Research Article

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Traditional agri-food products and sustainability – A fruitful relationship for the development of rural areas in Portugal

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Abstract: The protection of agri-food regional products is taking on growing importance in a market dominated by global companies and brands, often with no personality. Thirty years ago, the European Union (EU) agricultural product quality policy introduced the protection of geographical indications (GIs) for agricultural products and foodstuffs, with the aim of highlighting the quality of products resulting from a specific origin, therefore helping their communication and positioning in the market. This is important in countries with a considerable percentage of rural regions, as is the case of Portugal. Bearing this in mind, the purpose of this study is to see what are the drivers of the spatial distribution of traditional products (protected geographical indications, protected designations of origin, and traditional speciality guaranteed) in Portugal. For this purpose, the distribution of traditional products by regions and categories in Portugal will be presented. Also, Portugal's position will be analysed and compared to the other EU countries, regarding the number of traditional products. Results show that Portugal is the country with the fourth biggest number of traditional certified products in EU territory. In the national territory, the Northern Region of Portugal has the biggest percentage of protected products, followed by Alentejo and the Centre Region of Portugal. Also, in Portugal, looking at the type of products, from a list of ten different categories of GIs, the ranking is dominated by (1) fresh meat, (2) meat products (cooked, salted, or smoked), and (3) cheese and milk-based products. If we consider that many of the aforementioned products are produced in less favoured regions, these results constitute an opportunity for their sustainable development. This benefits not only the producers, but also consumers who increasingly seek "authentic" and more natural products.

Keywords: traditional agri-food products, sustainability, rural development, Portugal

1 Introduction

The protection of agri-food regional products is taking on growing importance in a market dominated by global companies and brands, often with no personality. Indeed, recent concerns with health and safety and the negative impacts of intensive agriculture have led some consumers to find alternatives to mass-produced and undifferentiated foods [1]. They are increasingly searching for more natural and safer products with taste, ripeness, freshness, and personality.

Bearing this in mind, almost 15 years ago the European Commission (EC) presented a document with a reflection on how to ensure a suitable policy and regulatory framework to protect and promote the quality of agricultural products, including food products that depend on the place of production and the savoir-faire of farmers. In the document called "Green Paper on Agricultural Product Quality," quality is defined as the desires and expectations of consumers [2]. Moreover, the product qualities addressed here are the product characteristics, which depend on the specific origin and the farming methods used, contributing to the product that the consumer wants to acquire [2].

Also, the European Union (EU) agricultural product quality policy, introduced in 1992 (Council Regulation (EEC) N. 2081/92 of 14 July), on the protection of geographical indications and designations of origin schemes, and presently governed by the Council Regulation (EU) 1151/2012 of 21 November, aims precisely to highlight the

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quality of products resulting from a specific origin and/or its inherent natural and human factors [3]. This elementary document emphasizes the definitions of protected designations of origin (PDO), protected geographical indications (PGI), and traditional speciality guaranteed (TSG) for agricultural products and foodstuffs, here called traditional agri-food products (Table 1).

As can be observed above, a strong link with territory is a condition of this type of protection. Actually, the distinctive character based on the territory and their culture creates and adds value to these products, and also gives the product recognition for its origin combined with the cultural tradition of the place. Additionally, this policy also encourages diverse agricultural production in order to improve the income of farmers and retain them in rural areas [5]. It is often observed that the regions with the greatest concentration of geographical indications (GIs) are often characterized by strong, long-standing collective producer organizations that are now using them as strategies for rural development [6].

The attention to local and regional production is also highlighted by the United Nations (UN), which in 2015 adopted the Agenda 2030 and the 17 Sustainable Development Goals (SDGs), with the aim of promoting long-term prosperity [7]. The SDGs 12 (Responsible production and consumption) and 15 (Life and land) are particularly relevant in understanding the role of traditional products in the development of rural regions, mostly in inland or mountain territories, where the symptoms of economic poverty and depopulation are more evident. Belletti and Marescotti [8] also point out the SDGs 1 (No poverty), 2 (Zero hunger), 5 (Gender equality), 8 (Decent work and economic growth), and 17 (Partnerships for the goals). The authors mention that certified products are an important tool for boosting employment, fostering economic growth, reducing poverty, preserving natural resources, and adding value to food systems and local communities [8].

