



Città di Lecce



INVESTING IN OUR FUTURE

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Project Title

**Towards a Common Quality Control and food chain
traceability system for the Greek – Italian primary
sector of activity**



Agroquality

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Autore:	Soges for Municipality of Lecce (P2)
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INTRODUCTION

This research comes as part of the activities of the project "*Agroquality - Towards a Common Quality Control and Food Chain Traceability System for the Greek - Italian Primary Sector of Activity*" funded by the European Territorial Cooperation Greece/Italy 2007/2013. The project is implemented by the Technological Education Institute of Epirus (TEI), the parent company, and the Municipality of Lecce, the Italian side.

The main objective of the project is to **develop an integrated management model to support the cultivation of the Olive**. To achieve this overall objective, the project intends to achieve the following specific objectives: to monitor the conditions of cultivation, develop and disseminate among producers and actors of the sector, a roadmap for a high quality and efficient cultivation of olives, to create a system in order to demonstrate the quality of products through quantitative measuring instruments, to help strengthen the market position of quality production.

The research "*Market analysis of the countries covered by the project*" represents an accurate study on the recent dynamics of the Italian oil-olive sector, and especially Puglia's and Salento's oil-olive sector, that more and more has to compete with a growing intensification of competitive pressure, exercised mostly of our European competitors, but also from non-European countries on the southern shore of the Mediterranean basin.

Olive growing has several significant peculiarities:

- ⇒ First of all, it is a perennial Mediterranean cultivation and for the firms this implies some difficulties adapting to the economic trend. It takes between 5 and 7 years for a planting to become fully productive;
- ⇒ Production varies greatly according to the biological alternation of the olive tree (good harvest followed by a poor one), the farming methods (with or without irrigation), the varieties and the pedoclimatic conditions;
- ⇒ There are few alternatives to olive trees in marginal regions with poor productivity (mountainous or hilly areas): they can grow on barren, stony lands which are ill suited to growing other cultivations. Consequently, they play an important environmental role (soil fixation, biodiversity, landscape);

- ⇒ The peak in activity occurs in winter, therefore this cultivation is compatible with other agricultural and non-agricultural activities. With traditional growing methods, labour represents over half of production costs, and therefore olive growing plays an important role in society;
- ⇒ The production structure is very fragmented (small firms);
- ⇒ In Mediterranean regions, olive growing is an important element of the heritage and of socio-cultural life.

In the EU, olive trees are grown in Spain, Italy, Greece, Portugal, France, Cyprus, Slovenia and Malta.

With this background the present research work intends to concentrate the focus and select all those relevant elements of information relating to the market's olive oil. The objective of the research, in fact, is to evaluate the trend of trade flows and the evolution of the competitive capacity over the last two decades of the main Italian region for the production of olive oil, Puglia, in relation to the other Italian regions and the rest of the world.

The aim of this work is to understand the contribution of this region to the national trade performance on foreign markets. The information used in the research are the data collected and processed by the COI, ISTAT and ISMEA.

The interpretation of the results obtained will provide some directions of the possible evolutionary paths of the role of Puglia and Salento, the reference area for the Agroquality Project on the national and global olive oil market.

The first chapter studies the situation of production, consumption, exports and imports on the world wide olive oil sector especially in the last two decades.

The second chapter analyzes the national olive oil sector, the characteristics of the agricultural structure in different Italian regions, the main varieties produced, the flow of import and export of three years 2009/2012 and the phase of the first and second transformation of the olive oil.

The third chapter focuses on the analysis of the socio-economic profile of the consumer of olive oil in Italy, the geographical distribution of purchases, the formality to purchase and sales channels, as well as the Italian consumer expectations.

The fourth chapter is an industry analysis that explores the dynamics of olive oil's

consumption and demand for the families in Italy and Puglia relating the years 2011/2012

The fifth chapter studies and points out the sector of certifications in Italy.

The sixth chapter is a detailed and updated analysis of the rules on mandatory and voluntary labeling of olive oils in Italy.

The last chapter is a view of the olive oil reality of the reference area of the project and the main Drivers of Change in the industry.

1. The world situation of the olive oil sector

1.1 The historical evolution of world olive growing sector

In the first half of the '70s, according to data of the IOC - International Oleic Council, making an average for the years 1970/71-1975/76, the world production of olive oil amounted to 1,461,000 tons, concentrated almost entirely in the countries of the Mediterranean basin, including Portugal. Italy, with 448,400 tons, occupied the first place among manufacturers, followed by Spain, with 414,300 tons, and by Greece with 183,300 tons.

To a considerable distance from these three leader countries we could find Tunisia, Turkey, Portugal and Morocco.

The production in countries outside of the geographic reality of the Mediterranean represented only 1, 3% of the world supply, that means 18,500 tons. In this context the only country that can assume some importance is Argentina, with 0.8% of world production, that means 11,400 tons.

The same producer countries of the Mediterranean basin were at the same time also the main consumers of olive oil, with over **95% of world consumption**.

The process of increasing globalization of markets that **since the 90s** characterizes the sector of food products also affects the olive oil sector, hit by a gradual but significant increase of the population worldwide, by the market entry of new countries , both as producers and as consumers, and by an increase in the consumption of olive oil in countries other than the Mediterranean ones where, as is known, traditionally production and consumption are focused.

At the base of this trend there has been, in addition to the sharp increase in demand from markets other than the traditional ones, the process of progressive liberalization of trade; to push in this direction have also contributed the income increase that has been registered in recent decades in developed countries, but also in many developing countries, changes in food consumption patterns in favor of products of higher quality and health, and greater international spread of the Mediterranean diet, in which the 'Olive oil plays a position of primary importance.

1.2 World production

Over the last two decades have been registered, at first, a **gradual increase in world production**, an increase which has also seen a growing participation from not traditionally manufacturers countries. Secondly, there has been a **significant increase in consumption** also in countries that are not traditional consumers of olive oil. These trends have resulted in an intensification of trades in the international market, with a growing internationalization of the market for a product that continues to be strongly linked in terms of production, to the countries of the Mediterranean basin¹.

Over the past two decades, the world production of olive oil; despite the strong character of annual variability due both to the weather conditions and to the productive alternation, shows a very pronounced upward trend.

This increase in production worldwide is attributable mainly to the increase in yields due to huge economic and technical efforts put in place for the renovation and modernization of existing plants, but also to the development of new plants, most of them with an intensive nature.

According to the IOC estimates, the olive-growing areas are in constant and rapid growth, and in **2012** reached 10,000,000 acres, against 9,100,000 in 2000. This is a trend, which will continue also after 2012. For the year 2011/2012, it is estimated a world production of about 3,100,000 tons, an increase compared to the previous year of around 3%.

About three-quarters of the world production are concentrated in the European Union, which records a productive level of approximately 2,180,000 tons, slightly lower than the

¹ Cfr. R. M. Grant, *L'analisi strategica per le decisioni aziendali*, Il Mulino Editore, 2006, pp. 119-146.

year 2010/2011. At EU level, it should be noted that Spain covers a share of 62% of the total, with a production of about 1.35 trillion tons.

As for the other countries of the Mediterranean, it is noted among the most important Tunisia, that according to estimation data is expected to reach levels up 50% compared to the previous production year; In addition, there are the good performance of Turkey, which should get an increase of 13% compared to the last year, and Syria with an increase of about 11%.

Among other Mediterranean producers it is important to highlight the fall in production in Morocco, while in Algeria, has been registered a production increase of 9%, more than the previous year.

Finally, we must note among the new areas of production, the gradual growth of Australia, which reaches a level of about 19,000 tons, equivalent to more than a third of its domestic needs and with an upward trend compared to the previous campaign.

Produzione mondiale di olio di oliva per paese

Paesi	2006/07	2007/08	2008/09	2009/10	2010/11*	2011/2012**	Var. 11-12/10-11	Quota camp. 2011-12
(000 ton)								
Algeria	21,5	24,0	61,5	26,5	50,0	54,5	9,00%	1,76%
Argentina	15,0	27,0	23,0	17,0	15,0	15,0	0,00%	0,48%
Australia	9,0	12,0	15,0	18,0	18,0	19,0	5,56%	0,61%
Unione Europea	2031,0	2118,5	1939,0	2224,5	2205,0	2180,5	-1,11%	70,38%
Cile	5,0	6,5	8,5	12,0	16,0	22,0	37,50%	0,71%
Israele	8,5	4,0	9,0	3,5	9,5	7,5	-21,05%	0,24%
Giordania	37,0	21,5	18,5	17,0	21,0	22,0	4,76%	0,71%
Libano	6,0	10,5	12,0	9,0	14,0	18,0	28,57%	0,58%
Libia	11,0	13,0	15,0	15,0	15,0	15,0	0,00%	0,48%
Marocco	75,0	85,0	85,0	140,0	130,0	120,0	-7,69%	3,87%
Palestina	31,5	8,0	20,0	5,5	25,0	12,0	-52,00%	0,39%
Siria	154,0	100,0	130,0	150,0	180,0	200,0	11,11%	6,46%
Tunisia	160,0	170,0	160,0	150,0	120,0	180,0	50,00%	5,81%
Turchia	165,0	72,0	130,0	147,0	160,0	180,0	12,50%	5,81%
Egitto	10,5	7,5	5,0	3,0	3,0	10,0	233,33%	0,32%
Iran	4,0	4,5	4,5	4,0	2,5	6,0	140,00%	0,19%
Altri paesi	23,0	29,0	33,6	31,5	34,5	36,5	5,80%	1,18%
Mondo	2767,0	2713,0	2669,6	2973,5	3018,5	3098,0	2,63%	100,00%

* Dati provvisori

** Dati previsionali

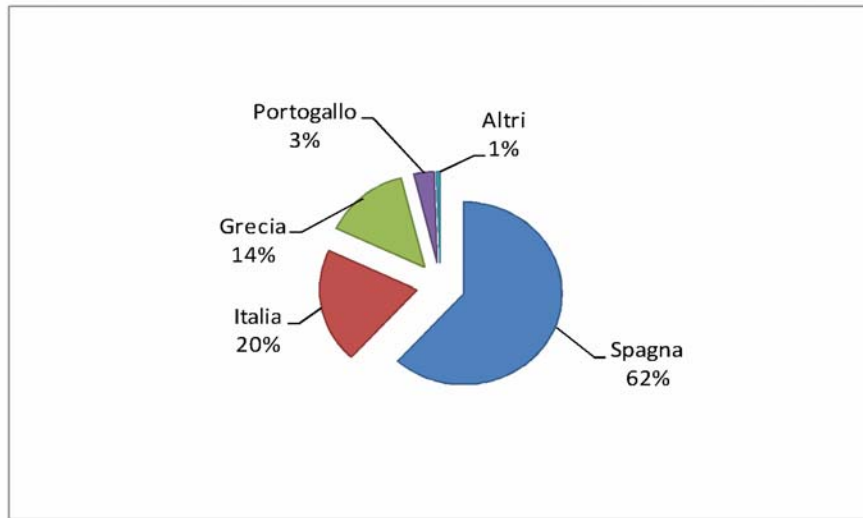
Fonte: ns. elaborazioni su dati COI e Istat

Tab. 1: World production of olive oil by country

Italy, according to estimates, has risen to a level of 20% of European Community production, recording a production level broadly in line with that performed in the previous 2010/11 campaign, although it was characterized by a heavy drought. The forecasts for the campaign

2012/13 indicate a slight fall in production at the national level, even if they take into account the different local situations.

Composizione % della produzione europea (campagna 2011/12)



Fonte: ns. elaborazioni su dati COI

Pie chart 1: Percentage composition of the European production (campaign 2011/2012)

The third Community producer country, Greece, is expected, potentially, a production increase of 3% compared to last year, reaching about 310,000 tons, but given the historical, economic and political moment that is experiencing, and considering that in recent years has started a project based on the production of table olives, neglecting the production of oil, these estimates may differ from reality.

Produzione comunitaria di olio di oliva per paese

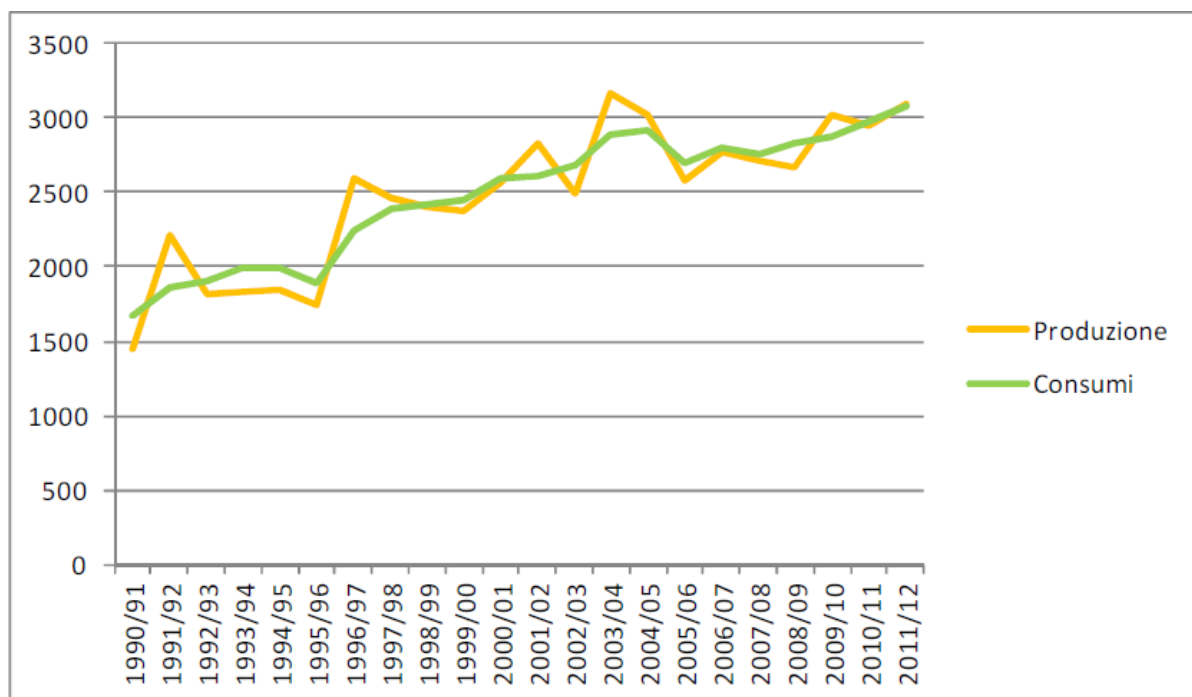
Paesi	2006/07	2007/08	2008/09*	2009/10	2010/11*	2011/2012**	Var. 10-11/09-10	Quota camp. 2010-11
(,000 ton)								
Spagna	1111,4	1236,1	1030	1401,5	1389,6	1347,4	-3,04%	61,79%
Italia	490	510	540	430	440	440	0,00%	20,18%
Grecia	370	327,2	305	320	300	310	3,33%	14,22%
Portogallo	47,50	36,30	53,4	62,5	62,9	71,8	14,15%	3,29%
Altri	11,90	9,10	10,30	10,60	12,80	11,50	-10,16%	0,53%
UE	2.030,80	2.118,70	1.938,70	2.224,60	2.205,30	2.180,70	-1,12%	100,00%

* Dati provvisori

** Dati previsionali

Fonte: ns. elaborazioni su dati COI e Istat

Tab. 2: EU production of olive oil by country



Bar graph 1: World production and consumption trend (data in.000 ton)

The comparison between the trends of production and consumption confirms the upward trend of both variables, giving an increased attention to the need to better structure the strategic choices of the actors in the chain, in order to guarantee a correct positioning of the different productions that the olive oil sector is able to offer to the consumer, who has become more and more demanding.

