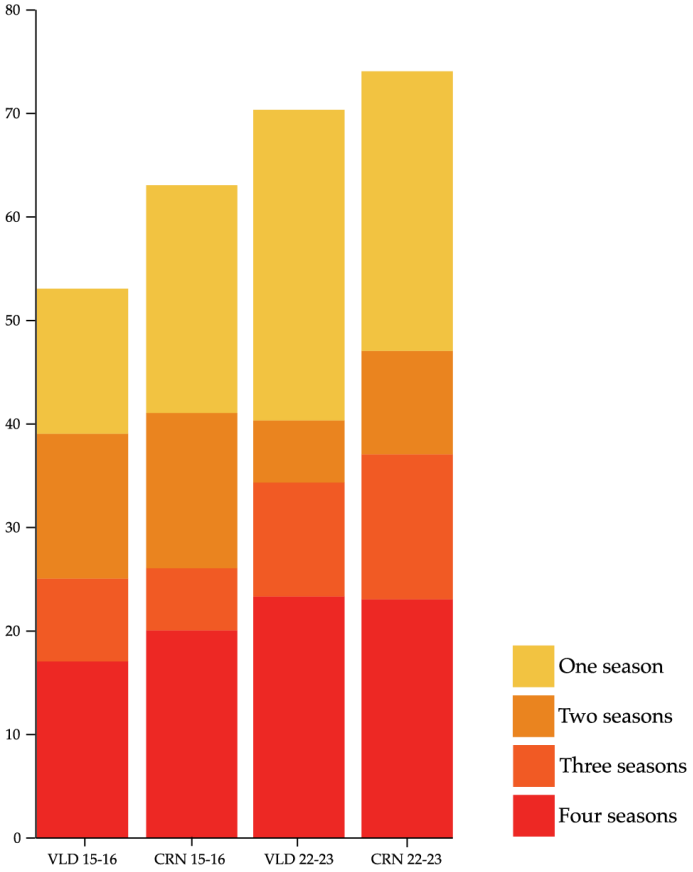

Figure 6. Number of taxa per farmers' market in 2015–2016 and 2022–2023. VLD 15-16: Viladecans farmers' market 2015–2016; CRN 15-16: Cornellà farmers' market 2015–2016; VLD 22-23: Viladecans farmers' market 2022–2023; CRN 22-23: Cornellà farmers' market 2022–2023. Colors represent number of taxa found per season.

Regarding provenance, 97% of the products in the farmers' markets were sourced from the BLAP in 2015–2016. However, in 2022–2023, this percentage decreases to 78% (in Viladecans farmers' market) and to 70% (in Cornellà farmers' market). Stallholders increase the presence of products from other regions (primarily from the rest of Catalonia and Spain) to diversify the range of products offered (Figure 7).

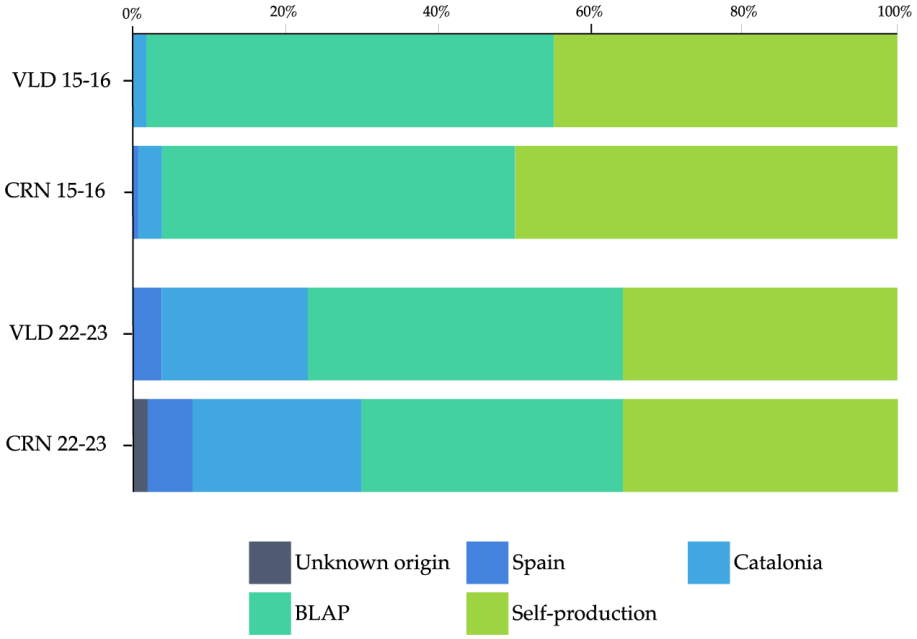

Figure 7. Percentage of taxa regarding provenance. VLD 15-16: Viladecans farmers' market 2015–2016; CRN 1516: Cornellà farmers' market 2015–2016; VLD 22-23: Viladecans farmers' market 2022–2023; CRN 22-23: Cornellà farmers' market 2022–2023.

