



Consumer Perception and Understanding of European Union Quality Schemes: A Systematic Literature Review

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Abstract: Food, agriculture, and labeling, affecting the environment are well connected concepts, the balance between them being determined not only by pedological and climatic factors or the development level of agricultural techniques, but also by national governments and international organizations' food processing, trade policies and regulations. In this context, the European Union (EU) encourages the use of different food quality schemes: "Protected Designation of Origin" (PDO), "Protected Geographical Indication" (PGI), and "Traditional Specialty Guaranteed" (TSG) to protect producers of special-quality foods and assist consumers in their purchasing decisions. This review examines existing studies on the impact of these labels on customers behavior. A total of 32 studies were found and systematized. The papers were selected if they featured unique empirical research on consumer perceptions of any of PDO, PGI and TSG labels. Using the search strategy, a literature analysis was performed based on papers extracted from Web of Science, Springer Link, Emerald Insights, and Science Direct. Although these papers highlight quite diversified findings, the internationally used labels play an increasing role in contemporary society and pandemic conditions caused by COVID-19, thus making the quality schemes relevant in consumer decision-making processes.

Keywords: "Protected Designation of Origin" (PDO); "Protected Geographical Indication" (PGI); "Traditional Specialty Guaranteed" (TSG); "Geographical Indication" (GI); EU quality labels; consumer behavior

1. Introduction

Agriculture is of vital importance to the society, environment, and economy of the European Union [1]. Proper environmental conditions support agricultural activities, allowing farmers to use natural resources, create products and earn their living. In addition, agrarian income sustains farmers and families in rural communities, while agri-food strengthens society [1,2].

The next decade, starting with 2021, represents the transition to "smart" food that is more efficient, healthier, and greener, as it is obtained from the "smart" agriculture system [3]. The agricultural policies of the EU are based on specific measures regarding the development of entire food chains, from production and distribution to consumption, aiming at reducing food waste [4]. Public policies will have a pivotal role in protecting the availability, accessibility, and quality of agri-food products [2]. Therefore, agri-food products that are certified with quality schemes represent an ideal food product because they are manufactured from raw materials, being developed according to specific production methods, and technologies in a well-defined geographical area. These products are characterized by natural factors of production, traditions and/or specific historical procedures developed over centuries that cannot be replaced [5].



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Copyright: © 2022 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). Thus, the supply chain of environmentally friendly products becomes a preferential reference point for both producers and consumers and allows a redefinition of financial support instruments to increase the efficiency of production and distribution processes, especially those affecting the environment [6]. Therefore, small and medium-sized companies located in different areas of the EU represent the ideal framework for quality food production (such as Geographical Indication or organic), which could move towards an economically and socially sustainable solution [6].

In the European Union, product names are protected by registering them in so called "quality schemes", which means that they entail unique characteristics such as a certain geographical origin, traditional manufacturing technologies and/or long-lasting practices [7]. Quality schemes have the following features: (1) most production stages must be implemented in a delimited geographical area, (2) the recipe after they are manufactured is authentic (mixture of ingredients); the raw materials are original, the production process is traditional and/or contains specific features for that region, (3) are available on the market for at least 50 years and (4) share a part of the gastronomic heritage of a society/community [7,8].

The EU's geographical indication system thus provides protection for products names from various regions around the world, which have some unique features or enjoys a stable reputation, depending on the territory where they are produced. Geographical indications include "PDO—Protected Designation of Origin" (food and wine), "PGI—Protected Geographical Indication" (food and wine), "GI—Geographical Indication" (for alcoholic beverages) [7]. Other quality certification systems highlight the traditional production process ("Traditional Specialty Guaranteed")—TSG—or some products that are made in more challenging areas, such as mountains (mountain products). When considering the characteristics of PDO and PGI, the main differences relate to the proportion of raw materials (at least 85 percent) that are usually common for the area where they come from, but also on the production stages, that must be implemented in the considered geographical region. GI is typical for spirits and aromatic wines [7].

The PDO quality label represents a proper reference for the manufacturing place of agri-food products. Thus, all transformation stages from the raw materials to the final product must take place in a particular region. As for wines, the essential condition is that the raw material (grapes) comes exclusively from the site where the wine will be produced [7]. The PGI label pinpoints the connection between a certain geographical region and a certain product brand. In this situation, at least one of the production steps must be implemented at the place of origin. Concerning PGI-certified wines, 85% of the raw materials (grapes) must have their origin only in the geographical area where the wine will be produced [7].

The "Traditional Specialty Guaranteed" (TSG) emphasizes many traditional aspects, such as the composition and ingredients, a specific recipe, without being necessary connected to any specific geographical area. The name of a registered TSG product protects it from being falsified or misused [7]. TSG certified agri-food products could be manufactured by any producer who respects this production method. Their 'specific' character refers to the characteristics that differentiate them from other foodstuffs belonging to the same category. Even if agri-food products certified with the TSG quality scheme often come from a particular country or region, their international reputation might result in the interest of producers from other countries in them [7].