It should be considered, however, that the increase of land under oil production did not feature in the same way in all producing countries. In Italy, for example, this has remained essentially unchanged since the early 90's, ranging from a minimum of 1,109,000 hectares in 1996/97 to a maximum of 1,145,900 hectares in 2006/07. In contrast, in Spain, it has increased from 1,945,000 hectares in 1991 to 2,315,000 in 2000. Another factor that has played an important role in this direction was the endorsement of the olive-growing sector of the European Union countries by the EU agricultural policy (CAP).

1.3 World consumption

In recent decades, according to the estimates of the IOC - International Oleic Council, there has been **a substantial increase in consumption** that has affected both traditional consumers countries and the several not traditionally consumers countries. According to data reported by the IOC since the early 90's, the world consumption of olive oil has

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increased from 1,881,400 tons per year (average 1990/91-1994/95), to 2,326,300 tons per year in second half of the 90s (average 1995/96-2000/01) and to 2,781,300 tons per year (average 2001/02-2006/07).

In other words, during the whole period considered, the global consumption of olive oil has recorded an increase of 54.4%.

Consumptions increased in all traditional consumers countries of the Mediterranean area: in Italy they increased of 26.6%, in Spain of 45.4%, in France of 253.1%, in Greece of 35.5%, in Turkey of 4.5%, in Algeria of 87, 7%, in Morocco 31.2% and of 67.7% in Syria. Even more significant is the increase of 81, 8%, recorded from not traditionally consumers countries, although with significant differences between one country and another. In particular, the increase was very substantial in the **United States**.

Consumi mondiali di olio di oliva per paese

Paesi	2006/07	2007/08	2008/09	2009/10	2010/11*	2011/12**	Var. 11-12/10-11	Quota camp. 2011-12
(,000 ton)								
Algeria	23,00	25,00	55,00	33,50	45,00	57,00	26,67%	1,85%
Arabia Saudita	6,00	7,50	6,50	6,50	6,50	6,50	0,00%	0,21%
Argentina	3,00	7,00	5,00	5,00	5,00	5,00	0,00%	0,16%
Australia	47,50	35,00	37,00	44,00	44,00	45,00	2,27%	1,46%
Brasile	34,50	40,00	42,00	50,50	61,50	62,00	0,81%	2,01%
Canada	32,50	29,00	30,00	37,00	40,00	40,00	0,00%	1,30%
Unione Europea	1.905,00	1.866,00	1.856,00	1.846,00	1.856,00	1.889,50	1,80%	61,38%
Cile	4,50	5,50	7,50	9,00	11,00	13,00	18,18%	0,42%
Croazia	5,00	5,00	7,00	6,50	7,00	7,00	0,00%	0,23%
Egitto	8,00	7,00	5,00	7,00	6,00	8,00	33,33%	0,26%
Giappone	30,50	29,00	30,00	40,50	35,50	35,00	-1,41%	1,14%
Giordania	21,00	23,50	23,50	2,00	20,00	21,00	5,00%	0,68%
Iran	5,50	7,50	7,00	6,50	5,00	10,00	100,00%	0,32%
Israele	15,00	16,00	17,00	16,50	16,00	15,00	-6,25%	0,49%
Libano	5,00	9,00	20,00	9,50	10,00	12,00	20,00%	0,39%
Libia	11,00	13,00	15,00	15,00	15,00	15,00	0,00%	0,49%
Marocco	65,00	65,00	70,00	90,00	90,00	85,00	-5,56%	2,76%
Messico	10,00	10,00	9,50	9,00	10,00	10,00	0,00%	0,32%
Norvegia	3,50	3,50	3,00	3,50	3,00	3,00	0,00%	0,10%
Palestina	15,00	13,00	14,00	8,00	16,00	13,00	-18,75%	0,42%
Russia	10,50	17,00	15,00	22,00	22,00	23,00	4,55%	0,75%
Siria	110,00	80,00	110,00	120,50	128,50	150,50	17,12%	4,89%
Stati Uniti	248,00	246,00	256,00	258,00	275,00	277,00	0,73%	9,00%
Svizzera	12,00	12,50	6,00	13,00	13,00	13,00	0,00%	0,42%
Taiwan	3,50	4,00	3,00	4,00	5,00	5,00	0,00%	0,16%
Tunisia	45,00	50,00	21,00	30,00	30,00	40,00	33,33%	1,30%
Turchia	80,00	85,00	108,00	110,00	115,00	125,00	8,70%	4,06%
Altri paesi	39,00	39,00	33,00	48,00	48,00	48,00	0,00%	1,56%
Mondo	2.798,50	2.754,50	2.831,50	2.902,00	2.984,00	3.078,50	3,17%	100,00%

* Dati provvisori

** Dati previsionali

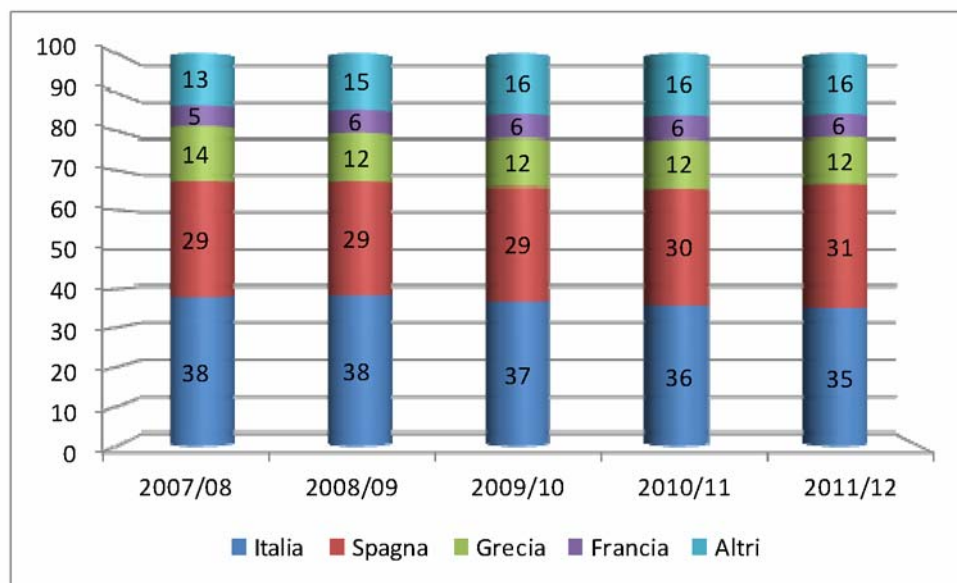
Fonte: ns. elaborazioni su dati COI

Tab. 3: World consumption of olive oil by country

The most important areas of consumption are confirmed, the European Union and the United States, respectively, with a share of 61% and 9% of the total. For the European Union an increase of 2% is registered, compared to the previous campaign, while for the United States the trend is substantially stable.

In particular, the European Union stands at a level of consumption equal to about 1,890,000 tons, being crucial for the growth of world demand.

Ripartizione % del consumo di olio di oliva nella Ue



Fonte: ns. elaborazioni su dati COI

Bar graph 2: Percentage breakdown of the olive oil consumption in the EU

An indicator of the consumption dynamics of olive oil was formed by **the penetration rate of olive oil** in household consumption, measured by the percentage of households consuming the product. The data reported here were collected by AC Nielsen. They show that in the U.S. the penetration rate has risen from 6.7% in 1986 to 32.1% in 2001. In Canada, the data show an increase in the penetration rate from 33.4% in 1997 to 38.5% in 2000. In France, it has gone from 33.5% in 1991 to 64.5% in 2001. Finally, in the United Kingdom, where the consumption of olive oil was virtually unknown, it is found, in the year 2000, a rate of 40%. It should however be noted that the general consumption framework reflects complex trends, and even, for some aspects, different ones. In fact, in markets where consumption originated much earlier in time, have affected mainly the strong currents of migratory populations from producing countries, which have brought with them habits of the places of

origin, and more recently to act in this direction, are especially the considerations on health giving qualities of the product and the growing interest in the **Mediterranean diet** in the world.

Finally, a significant aspect that characterizes the question is that, in the market of the United States and on that of other countries not traditionally consumers, the growth rate is accompanied by **an increasing attention to the quality of the product**, focusing mainly on high quality and high price segments.

In the United States, for example, from 2002/03, the figure of imports indicates a weight of extra virgin olive oils of 56%, a percentage, this one, indicating a progressive increase in the market share of the oils of higher quality. This indicates that the markets of the not traditionally consumers countries have a significant potential for a greater appreciation in the international market of oils of the highest quality; a potential that can be gradually transformed into real demand through appropriate marketing strategies put in place by exporting countries, primarily from Italy, which is a leader on the main import markets such as United States, Germany and Japan.

1.4 Exports and imports

The production dynamics, that see a strong geographical concentration in the countries of the Mediterranean basin, and the consumption dynamics, which follow, however, global dynamics, led to **the intensification of international trade and a greater market globalization**.

These trends are confirmed by the data on exports and imports for single countries and for the European Union, published by the IOC.

It should be noted that the statistics of the IOC relating to imports and exports of olive oil do not consider, with regard to the European Union countries, exchanges with the EU. Therefore, less of the latter, exports represents, on average, 20.5% of world production in the period between 2001/02 and 2006/07, compared with 18.4% in the period between 1990/91 and 1994/95. This ratio rises to 23.8% if we consider the data (provisional) on exports and the olive oil production in the last two campaigns (2010/11 and 2011/12).

At the same time, imports represented, respectively, for the two periods considered, 21.2% and 19.6% of world production and 25.4% in the last two years.

The overall framework shows an increase of international trade flows of exports and imports and the role of absolute leadership exercised on the world market by countries such as Italy, Spain and Tunisia for exports, and the United States and Italy for imports. Always with reference to imports, these countries are joined, although still in a position of relative distance, by Spain and many other non-traditional producers such as Australia, Brazil, Canada and Japan.

Qatar and China are taking a great economic importance, they are still not big consumers of olive oil, but they are willing to pay for it very high prices.

Exports

In the overall scenario of international trade, without considering the internal trade of the European Union, Italy occupies the first place in the list of exporting countries, with 181,500 tons per year, on average, in the period between 2007/08 and 2011/12, that means 30.3% of the total, followed by Tunisia with 111,600 tons, equal to 8, 6%, Spain with 106,600 tons, accounting for 17.8% of the total and, at a great distance, by Turkey with 64,900 tons, 10.8% of the total and Syria with 29,000 tons, accounting for 4.9% of the total.

However, if you also consider the direct exports to EU countries, Spain is the largest exporter with a share of 45% of the oil volume sold in the world, while Italy goes to second place with 26%.

Between the two largest producers of olive oil there are other important differences concerning, in particular, the positioning of the respective product on the international market. Spain exports are concentrated on bulk oil, while most of the product exported from Italy is made up of packaged virgin and extra virgin olive oils, with clearly superior organoleptic qualities.

In the overall scenario of commercial dynamics in the Mediterranean is, however, reported an increase in exports of olive oil of higher quality by Tunisia and Morocco, traditionally exporters of refined oils.

This framework reflects the trends that have characterized the global trade in olive oil over the past two decades. In particular, the early 90s to the early 2000s (average 2007/08-2011/12), with few exceptions, all the major countries that are traditionally producers of olive oil showed a significant increase in the volume of their exports. In particular, this trend included Italy, with an increase of 98.1%, Spain, an increase of 83, 4%, and Portugal, with an

increase of 102.3%, but also countries such as Syria, with an increase of 368.7% and Turkey, with an increase of 260.5%.

Italy, during the same period, showed an increase in imports from non-EU countries of 74.3%, in contrast to Spain, which has held virtually stable the level of its imports from the non EU countries; this is a consequence of the little protection policy applied to the Italian producers and product, the lack of information and knowledge of the product by the Italian consumer, and fraud and misrepresentation to which the Italian market is subject.

Imports

On the import side we find, first, the United States, with more than 220,000 tons, accounting for 36.9% of the total, followed by Italy, that on the third countries market imports 121,111 tons, accounting for 20.2% of the total imports.

However, considering also the volume of imports from Spain and other European Union countries, for the reasons mentioned above, Italy remains the largest importer in the world with more than 327,000 tons. Italian imports consist mostly of bulk oil and accounts for 41% of the national availability of oil. About the origin, Spain is the main supplier, while at the second place there is Tunisia, whose exports account for about a quarter of the Italian imports, confirming, thus, the growing importance of non-EU countries.

Imports reached important dimensions in many other countries that, with the United States, are the non-traditional markets. Among them, it is important noting Japan, Australia, Canada and Brazil.

Imports increase was significant in many of the countries that represents the new areas of consumption. Among them, Japan is in first place with 447.4%, followed by Canada with 132.5%, from the United States with 125.2%, from Australia with 94.5% and Brazil with the ' 89.5% and Russia with 21.3%.

2. The national division

2.1 The structure of the agricultural sector in Italy

Italy is, as we have seen, one of the most important countries in the world as regards olive oil market, because of the size of both supply and demand. The data of the IOC, relative to 2009/10 indicate a production of 636,500 tons, second only to Spain with 826,900 tons. The

figures for 2010/11 and 2011/12 indicate that the volume of production increased, respectively, 603,000 and 500,000 tons in Italy and 1,108,700 and 1,228,100 tons in Spain.

In recent years, in fact, while Spain has focused on a quantity production, the Italian producers are focusing more and more on high-quality production, and these data consider also, the great variability of the production, due to both the climate trend and the traditional "alternation" in the production. Concerning the breakdown can be observed that, on average, the Italian production of olive oil is composed, for more than half, of olive oil, for about 15% of virgin olive oil and the remaining part of lampante oil. 2

In Italy, olive farms, according to the latest data from Istat, amounted to approximately 1,200,000 units, compared to a an area of production of 1,156,118 hectares.

The ratio of the number of farms and the planted areas gives us a first, important indication: in Italy there is a structural situation of low profile, as the olive farms have a very small average size, less than one hectare at national level.

Struttura della fase agricola

Regioni	Superficie in produzione (ha)	(% su tot. naz)	Numero aziende	(% su tot. Naz)	media sup. aziendale	numero piante coltivate	(% su tot. naz)
Abruzzo	43.424	3,76%	60.776	5,1%	0,71	8.528.359	4,8%
Basilicata	29.005	2,51%	42.084	3,5%	0,69	4.251.393	2,4%
Calabria	181.607	15,71%	136.243	11,4%	1,33	26.188.921	14,6%
Campania	71.571	6,19%	112.093	9,4%	0,64	14.265.507	8,0%
Lazio	86.474	7,48%	127.865	10,7%	0,68	12.299.673	6,9%
Liguria	14.100	1,22%	25.768	2,2%	0,55	3.861.279	2,2%
Marche	9.647	0,83%	30.147	2,5%	0,32	2.185.397	1,2%
Molise	19.994	1,73%	21.581	1,8%	0,93	2.710.511	1,5%
Puglia	374.700	32,41%	267.203	22,4%	1,40	56.172.940	31,3%
Sardegna	34.493	2,98%	50.575	4,2%	0,68	4.673.010	2,6%
Sicilia	160.586	13,89%	196.352	16,4%	0,82	19.292.507	10,8%
Toscana	92.326	7,99%	77.567	6,5%	1,19	17.436.734	9,7%
Umbria	27.809	2,41%	31.170	2,6%	0,89	6.191.609	3,5%
Altre	10.061	0,87%	15.112	1,3%	0,67	1.277.001	0,7%
Italia	1.156.118	100,00%	1.194.536	100,0%	0,97	179.334.841	100,0%
Centro Nord	153.943	13,32%	307.629	25,8%	0,50	43.251.693	24,1%
Sud	1.002.175	86,68%	886.907	74,2%	1,13	136.083.148	75,9%

Fonte: ns. elaborazioni su dati Istat-Agea

Tab. 4: Structure of the agricultural phase

From the point of view of the classes of surfaces, the percentage of companies in Italy that presents a surface smaller then two acres, is approaching 70% of the total olive farms.

