

Characteristics of EU Registered Geographical Indications of Food and Agricultural Products and Investigation of Their Relationship with the Geographical Area

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Abstract

Geographical indications can be defined as an application to identify products whose quality, reputation, or other characteristics are connected to its place of origin. A strong link to a geographical area and well-defined characteristics promote the creation of value-added and access to niche markets through differentiation. The European Union has a long history, a comprehensive legal framework and a pioneering role in preserving the origins of agriculture and food products. In this study, characteristics of geographical indications registered in the EU and their relations with the geographical area were analyzed. Distinctive features and links with the geographical area were determined and compared for different product groups.

Keywords: *Designation of origin, European Union, geographical indication, protected geographical indication*

Gıda ve Tarım Ürünlerinde AB Tescilli Coğrafi İşaretlerin Ayırt Edici Özellikleri ve Coğrafi Alan ile olan Bağının İncelenmesi

Öz

Coğrafi işaret; kalitesi, tarihsel, coğrafi ve sosyal geçmişiyle ilişkilendirilen ünü ve diğer ayırt edici özellikleri bakımından menşesine bağlı olan ürünlerin, benzerlerinden farklılığını tanımlamak için kullanılan bir uygulama olarak değerlendirilebilir. Bu bağlamda, ürünlerin özelliklerinin iyi tanımlanmış olması ve coğrafi alan ile olan kurulan güçlü bağ, o ürünün katma değer yaratmasını

ve farklılaşma yoluyla niş pazarlara erişimi teşvik eder. Avrupa Birliği, tarım ve gıda ürünlerinin kökenlerinin korunması konusunda uzun bir geçmişe, kapsamlı bir hukuki çerçeveye ve öncü role sahiptir. Bu çalışmada, AB’de tescilli coğrafi işaretlerin ayırt edici özellikleri ve coğrafi alan ile olan bağları incelenerek analiz edilmiştir. Ayrıca, farklı coğrafi işarete sahip ürün grupları için önemli ayırt edicilik kriterleri ve bunların coğrafi alan ile olan bağ ilişkileri birbirleriyle karşılaştırılmıştır.

Anahtar Kelimeler: *Menşe adı, Avrupa Birliği, coğrafi işaret, mahreç işareti*

Introduction

Geographical indications can be used to identify products whose quality, reputation or other characteristics are connected to its place of origin (WIPO, 2017). Different legal frameworks regarding geographical indications have been put into effect in many countries worldwide.

Products of protected origin often possess characteristics which enables them to be distinguished in the market and compete effectively with comparable products. Actors involved in the geographical indication value chain have to identify these characteristics (Barjolle and Sylvander, 2002). These features can be of internal quality such as flavor, texture, aroma, shape and colour, as well as external features related to the production, preparation and presentation of the product (Giovannucci, Josling, Kerr, O’Connor and Yeung, 2009). Producer groups play a crucial role during GI (Geographical Indication) registration processes as they need to define the aforementioned characteristics and link with the area which must be submitted to the competent authorities (Quiñones Ruiz et al., 2018). However, it is challenging to translate

the true characteristics of the product into its specification (Barham, 2003).

Few studies have explored different product characteristics of GIs, mostly exploring their relationship with culture, history, ethnicity, environment and the boundaries of their production area (Belletti, Marescotti, Sanz-Cañada ve Vakoufari, 2015; Fernández-Ferrín et al., 2019; Gugerell et al., 2017; Hegnes, 2019; Quiñones Ruiz et al., 2018; Zappalaglio, 2019). However, there is little empirical evidence on how product characteristics and link with the geographical area is defined for different product groups. Hence, after presenting the methods, this paper aims to briefly present the GI protection system in the EU, present the findings of the analysis of the product characteristics and link with the geographical area of different product groups through official registration documents, discusses the results and finally draws some conclusions and recommendations.

Materials and Method

The main reference document used for the analysis is the Single Documents in the eAmbrosia database. In some cases, where the Single Document of the product did not

have sufficient detail, product specifications were used. Product characteristics and link with the geographical area of 144 geographical indications registered in the EU, detailed in Table 1 were analysed in this study. For the selection of the products, the most recent registered or amended geographical indications were selected for each country for each product group to study

the different approaches of different countries for establishing product specifications and the most recent position of the Commission. Product groups with fewer than 10 registrations were excluded. All products registered until 2020 were taken into account. Traditional product names were excluded from the scope of the research.