By allowing producer groups to mark and label the origin of their products, quality schemes provide a means to protect traditional products' integrity and prevent and avoid abuse and counterfeiting [9]. Each of these certifications is represented graphically through logos, after which the certified products can be recognized (Table 1).

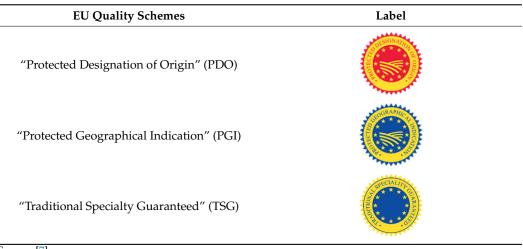
Through these logos (Table 1), agricultural producers can communicate the product's characteristics and quality attributes to consumers, thus ensuring fair competition, intellectual property rights, and an integrated internal market [10,11]. Consequently, the main benefits for consumers are identified as follows: producers of agri-food products certified with quality schemes are required to provide reliable information on the origin of their products. They must guarantee that the products are authentic goods, not fakes or imitations (confirmed to the final consumer by the logo attached to the product packaging and charging a higher price than other foods in the same category). Thus, by purchasing certified agri-food products, the consumer can recognize products from their region or other regions [12,13]. In Europe, there are numerous agricultural products and alcoholic beverages certified with European quality schemes. The table below (Table 2) provides an official statistic containing the number of products registered and protected with quality schemes from each country. The first position is occupied by Italy. Figure 1 shows the situation of PDO/PGI/GI/TSG products by country in descending order (status—registered, all application type).

As Figure 2 shows, the interest in consumer-focused studies is concentrated across European countries. This fact is because most of the agri-food products and the alcoholic beverages certified with European quality schemes are from the territory of the European Union.

In the light of the above-mentioned arguments, the purpose of this paper is to provide an outline of what is acknowledged about the perception, willingness to pay, and buying behavior of food products certified with PDO, PGI, and TSG schemes. At the same time, there is a lack of studies linking the origin of PDO/PGI/TSG to healthy eating in the context of COVID 19-pandemic today. This review can serve as a starting point for discussions about the utility and advantage of these quality schemes as a marketing tool for the stakeholders involved (from producers to final consumers) to promote market transparency and food quality in pandemic times.

The following section discusses the materials and methods employed. The third section describes the results, divided between the jurisdiction and methodologies used by the reviewed studies. They are sorted according to the declared perception of consumers, preferences, recognition, and willingness to pay for certified agri-food products, purchasing and consumption behaviors towards certified agri-food products, and online purchasing of certified agri-food products. The fourth section presents critical discussions, while the final section pinpoints the conclusions for theory, the implications for market participants and public institutions, along with the limitations and further research directions.

Table 1. The different quality schemes of the EU.



Source: [7].

Country	Number of Agricultural Produc	ts and Foodstuffs Registered *	Number of	Alcoholic Beverages R	egistered *
	NR 6 (NG)	T 00	PDO/PGI	GI	TSG
	PDO/PGI	TSG	Wine	Spirit Drinks	Beers
Austria	16	3	27	9	0
Belgium	16	0	10	10	5
Bulgaria	3	6	54	12	0
Croatia	33	0	18	6	0
Republic of Cyprus	9	0	11	2	0
Czech Republic	30	1	13	0	0
Denmark	8	0	5	0	0
Estonia	1	0	0	1	0
Finland	7	2	0	2	1
France	258	2	437	53	0
Germany	93	0	45	35	0
Greece	113	1	147	15	0
Hungary	28	2	38	12	0
Ireland	8	0	0	3	0
Italy	313	6	526	34	0
Latvia	3	4	0	0	0
Lithuania	7	2	0	7	0
Luxembourg	4	0	1	0	0
Malta	0	0	3	0	0
Norway	2	0	0	2	0
Netherlands	11	5	18	5	0
Poland	34	11	0	2	0
Portugal	140	2	40	11	0
Romania	9	1	53	9	0
Slovakia	13	3	9	1	0
Slovenia	23	4	17	4	0
Spain	200	4	140	19	0
Sweden	8	2	0	3	0
Turkey	7	0	0	0	0
United Kingdom	69	6	5	5	0
TOTAL	1466	67	1617	262	6

Table 2. Agricultural Products	. Foodstuffs and	Alcoholic Beverages	-Status: Registered.

Note: * Agricultural Products, Foodstuffs and Alcoholic Beverages—Status: Registered until 29 January 2022. Andorra and Iceland: 1 food PDO/PGI quality scheme; the Russian Federation: 1 Spirit Drinks quality scheme; Serbia and Switzerland: 1 Wine quality schemes; Belarus: 2 food PDO/PGI quality scheme. Source: [14].

