



PORTUGUESE ORGANIC FARMING - OVERVIEW

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1. INTRODUCTION

The present report is part of the Green Food Project which is coordinated by the IFES evolving five European countries. The main goal of this report is to analyze the organic farming activity in Portugal.

This report presents a wide view of the Portuguese agriculture, both conventional and organic. However, the document is particularly more focused in the organic agriculture evolution.

In Chapter 2 and 3, we focus the study over the conventional and organic agriculture main trends, analyzing its recent changes. In Chapter 4, we analyze the organic farming present training offers, as an important factor for contributing to the expansion in the cultivated area. Finally a deep analysis is made over the e-learning approach as a way to improve and promote knowledge in organic techniques and procedures.

2. THE AGRICULTURAL PRODUCTION IN PORTUGAL

2.1. General Economic Data

2.1.1. Main facts

Portuguese agriculture has undergone many changes, especially after joining the *European Economic Community* (EEC) in 1986. The application of the *Community Agricultural Policy (CAP)*, and *the National Strategy for Agricultural Development* led to the facts summarized below:

In what concerns the *farm structure*, between 1989 and 1999, the number of agricultural holdings was reduced for about half (-46%), although the average size of the holdings increased from 6.7 to 9.3 hectares. The same scenario occurred between 1999 and 2009, with a more intense decrease of the number of agricultural holdings (-62,9%) and an increase of the average size of the holdings from 9,3 to 11,9 hectares. In 2009 only 6% of the holders received their income exclusively from structured holdings (7,3% in 2005 and 11,1% in 1989). Finally, between 1989 and 2009, holders with 65 and more years have increased from 29% to 48%, showing an increasing aging of the Portuguese agrarian population.

Changes in *vegetable production* over the periods 1980-1984 and 2002-2006 highlights a decreased in cereals production area for less than half (902000 for 438000 hectares); Meanwhile, tomatoes production for industry almost duplicated from 532000 to 1006000 tones; More than tomato augmentation index, orange production had strongly increased (+94%);

Finally, wine production decreased from 9105000 to 7049000 hectoliters (-2.6%), but high quality wine, like DOC's, increased extremely.

Over the period 1980-2006, *animal production main changes* emphasizes pig activity, where production more than doubles over this period (+110%). Also, poultry meat production increased from 172000 to 294000 tones (+71%). Very much important for Portugal, cow's milk production became twice as much over the mentioned period (+105%). Lastly, cheese production increased around 77%.

In global terms *agricultural economy* over the periods 1980-1984 and 2002-2006 highlights the increasing value of agricultural production with an augmentation of 246% at current prices, but only 12% at constant prices. In addition, the Gross Value Added increased 225% at current prices, but decreased 1% at constant prices. Net Entrepreneurial Income per Annual Work Unit (AWU) rose notably from 227 to 4800 Euros, while Gross Fixed Capital Formation increased twice and a half. To finish, the value of agriculture GVA in the national GVA decreased from 8.8% to 2.2%, which means that low levels of quality food processing are leading.

Between the periods 1995-1997 and 2003-2005, general price index of *agricultural products* augmented from 100.7 to 108.3. Showing a higher evolution than previous values, price index of goods and services consumed in agriculture increased from 101.4 to 110.4. More dramatically, price index of machines and other equipment goods in agriculture increased from 102.7 to 128.5. Finally, one must emphasize that food prices have significant impact over national inflation.

For the periods 1980-1984 and 1990-2003, *food consumption* shows a global increasing of 20% on the daily calories capitacion (without beverages). More specifically, (again without beverages), daily capitacion of proteins, carbohydrates and fat has increased over those periods (34%, 11% and 6%, respectively). Meanwhile, Annual Gross Capitacion of beans, roots and tubercles decreased from 143% to 109%, highlighting a significant taking apart from the typical Mediterranean Diet. Over the period, the Annual Gross Capitacion of fruits more than duplicated (from 64 Kg to 129 Kg). In what concerns the Annual Gross Capitacion of milk and dairy products we can record an increasing from 76 to 125 Kg although up date studies emphasizes the stagnation on this kind of consumption.

Between 2000 and 2004 *agricultural trade* has been increasing, but less rapidly than the overall national trade. Significant differences between exports and imports are noticed, with agricultural external trade contribution to the economy's external trade decreasing from 4.6% to 4.4% for imports, while an increasing from 0.9% to 1.4% for exports was recorded. A constant negative balance indicates a consolidate trend in the expansion of the food deficit. In fact, in 2005/2006, there was only self-sufficiency on wine and milk (122.1% and 111.7%, respectively). Thus

Portugal highly depends from abroad, mainly in products such as cereals, (only 16.8% of self-sufficiency), beef and veal (54.4%), potatoes (56.6%) and fruits (67.2%).

2.1.2. Main trends of conventional farming - recent data

Despite of the changes that have occurred in the structure of the Portuguese agricultural holdings since the country joined the EEC, this has not been sufficient to make the activity economically competitive.

The preliminary information of the Portuguese general agricultural census (RGA 2009), indicate that farms still occupy half the country's geographical area. However, in the last ten years 112.000 farms have disappeared and their area decreased by more than 450.000 hectares. The average size farms increased 2.5 hectares in terms of Utilized Agricultural Area (UAA), standing in 11.9 hectares. However, around 75% of the production units are still operating below 5 hectares of UAA.

The agricultural landscape has changed significantly, shifting its focus to extensive production systems. Therefore, arable land is decreasing while permanent pasture is increasing, occupying now half of the national UAA. Meanwhile total number of livestock declined over the past ten years.

From 1989 to 2009, the agriculture holdings structures suffered a lot of alterations, and despite this evolution, there still exist several constraints that make Portuguese agricultural activity less competitive within the national economy. During this 20 years period (1989-2009), the average size of the holdings in Portugal almost doubled, passing from 6,7 hectares to 11,9 hectares.

Between 1999 and 2009, the decline of the UAA (-6%) was lower than the number of farms (-27%), which resulted in increased UAA average farm in more than 2,5 hectares, from 9,3 hectares to 11,9 hectares.

This concentration of land is evidenced by the increased relative weight of the farms with 50 or more hectares of UAA, which have occupied two thirds of the UAA.

In what concerns to workforce, it continues to be consisted strongly by familiarly farms. According the national INE (2010), the percentage of aging farmers (older than 65 years) has increased, representing in 2009 almost half of the agriculture producers (48%). Agriculture and resource-based primary employment has declined in importance, decreasing from 34,2% in 1974 to 11,1% of the workforce in 2009.

The instructional and professional level, although presenting a favorable evolution continues to be insufficient. In fact, the percentage of producers

with higher levels of education increased from 15% in 1999 to 25% in 2009. Despite this improvement, more than half of farmers (52%) only completed the 1st cycle of basic education (INE, 2010).

The differences in the employment of agriculture by region are huge and significant along the period 1991-01 (Table 1). Agriculture was still particularly important in the Alentejo region and the Norte/Centro regions recorded the highest decrease in terms of active population occupied in agriculture.

Table 1 - Active population working in agriculture and forestry as percentage of total economically active population (mainland Portugal) (%)

NUTS II	Contribution to NUTS II		Var. in agric. & for. pop. 91-01
	1991	2001	
Norte	10.2	4.4	-50.8
Centro	14.4	5.8	-53.6
Grande Lisboa	1.3	0.9	-19.9
Alentejo	20.4	10.8	-42.8
Algarve	9.3	4.1	-41.7

Source: INE, CENSOS, 1991 e 2001; in: "Agricultura, Silvicultura e Pesca-Indicadores", GPP, Lisboa, 2007

Although the permanent overall changes on these standards, the relative positions among regions still maintain. According the RGA2009 Portuguese agricultural population is now composed by fairly 790000 people, representing a decrease of 36% since 1999.

In terms of value added, the highest share is recorded for the Centro, with 33%, followed by the Alentejo and Norte regions, with 30% and 25%, respectively (see Table 2).

