



SITUATION OF ORGANIC FARMING IN SPAIN

**GREENFOOD PROJECT
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1. Introduction

Organic farming can be simply defined as a series of agricultural techniques which usually excludes the use in farming and cattle breeding of synthesis chemicals such as fertilisers, insecticides, antibiotics etc. with a view to preserving the environment, maintaining or increasing the fertility of the soil and providing foods with all their natural properties.

Spain brings together the conditions for the development of this type of farming thanks to its favourable climatology and the extensive production systems which apply to a large number of crops.

2. Organic farming in Spain

In Spain the control and certification of organic agrarian production is the competence of the Autonomous Communities¹ (CCAA) and is undertaken, in the main, by public control authorities by way of the territorial Boards or Committees of Organic Farming which are bodies depending on the corresponding Regional Ministries or Departments of Farming, or directly by the Directorates-General assigned thereunto.

Some Autonomous Communities (Andalusia and Castile-La Mancha) have authorised private bodies to carry out these duties and, in the case of Aragon, the competent authorities have designated a public control authority and have, in turn, authorised private control bodies.

As a distinguishing feature so that the consumer can identify on the market the products of organic farming, all packaged units, in addition to their own marking and some of the specific mentions of organic farming, bear the code of the authority and the control body or a specific logo, with the name and code of the control entity. The Community logo of organic farming may also be printed, this being mandatory as from July 1st 2010 under the conditions set out in the regulations.

¹ An autonomous community is a territorial entity which, within the constitutional organisation of Spain, is endowed with legislative autonomy and executive competences, as well as the right to be administrated by its own representatives. There are 17 regions and two autonomous cities (Ceuta and Melilla).



Organic Farming Logos

In Spain the interior product consumption market has not followed the course of development undergone by the production of organic raw materials and the structure of organic industries. The price sensitivity characterising this market is important, despite which wide differences remain between the prices of organic and conventional products. The strong growth in organic activity and the recent slowdown in markets because of the economic crisis have brought about some situations of apparent overproduction which has allowed the occurrence of a certain downward tendency in the prices of certain organic products.

The offer or basket of organic agro-food products in Spain is slightly different from that of other developed markets. The top ten sellers of products in Spain are: fruit and vegetables, olive oil, wine, fresh meat (chicken), vegetable conserves, bread making, dairy products (milk and yoghourts), children's food, eggs and broths and soups.

Fruit and vegetables make up between 40 and 50% of the total purchases of Spanish consumers; and olive oil around between 10 and 15% of the total. Hence, the production of fruit and vegetables and olive oil takes up the top three places in terms of the number of sales. Although there are no officially comparative figures regarding imports, a theoretical estimate backs up the importance of this type of production: 55.6% of the total corresponds to fruit and vegetables and 12.6% to olive oil².

2.1. General economic data

During 2009 organic farming underwent a major increase both in terms of the surface area dedicated to cultivation and in terms of the number of operators. The data provided by the CCAA demonstrates this.

The basic characteristic of organic production in Spain is its diversity, the result of the most varied agrarian areas, production systems, climates and crops to be

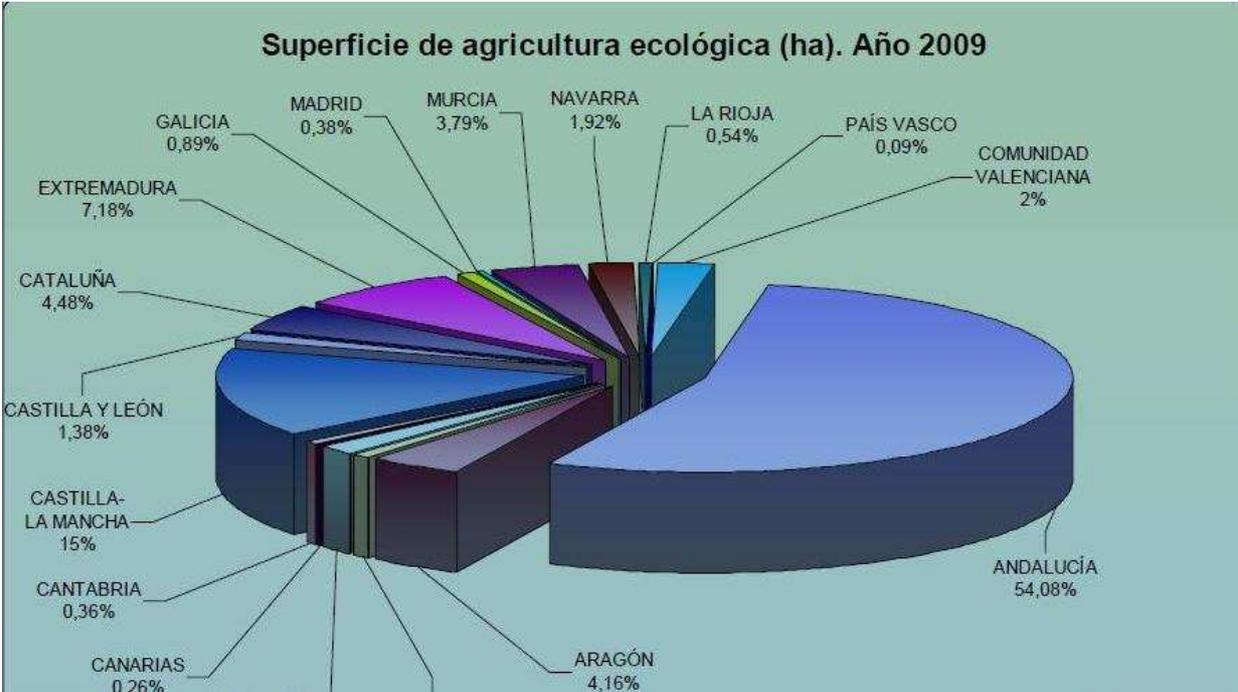
² Information about foreign trade drawn up by PRODESCON, S.A. based on the Consultation of Industries 2010 and other sources looked at.

found in the country. For this reason organic farming production is present throughout national territory, with each type of crop adapting to the various circumstances under which it is produced.

2.1.1. Cultivated surface area

The surface area dedicated to EA in 2009 grew by 21.64% with regard to 2008 data, standing at 1,602,868 hectares, putting Spain in first place in the European Union with regard to the surface area dedicated to organic activity. The registered surface area represents 5.26% of the whole national useful agrarian surface area.

The distribution of the surface area percentage (in hectares) dedicated to EA in each Autonomous Community has been shown in the table below. The data corresponds to 2009.



Source: Ministry of the Environment, Rural and Marine Affairs, 2009

- Diagram: Organic farming surface area (ha.) – 2009
- BASQUE COUNTRY
 - VALENCIAN COMMUNITY
 - CATALONIA
 - CASTILE AND LEON
 - CASTILE-LA MANCHA
 - THE CANARY ISLANDS
 - ANDALUSIA

Andalusia leads the organic surface area with 54% of the total, with a growth of over 10% compared with 2008. Other communities have significantly increased their surface areas: Castile-La Mancha by 105% and Extremadura by 34%. Some of the smaller, uni-provincial CCAA have major growth data. For example, Murcia with 61.5%; the Balearics with 28.5%; and the Community of Madrid with 18.1%.

There has only been a reduction in Aragon (-5.3%) and the Canary Islands (-15.4%).

