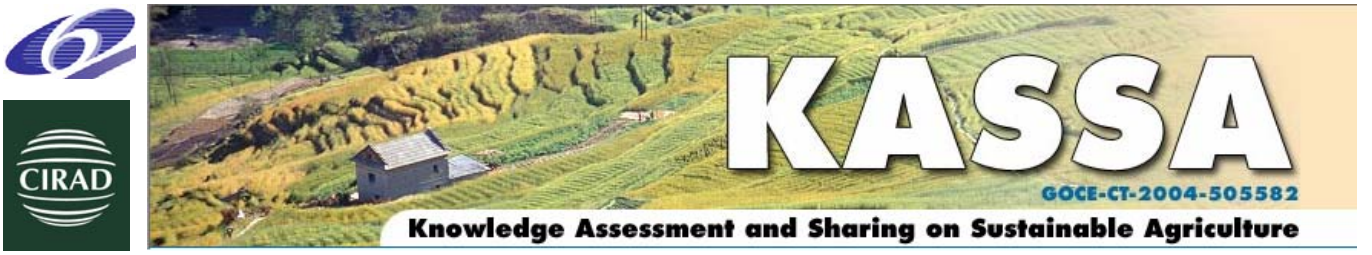

Deliverable 1.2 - Appendix A3

Conservation/Organic agriculture research in Italy

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General background

Italy Physics

The country's major islands, Sicily and Sardinia, are generally drier and warmer than the mainland; winters are mild (temperatures range between 9 and 11 C) and summers are hot and dry (July temperatures average almost 26 C, and rainfall for June, July, and August averages less than 25 mm). The mainland climate varies generally from north (northwest) to south (southeast); summer temperatures are relatively uniform throughout the country. July temperatures range between 22 and 24 C, while winter temperatures range from cold (0 to 2 C), in the Alps and the Po River valley in the north to relatively mild (5 to 8 C) in the south. Annual average rainfall generally exceeds 1,000 mm in the highlands and remains below 760 mm in the lowlands including a large part of the Po valley. The dry season occurs during the winter in the north and during the summer in the south; in neither area is it as marked as on the islands.

More than two-fifths of Italy's land area is considered arable; one-quarter of it is planted in wheat, and another one-eighth is devoted to corn, barley, and oats. The Po valley is the principal agricultural region and has little of its original forest vegetation remaining. Natural vegetation is determined largely by elevation; the lower Alpine lake regions support cork oak, European olive, and cypress, replaced by beech slightly higher up, which finally gives way to deciduous larch and Norway spruce.

Agriculture accounts for 2-3 percent of the gross domestic product (GDP) and employs about 6-9 percent of the labor force. About one-fourth of Italy's arable land requires irrigation. In addition to cereal grains (chiefly wheat and corn [maize]), there are sugar beets, tomatoes, potatoes, and olives. Orchard fruits and nuts and grapes are important, and Italy is one of Europe's largest producers of garden vegetables and fruits. It ranks high in olive-oil and wine production.

Pastures occupy one-sixth of Italy's land area, but such land is often rocky and of marginal quality. Thus, although sheep, pigs, cattle, goats, and chickens are raised, Italy is a net importer of meat and dairy products. Dairy cattle as well as sheep, goats, and water buffalo supply milk. Cattle hides sustain Italy's renowned leather industry.

Introduction to Sustainable agriculture in Italy through indicators

To set up a comprehensive inventory and assessment of existing knowledge on sustainable agriculture in Italy we should start to describe the situation, making a bit of history. In past decades interest in environment and agro ecosystems increased. The agricultural systems habitats often represents very important biodiversity sources. The main reasons for this are probably the general development of conservation attitudes towards nature in the face of the increasing impact of human activities over time, the increase of leisure activities, “agriculture multifunctionality” and the increase of funds for nature conservation. Consequently, environmental and agrienvironmental policies have been developed to protect natural resources on agricultural land and to involve farmers in the process of nature protection and improvement. One of the main issue in the definition and realization of these policies is understanding which are the main sources of impact produced by agricultural activities on the environment. In order to reach an understanding of the cause of major

impacts we need to closely examine the problem, to understand the agricultural system and territory and its evolution over time.

There are many ways to talk about sustainability and very often none of them coincide or better they take different point of departure or different development history (see: http://www.ecaf.org). Indicators represent a useful synthesis for describing agricultural systems; they also represent tools to help policy-makers to define and ameliorate environmental and agri-environmental policies. Recently there has been the development of study and research in the area of environmental indicators. The work of IUCN (1993), UNEP (1995), FAO (1999), EUROSTAT (1999), EC (2001) and OCDE (2001) are examples of this and provide a point of reference in the subject.

The methodology used in a study from **Marco Genghini** developed defined three main categories of farmland habitats: **intensive, semi-natural and uncultivated** (natural or man-made) areas. He discuss the definition of each habitat category on the basis of the Italian situation and data available, then quantifying each indicator for the Italy in different periods. In this paper we are interested only in the two main categories-for obvious reason.

Intensively farmed agricultural habitats

Definitions and quantification

"Intensively farmed areas are artificial habitats subject to regular disturbance of the soil and dominated by annual and perennial crop species, … these areas are commonly treated with fertilizers and pesticides and subject to farm management practices, such as ploughing, sowing, weeding, and harvesting" (OECD, 2001). Even if there is not a commonly accepted definition of this habitat, its identification and distinction from the other two categories of agricultural habitats seems quite simple and straightforward. Although these areas have a reduced value for wildlife and often environmental values, with priorities instead focused on production activities, they do provide the habitat for various components of biodiversity (vascular plants, invertebrates, small mammals and birds), while in some geographic areas they play a determinant role for certain wildlife species (migratory birds, hares, pheasants, partridges, etc.). Moreover, the emergency produced by past and present biodiversity reduction, points out the urgent need for improved study, understanding and classification of territories where intense agricultural activities are present in order to define parameters and indicators for differentiating territories and crops in terms of their different impact or importance to environment, biodiversity and wildlife. Up until now the evaluation and quantification of these territories have been performed mostly using official statistics taken from the agricultural census and, to a lesser extent, through aerial photos and satellite images interpretations (Corine Land Use classification and other land use maps). The agricultural census has been designed to quantify agricultural activities and farmlands; therefore, some details are present to so as to make distinctions within the cultivated areas of the agricultural habitat. Official statistics defines three main types of cultivation within the total agricultural land area (t.a.l.a.): arable crops, permanent crop (fruit crops) and permanent forage crops (permanent meadows and pastures). In a first rough distinction we include arable crops and fruit crops in the group of intensive agricultural habitats and permanent forage crops in the group of semi-natural agricultural habitats (Table 1).

Table 1 – National and Agricultural Land Area (from Marco Genghini modified)
Main categories of land use, areas (000 hectares), percentage on total agricultural land area and total national land area (Italy 1990-1997)*

	1990			1997		
	he	**%(1)**	**%(2)**	**he**	**%(1)**	**%(2)**
Arable Crop Area	**8 899**	**52.8**	**29.5**	**8 252**	**55.6**	**27.4**
Improved Forage Crop Area	***2 397***	***14.2***	***8.0***	***2 333***	***15.7***	***7.7***
Permanent Crop Area	**2 960**	**17.6**	**9.8**	**2 721**	**18.3**	**9.0**
Permanent Pasture Area	**4 868**	**28.9**	**16.2**	**3 860**	**26.0**	**12.8**
Total Agricultural Land Area	16 839	100	55.9	14 833	100	49.2
Forest	6 750		22.4	6 843		22.7
Other area **(3)**	2 602		8.6	1 551		5.1
AGRIC. & FORESTAL LAND AREA	26 191		86.9	23 227		77.1
UNPRODUCTIVE AREA **(4)**	3 925		13.0	n.a.		0.0
TOTAL NATIONAL LAND AREA	30 128		100	30 128		100

* Definitions of land area categories are drawn from FAO (1999). Source of data, I.S.T.A.T. (1990, 1997. (1) Percent on total agricultural land area. (2) Percent on total national land area. (3) Includes: abandonned fields, temporary uncultivated fields, building areas, parks and gardens, non-cultivated farm areas. (4) Includes: buildings, roads, unproductive areas, water body areas and wetlands, etc. n.a.: not available.

Differences within intensively farmed agricultural habitats

Some parameters may afford the basis for differentiating agricultural territory in order to understand which situation or crops may be the cause of major impact and/or which cultivations are particularly favorable to some species or group of species. The most common parameters are: type of crops cultivated, production methods, spatial composition of the cultivated areas, proximity to other categories of habitats, etc. (OECD, 2001).

Crops may be distinguished on the basis of the following: number of chemical treatments, kilograms per hectare of chemical products applied, total number of farm operations, number of farm operations with high impact, etc., or with more detailed measures. On this basis an impact matrix for crops and group of wildlife species can be formulated to define different level of impact by crops or group of crops. Field studies involving different species or groups of species may test and verify this impact matrix as time goes on.

A complementary approach consists of a matrix on habitat use by single or group of species in line with a recent Canadian work based on an habitat matrix (Neave and Neave, 1998). However, the problem of this approach is the high level of informations needed for each single crop or group of agricultural crops.

On the basis of main crop impacts on wildlife and the principal characteristics of Italian cultivations we divided intensive agricultural crops into various groups and sub-groups (Table 2). Arable crops have been subdivided into winter cereals, improved forage crops, row crops, flower crops and fallow or set-aside fields [Row crops include: others cereals (maize and sorghum), proteoleaginous crops (sunflower, soybean, rape-seed, peanut, charlock, sesame, bird rape), other industrial crops (sugar beet, tobacco, common flax, cotton, oil meal) and vegetable crops (root crops, vegetables open field, vegetables tunnel, grain leguminous)]. Fruit crops have been subdivided into

apples/pears, peaches/apricots/plums/cherries/etc. (stone fruits), vineyards/kiwi, olives, citrus, nuts and others.

Table 2 - Intensive agricultural land area* (from Marco Genghini modified)
Intensive agricultural crops, areas (000 hectares), percentage of intensive agricultural land area and of the total agricultural land area (Italy, 1990-1997).