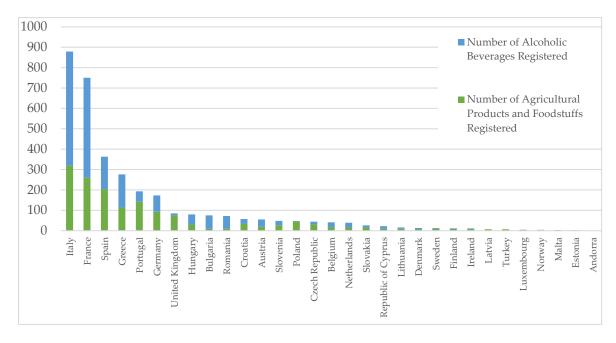


Figure 1. Statistic of PDO/PGI/GI/TSG products sorted by country. Source: Own development. Note: Agricultural products, foodstuffs and alcoholic beverages registered until 16 January 2022.

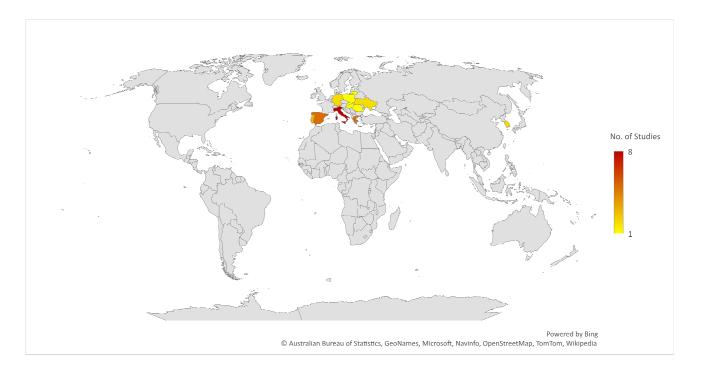


Figure 2. Geographic heatmap based on revised literature jurisdictions. Source: Own development. Note: The range of 1 by 8 is the maximum number of revised studies from a country.

2. Materials and Methods

Using the search strategy reported by Campos et al. [15] and Grunert and Aaachman [16], a literature analysis was performed through a combination of the following keywords (Figure 3) in Web of Science, and others relevant international databases according to their international visibility and authors library access (Springer Link, Emerald Insight, Science Direct). The main research directions identified are composed of the consumers' perceptions about certified agri-food products, preference, recognition, willingness to pay, and purchasing and consumption behavior of certified agri-food products. More recent studies discussing the online purchasing of certified agri-food products are also reviewed.

regulations quality attribute regulations consumer designation of origin madr food quality scheme commerce consumer behavior digital marketing pdo pgi Quality geographicals protected designation food quality protected geographical indication traditional food quality traditional food quality regulations regulations traditional food food products geographicals protected designation two traditional food quality regulations regulations traditional food quality regulations regulations traditional food food products regulations traditional food designation traditional food chain european food quality traditional food chain european food quality european food quality european commission romalian traditional products

Figure 3. Keywords cloud. Source: Own development.

The initial search generated 79 papers, of which 37 titles fit the considered criteria (see Table 3), therefore being further analyzed. The publications were evaluated to pinpoint if they deal with one or more of the registered EU quality schemes. The papers were selected only if they featured unique empirical research on consumer perceptions of any of PDO, PGI and TSG labels. These publications were retained for further analysis only if they fulfilled simultaneously the eight methodological criteria proposed by Campos et al. [15]

and Olbrich et al. [16]. The final set of papers included in the present systematic literature review consist of 32 publications.

Table 3. The methodological criteria.

Criterion	Possible Outcome
1. "Is the research question well stated?"	Y/N
2. "Is the sample/population identified and appropriate?"	Y/N
3. "Are the inclusion/exclusion criteria described and appropriate?"	Y/N or N/A
4. "If applicable, is the participation rate reported and appropriate?"	Y/N or N/A
5. "Is the same data collection method used for all respondents?"	Y/N
6. "Are important the variables, well measured, valid, and reliable?"	Y/N or N/A
7. "Is the outcome defined and measurable?"	Y/N
8. "Is the statistical analysis appropriate?"	Y/N or N/A

Note: Y states for Yes; N states for No; Y/N states for Not applicable. Source: [15,16].

3. Results

In implementing the research scope, the main results of the conceptual framework are reviewed. The results are divided between the jurisdiction and methodologies used by the reviewed studies; and they are sorted according to the following: the declared perception of consumers from the identified papers about certified agri-food products, preferences, recognition, and willingness to pay for certified agri-food products, purchasing and consumption behaviors towards certified agri-food products, and online purchasing of certified agri-food products.

3.1. Jurisdiction and Methodologies

The 32 revised articles (Table 4) originate from the following jurisdictions: Italy, Poland, Lithuania, Slovakia, Romania, Ukraine, Hungary, Spain, Portugal, Greece, Germany, and South Korea. The online questionnaire represents the most used study tool. The papers also used PAPI and CAWI surveys, Eurobarometer surveys, online consumer databases, and household journals conceived by consumers participating in the study. Regarding the analyses applied, cross-sectional analysis, Partial Least Square path modelling, multi-group analysis, Structural Equations Modelling, Web content analysis, ANOVA, and eMICA analysis were mainly used. The samples on which the studies were conducted are various and range from 150 respondents to 35,000 respondents. The certified agri-food products with quality schemes on which the studies were carried out are mainly olive oil, wine, meat, and cheese. Most of the studies reviewed focused on all three labels: PDO, PGI, and TSG. The rest of the studies performed analyses based on agri-food products certified either with PDO or TSG.