Despite the importance of traditional agri-food products in the sustainable development of rural areas, with some exceptions [5,9,10] very little attention is given to the theme, particularly in Portugal.

Considering this gap in knowledge, the purpose of this study is to see what are the drivers of the spatial distribution of traditional products (PGI, PDO, and TSG) in Portugal. For this purpose, the distribution of traditional products by regions and categories in Portugal will be presented. Also, Portugal's position will be analysed and compared to the other EU countries, regarding the number of traditional products.

Methodologically, the information presented on the list of traditional products made available on the platform eAmbrosia (consulted on 15 July) was used. This is a legal platform of the names of agricultural products and foodstuffs that are registered and protected across the 27 EU countries. This search platform offers direct access to information on all registered GIs, including the legal instruments of protection and product specifications. It also displays key dates and links for applications and publications before the GIs are registered [4].

The article is organized in five sections. After the introduction, Section 2 presents the methodology of the study, while Section 3 presents its results. Section 4 provides a discussion of the main results of the study. Finally, in the conclusion (Section 5) the study's main conclusions are summarized, the contributions and limitations are pointed out, and possible avenues for future research are suggested.

Table 1: Quality certification schemes in EU quality policy

GIs	Label
PDO Product names registered as PDO are those that have the strongest links to the place in which they are made	
PGI PGI emphasizes the relationship between the specific geographic region and the name of the product, where a particular quality, reputation, or other characteristic is essentially attributable to its geographical origin	
TSG TSG highlights the traditional aspects, such as the way the product is made or its composition, without being linked to a specific geographical area. The name of a product being registered as a TSG protects it against falsification and misuse	

Source: EC [4].

2 Methodology

In terms of methodological procedures, the study has four interrelated phases. The first phase includes the

selection of the Portuguese traditional agri-food products. Three typologies of products can be found: (i) qualified agricultural and agri-food products, (ii) qualified spirits drinks, and (iii) other traditional agricultural and agri-food products. Our choice fell on the first group (qualified agricultural and agri-food products) because these are the type of products covered by the Council Regulation (EEC) N. 2081/92 and the subsequent documents on this matter.

The second phase consisted of consulting and collecting data from the platform eAmbrosia (on 15 July) related to the position of Portugal on this matter. As mentioned above, the platform is a legal register of the names of agricultural products and foodstuffs that are registered and protected across the EU countries. It offers direct access to information on all registered GIs and TSG products, including the legal instruments of protection and product specifications [4].

All the data referring to Portugal were collected and exported to an Excel spreadsheet and a new database was created with the following fields: (i) quality certification (PDO, PGI, and TSG), (ii) region (Northern Region, Centre Region, Lisbon, Alentejo, Algarve, Madeira, and Azores), and (iii) product categories: (1) fresh meat, (2) meat products (cooked, salted, or smoked), (3) cheeses, (4) other products of animal origin, (5) oils and fats, (6) fruit, vegetables, and cereals (fresh and processed), (7) bread, pastry, and cakes, (8) salt, (9) prepared meals, and (10) fresh fish, molluscs, and crustaceans.

The third stage involved gathering information related to the other EU countries, also using the same research platform (eAmbrosia). The data collected were exported to an Excel spreadsheet and a new database was created with the distribution of traditional products (PGI, PDO, and TSG) in the EU countries.

Finally, in the fourth stage, a descriptive and exploratory analysis of the data gathered (concerning the situation of Portugal and the other EU countries) was performed.

3 Results

3.1 The evolution of traditional agri-food products by year in Portugal

The first register of agri-food products in Portugal occurred in 1996 (4 years after the appearance of the first legislation on the protection of GIs in Portugal – Council Regulation (EEC) N. 2081/92). In Figure 1 it can be seen that 62 products were registered in 1996, followed with the registration of 11 products in the year 1997. In these 2 years, more than half of the traditional products existing presently in Portugal (144) were registered. In our opinion, the justification for this lies in the fact that farmers/producers' organizations enthusiastically took up this new possibility of valuing endogenous products of their territories (during this short period).