Due to the distinctive nature of farmers' markets, characterized by stallholders who are local farmers themselves, we can confidently attribute the observed variations over time to the dynamic evolution of agrobiodiversity cultivated in the Baix Llobregat region during the study period. These differences between periods are attributable to multiple and interrelated causes. They mostly refer to socioeconomic factors, such as agricultural industrialization and commoditization, search for low price, or adjustment to demand [61–64]. Changes also refer to perceived impacts of climate change by farmers, such as other studies affirm [65–67]. Some of the stallholders/farmers interviewed referred to this point in the following terms: "the apples did not last long due to the climate" (informant ID5), "all the cabbages died due to the high temperature" (informant ID1), "some landraces have poor resistance, they are poor adapted to climate change, and experience high losses" (informant ID21). However, to confirm the impacts of climate change on crop variation, in-depth studies would be necessary.

The development of SFSC is recognized as socially progressive, contributing to the sustainability of cities and regions [68,69]. Additionally, SFSC serve as reservoirs of agrobiodiversity, preventing market homogenization and the dominance of long-distance products from external regions, which is associated with the loss of crop diversity [70]. Nevertheless, the increase in non-local products in farmers' markets could impact local agrobiodiversity. Theoretically, only products grown within the BLAP are allowed for sale. Therefore, we believe stricter enforcement of this regulation is necessary to protect the original features of BLAP farmers' markets. Additionally, we advocate for technical, commercial, and promotional support for farmers/stallholders to empower local food commodities and, consequently, local agrobiodiversity. This support was outlined in the BLAP Management Plan, developed by the public administration and approved in 2002 [71]. Among these strategic support actions was the creation of product identity through self-regulated labeling for BLAP-produced food commodities (FRESC labeling), as well as the design of a website informing consumers about BLAP farmers' goods, their locations, and where products are sold (www.elcampacasa.com, currently inactive). Unfortunately, over the past two decades, the goals of the plan have progressively become less ambitious [31].

3.4. Intraspecific Divergences

Regarding intraspecific diversity, the IE/taxa ratio in farmers' markets is high in all the cases studied (Table 2), compared to the rest of the types of food retail stores, showing the importance of SFSC in enhancing the conservation of local agrobiodiversity, as discussed above.

Table 2. Differences in the ratio IE/taxa observed between farmers' markets and time periods.

Farmers' Market	IE/Taxa Ratio 2015–2016	IE/Taxa Ratio 2022–2023
Viladecans	1.24	1.01
Cornellà de Llobregat	1.08	1.23

Nevertheless, differences between IEs in some species are observed between 2015–2016 and 2022–2023. For instance, in cabbages and tomatoes, some intraspecific entities disappear from the market, and new ones become available in that period of time.

When comparing IEs found in farmers' markets and variants mentioned by informants in previous ethnobotanical research in the studied area [72], some interesting results appear. When we look at species with greater IEs (Figure 8), we observe that only 50% of the IEs appear in current farmers' markets, remaining the other 50% not marketed (and, therefore, not produced). There is an observed loss of this richness today stemming from multiple causes, such as lower yields, inferior pest and disease resistance, and poorer postharvest shelf life in comparison with modern variants [73,74]. Even iconic local variants, such as Prat artichoke (in Catalan, carxofa Prat, a landrace bearing the name of a city located in the BLAP, el Prat de Llobregat), are gradually being replaced by more productive variants [75].

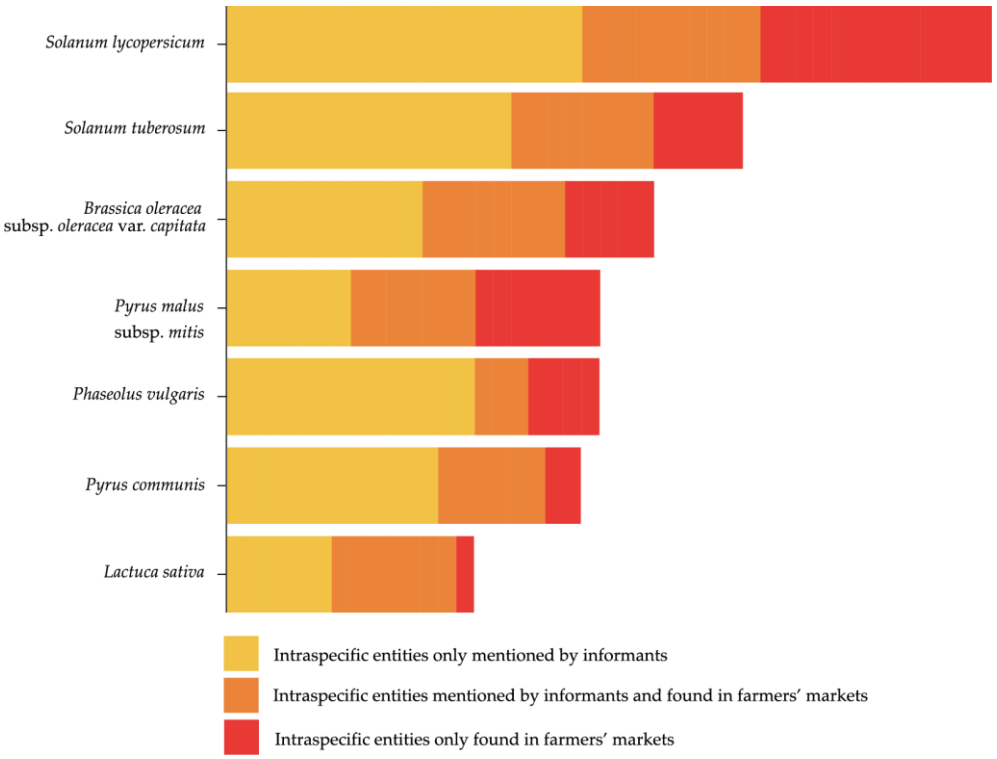

Figure 8. Number of IEs found in the markets compared with those mentioned by informants in previous research.