Table 1. Geographical indications reviewed. All dossiers accessible through eAmbrosia database by European Commission (2020).

Product group	Name of the Registered Geographical Indication
Fresh meat	Capão de Freamunde, Carn d'Andorra, Carne de Salamanca, Connemara Hill Lamb / Uain Sléibhe Chonamara, Hännlamb, Jagnięcina podhalańska, Lapin Poron liha, Lička janjetina, Magyar szürkemarha hús, Porc noir de Bigorre, Vadehavsstude, Viande de porc, marque nationale grand-duché de Luxembourg, Vitelloni Piemontesi della Coscia, Weideochse vom Limpurger Rind, West Country Beef, Κατσικάκι Ελασσόνας
Meat products	Carmarthen Ham, Fenalår fra Norge, Flönz, Gailtaler Speck, Gyulai kolbász / Gyulai pároskolbász, Jambon du Kintoa, Kiełbasa piaszczańska, Kranjska klobasa, Lapin Poron kuivaliha, Lucanica di Picerno, Međimursko meso 'z tiblice, Morcilla de Burgos, Salaisons fumées, marque nationale grand-duché de Luxembourg, Salam de Sibiu, Saucisson d'Ardenne / Collier d'Ardenne / Pipe d'Ardenne, Παφίτικο Λουκάνικο, Горнооряховски суджук, Alheira de Mirandela
Cheese	Brillat-Savarin, Danbo, Džiugas, Fromage de Herve, Hollandse geitenkaas, Imokilly Regato, Jihočeská Zlatá Niva, Mohant, Ossolano, Queijo mestiço de Tolosa, Queso Los Beyos, Ser koryciński swojski, Svecia, Telemea de Ibănești, Tiroler Almkäse; Tiroler Alpkäse, Traditional Welsh Caerphilly/Traditional Welsh Caerffili, Ξύγαλο Σητείας / Ξίγαλο Σητείας, Allgäuer Sennalpkäse
Other products of animal origin	Cornish Clotted Cream, Jajca izpod Kamniških planin, Miel des Cévennes, Miel Villuercas-Ibores, Miele Varesino, Miód drahimski, Requeijão da Beira Baixa, Seinų / Lazdijų krašto medus / Miód z

	Sejneńszczyzny / Łoździejszczyzny, Slavonski Med, Странджански манов мед/ Манов мед от Странджа
Oils and fats	Antequera, Azeite do Alentejo Interior, Beurre d'Ardenne, Beurre de Bresse, Beurre rose - Marque Nationale du Grand-Duché de Luxembourg, Istra, Lausitzer Leinöl, Marche, Šoltansko maslinovo ulje, Štajersko prekmursko bučno olje, Steirisches Kürbiskernöl, Γαλανό Μεταγγιτσίου Χαλκιδικής
Fruit, vegetables and cereals	Beelitzer Spargel, Brabantse Wal asperges, Chelčicko — Lhenické ovoce, Choucroute d'Alsace, Czosnek galicyjski, Ginja de Óbidos e Alcobaça, Granada Mollar de Elche/Granada de Elche, Lammefjordskartofler, Lapin Puikula, Latvijas lielie pelēkie zirņi, Magiun de prune Topoloveni, Makóí petrezselyemgyökér, Marrone di Serino/Castagna di Serino, Steirische Käferbohne, Varaždinsko zelje, Αγκινάρα Ιρίων, Κολοκάσι Σωτήρας / Κολοκάσι-Πούλλες Σωτήρας, ข้าวสังข์หยดเมืองพัทลุง
Fresh fish, molluscs, and crustaceans and products derived therefrom	Kalix Løjrom, Bulot de la Baie de Granville, Carnikavas nēģi, Clare Island Salmon, Cozza di Scardovari, Glückstädter Matjes, Karp zatorski, Kitkan viisas, Lough Neagh Pollan, Mojama de Isla Cristina, Scrumbie de Dunăre afumată, Tørrfisk fra Lofoten, Αυγοτάραχο Μεσολογγίου, 盐城龙虾
Other products of Annex I of the Treaty	Alföldi kamillavirágzat, Café de Colombia, Café de Valdesia, Český kmín, Darjeeling, Elbe-Saale Hopfen, Kopi Arabika Gayo, Levický slad, Oriel Sea Minerals, Paška sol, Pâté gaumais, Sal de Tavira / Flor de Sal de Tavira, Sale Marino di Trapani, Štajerski hmelj, Thym de Provence, Traditional Welsh Cider, Vinagre de Montilla-Moriles, Κρόκος Κοζάνης, 湄潭苦丁茶, 镇江香醋
Beers	Brněnské pivo; Starobrněnské pivo, Kentish ale and Kentish strong ale, Münchener Bier
Bread, pastry, cakes, confectionery, biscuits and other baker's wares	Amêndoa Coberta de Moncorvo, Antep Baklavası/Gaziantep Baklavası, Bayrisch Blockmalz / Bayrischer Blockmalz / Echt Bayrisch Blockmalz / Aecht Bayrischer Blockmalz, Cebularz lubelski, Cioccolato di Modica, Cornish Pasty, Daujēnu naminė duona, Gâche vendéenne, Kainuun rönttönen, Liers vlaaike, Polvorones de Estepa, Skalický trdelník, Upplandskubb, Γλυκό Τριαντάφυλλο Αγρού, Μελεκούνι