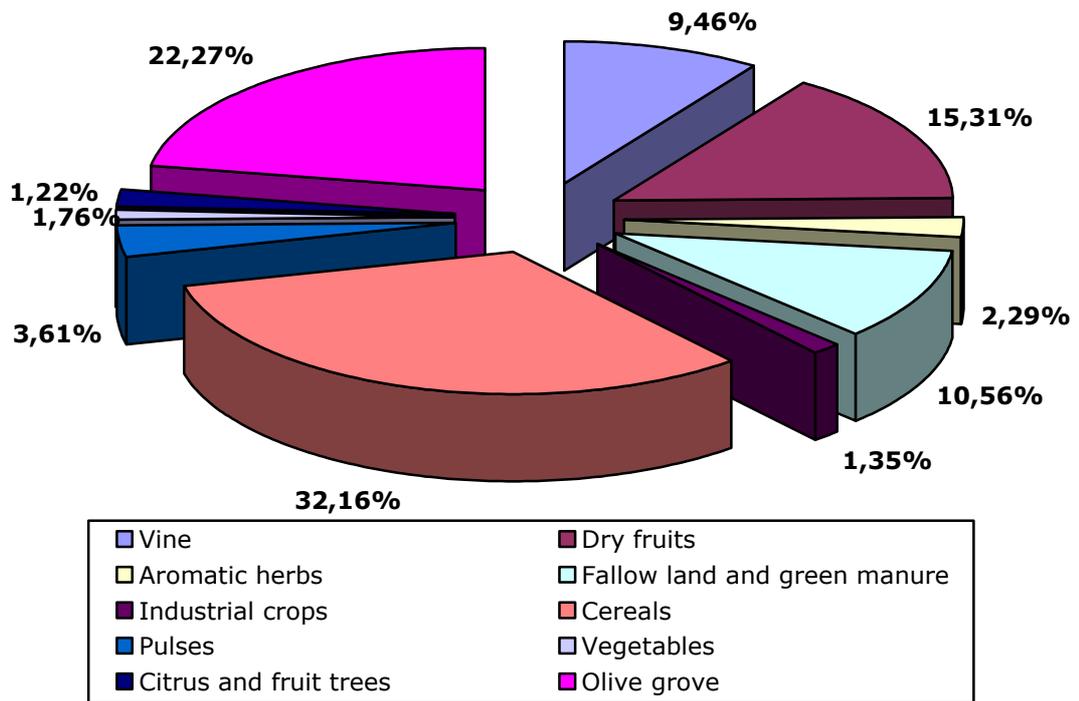
2.1.2. Crop type

As regards the type of production to which the surface area is dedicated, worthy of note are the forests, pasture and prairies which make up a total of 1,030,889 hectares, constituting the basis for organic cattle breeding. The qualified surface area (or actually productive) is 62.23% of the total registered surface area, indicating a new short-term growth in organic production.

The total cultivated surface area stands at 571,981 hectares, whereof 307,820 hectares are qualified. The mean crop surface area by producer is 14.84 hectares, with an income level of 23,388 Euros.

The distribution of the percentages of the various crops has been illustrated in the graphic below.

Crop by cultivated surface area in ecological agriculture



Source: Ministry of the Environment, Rural and Marine Affairs (2009)

Cereals take first place in terms of cultivated surface area (32.16%), followed by olive groves (22.27%) and dried fruits (15.31%). Productions with the least surface area include industrial crops (1.35%). Although vegetables and citrus and fruit trees take up a small surface area, their production has great economic value. During 2009 total turnover for this type of production attained 295 million Euros, whereof 198 million corresponds to the export of products.

The production of organic agro-food raw materials grew by 520% in Spain between 2000 and 2010, rising from an original value of 100 million Euros in 2000 to an estimated value of 620 million Euros in 2010, with 75.2% of this value being for vegetable production.

2.1.3. Number of workers

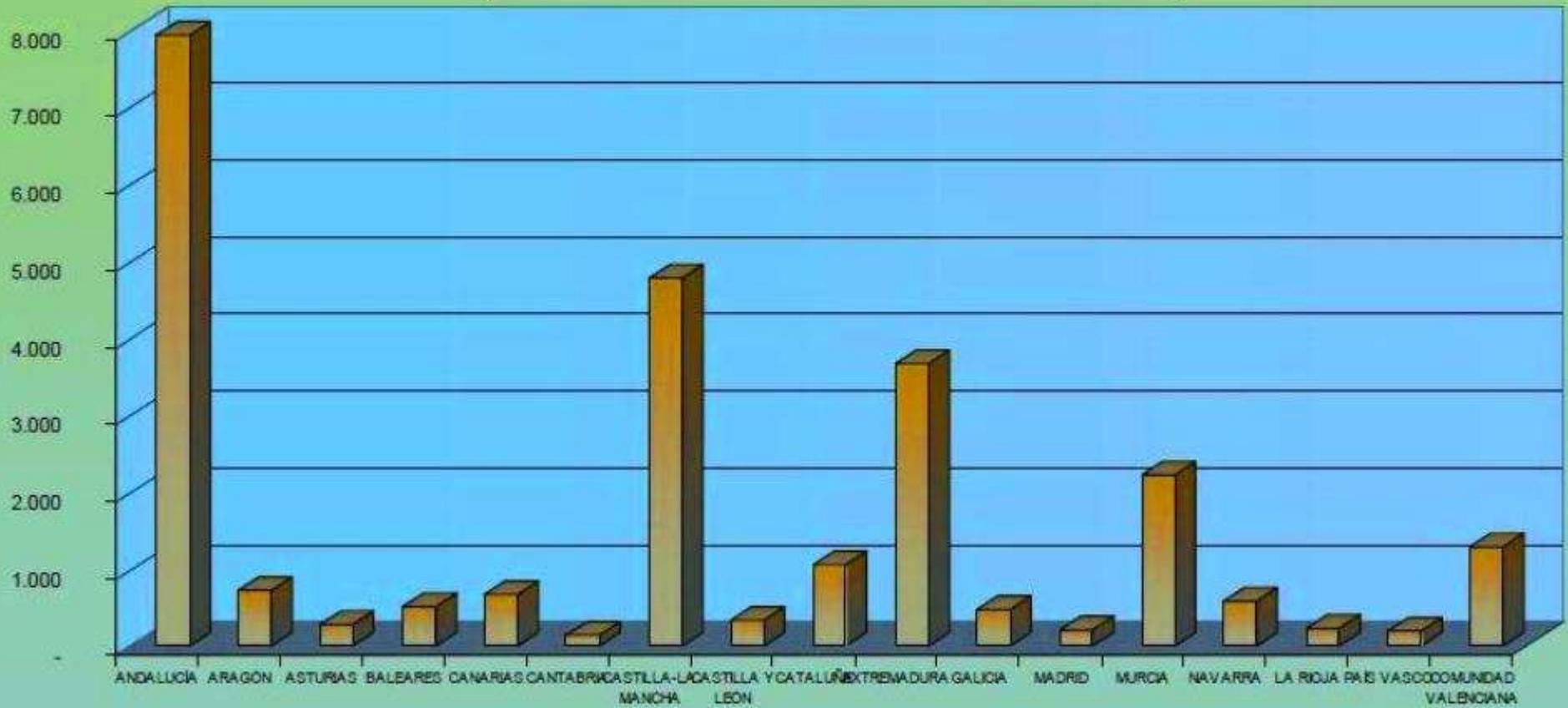
The total number of workers in organic activity in 2009 is 27,627. Of these 25,291 corresponds to producers, 2,465 to manufacturers and 93 to importers. 714 workers were also recorded as non-importing commercializers, in the main warehouse and intermediaries.