² Cfr. R. M. Grant, *L'analisi strategica per le decisioni aziendali*, Il Mulino Editore, 2006, pp. 81-116; R. Angelini, *Coltura e cultura. L'olivo e l'olio*, Bayer CropScience S.r.l., Milano, 2009, pp.743-747.

Classi di superficie agricola utilizzata

	da 1 a 2	da 2 a 5	da 5 a 10	da 10 a 20	da 20 a 50	da 50 a 100	100 ed oltre
Abruzzo	27,9%	43,9%	18,5%	6,5%	2,5%	0,5%	0,2%
Basilicata	24,9%	36,4%	14,2%	13,3%	7,9%	2,4%	0,9%
Calabria	41,7%	35,5%	14,0%	4,6%	2,9%	0,9%	0,4%
Campania	33,4%	39,4%	17,2%	7,4%	1,9%	0,6%	0,1%
Lazio	38,5%	34,8%	15,5%	7,1%	2,9%	0,7%	0,5%
Liguria	64,3%	29,4%	5,2%	0,6%	0,2%	0,2%	0,1%
Lombardia, Trentino	46,1%	27,8%	20,4%	2,8%	2,6%	0,1%	0,2%
Molise	19,0%	31,4%	19,7%	20,0%	8,1%	1,5%	0,3%
Puglia	42,2%	31,9%	11,8%	8,4%	4,3%	1,1%	0,4%
Sardegna	33,0%	28,5%	11,0%	13,8%	9,2%	2,9%	1,6%
Sicilia	30,8%	36,1%	19,1%	8,4%	4,1%	1,0%	0,4%
Toscana	27,6%	31,2%	17,3%	11,4%	8,1%	2,4%	2,1%
Umbria	23,4%	34,9%	22,3%	10,4%	5,6%	2,1%	1,3%
Marche	23,8%	36,6%	19,0%	10,8%	7,2%	1,6%	0,9%
Emilia Romagna	28,5%	20,7%	14,8%	23,0%	9,6%	2,2%	1,2%
Italia	34,5%	34,9%	15,7%	8,7%	4,5%	1,2%	0,6%

Fonte: ns.elaborazioni su dati Istat

Tab. 5: Classes of utilized agricultural area

The average production per hectare of olive groves, is around 30 tons, with an average production of 16 kg per tree.

The variety with greater consistency in Italy is the **Coratina**, which in Apulia occupies an area of approximately 90,000 hectares, or 8% of the national total. This one, along with two other highly spread varieties, such as the Apulian **Ogliarola Salentina** and **Cellina di Nardò**, occupies an area of 220,000 hectares, or about 19.5% of the national total, with three other varieties that are very common in Italy, that is Carolea, Frantoio and Leccino, occupying an area of 370,000 ha, accounting for 32.7% of the total.

The ten varieties most widely diffused in the country, that is, the ones mentioned above plus Ogliarola Barese, Moraiolo, Bosana and Cima di Mola, occupy an area of 475,000 hectares, or 42.0% of the total; The twenty-four major varieties in Italy, compared with those considered like that in Spain, that is, the previous ten ones more Dolce di Rossano, Ogliarola Messinese, the Ottobratica, the Sinopolese, Nocellara del Belice, the Canino, Carboncella, the Itrana, the Moresca, the Rotondella, the Taggiasca, the Tondina, the Grossa di Gerace and Nocellara of Etnea, occupy an area of 655,000 ha, accounting for 58.0% of the national total.

Other one hundred varieties have a prevalence of between 1,000 and 10,000 hectares. Many others have an interest only local, limited to a spread smaller than 1,000 acres, although some of these have become very well known for the characteristics of the fruit for direct consumption or for the quality of the oil.

This varietal composition has no equal in any other olive-growing country where environmental conditions, much more homogeneous than national ones, have limited the search for varieties with different levels of compatibility.

2.2 Imports and exports

Italy is also the first consumer country of olive oil in the world. In 2009/10, the consumption of olive oil amounted to 848,200 tons, risen, according to the IOC, to 852,400 and 810,500, respectively in 2010/11 and 2011/12.

At the same time, Italy confirms itself also as the biggest exporting country in the markets of third countries, the second after Spain, if we also consider exports within the European Union, is the largest importing country after the United States. According to the calculations of Ismea, Italian exports, by volume, were, in the three years 2009/11, on average, of 343,000 tons and, only in 2012 amounted to 323,000 tons; These last ones consisted, mainly, by virgin and extra virgin olive oil for 62%, followed by the oil refined oil for 25%, the olive pomace oil for the 11% and lampante oil at 2%.

Imports were, in the same three-year period, on average, equivalent to 511,700 tons and, only in 2012 amounted to 456,000 tons. The last ones are represented, also, mainly from extra virgin olive oil and virgin oil for 72%. To complete the framework there is the lampante olive oil with 13%, refined olive oil with 11% and the oil residue to 4%. Trade flows show that both the markets of origin of imports and destination markets of exports are extremely concentrated. The 90% of the amount imported from Italy in 2012 comes, in fact, from four countries, and of these, 41% from Spain alone followed by 25% from Tunisia, by 24% from Greece, by 4% from Turkey by 3% from Syria and by 2% from Morocco and France.

The **exports** analysis shows that sales are significantly addressed to the United States, with a total which in 2012 reached 120,000 tons, accounting for 37.2%, followed at a great distance, by Germany with 11, 8%. The remaining 50% of the exports is distributed over a very large number of countries which include, at the level of the European Union, France for 6.8%, the UK for 4.3% and the Netherlands for 1, 8%; among those outside Europe we include Japan with 5.3%, Canada with 4.6% and Australia with 3.7%.

Analyzing more in detail the exports and imports of olive oil and limiting the analysis to

virgin and extra virgin oil, it can be observed, first, that this is, in 2012, the third product in importance in the Italian agri-food trade.

The value of exports is affected substantially by the sales in the United States and Germany, which together represent half of revenues of the Italian exports of virgin and extra virgin oil.

The data also shows that, in addition to these two major countries, among the buyers of the Italian product there is a very large number of countries that have experienced high rates of growth in demand and can be considered interesting reference points for an export strategy supported by appropriate marketing strategies, aimed at enhancing the quality and image of the Italian product. Strategies that, to be effective, must take into account the increasing segmentation of demand, both between countries, and within a single country between different consumers.

Among other things, it should be noted that, especially in the U.S. market, there is a growing competitive pressure from other exporting countries, in particular from Spain, but also from the internal, as well as to record high growth rates, showed significant strengths in competitive terms.

However, Italian players' skill and luck made them able to produce a product that, in the U.S. market, is recognized for quality above average and did not affect the volume of exports from Italy, which, instead, are intended to grow.

Italian imports, mainly made up of bulk oil, amounted in 2012 to 327 thousand tons, accounting for 42% of the national availability of oil, for an amount in value of 1.1108 trillion euro.

With regards to the imports of virgin and extra virgin olive oil, Italy has substantially as business partners Spain, Greece and Tunisia.

Spain, alone, with 467,500 euro or 42.1%, was confirmed as the main supplier of the Italian market of virgin and extra virgin olive oil.

2.3 The transformation phase

The industrial phase of the olive oil does not have a clear separation between the **first transformation**, that is the activity related to the mills, and the **second transformation**, relating the bottling industry.

Very often the bottling operation is integrated within the mills which, if they are of large dimensions, they generally behave more like an industrial company in the strict sense, buying oil on the market to eventually mix it, bottle it, normally far from the places where this is produced, and then market it.

The oil industry is characterized by a marked dimensional dualism with many small businesses, more strictly agricultural, localized mainly in the South, near the olive growing areas most rated olive, and a few large companies concentrated in Northern and Central Italy.

Ripartizione regionale dei frantoi

REGIONE	N°FRANTOI ATTIVI
PIEMONTE	3
LOMBARDIA	23
TRENTINO ALTO ADIGE	4
VENETO	46
FRIULI VENEZIA GIULIA	9
LIGURIA	154
EMILIA ROMAGNA	30
TOSCANA	342
UMBRIA	210
MARCHE	153
LAZIO	319
ABRUZZO	357
MOLISE	104
CAMPANIA	394
PUGLIA	905
BASILICATA	134
CALABRIA	730
SICILIA	580
SARDEGNA	100
TOTALE NAZIONALE	4.597

Fonte: Agea (campagna 2011/2012)

Tab. 6: Regional distribution of olive mills

The regional breakdown of the mills follows essentially the structure of olive oil in the country with the largest number of plants located in Puglia (905), Calabria (730) and Sicily (580). Followed by other regions.

The phenomenon of decrease in numbers of mills is becoming more evident, in function of a greater vertical integration of companies within the sector.

The domestic production of oil in the campaign 2012/2013, according to provisional figures should reach around 483,000 tons, while the last three years the average production stood at around 505,000 tons.

Produzione di olio di pressione nelle ultime tre campagne

Regioni	2009/10	2010/11	2011/12	media triennio	quota/totale
Abruzzo	18.524	18.748	12.188	16.487	3,3%
Basilicata	6.083	6.220	6.220	6.174	1,2%
Calabria	172.169	157.918	161.845	163.977	32,5%
Campania	42.520	39.606	29.705	37.277	7,4%
Emilia Romagna	1.169	785	827	927	0,2%
Lazio	27.173	28.895	17.337	24.468	4,8%
Lombardia	973	999	1.051	1.008	0,2%
Liguria	4.643	3.557	4.446	4.215	0,8%
Marche	3.766	4.409	2.682	3.619	0,7%
Molise	6.423	6.249	5.452	6.041	1,2%
Puglia	152.340	161.078	166.536	159.985	31,7%
Sardegna	6.479	6.066	3639,6	5.395	1,1%
Sicilia	45.467	48.467	51.214	48.383	9,6%
Toscana	19.134	18.449	11.070	16.218	3,2%
Umbria	9.100	10.340	7.238	8.893	1,8%
Veneto	1.383	1.309	1.442	1.378	0,3%
Altre	324	312	307	314	0,1%
Italia	517.670	513.407	483.200	504.759	100,0%
Centro Nord	67.665	69.055	46.400	61.040	12,1%
Sud	450.005	444.352	436.800	443.719	87,9%

Fonte: ns. elaborazioni su dati Istat

Tab. 7: Pressed Oil production in the last three campaigns

3. The socio-economic profile of the olive oil consumer and the main trends

3.1 The domestic demand of olive oil

The transformations of the last years are changing food habits and the ways of life which are, today, more and more going in for the attention for diet and health. In fact the ‘*Mediterranean Diet*’ intended as a model of a genuine and healthy diet, is originating an increase of consumption of olive oil, in particular of the extra virgin olive oil, considered the diamond point of the sector.

The analysis of the consumption dynamics of olive oil underlines a rise of the products of quality, such as the extra virgin olive oil.

The request of olive oil tends towards the final consumer: of the 840,000 tons of olive oil which normally represent the apparent demand, only a little bit more than 100,000 is

assigned to the canning industry. Considering the well- established tradition in the Italian culture, **the olive oil consumption can be considered 'mature'**, with a market penetration that goes beyond the 90%, and with a per capita consumption of 12,5 liters.

By examining the oil life cycle we can observe a condition of maturity of the products, especially referring to olive oil, extra virgin olive oil, olive pomace oil and the oilseed. It could be possible a revitalization only through a differentiation of the traditional product, which happens for extra virgin olive oil, that offers different variations according to the different tastes and the extraction method used.

The products that are living a phase of development are especially the oils with added vitamins and the flavored oils, together with the biological oils and PDO and PGI; these types of product satisfy the expectations of a demanding customer towards a product which is considered fundamental in our diet.



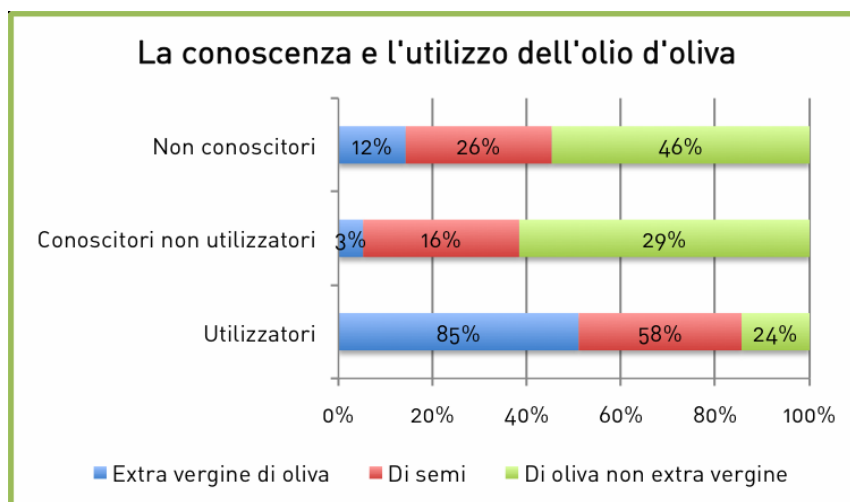
Figure 1: Life cycle oils

From a research carried out by Astra-Bertolli emerges that Italians are aware of the existence of different kinds of oil, but the most popular are **the extra virgin olive oil**, known for sure by the 88% of the population, and, in the end, the olive oil, known by the 54% of Italians.

The most used oil in Italy is the extra virgin olive oil (used from the 85%), followed by the oilseed (58%) and by the olive oil (24%). There are different uses of these oils, in particular as a condiment or for the fried food, but there are also many wrong ideas about the

different kinds of oil (in particular the fact that oilseed is fit for the fried food because it is considered digestible and a light oil). All these wrong ideas about the different uses of oils are due to the fact that there is a general misinformation, especially among young people between 15 and 24 years old who are the most uninformed, although they give too much importance to the body, the well-being and the shape.

We know that in general there is a clear preference towards the extra virgin olive oil, considered the best oil for its quality, taste, prestige, clearness, genuineness, color, lightness and aroma. The reason why the consumer (especially the consumer from Puglia) prefers the extra virgin olive oil is due to the fact that this kind of oil is considered lighter and more digestible than the other olive oils that have, in general, a feeble consideration.



Bar graph 3: The knowledge and the use of olive oil

3.2 Characteristics of the olive oil consumer

Considering the increasing need of proposing a more differentiated variety of supply, market offers different oils according the different needs of the consumers, considering at the same time two dimensions that joined together represent different market segments.

These dimensions are: **the purpose of use of the products** (healthy, nutritional, hedonistic) and **the age group of the buyers** (children, young people, adults).

We can associate every combination 'purpose of the use'/ 'age group' with a particular kind of oil, from the extra virgin olive oil to the more sophisticated oils such as the oils with added vitamins and the flavored oils.