Table 2 - Agriculture, animal production, hunting and forestry's Gross Value Added at basic prices distribution (NUTS II mainland Portugal) (%)

NUTS II	2000	2001	2002	2003	2004	2005	2006
Norte	23	24	23	23	24	26	25
Centro	34	32	30	31	31	32	33
Grande Lisboa	4	6	5	5	4	5	5
Alentejo	32	31	34	33	34	31	30
Algarve	7	7	7	8	7	6	6
Mainland Portugal	100	100	100	100	100	100	100

Source: GPP "Agricultura, Silvicultura e Pesca - Indicadores", Lisboa, 2009

Over the last decades, grain cereals area dramatically decreased, while corn and the industrial crops significantly expanded their productivity (and in a lower percentage, their total production). Orchards of pears, cherries and

some dry fruits are increasing, while Mediterranean agriculture products, like some vegetables, presents excellent potential within the Portuguese agricultural scenario.

Besides cereals, reduction on arable lands was also extended to other temporary cultivations, which were strongly restricted by the "aid policy" within the Common Agriculture Policy (CAP). As a consequence, the whole production system was affected, although some productions, such as corn and industrial plantations (mainly tomato for industry), showed important increases in productivity and total production.

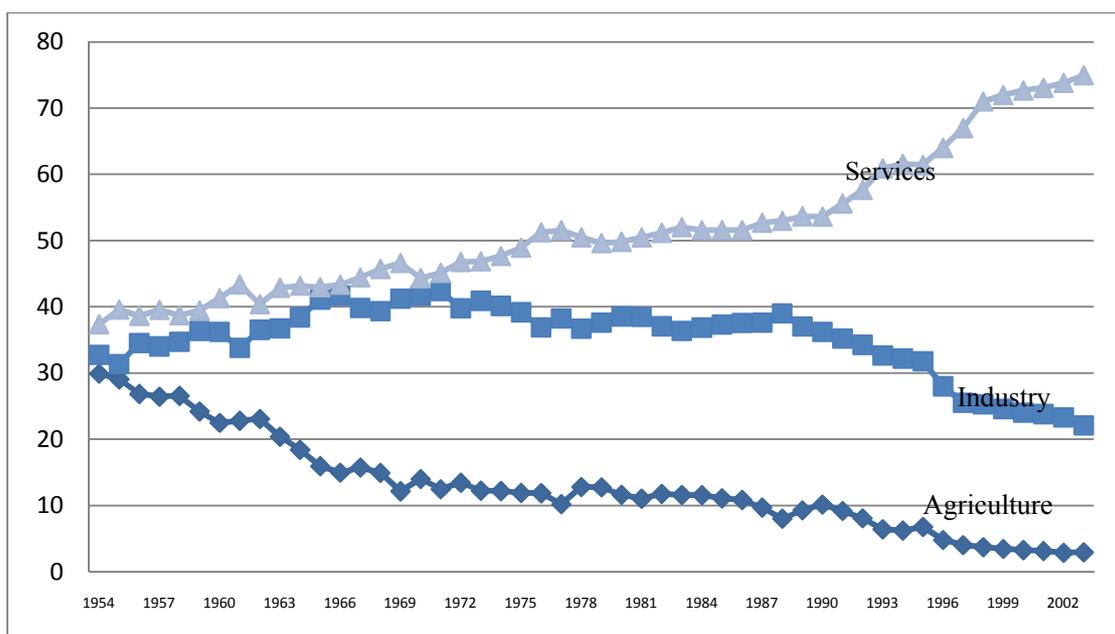
As mentioned before, the evolution of some permanent plantations, like oranges, must be emphasized since its global volume has duplicated between 1986 and 2006. Nowadays, pears, cherries and some red and dried fruits have excellent market possibilities as a consequence of the improvements on the agricultural systems (namely, irrigation), as well as the result of full production of the new orchards. Mediterranean products such as wine and olive oil present a huge capacity to growth, as long as significant investments still go on. Therefore, political assumptions on this field are assumed, since strong investments on these two products are located within the "Rural Development Program 2007-2013".

Concerning animal productions, between 1999 and 2009, there has been no virtually change in the number of cattle, while pig, sheep and goats productions have seen the number of heads decrease (between 20% and 25%). However, this decreasing trend was lesser extent than the respective diminution of the number of farms. Despite this change, the number of animals per holding shows a trend toward stabilization, as a consequence of the better holding structure and the increase on forages area and production.

As before, the forecasted evolution for Portuguese agriculture points out the next relevant points: i) consistent loss of significance within the overall national economy; ii) activity highly dependent on aids and subsidies; iii) investments highly oriented to plantations and machinery; iv) increasing weight of fuel and other sources of energy in the overall internal consumption of the agriculture activity, and; v) difficulties to understand and take advantage from the global market.

As we can see bellow, since the middle fifties, the importance of agriculture in the Portuguese economy has sharply decreased. Although this is a normal trend in OCDE countries, values recorded are still high in comparison to the average values performed in the EU.

Figure 1 - Production's structure in Portugal (1954-03); Distribution by GDP; prices from the previous year (%)



Source: Nunes, F. (2007), from *Séries Longas para a Economia Portuguesa* (Banco de Portugal, 1997), for the period 1954-95; for the period 1996-2003: *Contas Nacionais Anuais 1995-2003* (INE, several years).

Agricultural share in the national GDP (Gross Value Added at basic prices Agriculture/GDP Economy) has been reduced till 1,3% in 2007, slightly, above the EU27 average index (1,2%).

From 1980 to 2006, especially after Portugal joining the EEU in 1986, the country received a significant amount of subsidies. These subsidies were used fundamentally to support cereals and bovines sectors, which together made up more than half of the total amount of subsidies addressed by the CAP to the Portuguese agriculture (even if, as we have seen above, cereals are each time less important in Portuguese agricultural context).

The investments made in the national agriculture were higher during the eighties, as a result of the huge expectations of farmers and the low level on the interest rates. With investments focused on machines and plantations, Portuguese holders strongly bet on the mechanization of their farms. In 2009, six in each ten farms had at least one tractor, but mechanization is more intense in the farms with higher UAA. Even if the importance of agricultural production (cereals, fresh fruits and vegetables, olive oil, wine and industrial crops) had been decreasing throughout the years, Portugal, as well as the other Southern European countries, strongly invests in this type of production. Nevertheless, agricultural production is still more important than the national animal production sector, and this position is totally consolidated nowadays.

Expenses with animal food are a significant part of the agriculture operating costs structure, as well as the constant increase on the agriculture services expenditure and the absolute value for energy and lubricants.

The comparison of the main agricultures figures between Portugal and the European Union can be seen on Tab. 3.

Table 3 - Portugal versus EU-27 (2007)

INDICATOR	PORTUGAL	EUROPEAN UNION
Agriculture/total population	working 6,8%	5.2%
GVA/GDP	1,3%	1.2%
Agricultural GVA/GVA total economy	1,5%	1.4%
AWU/total employment	7,7%	5,4%
Forestry Area	3.7 millions ha (2,5%)*	145,5 millions ha*
Burned forestry	214 thousand (43,4%)*	492,5 thousand ha*
Number of fires	28.600 (44,5%)*	64.300

* From the EU25

Source: Plano Estratégico Nacional - Desenvolvimento Rural / Portugal 2007-2013, MADRP, 2009

The comparison between the evolution of the Portuguese agricultural output and the EU average highlights that Portuguese agricultural output is decreasing slightly less rapidly than European output, on real producer prices, but slightly more rapidly if we consider instead real basic prices. In what concerns crop real output, Portuguese values are increasing moderately while decreasing in the EU. Animal real output is declining in Portugal more rapidly than in the EU, but the output in volume terms augment more rapidly in Portugal than in the EU. Finally, real prices decreased less rapidly in Portugal than in the European Union for crop output and more quickly for animal output.