The largest number of producers can be found in Andalusia, with 8,444, followed by Castile-La Mancha with 4,896, Extremadura with 3,743 and Murcia with

2,393. The CCAA with the least workers were Cantabria with 161 and the Basque Country with 244.

The distribution of producers by CCAA has been shown in the graphic below.

Productores en Agricultura Ecológica. Año 2009
Distribución por Comunidades Autónomas



Número Total de Productores: 25.291

Source: Ministry of the Environment, Rural and Marine Affairs 2009

Diagram:
Organic Farming Producers in 2009
Distribution by Autonomous Communities

Total number of producers: 25,291

2.1.4. Organic industries

The total number of processing and manufacturing industries of organic products with regard to vegetable production stood at 2,475. By CCAA, Catalonia is worthy of special mention with 518 industries, Andalusia with 502 and the Valencian Community with 349 establishments.

By industrial activity, the Handling and Packaging of Fresh Fruit and Vegetable Products is the predominant activity (437 industries); followed by Wineries and Wine Bottlers (408), Olive oil mills and Oil Packers (297) and Bread making and Food Pastes companies (233). The activities with the least number of companies are that of Food Preparations Food (78) and the Processing and Packaging of Cereals and Pulses (88).

The percentage of producers per activity has been shown in the table below.

Activity	% of total
Handling and Packaging of Fresh Fruit and Vegetable Products	17,66
Others	17,49
Wineries and Wine Bottlers	16,48
Olive oil mill and/or Olive Oil Packing	12
Bread making and Food Pastes	9,41
Preserves, Semi-preserves and Vegetable Juices	6,79
Handling and Packaging of Dried Fruits	4,04
Preparation of Spices, Aromatic and Medicinal Herbs	3,88
Handling and Packaging of Cereals and Pulses	3,56
Food Preparations	3,15
Biscuits, Confectionery and Pastries	2,91
Sugar, Cocoa, Chocolate, Tea and Coffee Industry	2,63
Total industries	2.475

Source: Ministry of the Environment, Rural and Marine Affairs (2009)

2.1.5. Business profile

Spain has 7.5% of the organic industrial structure of the European Union. The industrial structure is growing and it has developed in a relatively short space of time. There is greater industrial installation in organic production of vegetable origin than in that of animal origin.

10% of the total organic industries have a configuration of cooperatives or Agrarian Processing Companies (SAT). 80% of organic industries are endowed with just one industrial establishment and 66% thereof produce conventional and organic simultaneously, with 35% thereof selling exclusively organic products.

Around 75% of industries buy exclusively from national suppliers, whilst the other 25% imports the raw materials. 32% carry out some kinds of export of organic products, accounting for 44% of turnover.

2.1.6. Internal consumption

In Spain the expense defrayed on organic products is still well below that which is registered on the main developed markets. As a result of different works carried out by the Ministry, it has been possible to establish new valuations of the organic food and beverages market, situating it at around 905 million Euros (only 1% of the total expense on food) and with an expense per capita of 19.4 Euros / inhabitant /year (2009 data)

One of the most prominent aspects which are constantly repeated when analysing organic products consumption habits in Spain, is their high price. On numerous occasions the prices of organic products may appear excessively high to consumers. There does not seem to be sufficient relationship between the actual costs incurred during the course of the value chain and the price mark-up policies applied. Neither is it easy to explain the reasons behind the major variations between the prices of the same type of organic food depending on whether it is one or the other type of point of sale. These circumstances produce a total distancing of the consumer with regard to organic products and has a negative impact on the image we have thereof.

Both producers as well as organic industries must be very aware of the scope and motivation of consumers to buy organic products.

In Spain the current consumer has different characteristics from the consumer of traditional products, special, very well-defined purchasing motivations. The vast majority are consumers concerned about their health, naturalness, food safety, family food quality (particularly of children) etc. Others are convinced consumers

committed to the need to protect the environment and animal welfare. Another group with a high level of concern with the image/social and cultural position are gourmets; they're interested in gastronomy and are conducive to innovation and food diversity. A fourth group of consumers are foreigners residing in Spain who already have experience as organic buyers in their countries of origin. There are also consumers who buy organic products as a gift.

The structure of clients or buyers of organic products may still develop and diversify much further. The profile of the future consumer (who should be borne in mind when drawing up suitable distribution and marketing strategies) is as follows:

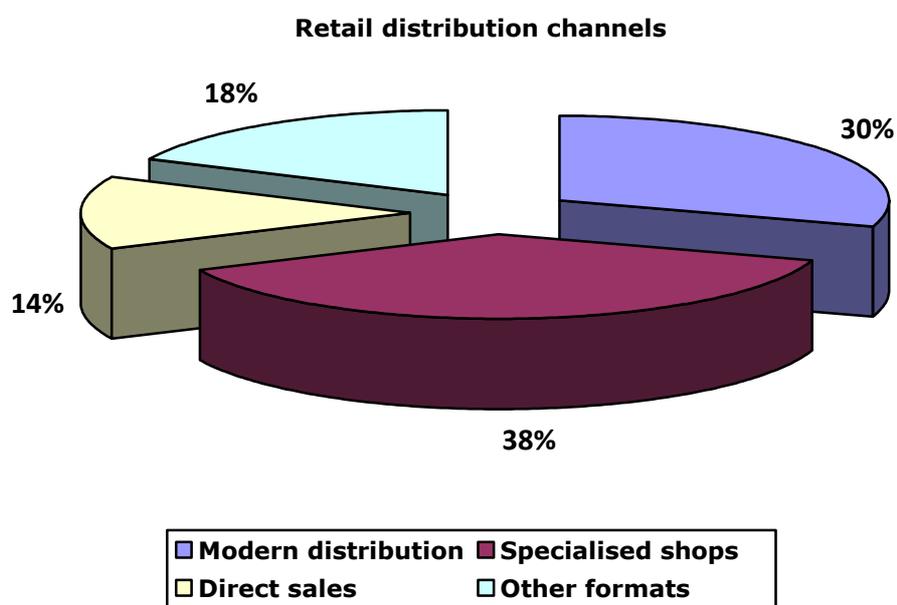
- Open to different gastronomic cultures (Mediterranean, Western, Oriental, and Latin).
- Great concern with health and diet.
- Very concerned about food being natural, fresh, locally produced, native and authentic.
- Great concern with food safety.
- Sufficiently sensitive to environmental problems and animal welfare; and a growing defender of the environment, ecosystems etc.
- Well-informed and demanding as regards the information he receives; difficult to influence by misleading advertising or brand power.
- Concerned with the ethical aspects of trade and production; and sympathetic towards social and sustainability aspects.
- Very receptive to gastronomic innovation and open to changing purchasing and consumption habits, though without giving up the benefits of the welfare society.
- Frequent consumer of food and beverages outside the home and who assumes purchasing and cooking duties.
- Sufficient purchasing power though demanding high price/quality ratios. Very sensitive to inexplicable prices or unnecessary acquisitions.
- Any age or social status, generally with skilled job.

- Habitual consumer of information technologies and increasingly an e-shopper (e-commerce and similar).