		Purpose of the use		
		Healthy	Nutritional	Hedonistic
Age group	Adults	Undifferentiated extra virgin oil	PDO-PGI oils (even private label)	Flavored oils
	Youngs	Oils with a fine taste	New oils	Typical oils
	Children	Refined olive-pomace oil	Oils with added vitamins	Nothing

Tab 8: Principal market segments of oil

Source: Ismea

3.3 Geographic range of the purchase of olive oil

By dividing the sector of olive oil in two parts ‘unpackaged oil’ and ‘packaged oil’, we can analyze the geographic range of the domestic purchase of olive oil, that is different according the different kind of product analyzed. As we can see in the table below, in the South of Italy (especially in **Salento area**) there is a great consumption of unpackaged oil because this region is full of olive oil producers.

On the contrary, in the Centre and in the North of Italy there is a prevalent consumption of packaged oil. But in the Centre of Italy there is a prevalent consumption of extra virgin olive oil, followed by the unpackaged oil, while in the North of Italy (with few differences between the North East and the North West of the country) there is a great consumption of PDO/PGI oils, followed by the olive pomace oil and the olive oil.

Geographical Area	Unpackaged	Packaged				Olive pomace
		Olive oil	Extra virgin olive oil	PDO/PGI	Biological	
North West	9,4	36,3	23,7	38,6	44,5	26
Nord East	4,5	20,7	20,3	53,8	38,4	39,6
Centre	22,4	9,8	30	4,1	11,2	14,9
South	63,6	33,2	26	3,5	5,9	19,4
Italy	100	100	100	100	100	100

Source: Ismea – ACNielsen Homescan

Tab 9: Amount of olive oil: market share for each geographic area in 2008 (in %)

In conclusion, we are living in a period of changes in which there are many and sudden transformations of the food requirements and for this reason each firm would understand the socio-demographic profile of the buyers of oil.

We can state that, although in the South of Italy and in Salento there is a great consumption of unpackaged oil, the most important purchasers of packaged olive oil are the families of the North of Italy, in particular those who belongs to a middle-lower social class, while the extra virgin olive oil belongs to a young middle class who lives in particular in the Centre and in the North of Italy.

3.4 The trend of the demand of the different categories of extra virgin olive oil and olive oil in Puglia

The extra virgin olive oil

The sector of the extra virgin olive oil is very complex. In fact in this category is in operation a clear segmentation, although every segment isn't so predominant yet. The most important categories in this sector are: the PDO/PGI oils, the biological oils and the integrated production, that have to be compared with the remaining part of the oil, known as 'conventional', which represents the relevant percentage, especially in Puglia.

Starting from this point we can find some differences among the different segments of the extra virgin olive oil. First of all the importance of the final stocks. These have, in fact, a different incidence. The biological oil at the end of the season has a percentage of stocks of 10 %, while the PDO/PGI production has a percentage of 21% and the conventional of 27 %. Through the analysis of sales channels of the extra virgin olive oil in Puglia, it is clear that the most important channel is the assignment to the wholesalers, followed by the retail and the share given to the oil-mill, while is secondary the part given to other channels like the food service or the large-scale retail trade.

If we analyze the geographical distribution of the sales in Italy, we can observe that it is very varied. In the Centre of Italy, in fact, there is a good impact on sales of PDO/PGI oil, and this isn't new because the Tuscan PGI has an important role in the whole market segment of the oils with a European acknowledgement.

Wholesalers have a great importance for Biological oil, while the assignment is relevant for the category of 'integrated'. The assignment to cooperatives/associations represents the

25% of the sales of PDO/PGI oil. We have to consider that PDO/PGI oil has a very concentrated production, especially in a region like Puglia where the cooperative oil-mills play an important role.

Virgin olive oil

In the segment of the virgin olive oil, the category of integrated oil has closed the sales campaign with the more considerable stocks (55%). Certainly more dynamic is the market of the biological and conventional product. For the domestic use there are very low percentages for biological oil, while for integrated and conventional products there are high percentages. On the whole, the 2010's/ 2011's campaign in Puglia has had a decrease for the production of virgin olive oil compared with the previous campaign. On the contrary, the share of Biological oil is increased in the sales of the segment. Sales of Biological virgin oil have in fact reached the 33%.

Provinces	Olives			Table Olives	Oil Olives	Olive Oil
	Total surface	Total production	Picked production	Total production	Total production	Total production
Foggia	52.500	1.575.000	1.500.000	2.000	1.498.000	255.000
Bari	99.800	2.926.000	2.926.000	26.000	2.900.000	507.000
Taranto	38.600	1.582.600	1.266.000	21.000	1.245.000	186.750
Brindisi	63.600	1.890.000	1.650.000	20.000	1.630.000	277.100
Lecce	90.550	2.250.000	2.250.000	98.000	2.152.000	344.320
BAT	32.500	1.600.000	1.520.000	13.000	1.507.000	264.000
Total Puglia	377.550	11.823.600	11.112.000	180.000	10.932.000	1.834.170

Tab 10: Main production segments for oils

Source: Ismea 2010/2011

3.5 Purchase mode: distribution channels

In the last years Italian distribution is living a process of renovation. In particular we can find these changes:

- An increase of the sales point of the large-scale retail trade in the country to the detriment of the traditional distribution;
- More investments in marketing policy, even in Puglia;

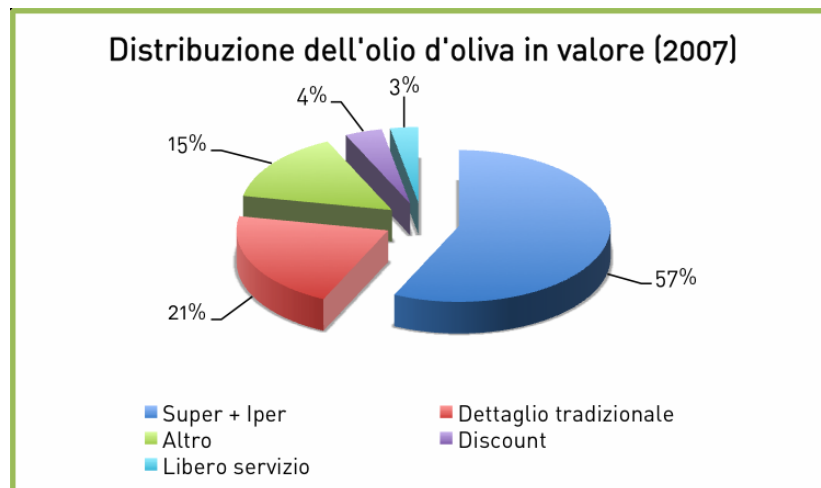
- A process of requalification of the traditional retail which tries to distance itself from the large scale retail trade linking up to the tradition, the typical and high-quality products (at high prices).

The olive oil can reach the final consumer through different sales channels. We can find **three different channels**; every channel is strictly linked to the dimension of the firms, the general organization, the product and the referring target.

These channels are:

1. Direct distribution channel: this kind of channel is generally used from little dimension firms which have high qualitative standard and operating in a local area or in a niche. The private supplies directly from the producer; this situation is typical in the South of Italy, in particular in Puglia.
2. Short indirect distribution channel: this kind of channel is generally used from middle dimension firms operating in particular in the centre and in the North of Italy. The oil reaches the final consumer through the large-scale retail trade, the retail and the cooperatives without the presence of a broker.
3. Long indirect distribution channel: in this kind of channel there is the presence of one or more brokers between the production and the distribution (in general wholesalers); it is used from big dimension firms situated in the North of Italy and operating in a national contest with high quality products.

In Puglia and in Salento e-commerce is very scarce. The web sites are 'window sites' that describe the company, the products, the brand. But we can say that in this sector e-commerce is increasing, especially among firms that use a direct sale yet. Certainly the most important market outlet of the olive oil is the large-scale retail trade that covers the 60% of the olive oil distribution (in volume). In the large-scale retail trade the most important factors are the preferences and the behaviors of the consumers and then the quality and the price of the product. The large-scale retail trade prefers virgin and extra virgin olive oil with a standard quality and at an average price.



Pie chart 2: Distribution of olive oil in value

Source: Ismea



Pie chart 3: Distribution of olive oil by volume

Source: Ismea

Concerning the domestic purchase, the large-scale retail trade is certainly the most important purchase channel. In 2007 we had a decrease of the sales in supermarket and hypermarket but we had an increase of the sales in discount store and the door to door sale (the door to door sale maintains a steady price because there is a fall in medium prices).

Below the statistical data of 2009: consumers preferred supermarket and hypermarket, followed by discount store.

We can comment these data asserting that the consumer is careful to saving, especially due to the steady rise in prices in the food division.

Italy	Average price €/Kg	Average purchase Kg	Average expense €
	5,32	16,5	87,69
Modern Distribution			
Super and Iper	5,78	9,3	53,7
Su perette	4,96	5	25,02
Discount	4,27	5,3	22,47
Traditional retail			
Food shop	4,42	3,6	15,9
Street-sellers	4,76	8,6	40,92
Door to door sale	4,53	19,5	88,18

Tab 11: Principal purchase indicators for each distribution channel (2009) *Source: Ismea – ACNielsen*

3.5.1 Sales channels of unpackaged oil

Considering the totality of olive oil (extra virgin olive oil, virgin olive oil and *lampante olive oil*) sold in **2010/2011 campaign**, the impact on sales of the unpackaged oil has been of 73%, while the impact on sales of the packaged oil has been of 27 %. Although the gap is wide, we have to consider that last year values were respectively of 81% and 19%.

On the incidence of the unpackaged oil has affected the *lampante* oil, that has an effect of 14%, while on the incidence of the packaged oil has affected the extra-virgin olive oil that has an effect of 33%.

If we make a time analysis of the difference between unpackaged/packaged oil, we know that the purchase of unpackaged oil is important in the first months of the year, when there are the most important supplies from the firms that bottle oil and from the traders, while in the last months of the year the amount of the packaged oil increases.

But there are many differences according the different regions of Italy. In fact in the South of Italy (in particular in Salento area) we had a sale percentage of 72% for the unpackaged extra virgin oil and a percentage of 28 % for the packaged extra virgin olive oil, while in the Centre of Italy we had a well-balanced connection: the 49% for the packaged extra virgin olive oil and the 51% for the unpackaged extra virgin oil.

As regards the sales channels of unpackaged oil it is clear that wholesalers have a great importance in the different market segments. The percentage of product that passes through the wholesalers is the 28 % for the *lampante oil* and the 47 % for the extra virgin

olive oil. The refining industry refines a quarter of the *lampante oil* produced by the farms. The oil-mills have about the 20% of the extra virgin and virgin olive oil. But there are many differences about the relationship between the different distribution channels in Italy. As regard the extra virgin olive oil, in the Centre- North of Italy it is given to the cooperatives, while in Salento the wholesaler has the majority of the unpackaged oil sold. In the south of Italy the incidence of the manufacturing industry is about the 11%, while in the Centre-North is about the 2%.

3.5.2 Sales channels of packaged oil

As regards the packaged product, the extra virgin olive oil (that represents the most representative product), is sold directly from the firms producing oil to the final consumer. The percentage in Italy is about the 74% (in decline respect last year). In the North of Italy there are very high percentages, in particular in the North-East there is a peak of 92%. The large scale retail trade, restaurants and traditional shops reach a percentage of 5% /6%, although the national average has some marked differences in the different parts of the country. The South of Italy uses as sale channel the large scale retail trade with a percentage of 8% / 9%. Here the wholesalers and the direct sale reach a percentage of 10%.

The geographical distribution of the purchase of olive oil is different according the different categories of packaged and unpackaged oil. In the Centre of Italy there is a predominance of the traditional extra virgin and olive oil, while in the North-East of Italy there is a predominance of PDO/PGI oil and biological oil.

GEOGRAPHICAL AREAS	OLIVE OIL	EXTRA VIRGIN OIL	PDO/PGI	BIOLOGICAL
North West	36,3	23,7	38,6	44,5
Nord East	20,7	20,3	53,8	38,4
Centre	9,8	30	4,1	11,2
South	33,2	26	3,5	5,9
Italy	100	100	100	100

Tab 12: Distribution by geographical area

Source: Ismea – ACNielsen

3.6 Italian Consumers' needs and expectations

It is interesting to comprehend which are consumers' needs in the national market toward a product like olive oil.

We can recognize the attention toward the quality of the product (86%) and an increasing interest toward PDO productions, while it is very limited the interest toward biological productions.

There is an elasticity of demand with regards to advertising and promotion, however there isn't a strict connection between promotions and prudent purchase because consumer isn't able to recognize easily the quality of products, and he has a very limited perception of the real quality of a very complex product like olive oil.

As regards the extra virgin olive oils, more or less the 2% of the expense concerns biological oils, and this is due to the fact that this kind of oil production is still a market niche, characterized by a scarce diffusion among families.

Consumers' needs toward prices, goods availability and their future income influence the demand. If consumers expect a rise in prices, they get in a stock, that is they will buy that kind of product before it becomes more expensive.

Even consumers' income influences the trend of demand of olive oil. Elasticity of demand (expressed in domestic consumption a year) as against average income, estimated in two years period (2005/2006) is equal to 0.6%. It is clear that elasticity of demand as against income permits the products classification. In this case, a positive elasticity (but with a value inferior to 1) expresses a variation in demand worse than the variation in income.

This means that the olive oils are considered necessities, with intermediate features between prestige goods and inferior goods. For this reason, if income increases the balance share will decrease, but the expense will increase.

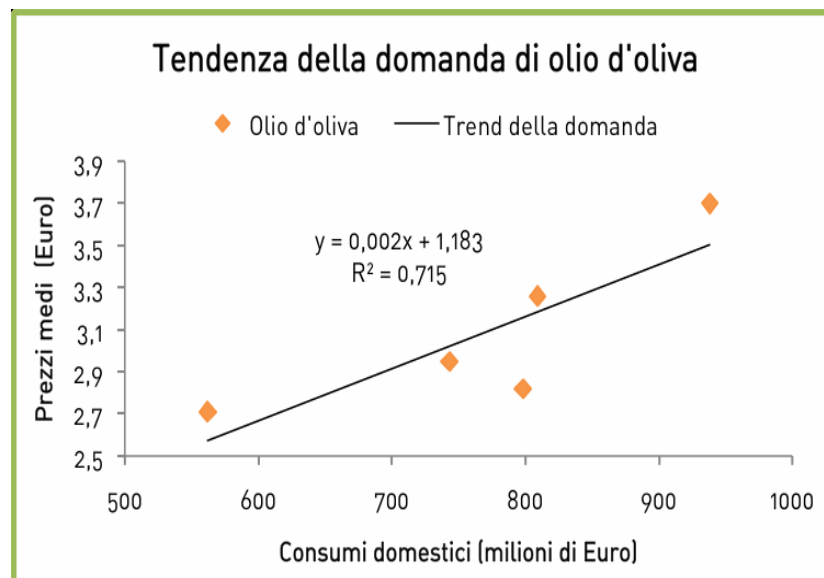


Figure 2: Trend in the demand for olive oil

By analyzing the buyer behavior of a family we know that there is an inclination to reduce the frequency of purchases, but the volumes of purchase are decreasing.

For this reason we observe a reduction of the volumes of the average purchase a year.

4. Sector Analysis

4.1 The sector of olive oil in Italy in I/III quarter of 2011

4.1.1 Domestic consumption

According to Ismea the year 2010 ended with a sales increase of olive oil of 4%, against a small decrease of the agricultural and food sector. In the sector of the packaged olive oil the extra virgin olive oil has had the most significant increase, followed by the olive oil, while the olive pomace oil has seen its volumes halved. In the first quarter of the new year, moreover, market evaluations show a prospective market stability of the domestic consumptions of olive oil against a decrease in the agricultural and food division. It's especially the extra virgin olive oil sector that in this period goes down. The beginning of the year is still negative for the agricultural and food consumption in general. Italian market till the month of may has been very dynamic but during the summer has had a slowdown, conforming to the International market. During the summer bargainings have lessened also because volumes

are insufficient and the quality of last parcel of goods doesn't meet consumers' requirements.