		1990			1997		
		he	**%(1)**	**%(2)**	**he**	**%(1)**	**%(2)**
A	INTENSIVE AGRICULTURAL LAND AREA **(3)**	11705	100	69.5	10965	100	73.9
A 1	**(Most intensive crop area) (4)**	**5 565**	**47.5**	**33.0**	**5 503**	**49.1**	**37.1**
1 Arable crop area		8 899	76.0	52.8	8 252	73.6	55.6
1.1 Improved Forage Crops **(5)**		*2 397*	*20.5*	*14.2*	*2 333*	*20.8*	*15.7*
1.2 Winter cereals **(6)**		*3 612*	*30.9*	*21.5*	*2 884*	*25.7*	*19.4*
1.3 Row crops:		*2 597*	*22.2*	*15.4*	*2 543*	*22.7*	*17.1*
***1.3.1 Others Cereals* (7)**		***792***	***6.8***	***4.7***	***1 069***	***9.5***	***7.2***
***1.3.2 Proteolegineus Crops* (8)**		***643***	***5.5***	***3.8***	***600***	***5.4***	***4.0***
***1.3.3 Others Industrial Crops* (9)**		***363***	***3.1***	***2.2***	***296***	***2.6***	***2.0***
1.3.4 Vegetable Crops		***876***	***6.8***	***4.7***	***578***	***5.2***	***3.9***
1.3.4.1 Grain leguminous		***152***	***1.3***	***0.9***	***65***	***0.6***	***0.4***
1.3.4.2 Root crops		***121***	***1.0***	***0.7***	***91***	***0.8***	***0.6***
1.3.4.3 Vegetables		***526***	***4.5***	***3.1***	***422***	***3.8***	***2.8***
1.4 Flower Crops		*8*	*0.1*	*0.0*	*n.a.*	*0.0*	*0.0*
1.5 Fallows or Set-aside		*416*	*3.6*	*2.5*	*247*	*2.3*	*1.7*
2	Irrigated perm. meadows **(10)**	262	2.2	1.6	n.a.	0.0	0.0
3	Permanent crop area **(11)**	2 960	25.3	17.6	2 960	26.4	20.0
3.1	*Apples/Pears*	*72*	*0.6*	*0.4*	*121*	*1.1*	*0.8*
3.1.1 *Intensives*		***72***	***0.6***	***0.4***	***121***	***1.1***	***0.8***
3.1.2 *Mixed with arable crops*			***0.0***	***0.0***		***0.0***	***0.0***
3.2	*Peaches/Cherries/etc.*	*169*	*1.4*	*1.0*	*161*	*1.4*	*1.1*
3.2.1 *Intensives*		***169***	***1.4***	***1.0***	***161***	***1.4***	***1.1***
3.2.2 *Mixed with arable crops*			***0.0***	***0.0***		***0.0***	***0.0***
3.3	*Vineyards/kiwi*	*1 072*	*9.2*	*6.4*	*928*	*8.3*	*6.3*
3.3.1 *Intensives*		***1 072***	***9.2***	***6.4***	***928***	***8.3***	***6.3***
3.3.2 *Mixed with arable crops*			***0.0***	***0.0***		***0.0***	***0.0***
3.4	*Citrus*	*184*	*1.6*	*1.1*	*179*	*1.6*	*1.2*
3.4.1 *Intensives*		***184***	***1.6***	***1.1***	***179***	***1.6***	***1.2***
3.4.2 *Mixed with arable crops*			***0.0***	***0.0***		***0.0***	***0.0***
3.5	*Olives*	*1 149*	*9.8*	*6.8*	*1 131*	*10.1*	*7.6*
3.5.1 *Intensives*		***1 149***	***9.8***	***6.8***	***1 131***	***10.1***	***7.6***
3.5.2 *Mixed with arable crops*			***0.0***	***0.0***		***0.0***	***0.0***
3.6	*Nuts* **(12)**	*199*	*1.7*	*1.2*	*162*	*1.4*	***1.1***
3.6.1 *Intensives*		***199***	***1.7***	***1.2***	***162***	***1.4***	***1.1***
3.6.2 *Mixed with arable crops*			***0.0***	***0.0***		***0.0***	***0.0***
3.7	*Others* **(13)**	*49*	*0.4*	*0.3*	*49*	*0.4*	***0.3***
3.7.1 *Intensives*		***49***	***0.4***	***0.3***	***49***	***0.4***	***0.3***
3.7.2 *Mixed with arable crops*			***0.0***	***0.0***		***0.0***	***0.0***

* Source of data, I.S.T.A.T. (1990, 1997. (1) Percent on total intensive agricultural land area. (2) Percent on total agricultural land area. (3) Includes categories: 1, 2 and 3. (4) Includes categories: 1.3, 1.4 and 3. (5) Monospecific and polyspecific temporary forage crops, monospecific and polyspecific temporary meadows. (6) Wheat, barley, oat, rice, rye and secondary cereals. (7) Maize and sorghum. (8) Sunflower, soybean, rape-seed, peanut, charlock, sesame, bird rape. (9) Sugar beet, tobacco, common flax, cotton, oil meal. (10) See note 3 in table 5. (11) Include only intensive permanent crop area (fruit crops). (12) Walnut, almond and hazel. (13) Quince, common pomegranate, common persimmon, common fig, carob, white mulberry, etc.

Row crops and flower crops belong to the main impacted group of crops because of the number of chemicals treatments and number of farm operations. We have distinguished winter cereals (wheat, barley, oats, rye, etc.) from others cereals because of the reduced amount of chemical treatment and farm operations (from 1 to a maximum of 4 or 5) performed in a less dangerous period for wildlife (fall and winter). Improved forage crops are considered as a group apart, because of their general importance to biodiversity and environment. Fallow and/or set-aside land are kept separate because of their extensiveness and importance for several species of wildlife. Because of that, they should instead be included in the group of semi-natural habitats. In different ways, therefore, these last three groups have different reasons prompting separation.
Method of production is another important factor of differentiation. Within intensive agricultural habitats we may find very different production systems: organic/biological agriculture, integrated agriculture, integrated pest management, conservation tillage operation, crop rotation, etc. The problem here is about definition and comparison of alternative production systems or farm operations involving different countries, but also involving different regions of the same country. Distinct legislation, traditions, evolution in the farm sector, etc. are present, whereas detailed information on the production system are often not available. The only alternative production method allowing consistent comparison between different countries at present is organic/biological agriculture; this is due to its long tradition, common EU legislation (EEC Reg. 2091/91 and 2200/96) and contacts through international organizations (IFOAM, OILB/SROP, etc.). An overview of its evolution and development in Italy will be presented in detail.

Semi-natural agricultural habitats

Definitions and quantifications

The first problem we face regarding semi-natural or extensive agricultural habitats concerns the definition of the same. Many definitions and studies have been elaborated in the past as well as in recent times, concerning this type of habitats or agricultural production systems. The most common concepts and terms used are: extensive agriculture/crops, low intensity farming systems, low impact agriculture, sustainable agricultural systems, high-nature-value farming systems/habitats and semi-natural agricultural habitats. In addition to the matter relative to terminologies employed, the real problem is how to define exactly this part of the total agricultural habitat. Which parameters should we use? According to previous works (Beaufoy et al., 1994; Baldock, 1999; OCDE, 1997, 1999 and 2001; Genghini and Busatta, 2001), the leading concept is about the **way agricultural systems are realized in a certain territory or area**. This way, of course, refers not to the conventional or intensive way, but to ways pertaining to the extensive, the reduced intensity, the low impact, the relevance to biodiversity or single wildlife species, etc. The following points may help to define and identify this type of habitat. The first assumption is that these semi-natural habitats are part of agricultural territory, where some kind of agricultural activities are, or were recently present.

The following describe the potential categories of habitats to be considered:

1. Where traditional agricultural systems with a reduced environmental impact or with a certain importance to wildlife species are present (i.e., alpine cattle breeding, called *alpeggio* in Italy; livestock raising on dry grasslands, stubble fields or wooded and shrubby pasture land; pasture areas where transhumance is practiced; traditionally-cultivated olives and nuts, etc.).
2. Where recent agro-naturalistic or eco-touristic activities without significant environmental impact are present.
3. Extensive or low intensive agricultural cultivations with low input (particularly chemicals products) and a low level of other human intervention (i.e., farm operations) .
4. Heterogeneous agricultural areas where small patches of agricultural fields are alternate to

small patches of woodlands, shrubs, wetlands or natural areas .

5. Fallow land or long term set-aside (more than 5 years).

Table 3 – Extensive or low intensive agricultural cultivations*

HABITATS	**MANAGEMENT**	**PRODUCTION PRACTICES**
Extensive permanent grassland	**No fertilizers treatments (mineral or manure) and no pesticides treatments**	Fodder production (maximum two cuts per year) and limited grazing. Grazing limited to short periods (1-2 weeks), maximum twice a year.
Low intensity permanent grassland	Low fertilizers use (only manure) and no pesticides treatments	Fodder production (maximum two cuts per year) and limited grazing. Grazing limited to short periods (1-2 weeks), maximum twice a year.
Meadows used for litter	No fertilizers and no pesticides	Primarily cut for litter, hence not used for fodder. Meadows maybe on marsh land.
Extensive pastureland	No fertilizers treatments (apart from manure from livestock grazing) and no pesticides treatments	Grazing with low animal density or limited to short periods.
Wooded pastureland	No fertilizers treatments (apart from manure from livestock grazing) and no pesticides treatments	Wood cover on 5-50 % of pasture area.
Extensive cultivation of winter cereals	Low fertilizers use (only manure), no pesticides treatments and no irrigation	Stubbles maintained for long period.

*(OECD, 1998 mod.; Genghini and Busatta, 2001)

In Italy the development of sustainable agriculture historically means development of Organic Farming. Of course there has been e research pointed to different sustainable practices such as promiscuity culture (intercropping), cover crops, reduced tillage, sod seedings etc. The investigation about more sustainable agriculture practices has often remained confined in the universities or in some places without be spread to increase the farmers awareness. Neither economic motivation influenced a reduced input practices significantly in the Italian agriculture. The only big experience that has been also market driven is OA.

Organic Agriculture in Italy

Organic agriculture is a holistic production management system which promotes and enhances agroecosystem health, including biodiversity, biological cycles and soil biological activity.

Organic farming had taken hold in Italy and across Europe, by the1980s, in response to the growing demand for quality products. During the 1990s, following the profound changes which were eked out in the Common Agricultural Policy (CAP) and the sharper focus on the environmental impact of agricultural activities, organic farming gained increasing acceptance. In Italy the earliest pioneering experiences in organic agriculture date back to the nineteen-sixties, but only took off in the nineteen-seventies, involving more and more farmers and consumers seeking an improved quality of life and consumption. During the mid eighties, the first local co-ordination agencies established the "Commissione Nazionale Cos'è Biologico" (National Commission for Organic Agriculture). Made up of representatives of organizations and consumers associations from each Italian region, the Commission established the first nation-wide self-regulatory standards for organic farming.

Along a very consistent number of years sustainable agriculture and organic agriculture has been relegated in very special rooms, namely association or farms conducted by special entrepreneurs. The conductor of this kind of enterprise was good culture and often good skills and trained in technical aspects but very few knowledge of Italian environment and agricultural systems. As a matter of facts they were often foreigners from Austria, Germany, France and Usa!! They were people looking for a new way of living and naturality.
The resistance to change in Italy has been very strong and despite the blossoming of new ideas about sustainable agriculture the sector was characterized of some immobility. The research system more or less was doing the same and did not cough the new ideas.

The recent growth of organic sector in Italy can be considered a success story that deserves to be properly known and analyzed.

It is the result of several circumstances:

- the numerous food scandals which have afflicted Europe;
- a common understanding about the use of productive techniques more sustainable and environmental friendly;
- the search for technical and economic alternatives by farmers, who have not yet decided to give up;
- the important flow of subsidies (direct and indirect) which have been channeled into the entire organic food chain.
- The agroecological situation in some regions well adapted to less intensive cultivations

Nevertheless, it also represents the outcome of the first steps made by few pioneers who since the early ‘50s had started to criticize the path into which the so called technological progress and the agricultural policies were leading Italian and European farming. These pioneers were old and new farmers, medical doctors, shop owners and traders, food processors and consumers, veterinarians and agronomists, with some rare scientists, all of whom for more than 30 years have been struggling to convince the surrounding people and the Institutions that another food system is possible.

Political Framework (normative)

Council Regulation (EEC) no. 2092 of June 24, 1991 on "organic production of agricultural products and indications referring thereto on agricultural products and foodstuffs" was approved by the Council of the European Communities and published in the Official Journal (22/07/91). Over the past few years, increasingly larger land areas have been converted to organic farming. Regulation (EEC) 2092/91, which set a regulatory framework and Regulation (EEC) 2078/92, which provided for the allocation of aid schemes to organic farms, have propelled organic farming in Italy as well. A further stride ahead was the approval of the regulation on the development of a logo for organic products (Regulation (EEC) 331/2000) and of the regulatory framework on organic livestock farming (Regulation (EEC) 1804/99). Once EU-Regulation 2092/91 was implemented, the numerous small associations of organic farmers and the producers and consumers committees operating in every region reorganized themselves, joining forces through mergers and a federative network.

