

RESEARCH REGARDING THE EVOLUTION OF AGRIFOODSTUFF CERTIFICATION IN EUROPE

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RESEARCH ARTICLE (REVIEW ARTICLE)

Abstract

Agrifoodstuff provides the fundamental demands for human metabolism. They represent the oldest findings known worldwide as a human activity, from the first variants – integral foods like fruits and seeds to the most modern molecular cuisine developed nowadays. They are consumed not just for their benefits from a nutritional point of view but also for their properties, linked with psychological impact, contributing to strengthening society and ethnical groups as an embedded factor.

The local communities developed their approaches to foodstuff for centuries; in this way, thousands of different local recipes are characterized by particular properties. This is the main aspect that allows us to conclude that local foodstuff represented an EMBEDDED food system in Europe. Their production, distribution, certification, and consumption are under special national and European regulations that provide food safety, intellectual property rights, sustainable development, and protection of local heritage, even from an ethical point of view.

Keywords: certified agrifoodstuff; DOP; PGI; certification; time evolution.

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INTRODUCTION

Most of the farmers who are players in grape and wine production are looking for certification in order to protect their work, products, and even the local community.

This aspect was noticed by the European Union Commission very early, and this way, regulations have been laid down since 1970 (Regulation (E.E.C.) No. 1698/70). The regulation was updated several times, and finally, it was a very effective instrument that provided safety and high-quality products and was linked to geographical areas' assets.

The most important regulations are related to P.D.O. (Protected Designation of Origin) and P.G.I. (Protected Geographical Indication).

Many producers and consumers need to get used to using the brands that distinguish between P.D.O. (Protected Designation of Origin) and P.G.I. (Protected Geographical Indication) products yet. Both are considered quality labels issued by the European Union and are based on the proposal of the Minister of Agriculture of each European country, in conjunction with the availability of interested producers to undergo constant control from a third-party certification entity. Actually, a small fraction of the producers use the protection that derives from those instruments – 1580 certified products.

The most interesting aspect is the evolution of the certification over time in all European countries. Our research raised some questions and led to some conclusions but also raised concerns about how the countries approach the certification procedure of foodstuff.



Figure 1. P.D.O. (Protected Designation of Origin) and P.G.I. (Protected Geographical Indication) logos

(https://agriculture.ec.europa.eu/farming/geographical-indications-and-quality-schemes/geographical-indications-and-quality-schemes-explained_ro#reglement%C4%83ri-privind-sistemele-de-calitate)

MATERIAL AND METHOD

The research was conducted by database interrogation; therefore, eAmbrosia, the EU geographical indications register database, was used.

The interrogation of the database was done in 2023 and finalized on 05.11.2023. The results cover the entire period from the beginning of the foodstuff certification until the present, practically from 1991, when the process began.

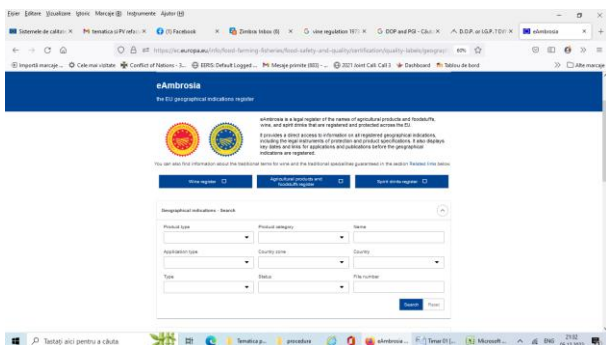


Figure 2. eAmbrosia database interface (<https://ec.europa.eu/info/food-farming-fisheries/food-safety-and-quality/certification/quality-labels/geographical-indications-register/>)

There were assessed the following key parameters like:

1. Number of certified products,
2. Kind of certification (P.D.O. and P.G.I.),

3. Type of certification (Applied, Canceled, and Registered),
4. Date of certification.

The results were shown in graphical mode but also as data in tables.

The main relevance of the research methodology is related to the evolution of the certification of foodstuff at the European level, referring to the studied parameters, and thus, the country's approach is emphasized individually.