Protection of Geographical Indications in EU

The origin-dependent protection of food products in Europe has a long-standing history. The protection granted to Parmigiano-Reggiano cheese produced in Po River valley in Italy and Roquefort cheese in France dates back to 1920s (Barham and Sylvander, 2011). Through the last 100 years, France and Italy have developed a comprehensive legal protection system for geographical indications with AOP (Appellation d'Origine Contrôlée) system in France and DOP (Denominazione d'Origine Controllata) system in Italy. The overall system in the EU is largely based on these systems.

The French concept of 'terroir' encompasses both natural and human factors of a geographical area which affects a product (Josling, 2006). The geographical indication policies of the EU are arguably based upon this concept. The link may include seasonal temperatures, humidity levels, wind, physical and chemical properties of soil and water, sun exposure, and soil composition (Bérard and Marchenay, 2006). Human factors such as specific agronomic and processing techniques developed for the local environmental conditions can also form the link between the product and the area.

The main instrument for protecting the origin of food and agricultural products in the EU is Regulation 1151/2012 on quality schemes for agricultural products and foodstuffs. This Regulation does not apply to wines and spirits, which also have a long-standing history and are regulated by more specific

regulations and enjoy a wider range of protection.

Regulation 1151/2012 has identified three different tools to protect the quality and origin of food products within the EU: Protected Geographical Indication (PGI), Protected Designation of Origin (PDO) and Traditional Specialty Guaranteed (TSG). PGI and PDO schemes directly concern the origin of food products. TSG, on the other hand, is related to the traditional production methods and ingredients of the product, regardless of the source of ingredients or the production area. Although the level of protection provided by PGI and PDO quality schemes in the EU are the same, the type of connection between the product and the geographical area is very different. For PDO, this connection has direct, quantitative effects on the product. On the contrary, for PGI, this link is mostly based on the product's reputation, history and tradition in the geographical area.

Geographical Indication Registration Process in the EU

Applications may only be filed by producer groups, which includes any association, irrespective of its legal form, mainly composed of producers or processors working with the same products (European Commission, 2012). Applications from member states go through a two-stage review process. The application is made to the national authority chosen by the member state. The national authority investigates the accuracy and suitability of the application. The eligible application is published in the member state after the examination. Thus,

any concerning parties in the country may issue an opposition. Once this phase has been successfully completed, the application is forwarded to the European Commission for official review. If the Commission finds the application eligible, the application is published at the EU level and this opposition for the publication may be issued for the following 3 months. If there are no oppositions or if the oppositions are rejected, the process continues with registration. The applications by non-EU members are made directly to the Commission or by the competent authorities designated in these countries.