Structural aspects

Italy is the leading European Member States in terms of organically farmed areas and number of organic farms and the second world large exporter of organic products.
Based on data sets provided by the Ministry of Agriculture and Forestry, in 2004 in Italy there were 40.043 organic farm with a decline in number of about 10.000 since 2000 when there were 54 004 organic farms, 49 490 of which were only farms, 1330 were farms/processing units, 2817 were only processing units and 67 were only importers of organic products.
As far as the geographic distribution of farms is concerned, 67% of them are concentrated in Southern Italy and in the islands, thereby confirming a development of organic farming which is fine-tuned to some given cropping, soil and climatic properties.
The organically cultivated area (including area in conversion) is 1.052.002 Source: SOEL Survey, February 2005.
In keeping with the Italian extensive-crop-oriented trends of production, the main organic farming sector is that of cereals and forage crops.
However, there is a scope for market growth for both the fruit sector (3%), the citrus sector (1.5%) and the olive (9%) sector, the main processed products being pasta, olive oil and preserves.
In the nineteen-nineties the organic sector in Italy showed one of the largest average annual growth rates in Europe. In 1998 organic farms numbered over 43.698 with about 788.070 thousand hectares (5.34% of total Italian cultivated land); In the last years the grow declined mostly due to the loss of public found. Seems to be the center of Italy the strongest part of the country for the sector. In this part of Italy (Graph 2) the number of farms did not decline despite the loss of founding from public sector.

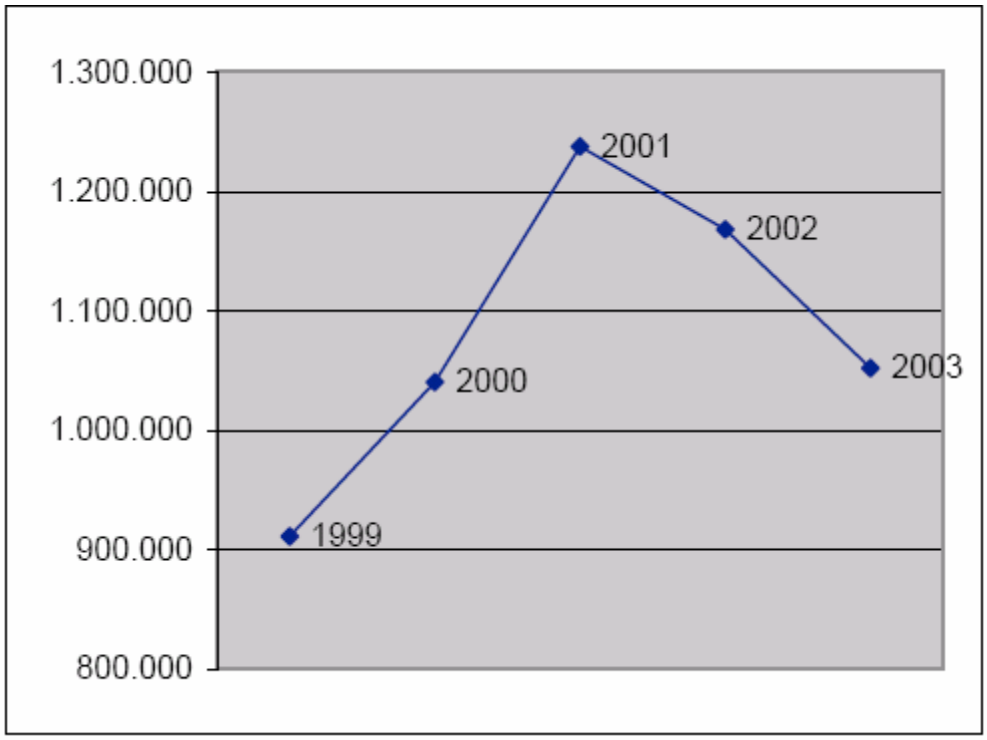
The evolution of Italian organic agro-food chain shows how the different actors have co-operated for the growth and expansion of the sector. The profit oriented private firms, the non governmental organizations (NGOs), the public authorities played a big role, at local, regional, national and EU level. With more than one million certified hectares and over 44,000 farms, Italy is the largest producer of organic raw materials in Europe and represents one of the biggest final markets (>1.2 million Euro in 2000). Processing is performed at 5,900 processing units, located either within the farms or in separated firms. The entire food chain is regulated by EU norms and more than 1,300 inspectors are at work.

Applied research, extension, training and education are also growing, thanks to public and private support. Increasingly, organic farming and food processing are important component of rural development projects, together with other diversification measures as landscape management and rural tourism. A similar path of development could be followed also by other Countries, with similar ecological and socio-economic situations, as to achieve a socially and economically sustainable development. Again the impressive expansion of the organic agro-food chain in Italy is a success story that can represent a positive example for a similar development in other Countries. It is the result of several circumstances: the several food scandals, the awareness of consumers about links between nutrition and health, the producers' search for technical and economic alternatives, the relatively abundant flow of economic support channeled into the organic food chain, the reorganization of the grocery distribution. Anyhow, it also represents the final outcome of the actions implemented by several different actors: the individuals and private firms, which first adopted this alternative approach, their associations and those of the conventional farmers unions, the public authorities. The synergies between actors and between different policies, all over the last ten years, are evident and have produced the present situation, still on progress.

Table 4: Total AREA (OA and conversion) In Italy by year

Year	Organic Agriculture area, **(ha)**
1999	911.068
2000	1.040.377
2001	1.237.640
2002	1.168.212
2003	1.052.002

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004



Graph 1Total AREA ha (OA and conversion) In Italy by year
Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

GRAFICO 4: serie storica del numero totale di operatori al nord

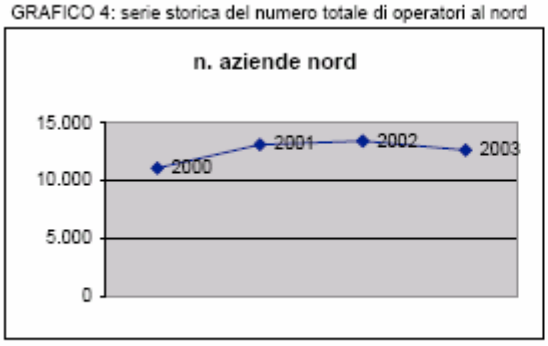


GRAFICO 5: serie storica del numero totale di operatori al centro

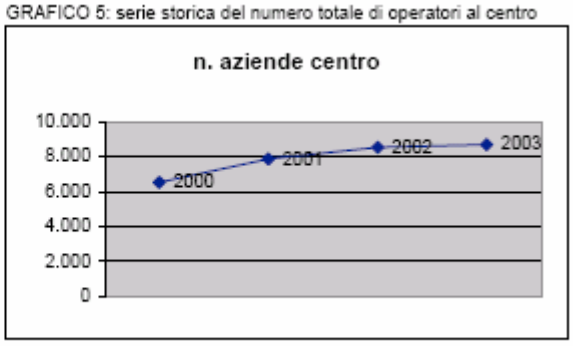


GRAFICO 6: serie storica del numero totale di operatori al sud

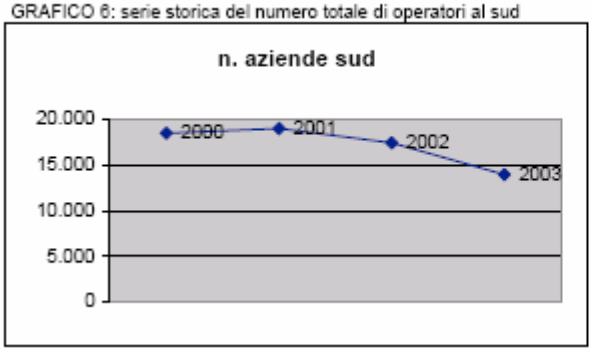


GRAFICO 7: serie storica del numero totale di operatori nelle isole

Graph 2 Number of farms In Italy North, center, south and islands
Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table 5: total number of actors 1999-2002 different activities

	Activities		
anno	**Producers**	**Processing**	**Importers**
1999	47.018	1.954	17
2000	51.120	2.817	67
2001	56.440	3.947	122
2002	51.401	4.346	155
2003	44.034	4.264	175

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table 6: number of production farms by Region

Region	**2000**	**2001**	**2002**	**2003**
Abruzzo	558	942	997	1.008
Basilicata	414	656	1.566	1.630
Calabria	8.299	7.807	6.206	4.220
Campania	1.661	1.782	1.824	1.537
Emilia Romagna	4.165	4.535	4.356	4.056
F.V. Giulia	185	243	292	305
Lazio	2.170	2.415	2.397	2.526
Liguria	229	314	370	391
Lombardia	927	1.023	1.037	1.099
Marche	1.641	1.807	1.777	1.681
Molise	455	476	411	383
Piemonte	2.763	3.250	3.236	2.688
Puglia	6.495	6.470	5.502	4.267
Sardegna	8.237	7.798	6.570	4.666
Sicilia	9.325	12.225	9.410	8.003
Toscana	1.395	1.923	2.226	2.340
Trento e Bolzano	447	551	614	655
Umbria	764	948	1.266	1.252
Valle d'Aosta	13	18	18	66
Veneto	977	1.257	1.326	1.261
TOTAL	**51.120**	**56.440**	**51.401**	**44.034**

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table 7: number of processing farms by Region

Region	**2000**	**2001**	**2002**	**2003**
Abruzzo	81	113	117	113
Basilicata	20	33	35	48
Calabria	85	131	154	162
Campania	117	174	198	188
Emilia Romagna	418	531	594	623
F.V. Giulia	41	58	68	66
Lazio	150	225	240	247
Liguria	42	65	75	69
Lombardia	286	379	453	397
Marche	95	129	138	128
Molise	24	34	36	39
Piemonte	224	312	342	321
Puglia	263	361	379	352
Sardegna	48	88	99	96
Sicilia	290	424	424	403
Toscana	220	318	364	383
Trento e Bolzano	77	97	107	118
Umbria	72	81	98	92
Valle d'Aosta		2	2	3
Veneto	264	392	423	416
TOTALE	**2.817**	**3.947**	**4.346**	**4.264**

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table 8: number of importers unit by Region

Region	2000	2001	2002	2003
Abruzzo		2	3	2
Basilicata		0	0	0
Calabria		0	0	0
Campania	1	4	7	5
Emilia Romagna	23	39	38	40
F.V. Giulia		1	5	6
Lazio		0	1	3
Liguria	6	4	9	11
Lombardia	12	23	32	32
Marche		2	3	4
Molise		0	0	0
Piemonte	9	12	15	15
Puglia		3	2	2
Sardegna		0	0	0
Sicilia	1	0	1	4
Toscana	4	7	9	13
Trento e Bolzano	2	2	2	4
Umbria	1	4	2	6
Valle d'Aosta		0	0	0
Veneto	8	19	26	28
TOTALE	**67**	**122**	**155**	**175**

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table 9: area and productive trend

area and productive by 31/12/03			
	ha		
Productive	**SAU in conversion**	**SAU organic**	**Total**
cereals	56.195	153.181	209.376
Legumes	4.317	7.345	11.662
Potatoes	158	730	888
Sugar beet	102	3.887	3.990
Forage beet	102	215	317
Industrial	7.696	24.617	32.313
Horticulture	2.585	8.769	11.354
Flowers and ornamental	26	75	102
Forages	74.738	222.259	296.997
Other crops	3.319	5.838	9.157
Orchards	15.766	36.448	52.214
Citrus	5.834	10.915	16.749
Olive	24.792	61.410	86.201
Vineyards	11.439	20.271	31.709
Pastures	83.837	179.165	263.003
Other	9.236	16.734	25.970
TOTALE	**300.141**	**751.860**	**1.052.002**

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table 10 - area and productive trend by 31/12/03 details **cereals**

Crops	in ha		
	SAU in conversion	**SAU organic**	**Total**
cereal (total)	**56.195**	**153.181**	**209.376**
Wheat	6.267	16.360	22.627
Durum wheat	26.749	62.772	89.521
segale	56	292	348
Barley	4.531	12.679	17.211
Oats	3.805	9.437	13.242
Corn	4.373	10.381	14.754
Rice	1.247	4.952	6.199
Other	9.167	36.307	45.474

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table n. 11 –area at industrial crops al 31/12/02