An overall view over the economic performance indicators shows up a significant and steady growth in Portuguese real agricultural income per unit of labor. Nevertheless, Portuguese agriculture continues to manifest several specific and structural difficulties. Thus, one can point out that the economic output and income per labor unit, even though they are improving, are still very low. These low incomes are strongly dependent from the fact that Portuguese agricultural holdings are in general poorly equipped with land, variable and fixed capital.

Despite all the constraints, we must emphasize the significant development in the quality of the Portuguese food products over the last thirty years. Among those products, a special reference must be made to the those included in Protected Designation of Origin (PDO), especially fruits (56.4%

of the production in value), veal (14,7%), cheeses (13,8%), and olive oil (9,1%), represent, in average, about 3% from total national production. Portuguese PDO products experienced a significant increase in volume during the period 1998-2003 (12% per year). However, in the same period, prices grew much less (2,5% *per year*), sometimes below the average growing index prices for food products in the same period (3,3%). Consequently, one must conclude that the vast development recorded on the number of the Portuguese PDO as well as the increasing quality and volume obtained weren't followed by a valorization on the market. This phenomenon it's extensible to the Portuguese organic food market where additional efforts must be done in order to improve higher added value.

Social and market issues

Almost 40% of Portuguese total population resides in predominantly or significantly rural regions. Thus, maintaining or even increasing the competitiveness of rural areas is an essential issue. In this sense, the role played by agriculture and agri-food industry is crucial. In last years, continues to occur the trend of population concentration in Atlantic territory, where most major cities are located. As a result of this immigration, there hasn't been a real and intensive transformation of agricultural structures. Rather, there has been a deep process of desertification in rural areas.

In 2009, for the majority of the rural population, agricultural work is mainly a part-time employment. In fact, only 1/5 of the holders work in a full-time basis. Also, 84% of the farmers have a major remunerated occupation outside of the farm. The importance of the part-time agricultural work, mainly those of familiar nature, is quite visible in all regions of the Portuguese mainland. In the total amount of holders, about 80% is almost exclusively familiar work. For the period 2007-2013, Portugal had three rural development plans within the European Agricultural Guidance and Guarantee Fund (EAGGF): one for the continent, one for the Azores and one for Madeira. They related only to four measures of Regulation No (EC) 1698/2005, the four former accompanying measures, with the distribution of financing given in the next Table.

Table 4 - Distribution of EAGGF financing in Portugal (2007-2013)

Key priorities	Fund distribution (Million €)	(%)
Priority 1: Improving the competitiveness of agriculture and forestry	1.653 to 2.067	40-50%
Priority 2: Environmental and rural space improvement	1.446 to 1.860	35-45%
Priority 3: Quality of life in rural areas and diversification of rural economy	413 to 496	10-12%
Priority 4: LEADER	330 to 496	8-12%
TOTAL	4.134	100

Source: PEN, GPP, 2009.

The major part of the funding distribution (75% to 95%) goes to the improvement of the competitiveness of agriculture and forestry. The environmental and rural space improvement is included in these priorities.

Agricultural trade

The contribution of the Agro-Forestry Complex to the Portuguese economy has been negative, with an increasing deficit of the commercial agro-food balance, despite the increase on national exports and a superavit on the forestry cluster. In 2006 the deficit of external trade and trade balance was of 1.526 million Euros (GPP, 2009). Consistently, Portugal is a net import country in the agro-food complex. Since Accession, the increase in the agro-food imports has been exponential despite the augmentation of the internal production, unable to face the strong domestic demand. This situation has been particularly noted in sectors like olive oil, cereals, fruits and pork, even if with symmetric reactions among these products. Portugal has a strong and consistent export orientation on wine, while sectors like olive oil, rice, fresh fruits and vegetables, poultry and eggs, milk and dairy products often use imported products to satisfy the domestic demand or to permit the exportation of other higher value added products.

Portugal is a net export country on forestry products like cork, wood, paper, paper paste and furniture where the imports have been decreasing and a consistent augmentation on exports during the last seven years. In 2006, the forestry commercial balance was of 847 million Euros.

Portuguese dependence on the EU market is increasing since 1993. In 2004 about 75% of the domestic agro-food complex was met by EU origin products, and about 76% of the country sales were to other EU Member States. This accounts for more than 90% of Portuguese exports of wood,

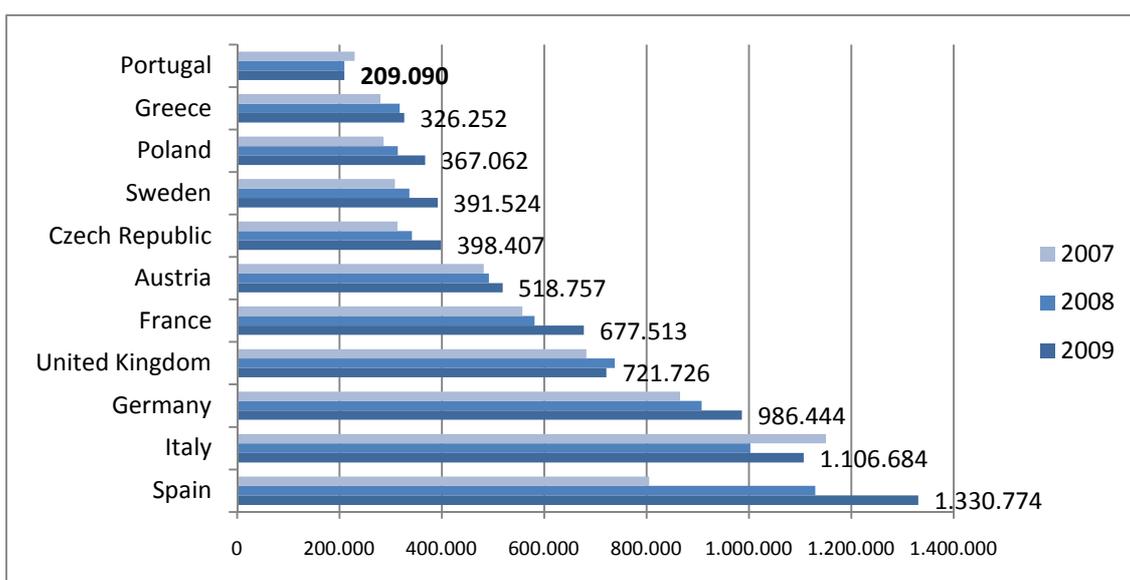
furniture and pulp, about 50% of cork products, and 74% of paper (PEN, 2009).

3. THE ORGANIC FARMING IN PORTUGAL

The Portuguese scenario

Portuguese evolution in organic agriculture, compared with other European countries like Austria, Denmark or Switzerland, started rather late. In 1985, when the first national organic agriculture association was founded, Portugal had just one operator and 50 hectares under production, contrasting for example, with 2500 operators and 45000 hectares of organic production in France, in the same period. Nowadays the situation of organic agriculture has changed, and in 2009 Portugal was the eleventh country in Europe with more area under organic farming, and the tenth in percentage (6,02%), with 209.090 hectares, according to FiBL data. In the RGA2009 (INE, 2010) were surveyed about 1300 certified organic farms, which 37% were related to livestock. Organic farming represents 3% of the national UAA, with the bulk occupied by permanent pasture. In fact, only 1% of vegetables and vineyards, 2% orchards and 3% olive groves are organic. There are several differences between the individual countries, regarding the importance of organic farming in EU-27. In 2009, in absolute value, Spain had the most important organic area with more than 1300000 ha, followed by Italy, Germany, and United Kingdom. Portugal occupies the eleventh place in the EU-27. The ten countries with the largest areas of organic agricultural land represent 81% of EU-27 area of organic farming and 87% of the producers.