Table 4. Journals and citations of the reviewed literature.

Title	Authors	Journal of Publication	Publication Year	Total Citations *
How Much Do Consumers Value Protected Designation of Origin Certifications? Estimates of Willingness to Pay for PDO Dry-Cured Ham in Italy	Garavaglia, C.; Mariani, P.	Agribusiness (New York)	2017	29
PDO Labels and Food Preferences: Results from a Sensory Analysis	Savelli, E.; Bravi, L.; Francioni, B.; Murmura, F.; Pencarelli, T.	Br. Food J.	2021	3
Premium Private Labels Products: Drivers of Consumers' Intention to Buy	Martinelli, E.; De Canio, F.	Int. J. Bus. Manag.	2019	1
Consumers' Trust in Greek Traditional Foods in the Post COVID-19 Era	Skalkos, D.; Kosma, I. S.; Vasiliou, A.; Guine, R. P. F.	Sustainability	2021	1
Perceived Risk Factors Affecting Consumers' Online Shopping Behaviour	Tham, K. W.; Dastane, O.; Johari, Z.; Ismail, N.B.	J. Asian Finance Econ. Bus.	2019	60
Consumer Reactions to the Use of EU Quality Labels on Food Products: A Review of the Literature	Grunert, K.G.; Aachmann, K.	Food Control	2016	183

Table 4. Cont.

Title	Authors	Journal	Publication	Total
		of Publication	Year	Citations *
Gastronomy as a tourism resource in the province of Alicante	Martínez, A.A.; Fernández-Poyatos, M.D.	Int. J. of Sci. Mgmt. and Tourism	2017	N/A
Promotion of Regional and Traditional Products	Oleksiuk, I.; Werenowska, A.	Środ. Stud. Polit.	2019	1
Premium Private Labels and PDO/PGI Products: Effects on Customer Loyalty	Martinelli, E.; De Canio, F.; Marchi, G.; Nardin, G.	Advances in National Brand and Private Label Marketing.	2017	4
Organic and Online Attributes for Buying and Selling Agricultural Products in the E-Marketplace in Spain	Robina-Ramírez, R.; Chamorro-Mera, A.; Moreno-Luna, L.	Electron. Commer. Res. Appl.	2020	13
The Importance of Websites for Organic Agri-Food Producers	Fernández-Uclés, D.; Bernal-Jurado, E.; Mozas-Moral, A.; Medina-Viruel, M.J.	Econ. ResEkon. Istraž.	2020	14
Understanding the Role of Purchasing Predictors in the Consumer's Preferences for PDO Labelled Honey	Di Vita, G.; Pippinato, L.; Blanc, S.; Zanchini, R.; Mosso, A.; Brun, F.	J. Food Prod. Mark.	2021	1
Generation X versus Millennials Communication Behaviour on Social Media When Purchasing Food versus Tourist Services	Dabija, DC.; Bejan, B.M.; Tipi, N.	E+M Ekon. Manag.	2018	99
EU Quality Label vs Organic Food Products: A Multigroup Structural Equation Modeling to Assess Consumers' Intention to Buy in Light of Sustainable Motives	De Canio, F.; Martinelli, E.	Food Res. Int.	2021	16
Food tourism and regional development: A systematic literature review	Rachão, S.; Breda, Z.; Fernandes, C.; Joukes, V.	Eur. J. of Tourism Research	2019	68
Social media and consumer buying behavior decision: what entrepreneurs should know?	Palalic, R.; Ramadani, V.; Mariam Gilani, S.; Gërguri-Rashiti, S.; Dana, L.	Mgmt. Decision	2021	24
Online Shopping: Factors That Affect Consumer Purchasing Behaviour	Bucko, J.; Kakalejčík, L.; Ferencová, M.	Cogent bus. manag.	2018	56
Expanding the PGI Certification Scheme as a Marketing Tool in the Olive Oil Industry: A Perspective on Consumer Behavior	Di Vita, G.; Cavallo, C.; Del Giudice, T.; Pergamo, R.; Cicia, G.; D'Amico, M.	Br. Food J.	2021	3
Rural Cooperatives in the Digital Age: An Analysis of the Internet Presence and Degree of Maturity of Agri-Food Cooperatives' e-Commerce	Cristobal-Fransi, E.; Montegut-Salla, Y.; Ferrer-Rosell, B.; Daries, N.	J. Rural Stud.	2020	46
A Study on Agrifood Purchase Decision-making and Online Channel Selection according to Consumer Characteristics, Perceived Risks, and Eating Lifestyles	Lee, M.K.; Park, S.H.; Kim, Y.J.	Asia-Pacific j. of Bus. Venturing and	2021	4
Protected Designation of Origin (PDO), Protected Geographical Indication (PGI) and Traditional Speciality Guaranteed (TSG): A Bibiliometric Analysis	Dias, C.; Mendes, L.	Entrepreneurship. Food Res. Int.	2018	68
Understanding the Real-World Impact of Geographical Indications: A Critical Review of the Empirical Economic Literature	Török, Á.; Jantyik, L.; Maró, Z. M.; Moir, H. V. J.	Sustainability	2020	14
The importance of "origin" for online agrifood products	Scuderi, A.; Sturiale, L.; Timpanaro, G.	Quality—Access to Success	2015	16
Geographical Indications, Public Goods, and Sustainable Development: The Roles of Actors' Strategies and Public Policies	Belletti, G.; Marescotti, A.; Touzard, JM.	World Dev.	2017	211
Product versus Region of Origin: Which Wins in Consumer Persuasion?	Luceri, B.; Latusi, S.; Zerbini, C.	Br. Food J.	2016	30
Importance of Regional and Traditional EU Quality Schemes in Young Consumer Food Purchasing Decisions	Angowski, M.; Jarosz-Angowska, A.	Eur. Res. Stud.	2020	1