Crops	in ha		
	SAU in conversion	**SAU organic**	**Total**
Industrial crops (total)	**7.696**	**24.617**	**32.313**
rapeseed	84	73	157
Sunflower	1.913	6.040	7.953
soia been	1.393	4.318	5.711
tbacco	2	68	71
Medicinal erbs	364	3.416	3.779
Other	3.940	10.703	14.642

Source SINAB (Sistema di informazione Nazionale sull'agricoltura biologica) 2004

Table n. 12 Agriturismi (rural tourism) bio by region by 31-12-2002

Region	**n.**	**% over Italy**
Abruzzo	36	5,2
Basilicata	12	1,7
Calabria	40	5,8
Campania	24	3,5
Emilia Romagna	63	9,2
F.V. Giulia	11	1,6
Lazio	37	5,4
Liguria	18	2,6
Lombardia	39	5,7
Marche	44	6,4
Molise	2	0,3
Piemonte	27	4,0
Puglia	23	3,3
Sardegna	21	3,1
Sicilia	33	4,8
Toscana	24,7	13
Trento e Bolzano	21	3,1
Umbria	43	6,3
Valle d'Aosta	2	0,3
Veneto	20	3
TOTALE	**67**	**175**

Source Bio Bank (distilleria-ecoeditoria Forli)2004

Table 13: Land area under organic management 10 major Countries 2005

	Organic Hectares
Australia	11,300,000
Argentina	2,800,000
Italy	1,052,002
USA	930,810
Brazil	803,180
Uruguay	760,000
Germany	734,027
Spain	725,254
UK	695,619
Chile	646,150

Source IFOAM SOEL 2005

Table 14: Land area under organic management in percent of total agricultural area

	% of Agricultural Area
Liechtenstein	26.40
Austria	12.90
Switzerland	10.27
Finland	7.22
Italy	6.86
Sweden	6.80
Greece	6.24
Denmark	6.20
Czech Rep.	5.97
Slovenia	4.60

Source IFOAM SOEL 2005

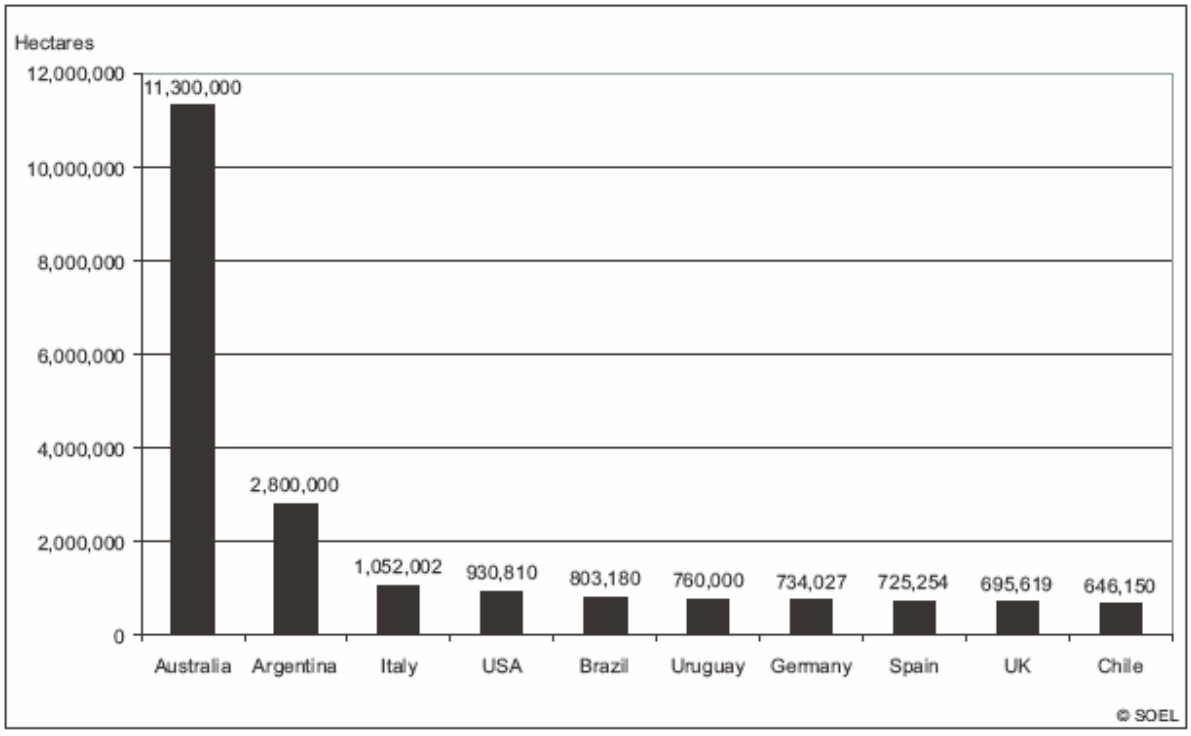


Figure 1: The ten countries with the largest area under organic management

Source IFOAM SOEL 2005

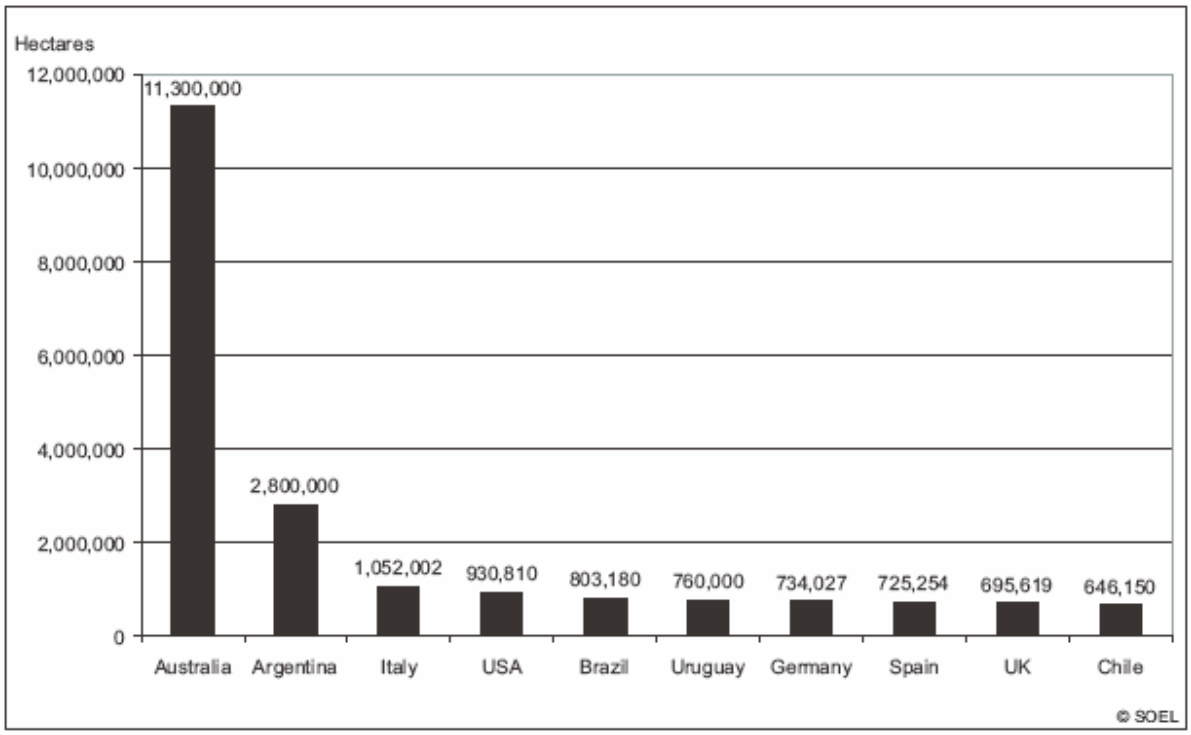


Figure 1: The ten countries with the largest area under organic management

Source IFOAM SOEL 2005

Table 15: Organic farms worldwide number of farms in 10 major Countries 2005

	Organic Farms
Mexico	120,000
Indonesia	45,000
Italy	44,043
Uganda	33,900
Kenya	30,000
Tanzania	30,000
Peru	20,000
Austria	19,056
Spain	17,028
Germany	16,476

Source IFOAM SOEL 2005

Most of the organic area (Table 9) is devoted to permanent pastures or to grass production (alfa alfa, for example), needed for restoring fertility or for rotation. Since most farms are stockless (with some notable exception' like the Parmigiano area in Emilia Romagna, the sheep breeding area in

Sardegna or the Chianina Cattle breeders in Umbria and Tuscany), most grass is sold to nearby farmers or used as green manure.

Agro tourism (Table 12) has experienced a fast expansion in Italy in the last years and in the organic farms it allows to diversify income sources, but also to sell farm products and to educate the guests about the benefits of organic foods.

Italy's Certifying Bodies

Any operator who produces, prepares or imports from a third country organically produced agricultural products or foodstuffs shall notify this activity to the competent authority of the Member State in which the activity is carried out and submit his undertaking to the inspection system in force. The Member State shall set up an inspection system operated by one or more designated inspection authorities or approved private bodies.
The Member State shall designate an authority responsible for the supervision of such bodies to ensure compliance with the inspection rules.
Products can be marketed with indications referring to organic production methods, provided that they have been subject to the inspection and certification arrangements.

Processing and packaging units for organically produced products shall be subject to the same rules on identification, inspection and registration. The keeping of accounts shall enable the inspection body to trace the nature and origin of both raw and processed materials.
In 1990 there were only four certifying-bodies/ producers' associations in Italy. These were AIAB (http://www.aiab.it), Suolo e Salute, CCPB (http://www.ccpb.it) and the Biodynamic Association (http://www.demeter.net), which later gave rise to a certifying body named CODEX.

AIAB was the largest association, grouping together many local-regional grassroots associations. Suolo e Salute (established in 1969) and the Biodynamic Association (es-tablished in 1947) were the historical cultural/producers' groups, while CCPB is a cooperative (established in 1988) that supports co-operatives, processors and large co-op retailers.

At the end of 1993, a year after the EU regulations on organic agriculture (http://europa.eu.int/eur-lex/it/lif/dat/1991/it_391R2092.html) had come into force, the Italian Minister of Agriculture recognized three new organizations (A.M.A.B., AgriEcoBio and BioAgriCoop (http://www.bioagricoop.it), bringing the total number of certifying bodies up to seven.

In December 1996, the Ministry of Agriculture (the competent authority) confirmed the registration of all certifying bodies (some of which had changed their names) except AgriEcoBio. This association did not conform to EN 45011 standards, and its place was taken over by two new bodies (QC&I and Ecocert (http://www.ecocert.be/ecoeng.html) both of whom were recognized and registered. In early 1999 another control body, BIOS, was recognised.
AIAB, Bioagricoop and CCPB are IFOAM accredited. The situation is still fluid and new certifying bodies comes out.

Table 15: Number of farms and hectares certified by individual certifying bodies 1998 (see also http://www.biobank.it/it/associazione.html)

Name of organisation	Logo	Certified farms	Certified hectares
Associazione Italiana per l'Agricoltura Biologica, AIAB		9,687	159,104
Associazione Suolo e Salute		6,451	121,638
Bioagricoop		4,260	119,422
Consorzio per il Controllo dei Prodotti Biologici, CCPB		2,024	29,922
Codex		1,016	14,330
Ecocert Italia		2,565	40,527
Istituto Mediterraneo di Certificazione, IMC		2,198	30,353
Q.C. & I.		2,917	49,617
BIOS		n/a	n/a

The aims of the producer organizations are different from those of the certifying bodies. Although some aim to provide technical guidance and extension services to organic farmers the majority are merely lobbying and cultural associations. In this sense, a more active role of the traditional (non-organic) farmers associations is now in expansion. In any case some of them provide active extension and applied of research through their agronomist.

One unique regional producers' association is PROBER http://www.greenplanet. net/prober (Associazione produttori biologici e biodinamici dell' Emilia Romagna). The organization includes producers certified by different bodies and has obtained the recognition from the regional government. It therefore has access to public funds to provide services to its members. The services it gives include technical extension, promotion and marketing, as well as demonstration, experimentation and research activities. It also lobbies for the sector at the regional level, including demands for more recognition and advantages for organic farming in many regional laws and programmes.