Characteristics and Relationship with the Geographical Area for Different Product Groups

Fresh meat (and offal)

There are 164 registered products in the fresh meat (and offal) product group, 122 of which are PGI and 42 of which are PDO. France with 77 products, Portugal with 31 products and Spain with 20 products are countries with the most registered products in this group. A striking detail is that almost half of these products (67 products) were registered with the 'simplified procedure' recognized by the EU Commission in 1996 (Quiñones Ruiz et al., 2018). In this context, the distinctive features of most registered products and their link to the area are not described in detail. The registrations granted in the last 5 years are much more detailed and sophisticated. For this product group, 5 PDO and 11 PGI registrations from 18 different countries were examined in detail. In the products which are registered as PGI, generally the

slaughter is carried out outside the geographical area or the feed is supplied from outside the geographical area. When the product characteristics are examined, race, slaughter weight, EUROP classification, slaughter age; taste, colour, and texture characteristics of cooked meat, pH value of the meat, ripening time, fatty acid ratio, fat ratio, protein ratio and humidity ratio are specified. For products such as West Country Beef and Porc noir de Bigorre, neophytadiene and vitamin E content which are higher in animals feeding on pastures, were specified. Feed and breeding conditions of the animals are specified in all registrations. When the link with the geographical area is examined, the connection between the climate and vegetation of the geographical area and the product features is established in all the PDO registrations. Traditional breeding techniques, the selection of breeds by the producers in the area, and the reputation of the products are indicated as the connection with the geographical area of the products.

Meat products (Cooked, salted, smoked, etc.)

There are 179 registered products in the meat products (cooked, salted, smoked, etc.) product group, 142 of which are PGI and 37 of which are PDO. Italy with 43 products, Portugal with 41 products and France with 20 products are countries with the most registered products. An interesting detail is the high number of PGI products. The fact that the geographical area where the raw material will be supplied is not limited to a specific area for most registrations and the link with the geographical area is often

dependent on the human factors and reputation may explain the high PGI ratio. For this product group, 2 PDO and 16 PGI registrations from 18 different countries were examined in detail. The most frequently referred product characteristics are the shape of the product (horseshoe, long cylinder, spiral, etc.), colour, salt ratio, fat ratio, protein ratio, weight, length, diameter, taste, texture, aroma, ratio of connective tissue. Criteria related to raw materials (such as breed, EUROP quality class, section of meat, aromatics that are allowed to use during production) and ripening times are also described in detail for most of the registrations. Detailed information about the feed and breeding conditions of the animals which the meat is obtained from like Jambon du Kinta PDO is provided. For link with the geographical area, it can be seen that the connection between the traditional production method and the product characteristics is established in all of the registrations. Traditional knowledge and skills of the producers, raw material properties, history and reputation of the product are also used to describe the connection with the geographical area. The climate features of the area have been described as an important link between the geographical area and the product, especially for the products produced by natural drying and the geographical areas where animal feed should be stored in alternative ways due to the very low or high temperatures.

Cheese

There are 235 registered geographical indications in cheese product group, 47 of

which are PGI and 188 of which are PDO. France with 54 products, Italy with 51 products and Spain with 28 products are countries with the most registered products. A remarkable detail is the high number of PDO products. It can be argued that the reason for this is the importance of the characteristics of raw milk and the need to process raw milk, which is an easily perishable product, as soon as possible. However, it can be seen that most of the PDO products were registered in 1996 with the 'simplified procedure' and did not undergo any amendments after registrations. In recent registrations, comprehensive information about the feeding regime of dairy animals is specified. For this product group, 6 PDO and 10 PGI registrations from 16 different countries were examined in detail. For product characteristics, type of animal which raw milk is obtained from is specified for all products. For cheeses produced with the milk of more than one animal, ratios are specified and different expressions which can be added to the name of the geographical indication are provided. The colour, shape, taste, aroma and texture of the product are specified in all of the registrations examined. For almost all of the products, the percentage of fat percentage in dry matter is specified. The ripening period is also specified for all matured products, some products are divided into groups according to the ripening time and their distinctive features are specified separately accordingly. Physical properties such as weight, diameter and length are also specified in most products. Dry matter, salt content, moisture content, pH and microbial flora are also mentioned as product characteristics.

Especially in PDO products, detailed criteria related to raw materials are included. Special conditions such as special feeding regimens, permitted animal breeds, restrictions on the source of rennet and the production season were specified. For link with geographical area is examined, it can be seen that in most of the registrations, there is a connection between the traditional production method and the product characteristics. The properties of the raw material, especially the characteristics of the pastures in connection with climate and vegetation of the area that dairy animals graze, the history and reputation of the product, the knowledge and skill of the producers in the area is described for the link with the area.

Other products of animal origin (Eggs, honey, various dairy products except butter etc.)