In the period between 1996 and 2022, there were only 6 years in which no certified product was added to the

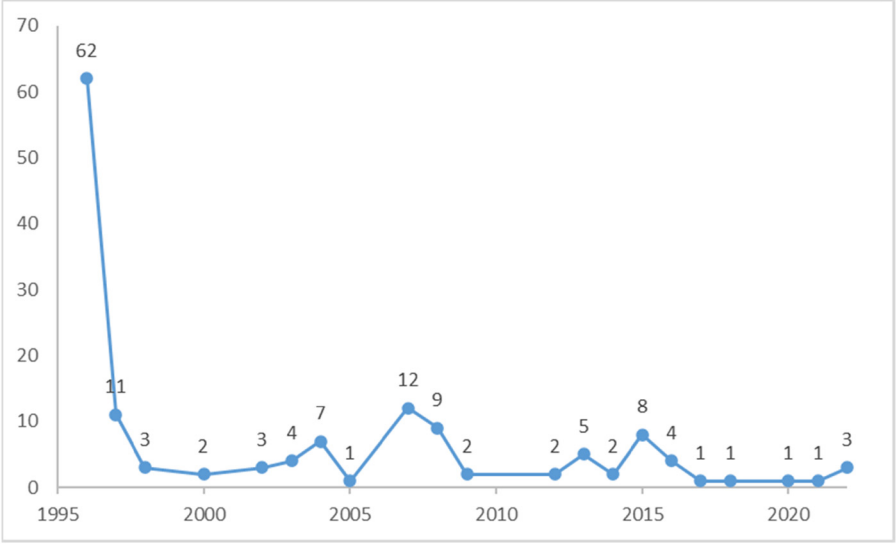

Figure 1: Evolution of registered agri-food products in Portugal. Source: Own computation based on data gathered from eAmbrosia (July 2022).

list: 1999, 2001, 2006, 2010, 2011, and 2019. Except for the first 2 years (1996 and 1997) and the year 2007, where 12 products were registered, the remaining years had less than ten entries.

3.2 Distribution of traditional agri-food products in Portugal

The Portuguese Nomenclature of Territorial Units for Statistical Purposes (NUTS) were set out by the EC in regulation N. 868/2014, and they have been in use within the European and national statistical systems since January 2015. The territorial division of Portugal into NUTS II includes seven regions: Northern Region, Centre Region, Lisbon, Alentejo, Algarve, Madeira, and Azores (Figure 2).

Concerning the distribution of traditional agri-food products by region (NUTS II), in Portugal, it can be seen in Figure 3 that the Northern Region has the highest number of traditional products (51), followed by the Alentejo (43) and Centre Region (30).

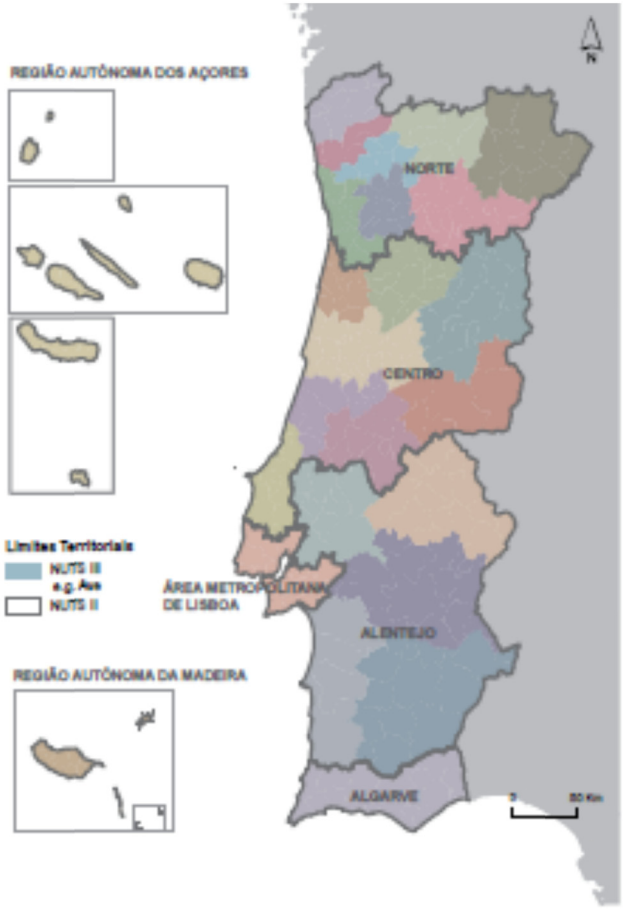

Figure 2: Territorial division of Portugal in NUTS II. Source: INE [11].