Figure 2 - The ten countries with the largest areas of organic agricultural land in EU27

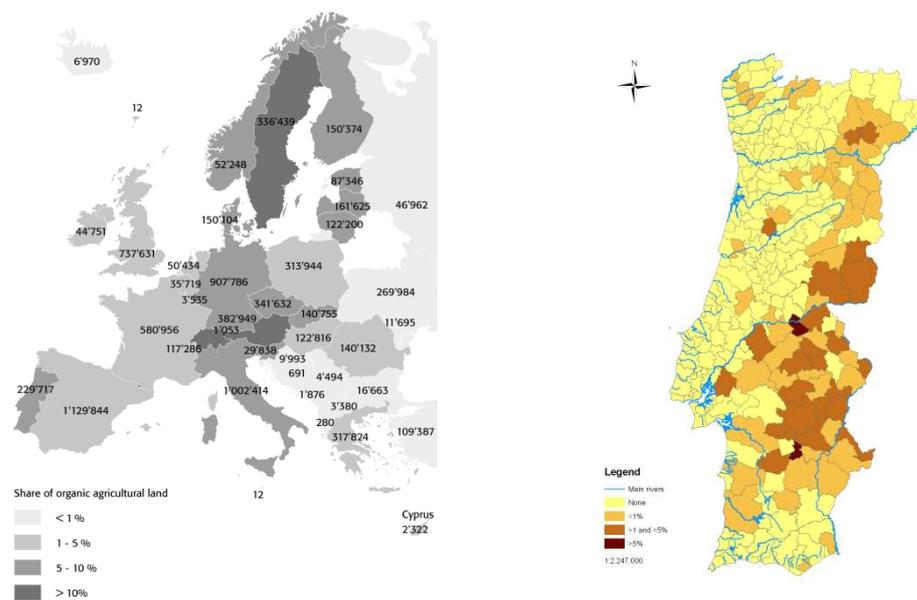


Source: FiBL Survey, 2011

In 2009, regarding the percentage of land used in organic farming, in Europe, Austria (18,5%), Sweden (12,5%), Estonia (10,5%), Czech Republic (9,4%), Latvia (9,1%), Italy (8,7%), Slovakia (7,5%) and Finland (7,2%) were the ten countries with the highest shares of organic agricultural land. **Portugal** (6%) is the eleventh country in the list. All the countries, except Italy and Portugal, had a tendency in the last three years for increasing the share of organic agricultural land. Italy inverted the decline tendency in 2009, but Portugal decreased in 2008 and maintained its area in 2009, which made it be away from the top ten lists.

In 2009, the subventions paid to organic farmer (middle map) shows that the Portuguese regions that have the highest shares of organic agricultural land are located in the interior of the country and slightly concentrated in the Centre and South (Beira Interior and Alentejo). In fact, Portugal almost achieved its goal of 7% share of organic agriculture in 2007 as defined by the National Plan for Developing Organic Farming, obtaining 6,6%.

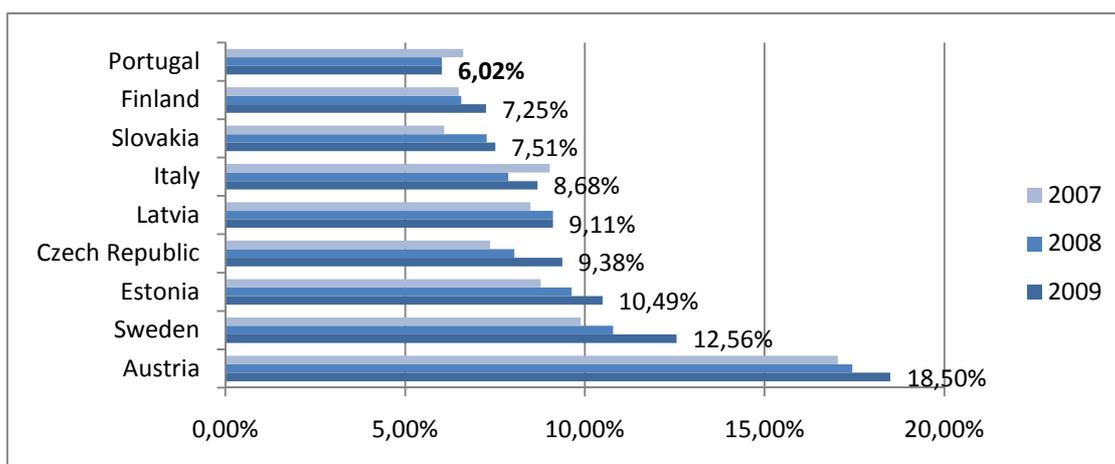
Figure 3 – Percentage of land used in organic farming in Europe and Portugal



Source: FiBL and AMI 2010.
1999

Source: GPRC – AEST, 2010 and INE-RGA,
1999

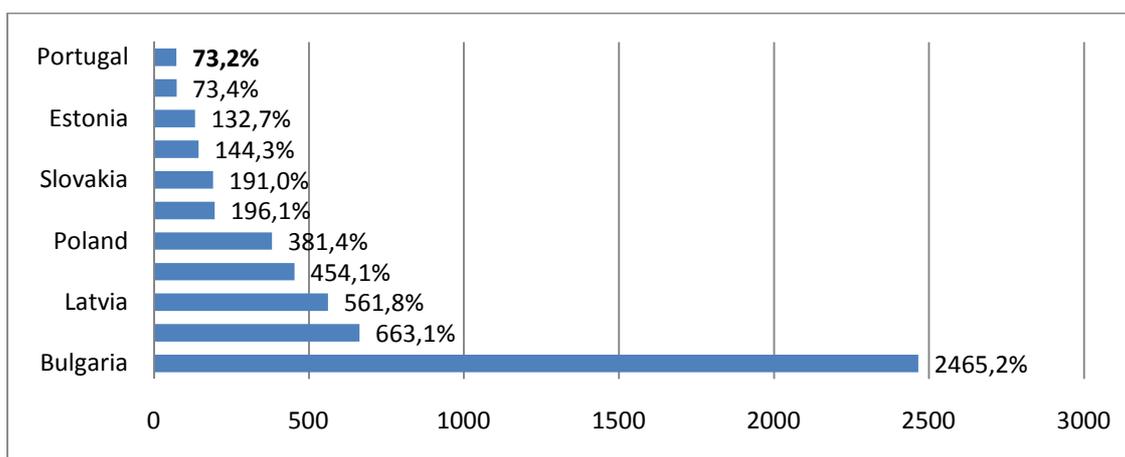
Figure 4 - The ten countries with the highest shares of organic agricultural land



Source: FiBL Survey, 2011

In the EU-27, despite the evolution in terms of area in absolute numbers, some countries had a significant increase. For example Bulgaria went from 650 ha in 2003 to 16.663 in 2009, representing an increase of 2.465,2%. The Fig. 5 (below) shows the ten countries that had the highest increase (in percentage) of organic land between 2003 and 2009. **Portugal** occupies the eleventh place in the list (+73,2%), and evolved from 120.729 ha in 2003 to 209.090 in 2009.

Figure 5 - The countries with the highest increase of organic land in EU27 (2003-2009)

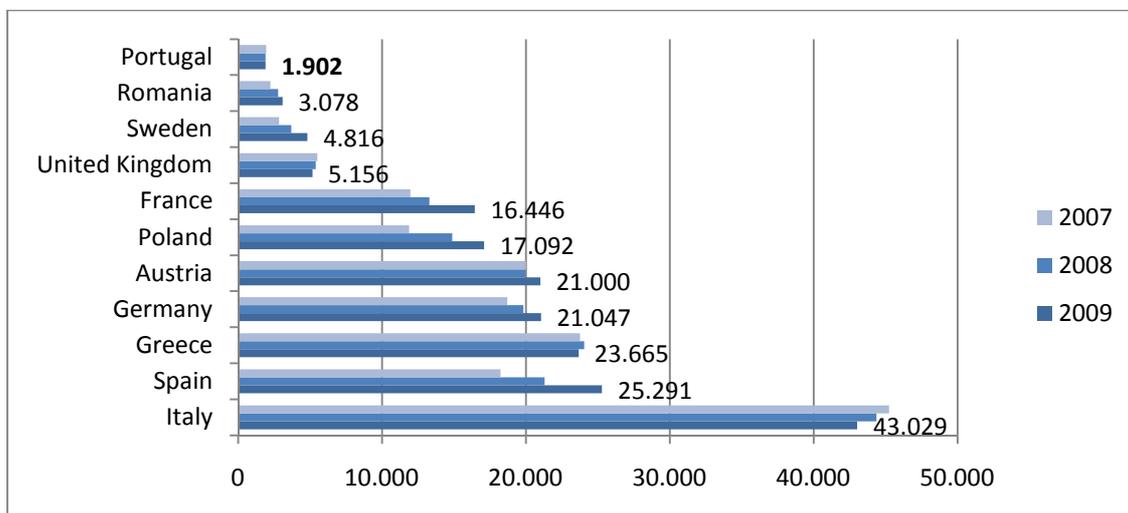


Source: FiBL Survey, 2011

Regarding the number of producers, between 2007 and 2009, some countries have stabilized or presented minor decreases the number of producers, such has the United Kingdom (-6,3%), Italy (-4,8%), Portugal (-2,4%) and Greece (-0,5%), while other countries strongly increased the

number of producers, for example, Sweden (+69%), Poland (+43,7%), Spain (38,7%), Romania (37,5%) and France (37,3%).