RESULTS AND DISCUSSIONS

The research showed very interesting aspects. The first results are related to the total number of certified products. In Table 1, some significant differences are presented. Despite the fact that there are countries with huge potential, the certified products are in a modest number or even extremely small number – the case of Malta and Estonia.

Table 1

Total number of certified foodstuff in Europe

Country	Total number	Percentage, %
Austria	18	1.1392
Belgium	20	1.2658
Bulgaria	6	0.3797
Croatia	51	3.2278
Cyprus	14	0.8861
Czech Republic	30	1.8987
Denmark	8	0.5063
Estonia	1	0.0633
Finland	11	0.6962
France	279	17.6582
Germany	102	6.4557
Greece	123	7.7848
Hungary	33	2.0886
Ireland	13	0.8228
Italy	328	20.7595
Latvia	5	0.3165
Lituania	8	0.5063
Luxembourg	4	0.2532
Malta	1	0.3425
Netherlands	12	0.7595
Poland	37	2.3418
Portugal	158	10.0000
Romania	14	0.8861
Slovakia	16	1.0127
Slovenia	24	1.5190
Spain	238	15.0633
Sweden	26	1.6456
Total	1580	100
STDEV	89.724	5.67

The data in this table show no correlation among the size of the countries, the number of inhabitants and food processing plants, and the number of certified foodstuffs. Thus, Italy, Spain,

and France from the large countries group, and Portugal and Greece have comparable numbers (the first group has double the number of certified foodstuffs), but the sizes of the countries

are significantly different; at the same time, Germany which is one of the largest countries has a comparable number with some smaller countries. The areas of the countries provide no other interference as well; Malta and Sweden have shown that tourist areas are not a condition or favorable advantage for foodstuff certification.

At the same time, countries like Romania, Bulgaria, and Hungary have very different numbers despite their comparable size, location

in the most favorable position for foodstuff production, and relevant and delicious cuisine.

Countries with relevant tradition in cuisine have the highest rates after all.

Therefore, the highest share was recorded in the case of Italy with 328 certified foodstuffs/20.7595%, while the lowest share was recorded for Estonia and Malta, even though Malta has excellent conditions for both food production due to many influences from many cuisines and a good market for tourists.