Federazione Italiana per l'Agricoltura Organica FIAO

FIAO (http://www.greenplanet.net/fiao/), founded in 1992, is the Federation of the principal organic and biodynamic producer and certifying organisations. FIAO represents the sector at a political level and informs the public about organic farming. Its members are

- Acu (http://www.greenplanet.net/acu/home.html)
- AgriEcoBio
- AIAB (http://www.aiab.it)
- Amab
- Assotrab
- Bioagricoop (http://www.bioagricoop.it)
- Biologico E'
- Ccpb (http://www.ccpb.it/)
- Colibrì
- Demeter
- Imc
- Inab
- Ub. (http://www.greenplanet.net/ub/home.html)

Biobank

The publisher Distilleria (http://www.biobank.it) informs consumers and producers about organic farming. Among others it publishes "Tutto Bio", which in its sixth edition 2000, is a complete guide to organic and ecologically safe products. It also publishes the "biofax", a two-weekly information service. Its Internet site http://www.biobank.it offers a wide range of information.

Centro Ecologico di Dimostrazione Agraria CEDA

CEDA (http://www.aiab.it/ceda/) promotes organic agriculture by providing documentation, demonstration and information. It was founded by AIAB in 1996. It organizes courses and seminars (for example for organic advisors) and farm walks. It publishes a bulletin with its news and a weekly magazine for organic winegrowers. It set up a network of organic demonstration farms.

IFOAM Italia

Since its inception the Italian organic movement has taken its share of responsibility in the international scene. More and more delegates participate in IFOAM (http://www.ifoam.org) conferences, events and activities; there is more involvement in the IFOAM European Union regional group, the AgriBioMediterraneo region, the IFOAM accreditation program, and the IFOAM Standards Committee.

Today there are over thirty IFOAM member organizations in Italy. They effectively represent the whole of the Italian organic movement, ranging from control and certification bodies, producers' and cultural associations, research institutes, co-operatives and traders. Most of them belong to the Italian co-ordination of IFOAM members (http://www.ifoam.it), which serves an important tool in uniting the movement and strengthening it at the national and international level.

AgriBioMediterraneo

In order to develop stronger ties between the Italian and Mediterranean organic movements and IFOAM, AIAB organized the first international conference on organic agriculture in the Mediterranean countries in 1990. In the Italian town of Vignola, representatives from the organic movements of Italy and the other Mediterranean countries successfully gathered together at "AgriBioMediterraneo". Many common problems were discussed, including issues on standards and certification (too often too central and north European centered) and markets (where the producers were often competing against each other because of the northern traders). The "missing" research on the specific problems of Mediterranean crops was also discussed with representatives from California (where similar problems arise with crops and climate).

After the first Vignola Conference started a series of international AgriBioMediterraneo conferences (every year from 1991 to 1995) in different countries: Barcelona (Spain), Athens (Greece), Montpellier (France), Izmir (Turkey), Marseilles (France), Sicily (Italy). At the assembly in Bari in 1997 the IFOAM regional group AgriBioMediterraneo was established. In 2005 will be held in Croatia in April.

CONSERVATION/ORGANIC AGRICULTURE RESEARCH

In Italy we have made an inventory of existing studies published from the different active group and University bodied about organic farming and sustainable agriculture, but also research and on-farm experiences dealing with sustainable agriculture or with alternatives to conventional agriculture.
Mostly the research type is applied research, but also basic.

Critical analysis and Problems encountered

As we state in other parts of this paper, the research in conservation agriculture and OF is insufficient and often neither a good extension in done to increase the awareness of the farmers/peasants. Things are changing and a lot of organizations public and private are doing a good job but the lack of money is also an actual problem to solve. The organization of farmers are developing a good activity (farmer's initiative) in biodiversity and use of local variety (landraces) a work that unfortunately has not been done enough from the public or private investigation. Rare regional government establish a agrobiodiversity conservation and research network (Toscana and Lazio Region).
The major problem we have to face is the difficult to find technicians trained in a sustainable way. Without them it is difficult to extend similar researches or studies in other environment and try to make application of research to improve agronomical practices etc.
Usually it is difficult and mostly arbitrary to establish if one research or study belong to sustainable agriculture, organic farming or conventional. In this aspect we think Kassa should play an active role to draw standard frameworks. In other words we should prepare a model to establish haw to classify the different works done.
The analysis done on research and experimentation programs indicate that after a long period, as we stated before, when there was not interest, an increasing number of scientific institutions are focusing on the organic production method.
A comparative analysis of the 1994 census (Agro-environmental Observatory in Cesena) and the 1998 census (CEDAS – IAMB) shows that the number of organizations and researchers soared from 50 to 100 and from 70 to 500, respectively. In addition, approximately 80 specific research activities on organic farming have involved not only mainstream research groups, but also universities and national and regional research centers.
The Italian scientific institutions are clearly lagging behind in the face of the fast-paced evolution which is sweeping across the international arena and activities are randomly scattered across the country as they are often funded with local resources. Only two programs, which have been funded over the past few years by the Ministry of Agriculture and Forestry, can be regarded as truly nation-wide.
In Italy, the funds which have so far been invested in organic farming research activities are very few in the face of the relentless growth and the mounting technical difficulties presented by the Mediterranean climate and the fruit and legume sector. A projection, based on an estimate consistent with the European mean expenditure (Euro 20 per ha and per year) calculates for Italy an overall investment per year of Euro 19 million.
And this, despite the fact that, as yet, the organic sector has grown in response to rising foreign demand. Hence, given the expected increase in the domestic consumption of organic products, there would be much scope for expansion, up to an estimated 10%.
Generally speaking, on the one hand, innovation needs to be fuelled in the mainstream domestic

organic sectors (fruit and legumes and cereals), whereas, on the other hand, it is advisable to implement strategies to boost the weaker sector (i.e. livestock farming) which is most subject to fierce competition from leading Member States.
Bottom line, despite some strong signals stemming from the Census, the information gap remains in the Mediterranean regions where strategies are modeled on the northern European systems, which differ widely with regard to cropping systems and soil and climatic conditions.

One area that is completely absent is a structured research activity on seeds and multiplication material specifically adapted for organic production. This will create a major difficulties when obligation will be definitively imposed to use only organic seed.

Main research lines and topics identified

In Italy the research done in sustainable/organic agriculture cover this main topics:
Crops associations, cover crops, different soil management (mostly organic manure, humus and mulch management), sustainable production in dry areas, organic fertilization , role played from annual legumes, intercropping, indicators in OF, effect of different techniques of cultivation and tillage system, rotation system, weed communities, pest and desease management (biological and integrated control), use of local varieties (landraces) and adaptation, economics and marketing, organic livestock. We can divide this topics:

Soil fertility management

Organic farming and sustainable agriculture regard the soil as a renewable resource, the fertility of which has to be maintained and enhanced to the benefit of the generations to come.
The organic farming model epitomizes the basic criteria which ensure the attainment of this key aim. These criteria, which are cited in the Council Regulation (EEC) no. 2092/9 of 24 June 1991 on organic production methods, highlight the use of green manuring and onfarm organic matter.
Four major research activities call for in-depth probing:

Soil conservation
Assessment of the impact of the introduction of organic farming systems on soil fertility and quality. Identification of integrated technical pathways of fertilization in organic farming.

Crop covers
Green manuring as a sound soil management technique in organic farming.

Recycling
Use of farming and agro-industrial residues for fertilization purposes in organic farming.

Composting
Composting combines the need to properly manage “wastes”, which have so far been regarded as an inconvenience and a cost item of productive processes, and the need to return organic matter to severely depleted soils, by reusing the direct or indirect by-products of production processes, thereby closing the natural biological cycles.
Compost can be described as an organic product of composting which can be used in

agriculture to restore the equilibrium of the altered organic matter cycle.
Its use is conducive to sustainable agriculture in which a balance is struck between the organic matter which has been withdrawn from and that which has been returned to the biosphere.
Compost is often cited in Annex II of Regulation (EEC) 2092/91 (as last amended) which lists products authorized for use in soil conditioning. The importance to the sector is strategic since so far wasted on-farm organic substances (pruning and horticultural crop residues, straw and farmyard manure) and farm-related substances (oil-mill olive pomace and residual water, marc etc.) can be composted. In addition, a shift is brought about from farm to local enhancement involving all the stakeholders.

Technical grade products

. • Characterisation and validation of the potential use of seaweed and plant extracts (for inclusion in the list of authorised products).

. • Identification and gauging of methods of analysis for biostimulants.

. • Identification of new formulations and application procedures to enhance the agronomic efficacy of natural products (bio-fertilisers and natural chelates).

Pest control

Organic farming is regarded by some people as a flat denial of synthetic chemicals and a return to ancient times which does not deserve further scientific investigations. By contrast, the complexity of inter-playing phenomena calls for in-depth probing.
As to pest control, all the agronomical methods which ensure prevention of pest attacks have to be resorted to, such as crop rotations, the choice of resistant or tolerant varieties, hedges, the protection of useful organisms and, only if need be, the products listed in Annex II B of Regulation (EEC) no. 2092/91 are to be applied.
Plant protection products of low environmental impact constitute the only tools authorized for use in pest control under organic farming. Therefore, exhaustive data sets on technical grade products and thorough scientific investigations are required to back decisions on agricultural, agro-environmental, agri-food and agro-industrial policies to be taken on the regional, national and Community level. It is worth recalling that plant protection products authorized for use in organic farming are rather scanty and poorly effective and that, for some of them (i.e. copper salts), restrictions to the use are about to be imposed and this is a major stumbling block to the growth of organic production. Hence, an overall strategy needs to be devised in order to promote the reorientation of environmentally-friendly agricultural policies.
One of the objectives to be pursued is therefore to assess the efficacy of the currently applied pest control methods, develop the best dosages and identify the most suitable timing of treatments and the possible side effects of products.
More importantly, agro-system design actions have to be urged in order to boost the system “self-control”, thereby limiting and/or nullifying the use of off-farm inputs. Of utmost importance to the Mediterranean region is then the identification of valuable alternatives to the use of copper.

Quality of organically-farmed products

The argument for the increased safety of organic products versus conventional ones, resulting from the prohibited use of synthetic chemicals, is often challenged by the claim that, in the absence of

external protection from pest attacks, plants in general and horticultural crops in particular trigger self-protecting mechanisms and produce molecules in concentrations which are more hazardous to people's health than plant protection products. In addition, in the case of plants, the absence of external protection systems magnifies the risk that biological contaminants will produce substances (i.e. aflatoxines) which are extremely hazardous to man. At the moment only a private cooperative production system is working on such aflatoxines complex problematic.
More interestingly, little is known about the impact organic production methods have on nutritional and organoleptic properties as opposed to conventional methods. In this respect, it is fair to say that a comparison is often difficult to assess, because, beside the techniques in use, some other factors come into play, such as the variety, the maturity stage, the soil and climatic conditions, the sun radiation and the harvesting and post-harvest techniques. All the aforementioned factors are likely to induce changes in the chemical composition and nutritional and organoleptic quality.
Hence, there is a pressing need for additional and focused research programs. Two approaches may prove helpful to assess and establish the quality of organic products:

. • an agronomical approach designed to assess the extent to which specific agronomic practices which do without synthetic chemicals may impact on the chemical composition of organic products when compared to conventional practices;

. • an approach keyed to the food-man relationship to assess the extent to which the total or partial consumption of organic products instead of mainstream products may affect the type and composition of the diet and the nutrient uptake.