Starting from June we have had the first stagnation signals, and starting from July this situation has worsened. The extra virgin olive oil has had the most significant decrease.

The extra virgin olive oil cost 3,64 €/ kg on May, 3,26 €/ kg on August and the loss has continued until September, when it reached the price of 3,10 €/ kg. This flexion went on till October. In the last month of the campaign we reached the minimum price of 2011, that is 2,92 €/ kg. But this situation is linked to a seasonal factor; in fact the first bargainings of the new olive oil were going up. From the beginning of this year the extra virgin olive oil has gained 26 points compared with the same period of last year.

Moreover, if in the upper part of the pyramid the situation is positive, the segment of lampante olive oil is in a downward trend as well as during the year. In fact the lampante olive oil cost 1,50 €/ kg on July and August and decreased till 1,47 €/ kg on September, The worst price since 2001. We have to consider that from January to October lampante olive oil lost a percentage of 6%.

Even PDO segment has had stops during the summer, in fact price lists decreased. The important 'Terre di Bari' olive oil shows a loss of 10% compared to the percentage of last quarter and 'Dauno' olive oil shows a loss of 6%.

We can state that Pugliese market of olive oil and **PDO** productions show a general loss. Even the 'Toscano PGI' olive oil and the oil of Garda show a general decrease.

	2010/2009	I quarter(1) 11/ Iquarter10
Total Italy	3,7	-0,3
North West	-0,7	0,8
North-East	-8,9	-12,5
Centre + Sardegna	4,5	-2,4
South + Sicilia	8,8	8,1
Super + iper	2,7	-4,4
Discount	6,9	13,8
Free Services	9,2	22,2

Tab. 13: Dynamics of olive oil purchase according the different geographic area and sales channels (basis 2000 =100)

4.2 Domestic consumption in Puglia

Before speaking about production forecast in Puglia we have to make a distinction between the two oil souls of the region: the northern part of the region and the Salento area which are completely different and they have also a different productive outcome.

In particular next harvest will have many differences not only among the different provinces, but also between two adjoining districts.

Studying the first step of the analysis we can say that there is a dichotomy between an important increase of the northern part of the region, and a slowdown in Salento. This situation lead up to a coproduction of the whole region that is similar to the last year production; but on the other hand we can see a great impact on sales of extra virgin product. This year in Salento is estimated a minimum free acidity. Moreover in this period all the oil producers have a common goal: the increase of the quality level.

By an accurate analysis of the different provinces we notice an exponential growth of production in Foggia. In this area rainfalls have fostered flowering and fruit setting. We have had some problems during the maturation due to the lasting dry season. Here irrigation systems have helped productive results in some cases while where there wasn't irrigation systems there were negative results. The increase has been superior in the area of 'Tavoliere' due to the absence of parasitic worms. In the area of Bari we haven't had problems during the phase of flowering and fruit setting due to a mild weather. September rains have reinvigorated plants allowing a good flowering.

Even in the area of Bari there are some differences. Near Bitonto, for example, there is a more weakened increase than the other parts. In the BAT province we have had a good flowering of the olive trees starting from the first months of the year, an excellent fruit setting (fostered by good rainfalls) and a good maturation. Only in the last weeks, after October rains, we have had some problems for the presence of flies. In the provinces of Taranto and Brindisi we have had a good year.

On the other hand in Salento we have halved productions compared with the production of 2010. Furthermore we have a lasting dry season; this kind of weather fostered olive tree leprosy. However there is a good wait concerning the quality of product both in the upper part of the qualitative pyramid and in the lower segments.

4.3 The sector of olive oil in Italy in the I quarter of 2012

Trends in Italy in 2011			
	2010	2011	var %
Production (000hl)	513	483	-6
Export (000hl)	381	402	5,7
Import (000hl)	612	625	2,2
Price index at the origin (2000=100)	109,9	126,6	15,3
Price index of means of prod.(2000=100)	133,1	136,7	2,7
Retail prices	-	-	-2,4
Trends in Italy in 2012			
	I quar12 / I qua11	I qua12 / IV qua11	2011/2010
Production	nd	nd	-
Production prices	---	---	+
Prices of means of production	+	+	+
Import	nd	nd	+
Export	nd	nd	+
Domestic consumption	-	-	-
Consumer price	-	-	-

Legend: +++ rising growth, ++ growth, + slight growth, = stability, -slight reduction, -- reduction, --- great reduction

Tab. 14 Olive oil sector trends in Italy (2011/2012)

Source: Ismea

Italian oil sector has lived a bad end of 2011 and another bad beginning of 2012.

Producer prices are going down from Spring 2011 and during last month decreases are more and more visible. Nevertheless costs of production are rising up but, especially, there is a downturn in production.

The competition of Spain is very strong; in fact here the present campaign has reached a record production with negative effects both on domestic and international prices. Even as regards Italian consumptions the situation isn't so promising. It's especially the supply of olive oil to oil-mills that loses ground, while the purchase of packaged extra virgin olive oil goes on.

4.3.1 Families' demand

In 2011 the demand of oils and vegetable fats dropped by 4%, with a significant decrease of olive oil, (in particular the oil bought directly from oil producers) and margarine.

The domestic consumption of packaged oil has increased.

Furthermore due to the reduction in price, consumers now prefer this kind of olive oil. The purchases of oilseed are rising up.

During the first months of 2012 we have had the same trend and the production of unpackaged olive oil has decreased compared with the production of 2011.

The purchase of packaged extra virgin olive oil is very good, while the purchase of packaged olive oil and oilseed decreases.

	Jan- Feb. 2012/Jan-Feb 2011		
	quantity	value	unitary value
Packaged olive oil	1,7	0,3	-1,4
In particular			
Extra virgin olive oil	3,1	4,2	1
Virgin olive oil	-3,6	-14,1	-10,9
Oilseed	-0,7	4,7	5,3

Tab. 15: Dynamics of domestic purchase and expense for oil (var%) Source: Ismea, Gfk/Eurisko

4.4 The sector of olive oil in Italy in the III quarter of 2012

The third quarter of 2012 begins with some positive signals, especially as concerns producer prices. Price lists rise faster during the summer until the beginning of new harvest campaign.

Despite that, the extra virgin olive oil decreases while lampante olive oil recoups.

International demand is steady while the domestic one decreases in spite of a downturn of consumer price. The only positive aspect is that there is an increase of families' purchase of extra virgin olive oil.

The lasting dynamism of foreign demands improves the confidence of oil sector.

4.4.1 Families' demand

	Jan- Sept. 2012/Jan-Sept. 2011		
	quantity	value	unitary value
Oil and vegetable fats	-2,9	-9,1	-6,3
In particular			
- packaged oil	-0,3	-7,8	-7,5
<i>Extra virgin oil</i>	1,4	-5,5	-6,9
<i>Olive oil</i>	-6,1	-15,8	-10,4
<i>Pomace oil</i>	-5,1	-11,2	-6,5
- unpackaged extra virgin oil	-28,7	-15,8	-5,3
- Oilseed	-1,2	1,3	2,6

Tab. 16: Dynamics of domestic purchase and expense for oilseed (var%)

Source: Ismea, Gfk/Eurisko

We have negative signs for domestic consumptions. According to Ismea/Gfk-Eurisko there is a decrease of purchases during the period January-September 2012, in spite of a downturn of consumer price.

The packaged olive oil has had a fall in production of -1% and a decline in value of -8%.

By analyzing every market segment we observe that there is a result that rewards oil producers and their effort to promote the extra virgin quality.

The domestic consumption of packaged extra virgin oil increases; furthermore due to the reduction in price, consumers now prefer this kind of superior olive oil, but we'd like to think that consumers prefer extra virgin oil for its nutritional features.

If we analyze in detail the olive oil substitute products there is an opposite situation: in fact the domestic consumption of oilseed increases, and the purchases of margarine increase (+2%). By an accurate analysis of the different geographical areas we notice a downturn of olive oil, especially in the North-East of Italy, while it increases in Puglia, especially in Salento.

We have to consider that, due to the financial crisis, the discount has increased its volume of business.

This distribution channel has had an increase of 20% of volumes and an increase of 15 % in value during the first nine months of the year.

	Jan-Sept 2012 / Jan-Sept 2011	
	quantity	value
Italy	-4,6	-13
North West	1,3	-4,2
North East	-17,9	-30,6
Centre+Sardegna	-1,4	-5,6
South+Sicilia	2,1	-3,7
Super+Iper	-1,5	-9,2
Discounts	19,8	15,3
Free services	29,9	-34,5
Traditional detail	-23,7	-32,2
Other Channels (1.)	-19,9	-25,6

(1.) Specialized detail, street -seller/corner market

Tab 17: Dynamics of olive oil purchase according the different geographic area and sales channels

Source : Ismea/ Gfk Eurisco

We can conclude maintaining that Pugliese oil section hasn't reach a complete development, even if characterized by an endogenous potentiality.

From one side businesses have carried out some important projects of tracking, certification of quality and investments (new technologies, logistics etc), but from the other side they continue having many structural limits (traditional production systems, undercapitalization etc), a weak market penetration especially in the international markets and a weak ability to exploit the supply.

There are many future possibilities for Pugliese oil sector, but it's very important to join together and to act as a production chain: production, transformation and distribution.

5. Certifications

The certification, in general, consists of a legal act issued in written form by the authority, or entity that has jurisdiction to certify a fact, a condition, a right.

The prestige and competence of the certifying authority give an added value to the certification obtained; being certified with an accredited institution means reliability and credibility at the international level both for the companies, and for the final consumer, as it gives guarantees to companies that obtain a document of effectiveness, recognition and world validity, and to the final consumer about the different varieties, the safety and the

objective value of the product.

The certification is revealed to the customer through a registered trademark, in order to enhance the product and protect it against tampering.

The main certifications for extra virgin olive oil in Italy are: certification PDO, PGI and B.I.O..

5.1 P.D.O.



The certification PDO, Protected Designation of Origin, comes from a Community policy to protect and enhance the quality products with certification of origin.

This ensures consumers about the authenticity and origin of what is placed on the national and international market, but also to stimulate the operators of the various food sectors to invest in productions of merit, that takes into account the environmental heritage of each country.

The extra virgin olive oil is guaranteed and marketed with the P.D.O in implementation of Reg. CE n.2081/92. EU legislation wanted to protect "food and agricultural products whose characteristics are essentially or exclusively due to the geographical environment, including natural and human factors, and whose production, processing and preparation are developed at the place of origin."

5.2 P. G. I.



The certification PGI, Protected Geographical Indication, indicates an origin mark that is attributed to those agricultural products and foodstuffs for which a given quality, reputation or other characteristics, depend on their geographical origin and whose production, transformation and / or processing takes place in a defined geographic area.

To obtain the PGI, then, at least one phase of the production process must take place in a particular area. Who produces PGI must adhere to strict production rules laid down in the rules of production, and compliance with these rules is guaranteed by a specific control body.

The oils P.D.O. and P.G.I. recognized throughout the European Union are 116.

The number of Italian olive oils with a protected designation of origin has risen to 43, nearly 40% of all quality oils in the EU. Were added, in fact, three designations: "Vulture" on 13/01/2012, "Terre aurunche" on 22/12/2011 and "Seggiano" on 14/12/2011.

More distant there are the products of other countries suited to olive growing such as Greece, with 27 awards, and Spain, with 26 total awards in the class fats and oils, and about 18 referred only to olive oil.

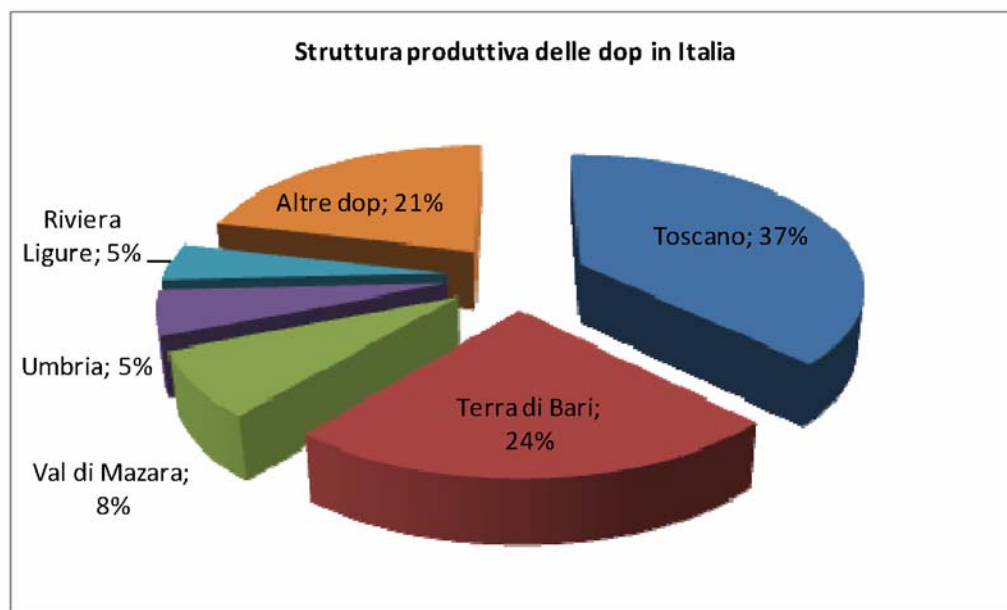
Among the Italian provinces with more recognition of PDO and PGI oils there are those of Trapani and Siena.

The sector of P.D.O. and P.G.I. oils presents a number of awards rather high, but this amount is not matched by an equally strong level of certified production.

In 2010, according to data Ismea-Qualivita, the certified production has reached about 10,500 tons, showing a substantial stability compared to the levels reached in 2009 (+0.7%).

In addition, the certified production of PDO and PGI oils has a very low weight (around 2%), compared to the total production of olive oil and the potential production of these oils.

This is all due to the persistence of those difficulties which have always characterized the supply chain of the oil with the designation of origin, such as the fragmentation of production reality, the lack, in some cases, of a supply management, the lack of coordination between public and private actors within the sector and the lack of adequate tools to face competition from foreign products.



Fonte: ns. elaborazioni su dati Ismea-Qualivita

Pie chart 4: Productive structure of the P.D.O. in Italy

The designations with the highest certified production are represented by the oil "Toscano PGI" and "Terra di Bari PDO", with a production that, in 2010, respectively, exceeded the 3,900 and 2,400 tons. With these two designations alone we reach nearly 61% of the total production certified in the olive sector with the designation of origin.

In terms of revenue, at the origin, the "Toscana" contributed in 2010 to 41%, followed by the designation "Terra di Bari" with 20%. After follow the other denominations.