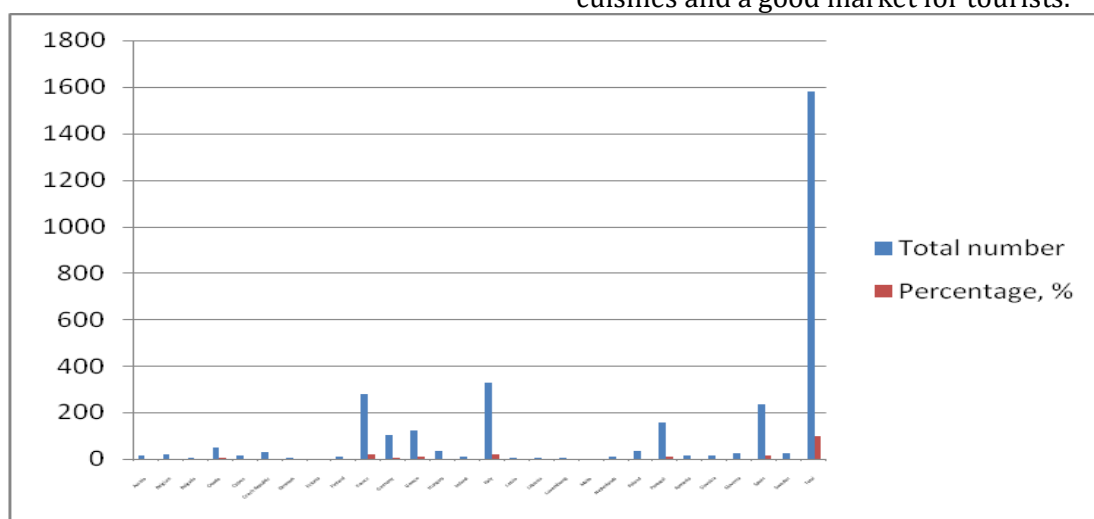


Figure 3. Total number of certified foodstuff in Europe by countries

Table 2

Total number of certified foodstuff in Europe by status of certification

Country	Total	Applied	Registered	Published	Rejected	Percentage/Rejected	Percentage/Applied	Percentage/Registered	Percentage/Published
Austria	18	0	17	1	0	0	0	1.075949	0.0632911
Belgium	20	3	16	1	0	0	0.189873	1.012658	0.0632911
Bulgaria	6	0	5	1	0	0	0	0.316456	0.0632911
Croatia	51	3	46	2	0	0	0.189873	2.911392	0.1265823
Cyprus	14	3	11	0	0	0	0.189873	0.696203	0
Czech Republic	30	0	30	0	0	0	0	1.898734	0
Denmark	8	0	8	0	0	0	0	0.506329	0
Estonia	1	0	1	0	0	0	0	0.063291	0
Finland	11	2	9	0	0	0	0.126582	0.56962	0
France	279	4	260	1	3	0.189873	0.253165	16.4557	0.0632911
Germany	102	5	97	0	0	0	0.316456	6.139241	0
Greece	123	5	115	3	0	0	0.316456	7.278481	0.1898734
Hungary	33	2	31	0	0	0	0.126582	1.962025	0
Ireland	13	3	10	0	0	0	0.189873	0.632911	0
Italy	328	4	322	2	0	0	0.253165	20.37975	0.1265823
Latvia	5	1	4	0	0	0	0.063291	0.253165	0
Lithuania	8	0	8	0	0	0	0	0.506329	0
Luxembourg	4	0	2	0	0	0	0	0.126582	0
Malta	1	1	0	0	0	0	0.063291	0	0
Netherlands	12	0	11	1	0	0	0	0.696203	0.0632911
Poland	37	1	35	1	0	0	0.063291	2.21519	0.0632911
Portugal	158	8	148	2	0	0	0.506329	9.367089	0.1265823
Romania	14	2	12	0	0	0	0.126582	0.759494	0
Slovakia	16	1	15	0	0	0	0.063291	0.949367	0
Slovenia	24	0	24	0	0	0	0	1.518987	0
Spain	238	23	211	4	0	0	1.455696	13.35443	0.2531646
Sweden	26	7	18	1	0	0	0.443038	1.139241	0.0632911
Total	1580	78	1466	20	3	0.189873	4.936709	92.78481	1.2658228
STDEV	89.72	4.602	85.11477	1.059484	0.57735	0.036541	0.291273	5.387011	0.067056