2.1.7. Commercialisation

The main commercialisation channel for organic products is export (44% of the sectoral turnover³). Direct sales to specialised shops are very important and make up 11% of the sales volume. Direct sales to other industries are also important (15% of the total) and to consumers (11%) via farms, consumer cooperatives, *on-line* etc. The relative proportion of traditional wholesalers is much less than in the case of conventional products.

The data relating to retail distribution channels and, specifically, with regard to home consumption, indicate that 38% of the total share of sales is carried out by shops.



Source: PRODESCON, S.A.

(from the Consultation of Industries 2010 and MARM, IFOAM and others)

Modern distribution includes hypermarkets, supermarkets and self-service and accounts for 38% of the total. Direct sales is taken to mean that carried out to the home, by Internet, on the farm by way of consumer cooperatives etc. and makes up 14%. The sale at specialised shops accounts for 30%. And the heading "Other formats" includes personal consumption, sale at street markets, traditional shops etc. (18%).

³ Source: PRODESCON, S.A. Consultation of Organic industries 2010.

2.2. Profile of organic farmers

It is hard to specify precisely the profile of the organic farmer in Spain owing to the lack of studies and research into this theme nationwide. Organic farmers are not obliged to declare themselves as such even if they are obliged to declare their activity as organic. As the CCAA are responsible for the control and certification of organic agrarian production the few studies which contain information about the profile of farmers have been undertaken at regional level.

In a study carried out in the district of the Upper Guadalentín (Autonomous Community of the Murcia Region) by way of a survey carried out amongst the organic farmers of the area in 2007, it can be concluded that the majority of farmers commenced in conventional farming and subsequently moved on to organic farming. The most important reasons behind their commencing activity or becoming organic are to find new alternatives for commercialisation, raising environmental awareness and subsidies. The majority thereof fall within an age bracket of between 46 and 55 years old.

Another study carried out on the Balearics in 2004 shows the data of the organic farmer profile in this Autonomous Community. By way of a survey undertaken amongst members of the Directory of Organic Farming Producers provided by the Consell Balear (Balearic Council) for Organic agrarian production, it was concluded that the majority of organic farmers fall within an age bracket of 25 and 50 years old, affording them a specific nature which differs from the profile of the standard island farmer (over 50 years old). The owners of organic farms have a secondary education and a significant number even have higher education diplomas. The reasons which led to the Balearic farmers becoming organic are very much to do with a raising awareness process. The majority of them were dedicated exclusively to organic farming, without simultaneously carrying out conventional farming, combining this activity compatible with other work. As regards the collective, the aid and subsidies granted by the CAP are very important for them to be able to continue their agricultural activity.

The experts interviewed to draw up this report confirm this data. There is a conventional family farm which becomes organic as a matter of conviction and/or by dint of an interest in the maintenance of said farm (conserving the richness of the soil, the water etc.). The subsidies are taken into account, although the majority of farmers are very aware that this "will not save the business". The need to achieve more and better commercialisation and distribution channels for their products which enable them to obtain a fairer price for their products has been an engine which has determined in recent times the specific initiatives of the sector. One of the interviewees indicates that the protection of certain endemic species characteristic of the area was another of the reasons which drove him to become an organic producer.

The education level of a vast majority of organic farmers is higher than the average for the other conventional farmers and training (both prior and updated and in continuous recycling) is regarded as vital so as to be able to develop in the activity in positive fashion.

In summary, it can be stated that the profile of the farmer is a producer aged between 25 and 55 years old, with an essentially farm and a high environmental awareness and who already has a conventional farm which has become organic and a secondary or higher education level. Furthermore, it is very common that organic agrarian activity is not his main source of income or is not the only one and that he combines farm work with some other work. Organic activity as a complement and not as the main activity can often be put down to the fact that it is impossible to depend solely on agrarian activity as the sole means of income.

2.3. Current problems and prospects for development

There are numerous, varied sectoral interlocutors: agrarian organisations, food cooperatives, operator associations, associations of producers and/or manufacturers at autonomous level, public certification and control entities, associations and foundations, universities, technological centres, training institutions, research groups, sectoral education boards, working groups, departments and bodies belonging to the Public Administrations etc. Some of these social agents frequently indicate that the sector is not always sufficiently represented.

The sector is demanding greater recognition of its duty and contribution to the rural environment and this recognition would require prior knowledge of its characteristics and actions. To meet this objective, a series of measures has been established at different levels, including different promotion plans nationwide and/or regionally.

From the perspective of consumption, it is necessary to develop the interior market and this development should be based on highly specialised marketing strategies designed in line with the changes both in the sector as well as in commercialisation and distribution. In particular, it is important to bear in mind:

- Specific pricing and margin policies.
- Information and communication with the consumer.
- Interior and exterior commercial promotion systems.
- Retail distribution channels.
- Brand and counter-brand policies.

- Sectoral and market information systems.
- Internalisation policies.

2.3.1. Promotion plans

The Ministry of the Environment, Rural and Marine Affairs (MARM) has drawn up a plan to promote organic activity called the Integral Action Plan for the Promotion of Organic Farming 2007-2010. The main objective is to contribute to the development of the organic sector in Spain by way of the proposal of concrete actions which affect all the links of organic production: primary agrarian and cattle breeding production, manufacture, commercialisation, distribution and consumption, as well as training and research.

This plan endeavours to achieve three strategic objectives by implementing a series of actions:

- Objective 1. To promote the development of organic farming. It is seeking the general promotion of the sector, of the primary sector in general which requires specific support in training, research, supply organisation, the use of rural development tools and recognition of their specific natures.
- Objective 2. To improve the knowledge and promote the consumption and the commercialisation of the organic products. It is proposed to stimulate internal demand by way of appropriate information to the consumer, accompanied by an improvement in the commercialisation structures.
- Objective 3. To improve the institutional collaboration, the management of resources for the sector, contributing to their support. It intends to improve communication and collaboration between all the private and public agents involved in the organic sector.

To date and in line with this Plan a series of actions have been carried out in various areas and levels. As regards the objective of combining organic production with rural development, organic production has been included as a common element in the National Framework for Rural Development; all the CCAA have included in their Rural Development programmes some agro-environmental aid measures; and emphasis has been placed on achieving an increase in the value-added of agricultural and forest products.

As regards actions aimed at improving production factors and means, specific technical seminar days have been undertaken on reproduction materials, a supply authorisation protocol proposal has been drawn up, an optimisation of the treatment of organic products in the agrarian insurance has been carried out, the management of the seed data base has been improved and a joint working group

has been formed with the National Research and Food Technology Institute (INIA) which is a public research body dedicated to Research, Development and innovation (R&D&i) into agricultural, cattle breeding, food, forest and environmental matters.

As regards the improvement in institutional collaboration, various actions have been carried out, highlighting the collaboration with the International Cooperation Agency in Central America and Serbia to develop various collaboration projects and the signing with the Portuguese government of the "Letter of Intent of sustainability and development of organic farming".

Another major field of action was that related with training in sector and knowledge management. Pluri-regional professional programmes for the rural environmental have been drawn up; a Guide to Good Practice for Production and Commercialisation has been drafted; telematics advice actions for professionals have been designed; Seminar Days on the Quality of Organic Foods and a Seminar Day on Organic and Sustainable Viticulture have been organised.