There are 47 registered geographical indications in Other Products of Animal Origin product group, 35 of which are PDO and 12 of which are PGI. Portugal with 12 products, France with 9 products and Spain with 6 products are countries with the most registered products. Thirty-five of the registrations are honey, 2 of them are eggs and the rest are various dairy products. While almost all of the honey geographical indications are registered as PDO, 8 products that are extracted and packaged outside the geographical area are registered as PGI. For this product group 7 PDO and 3 PGI registrations from 10 different countries were examined in detail. When the distinctiveness criteria of the product characteristics are examined, omega 3 and

omega 6 content, colour and shape are specified for eggs. The link with the geographical area is the traditional production method, the reputation and history of the product which includes feeding the chickens with flaxseed meal and calcium carbonate, which are historically produced in the area. For dairy products; taste, texture and colour features stand out. In both products examined, the link with the geographical area has been attributed predominantly to raw material properties. For honey, the type or varieties of honey is specified for all products. While some honeys are only polyfloral or only honeydew honey, some honeys are divided into varieties (chestnut honey, acacia honey, linden honey, black mulberry honey, retama honey). In all honeys, the pollen spectrum is specified as a distinguishing feature, and in many of them, the pollens which should not be present (or its minimum allowed level) and the minimum amount of the dominant pollens are specified. Especially in honeydew honeys, electrical conductivity and diastase activity are distinctive features. Colour, HMF value, taste, aroma, maximum humidity is specified in all registrations. In addition to these; free acidity, fructose + glucose ratio, sucrose ratio, pH, proline ratio, bee race are the properties which are commonly featured. The links with the geographical area are mainly due to climate and flora, but traditional production methods such as not using chemicals during honey collection, leaving the last honey in the hive, keeping the heat applied to the honey below a maximum temperature value are also mentioned. The quality and reputation of the products have

also been used to describe the link with the geographical area.

Oils and fats (butter, margarine, oil, etc.)

There are 135 registered geographical indications in oils and fats product group, 116 of which are PDO and 19 of which are PGI. Italy with 46 products, Spain with 31 and Greece with 30 products are countries with the most registered products. Most of the registrations in this group are olive oil registrations. Although most registrations for olive oil are PDO, there are also products registered as PGI if the link between the product and the geographical area depends only on the reputation and history. When product characteristics are examined for butters, properties such as taste, aroma, colour, lipolysis index are specified. The link with the geographical area is mainly related to the raw material characteristics and traditional production methods. In fruit and seed oils other than olive oil, the aroma and colour characteristics are specified, and the link with the geographical area is established with the traditional production method and the reputation of the products.

All of the olive oils examined are extra virgin olive oil. Acidity, peroxide value, K270 value, taste and aroma properties are specified in all registrations. Delta K, K232, fruitiness - sharpness - bitterness - defects scores, fatty acid ratios, waxy substance ratios are the main characteristics that are specified as the distinguishing features of the products. Raw material properties were also counted as distinctive criteria, especially olive varieties used. For link with the geographical area, the geological and

climatic features of the geographical area, traditional production methods and the reputation of the products are emphasized.

Fruit, vegetables and cereals (fresh or processed)

There are 390 registered geographical indications in Fruit, vegetables and cereals product group, 156 of which are PDO and 234 of which are PGI. Italy with 112 products, Spain with 62 and France with 56 products are countries with the most registered products. Although the products in this group are thought to be heavily related to the characteristics of the geographical area, the number of products registered as PGI are much higher compared to PDO. When the registrations are examined, it is seen that the link between most of these products with the geographical area depends only on the reputation and tradition. It is seen that the prominent product characteristics are the varieties used, shape, minimum weight, colour and taste. Depending on the nature of the product, properties such as diameter, length, sugar ratio and dry matter are also specified. Special characteristics such as defects, amylose content, starch content, shell thickness are also specified. Special harvesting conditions and quality criteria, such as number of damaged fruit or percentage of defects are present in many of the registrations. For link with the geographical area, the geological and climatic features of the geographical area, traditional production methods and the reputation of the product are emphasized. Since PGI are more dependent on reputation and history, a wide range of evidence is

included in the texts to establish this link. Historical documents, newspaper articles, excerpts from books, recipes, magazines, restaurant menus, travel guides, scientific publications, festivals, awards, municipal crests in the shape of the product, the name of the product in verbal culture are examples of evidence specified in the registrations.