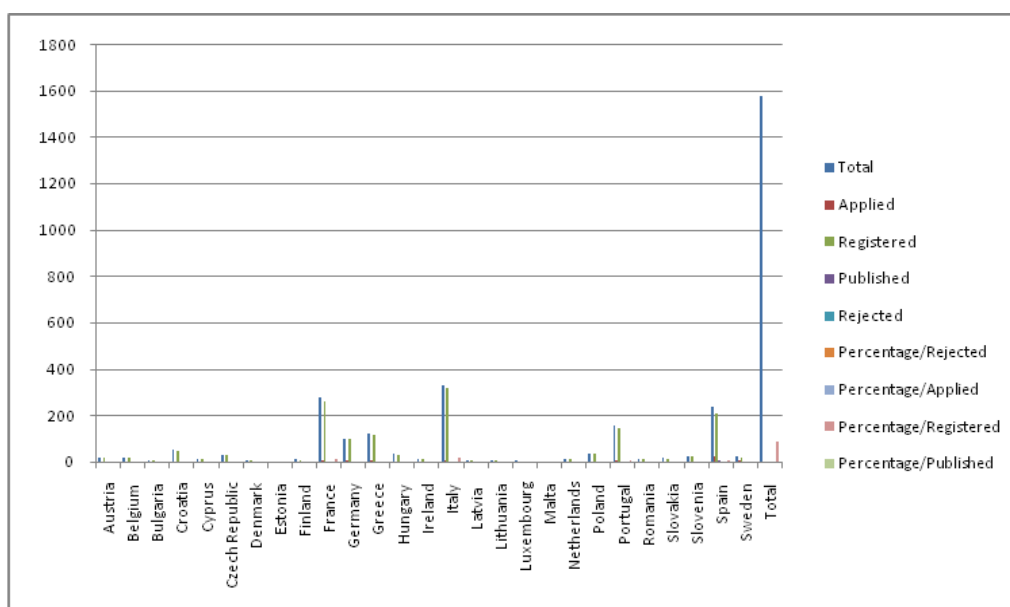


Figure 4. Total number of certified foodstuff in Europe by status of certification

The data in Table 2 show some issues related to certification. Although the final phase is taking place at a European level, and it is expected that no procedural errors will exist, there are a few certified products that are rejected and cases in the courts for canceling the certification results after years of going into force.

Due to the fact that the rejected certified products are recorded only in France, it is possible that this is the exception that enforces the regulation or that there are errors related to the certification procedure at the national level.

Countries are submitting a small number of products to certification; this is a very concerning signal regarding the producers' willingness, the support they have from the national regulation bodies, and the awareness of the benefits related to certification.

While Italy, Spain, and France have been pushing hard to certify products from the beginning, it seems that countries are not very interested in continuing the certification procedure, although most submitted applications have a 100% certification rate.

Table 3

Total number of certified wine assortments in Europe by type of certification					
Country	Total	DOP	PGI	Percentage DOP, %	Percentage PGI, %
Austria	18	11	7	61.11111	38.88889
Belgium	20	4	16	20	80
Bulgaria	6	4	2	66.66667	33.33333
Croatia	51	24	27	47.05882	52.94118
Cyprus	14	2	12	14.28571	85.71429
Czech Republic	30	6	24	20	80
Denmark	8	0	8	0	100
Estonia	1	0	1	0	100
Finland	11	5	6	45.45455	54.54545
France	279	112	167	40.14337	59.85663
Germany	102	12	90	11.76471	88.23529
Greece	123	82	41	66.66667	33.33333
Hungary	33	9	24	27.27273	72.72727
Ireland	13	5	8	38.46154	61.53846
Italy	328	175	153	53.35366	46.64634
Latvia	5	1	4	20	80
Lithuania	8	1	7	12.5	87.5
Luxembourg	4	2	2	50	50
Malta	1	1	0	0	0
Netherlands	12	6	6	50	50
Poland	37	10	26	27.02703	70.27027
Portugal	158	73	85	46.20253	53.79747
Romania	14	1	13	7.142857	92.85714
Slovakia	16	3	13	18.75	81.25
Slovenia	24	11	13	45.83333	54.16667
Spain	238	118	120	49.57983	50.42017
Sweden	26	14	12	53.84615	46.15385
Total	1580	692	887	893.12	1704.2
SDTEV	89.72838	45.11707	47.02512	21.00078	23.56258