To foster organic activity, the promotion of consumption and an improvement in commercialisation, specific promotion campaigns have been undertaken, funded by the EU; a Guide has been drawn up for manufacturers and commercializers of organic products and training material aimed at Consumer Organisations; workshops have been organised for children on holiday and games material; an organic menu has been drawn up at the MARM canteen; and special protection has been granted to the ECO/BIO/ORGÁNICO denominations and terms.

With regard to the objective of improving institutional collaboration and administrative coordination, periodic meetings have been held with representatives of the CCAA in the sector; memoranda of understanding have been signed with different operator organisations in the organic agrarian sector: FEPECO (Spanish Federation of Companies with Organic products), INTERECO (non profit-making entity whose objective is the promotion and development of organic farming in Spain) and SEAE (Spanish Society of Organic Farming); organic production has been included in the Framework Agreement with Consumer Associations and technical assistance has been given to the various agrofood cooperatives regarding Offer Concentration Strategies to develop new means of commercialisation of organic agrarian products.

Amongst the future actions foreseen within this Plan are the following:

- To improve the internal market, optimising commercialisation and promoting the increase in internal demand.

- To increase human, technical and economic resources intended to develop various actions within the specific lines foreseen in the Plan.
- To drive the specialised training of the sector in production, manufacture and commercialisation.
- To continue to support the strengthening and coordination of the sector.
- To integrate the policy to promote organic farming with other policies in more intense fashion.

At present, at least 19 Strategic Plans or similar are implemented regionally. The majority of CCAA have designed their own plans, which implies that cooperation between them and the central Administration is very important so that all the resources invested are as effective as possible. The CCAA of Catalonia, Andalusia, Castile-La Mancha, Extremadura, Galicia, Asturias, the Basque Country and Madrid have their plan, with specific amounts for investment and different timeframes.

3. Farming and training

Training for the employees and in particular for farming professionals has permanently become a strategic objective to strengthen the productivity and competitiveness of companies and lifelong learning of the professionals is a key objective in the context of the European Union.

The agrarian sector in general and the organic sector in particular, are characterised by professionalisation, the atomisation of the farms and work posts and a certain discoordination of the dissemination, training and research activities. It also denotes insufficient innovation in the management and production processes which are expressed in some cases by a shortfall in training, research and technical advice.

The objective pursued is to provide quality professional training which meets the real needs of the organic farmers which adapts in the best way to their personal and labour circumstances and which resolves in appropriate manner their problems to carry out their professional activity within the organic production model, presenting greater objective difficulties than the conventional model.

The development of the organic sector partly depends on the professional qualification of the farmers. In Spain this qualification can be obtained by taking part in regulated training actions with the Regulated Education System and by way of the Professional Training System for Employment.

3.1. Current situation

The importance of training for the organic farmer is a point on which all the experts are in agreement. A major group of members of the collective of these farmers has education levels higher than the average for the collective of farmers as a whole. This level corresponds to secondary or even university level. Those careers traditionally regarded as sciences (biology, chemistry, agricultural technical engineering etc.) are intrinsically related with agricultural activity and with organic agricultural activity in particular.

There is no training itinerary related with la organic farming which allows titles to be obtained officially recognising the skills and qualifications acquired once completed. There are many possibilities of taking part in courses which help the student to acquire knowledge in farming and organic farming. These teachings are presented at various levels, both within the Regulated Education System (dependent on the Ministry of Education) and the Professional Training System for Employment (Ministry of Labour).

Within Regulated Professional Training studies there are various qualifications related with the Agrarian Professional Family which are related with agricultural activity:

- Medium-level qualifications include, inter alia, training cycles for extensive agrarian farms, intensive agrarian farms, cattle breeding farms, gardening and floristry works and conservation of the natural environment.
- Higher Level qualifications include two training cycles related with farming: Management and organization of agricultural and livestock companies and the Management and organization of natural and landscaping resources.

The Professional Family of Food Industries presents some Medium and Higher Level titles. The Medium Level includes a training cycle dedicated to olive oils and wines. The Higher Level includes a training cycle for the Food Industry and Quality processes in the food industry.

The Professional Training System for Employment (training aimed at occupied workers and the unemployed) includes the professionalism certificates. Their objective is to give a response to the needs of the knowledge society based on competitiveness, employability, labour mobility and the promotion of cohesion and labour insertion. Their issuing relates to the corresponding administration and they are valid nationwide. They accredit the professional competences which enable the carrying out of a labour activity of significance for employment.

For the Agrarian Professional Family at present there are 19 professionalism certificates in force, including auxiliary activities in farming, auxiliary activities in gardening, Forest Exploitations, Fruticulture, Herbaceous crops and the Management of agricultural production.

Two of the professional certificates of the Agrarian Professional Family are related with organic activity: organic farming and organic cattle breeding. (See point below).

3.2. Professional training in organic farming

Professional training in Spain allows the studying of some subjects directly related with organic activity. This training leads to the obtaining of two types of diplomas or titles depending on who the competent Administration is for their provision: the Ministry of Education or the Ministry of Employment.

3.2.1. Professional Training for the Education System

Professional Training for the Education System (dependent on the Ministry of Education) and as a Medium Level title includes studies aimed at the achievement of the Certificate of Technician in Agro-organic Production⁴. It lasts for 2000 hours. It consists of two academic years, the first of which all takes place at the education centre and during the third quarter of the second year and once positive evaluation has been achieved in all the professional modules carried out at the education centre, the professional training module is carried out at employment centres.

The aim of the present title is for the participants, once they have passed, to be able to obtain organic agricultural and cattle breeding products with agricultural and cattle breeding techniques and to improve the biodiversity and stability of the environment, as well as soil fertility, under quality conditions, applying the regulation of organic production, animal welfare, labour risk prevention and environmental protection.

The tasks which participants should carry out during the development of the training cycle include: setting up and maintaining agricultural and cattle breeding facilities; preparing the ground, maintaining soil fertility, for the implementation of organic crops; sowing and planting organic vegetable material, deploying the technical resources and following the technical planning established; operating the irrigation system, maintaining the microbial activity of the soil and checking

⁴ Order EDU/376 issued on January 20th 2010 whereby the curriculum of the Medium Level training cycle is established corresponding to the title of Agroecological Production Technician (BOE February 24th 2010).

that the water requirements of the crops are covered; carrying out harvesting and post-harvesting operations for organic products, following the technical specifications; and commercializing and promoting organic products using marketing techniques.

The most relevant work posts which this title is aimed at are: skilled self-employed worker or working for third parties on organic crops and cattle breeding; organic farmer; organic cattle breeder; organic poultry farmer; organic beekeeper; organic milk producer; organic eggs producer; organic nursery farmer; and agricultural and cattle breeding machinery operator.

The modules included are the following:

- Agronomic principles.
- Zootechnical principles.
- Implementation of organic crops.
- Workshop and traction equipment.
- Agricultural facilities and infrastructures.
- Vegetable health principles.
- Organic vegetable production.
- Organic cattle breeding production.
- Sanitary operation of the agrosystem.
- Commercialisation of agro-organic products.
- Labour guidance and training.
- Enterprise and enterprising initiative.
- Training at employment centres.

3.2.2. Professional Training of the Training System for Employment

As has already been indicated earlier, one of the professionalism certificates of the Agrarian Professional Family is that of organic farming. Professionalism certificates may consist of an instrument accrediting the competences required for the carrying out of a labour activity. They are the official accreditation instrument of the qualifications of the National Professional Qualifications Catalogue⁵ (CNCP) in the context of labour administration. Each of the certificates refers to a professional qualification in the Catalogue.