Table 4. Cont.

Title	Authors	Journal of Publication	Publication Year	Total Citations *
A Study on Consumer Characteristics According to Social Media Use Clusters When Purchasing Agri-food Online	Lee, M.K.; Park, S.H.; Kim, Y.J.	Asia-Pacific j. of Bus. Venturing and Entrepreneurship.	2021	N/A
Estimating the Market Share and Price Premium of GI Foods—the Case of the Hungarian Food Discounters	Jantyik, L.; Török, Á.	Sustainability	2020	10
Consumers' Awareness of the EU's Protected Designations of Origin Logo	Goudis, A.; Skuras, D.	Br. Food J.	2021	4
The Role of Intrinsic and Extrinsic Characteristics of Honey for Italian Millennial Consumers	Blanc, S.; Zanchini, R.; Di Vita, G.; Brun, F.	Br. Food J.	2021	3
Consumer Preferences Regarding National and EU Quality Labels for Cheese, Ham and Honey: The Case of Slovenia	Kos Skubic, M.; Erjavec, K.; Klopčič, M.	Br. Food J.	2018	22
Social Marketing: A New Marketing Tool for the Food Sector	Elghannam, A.; Mesías, F. J.	Advances in Business Strategy and Competitive Advantage	2017	1

* Total citations in Google Scholar on 20 January 2022. N/A if no citation was reported.

3.2. Perception about Certified Agri-Food Products

To obtain market success, products must benefit from a positive overall image among target segments, exhibiting a proper added value and/or providing certain qualities that meet or exceed consumers' expectations [5,17]. Consumers are regarded as a subject more interested in the symbolic or cultural value of certified agri-food products than in their intrinsic functions and utilities [18]. Consumers are considered active players in the market, where they exercise their freedom to move in search of products, but also gain experiences through which they can express their identity [5]. Looking for options to fulfill their expectations and desires, consumers are looking for food quality in terms of product origin, uniqueness, respect for the environment, animal welfare, traditional manufacturing process, taste, providing growth opportunities for small businesses operating in the niche market, the so-called "restricted food", a term that refers to local, certified foods [19]. Other papers [20-22] reflect that agri-food products certified with quality schemes are perceived positively by consumers, as they contribute to improving their health condition, their quality of life, strengthening them and ensuring that with increasing age consumers are still fit. As regards the geographical delimitations, consumers from southern European regions tend to associate more often the term "traditional food" with their culture or history [23]. Agri-food products are consumed on some typical occasions, like on certain holidays and/or seasons, knowledge about that being generally transmitted from one generation to another. Such products are usually manufactured precisely after some certain procedures, being part of the gastronomic heritage of a region or an ethnic group [19], with little or no processing/handling of the original receipt and known for its sensory properties. Furthermore, these products are often associated with a clear delimited geographical area [19]. On the other hand, consumers from central and northern Europe tend to focus mainly on practical issues, such as convenience, health, or the ease and speed of purchasing food [24]. Some consumers consider PDO/PGI labels to be organic, while every second consumers are unsure whether PDO/PGI certified foods are produced without fertilizers and other chemicals [25,26].

3.3. Preference, Recognition, and Willingness to Pay for Certified Agri-Food Products

The recent literature indicates a renewed consumer interest in certified agri-food products [19,27]. A concern about consumers' perception of certified products is the willingness to pay higher prices than for the non-certified alternatives [28]. These consumers realize that "origin" cannot be always considered a determining factor in consumer choices compared to cost, safety, and nutrition [29]. The concepts that help explain the correlation between quality labels and willingness to pay depend on factors such as the geographical area investigated, the consumer's residence concerning the production area, consumer demographics, GI label awareness, and product type [29]. At the same time, consumers who know the region to which the certified products refer or feel a certain attachment towards them, tend to be more optimistic about the products labeled PDO/PGI/TSG, thus also exerting a higher willingness of paying even a price premium [30–32]. Because consumers identify certified products with customs and heritage passed down from generation to generation, traditions cannot be exported. These certified products outside their "area of influence" may not have the emotional attachment of experience [31,33]. Studies measuring the awareness and recognition of quality labels among European consumers conclude that consumers from Sweden, Denmark, Finland, and the Netherlands, but also France, Italy, Spain, Greece, Portugal have a higher likelihood of recognizing quality labels and their logos [34,35]. This is due to the collaborative activities between European producers, which target consumers in these countries.