It is mainly in these three territories that some subregions with symptoms of poverty and depopulation exist (mainly those in the interior). Here the protected agri-food products can play a considerable role in the development of the rural areas.

It is interesting to note, in Figure 4, that from a list of ten different typologies of product categories, the ranking is dominated by meat products (42), fresh meat (32), and fruit, vegetables, and cereals (30).

In relation to the first category, meat products (cooked, salted, or smoked) are part of the traditional daily diet in rural Portugal, but also highly valued in major cities with an increasing demand, as stated by Marcos et al. [12]. Moreover, increasing consumer concern regarding quality, safety, traceability, and demand for traditional food products that carry a strong identification with the particular region of origin have created the space for growing the market for value-added beef [13].

3.3 Distribution of traditional products in the EU

During the present research, 1,460 certified products were identified in the 27 EU countries (634 PDO, 761 PGI, and 65 TSG) on the platform in July 2022. The top five countries were first Italy (with 319 protected traditional agri-food products), second France (with 261 traditional protected agri-food products), third Spain (with 205 protected traditional agri-food products), fourth Portugal (with 144 protected traditional agri-food products), and fifth Greece (with 114 protected traditional agri-food products) (Figure 5).

All these five countries had (on the data of the empirical research) more than 100 protected agri-food products, representing around 74% of products protected at the EU level. Yet, these five countries are strong supporters of mandatory origin labelling of all foods on the EU Single Market [14].

On the other hand, countries like Estonia (1), Luxembourg (2), Latvia (6), Denmark (8), Ireland (8), Bulgaria (9), and Cyprus (9) presented the lowest number of protected agri-food products, all of them with fewer than ten certified products. Malta is the only EU country with no certified traditional agri-food products.

Figure 3: Distribution of traditional products by region (number of certified products). Source: Own computation based on data gathered from eAmbrosia (July 2022).

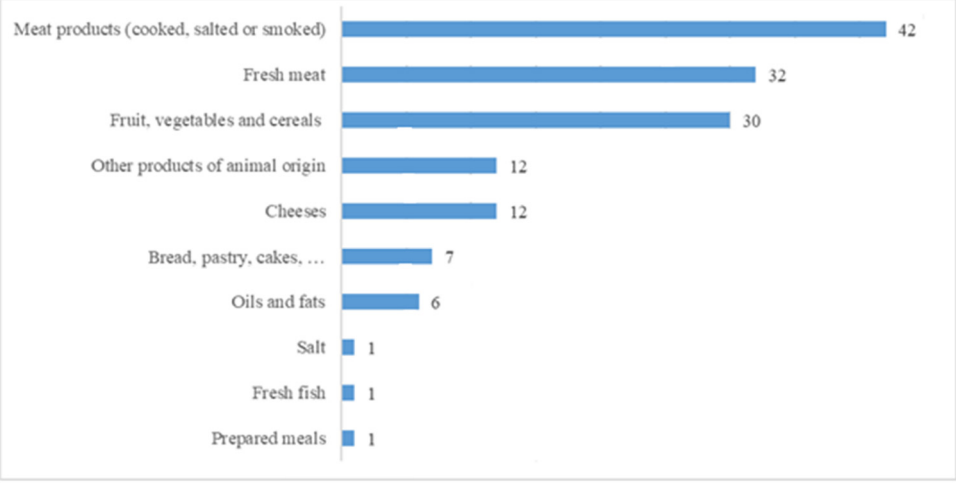

Figure 4: Distribution of traditional products by categories. Source: Own computation based on data gathered from eAmbrosia (July 2022).

4 Discussion

Agri-food products with GIs are often observed as local [15–17], traditional, or produced on a small scale [1,18–20], fairly traded [21], or sustainable [22]. More and more consumers show interest in purchasing products that reflect environmental and social values, and therefore, a large proportion of producers are positioning their products to appeal to these clients [23]. Producers and marketers are seeking economic opportunities, and thus they try to differentiate their products through changes in agricultural practices, connection with a local food tradition, enhancing food safety or providing more information about the local/production to the consumers [22]. From the consumers' point of view, certified agri-food products represent a protective tool for them, because it works as a guarantee of the production process and as a link to the territory [24]. Indeed, the promotion of local quality production has assumed a prominent role in rural development strategies (the second pillar of the Common Agricultural Policy – CAP) as it promises a means of strengthening the position of traditional and often small producers and their endogenous products [1].