Figure 6 – The countries with the highest number of organic producers in EU27



Source: FiBL Survey, 2011

The growing interest in organic farming can be explained both by the financial support offered by the European Union and higher market prices. Besides, in some areas/productions, traditional farming is very similar to organic farming methods, which eases conversion (ex. olive groves of the northern and central areas). Conversion in horticulture is not so easy, due to the necessary technical conditions, and therefore there are not as many farmers converting to organic farming.

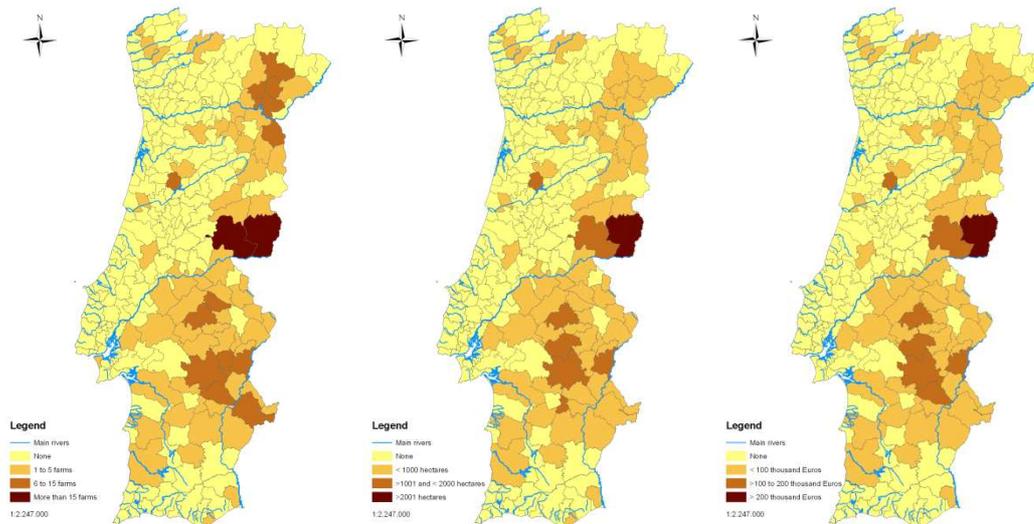
Also, the Portuguese increase of purchasing power and the fact that organic farming appears to be something desirable (because of its guarantees of healthy products and the protection of the environment) explains the crescent demand of organic products.

The highest number of certified organic farmers is concentrated in the Trás-os-Montes, Beira Interior and Alentejo Regions. These interior regions have mainly extensive agricultural systems, where the conversion to organic farming is easier and there is less pressure for land use changes.

In the coastline, where there is higher population densities, the number of organic farms is lower, and the average farm size is smaller.

Differences in soils, climate and production agro-systems conditions promote these differences, allowing that greenhouse crops concentrate along the coastline and dry farming concentrates along the border, producing cereals and olives, which need larger areas.

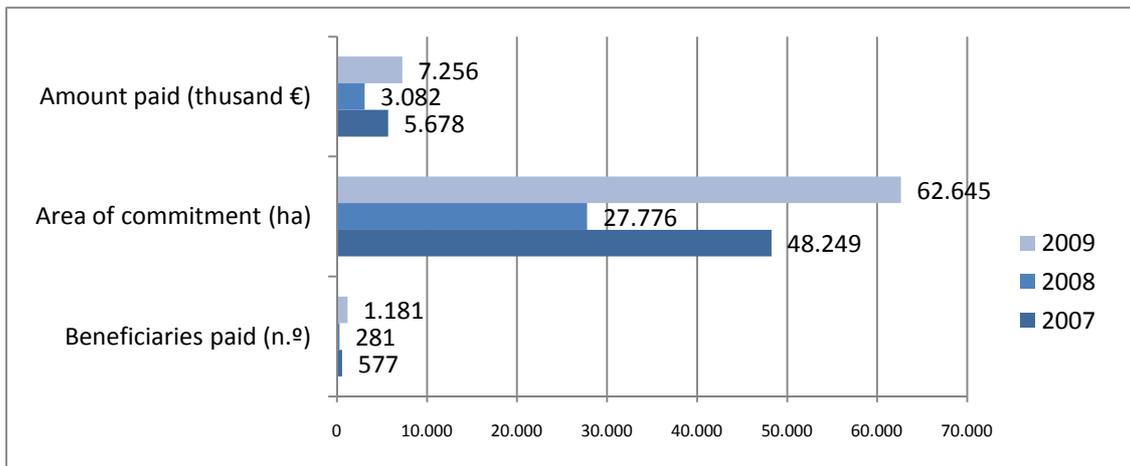
Considering the data from the Institute for Finance Agriculture and Fishery (IFAP), the organic farms that received subsidies in 2008 are concentrated in the interior, mainly on Alentejo and Beira Interior. The information points that the major area under organic farming and the amount of subsidies paid are also distributed by the same areas.



Source: IFAP, 2010

Figure 7 – Number, area and amount of subsidies given to organic farms in Portugal in 2008

The IFAP data for annual payments of subsidies for organic farming indicates that the number of organic farmers, the amount of subsidies paid and the area of commitment have increased from 2007 to 2009, but in 2008 has register a significant decrease. In 2009, 62% of the organic farmers received subsidies to support this activity, but only 30% of the area is being subsidized.



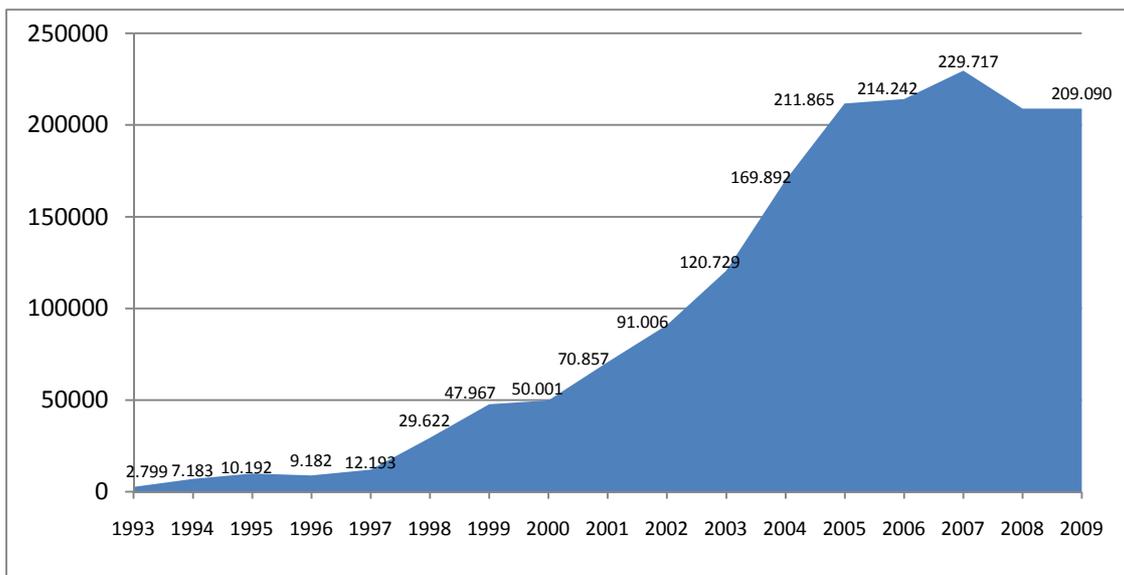
Source: IFAP, 2010

Figure 8 – Number, area and amount of subsidies given to organic farms (2007-2009)

Regarding the contribution of organic farming to public health, the interviewed experts, pointed out that the CAP should give more and continued support to organic holdings, and not only regarding the activity installation. The experts recognize that the financial support is important, but since they contribute to sustainable production methods, this contribution should be increased.