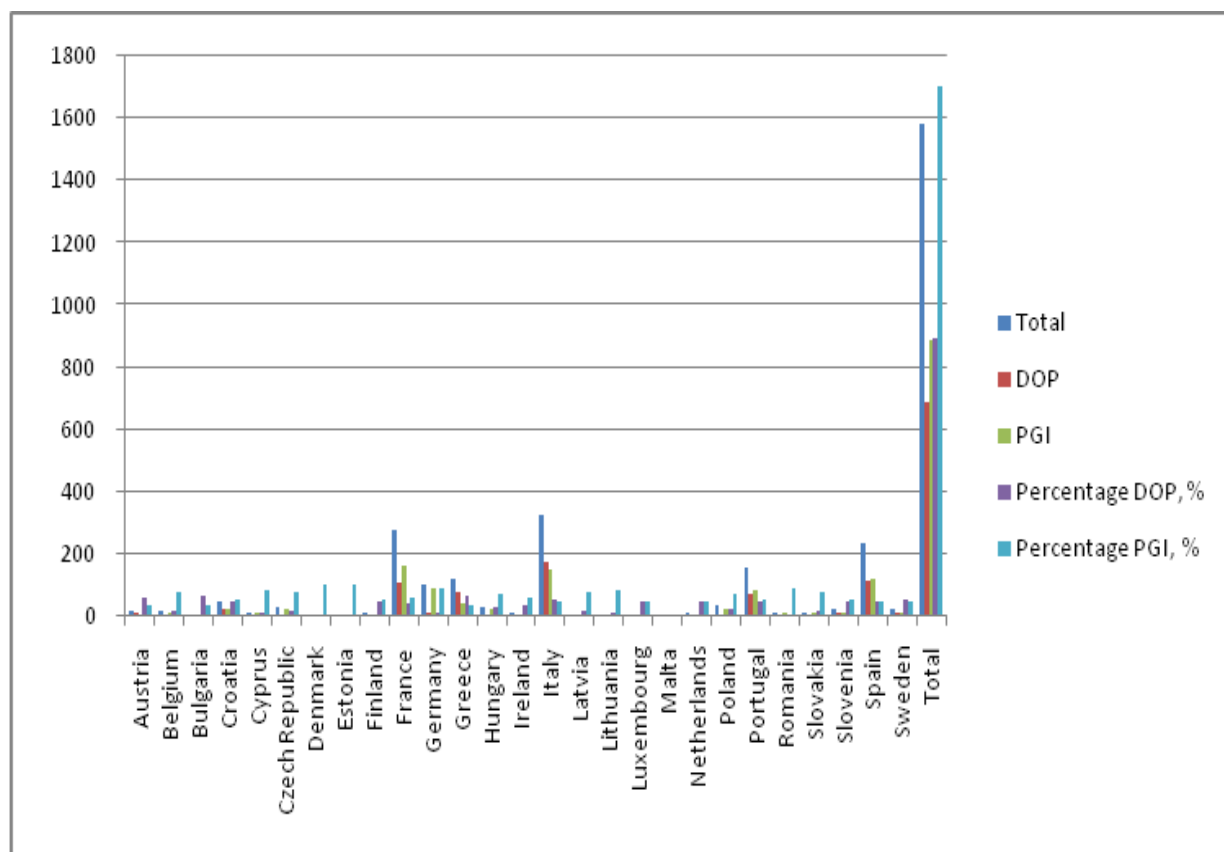


Figure 5. Total number of certified wine assortments in Europe by type of certification

Table 3 shows one concerning aspect. The P.G.I. certified products are in majority numbers because they provide better protection of the trademark, sustainable development, and strong local identity. This is partially explained by the advantages of P.G.I. products recently known on the certification procedure awareness as better choices. This is indeed a real reason, but the producers that already have

a P.D.O. can obtain a higher P.G.I. certification; at least some of them with all the benefits and the important P.D.O. numbers are promising for the future.

The last observation is that there are no campaigns in the countries to keep the producers aware and updated with the certification procedure and benefits of a higher certification.

Table 4

Total number of certified foodstuff in Europe by year of certification

Country	Total	Year																							Published	Pending													
		1991	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017			2018	2019	2020	2021	2022	2023	publication	registration					
Austria	18		4	7						1				1							1	1				1			1	1	1								
Belgium	20		3							1						1						2					1			1	3	1							
Bulgaria	6																			1											2	1							
Croatia	51	1																				8	7	3	2	4	4	4	6	7		2	3						
Cyprus	14												1								1																		
Czech	30										3			7	7	5	3	2	1	1												1							
Denmark	8		3																		2					1							1						
Estonia	1																																1						
Finland	11			1										1	1	1	1					2									1	1		2					
France	279			5	4	8	9	7	2				9	6	1	8	7	5	14	6	4	15	11	7	13	7	3	2	5	6	2	11	1		4				
Germany	102	2	2	11	11	2	1	1	1	4					2	4	2	10	5	9	8	6	5	5		2						3	1	5					
Greece	123		5	4	8	10	1					5	2	1		1	1		2	6	3	3		1	2	2	1	2	4		2			1	2	5			
Hungary	33																																						
Ireland	13																																			3			
Italy	328	1	66	20	12	3	7	7	4	15	11	8	2	10	9	19	24	20	9	13	8	9	9	13	4	4	1	11	3	2	6	1	1	4					
Latvia	5																																				1		
Lithuania	8																																				1		
Luxembourg	4		4																																				
Malta	1																																					1	