Il fatturato all'origine degli oli extravergini Dop e Igp (milioni di euro). Anni 2008-2010

Denominazione	2008	2009	2010	Peso % 2010	Var. % 10/09
Toscana	28	34	30	41,0	-12,5
Terra di Bari	7	11	15	20,1	28,8
Riviera Ligure	2	5	5	7,2	6,8
Umbria	4	5	4	5,7	-14,2
Val di Mazara	3	3	3	4,4	15,4
Garda	4	3	3	4,2	2,4
Monti Iblei	2	1	2	2,4	23,8
Chianti Classico	1	1	1	2,0	38,1
Sabina	1	1	1	1,7	-6,5
Valli Trapanesi	1	1	1	1,6	-7,4
Altri prodotti	9	7	7	9,7	-5,8
Totale oli extravergini Dop e Igp	60	73	73	100,0	-1,0

Fonte: Elaborazione su dati Ismea – Fondazione Qualivita

Tab 18: Annual turnover of extra of virgin olive oils PDO and PGI (millions of euro). Years 2008-2010

La produzione certificate degli oli extravergini Dop e Igp (tonnellate)- Anni 2008-2010

Denominazione	2008	2009	2010	Peso % 2010	Var. % 10/09
Toscana	2.660	4.362	3.909	37,4	-10,4
Terra di Bari	2.102	2.127	2.454	23,5	15,4
Val di Mazara	759	675	819	7,8	21,3
Umbria	545	650	558	5,3	-14,2
Riviera Ligure	169	446	482	4,6	8,2
Garda	323	265	272	2,6	2,4
Bruzio	327	122	249	2,4	103,6
Monti Iblei	262	198	245	2,3	23,4
Valli Trapanesi	217	244	225	2,2	-7,8
Sabina	197	220	194	1,9	-11,9
Altri prodotti	949	1.051	1.033	9,9	-1,7
Totale oli extravergini Dop e Igp	8.509	10.362	10.439	100,0	0,7

Fonte: Elaborazione su dati Ismea – Fondazione Qualivita

Tab 19: Certified production of virgin olive oils PDO and PGI (Tons). Years 2008- 2010

5.3 ORGANIC (BIO)



It is said "organically grown" a product that was produced in accordance with the rules contained in Reg. CE n. 2092/91 and subsequent amendments and additions. These rules fix the farm management from a technical and agronomic point of view. The company has, for example:

- to take measures to maintain or increase the fertility and biological activity of the soil;
- to implement a preventive struggle with adversity, especially by choosing species and varieties that have proved best suited to specific environmental conditions that company;
- to implement a protection of natural enemies of pests of agricultural crops (eg maintaining or introducing natural hedges);
- if necessary, to use only pesticides, fertilizers and soil improvers indicated in the Regulation.

The task of monitoring the effective implementation of the biological method in accordance with the provisions is entrusted to Private inspection bodies, specially authorized by the Ministry of Agriculture.

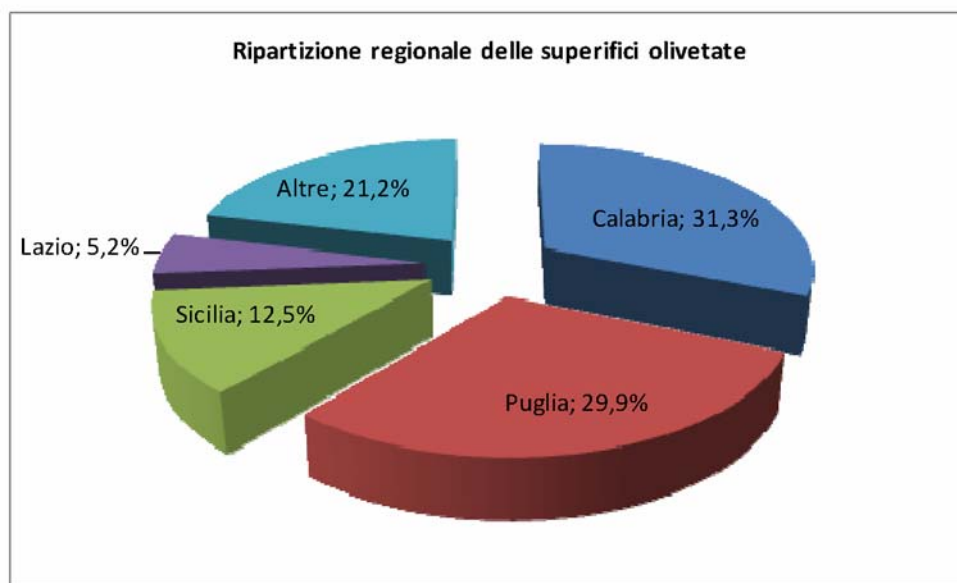
The company, once taken the decision to adopt the organic production method, choose, using a form, any of the above mentioned control bodies and shall simultaneously send the communication of the choice to the region where the production unit falls. In recent years the olive farming, particularly oil, has had a remarkable growth in both number of workers and enterprises, both for the increase in area planted, both for what concerns the success of organic products on the market . This leads us to state that for the extra virgin organic olive oil, as well as for other products, we can start to talk about a product with its own personality and with the appropriate peculiarities to position itself on the market beyond the niche.

The success of such products, of course, passes through adequate policies. Among other things, the olive is easily convertible to organic cultivation as it is characterized by an agroecosystem extremely adapted to different Italian environments and that does not require, contrary to other productions, major innovations.

According to the latest data compiled by the SINAB, National Information System on organic farming, for the year 2010, 13% of the land under organic agriculture are the prerogative of olive, with 140,748 hectares, of which 44,171 in conversion.

Bringing the analysis to a territorial level, it emerges that the distribution of the organic olive surface reflects the data reported for the total national organic UAA (Utilised Agricultural Area).

Also in this case, in fact, the organic olive surface is concentrated to more than 70% in the southern areas, in particular in Calabria (31%), in Puglia (30%) and in the islands, where stands for importance, the data of the Sicily (12.5%).



Fonte: ns. elaborazioni su dati Sinab (2010)

Pie chart 5: Regional breakdown of the olive-growing areas

6. Regulations of olive oil Labeling

6.1 Mandatory Labelling

Labelling of olive oil is regulated both by national rules, issued to implement the European directives and in general for the labelling of all foodstuffs, and by specific sector rules, national and European, relating to the names of the products, marketing and physicochemical properties of olive oil.

In the Italian law system labelling of foodstuffs for the sale to the consumer within the national market, presentation and advertising are regulated by the **Legislative Decree No 109 of 27 January 1992** implementing Directives 89/395/EEC and 89/396/EEC, and repeatedly amended because of many changes to the relative directives.

At European level, particularly important are the **Commission Implementing Regulation (EU) No 29/2012 of 13 January 2012** (replacing the original Commission Regulation (EC) No 1019/2002 of 13 June 2002) on the marketing standards of olive oil, the **Council Regulation (EC) No 1234/2007 of 22 October 2007** (amending the Council Regulation (EC) No 1513/2001 of 23 July 2001) which in the Annex XVI indicates the descriptions and the definitions of the olive oils, the **Commission Regulation (EU) No 61/2011** of 24 January 2011 (amending the Commission Regulation (EEC) No 2568/91 on the characteristics of olive oil and olive-residue oil).

All the above-mentioned regulations refer to the "retail trade" of olive oil and olive-residue oil which means, according to **article 1, paragraph 2 of Regulation No 29/2012**, the sale to the final consumer of one of these oils, presented in the natural state or incorporated in a foodstuff with the specification of the Article 1, paragraph 2 letter e) of the Legislative Decree No 109/92 which equalizes to the final consumer the *restaurants, the hospitals, the canteens and other similar collective establishments*.

For the purpose of **article 1, paragraph 2, letter a) of the Legislative Decree No 109/92** labelling shall mean "all the mentions, indications, trade marks, pictorial matters or symbols relating to a foodstuff and placed directly on the packaging or on a label or closing device or notice, rings or collars accompanying such foodstuff or, failing, in accordance with articles 14, 16, 17 on the accompanying documents of the foodstuff".

The information to display on the label can be divided into **mandatory information**, which cannot be omitted and **it is sufficient for the sale of the product**, and optional information which depends on the operators' free choice and it is a form of additional advertisement of the product directly on the package.

6.2 Mandatory Informations

Article 3 of Legislative Decree No 109/92 lists the mandatory information which must appear on the packaging or label of foodstuffs since they are for sale to the consumer, with particular reference to olive oil, and they are as follows:

1. *name of the product;*
2. *net quantity or, in case of pre-packaged foodstuffs in constant single units,*

3. *the nominal quantity;*
4. *date of minimum durability;*
5. *name or company name or registered trademark and the address of the manufacturer or packer or seller established in the European Union;*
6. *the address of the production or packing plant;*
7. *an indication in order to identify the product lot;*
8. *storage conditions.*

Moreover, for virgin and extra virgin olive oil, since 1 July 2009 it is also mandatory *the designation of the origin.*

Compulsory information must appear in Italian language but other languages are also possible so, according to **article 14, paragraph 4 of Legislative Decree No 109/92**, "*compulsory information must appear on pre-packages or labels stuck or tied to the packaging, or on rings, collars, closing devices placed in a clear point in order to be easily seen, read and to be permanent. It cannot be covered up or distorted in any way.*"

6.2.1 Three pieces of information which must appear in the same visual field

Among mandatory information provided for by article 3, **article 14, paragraph 1 of the Legislative Decree No 109/92** establishes the duty to indicate "*in the same visual field*" the following three pieces of information:

- A. *the name of the product;*
- B. *the quantity;*
- C. *the date of minimum durability.*

A. The name of the product

The names of olive oil and olive-residue oil are included in the **Annex XVI of the Council Regulation (EC) No 1234/2007** which also provides a definition for each product of the category and they are as follows:

1) VIRGIN OLIVE OILS

They are oils obtained from the fruit of the olive tree solely by mechanical or other physical means under conditions that do not lead to alterations in the oil, which have not undergone any treatment other than washing, decantation, centrifugation or filtration, to the exclusion of oils obtained using solvents or using adjuvants having a chemical or biochemical action, or by re-esterification process and any mixture with oils of other kinds.

Virgin olive oils are classified and described as follows:

- A) **Extra virgin olive oil:** virgin olive oil having a maximum free acidity, in terms of oleic acid, of 0,8 g per 100 g, the other characteristics of which comply with those laid down for this category;
- B) **Virgin olive oil:** virgin olive oil having a maximum free acidity, in terms of oleic acid, of 2 g per 100 g, the other characteristics of which comply with those laid down for this category;
- C) **Lampante olive oil:** virgin olive oil having a free acidity, in terms of oleic acid, of more than 2 g per 100 g, and/or the other characteristics of which comply with those laid down for this category.

2) REFINED OLIVE OIL

It is the olive oil obtained by refining virgin olive oil, having a free acidity content expressed as oleic acid, of not more than 0,3 g per 100 g, and the other characteristics of which comply with those laid down for this category.

3) OLIVE OIL — COMPOSED OF REFINED OLIVE OILS AND VIRGIN OLIVE OILS

It is the olive oil obtained by blending refined olive oil and virgin olive oil other than lampante olive oil, having a free acidity content expressed as oleic acid, of not more than 1 g per 100 g, and the other characteristics of which comply with those laid down for this category.

4) CRUDE OLIVE-POMACE OIL

It is the oil obtained from olive pomace by treatment with solvents or by physical means or oil corresponding to lampante olive oil, except for certain specified characteristics, excluding oil obtained by means of re-esterification and mixtures with other types of oils, and the other characteristics of which comply with those laid down for this category.

5) REFINED OLIVE-POMACE OIL

It is the oil obtained by refining crude olive-pomace oil, having free acidity content expressed as oleic acid, of not more than 0,3 g per 100 g, and the other characteristics of which comply with those laid down for this category.

6) OLIVE-POMACE OIL

It is the oil obtained by blending refined olive-pomace oil and virgin olive oil other than lampante olive oil, having a free acidity content expressed as oleic acid, of not more than 1 g per 100 g, and the other characteristics of which comply with those laid down for this category.

It is important to stress that, according to **article 118, paragraph 2 of this Regulation, the sole products of the category olive oil for the retail sale**, are only those indicated at the **point 1), letter a) and b) and at the points 3 and 6 of the Annex XVI, that is extra virgin olive oil, virgin olive oil, olive oil composed of refined olive oils and virgin olive oils and the olive-pomace oil.**

Besides, all the products of the category olive oil, in order to be sold, must comply with the chemical-physical-organoleptic characteristics indicated in some appropriate tables for each of them by the **Commission Regulation (EU) No 61/2011** amending Regulation (EEC) No 2568/91.

B. The quantity

The *net quantity* of a pre-package is its quantity after tare and the *nominal quantity* is the quantity that the package is supposed to contain and which is indicated on it.

Under **article 2 of Regulation No 29/2012**, the oils to sell to the final consumer, as in article 118 of Regulation (EC) No 1234/2007, can only be sold "*pre-packed in packagings of a maximum capacity of 5 litres*", fitted with an opening system that can no longer be sealed after the first time it is opened and labelled with all the mandatory information provided for by the same regulation.

Besides, since by **article 1, letter e) of Legislative Decree No 109/92** restaurants, hospitals, canteens or other similar collective establishments are assimilated to the final consumer, **article 2, paragraph 2 of the regulation** allows the Member States to set a maximum capacity exceeding five litres for packaging, depending on the type of establishment

concerned.

So, in Italy the **Ministerial Decree of 10.11.2009** (Mipaaf) containing national rules relating to the place on the market of olive oil, establishes that the oils for the preparation of meals in these collective establishments can be pre-packed in some containers of a maximum capacity not exceeding twenty-five litres.

The metrology regulations which can be applied within the European Union establish that the quantity of packed olive oil must be expressed in **volume units**, that is in **litres, centilitres and millilitres** which can be displayed in full (ex. 1 litre, 100 centilitres) or with the abbreviation *l, cl or ml* without any point of abbreviation.

Figures relating to the metrology indication must have certain dimensions with relation to the nominal quantity of the content and, to be more precise, the following minimum sizes:

- 2 mm if the nominal quantity is less or equal to 0,5 litre;
- 3 mm if the quantity is more than 0,5 litre and up to 0,20 litre included;
- 4 mm if the quantity is more than 0,20 litre and up to 1 litre;
- 6 mm if the quantity is more than 1 litre.

The writings relating to the nominal quantity must be indelible, well readable and visible in normal conditions of the pre-pack presentation. It is forbidden to add information to the writings causing imprecisions or ambiguity, as "about" or other similar terms.

Article 26 of Legislative Decree No 109/92 provides for **mandatory categories** for the marketing of edible olive oil in Italy and it establishes that oil must be packed only in the following unit quantities expressed in litres:

- 0,10 0,25 0,50 0,75 1,00 2,00 3,00 5,00 10,00.

Anyway, under the above-mentioned **article 2 of Regulation (EU) No 29/12**, the category 10 litres is not admitted for olive oil packs for the final consumer but only for restaurants, canteens and similar collective establishments.

Categories provided for by article 26 coincide with those of EEC pre-packs, so basically they are the same used in all the European Union.

Pre-packs complying with these regulations have the EEC mark constituted by an "e" having a minimum size of 3 mm and the form as in the Annex 1 of the Ministerial Order 5.08.76 (Italian Official Journal No 210 of 10.08.76) and it means that the packaging company has complied with the European law about capacity of pre-packs and so, they can circulate freely within the European territory.

The "e" is usually placed after the indication of the product quantity (ex. 1l e) but it can also be placed before provided that it is close to this indication.

C. The date of minimum durability

Under **article 10, paragraph 1, of Legislative Decree No 109/92** *"the date of minimum durability is the date up until which the food product preserves its specific properties in adequate preservation conditions. This is to be indicated with the wording "best before" when the date contains the indication of the day or with the wording "best before end" in the other cases, followed by the date or by the indication of the point where this is to be found on the pack."*

The date of minimum durability is different from the best before date because the latter concerns the perishable food products which must be consumed by a certain date otherwise they deteriorate and can constitute a danger to health. Food products to be consumed by a certain date are instead those that, if kept correctly, keep their properties unaltered and, even if they are consumed after, they do not cause any danger to health.