From 1993 to 2009, the area under organic agriculture grew 206.291 hectares, and the average area per farm grew from 38,3 hectares/farm to 109 hectares/farm, indicating a strong growth in organic agriculture (however, one must consider the average bias).

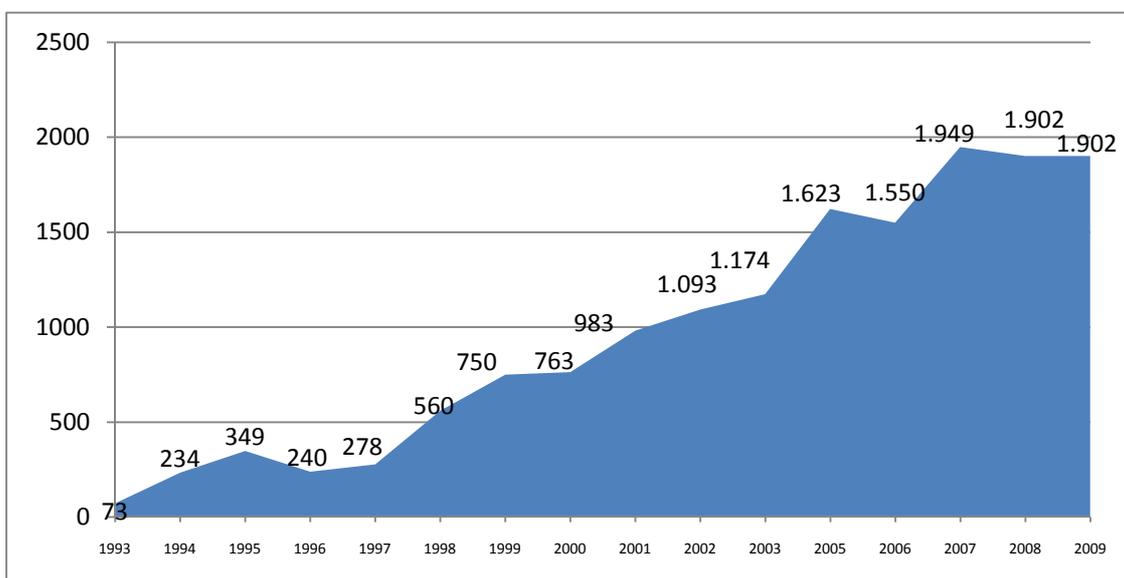
From 2003 to 2009, Portuguese organic farming evolved, increasing the area in 88.361 hectares (+73,1%), but in the last three years this tendency inverted and suffered its first decline in 2008, (-8,9% than in 2007). This information is confirmed whit the data from de IFAP payments to organic farmers and reflects the impact of economic recession and a period with a difficult access to investment measures of CAP.



Source: FiBL Survey, 2011 and PDAB, 2003

Figure 9 – Total area under organic farming in Portugal (1993-2009)

In 2009 there were 1.902 organic farms in Portugal and the number of organic farmers has increased through the years with the exception of 1996 (-31%), 2006 (-4,5%) and 2008 (-2,4%).



Source: FiBL Survey, 2011, and PDAB, 2003 (no data for 2004)

Figure 10 – Number of organic holdings in Portugal (1993-2009)

The most important challenge facing production is the lack of organization of the Portuguese organic farming market. Regarding this issue, it is essential to build a strategy of a market orientated production.

Most of the processed organic products consumed in Portugal are imported. According to study that surveyed 90 organic farmers (GEOIDEIA, 1999), 41 percent sold their production at conventional markets, 20 percent directly from the farm, 30 percent to distributors, 30 percent to industry and 18 percent to consumers' co-operatives. This study also stresses that marketing is the greatest limiting factor for their activity, either because the demand is still small (mentioned by 42 percent), the distribution network is weak (66 percent), or there is not enough information about the markets (63 percent). In this study we can confirm that the olive oil is one of the most important Portuguese organic processed products. This product is intended for domestic consumption, but is also widely exported. Generally, olive oil producers are small/medium scale. Among the 90 oil producers interviewed in the study mentioned above, 41 percent had a total capacity of less than 1000 liters per year and 87 percent had a total capacity of less than 5000 liters per year.

Wine is the second most important organic processed product. However, due to legal restrictions (*potassium metabisulphite*, used during processing) this wine is not considered as "organic wine". Nevertheless, winemakers can sell their wines mentioning "wine produced with organic grapes".

In Portugal, professional associations of organic farming are relatively new and there are few general commercialization actions.

Few years ago, the main places to find organic products were specialized shops, but nowadays organic products can be found in most important supermarkets, and there are several local markets in urban areas, where producers sell directly their products to consumers. Also, the number of supermarkets that sell exclusively organic products is increasing.

In 2005, the consumption of organic food per capita was of 5 €/per person (FiBL, 2008)

The more successful exported organic products are the olive oil, the wine and also dry fruits. Never less, a large amount of transformed and horticulture products are imported from other EU countries.

Fruits, vegetables and olive oil

Due to the soil and climate conditions, the most common Portuguese organic vegetable products are the potatoes, dry fruits, fresh vegetables, medicinal plants, fruits, olive oil and wine.

In 2008, the main crop on organic agriculture in Portugal was the permanent grassland (71%) followed by the cereals (12,4%), olive (7,8%) and fruits, nuts and other dry fruit's (3,2%). Regarding the number of holdings the olive is the most significant (24,3%), followed by permanent grassland (21,5%), fruits, nuts and other dry fruit's (17,1%).

Regarding the production of fruits, nuts and other dry fruit's, between 2005 and 2008, the number of holdings increased 149% and the area increased 51%, despite the average of the holdings decreased 6,3 hectares/holding. This fact illustrates that the new holdings are smaller than the ones that already were working.

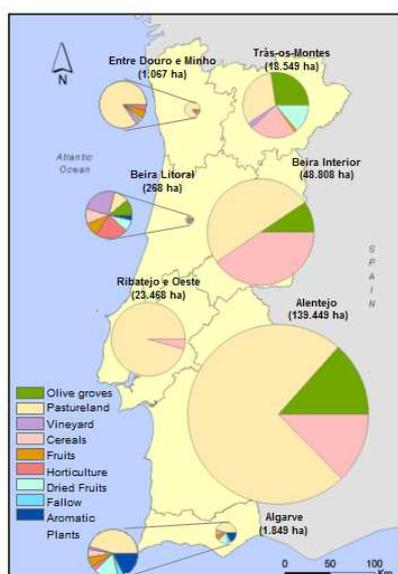
The number of organic vegetable producers increased 13% in just 3 years, rising from 290 farmers in 2005, to 327 in 2008. Despite this increase, the vegetables holdings average area increased 5,9 hectares, meaning there are more farmers and the holdings are bigger. The area of organic olive groves decreased 13% in three years, going from 19.330 hectares to 16.759 hectares.

This decrease had an opposite tendency in the number of holdings that, in the same period of time, increased 279%. With this decrease of area and high increase in the number of holders, the average size of the holdings decreased from 72,1 hectares to 16,5 hectares.