Netherlands	12		3	1					1											2											1			1			1					
Poland	37														1	3	5	8	6																			1		1	1	
Portugal	158		62	11	3			2		3	4	7	1									2	5	1	8	4	1	1		1	1	3	5				2	8				
Romania	14																					1						2	1	1	1	1							2			
Slovakia	16														1	3						3								1	1								1			
Slovenia	24														1		5	6	3	2	2							1	1	1	1									1		
Spain	238		37		1	7	4	10	6	6	11	9	4	14	9	7	17	10	5	10	8	5	10	2	2	2	1	5		4	7					4	23					
Sweden	26			1					1													2	1				2	2	2	8						1	7					
Total	1580	4	238	65	41	23	26	22	35	39	24	7	61	56	49	88	68	50	65	44	56	64	27	19	18	37	35	34	58	6	2	21	67	3								
STDEV	89.72838		0.57735	27.65582	6.260547	4.708149	2.926887	3.150964	4.024922	1.9518	4.690416	4.147288	3.559026	1.527525	4.79755	3.312053	5.433947	7.429153	5.182564	2.764241	4.888918	3.548203	2.987275	4.432646	1.754116	1.00905	0.904534	3.018462	2.712206	1.387015	3.226379	2.828427	0	0.965307	5.578871707	0						
			0.253165	15.06329	4.113924	2.594937	1.455696	1.64557	1.64557	1.392405	2.21519	2.468354	1.518987	0.443038	3.860759	3.544304	3.101266	5.56962	4.303797	3.164557	4.113924	2.78481	3.544304	4.050633	1.708861	1.202532	1.139241	2.341772	2.21519	2.151899	3.670886	0.379747	0.126582	1.329114	4.240506329	0.189873418						

Table 4 reveals a strange application of the first come, - first served principle. Countries and producers from the first waves of countries that formed the European Union are more advanced, but also Croatia was interested in certification from the beginning; after its debut in 1991, it stayed with no activity for 24 years, which means a lack of confidence in the certification procedure or benefits. It is also shown that the certification procedure is coming in waves, possibly due to countries’ policies. There is also a strange timing that

leads us to the conclusion that the certification procedure is done by a bureaucratic administrative system at the national and European level at the political command. The candidatures are usually collected and from time to time certificates are issued. The most concerning issue is that the certification significantly slows down after a few waves. Thus, compared to 1996, the number of candidatures is around five times lower yearly.

The results are better represented graphically in pictures 6 and 7.