Fresh fish, molluscs, and crustaceans and products derived therefrom

There are 50 registered geographical indications in Fresh fish, molluscs, and crustaceans' product group, 14 of which are PDO and 36 of which are PGI. The UK with 14 products and Germany with 7 products are the countries with most registrations. The prominent product characteristics which are features in registrations are colour, taste, texture and aroma. Depending on the nature of the product, properties such as size, length, weight, protein and fat ratio are also specified. Special characteristics such as the amount of vitamin A, sodium content, organic certificate and meat ratio are also specified in related products. In addition to these, moisture and salt content of dried products are also indicated. Special breeding conditions are also mentioned for most products. For link with the geographical area, the natural conditions (the currents, the cleanliness of the waters, and the abundance of nutrients in the streams) are specified, especially for PDO products. In addition to these, many of the registrations emphasize traditional production methods, product reputation and quality.

Other products of Annex I of the Treaty (spices etc.)

There are 66 registered geographical indications in other products of the Annex I product group, 39 of which are PDO and 27 of which are PGI. France with 10 products and Italy, Spain and the United Kingdom with 8 products are the countries with most registrations. The products in this group can be generally subdivided into coffee and tea, aromatic herbs and spices, salt and vinegar. When the product characteristics are examined; smell, taste and aroma stand out for coffee and tea. The variety of coffee beans and the content of chemicals such as caffeine, chlorogenic acid, 3,7-dimethyl-1,5,7-octatriene-3-ol, are specified for coffee products. For aromatic herbs and spices; quality characteristics such as smell, taste and aroma, colour stand out. Product-specific characteristics such as α -bisabolol, carvacrol, carvone, moisture content and essential oil ratio have been identified as distinctive features. In some of these products, the maximum defect rate was specified, and the quality of the product was counted as a distinctive feature. For salts, primarily the type of salt (crystal salt or salt flower), water ratio, mineral ratios, NaCl amount, colour, structure, and taste are specified as product characteristics. Special production methods for salts are also mentioned. For vinegar and fruit juice-based products; taste, aroma, reducing sugar content, acetic acid content, alcohol content is used to identify the products. 'Pâté Gaumais', a type of meat pie, was also in this group and its shape, weight and special production method were mentioned as its characteristics. For link with

the geographical area, the climate and soil conditions of the geographical area are specified as the most important criteria especially for PDO products. Also, most products emphasize traditional production methods, product reputation and history. The evidence on the history and reputation of the products included mentions of ancient statues depicting the product in the area and the presence of museums related to the product.

Beers

There are 20 registered geographical indications in beers product group all of which are PGI products. With 9 products, the Czech Republic and Germany are the countries with the most registrations. As much of the raw materials such as hops and barley come from outside the geographical area and that there is a reputational link rather than a physical connection between the product and the geographical area can be counted as the reasons for all products in this category being PGI registrations. When product characteristics are examined; alcohol content, colour, taste, aroma and density properties are found to be commonly mentioned. Most of the registrations in this group contain different varieties (lager, pils, schankbier) of the same geographical indication. Distinctive features for each variety are indicated separately. The link of the products with the geographical area is mostly based on the history and reputation of the product.

Bread, pastry, cakes, confectionery, biscuits and other baker's wares

There are 81 registered geographical indications in bread, pastry, cakes,

confectionery, biscuits and other baker's wares product group, 4 of which are PDO and 77 of which are PGI. Spain with 15 products and Italy with 14 products are the countries with the most registrations. The reasons for most products being registered as PGI may be that raw materials often come from outside the geographical area and the link between the product and the geographical area is mostly attributed to human factors. Among product characteristics that are examined; the shape of the product is mentioned in all registrations. Physical properties such as colour, diameter, length, weight, structure and organoleptic properties such as taste and aroma are also specified as the product characteristics. According to the nature of the product, properties such as cocoa mass content, cocoa butter content, moisture, acidity, pH, porosity are also specified in the registration. Ingredients are listed in all specifications and the properties that the ingredients must have are also specified. In some products, substances that are not allowed to be added (such as flavourings, additives, sugar, etc.) are listed. The link with the geographical area is mostly based on the traditional production methods, history and reputation of the product.