Table 5 – Crops in organic agriculture

	1994	2005		2008		Δ05-08 (%)		Ha/holding		Δ05-08
	(Area)	Area	Prod.	Area	Prod.	Area	Prod.	2005	2008	
Cereals (other cereals)	647	42.242	462	26.604	487	- 37	5	91,4	54,6	-36,8
Forest	0	876	20	3.372	85	285	325	43,8	39,7	-4,1
Fruit and nuts	1.200	4.602	286	6.954	713	51	149	16,1	9,8	-6,3
Vegetables (other vegetables)	163	784	290	2.822	327	260	13	2,7	8,6	5,9
Olives	3.781	19.330	268	16.759	1.016	- 13	279	72,1	16,5	-55,6
Permanent grassland	766	125.767	831	152.521	898	21	8	151,3	169,8	18,5
Aromatic plants	23	16.209	594	593	51	- 96	- 91	27,3	11,6	-15,7
Fallow land as part of crop rotation	0	242	128	2.790	205	1.053	60	1,9	13,6	11,7
Grapes	603	1.210	37	2.028	397	68	973	32,7	5,1	-27,6

Source: GPPA, 2010



Source: FIBL, 2008

Figure 11 – Total area and crops under organic farming

In terms of regional distribution, the fruits, nuts and other dry fruit's are mainly in the North (Trás-os-Montes) and in the South (Alentejo).

The vegetables are mainly produced in the Center (Beira Litoral), North (Entre Douro e Minho) and, less, in the South (Algarve).

The major areas of olive groves are located in the South (Alentejo), Center (Beira Interior) and North (Trás-os-Montes).

Table 6 – Regional distribution of olives, vegetables, fruit and nuts

	Olives					Fruit and nuts					Vegetables (other vegetables)				
	Area		Holdings		(1)	Area		Holdings		(1)	Area		Holdings		(1)
	Ha	%	N.º	%		Ha	%	N.º	%		Ha	%	N.º	%	
Entre-Douro e Minho	41	0,2	12	1,2	3	256	3,7	94	13,2	3	42	1,5	56	17,1	1
Trás-os-Montes	5.768	34,4	406	40,0	14	2.520	36,2	340	47,7	7	30	1,0	40	12,2	1
Beira Litoral	30	0,2	16	1,6	2	82	1,2	24	3,4	3	56	2,0	34	10,4	2
Beira Interior	4.113	24,5	300	29,5	14	977	14,0	145	20,3	7	184	6,5	75	22,9	2
Ribatejo e Oeste	134	0,8	24	2,4	6	145	2,1	55	7,7	3	2.220	78,7	59	18,0	38
Alentejo	6.672	39,8	255	25,1	26	2.717	39,1	36	5,0	75	211	7,5	43	13,1	5
Algarve	2	0,0	3	0,3	1	256	3,7	19	2,7	13	79	2,8	20	6,1	4

Avg ha/hold.

Source:IFAP, 2010

3.1. Organic Farmer's Profile

Information about the organic farmer profile is scarce. We can find a study from 1998, where AGROBIO interviewed 90 certificated producers. We can conclude that organic farmers are younger than conventional (50% have 49 years or less), more than 50% have medium/higher level of education, and almost 70% have a introductory formation on organic farming.

According to this study, one important reason to become an organic farmer is related with environment issues and a healthier way of living. In fact,

although other main reasons to organic conversion is related with European agri-environmental measures, some farmers made the conversion to organic farming due environmental and sustainability issues, seeking a better life quality and the purpose to produce higher quality food products.

Table 7 – Reasons to become organic farmer

	Nº	%
Environment/Soil protection	64	71.1
Healthier products	70	77.8
Willingness to experiment innovative production methods	21	23.3
Market opportunity	22	24.4
Financial support offered by the European Union	21	23.3
Others	4	4.4

In conclusion, organic farmers are younger (30-55 years) than conventional farmers, have higher education levels (mostly in agronomic engineering and economics), have higher access to information, have a more focused orientation and sensitivity to the market and marketing issues, and are more conscientious on sustainability and environmental issues.

3.2. Current Problems and Perspectives of Development

Despite the recent decrease in area and number of farmers, we think organic agriculture will continue increasing, although not as fast as it has been in previous years. Considered strategic in the investment policies of IFAP, organic agriculture will continue to evolve, increasing the share of area, per capita consumption and exports.

4. FARMING AND TRAINING

4.1.1. Current Situation

Founded in 1985, AGROBIO is an environmental non-governmental organization, affiliated to IFOAM (International Federation of Organic Agriculture Movements), that provides consultancy, advisory work, control and certification of the organic products, and farmer's and technical training.

Since 2003 the Portuguese Universities and Polytechnic Institutes started to present qualified specialization courses, in order to improve the knowledge and skills in this specific area.

The experts' interviewed reported that the profile of the organic farmer in terms of empowerment, motivation and technical knowledge is relatively different from the conventional farmers, distinguished by its high level of training, technical knowledge and their environmental concerns. According to our interviewed experts, organic farmers usually belong to higher social strata and have an easier access to information.

In terms of location of the training courses, experts reported that they are nonexistent or rare in the North of Portugal, but in the South, due to the presence of more Farmers Associations (e.g. AGROBIO), there are some training offers. In this perspective, the e-learning methodology can contribute to a greater dissemination of knowledge throughout the country.

Regarding the training issues, experts indicated that courses should be highly specialized, with specific topics and with a good definition of the content. Within the areas where training is needed, the experts pointed farm management, post-harvest handling of products and application of ICT.

4.2. VET in Organic Farming

In the last years, the Vocational and Educational Training (VET) in organic farming have increased and became more specialized.

From the beginning of organic farming in Portugal, and today still, AGROBIO has offered training courses for advisors, farmers and people with interest in this subject.

Concerning VET in agriculture, the RGA2009 (INE, 2010) indicates a slight improvement, confirmed by the increase in the number of producers who attended training courses related with agriculture.

Below there are some examples of training actions offered:

SHORT PERIOD COURSES				
ORGANIZATION	THEME	LOCAL	PERIOD	SITE
SOFTIMBRA	Curso Intensivo de Informática para a Agricultura Biológica	Coimbra	26 de Fevereiro de 2011	http://www.softimbra.pt/
AGROBIO	Aromáticas e medicinais em Produção Biológica	Lisboa	18 Dez, 10 Jul 2010	www.agrobio.pt
	Agricultura Biológica (para agricultores)	Lisboa	3-28 Jan 2011	
	Agricultura Biológica (para técnicos)	Lisboa	15 Jan-5 Mar 2011	
THREE YEARS DEGREE				
Escola Superior Agrária de Coimbra do Instituto Politécnico de Coimbra	Licenciatura em Agricultura Biológica	Coimbra	3 years	www.esa.ipc.pt
TWO YEARS DEGREE				
Escola Superior Agrária do Instituto Politécnico de Viana do Castelo	Mestrado em Agricultura Biológica (Master in Organic Farming)	Ponte de Lima	2 years	www.esa.ipvc.pt
Escola Superior Agrária de Coimbra do Instituto Politécnico de Coimbra	Mestrado em Agricultura Biológica	Coimbra	2 years	www.esa.ipc.pt

In Portugal, we can find a huge number of agricultural training, in all degree levels. In the below table we can find the most important ones.