3.4. Purchasing and Consumption Behavior of Certified Agri-Food Products

The reviewed studies set out the different concepts that explain consumers' motivations to buy traditionally produced agri-food products, certified with quality schemes. Regarding the decision to purchase certified agri-food products by young consumers, while recent studies reveal a relatively small significance of EU quality schemes in food purchasing decisions taken by young consumers [36,37]. Young consumer behavior is strongly influenced by globalization, social media, online behavior, and current trends, as they frequently do not differentiate between quality schemes such as PDO, PGI, and TSG [37]. Young consumers' most important determinants of food choice are product prices, freshness, and shelf life of products, but also convenience [33,37]. Consumers attribute a higher value to a PDO label than to a PGI. The preference for buying the PDO label over the PGI one might be explained by the fact that consumers tend to perceive PDO as a certification that firmly guarantees the production, processing, and preparation of agri-food products in a well-established geographical area [38,39]. Perceived quality associated with extrinsic attributes (such as quality, brands, labels, design, information on use and benefits, authenticity, commitment to the environment, cultural ties) significantly influences the purchasing of certified agri-food products [22,27]. Older consumers with higher education and above-average incomes show an increased preference for certified products with quality schemes [21].

3.5. Online Purchasing of Certified Agri-Food Products

Information and Communication Technology (ICT) has developed as the new frontier for organizations in various industries, as well as agriculture, thus being considered a strategy that will bridge the gap between producers and consumers [40,41]. Therefore, the agri-food sector needs to increase its competitiveness, and be able to respond quickly to the ever-changing consumer needs and desires, thus satisfying him/her and properly communicating the extrinsic and intrinsic added values of certified agri-food products through online stores developed for modern customers [42,43]. Social networks represent a channel from which consumers take relevant information for their next purchase decisions; consumers are often more influenced and trust strangers and online influencers than official representative of companies [44,45]. The shopping decision is strongly influenced by online reviews and recommendations from blogs, forums and/or social networks [46]. Agricultural cooperatives take information about consumers, which they integrate into their communication strategies, and inform customers about certified agri-food products [47–49]. Such organizations are usually aware of the importance that the territory of origin (physical, sensory, and cultural) of certified agri-food products and production techniques plays for consumers, thus representing strong values that might trigger consumers preferences [42]. Furthermore, agricultural cooperatives must go beyond their traditional presence, thus

encouraging online interaction and collaboration, connectivity, and giving consumers the possibility to find and share information and gain knowledge about certified agrifood products [50]. For instance, cooperatives that produce and sell olive oil, fruit, and wine are more recently aware of the importance that their online communication plays for consumers purchase intention [50–52]. Online shopping causes consumers to behave differently concerning the intangibility of the product [53,54].

While in on-site shopping, the information comes from the sensory examination of the product, online shopping is determined by other factors: the customer's intention to buy, the influence of friends and family, consumer personality, but also knowledge and curiosity [53,55]. The attitude of buying online food products is also improved by extrinsic factors, such as the quality of the website (design, content, and navigation), product availability, ease of use, which positively affect the purchase intention [54,56–58]. Consumers who purchase certified agri-food products online would like to have access to information on the environmental impact and sustainability of products, in addition to the unique properties and characteristics of agri-food products [53,59–61].

The aspects and findings presented in the previous sub-sections of the Results are summarized in Table 5.

Table 5. Overview of representative papers according to different assessment criteria.

		Тур	e of P	aper	Туре о	f Study	Qua	lity Sch	emes	Co	onsume	r Conce	epts
Publication Year	Authors	Case Study	Original Research	Literature Review	Qualitative Study	Quantitative Study	PDO	PGI	ISG	Perception	Preference and Willingness to Pay	Purchasing and Consumption	Online Purchasing
2015	Scuderi, A.; Sturiale, L.; Timpanaro, G.	-	1	-	1	-	1	1	-	-	-	1	-
2016	Grunert, K.G.; Aachmann, K.	-	-	1	1	-	1	1	1	1	1	-	-
2016	Luceri, B.; Latusi, S.; Zerbini, C.	-	1	-	-	1	1	1	-	1	1	-	-
2017	Garavaglia, C.; Mariani, P.	-	1	-	-	1	1	-	-	-	1	-	-
2017	Martínez, A.A.; Fernández-Poyatos, M.D.	-	1	-	1	-	1	1	-	-	-	1	-
2017	Martinelli, E.; De Canio, F.; Marchi, G.; Nardin, G.	-	1	-	-	1	1	1	-	1	-	-	-
2017	Belletti, G.; Marescotti, A.; Touzard, JM.	1	-	-	1	-	1	1	1	1	1	1	-
2017	Elghannam, A.; Mesías, F. J.	-	1	-	1	-	1	1	1	-	-	-	-
2018	Dabija, DC.; Bejan, B.M.; Tipi, N.	-	1	-	-	1	-	-	-	-	-	-	-
2018	Bucko, J.; Kakalejčík, L.; Ferencová, M.	-	1	-	-	1	-	-	-	1	1	-	-
2018	Dias, C.; Mendes, L.	-	-	1	1	-	1	1	1	1	1	1	-
2018	Kos Skubic, M.; Erjavec, K.; Klopčič, M.	-	1	-	-	1	1	1	-	1	1	-	-
2019	Martinelli, E.; De Canio, F.	1	-	-	-	1	1	1	-	-	1	1	-
2019	Tham, K. W.; Dastane, O.; Johari, Z.; Ismail, N.B.	-	1	-	-	1	-	-	-	-	-	-	1