Organic Stock farming

Regulation (EEC) no. 1804/99 on organic livestock products has been adopted since August 24, 2000. However, most of the rules contained in it do not stem from technical and scientific investigations, which are lamentably rare in this field, but draw heavily from various European scenarios. Hence, the practicability of the proposed method remains highly questionable.
For an unbiased judgment to be expressed, insights need to be gained into some of the key issues which have taken and will take centre stage throughout the application stage.
The rules on livestock feeding feature high among the priority fields of investigation. The prohibited use of some feedstuffs and additives calls for the identification and experimentation of alternative products which meet the animal nutritional requirements. It is generally accepted that feeding is one of the major determinants which is likely to affect the quality of livestock products, therefore, it is absolutely necessary to investigate the possible repercussions on milk and meat properties. However, the quality of organic products depends on a vast array of factors and focusing on the specific quality of organic livestock products is no easy task, as confirmed by the scanty bibliography available.
The physical and chemical properties of these products might be investigated for a start, based on the current production discriminating factors. The results would yield a few clues as to the best fitted system to produce meat which is more likely to be accepted by the consumers not only because of its compliance with the organic status, but also because of objective parameters and properties. The only consistent research on this field is a program of Istituto Sperimentale per la Zootecnia (MIPAF – Roma , Tor Mancina) on the "meat quality" with some comparison between organic and conventional production system.
The development of analytical inspection and identification methods of organic stock farming products may form the basis for further activities.
One of the issues which deserves marked attention is animal health, which plays a pivotal role in the

regulation, ranging from prevention measures (the selection of appropriate breeds, livestock housing, rearing density, access to pasturage, animal welfare) to the use of homeopathic and phytotherapeutic medicinal products and the restricted use of chemically-synthesized allopathic medicinal products. This issue is all the more topical in so far as the consumer expects to buy organic livestock products which, like plant products, have not been treated with synthetic chemicals.
No less important is animal slurry form organic livestock farms, as some animals are kept on pasturage and this boils down to a whole host of problems. Given the slimness of data on the Mediterranean regions, guidelines on waste management should be knowingly advocated.

Assessment and design of the organic production method in farm holdings

The pattern of development which is still prevailing is modeled on intensive, specialized and highly productive farming which capitalizes on cutting-edge technologies.
The impact of this production method on the environment and the conservation of natural resources have long been seriously underrated or shamefully neglected while food self-sufficiency and economic profitability were in the spotlight.
During the second half of the last century, the agricultural research activities and policies, which supported this model of development, have brought about radical changes in the agro-ecosystems. The food webs involved have been excessively simplified in order to attain the maximum yield per unit and off-farm inputs, especially plant protection products, fertilizers and energy, have been increasingly used with alarmingly devastating consequences on the environmental resources.
Over the past few years, the European scenario has substantially changed. Food self-sufficiency has been outpaced by surplus management and the demand for healthy and quality products has soared along with the awareness of the limited natural resources available. This has prompted the design of new production models, hinged on the sustainable development of rural areas, within which farming has been assigned a prominent role. Looking in particular to the neighbouring experience of Conféderation Paysanne in France, a model of local, socially, economically and environmentally sustainable peasant agriculture is counterposed to that of industrial production. The fundamental demand of the Via Campesina network – in Italy. The association also calls for a locally diversified model of peasant agriculture, capable of spreading across the country and creating widespread employment, cultivating the species typical of the various areas and thereby protecting the biodiversity that characterizes the various contexts. In the document *Il cibo non e una merce* ('Food is not a commodity'), Foro Contadino – AltrAgricoltura states: 'In the interest of all citizens, of their health, of their territories, of social justice ... we want a peasant agriculture with a social dimension based on labour, on solidarity between producers and consumers, but also between regions and peasants worldwide.
Against this new background, efforts are being leveraged to try out and transfer methods and models, which are best fitted for low-or-null environmental impact agriculture, envision a more rational use of natural resources and champion the use of low off-farm inputs and the enhancement of self-regulating mechanisms in the system.
Hence, methods based on measurable and comparable criteria need to be devised in order to thoroughly explore the farm dynamics and the various factors which interplay in the agro-ecosystem. Such an approach is indispensable to assess Mediterranean tailor-made organic production methods and gauge the innovations stemming from the experimental activities on the farm level.
Research should, therefore, focus on:

- the design of a method to analyze and assess organic farming systems and system/process innovations, based on measurable criteria;
- the multi-criteria assessment of the organic farming systems.

The technical capabilities are not lacking in Italy. A number of farms currently either produce most of the products admitted for use in organic farming or import them from foreign farms. Unfortunately, no data are available on the type and quality of the products in use, though a noticeable drop has been reported in the use of inputs in agriculture. From 1998 onward, the market for plant protection products has steadily shrunk as a result of a string of factors, such as the attempt at cutting intermediate production costs, the use of low dose products, the market trends and the climatic conditions. Fungicides and insecticides have recorded the sharpest drop. The total consumption which equaled 160 thousand tons in 1996 dropped to 110 thousand tons in 1998.
As to the plant propagating material, which is available in Italy, though not enough to meet the demand, the share traded remains low and hard to quantify, given the derogation period ratified by the European regulation.

Research groups

Main Institutions

. National level

Governmental (CNR)
Istituto Sperimentale per la Zootecnia – Rome
Istituto Sperimentale per la Nutrizione delle Piante – Rome
Istituto di Patologia Vegetale – Rome
Istituto di Ricerca per gli Alimenti e la Nutrizione – Rome
Istituto Sperimentale per la Frutticoltura - Rome
Istituto Sperimentale per la Cerealicoltura - Rome
Istituto Sperimentale per l'Elaiotecnica – Pescara
Istituto Sperimentale per l'Orticoltura – Ascoli Piceno

Istituto Agronomico Mediterraneo – Valenzano (Bari) CIHEAM

.
Universities

Centro Interdipartimentale di Ricerche Agro-Ambientali "E. Avanzi",University of Pisa
GRAB-IT Gruppo di Ricerca in Agricoltura Biologica – at Ancona University
Dipartimento di Agronomia – Florence University
Dipartimento di Ingegneria agraria ed Agronomia del territorio Università di Napoli Federico II
Dipartimento di Scienze Agroambientali e della Produzione vegetale, sezione di Agronomia e Coltivazioni erbacee, Facoltà di Agraria, Università degli Studi di Perugia.
Università degli Studi della Tuscia Dipartimento di Protezione delle Piante Viterbo
Dipartimento di Agronomia ed ecologia Agroecosistema - Pisa

Local Level Regional

Istituto Zooprofilattico Sperimentale della Sardegna Cagliari
Centro di Sperimentazione Agraria e Forestale -Laimburg Bolzano
Centro Regionale Agrario Sperimentale
Centro Sperimentale Regionale Ortofloricolo - Regione Veneto – Rovigo
Centro Ricerche Produzioni Vegetali (CRPV) Cesena Emilia Romagna
Agenzia Regionale per lo Sviluppo e l'Innovazione nel settore Agro-forestale Toscana ARSIA
Agenzia Regionale per lo Sviluppo e l'Innovazione nel settore Agro-forestale Lazio ARSIAL

NGO

CPE (Cordination Paysanne Europeenne)
ARI Associazione Rurale Italiana
CIC Crocevia
Campagna Italiana per la Sovranità Alimentare

Campagna Sementi contadine (many local and national ONG involved)
SAVE -Italy

They play a role at base level and also at development education level and training in Italy and Abroad in the following topics:
Biodiversity and importance to develop different agrarian systems and human development;
Seeds and farmer right.

More detailed list of research institution, Research Done and on going is as follow:

Istituto Sperimentale per la Patologia Vegetale
Imbroglini Giancarlo
Via C.G. Bertero, 22
Roma RM
0682070323-0682070307
0682070316
g.imbroglini@isvape.it
http://www.ispave.it

Curriculum

Aree tematiche di Ricerca
Difesa biologica

Ricerche concluse in Agricoltura Biologica
- Riduzione dell'uso del rame in agricoltura biologica
- Difesa delle produzioni in agricoltura biologica (Progetto triennale)
- Determinanti di qualità in agricoltura biologica (progetto triennale)

Università degli Studi della Tuscia
Dipartimento di Protezione delle Piante
Caporali Fabio
via S. Camillo De Lellis
01100 - Viterbo
0761357473 - 3571
0761357473
http://www.unitus.it

Aree tematiche di Ricerca
Difesa biologica

Ricerche in corso in Agricoltura Biologica
- Strategie di difesa, con prodotti a basso impatto ambientale, per la salvaguardia delle coltivazioni di Actinidia nel Lazio dalla infestazioni di Metcalfa pruinosa.

Ricerche concluse in Agricoltura Biologica
- Field evaluation of old italian apple cultivars for scab suseptibility

Provincia Autonoma di Bolzano
Centro di Sperimentazione Agraria e Forestale Laimburg
Kelderer Markus
Laimburg 6,
39040 - Vadena BZ
0471969662
0471969599
markus.kelderer@provinz.bz.it
http://www.provincia.bz.it/Laimburg/index_i.asp

Curriculum

Aree tematiche di Ricerca
Agroecologia
Compostaggio
Controllo infestanti
Difesa biologica
Economia e Politica agraria
Fertilità suolo
Frutticoltura
Gestione suolo
Meccanizzaz.ne/Irrigaz.ne
Mercato/Consumi
Qualità/sistemi di controllo
Viticoltura

Ricerche in corso in Agricoltura Biologica
- Studio sulla adattabilità di diverse varietà alla coltivazione biologica in relazione alla produzione ed alla sensibilità delle malattie.
- Verifica dell'efficacia di diversi prodotti nei confronti di insetti dannosi ed altre malattie nella frutticoltura e viticoltura biologica
- Verifica dell'efficacia di diversi prodotti biologici per la regolazione della produzione
- Verifica dell'efficacia di diversi prodotti biologici per il contenimento della ticchiolatura in frutticoltura biologica
- Influenza della riduzione dell'inoculo delle ascospore sull'attacco di ticchiolatura nell'anno seguente.
- Residui da deriva di prodotti chimici di sintesi su frutta biologica
- Influenza dell'andamento climatico sul momento della comparsa delle infezioni delle fumaggini.
- Trattamenti post raccolta per il controllo di marciumi da magazzino e del riscaldo comune
- Ottimizzazione dell'approvvigionamento nutritivo in frutticoltura biologica
- Controllo delle infestanti con erbicidi biologici.
- Diversi sistemi di potatura per regolare la produzione.
- Possibilità di favorire la cascola di giugno per migliorare il diradamento in frutticoltura biologica.
- Ottimizzazione della produzione sulla varietà Fuji.

Ricerche concluse in Agricoltura Biologica
- Ryania speciosa un insetticida naturale.
- Nutrizione delle piante e del terreno con compost .
- Verifica dell'azione fitotossica di diversi prodotti utilizzati in agricoltura biologica per il contenimento delle malattie funginee.

Istituto Sperimentale per la Elaiotecnica
Ranalli Alfonso
Contrada Fonte Umano, 37
65013 - Città S. Angelo PE
08595212-294
085959518
elaiotec@unich.it
http://www.inea.it/udi/Ricerca/Elaio/

Aree tematiche di Ricerca

Ricerche in corso in Agricoltura Biologica
- Prodotti oleicoli ad elevato valore aggiunto: oli biologici e oli biologici integrali.

Istituto Sperimentale per l'Orticoltura
Sezione Operativa Periferica
Via Salaria, 1
63030 - Stella di Monsampolo del Tronto AP
0735701706
0735703684
gacampa@libero.it
http://www.inea.it/udi/Ricerca/ISOR/

Aree tematiche di Ricerca
Orticoltura

Ricerche in corso in Agricoltura Biologica
- Impiego del metodo di coltivazione dell'agricoltura biologica su alcune specie da orto: valutazione tecnico economica di una rotazione triennale coltivata in biologico ed in convenzionale.
- Valutazione agromonica di germoplasma di melone (Cucumis melo L.) coltivato con il metodo dell'agricoltura biologica secondo diversi criteri di fertilizzazioni.