Professionalism certificates can be obtained in two ways:

- After passing all the training modules going to make up the certificate.

⁵ The National Professional Qualifications Catalogue is an instrument which orders the professional qualifications liable to be recognised and accredited, identified in the production system, in line with the competences required for professional performance.

- By way of the procedures for the evaluation and accreditation of the professionals competences acquired by way of work experience or non-formal training routes, subject to the conditions set out in R.D. 1224/2009, recognizing the professional competences acquired by work experience.

The professionalism certificate for organic farming belongs to qualification level 2 and the reference professional qualification is that of Organic farming AGA 225_2 (Royal Decree 665 enacted on May 25th 2007). The general competence of this qualification is to carry out planting, maintenance, production and harvesting of crops operations on an organic farm, applying the criteria of quality, sustainability and profitability, complying with legislation on organic farming, quality control and labour risk prevention in force. The professional area in which this competence will be performed includes public and private companies, both self-employed and for third parties, dedicated to organic crops.

The professionalism certificate for organic farming (with the code AGAU0108) presents the following competence units:

- UCO0717_2: Handling the soil and carrying out cultivation and harvesting work on organic farms.
- UCO0526_2: Driving tractors and setting up agrarian facilities, seeing to their maintenance.
- UCO0718_2: Controlling and handling the state of health of the agrosystem.

The duration of the associated training shown on the certificate is 480 hours. The list of training modules and training units is as follows:

- MF0717_2: Handling the soil, cultivation and harvesting operations at organic farms (180 hours):
 - UF0208: Deployment of resources and handling of organic soil (90 hours).
 - UF0209: Cultivation and harvesting work re. organic crops (90 hours).
- MF0526_2 (Transversal): Agrarian mechanisation and premises (120 hours):
 - UF0008 (Transversal): Agrarian installations, their acclimatisation, cleaning and disinfection (70 hours).
 - UF0009 (Transversal): Maintenance, preparation and driving of tractors (50 hours).

- MF0718_2: Prevention and operation of the health of the agro-ecosystem (150 hours):
 - UF0210: Organic techniques and methods for balancing parasites, pathogens and crops (60 hours).
 - UF0211: Prevention of the state of health of the organic crops and the application of products (90 hours).

- MP0048: Non-labour professional practices Module for Organic Farming (40 hours).

The professionalism certificate includes information relating to the requirements which the trainers should have who give the various modules and the minimum requirements for spaces, installations and equipment which the installations should have where said modules are to be given.

The social partners related with the sector have planned various actions within the different training plans regionally or nationally. Hence, for example, the Agrofood Federation of the General Workers Union (FTA-UGT), the most representative trade union of the agrofood sector in Spain, has included in its last State training plan for 2010 training actions directed related with the organic agrarian activity. One of these actions is that of "Organic farming techniques". The design of this action includes as objectives:

- Endowing the workers with the competences required to carry out the crops production operations with the quality assurances required by the market under safe, hygienic conditions and respecting and conserving the environment.

- Applying the organic farming techniques to a farm, combining the specific tasks of the latter with complementary or replacement strategies, with a view to improving product quality and undertaking agrarian activity in rational fashion and with respect for the environment.

- Identifying the basic principles of organic farming to understand its global significance and differentiate between the basic techniques deployed.

- To determine the basic aspects to be borne in mind as regards pests and diseases to establish the specific preventive and curative treatments applicable from the perspective of biological farming.

- To analyse the biological farming reconversion process, being aware of the standards corresponding to this type of activity, the subsidies and aid

which can be accessed, as well as the certification and commercialisation of biological products.

The training action consists of seven modules which shall be given in 40 teaching hours. Six modules have theoretical content and one of practice. The contents are as follows: agrarian ecology elements, organic crop techniques, phytosanitary defence of crops, conversion to organic farming, standards for ecological products and labour risk prevention.

3.2.3. Other types of training

In Spain it is the various Autonomous Communities which manage the policies supporting and managing organic farming. The objectives of the Integral Action Plan for the Promotion of Organic Farming 2007-2010 of MARM are to foster the development of organic farming. To achieve this objective, a series of actions has been foreseen and, to be precise, number 1.6 which is called *"training drive: one of the main challenges of this measure is to encompass all the possible agents who may require training in organic farming. In view of the relationship of the Ministry with the Professional Agrarian Organisations, the promotion of training to the production sector shall be channelled, stepping up the organic farming actions which are financed by way of the already existing subsidy orders"*. It is each CCAA which designs and drives on training plans of this type.

Some of the training actions provided by official strata are financed by way of public programmes and have essentially been aimed at meeting certain objectives:

- To update knowledge. These actions have essentially been aimed at two groups of the collective: those farmers who, operating conventional production systems, are considering the possibility switching to organic farming; and those who wish to carry out their professional labour in the context of organic farming with a new farm.
- Taking on of young people in farming. Its contents aim to get farmers to gain the Professional Training required to take on the activity with the necessary guarantees and obtain the training required by prevailing standards as regards organic activity.
- Trainer training. The need to endow teachers with sufficient teaching capacity and knowledge to that they can carry out their work with every assurance has become a priority objective for training in the sector.
- Higher specialisation in organic farming. The management of companies and organic farms to achieve successful activities requires the

professionals who take care thereof to have the knowledge and skills needed to adapt to the requirements of organic commercialisation and production.

Hence, for example, within the II Andalusian Plan for Organic Farming (2007-2013) drawn up by the Autonomous Government of Andalusia specific operating mainstays are detailed with concrete measures and objectives. The 4th mainstay is to boost training, technology transfer and research and includes as a measure to boost training in the organic production sector. Said measure indicates that *“considering that the human factor is key to the development of organic production, the training of the specific agents of the sector is configured as a basic element to be strengthened”*. The following are included as practical actions:

- To drive towards the creation and development of a post-graduate programme in Andalusia on organic farming, with an investment of 150,000€ in five years by way of the Andalusian Institute of Agrarian, Fishing, Food and Organic Production Research and Training (IFAPA).
- To design specific training actions for the incorporation and reconversion to the organic production sector (investment of 272,000€ in five years).
- To increase the offer of contents of the production in training programmes in the agrofood sector by way of the development of refresher training programmes for the technicians of the farms and companies as well as for commercializers and consumption entity permanent staff etc.

3.3. Access barriers to the training of farmers

The experts interviewed agree on indicating the importance of training in the sector and the ongoing recycling of knowledge. In this regard it is considered that organic farming presents some specific aspects which set it apart from conventional farming. The organic farmer must always be “in the know” as regards the different advances, possibilities and strategies which are allowed in the carrying out of the activity and ongoing training is a good way of achieving this knowledge recycling.

The main access barriers to the training of farmers are mainly related with their participation in concrete training actions. There is a great range of training options so that farmers may acquire new knowledge about organic activity and/or recycle and update that knowledge they already have. The training to which they have access is available at all levels and the information about the different possibilities is easily accessible.

The non-participation in training actions, according to the experts interviewed, is due to a lack of time and the fact that on many occasions they do not consider that the range of training on offer available to them covers their requirements. Agrarian activity requires work rates which often "consume" all the time of the farmer. There are times of the year when tasks build up and there's scarcely any free time. In those cases in which the farmer combines the organic activity with another job, the free time he could dedicate to training is even less, making participation in training actions more complicated.