		Тур	e of P	aper	Туре о	f Study	Qua	lity Sch	emes	Co	Consumer Conce				
Publication Year	Authors	Case Study	Original Research	Literature Review	Qualitative Study	Quantitative Study	PDO	PGI	TSG	Perception	Preference and Willingness to Pay	Purchasing and Consumption	Online Purchasing		
2019	Oleksiuk, I.;	-	1	_	_	1	1	1	1	1	1	1	_		
	Werenowska, A. Rachão, S.; Breda, Z.;														
2019	Fernandes, C.; Joukes, V.	-	-	1	-	1	1	1	-	1	1	1	-		
2020	Robina-Ramírez, R.; Chamorro-Mera, A.; Moreno-Luna, L.	1	-	-	-	1	-	-	-	-	1	-	1		
2020	Fernández-Uclés, D.; Bernal-Jurado, E.; Mozas-Moral, A.; Medina-Viruel, M.J. Cristobal-Fransi, E.;	-	1	-	1	-	-	-	-	-	-	-	1		
2020	Montegut-Salla, Y.; Ferrer-Rosell, B.; Daries, N.	-	1	-	1	-	1	1	1	-	-	-	1		
2020	Török, Á.; Jantyik, L.; Maró, Z. M.; Moir, H. V. J.	-	-	1	1	-	1	1	1	1	1	1	1		
2020	Angowski, M.;	-	1	-	-	1	1	1	1	1	1	1	-		
2020	Jarosz-Angowska, A. Jantyik, L.; Török, Á.	-	1	-	-	1	1	1	1	-	1	-	-		
2021	Savelli, E.; Bravi, L.; Francioni, B.; Murmura, F.; Pencarelli, T.	-	1	-	-	1	1	-	-	1	-	-	-		
2021	Skalkos, D.; Kosma, I. S.; Vasiliou, A.; Guine, R. P. F.	-	1	-	-	1	1	1	1	1	1	1	-		
2021	Di Vita, G.; Pippinato, L.; Blanc, S.; Zanchini, R.;	-	1	-	-	1	1	-	-	-	1	-	-		
2021	Mosso, A.; Brun, F. De Canio, F.; Martinelli, E.	-	1	-	-	1	1	1	-	-	1	-	-		
2021	Palalic, R.; Ramadani, V.; Mariam Gilani, S.; Gërguri-Rashiti, S.; Dana, L.	-	1	-	-	1	-	-	-	-	-	-	1		
2021	Di Vita, G.; Cavallo, C.; Del Giudice, T.; Pergamo, R.; Cicia, G.; D'Amico, M.	-	1	-	-	1	-	1	-	-	-	1	-		
2021	Lee, M.K.; Park, S.H.; Kim, Y.J.	-	1	-	-	1	1	1	1	-	-	1	1		
2021	Lee, M.K.; Park, S.H.; Kim, Y.J.	-	1	-	-	1	1	1	1	1	1	-	-		
2021	Goudis, A.; Skuras, D.	-	1	-	-	1	1	1	-	1	-	-	-		
2021	Blanc, S.; Zanchini, R.; Di Vita, G.; Brun, F.	-	1	-	-	1	-	-	-	1	-	-	-		

Table 5. Cont.

Note: \checkmark is marking the presence of the criteria; - is marking the absence of the criteria.

4. Discussion

Even though the studies covered use various methodologies and provide contradictory results, this systematic review reveals several common features that stand in line with previous research [16,62–65], indicating that the understanding about certified agri-food products are mixed. In line with previous studies, were identified consumers that consider that the food quality is not verified [25,26]. Thus, there are consumers that trust the meaning of these certifications and choose to buy a more traditional healthy food product [20,21,23,24,35,66].

The "area of influence" is one of the most crucial factors for selling certified products; the emotional attachment of experience that each product comes with could help consumers refine the natural taste. This represents a major objective for certified product, to keep its taste, smell, and/or nutritional qualities. Several studies [19,23,24,67] showed that the culture of the geographical delimitations influences the perceptions about certified agri-food products. The certified agri-food products have an advantage for consumers who know the product's region, so the certification proves that the product is created strictly in that region it kept its originality. In southern Europe tend to associate them with the concepts, culture, or even history, heritage, and customs passed down from one generation to another. From the past, we can learn about the types of food that our ancestors were eating without any chemicals for growing. The central and northern Europe regions tend to focus more on the practical benefits of product convenience, health, or purchase access in another area of Europe.