Centro Sperimentale Regionale Ortofloricolo - Regione Veneto
Centro "PO di Tramontana"
Chiarini Francesca
via Moceniga, 7
45010 - Rosolina RO
0426664917
0426664916
http://www.venetoagricoltura.org/periferici/po/po.htm

Curriculum

Aree tematiche di Ricerca
Difesa biologica
Orticoltura

Ricerche in corso in Agricoltura Biologica
- Confronto varietale di zucchino in coltura biologica
- Prova di intercropping su cavolfiore (o altri cavoli)

- Panoramica sulle specie erbacee da sovescio

Ricerche concluse in Agricoltura Biologica
- Confronto varietale di zucchino in coltura biologica
- Intercropping su cavolfiore
- Confronto varietale di zucchino bilogico estivo in pieno campo
- Prova sull'efficacia dell'inoculo micorrizico su aglio in coltura biologica (Selezione di aglio bianco)
- Lotta biologica contro la mosca del porro (Napomyza gymnostoma)
- Prove di lotta biologica su cetriolo e peperone per il controllo del ragnetto rosso

Centro Ricerche Produzioni Vegetali (CRPV)
Pasini Fiorenzo
Via Vicinale Monticino, 1969
47020 - Diegaro di Cesena FC
0547347164
0547346142
ortofrutticola@crpv.it
http://www.crpv.it

Curriculum

Aree tematiche di Ricerca
Agroecologia
Colture Estensive
Controllo infestanti
Difesa biologica
Fertilità suolo
Frutticoltura
Gestione suolo
Meccanizzaz.ne/Irrigaz.ne
Orticoltura
Viticoltura

Ricerche in corso in Agricoltura Biologica
- Confronto varietale su colture orticole in coltivazione biologica
- Confronto varietale su colture estensive in coltivazione biologica
- Strategie di controllo delle infestanti su colture a semina primaverile e primaverile-estiva in coltivazione biologica
- Prove sperimentali di concia biologica con diversi preparati a base di microrganismi antagonisti fungini e batterici
- Difesa drupacee minori in agricoltura biologica
- Messa a punto di strategie di difesa in frutticoltura biologica
- Diradamento del melo in agricoltura biologica
- Effetti dell'aumento della sostanza organica nel terreno e dei trattamenti fogliari con prodotti organici in condizioni di diversa fertilità nel pescheto
- Tecniche colturali e confronto varietale per la fragola biologica
- Studi per la messa a punto di tecniche colturali per la viti-frutticoltura biologica
- Monitoraggio degli effetti ambientali conseguenti all'applicazione delle azioni b2, b3, d1, d4, e1, e2, f1, f2, f3, g1, g2, previste dai programmi zonali agro-ambientali della regione emilia-romagna; produzione legno pregiato: sperimentazione su ciliegio noce

Ricerche concluse in Agricoltura Biologica
- Ottimizzazione della tecnica dei sovesci con piante biocide per la lotta agronomica a patogeni del terreno in colture orticole e fragola
- Produzione integrata e biologica di ortaggi: sviluppo di sistemi di coltivazione sostenibile finalizzati ad un'alta qualità delle produzioni e al minimo impatto sull'ambiente (vegineco)
- Piante biocide da sovescio per il controllo biologico di alcuni patogeni del terreno
- Studio dell'efficacia di piante biocide nel controllo del nematode meloidogyne incognita e definizione di una strategia di difesa biologica
- Tecniche di fertilizzazione in coltura biologica
- Confronto varietale albicocco in coltivazione biologica
- Elateridi: nuove tecniche di monitoraggio e previsione delle infestazioni
- Agroecologia: dinamica delle popolazioni dei fitofagi, interazioni con le aree coltivate e gli spazi naturali
- Sistemi agricoli integrati e biologici: monitoraggio e sviluppo della produzione integrata e biologica in aziende pilota aderenti alle azioni a1 e a2 dei programmi zonali agro-ambientali della regione emilia-romagna (reg. cee 2078/92)

Istituto Nazionale di Economia Agraria
INEA
Abitabile Carla
via Barberini, 36
00187 - Roma Rm
06 478561
06 47856201
inea@inea.it
http://www.inea.it

Curriculum

Aree tematiche di Ricerca
Economia e Politica agraria

Ricerche in corso in Agricoltura Biologica
- ANNUARIO DELL'AGRICOLTURA ITALIANA. L'AGRICOLTURA BIOLOGICA (vari anni)
- Protocollo di Intesa INEA — GRAB-IT
- LA ZOOTECNIA BIOLOGICA IN ITALIA: SITUAZIONE ATTUALE E PROSPETTIVE (ZOOTBIOL)
- La sostenibilità dell'agricoltura biologica. Valutazioni economiche, ambientali e sulla salute umana (SABIO)
- Il settore vitivinicolo in Friuli-Venezia Giulia: strategie di mercato e prospettive delle produzioni biologiche.
- ANALISI DELLE POLITICHE AGROAMBIENTALI CHE INCLUDONO INTERVENTI A FAVORE DELL'AGRICOLTURA BIOLOGICA, REALIZZATA UTILIZZANDO I DATI DI MONITORAGGIO DELLA APPLICAZIONE DELLE POLITICHE DI SViLUPPO RURALE

Ricerche concluse in Agricoltura Biologica
- PROSPETTIVE DI DIFFUSIONE DELL'ALLEVAMENTO BOVINO BIOLOGICO IN VALLE D'AOSTA
- VALUTAZIONE DELLA CONVENIENZA ALLA CONVERSIONE IN SENSO BIOLOGICO DI UN GRUPPO DI AZIENDE ZOOTECNICHE IN VALLE DI RHÉMES (AO)

- PROGRAMMA ATTUATI VO DELLA MISURA 3.2 DEL PROGRAMMA OPERATIVO MONOFONDO DELLA REGIONE ABRUZZO

Istituto Sperimentale per la Viticoltura
Borgo Michele
Viale XXVIII Aprile, 26
31015 - Conegliano TV
0438456714
043864779
isvbd@libero.it
http://www.inea.it/isv/isv.html

Curriculum

Aree tematiche di Ricerca
Agroecologia
Controllo infestanti
Difesa biologica
Gestione suolo
Meccanizzaz.ne/Irrigaz.ne
Qualità/sistemi di controllo
Viticoltura

Ricerche in corso in Agricoltura Biologica
- Caratterizzazione, valorizzazione e protezione delle produzioni “naturali” e tipiche della viticoltura e dell’enologia italiana “PROVIT"
- Studio delle cause che portano alla presenza di contaminanti micotici delle uve e dei vini: aspetti fitopatologici nel vigneto.
- Protezione integrata in viticoltura: contenimento di malattie crittogamiche e di fitofagi.
- Ambienti, tecniche e strategie per il vigneto biologico Veneto.

Università degli Studi di Sassari
Dipartimento di Scienze Zootecniche (Sassari)
Pulina Giuseppe
Via E. De Nicola, 9 - 07100 Sassari
07100 - Sassari SS
39 079 229300
39 079 229302
zooagri@ssmain.uniss.it
http://www.uniss.it/dipartimenti/dip_zootecnica/

Curriculum

Aree tematiche di Ricerca
Zootecnia

Ricerche concluse in Agricoltura Biologica
- "Mangimistica ed alimentazione delle specia bovine, ovine e caprine allevate in aziende biologiche"

Istituto Sperimentale per le Colture Industriali
Ravalli Paolo
Via di Corticella 133
Bologna Bo
051 6316811
051 374857
direzione@isci.it
http://www.isci.it

Curriculum

Aree tematiche di Ricerca
Difesa biologica
Fertilità suolo
Gestione suolo
Qualità/sistemi di controllo

Ricerche in corso in Agricoltura Biologica
- NUOVI FERTILIZZANTI DI ORIGINE VEGETALE
- Valorizzazione della qualità della produzione nazionale di frutta: studio di una nuova tecnologia di conservazione post-raccolta a base di formulati vegetali funzionalizzati.
- Prove agro-tecnologiche volte ad ottimizzare le tecniche di coltivazione delle piante biocide, con particolare attenzione alla componente radicale e alla semina primaverile.
- La tecnica dei sovesci di piante biocide per il controllo dei patogeni del terreno nella coltivazione di alcune colture orticole
- Induzione di repressività verso il complesso di necrosi radicale, componente biotica di "stanchezza" in colture intensive, in suoli agrari a gestione biologica o a basso impatto ambientale.

Ricerche concluse in Agricoltura Biologica
- Indagine comparativa tra gestione biologica e convenzionale nella problematica del reimpianto di frutteti.

Istituto Sperimentale per la Frutticoltura
Tabilio Maria Rosaria
Via Punta Fioranello, 52
Rm - Roma
06/7934811
06/79340158
isfrmfid@mclink.it
http://www.inea.it/isf/institute/index.htm

Curriculum

Aree tematiche di Ricerca
Difesa biologica
Fertilità suolo
Frutticoltura
Gestione suolo
Qualità/sistemi di controllo

Ricerche in corso in Agricoltura Biologica
- Utilizzo di farine di estrazione di piante biocide per trattamenti fumiganti del suolo a basso impatto ambientale
- Liste di orientamento varietale per la fragola biologica
- Confronto fra le caratteristiche qualitative delle fragole ottenute da coltivazioni biologiche e convenzionali in Romagna
- Ricerche sulla frutticoltura biologica
- Ricerche sui fruttiferi nutraceutici a vocazione biologica: olivello spinoso

Ricerche concluse in Agricoltura Biologica
- Linee innovative di tecnica e difesa a basso impatto ambientale dei fragoleti meridionali
- Monitoroggio di un'azienda frutticola in conversione biologica. Effetto di diverse modalità di conduzione del suolo sulle caratteristiche fisiche, chimiche e biologiche del terreno di un pescheto di nuova costituzione.

Istituto Zooprofilattico Sperimentale della Sardegna
Calaresu Giovanni
via Duca degli Abruzzi, 8
Sassari SS
079 2892268
079 272189
gianni.calaresu@izs-sardegna.it
http://www.regione.sardegna.it/ist_zooprof/

Curriculum

Aree tematiche di Ricerca
Controllo inquinamento
Nutrizione umana
Qualità/sistemi di controllo
Veterinaria
Zootecnia

Ricerche in corso in Agricoltura Biologica
- Studio della contaminazione da aflatossine nella alimentazione ovina biologica e proposte di gestione delle problematiche di filiera connesse
- Studio sperimentale delle possibili incidenze indesiderate nella filiera produttiva dell'attività apistica biologica, in una prospettiva di miglioramento della produzione, certificazione, qualità e tracciabilità dei prodotti.
- Valutazione dell'impatto sugli alimenti dei trattamenti farmacologici per la cura delle mastiti negli allevamenti ovini biologici

Istituto Sperimentale per la Cerealicoltura
Motto Mario
via Cassia, 176
00191 - ROMA RM
06 3295705
06 36306022
isc_sede1@iol.it
http://www.cerealicoltura.it/

Curriculum

Aree tematiche di Ricerca
Colture Estensive
Condiz.nto/trasformazione
Controllo infestanti
Difesa biologica
Fertilità suolo
Nutrizione umana
Qualità/sistemi di controllo
Altro

Ricerche in corso in Agricoltura Biologica
- CEREALICOLTURA BIOLOGICA: INTERVENTI AGROTECNICI E GENETÌCI PER IL MIGLIORAMENTO QUANTI-QUALITATIVO DEL FRUMENTO DURO E TENERO E LA VALORIZZAZIONE DEI PRODOTTI DERIVATI
- Attività sperimentale-dimostrativa in agricoltura biologica Sottoprogetto “Cereali a paglia”
- Cerealicoltura biologica e non funzionali per Io sviluppo di alimenti

Ricerche concluse in Agricoltura Biologica
- I cereali: aspetti produttivi, agronomici e qualitativi

Istituto Sperimentale per l'Olivicoltura
Briccoli Bati Caterina
C.da Li Rocchi Vermicelli
87036 - Rende CS
0984 402011 - 0984 401858
0984 402099
istsperolivic@libero.it