Paragraph 2 of article 10 establishes that *"the date of minimum durability is fixed by the producer or packer or, in case of imported products, by the first seller settled in the European Union and he is directly responsible for that"*.

So, no law sets a time-limit by which an olive oil product must be consumed but the packer shall indicate, under his own responsibility, the period of time by which, according to him, the product, if properly kept, will keep unaltered its physico-chemical and organoleptic properties set by the existing law or, eventually, those more specific properties indicated on the label or in the advertising.

Under **paragraph 3, article 10** of this Legislative Decree *"The date of minimum durability is composed of the indication, clear and in order, of day, month, year and it can be expressed with:*

- A) the indication of the day and month for food products to keep for less than three months;
- B) the indication of the month and year for food products to keep for more than three months but for less than eighteen months;
- C) the only indication of the year for food products to keep for more than eighteen months.

6.2.2 Information as in the article 3 of Regulation (EU) No 29/12

On the label of olive oil must be indicated the name of the product but not also the description contained in the annex XVI of Regulation (EC) No 1234/2007.

Anyway, **article 3 of Regulation (EU) No 29/12** establishes that the label of olive oil and olive-pomace oil to place on the retail market shall bear "*in clear and indelible lettering*", in addition to the name but not necessarily close to it, and so not in the same visual field of the three above-mentioned indication, "*the following information about the oil category*:"

a) for extra virgin olive oil:

<<superior category olive oil obtained directly from olives and solely by mechanical means>>;

b) for virgin olive oil:

<<olive oil obtained directly from olives and solely by mechanical means>>;

c) for olive oil composed of refined olive oils and virgin olive oils:

<<oil comprising exclusively olive oils that have undergone refining and oils obtained directly from olives>>;

d) for olive-pomace oil:

<<oil comprising exclusively oils obtained by treating the product obtained after the extraction of olive oil and oils obtained directly from olives>>.

6.2.3 Name of the manufacturer or packer

Article 3, first paragraph, letter e of Legislative Decree No 109/92 establishes the duty to indicate on the label *the name or company name or the registered trademark and the address of the manufacturer or packer or seller established in the European Economic Community*.

Despite the law, it is not forbidden to indicate on the same package the name or the company name or the registered mark both of the packer and of the distributor.

1. The address

Article 3, first paragraph of Legislative decree No 109/92 also establishes the duty to indicate on the label *or the manufacturer's address or the packer's address or a seller's address established in the European Economic Community (letter e) and the address of the production plant or packaging plant (letter f)*.

Under **paragraph 5**, *the address means the place where the company or the plant is indicated*. So, it is not necessary to indicate the whole address.

Besides, **article 11, paragraph 1** of the Legislative Decree establishes that *the indication of the address of the production plant or packaging plant can be omitted in case of:*

a) the plant is located in the same place already indicated on the label;

b) pre-packed products coming from other countries to be sold in Italy.

Moreover, if the company has more plants it is possible to indicate on the label all of them provided that the real plant be stressed by punching or other mark (**article 11, paragraph 2**) and, if the company distributes or sells the products whose packages do not indicate the name or company name or registered trademark and the manufacturer's address or the packer's address, the base must be completed by the address or, if not, by an indication that facilitates its location (**article 11, paragraph 3**).

NOTE The indication of the address of the plant is mandatory only according to the Italian law and not to the European law, so it can be omitted if the packages have to be sold abroad or in another European country.

2. Designation of the origin

The designation of the origin of the oil on the label is mandatory only for extra virgin olive oil and virgin olive oil.

This obligation has been introduced by the **Commission Regulation (EC) No 182/2009** of 06 March 2009 (amending the Commission Regulation (EC) No 1019/2002) which came into effect on 1st July 2009 and then it was repealed by the Regulation (EU) No 29/2012.

Under **article 4 of Regulation No 29/2012** *<<designation of origin>> means the indication of a geographical name on the package or on the label attached"* and it is mandatory and it must be placed on the label of the product.

Under paragraph 2, article 4 of this Regulation, *designations of origin shall only consist of:*

- a) in the case of olive oils originating, in accordance with the provisions of paragraphs 4 and 5, from one Member State or third country, a reference to the Member State, to the Union or to the third country;*
- b) in the case of blends of olive oils originating, in accordance with the provisions of paragraphs 4 and 5, from more than one Member State or third country, one of the following mentions:*
 - I. <<blend of olive oils of European Union origin>> or a reference to the Union;*
 - II. <<blend of olive oils not of European Union origin>> or a reference to origin outside the Union;*
 - III. <<blend of olive oils of European Union origin and not of European Union origin>> or a reference to origin within the Union and outside the Union, or*
- c) a protected designation of origin or a protected geographical indication referred to in Regulation (EC) No 510/2006, in accordance with the provisions of the product specification concerned.*

Besides, it is specified that *"the designation of origin mentioning a Member State or the Union shall correspond to the geographical area in which the olives concerned were harvested or in which the mill where the oil was extracted from the olives is situated."*

If the olives have been harvested in a Member State or third country other than that in which the mill where the oil was extracted from the olives is situated, the designation of

origin shall contain the following wording: <<(extra) virgin olive oil obtained in [(the Union or (the name of the Member State concerned))] from olives harvested in (the Union) or (the name of the Member State or third country concerned)>>.

3. The lot

Article 3, paragraph 1, letter h of Legislative Decree No 109/92 establishes that the label of a food product shall contain "a wording permitting to identify the product lot".

The following **article 8** defines the lot as "*a group of units of sale of a given foodstuff which are produced, manufactured or packed in the same circumstances*".

The lot is established by the producer or by the packer or by the first seller settled in the EU who affixes it under his own responsibility. It must appear on the pre-package or on an affixed label in order to be easily seen, clearly readable and indelible and it must be preceded by the letter "L", unless it is placed in a way to be distinguished from other indication.

Anyway in some cases the designation of the lot is not requested and, with specific reference to the olive oil, they are as follows:

- when the date of minimum durability appears with the mention at least of the day and month;
- for agricultural products that, once out of the agricultural holding, are sold or delivered to storage centres, packaging centres or directed to manufacturers' organizations or they are harvested to be immediately integrated in an operative system of preparation or transformation;
- for packages and containers whose bigger side has a surface less than 10 square cm .

Besides, it can be considered as an indication of the lot any other date if expressed (with the indication at least of the day and month) and the indication of the alphabetical or alphanumerical abbreviation of the production lot indicated on the pre-packages other than the Ec ones as in article 7 of the Presidential Decree of 26.05.80 No 391, if it applies with the regulation as in the 1st paragraph.

4. Storage conditions

Article 3, paragraph 1, letter I of Legislative Decree No 109/92 establishes that on the label of a product *"storage conditions must be indicated if the adoption of particular precaution is necessary according to the nature of the product"*.

For olive oil the precautions necessary to keep its properties unaltered until the date of minimum durability expires could be to keep it safe from light and hot area, so storage conditions could be indicated with a phrase like "keep in a cool and dry place, keep away from light and heat sources".

6.3 Optional Labelling

Optional labelling includes those indications which are voluntarily written on the label by the operators in order to distinguish and characterize their product and to act as a guide for the consumer in the choice of the product.

Optional labelling too is regulated both by rules about labelling of foodstuffs in general and by rules of this specific sector, and especially by the Regulation (EU) No 29/2012.

Voluntary labelling of foodstuffs in general is mainly regulated by **article 2 of Legislative Decree No 109/92** which, by defining the **labelling aim**, establishes that *labelling and its methods must guarantee a right and clear information to the consumer in order to:*

- a) not to mislead the purchaser about the characteristics of the foodstuff and, in particular, as to its nature, identity, quality, composition, quantity, durability, origin or provenance, method of manufacture or production;*
- b) not to attribute to the foodstuff effects or properties which it does not possess;*
- c) not to suggest that the foodstuff possesses special characteristics when in fact all similar foodstuffs possess such characteristics;*
- d) not to attribute to the foodstuff properties of preventing, treating or curing a human disease, or refer to such properties"*

So, the information that the packer decides voluntarily to place on the label of olive oil must comply with the above-mentioned rules and prohibitions and so, basically it must be true and not misleading.

Moreover, under **paragraph 2, article 2 of Legislative Decree No 109/92**, the same prohibitions and limits also apply to the presentation and advertising of foodstuffs, where "*presentation*" means the form or the aspect attributed to the foodstuffs or to the packaging, the material used for their packaging, the way they are arranged on the pavilions and the environment where they are placed.

With specific reference to olive oil, the **Commission Regulation (EU) No 29/2012** specifies that *information on the label must not mislead the purchaser, especially about the characteristics of the olive oil by attributing properties which does not possess or by suggesting that the olive oil possesses special characteristics when in fact they are similar to most olive oils.*

The same Regulation, with the aim to fix objective standards relating to the optional information most frequently placed on the labels of olive oil, at the **article 5** establishes the following obligations relating to some information:

- a. the indication "**first cold pressing**" may appear only for extra virgin or virgin olive oils obtained at a temperature below 27 °C from a first mechanical pressing of the olive paste by a traditional extraction system using hydraulic presses;
- b. the indication "**cold extraction**" may appear only for extra virgin or virgin olive oils obtained at a temperature below 27 °C by percolation or centrifugation of the olive paste;
- c. indications of **organoleptic properties** referring to taste and/or smell may appear only for extra virgin or virgin olive oils; the terms referred to in point 3.3 of Annex XII to Regulation (EEC) No 2568/91 may appear on the labelling only if they are based on the results of an assessment carried out following the method provided for in that Annex;
- d. the indication of the **acidity or maximum acidity** may appear only if it is accompanied by an indication, in lettering of the same size and in the same visual field, of the peroxide value, the wax content and the ultraviolet absorption, determined in accordance with Regulation (EEC) No 2568/91.

To this end it must be noticed that Regulation (EEC) No 2568/91 has been partly amended by the Commission Regulation (EU) No 61/2011 which has updated the limit values relating to the characteristics of olive oils (they are currently fixed in the Annex I of this last regulation) and the evaluation methods.

Moreover, in case the companies decide to put on the label optional indications, they have the duty to justify them on the basis of factual elements or scientifically established facts, results of analyses or automatic recordings taken on representative samples, administrative

or accounting information kept in accordance with Union and/or national rules and they are subject to checks by authorized bodies in order to check, by analytical and document verifications, the truth of the distinctive characteristic that the company claims on the label.

6.4 Labelling of foodstuffs containing olive oil as ingredient

Article 6 of Regulation (EU) No 29/2012 establishes that the presence of olive oil or olive-pomace oil as in article 1 of the Regulation can be indicated, elsewhere than in the list of ingredients, using words, images or graphics on the label of a blend of olive oil and other vegetable oils too, *only if the percentage of olive oil is more than 50%*.

In such a case the name of the blend must be *<<Blend of vegetable oils (or the specific names of the vegetable oils concerned) and olive oil>> directly followed by the percentage of olive oil in the blend*.

Besides, with the exception of tuna in olive oil, where the presence of oils is highlighted on the labelling of a foodstuff different from the said blends, (always elsewhere than in the list of ingredients and using words, images or graphics) *the trade description of the foodstuff shall be directly followed by the percentage of oils added relative to the total net weight of the foodstuff or relative to the total weight of fats, with the indication in this last case of the <<percentage of fats>>*.

Moreover, if olive oil or olive-pomace oil are ingredients of a blend or of a foodstuff, it is possible to indicate on the label the words *<<olive oil>>* or *<<olive-pomace oil>>* instead of the specific descriptions provided for by article 3 of the Regulation No 29/2012.

6.5 Nutrition Labelling

Nutrition labelling is regulated by the **Legislative Decree No 77 of 16.02.1993** implementing the Council Directive 90/496/EEC of 24.09.90 which, in article 1, establishes that nutrition labelling is *optional* but *"becomes compulsory when a nutrition claim appears on labelling, in the presentation or in advertising of foodstuffs, except for collective advertising campaigns."*

Under **article 3** of the above-mentioned decree, nutrition labelling is *"a claim on the label relating to the energy value and the following nutrients:*

- 1) proteins
- 2) carbohydrates
- 3) fats
- 4) fibres
- 5) sodium
- 6) vitamins and minerals listed in the Annex and present in significant amounts as defined in that Annex".

Such an Annex specifies that a quantity is considered as significant for every 100 g or 100 ml when it represents at least 15% of the recommended daily allowance (RDA).

The following **article 4** establishes that *"nutrition labelling shall consist of a list of information in the following order: energy value, amounts of protein, carbohydrates, fats or energy value, amounts of protein, carbohydrates, sugars, fats, saturated fatty acids, fibres and sodium."*

Article 6 establishes that the *energy value and the proportion of nutrients shall be numerical with the following units of measurement:*

- 1) energy value, kcal and kJ
- 2) proteins, grams (g)
- 3) carbohydrates, grams (g)
- 4) fats, except for cholesterol, grams (g)
- 5) fibres, grams (g)
- 6) sodium, grams (g)
- 7) cholesterol, milligrams (mg)
- 8) vitamins and minerals, the units specified in the Annex.

Information shall be expressed per 100 g or per 100 ml and this information can be given per serving as quantified on the label or per portion, provided that the number of portions contained in the package is stated. Information on vitamins and minerals must be expressed as a percentage of the recommended daily allowance.

The information given must be expressed in *average values* (those which best represent the amount of nutrient which a given food contains, and reflects allowances for seasonal variability, patterns of consumption and other factors which may cause the actual value to vary, including variations suffered by the product during its market life) detected on the basis of:

- a) the analysis of the food carried out by the producer;
- b) a calculation on known or real average values of the ingredients used;
- c) calculations on generally fixed and accepted data.

Besides, the amounts must be present at the moment of the sale and they can also refer to the ready food provided that enough information about the preparation methods is given.

Under **article 7 of the Legislative Decree**, nutrition information must appear on *one single table*, with the *numbers aligned* or, if space does not permit, the information shall be presented *in linear form*.

The information must be stressed in order to be *well visible, clearly legible and indelible* and it must be in *Italian language* but it is also possible to add other languages.

6.6 Labelling of PDO and PGI extra virgin olive oil

Council Regulation (CE) No 510/2006 of 20 March 2006, relating to the protection of geographical indications and designations of origin for agricultural products and foodstuffs, establishes that, in order to obtain a PDO or PGI, an agricultural product or a foodstuff must comply with a regulation which can also fix some specific rules for labelling.

So, the label of a PDO or PGI oil must contain, in addition to the mandatory indications in general necessary for the labelling of olive oil, some more specific indications provided for by the relative regulation too.

6.7 Labelling of Organic oils

Labelling of organic oils must also comply with, in addition to the above-mentioned rules, those contained in the **Council Regulation (EC) No 834/2007** of 28 June 2007 which repeals Regulation (EEC) No 2092/91 relating to organic production and labelling of organic products, that in **article 23** establishes that in the labelling, advertising material or commercial documents, such a product, its ingredients or feed materials are described with the terms listed in the Annex (in Italian: biologico) or their derivatives or diminutives (ex. <<bio>> or <<eco>>) or other terms suggesting to the purchaser that the product, its ingredients or feed materials have been obtained in accordance with the rules laid down in this Regulation only if they satisfy the requirements set out under or pursuant to this Regulation.

So, in reference to olive oil, the terms concerned may be also used in the *sale description*, provided that at least 95% by weight of olives are organic.