Paradoxically, some studies confirm the increasing interest in food quality, food trustworthiness, and an appreciation of food socio-cultural traditions by consumers [31,76]. This fact should encourage farmers/stallholders to adapt to market demand driven by the empowerment of traditional crops' variants because they are a source of value-added foods intrinsically associated with local production [77]. The traditional landraces and cultivars are considered neglected and underutilized crop species (NUS) [78], because they have gradually ceased to be used in agriculture. Nevertheless, these crops contribute to the diversification of a global food system, and they are important for food security, nutrition, and sustainable agriculture [79–81]. Although further research is needed to measure the actual impact of this strategy, studies such as those conducted by Casals et al. [76], Paül & Araújo [82], or BRAAVA project [83] suggest that it could be a promising approach to enhance both local agrobiodiversity and the competitiveness of farmers in BLAP. Given that farmers' markets serve as the direct channel between the farmer and the end consumer, they can serve as an exceptional testing ground to firsthand understand which varieties may perform best in the market. Innovations in crops that may arise from farmers' markets can quickly scale up to other supply chains due to the hybridization occurring in these peri-urban agricultural areas, projecting cultivated biodiversity throughout the local food system.

4. Conclusions

Distribution plays a fundamental role in local food systems, as it not only involves the trade of food but also shapes consumption habits, societal values, and the landscape. In peri-urban agricultural areas like BLAP, local citizens have convenient access to local agro-food products. However, the different food retail stores coexisting in the area differ in terms of the agrobiodiversity, number of taxa, IEs, origin, and seasonality of vegetable goods.

Thus, it is observed that a greater number of taxa are found in CFSC. However, in this case, agro-food commodities tend to homogenize throughout the year and fail to represent local agro-biodiversity due to their multiple provenances. Nonetheless, fruit shops, grocery stores, and municipal markets function as mixed food supply chains, as one-third of the products sold are locally sourced. This aligns with results derived from other studies [2,21] and highlights the potential for an intriguing supply chain model to deliver locally sourced products to consumers in peri-urban agricultural areas, where both production and high demand for agro-foods occur simultaneously.

Farmers' markets, as representatives of SFSC, typically exhibit a limited number of taxa, higher seasonality, and proximity to the origin of marketed vegetables, faithfully reflecting the botanical diversity of the region by exclusively featuring locally cultivated taxa. Nevertheless, there has been a gradual increase in non-local products, resulting in a higher number of taxa and reduced product seasonality. This shift is influenced by socioeconomic factors and perceived impacts of climate change by farmers.

Furthermore, the greatest intraspecific diversity has been observed in the farmers' markets, indicating the agrobiological diversity resulting from traditional agroecological knowledge in the region. Considering this, it becomes evident the strong relationship between local variants and alternative food systems, as affirmed by other studies [84,85], and how they better contribute to the conservation of local agrobiodiversity, as well as farmland preservation and ecosystem services procurement, which are indirect impacts of SFSC and warrant further investigation.

Despite these findings, the promotion of local agrobiodiversity could be enhanced if farmers, supported by demand, prioritize traditional crop variants. This would facilitate the preservation and appreciation of local agrobiodiversity, thereby enhancing the value of the entire local food system.

Supplementary Materials: The following supporting information can be downloaded at: https://www.mdpi.com/article/10.3390/su16072882/s1, Table S1: list of retail store observations and interviewees; Table S2: list of taxa found in food retail stores.

Author Contributions: The three authors designed the research. The first author, J.M., collected the data, analyzed the results, and wrote the draft and final manuscript. T.G. and J.V. supervised the work and participated in commenting/suggestions on the write-up. All authors read and approved the final manuscript and agreed to its submission for publication. All authors have read and agreed to the published version of the manuscript.

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Institutional Review Board Statement: This study was conducted in accordance with the Ethical Principle of the Society of Ethnobiology [43].

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: The original contributions presented in the study are included in the article/Supplementary Material. Further inquiries can be directed to the corresponding author(s).

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Abbreviations

BLAP	Baix Llobregat Agrarian Park
CRN	Cornellà de Llobregat
CFSC	conventional food supply chain
IE	intraspecific entity
F	fruit shop
FM	farmers' market
G	grocery store
M	municipal market
NUS	neglected and underutilized crop species
S	supermarket
SFSC	short food supply chain
VLD	Viladecans
W	online fruit shop

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