Results and Discussion

It has been observed that, with only a few exceptions, number of PGI registrations have been higher than PDO registrations in the last ten years, in almost all product groups. This trend has paved the way for many geographical indications which, although all production stages and raw material supply of the product take place in the geographical

area, are registered as PGI. The 'terroir' element, which may be considered essential for PDO products, is frequently seen in the PGI specifications. Coincidentally, in most PDO registrations, information about the history and reputation of the products has also been used to describe the link with the geographical area. It should also be noted that while PGI protection requires at least one of the production stages of the product to take place in the geographical area, all major production stages of all PGI registrations examined, without exception, take place in the geographical area. There are however some PGI registrations which permits the slicing or packaging stages of the product to take place outside the geographical area. The details included in the more recent registrations in both PGI and PDO registrations are much detailed compared to the older registrations. Especially for the geographical indications registered with the 'simplified procedure', the information on the product characteristics and the link with the area are quite insufficient. The link between the product characteristics and the geographical area is given more importance especially in the registrations made in recent years. How each characteristic is affected by the geographical area is explained in detail in newer registrations.

Another observation is that there are differences in the standards applied by national authorities during the primary examination of applications. Even in specifications related to very similar products, there are large differences between the product characteristics and distinguishing criteria.

Conclusions

The study has concluded that, unfortunately, due to the nature of the geographical indications, it is not possible to identify a list of common product characteristics that may be applicable to all products in a product group. However, the product specifications can be successfully determined by the collective work of producers, agriculturists, scientists, and historians.

References

- Barham, E. (2003).** Translating terroir: The global challenge of French AOC labelling. *Journal of Rural Studies*, 19(1), 127–138.
- Barham, E., Sylvander, B. (2011).** Labels of origin for food: Local development, global recognition. Wallingford: CABI Publishing.
- Barjolle, D., Sylvander, B. (2002).** Some factors of success for origin labelled products in agri-food supply chains in Europe: market, internal resources and institutions. *Economies et Sociétés*, 25(9–10), 1441-1461.
- Belletti, G., Marescotti, A., Sanz-Cañada, J., Vakoufaris, H. (2015).** Linking protection of geographical indications to the environment: Evidence from the European Union olive-oil sector. *Land Use Policy*, 48, 94–106.
- Bérard, L., Marchenay, P. (2006).** Local products and geographical indications: Taking account of local knowledge and biodiversity. *International Social Science Journal*, 58(187), 109–116.
- European Commission (2012).** Regulation (EU) No 1151/2012 of the European

Parliament and of the Council of 21 November 2012. <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:343:0001:0029:en:PDF>

European Commission (2020). eAmbrosia – the EU geographical indications register. <https://ec.europa.eu/info/food-farming-fisheries/food-safety-and-quality/certification/quality-labels/geographical-indications-register/>

Fernández-Ferrín, P., Bande, B., Galán-Ladero, M. M., Martín-Consuegra, D., Díaz, E., Castro-González, S. (2019). Geographical indication food products and ethnocentric tendencies: The importance of proximity, tradition, and ethnicity. *Journal of Cleaner Production*, 241, 118210.

Giovannucci, D., Josling, T. E., Kerr, W., O'Connor, B., Yeung, M. T. (2009). Guide to Geographical Indications: Linking products and their origins. Geneva: International Trade Centre.

Gugerell, K., Uchiyama, Y., Kieninger, P. R., Penker, M., Kajima, S., Kohsaka, R. (2017). Do historical production practices and culinary heritages really matter? Food with protected geographical indications in Japan and Austria. *Journal of Ethnic Foods*, 4(2), 118–125.

Hegnes, A. W. W. (2019). The map and the terroir: Adapting geographical boundaries for PDO and PGI in Norway. *British Food Journal*, 121(12), 3024–3042.

Josling, T. (2006). The War on Terroir: Geographical indications as a transatlantic trade conflict. *Journal of Agricultural Economics*, 57(3), 337–363.

Quiñones Ruiz, X. F., Forster, H., Penker, M., Belletti, G., Marescotti, A., Scaramuzzi, S., Altenbuchner, C. (2018). How are food geographical Indications evolving? – An analysis of EU GI amendments. *British Food Journal*, 120(8), 1876–1887.

WIPO (2017). Geographical Indications: An Introduction. Geneva: World Intellectual Property Organization

Zappalaglio, A. (2019). The Debate Between the European Parliament and the Commission on the Definition of Protected Designation of Origin: Why the Parliament Is Right. *IIC International Review of Intellectual Property and Competition Law*, 50(5), 595–610.