ORGANIZATION	THEME	LOCAL	PERIOD
EU - LEVEL III AND II			
Escola Profissional Agrícola D. Dinis Paia	Técnico de Produção Agrária	Pontinha	3100h
	Técnico de Jardinagem e Espaços Verdes	Pontinha	3100h
Escola Profissional Agrícola Fernando Barros Leal	Técnico de Produção Agrária	Torres Vedras	3100h
Escola Profissional de Desenvolvimento Rural de Grândola	Técnico de Produção Agrária	Grândola	3100h
Escola Profissional Agrícola Conde S. Bento	Técnico de Produção Agrária	Santo Tirso	3100h
Escola Profissional de Agricultura e Desenvolvimento Rural de M. de Canavezes	Técnico de Produção Agrária	Rosém	3100h
Escola Profissional de Agricultura e Desenvolvimento Rural de Ponte de Lima	Técnico de Produção Agrária	Ponte de Lima	3100h
Escola Profissional Agrícola Afonso Duarte	Técnico de Produção Vegetal	Montemor-o-Velho	3100h
	Operador horto-frutícola	Montemor-o-Velho	3100h
BSC DEGREE			
Universidade do Algarve	Licenciatura em Agronomia	Faro	3 years
Universidade de Évora	Licenciatura em Agronomia	Évora	3 years
Universidade dos Açores	Licenciatura em Ciências Agrárias	Açores	3 years
Universidade Técnica de Lisboa- Instituto Superior de Agronomia	Licenciatura em Eng. Agronómica	Lisboa	3 years
	Licenciatura em Eng. Zootécnica	Lisboa	3 years
Universidade de Trás-os-Montes e Alto Douro	Licenciatura em Eng. Zootécnica	Vila Real	3 years
	Licenciatura em Eng. Agronómica	Vila Real	3 years
Instituto Politécnico de Coimbra	Licenciatura em Eng. Agro-pecuária	Coimbra	3 years
Instituto Politécnico de Beja	Licenciatura em Eng. Agronómica	Beja	3 years
Instituto Politécnico de Bragança	Licenciatura em Eng. Agronómica	Bragança	3 years
Instituto Politécnico de Castelo Branco	Licenciatura em Eng. Agronómica	Castelo Branco	3 years
	Licenciatura em Eng. Zootécnica	Castelo Branco	3 years
Instituto Politécnico de Portalegre	Licenciatura em Eng. Agronómica	Elvas	3 years
Instituto Politécnico de Santarém	Licenciatura em Eng. Agronómica	Santarém	3 years
	Licenciatura em Eng. da Produção Animal	Santarém	3 years
Instituto Politécnico de Viana do Castelo	Licenciatura em Eng. Agronómica	Ponte de Lima	3 years
Instituto Politécnico de Viseu	Licenciatura em Eng. Agronómica	Viseu	3 years
	Licenciatura em Eng. Zootécnica	Viseu	3 years
MSC DEGREE			
Universidade de Trás-os-Montes e Alto Douro	Mestrado em Eng. Agronómica		2 years
	Mestrado em Eng. Zootécnica		2 years
Universidade Técnica de Lisboa- Instituto Superior de Agronomia	Mestrado em Agronomia Tropical e Desenvolvimento Sustentável		2 years
	Mestrado em Eng. Agronómica		2 years
	Mestrado em Eng. Zootécnica		2 years
	Mestrado em Viticultura e Enologia		2 years
PHD DEGREE			
Universidade Técnica de Lisboa- Instituto Superior de Agronomia	Eng. Agronómica		4 years
	Eng. Zootécnica		4 years
Universidade de Trás-os-Montes e Alto Douro	Ciências Agronómicas e Florestais		4 years

4.3. Training Access Barriers for Farmers

Barriers to access training for farmers are associated with non-existing offers, motivated by the lack of implementation of the funding programs that finance training. Only in the middle of 2010 began the promotion of young farmers training that will continue through 2011 for the technicians.

Considering that agriculture requires a timing adaptation, associated with the changing weather, the barriers to access to training are related with the scheduling and the high number of training hours. In short, mandatory attendance, which does not allow adjustment to the work of the farm, constitutes an impediment in the frequency of training.

5. E-LEARNING AND ORGANIC FARMING: PRESENT AND FUTURE

In Portugal there are some difficulties facing the implementation of distance education and e-learning. One of them is the high level of illiteracy of the farmers. Although, given the characteristics of high level of training of organic farmers, this argument does not present a difficulty for courses in organic farming. Another difficulty can be some kind of discredit of this teaching method.

In 2003, about 60% of companies that offered training courses had some courses of distance learning, however, only companies with more than 500 employees committed to this type of training.

The only e-learning course of organic farming in Portugal was promoted by the Escola Superior Agrária of the Instituto Politécnico de Viana do Castelo, in 2008, as a result of a Leonardo da Vinci Project.

Besides the e-learning formation in organic farming, there are also needs for b-learning formation, due to the practical issues that organic farming requires.

A few parameters must be taken into consideration about the potential e-learning courses participants, specifically whether they have Internet access, whether they have ability and willingness to work with the programs presented, whether voluntarily want to learn, if they have personal organization allowing the acquisition of knowledge, and if they have curiosity and willingness to innovate.

BIBLIOGRAPHY AND DOCUMENTATION

AVILLEZ (2004). *A Reforma da PAC de Junho de 2003 e o Futuro da Agricultura em Portugal*, Agrogés, Lisboa.

BAPTISTA, CARINA (2003). *A formação à distância e o e-learning em Portugal*. INOFOR.

CNA – Confederação Nacional da Agricultura. Caderno Técnico de Agricultura Biológica. Available in: http://www.cna.pt/artigostecnicos/angeladias/69_vtagosto2007_angeladias.pdf, accessed December, 10, 2010.

European Union, Report – *Organic Farming in the European Union – Facts and Figures*. (2005).

FIBL (2007). Organic Farming in Portugal by Ana Firmino. Available in: http://www.organic-europe.net/country_reports/portugal/, accessed December, 10, 2010.

FIBL and INFOAM (2008). *The World of Organic Agriculture. Statistics and Emerging Trends 2008*. Helga Willer, Minou Yussefi-Menzler, Neil Sorensen (Eds.) (2008). Available in: <http://orgprints.org/13184/01/willer-2008-biofach-europe.pdf>, accessed December, 11, 2010.

GEOIDEIA (1999). *Potencialidades de Criação de Emprego no âmbito da Agricultura Biológica*, IEFP, Lisboa

INE (2001). Recenseamentos Gerais da Agricultura – Dados Comparativos, 1998-1999. Instituto Nacional de Estatística Portugal (CD-ROM), Lisboa.

INE (2002). Recenseamentos Gerais da População e da Habitação – Dados Comparativos, 1991-2001. Instituto Nacional de Estatística Portugal (CD-ROM), Lisboa.

INE (2007). Inquérito às Estruturas das Explorações Agrícolas. Instituto Nacional de Estatística, Lisboa.

MADRP, (2006.) “National Strategic Plan – Rural development 2007 - 2013”

MADRP/CPP (2007). Agriculture, Forestry and Fishery – Indicators

NUNES (2007). *Economic Integration and Modernization of Agricultural Markets: the North Region of Portugal*, PhD Thesis, University of Coruña, Spain, 2007.

GLOSSARY

AGROECOLOGY, study of the interrelationships of living organisms with each other and with their environment in an agricultural system.

AGRO-ECOSYSTEM, a dynamic association of crops, pastures, livestock, other flora and fauna, atmosphere, soils, and water. Agro-ecosystems are contained within larger landscapes that include uncultivated land, drainage networks, rural communities, and wildlife.

BIODIVERSITY, agricultural biodiversity encompasses the variety and variability of animals, plants and microorganisms necessary to sustain key functions of the agro-ecosystem, its structure, processes of, and support of food production and food security (FAO definition).

CAP, Common Agricultural Policy.

CONVENTIONAL AGRICULTURE, an industrialized agricultural system characterized by mechanization, monocultures, and the use of synthetic inputs such as chemical fertilizers and pesticides, with an emphasis on maximizing productivity and profitability. Industrialized agriculture has become “conventional” only within the last 60 or so years (since World War II).

CONVERSION PERIOD, the Community rules governing organic farming requires any farm wishing to adopt organic methods to comply with a conversion phase of two years for annual herbaceous crops and a three years for perennial crops.

EEC, European Economic Community.

IFAP, Institute for Finance Agriculture and Fishery (www.ifap.gov.pt)

IFOAM, International Federation of Organic Agriculture Movements.

RGA2009, Portuguese general agricultural census.

UAA, Utilised Agricultural Area.

IVV, Institute for Wine and Vineyards