Another of the reasons why the farmers find it difficult to participate in training actions (particularly those given in presencial form) is the distance which there is between their farm (or usual place of residence) and the place where the course is given. The farms are not situated in urban centres and, in many cases, they include the family home. The place where the course is given may be distant and travelling to attend the course assumes an added effort in time which discourages many farmers to take part in training actions.

The training received by way of the *e-learning* scheme greatly facilitates the training process because it allows the participant to "organize" the time dedicated to the study meaning that it is considered a useful tool to increase the participation of the members of this collective of farmers in training actions.

4. *E-learning* and organic farming: present and future

e-learning is a learning tool which allows an innovative environment to be offered which contrasts traditional teaching (conventional or presencial) with virtual learning and teaching. It is not a matter of reproducing a traditional teacher-student process, but rather an interactive relationship in which the roles of apprentice and teacher change. In the case of *e-learning*, the student becomes a generator of contents (he is no longer a mere receiver) and the tutor becomes a facilitator and conveyor thereof.

e-learning may also be regarded as a form of learning, learning which is ubiquitous (it can be carried out anywhere, whenever you have the right technical conditions) and which means the student going at a certain rate during the process.

A unique *e-learning* characteristic is that learning does not end with the course and the process does not finish when the anticipated contents have been given: the use of given elements is possible (for example, social networks, forums, web pages) to keep developing and expanding this learning which, in turn, allows "fosters" the wish of the student to keep learning. The possibility of swapping contents, opinions, valuations and evaluations about a given field of study is one

of the more prominent effects that a learning process in *e-learning* form can have amongst the members of the collective who have participated therein.

4.1. Advantages of *e-learning*

According to the expert interviewed, amongst the most prominent advantages that *e-learning* presents is the personalisation of the teaching-learning process. The student has become the centre of the process, thereby overcoming the barriers presented by traditional education: concrete space-time situation (usually in a classroom), communication in a sole direction (basically from teacher to student) and identification of learning with the reproduction of contents (the student demonstrates what he has learned in an exam).

Another of the advantages provided by this methodology is connected with the specific knowledge transmission channels it allows. Hence, for example, the most common is the teletraining platform on which specific elements can be included (forum, chat, video-conferencing etc.) which allows the training process to be made more flexible and adapted to the contents and the collective destinee. The platforms are technically open and allow the integration of various methodologies in the same training environment (for example, on a given course video-conferencing and a given social network can be used to share some contents).

The specific possibilities provided by *e-learning* determine the existence of learning facilitators (for example, simulators). This represents a major saving in terms of time (and money) when developing more complex contents directly related with actual practice. The total replacement of these facilitators with direct learning in a real environment is not possible (nor is this its function), but they allow the student a very exact approximation to that which they may find at the work post.

Two advantages of *e-learning* over the other forms of education are usually presented which are not always clear: the reduction in costs and the reuse of contents. Costs may *a priori* be less in learning by *e-learning* (for example, a larger number of students on the same course), but this is not always the case (the need for an appropriate tutor and elements which facilitate learning may make the price of the course more expensive). And the reuse of the contents depends on many occasions on what kind of contents are being dealt with: direct reuse is not always possible as the updates of some themes require an in-depth revision exercise and the updating of said contents which may end up making the course more expensive.

4.2. Disadvantages

As regards the disadvantages of *e-learning*, the expert interviewed indicates the entry barrier to this form of learning as the most prominent: students should be capable of being able to follow teaching-learning over the Internet. In many cases students "mistrust" this type of learning because they do not have enough, appropriate knowledge to understand the procedure (students not familiarised with information and communication technologies), they are not motivated to maintain interest in the course (it is not a course which they have sought out), it is not easy for them to follow a specific rate of study (they are more accustomed to more traditional methodologies) or they do not find the practicality of contents acquired by this means. The lack of a training culture in the student is another of the barriers facing *e-learning*. The low value which some students attribute to training or their zero confidence in it prevents them from making the most of participation in certain training actions. In this aspect *e-learning* shares the same problems as any other form of training.

The management which should be carried out of the courses is, according to the expert interviewed, another of the disadvantages of this training tool. In some cases this management requires such an amount of resources (material and human) that it affects the quality of the specific training actions which reach the student. And this must be avoided: an *e-learning* course should not be allowed to reduce its teaching quality because it cannot "deal with" strictly training elements. When designing and providing courses under this scheme the absolute priority must be the total adaptation of the methodology to the objective which is being pursued: the adaptation of the student to the contents of the course and the specific elements included therein.

4.3. Difficulties for the implementation of *e-learning*

As regards the difficulties in implementing this type of teaching-learning in Professional Training plans in Spain, the expert interviewed indicates that the first is the traditional training mentality which still has many collectives. It is necessary to change said mentality, "demonstrating" the advantages that the alternative forms of training represent for the different participants.

Another of the difficulties which needs to be overcome is the design of training programmes suitable for the needs of the destinee collective. It is very important to plan training actions which contribute value and impact amongst the members of the collective, which are suitable for the needs detected and for the objectives pursued. Furthermore, these training actions provided in the form of *e-learning* should be able to adjust their methodology to the participant and be appropriate to his characteristics (for example, his education level).

In order for the training objectives pursued to be met, the *e-learning* scheme prioritises the cognitive activity of the student in the teaching-learning process: the participant does not merely “accept” the contents given, but rather should be allowed to “think” about them: interrelating them, opposing them, discussing them etc. This shall enable the student to attain the appropriate acquisition of knowledge and the “integration” of this knowledge into his own baggage. It is self-evident that there are competences which cannot be acquired by way of *e-learning* and that this objective cannot be regarded as exclusive and a priority when devising concrete training actions.

As regards the practical problems and difficulties in the use of *e-learning*, the expert interviewed indicates various. One of them is the access barriers of participants which are based on a traditional conception of teaching. Another of the difficulties is the adjustment and adaptation of the contents to the objectives pursued and of the methodology to the characteristics of the collective which is the destinee of the training.

The motivation of the student is a prominent aspect to ensure the success of the learning process. It is important for this motivation to be high level, both at the start and during the learning process so that the student can make the most of the process. The role of the tutor in this scheme is vital: he cannot merely have a linear communication with the student (as in traditional presential teaching), but rather he has to act as a guide and practical dynamising agent throughout the process, adapting concrete methodologies to the group profile (also of each student) and the learning environment where it is developed. The tutor needs to have technical knowledge about the subject he is teaching, but he should also have skills which allow him to adapt this knowledge to the actual situation of the students and the development of the course. In some cases this change in role of the tutor is not carried out and entails a practical problem in the teaching-learning process.

To get the most out of *e-learning* it is very important to draw up a good design of the training process: prior detection of requirements, the setting of clear, reliable objectives, contents, activities and evaluation procedures; and the use of good methodology which is clear and suitable for the proposed objectives and the destinee collective. According to the expert interviewed, it is important to question the traditional training model which, on many occasions, uses obsolete, absurd methodologies that are totally unsuited to an effective learning process. There needs to be a change in mindset as regards what training is, why training is carried out, who it is for and under what conditions.

4.4. Promotion of *e-learning* in the agricultural sector

As regards promotion in the use of *e-learning*, the expert indicates that this shall be achieved by offering farmers training which lends value: participants should be interested in the contents, they should “see” that these contents will be useful to them and that the process to acquire them will meet this objective. It is important to incentivise the student to increase his participation in this type of training processes: providing certifications, motivating his participation so that it is attractive to him etc.