The rural development potential of GIs comes precisely from their links to the territories of origin and from the specificity of the local resources used in the

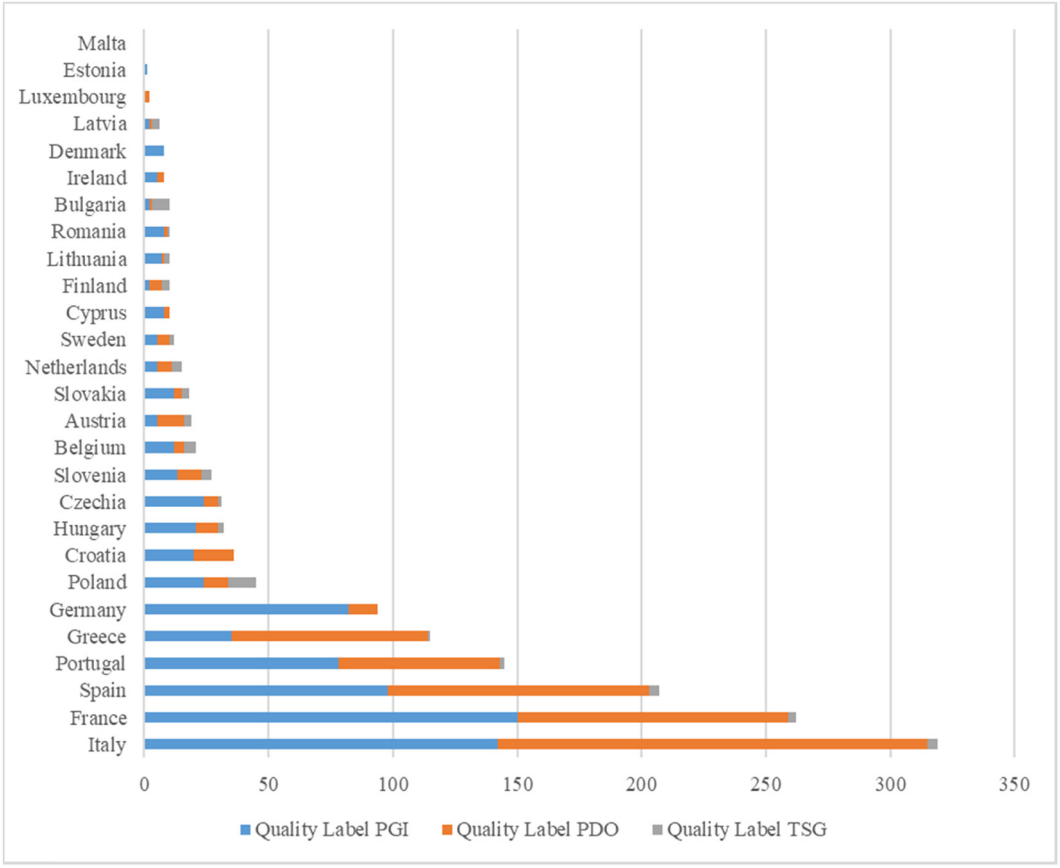

Figure 5: Traditional agri-food products in EU countries. Source: Own computation based on data gathered from eAmbrosia (July 2022).

production process [24,25]. GIs production systems are expected to exert positive rural development effects: economic (both inside and outside the network supply chain, at the local level), social/cultural, and environmental effects – the three pillars of sustainability.

From the economic perspective, considering that products that can be protected by GIs are usually produced in rural areas (many of them in the less developed territories), this protection provides income flows to these areas by creating a number of types of employment opportunities [20], as much as the commercial circuit is organized.

From a social-cultural point of view, GI products symbolize the local characteristics of a region with a blend of environmental resources and cultural methods of production. Because of this, often, they are perceived as nostalgic and authentic products [26] and can be real tools for attracting consumers' attention to the local and cultural identity of the territory. The reinforcement of local activities related to handicraft, gastronomy, and rural tourism can be expected in territories with a higher percentage of GIs [27], as is the case of the top five countries mentioned above – Italy, France, Spain, Portugal, and Greece.

Last but not the least, from an environmental perspective, Milano and Cazella [28] conclude that GIs are associated with different environmental attributes, such as the maintenance of landscapes, conservation of soil and water resources, promotion of more sustainable production techniques, protection against different types of pollution, provision of diverse ecosystem services, and conservation of biodiversity.