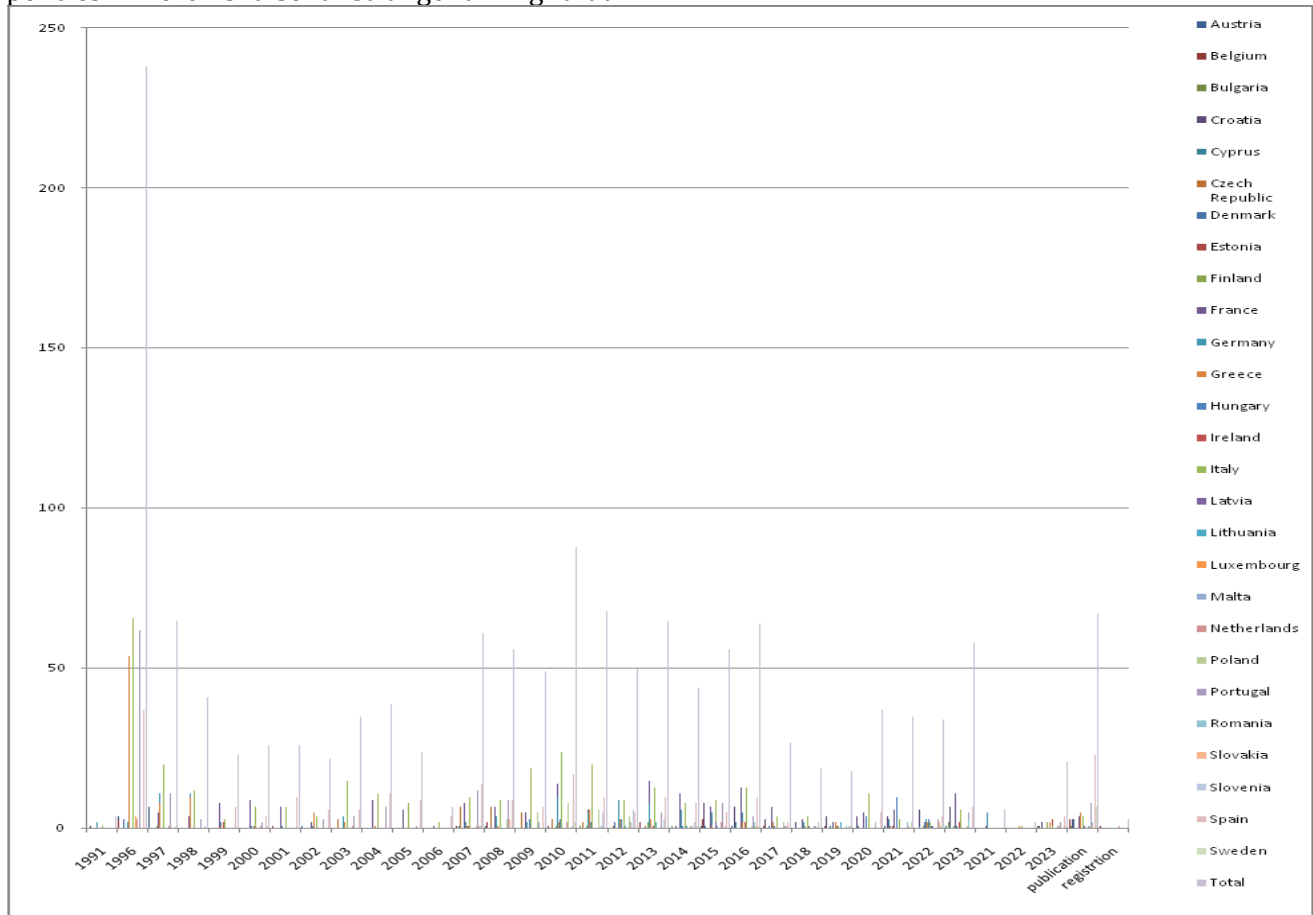


Figure 6. Total number of certified foodstuff in Europe by year of certification

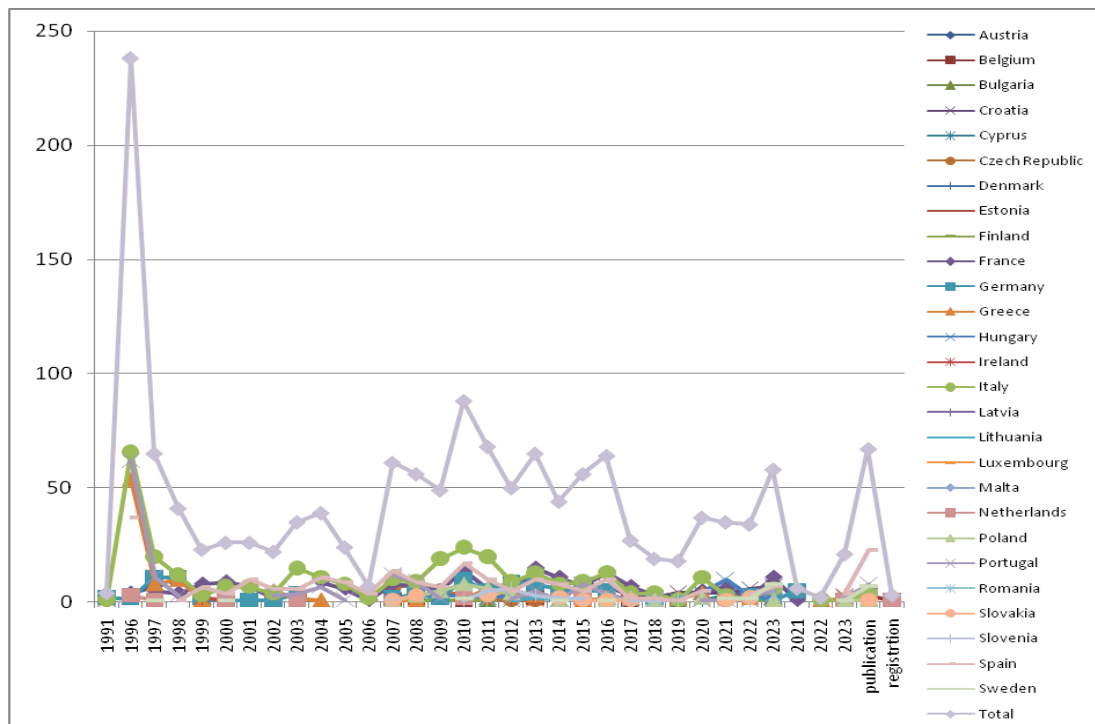


Figure 7. Total number of certified foodstuff in Europe by year of certification

CONCLUSIONS

The studies related to the certification of foodstuffs lead to some conclusions that emphasize the importance of the process and make us aware of the meaning of the dynamics process. Producers from Europe have become aware of the importance of the protection offered by certification and the free promotion of their products.

A significant slowing down was recorded in the process of the certification procedure in the whole Europe.

However, the 1990s were very intense – with several 397 candidatures regarding the certification procedure in most countries, and at a later time, the number of candidatures was a few times lower. Year 1996 was the most important one– with 238 candidatures, but after that, the process of certification became significantly slower.

In 2023, the number of applications increased slightly to 58 candidatures, compared with 18 in 2019, 37 in 2020, 35 in 2021, and 34 in 2022.

Unfortunately, the whole period starting with 1991 has almost a similar trend of candidatures. The last five years are the years with the smallest number of candidatures – 182– but, due to that, many of them are just published or published pending or not approved, and the actual number is much smaller.

The producers that already have a P.D.O. certification are not interested in extending it to

P.G.I., and the producers that have P.G.I. are not interested in P.D.O.. This is a self-sufficient attitude, a lack of perspective, and a competitive attitude.

The number of P.D.O.. certified products is slightly lower than P.G.I. certified products; the difference is about 12%.

Certification errors occur, but exceptions exist (present just in one country - France).

The promotion of the certification must become a national policy and should be done through media campaigns, awareness events, and cross-border projects.

The member countries should also subsidize the certification procedures to increase the high-quality product share on the market. Due to that, this kind of foodstuff is sustainable and deeply embedded in territories.

There are countries with a 100% ratio of successful submissions related to the research topics. However, there are false results due to the very small number of products involved (1 or a few), even if the countries have high potential and the life standards are very high.

The recommendations that can be proposed after the present study are related to the research on the reasons behind the slowing process of the certification procedure, an intense campaign for increasing the awareness of the importance of certification by emphasizing the vast market that is available.

It is also suggested the emphasis of the huge promotion capacity due to presence of the certified products in the European Union

websites and databases and finally the increasing awareness of the producers and local communities about the importance of certification from sustainability and cultural identity point of view.

Moreover, the certification of the foodstuff can lead to amiable settlements among actors to strengthen the communities. Another aspect is related to the large spread of some foodstuffs that are shared by many communities and can increase the cross-border and cross areas of the European regions..

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