The "origin" of the product is not always the determining factor in consumer choices. Many consumers consider that the nutritional aspects, cost, and safety sometimes come first when choosing the right product for their needs. Education, income, and globalization are factors that influence the consumption behavior of certified agri-food products. Consumers with above-average income and higher education show more interest in the certified product with quality schemes. On the other hand, we have the "young generation" the consumers strongly influenced by globalization and the current trends. They do not differentiate between certified agri-food products. The most critical factors that determine the young consumer to purchase are nutritional factors, freshness, and price. Young consumers caring about their health choose the most suitable product to pay as economical as possible and get the best outcome for their budget [21,27,36,37,68].

In both the on-site and online environment, we can find different factors that help the consumers choose the right product for their needs. In the on-site situation, we see distinct influences from extrinsic and intrinsic influential factors. Most of the time, the extrinsic factors that influence the purchasing decision of the certified agri-food product are the purchasing environment around the products, such as the shelf arrangement and even the type of store. Regarding intrinsic factors, we have the smell, package, nutritional information about the product, the price, the colors. On the other hand, in the Online, we have a different set of influential factors that are much more of a technical nature, such as the User Experience (UX) of the website, the speed, the colors, and most important aspects like the delivery duration, information about the product (description of the quality schemes and logos, area of production, etc.), the online support of the website [47–49,51–54]. These are some of the factors that help in choosing the right product online. One of the essential elements that online shopping offers to customers is package delivery. In 2022, the world is starting to change towards a new era of packaging where cheap and efficient is not enough anymore. A package should be ergonomic, safe, recyclable, and, most important, a storyteller for the brand and its products.

During the COVID-19 pandemic, consumer preferences have leant toward certified foods whose origin is known. Thus, the PDO label begins to become a choice for consumers concerned about their health and a diet that supports their immune system [66,69–71]. Moreover, the traditional shopping system has been altered, so consumers tend to buy healthy food online [72,73]. Although the price of certified agri-food was higher, there is a preference for certified food products with quality schemes among the consumers [71,74].

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Also, by consuming products of this type—of controlled origin, certified by the EU, the health can be maintained, and the body's immunity can be increased. In COVID-19 and pandemic restrictions, the consumers' food must be safe when human movement is restricted due to regulations. Thus, they must have an appropriate quality, respectively, to have a controlled origin [66,69,70].

5. Conclusions

In 2021, perception of success in the food market is about exceeding the consumer expectations, providing them with much better quality than they have asked, providing package, information, and a premium feeling about the product. These details help to reach a positive opinion about the certified agri-food products. EU quality labels were introduced as a consumer decision-making tool. Still, they are also a way of controlling food, as the logo's appearance ensures that the product can be traced back to a specific manufacturing area and to a specified know-how process. EU quality schemes can thereby potentially reduce confusion about food purchases, assuring the customer of the certified agri-food products' uniqueness and nutritional qualities. The on-site and online environment is trying to draw attention to more specific aspects that can bring quality to food products, such as certifications, animal welfare standards, and respect for the environment. In both climates, one can highlight different types of influence trying to make the final customers self-generate the mindset that "eating healthy" might be understood as "living healthy". The influential factors are all about sharing as much quality information as possible with the customer: nutritional information, region of production/origin, price, package, colors. The "young generation" is powerfully influenced by globalization, social media, Internet, green behavior, and current trends, through which they can be educated about the importance of consuming quality products, what effect it has over their body in the long term, and what conduct they should adopt to have a healthier life in a healthfuller community.

5.1. Implications for Market Participants and Public Institutions

Nationally sustained by different post-COVID-19 strategies, the PDO, PGI, and TSG certifications would have, as a result, the increased level of health of the population. One of the solutions would be to encourage local producers to apply for this certification. The food products with the certification PDO, PGI, TSG have a better impact on consumers' health because of their pure ingredients and the lack of artificial chemicals. Consuming a healthy, non-altered, and natural product is one of the leading health benefits of these products. Moreover, these review results are helpful to different government agencies and companies to improve their promotion strategies towards these types of certifications that verify quality and tradition.

5.2. Limitations and Further Directions of Research

There are certain limitations to our research. The search strategy may have omitted pertinent material that brings the possibility that removed articles include information that could affect our conclusions. Given the prevalence of the PGI and PDO certification schemes, more research into the TSG quality certification scheme is required. More research is necessary on consumer behavior regarding PGI, PDO, and TSG food products, considering the variances between nations or areas. Since there is a focus on examining certified products susceptible to some form of agro-industrial production, such as meat, cheese, wine, and olive oil, perception and consumption behavior of certified fruit or vegetable varieties could provide a viable path for further directions of research. In addition, more research is needed to link certified food products with the European quality schemes to the health benefits they can provide in pandemic times, relying on educating consumers about the value and benefits of these certified products with quality schemes.

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A.-I.G.; C.B.P., D.-C.D. and M.F.; visualization, C.B.P.; D.-C.D. and M.F.; supervision, C.B.P. and D.-C.D. All authors have read and agreed to the published version of the manuscript.

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