According to the present survey, the top five countries continue to be Italy, France, Spain, Portugal, and Greece. On the opposite side, countries such as Estonia, Luxembourg, Latvia, Denmark, Ireland, Bulgaria, and Cyprus present the lowest number of protected agri-food products. The northern and central EU members (with the exclusion of Luxembourg) are the early adopters of the CAP productivist model. As such, the contexts "of longstanding export-oriented agriculture" remain [5], while the southern EU-MS, particularly Portugal, Spain, Greece, and Italy (which together represent around 55% of the total number of protected brand names) are

latecomers to industrial development and never fully completed their "great transition" [29]. Rather, as stated by Fonte [29], they have passed through a process of economic and social marginalization (marked by depopulation) that they are now trying to attenuate through diverse strategies of rural development in which endogenous agri-food products are valorized, as stated earlier.

In this context, it is interesting to note, as also mentioned above, that Portugal presented a considerable number of traditional agri-food products (144, around 10% of the traditional agri-food products certified in the EU territory). Summing up, the GI scheme policy has played an important role not only in recovering but particularly preventing the disappearance of a large and diverse amount of traditional agricultural products and foodstuffs in the country, through their economic and social (re)valorization [5]. Without that policy, many such products could be lost or, at least, would not travel out of their regional and national borders as ambassadors of cultural and agricultural heritage of the country.

5 Conclusion, limitations, and paths for future research

Drawing on descriptive and exploratory analysis involving traditional agri-food products in EU and Portuguese contexts, the present article makes some important contributions and reinforces some existing arguments. First, it underlines the evolution of certification across the years of traditional agri-food products in Portugal. Second, it exposes some relevant characteristics concerning the distribution of traditional agri-food products by region (NUTS II) and categories. Third, it confirms the major producers of traditional agri-food products in the EU, placing Portugal in the top five countries.

Traditional agri-food products can become the pivotal point of a specific-quality virtuous circle within a territorial approach, with their promotion as traditional products having positive effects that are reinforced over time. This thus allows preservation of the agri-food system and related social networks, which in turn contributes to economic, sociocultural, and environmental sustainability [30]. The value and benefits of these protections depend on the way that an agri-food product is exploited, policed, and marketed [31]. Moreover, it is argued that producers can only continue to produce the aforementioned quality products if they are rewarded fairly for their effort [9,31].

For instance, in the Portuguese case, despite the potential benefits of traditional agri-food products, Rodrigo et al. [5] concluded that most Portuguese PDO and PGI products are produced on a small scale, have a weak presence in the market and a low economic value and as a matter of fact, are worth only 0.56% of the volume of business generated by the national agri-food industry. Other threats were identified, such as increasing competition in high-market segments, the geographical name is imitated by intermediate and final markets, with potential negative effects on the reputation of traditional agri-food products, food regulations ban traditional practices, and the processing and/or retail segments are highly concentrated [30].

For all the aforementioned reasons, from a political point of view this study emphasizes the importance that public entities (international, national, or regional level) and local entities (such as local and rural associations) have in supporting a traditional product's development, such as in research support, as well as providing technical assistance and promotion and marketing actions.

From a practical point of view, as Kühne et al. [32] claim, the importance of collaborations with other entities is argued to lead to a higher innovation capacity in the traditional food chain. Indeed, traders, sellers, restaurant owners, and other actors belonging to the supply chain, even if not involved directly, can play an important role in enhancing the economic power of traditional products by supporting marketing and promotion activities and helping to create new consumers and users for these product.

This study has some limitations, such as time constraints and focusing on a descriptive analysis of the data available. Nevertheless, this investigation points out the challenging paths for further research. First, it would be interesting to extend the study to the stakeholders involved in the production of agri-food traditional products and to explore their present motivations and actions to present these types of products. Second, it was noticed that the knowledge concerning traditional products is scarce on the part of consumers. It would be very interesting to extend the study to gain the consumers' perspective and acquire information about how important is for them to consume traditional protected agri-food products and how they recognize them.

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Conflict of interest: The authors state no conflict of interest.

Data availability statement: The datasets generated during and/or analysed during the current study are available in the eAmbrosia repository, https://ec.europa.eu/info/food-farming-fisheries/food-safety-and-quality/certification/quality-labels/geographical-indications-register/.

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