According to the following **article 24**, where the terms <<organic>> or their derivatives or diminutives are used, on the labelling shall also appear:

- a. the *code number of the Control body* preceded by the indication "Authorized Control Body Mipaaf" to which the operator who has carried out the production is subject;
- b. the *Community logo* of organic production;
- c. where the Community logo is used, *an indication of the place where the agricultural raw materials of which the product is composed have been farmed*, shall also appear in the same visual field as the logo and shall take one of the following forms, as appropriate:
 - <<EU Agriculture>> if the agricultural raw material has been farmed in the EU,
 - <<non-EU Agriculture>> if the agricultural raw material has been farmed in third countries,
 - <<EU/non-EU Agriculture>> if part of the agricultural raw materials has been farmed in the Community and a part of it has been farmed in a third country.

The above-mentioned indication <<EU>> or <<non-EU>> may be replaced or supplemented by a country in the case where all agricultural raw materials of which the product is composed have been farmed in that country.

7. The regional and salentino olive oil sector

Olive oil has a very important role in the agricultural landscape, at local, at regional and national level.

Puglia is a leading Region in the Nation and the EU with about 59 million trees over an area of over 376 000 ha, equal to 40% of that of the South, and to 32% of the national olive surface and to the 8% of the Community, so that, globally, 12% of the production of olive oil is represented by olive oil from Puglia.

According to data given from the Puglia observatory, on the rural world, the incidence of Apulian olive production is equal to 36.6% of the national average.

The production of olive oil in Puglia appears to be strongly linked to the local conditions and olive is one of the most interesting sectors in the agro-food panorama in Puglia.

The landscape of Salento, close embraced by two seas, is made even more unique by the majestic olive trees: if you choose more or less important roads, it is quite common to bump into these secular, an amazing experience. For centuries, the olive tree has been the main economic resource of Salento and is still associated with both the economy and the culture

of Salento.

Moreover, the numbers speak for themselves: only in Lecce the Salento, the olive tree surface is about 86,000 hectares with 9 million trees and the olive farms (about 68,000) represent 76% of the farms in the whole district.

Salento and Apulia in general, have, the Italian record for the number of cultivated hectares and for the amount of produced oil (record also given to Calabria in relation to the years).

In this context, the crisis in the olive oil sector, which is closely linked to the region's economy, can only arouse deep concern. The analysis of the **strengths and weaknesses of the oil industry** may help to take first awareness of the current situation and in order to find right ideas to give new life to this important agricultural sector.

All the Italian olive-growing industry is going through a phase of structural crisis which can be mainly traced back to the difficulties it runs into adapting to the profound changes of the economic and institutional context. To the global economic and financial crisis of the last years must be added the effects of some changes in the scenario of the oil and olive-growing industry which witnessed a fast increase of the supply and the internationalization of the olive oil market. In particular, Spain's productive potential considerably increased and some non-European Mediterranean countries (Tunisia, Syria, Turkey and Morocco) and “emergent” countries (Chile, Australia, Argentina, etc...) gained a new important role in global markets.

The internationalization of the olive oil market strengthened the leading role played by multinational packaging companies and by modern distribution companies. At institutional level, **the common agricultural policy reform** reinforced the policy of income support decoupled from production by establishing a single payment scheme, bound to a sustainable environmental management by the company (conditionality).

These changes have become part of the Italian olive-growing structural context, characterized by an extreme fragmentation of companies and by the prevalence of traditional plantings with less than 200 trees per hectare that limit both the mechanization and the productivity.

In order to improve the competitiveness of the Italian olive-growing industry and to reduce production costs, it is doubtless necessary to renovate the olive groves and to adopt innovative models for olive growing.

Several authors, both in Spain and Italy, recommended the adoption of high-density plantings, designed for mechanical harvesting and able to ensure higher yields and lower production costs (Fontanazza, 2000; Tombesi et al., 2008), by proposing two models: **the intensive one** (with more than 200 trees per hectare), already widely-used both in traditional producing countries and in emergent countries, and **the overintensive** (with more than 1500 trees per hectare) (Tous et al., 2007), introduced in some Spanish regions (Aragon, Andalusia, etc...) and in other olive oil producing countries (Tunisia, Morocco, California, Australia, Portugal, France, Chile, Argentina, Italy, etc...).

The overintensive model seems to ensure both high yields a few years after the planting and the complete mechanization of the cultivation, even though in Spain there were problems concerning the efficient management of tree crowns 6-7 years after the planting and these problems negatively affect production and make it difficult to extend economic life beyond the 15th-16th year of age (Tous et al., 2007; Pastor et al., 2006).

The studies carried out until now to prove the adaptability of the overintensive model to the Italian context relate the so far achieved outcome, concerning the first years of the production cycle and focused on agronomic aspects (Camposeo e Godini, 2010) or on the advantages deriving from the reduction of harvesting costs (Bellomo e D'Antonio, 2009). A correct economic evaluation with regard to the adoption of this model requires, on the contrary, a profitability analysis of the investment through a comparison with the intensive model. Since the investments resulting from the adoption of the two models have a different economic life, for a correct evaluative procedure it is necessary to take into account the complete life cycle of the most long lasting olive grove.

7.1 Problems of olive groves

At a first glance, the olive sector in Salento is characterized by an extreme **fragmentation** and by a reluctance to associations: there are many, small businesses, often family-run, struggling to stay on the market. Unfortunately, a small business, is unlikely to have the ability to impose its products to the attention of the "general public", and furthermore, even if the resources do not constitute an insurmountable obstacle, a sense of initiative is often missing. If it is true that "unity is strength", a solution to this problem might be the creation of large consortia, avoiding fragmentation of mills, and cooperatives and protecting

producers, who would no longer be forced to front the high costs of production.

The **cost of productions** of olive oil is one of the main obstacles that small businesses have to deal with. Extra virgin olive oil, in particular, has very high production costs, because it is extracted from olives harvested directly from the tree; this means, of course, a more intensive labor force use. Furthermore, the olives collected this way, not having reached their full maturation, have a lower oil yield compared to those on the ground. Therefore, it seems obvious, that a good extra virgin olive oil can not be sold at a low price if, a part from the covering costs, you hope to have, at least, a minimum feedback statement.

However, you must have market power to fix the price, and it is evident that the Lilliputian Salento companies have difficulty in asserting themselves as giants that dominate **the mass distribution**. Prices should be higher than the marginal cost, in order to produce a profit, but the costs faced by large corporations (which can often make use of cheap raw materials and cheap labor) are proportionately far lower than those faced by small producers.

The currently market seems to be dominated by the choices of the retail which offers medium or good quality products at extremely competitive prices, focusing on the large amount more than on the high quality.

The success of these products is undoubtedly due to the insisting advertising and the cheap price, but at the base, there is **the knowledge lack of the offer by the request**. For example, if we assume that a consumer approaches a product which he knows little or he does not know at all: his choice will be influenced, by some factors such as the price, the availability and the advertising of the product (the latter, in particular, is able to give the consumer the impression of "knowledge" of a product he has never bought before).

Therefore, it is clear that to inform and, educate consumers is very important: only if the consumers have the right tools for evaluation, they will be able to choose, with awareness, the product that best suits their needs. If some consumers will continue to prefer the cheaper product, it is sure that another part, will be more inclined to focus on quality.

Moreover, the consumers, and the market in general, are showing increased attention to olive oil quality. In fact there is a growing participation in courses for tasting olive oil, the establishment of national and international awards (like "New York International Olive Oil Competition") and the organization of events dedicated to oil (such as the international exhibition "G" in Verona or "Capital oil" in Trieste).

Small companies should aim at the quality, because they can not trust on the same volume of sales; as a consequence trying to compete with big brands, by lowering prices, would be a real suicide. Hardly, the big multinationals could be a real threat for the production and sale of extra virgin olive oil of the highest quality. That is why it is so important to gain recognition as **P.D.O.**, **P.G.I.** and **B.I.O.** to satisfy 'modern' consumers, more and more demanding and looking for genuine products. Up to now, however, only a small part of the production of olive oil is for the PDO circuit .

Therefore, **the Salento olive oil sector, appears to be strongly oriented towards the local market:** the oil, even when not intended for personal use, is often sold in bulk directly to consumers.

The marketing structure seems, quite obsolete and should be reviewed and adapted to the needs of an increasing "globalized" market, taking into account the fact that to the 'traditional' competitors, such as Greece and Spain, countries such as Tunisia, Marocco, China and even Australia and California (in the latter new systems are ready to go into production are joining).

However, the orientation to the local market, can not be considered exclusively a weakness: consumers prefer to buy food produced in their region (they know the origin of products) and this should encourage initiatives to promote such products. Also in this case, the major brands of retail (which often use raw materials coming from other countries and foreign workers) could not compete, as without ties with the territory. From these considerations comes the proposal from the Policies for Rural Development of the Region of Puglia to create a brand called "Typical products of Puglia" to put alongside with the traceability: a single brand would not only be a guarantee of quality, but it might also help to have a greater influence on the national and international market.

7.2 New opportunities

We have seen how the salentino olive sector has some obvious limits and how these limits could be, overcome in part. However, the creation of large consortia and unique brands or the obtaining of certifications as prestigious as D.O.P. and I.G.P. are not the only ways to promote Salento olive oil: this promotion can be done, for example, linking the oil to the territory, by highlighting the extraordinary nutritional and cosmetic properties, or by

enhancing the energy of the striking oil (lampante).

7.2.1 Oil and territory

The territory is probably the strongest feature of the olive sector and to promote the Salento territory also means to promote local products, first of all wine and olive oil. A survey conducted by the National Observatory of Tourism shows that the first factor taken into consideration by tourists in their destination choice is the quality of the territory: this shows how strong the link between land and food, wine is and how much this relationship is able to characterize the tourist offer of the region. The Salento, already able to attract thousands of tourists every year, thanks to its cultural heritage and its natural beauty, also has an enormous potential for food and wine tourism:

on one hand, cultural tourism and maritime transport can contribute to let Italy know not only the extraordinary products of this land on the other hand, the same products, can attract interested visitors that can go on striking and original wine tasting tours.

As a consequence, food and wine tourism seems, as another way towards promoting the extra virgin olive oil and other local products: in fact, **the gourmet tourist** is looking for restaurants, is interested in wine tastings and festivals, in visiting wineries and food companies, open to the public; furthermore, this type of tourist is interested in buying as a sort of souvenir, local quality products. So, it is clear, that this type of tourism is not only a resource for the region's economy, but also an exciting form of advertising at no cost.

7.2.2 Medicine, cosmetics and olive oil

As already mentioned, a major new opportunity for extra virgin olive oil may also consist in the promotion of its use as a cosmetic or even as a medicine. Speaking of new opportunities is not, in fact, entirely correct if you consider that already Hippocrates (460 - 377 BC) recommended the juice of fresh olives to cure mental illness and macerated olive compresses for skin ulcers. Since ancient times, olive oil has been considered essential for personal hygiene for cosmetics, to make your hair soft and shiny, for muscle massage, to promote wound healing and to treat burns and diseases that interested stomach, liver and intestines.

Since the paste, the olive oil has been used as an emollient and anti-inflammatory, product, even if only recently has been demonstrated that it has a very similar composition to a naturally by skin produced sebum. Furthermore, the olive oil is among the natural lipids one with the greatest acidic affinity with the skin and fat man tissue: this characteristic makes of the extra virgin oil an extraordinary ingredient to the modern cosmetic industry.

The olive oil and 'consists of about 98% of triglycerides, which represent the saponifiable component, and of about 2% of unsaponifiable component, that does not undergo any alteration if subjected to the action of alkaline substances. In the cosmetic field the most valuable component is precisely the unsaponifiable one, that apart from vitamins A and E (known for their antioxidant properties), contains squalene, a hydrocarbon able to penetrate into the deeper layers of the skin and to renew it.

The other edible vegetable oils, which also have emollient and moisturizing properties, are produced using chemicals and refining processes, involving the loss of almost all minor components (such as antioxidants), but which are present in extra virgin oil, for this reason, extra virgin olive oil, mechanically produced, is the only one capable of exerting a restorative and anti-aging action, promoting cell regeneration and contrasting cell aging caused by free radicals and sunlight.

Cosmetic properties are added to the undoubted beneficial effects that the extra virgin olive oil has on health. Specifically extra virgin oil:

- contrasts the aging of cells;
- makes the levels of "bad" cholesterol in the blood lower;
- prevents the onset of cardiovascular diseases;
- prevents many degenerative diseases and cancer (as has been underlined by the scientific conference, organized in March 2012 by UNAPROL and LILT, the Italian League Against Cancer).

To promote extra virgin olive oil as a food "treatment" may be a smart move if one considers the increasing attention to health and well-being of consumers and the worldwide success of the Mediterranean diet, of which olive oil is the undisputed basic element.

7.2.3 Oil as a source of energy

We saw how olive oil can be used as a tourist attraction, cosmetic or even as a medicine.

According to many experts, however, it could also be used as an energy source. When it comes to energy exploitation of olive oil there is no reference to extra virgin olive oil but to striking oil ("lampante"), so called because in the past it was used to power **the oil lamps**. In Italy, lamp oil is mainly produced in some parts of the south, including Salento, where the particular shape of the olive trees makes it very difficult to collect it directly from the tree, and you must wait until the olives fall naturally to the ground.

The oil extracted from these olives presents a rather high (above 2%) acidity and / or other organoleptic defects. This oil, in order to be consumed, requires refining processes; subsequently it is mixed to a variable percentage of extra virgin olive oil to make it more pleasant to taste. The final result is called Olive Oil (when it is not even disguised as extra virgin oil).

In the opinion of some politicians and experts, Apulian striking oil displacement from the food to the renewable energy could revive the fortunes of olive cultivation in Salento. This proposal derives, in part from a desire to preserve the beauty of the Salento countryside, avoiding their invasion by solar panels or wind turbines, but also by the need to "dispose of" the striking oil: a power system based on olive oil would not only disrupt the beauty of the landscape, but also absorb the production of olive oil of poor quality, eliminating the lamp oil from the market and preventing it to be sold, in disguise, in bottles as extra virgin olive oil.

CONCLUSIONS

The future scenario of the olive oil sector will be characterized by growing competitiveness.

Even now, in fact, beginning to appear on regional and provincial markets new producers with great potential that, in the medium term, could establish themselves also on an international level.

Add to this that the consumption of oil could continue its slow but steady growth, thus opening up new opportunities for Italian and Puglia's companies, however, many of which are already present and with a lot of appreciation into the consumers outside the national country.

The unknown concerning the consumption is the one linked to whether or not to bring in

the medium term a further segmentation of the demand that might reward, in terms of price differential, the productions with the highest quality standards.

In addition, the increasing importance of the modern distribution (DM) in the commercialization of the product will intensify the agreements along the entire production chain.

Then there is the problem relating the rationalization's cost. In Italy, given the structure of olive growing production, the production costs are on average higher than in other areas, first of all Spain, where the morphology of the territory allows another type of olive growing with lower costs.

So, considering always the restrictions, Italian and Apulian olive growing will modernize the plants to keep costs down to make sure that there are profit margins for producers.

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REGULATORY FRAMEWORK

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- Commission Implementing Regulation (EU) No 357/2012 of 24 April 2012 amending Regulation (EU) No 29/2012.
- Council Regulation (EC) No 1234/2007 of 22 October 2007 (amending the Council Regulation (EC) No 1513/2001 of 23 July 2001) which in the Annex XVI indicates the descriptions and the definitions of olive oils.
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