The most appropriate teaching tools to be included in a teletraining platform are those which are connected with synchronous (for example, a chat) or asynchronous (for example, forums, e-mail) communication. Participant-tutor interaction is highly valued by the students and it motivates them in their learning process. It is also very important for contents to be designed in appropriate fashion; for there to be activities to evaluate the work carried out by the student during the development of the course; and for motivating and useful tasks and activities to be proposed for participants which the tutor deems necessary for the development of the process.

The control of the participation data by the tutor is also vital so that effective management thereof can be undertaken (for example, being able to control connection times, evaluations carried out by participants etc.). However, the most important teaching tool which ensures the success of the process is the motivation of the student and his willingness to learn. A participant may start a course for a whole host of reasons but if he is not really motivated to this end throughout the process, it will not be easy for him to take advantage thereof in positive fashion.

The expert interviewed asserts that you cannot talk about the future for *e-learning* but rather about the present. This form of learning is firmly in place and from now on it is aimed to achieve its full development, focusing on the progress of new methodologies, tendencies, national developments, good practices, international experiences, technical advancements etc. It is important to stress the non-dehumanisation of the process: despite the use of information and communication technologies, *e-learning* should not be regarded by participants as a dehumanised process, drastically removed from the traditional conception of teacher-student and their direct personal interaction.

5. Glossary of terms

AGRICULTURAL TRANSFORMATION SOCIETY (ATS). These are regulated by the “Transformation Society Statute” which defines them as civil societies with an

economic-social purpose dedicated to the production, transformation and commercialisation of agricultural, cattle breeding and forest products, the carrying out of improvements in the rural area, agricultural promotion and development and the rendering of common services which serve for this purpose. They will enjoy legal personality and full capacity to operate as from their entry on the Register, with their assets being separate from that that of their partners.

AGROECOSYSTEM. Dynamic association of crops, pasture land, cattle breeding, in addition to flora and fauna, atmosphere, soils and water. Agroecosystems can be found in vast landscapes which include non-cultivation of the earth, drainage systems, rural communities and fauna.

BIODIVERSITY. Agricultural biodiversity concerns the variety and variability of animals, plants and microorganisms required to support the key functions of the agro-ecosystem, its structure, processes and the aid to food production and safety (FAO definition).

CAP. Common Agricultural Policy. This is one of the most important policies and one of the essential elements of the institutional system of the European Union (EU). It manages the subsidies provided to agricultural production in the EU.

COMPETENCE. This is the capacity to undertake an activity successfully. A competence can be characterised by its level (in line with the complexity and diversity of the tasks) and by its specialisation (in line with the range of knowledge required, the tools and machines deployed, the material being worked on and which was worked, as well as the nature of the goods and services produced).

COMPETENCE UNIT. Set or aggregate of competence standards which has recognition and significance in employment and which constitutes the minimum competence which is the object of accreditation, subject to recognition and partial accreditation for the purposes foreseen in article 8.3 of Organic Law 5/2002.

CONTROL BODY. A private, independent third party entity which undertakes inspection and certification in the context of organic production in accordance with the provisions set out in prevailing legislation.

CONTROL CERTIFICATE. The document which certifies the control issued by the competent authorities, the control bodies or authorities of the third party country recognised by the Committee which confirms that the product complies with the conditions established to be considered in accordance with the organic standards.

CONVERSION. Transition from non-organic farming to organic farming for a given timeframe within which the provisions relating to organic production shall be applied.

ECOSYSTEM. Natural system formed by dynamic interactions between biotic and non-biotic elements in a defined area. Biotic elements include plants, insects (pesticides, natural enemies, decomposition), microbes and other living organisms and non-biotic elements include climate component such as temperature, humidity, wind, sun, rain and earth.

E-LEARNING. Training-learning processes carried out through the Internet, characterised by a physical distance between teacher and students, but, where a communication flow predominates, both asynchronous and synchronous, through which there is a continuous didactic interaction. The students become the central elements of the training process, as they must self-manage their own learning, with the help from tutors and other students.

FARM. All the production units working under a sole management with a view to producing agrarian products.

FARMING. This is the agrarian activity which encompasses a series of human actions which transforms the natural environment with a view to making it more suitable for the growth of seeds. It is the art of cultivating the earth, referring to the different treatment works on soils and the cultivation of vegetables, usually for food purposes; or the works to farm the soil or the resources which the latter originates in natural form or by the action of man: cereals, fruit, vegetables, pasture land, fodder and other varied vegetable foods.

IFOAM. International Federation of Organic Farming Movements.

LABELLING. Every word, term, detail, registered trademark, trademark, illustrated motif or symbol placed on any packaging, document, warning, label, plate or ring, or related therewith, which accompanies or makes reference to a product.

NATIONAL PROFESSIONAL TRAINING AND QUALIFICATION SYSTEM. Set of tools and actions required to promote and develop the integration of Professional Training offers by way of CNCP, as well as the evaluation and accreditation of the corresponding professional competences to promote the professional and social development of people and cover the requirements of the production system.

NATIONAL PROFESSIONAL QUALIFICATIONS CATALOGUE (CNCP). This is the instrument of the National Qualifications and Professional Training System which organises the professional qualifications, subject to recognition and accreditation,

identified in the production system in line with the competences appropriate for professional practice. It is the set of professional qualifications organised into a structure divided by areas of competence and qualification levels. It is made up of the qualifications identified in the production system and the training associated therewith. It is applicable nationwide.

ORGANIC FARMING. Series of agrarian techniques which usually excludes the use in farming and cattle breeding of synthesis chemicals such as fertilisers, insecticides, antibiotics etc. with a view to preserving the environment, maintaining or increasing the fertility of the soil and providing quality foods with all their natural properties. (Ministry of the Environment, Rural and Marine Affairs).

PROFESSIONALITY CERTIFICATE. This is the official accreditation instrument for the professional qualifications of the CNCP in the context of the labour Administration which accredits the training for the development of a labour activity with significance for employment and it ensures the training required for their acquisition in the context of the Professional Training System for Employment. Professionality certificates are of an official nature and are valid nationwide.

PROFESSIONAL COMPETENCE. The set of knowledge and abilities which allows a professional activity to be practised in accordance with the requirements of production and employment. It is the ability to apply knowledge, skills and attitudes acquired by way of training or work experience processes in the development of the specific tasks of a profession and in a work post.

PROFESSIONAL TRAINING. Set of teachings designed to provide the professional qualifications and competences required to facilitate access to the employment market. In Spain it is organised in two systems which work independently of each other: Professional Training of the Education System and Professional Training for Employment.

PROFESSIONAL QUALIFICATION. The range of professional competences of significance for employment which can be acquired by way of modular training or other types of training, as well as by way of work experience. They can also be defined as a set or aggregate of competence units which delimit a given functional and technical multi-functionality.

TRACEABILITY. The possibility of finding and following the trail, via all the production, transformation and distribution stages, of a food, a feed, an animal intended for the production of food, or a substance intended to be incorporated in food or feed or with the probability of being so.

TRAINING MODULE. The coherent training block associated with each of the competence units going to make up the qualification.

UAA. Useful Agricultural Area.

WORKER. Natural person or legal entity responsible for ensuring compliance with the requirements of corresponding legislation in the organic company he runs.

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