Curriculum

Aree tematiche di Ricerca
Compostaggio
Difesa biologica
Fertilità suolo
Gestione suolo
Controllo inquinamento
Olivicoltura
Qualità/sistemi di controllo

Ricerche in corso in Agricoltura Biologica
- PROVE DI COMPOSTAGGIO DI REFLUI DI FRANTOIO
- PROVE DI INERBIMENTO NELL’OLIVETO
- LOTTA A BACTROCERA OLEAE (GMELIN) CON METODI ALTERNATIVI IMPIEGABILI ANCHE IN COLTIVAZIONE BIOLOGICA
- CARATTERIZZAZIONE DEGLI OLI DA OLIVICOLTURA BIOLOGICA SICILIANI

Ricerche concluse in Agricoltura Biologica
- Caratterizzazione degli oli di oliva meridionali da agricoltura biologica

Istituto Sperimentale ''Lazzaro Spallanzani''
Via Capolago, 16
MIlano MI
02 76111101
02 76111108
istituto.spallanzani@tin.it

Curriculum

Aree tematiche di Ricerca
Zootecnia

Ricerche in corso in Agricoltura Biologica
- Caratteristiche funzionali e dietetiche di lotti di specie diverse e loro derivati (Dietolat)
- Valorizzazione delle carni caprine e dei prodotti trasformati (Hircus Meat)
- Valorizzazione e caratterizzazione dei prodotti lattiero-caseari caprini attraverso la valutazione del legame tra il pascolo, la tipicità e la qualità del latte e dei formaggi (Progetto capr@)
- Qualificazione sistema alimentare nell' allevamento della capra da latte in aree montane e collinari (siqual)
- Sistemi innovativi per la promozione e riconoscibilità della qualità nella filiera produttiva della carne bovina (Linea vacca-vitello)
- Ulteriore sviluppo ed evoluzione di unprogramma per la formulazione di razioni alimentari per ovini e caprini (Caprisoft)

Ricerche concluse in Agricoltura Biologica
- Studio di fattibilità per un progefto di formazione a distanza nel campo dell'eco-agricoltura
- Progetto pilota filiera produttiva latte-formaggio nell'allevamento della razza caprina verzaschese

Centro Regionale Agrario Sperimentale
Nannini Mauro
V.le Trieste, 111
Cagliari CA
070.20111
070.285381
laiu@cras.sardegna.it
http://www.cras.sardegna.it/

Curriculum

Aree tematiche di Ricerca
Colture Estensive
Difesa biologica
Frutticoltura
Olivicoltura
Orticoltura

Ricerche in corso in Agricoltura Biologica
- Confronto varietale ed agronomico su patate da consumo in coltivazione biologica

Ricerche concluse in Agricoltura Biologica
- Analisi e razionalizzazione degli interventi fitosanitari per il controllo dei fitofagi di colture di

rilevanete interesse economico (Programma Operativo Multiregionale A30)

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Curriculum

Aree tematiche di Ricerca

Colture Estensive
Difesa biologica
Economia e Politica agraria
Controllo inquinamento
Mercato/Consumi
Qualità/sistemi di controllo
Veterinaria
Zootecnia

Ricerche in corso in Agricoltura Biologica
- Residualità di acaricidi utilizzati contro la varroasi nella cera di alveari in conversione al metodo biologico

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Curriculum

Aree tematiche di Ricerca
Zootecnia

Ricerche in corso in Agricoltura Biologica
- Produzione estensiva di carne biologica mediante L'ingrasso di vitelli di razze da latte
- Effetti del pascolo sulla salute, il benessere e le performance di bovini da carne

Ricerche concluse in Agricoltura Biologica
- La Maremmana, razza ideale per le produzioni biologiche.

Università degli Studi di Pisa
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Aree tematiche di Ricerca
Controllo infestanti

Ricerche concluse in Agricoltura Biologica
- Pomodoro da mensa in coltura biologica

IVTPA - Istituto Sperimentale per la Valorizzazione Tecnologica dei Prodotti Agricoli
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Curriculum

Aree tematiche di Ricerca
Condiz.nto/trasformazione
Qualità/sistemi di controllo

Ricerche in corso in Agricoltura Biologica
- Incremento del valore aggiunto di ortofrutticoli biologici tramite l'ottenimento di prodotti trasformati di elevata qualità

Università Politecnica delle Marche
Laboratorio di Economia e Marketing Agroalimentare (LEMA) – DIIGA
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Curriculum

Aree tematiche di Ricerca

Economia e Politica agraria
Mercato/Consumi

Qualità/sistemi di controllo

Ricerche in corso in Agricoltura Biologica
- "Strategies of Weed Control in Organic Farming" (WECOF)
- "Further Development of Organic Farming Policy in Europe, with Particular Emphasis on EU Enlargement" (EU-CEOPF)
- "European Information System for Organic Markets (EISfOM)"
- "Improving quality and safety and reduction of cost in the European organic and "low input" food supply chains" (QualityLowInputFood)
- "BIO-INPUT - Analisi della domanda e dell'offerta di mezzi tecnici in agricoltura biologica"

Ricerche concluse in Agricoltura Biologica
- " Organic Marketing Initiatives and Rural Development" (OMIaRD)

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Curriculum

Aree tematiche di Ricerca
Agroecologia
Colture Estensive
Controllo infestanti
Fertilità suolo
Gestione suolo
Controllo inquinamento
Nutrizione umana
Paesaggistica
Qualità/sistemi di controllo
Altro

Ricerche in corso in Agricoltura Biologica
- Progetto ARSIA "L'agricoltura biologica e biodinamica toscana relativa a sistemi finalizzati alle produzioni vegetali" .Tematica "Effetto dei sovesci e della concimazione organica"
- Progetto pilota ARSIA : "Impiego di materiali per la pacciamatura delle colture agrarie compatibili con tecniche di coltivazione integrate e biologiche"
- Progetto MIPAF: " La fauna selvatica nella valorizzazione delle risorse agricole territoriali. Modelli di gestione: effetti della cerealicoltura biologica della Val d'Orcia sulla fauna selvatica (Sottoprogetto 2)
- EU-Leonardo da Vinci: "Progetto Rudolph :un modello di formazione integrata per l'agricoltura biologica; piattaforma multimediale interattiva".

Ricerche concluse in Agricoltura Biologica
- Proposta per la progettazione e gestione di sistemi agricoli sostenibili .

Innovazione in agricoltura: una metodologia europea per la per l'applicazione della metodologia

europea per la conversione e gestione sostenibile di una azienda biologica.
- Progetto CNR Agenzia 2000:"Qualità degli alimenti e salute dell'uomo. I fitoestrogeni in alcune leguminose di interesse agrario: concentrazione di isoflavoni in funzione della variabilità genetica e ambientale e del metodo di coltivazione del materiale vegetale , assorbimento e metabolismo in vivo ed effetti in vitro ". Tematica "Aspetti genetici ed ambientali che influenzano il contenuto e la qualità dei fitoestrogeni in leguminose di interesse agrario".

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Curriculum

Aree tematiche di Ricerca
Colture Estensive
Controllo infestanti
Gestione suolo
Meccanizzaz.ne/Irrigaz.ne
Orticoltura

Ricerche in corso in Agricoltura Biologica
- Strategie ed attrezzature per il controllo fisico delle infestanti su finocchio coltivato biologicamente nell'Altopiano del Fucino
- Strategie ed attrezzature per il controllo fisico delle infestanti su radicchio coltivato biologicamente nell'Altopiano del Fucino
- Strategie ed attrezzature per il controllo fisico delle infestanti su spinacio coltivato biologicamente nella Valle del Serchio
- Messa a punto di attrezzature per il controllo fisico delle infestanti su colture erbacee ed orticole

Ricerche concluse in Agricoltura Biologica
- Strategie ed attrezzature per il controllo fisico delle infestanti su carota coltivata biologicamente nell'Altopiano del Fucino
- Strategie ed attrezzature per il controllo fisico delle infestanti su specie erbacee (frumento, mais, soia, girasole) ed orticole (fagiolino, patata, cipolla) coltivate biologicamente.
- Messa a punto di un banco prova per lo studio degli effetti del pirodiserbo in condizioni controllate.

Agenzia Regionale per lo Sviluppo e l'Innovazione nel settore Agro-forestale
ARSIA - Centro per il collaudo dell'innovazione tecnica di Grosseto
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Curriculum

Aree tematiche di Ricerca

Ricerche in corso in Agricoltura Biologica
- L'agricoltura biologica e biodinamica toscana relativa a sistemi finalizzati alle produzioni vegetali.

Universita' del Molise
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Curriculum

Aree tematiche di Ricerca
Economia e Politica agraria
Mercato/Consumi
Qualità/sistemi di controllo
Altro

Ricerche in corso in Agricoltura Biologica
- Valutazione di itinerari tecnico-economici alternativi nella zootecnia molisana

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Aree tematiche di Ricerca
Zootecnia

Ricerche in corso in Agricoltura Biologica
- "Aspetti tecnici a confronto negli allevamenti bovini biologici e convenzionali", nell'ambito del Progetto: "La Zootecnia Biologica in Italia. Tipologie di imprese, trasformazioni necessarie e possibili, incentivi pubblici e di mercato, domanda di ricerca"

Ricerche concluse in Agricoltura Biologica
- Sviluppo di una agricoltura sostenibile nel Lazio

Training and awareness-building in sustainable/Organic Farming

One of the major stumbling blocks to the development of Organic Farming in Italy, as we state before, is the poor training, information and know-how transfer activity. The latter relies heavily on conventional strategies (publications and conferences). Farm assistance services, demonstration, training and reskilling programs are lamentably lacking. In addition, the vast majority of promotional devices, though multimedia-based, are not sufficiently updated to catch up on the evolution of technical and scientific findings.

Networking is a priority for organic farming researchers and scientists with a view to:

- forging links between the demand for research and decision makers;
- circulating information and expertise, thereby initiating synergies and reducing redundant overlapping;
- fostering constant updating with respect to regulations, technicalities and methods;
- improving the spreading of the results of the activities.

In order to ease the transfer of scientific knowledge and information, within the framework of the inter-regional program on organic farming, the Ministry of Agriculture and Forestry has funded a project to set up a national information system on organic farming (BIOITALIA). The project, which has been implemented by IAMB, was designed to:

- set up a national and a series of regional Web sites on organic farming;
- promote information exchanges between the Ministry of Agriculture and Forestry, the Regional Boards and the Inspection bodies (institutional Intranet);
- foster the spreading of scientific knowledge and exchanges between the stakeholders involved; set up a national documentation centre;
- back up the Regional Boards in handling the data sets relating to the application of Regulation (EEC) 2092/91.

Within the framework of this inter-regional program, ISMEA (Istituto per gli Studi, Ricerche e Informazione sul Mercato Agricolo) was funded a promotion and communication project on organic farming and the Agency for Agricultural Development of Tuscany was sponsored a training course on the surveillance of inspection bodies. A host of local activities have been launched within the region. Noteworthy is BIOPUGLIA information system (www.biopuglia.iamb.it). However, despite the strides made, organic farming has still a long way to go.

Market issues of organic farming

Type of local market organization

The marketing of products obtained from organic farming has always presented specific problems. In the past organic farmers used only direct selling channels; afterwards the first specialized shops were opened and a rapid increase in sales has then been experienced through specialized retailing (specialized and herbalist's shops). Direct selling, herbalist's shops and specialized shops are still the main channels of sale by retail.

These types of sale show nowadays structural limits and hence restrain the growth potentials of the sector.

The requirement that production identified and certified this way find adequate outlets on the market, above all locally, meets the demand of citizens who, increasingly, are organized in purchasing networks based on new rules allied to those of another agriculture. Among these networks there are *GAS* (*Gruppi di Acquisto Solidale*), which involve around two million citizens

and act on the basis of ethical criteria in every context: in relations with the other human beings, with nature and with the economy. (www.aiab.it)

Starting from the late nineties, to satisfy the constraints imposed by the market evolution, a renewal process in sale types has started. Such a renewal process implies the enlargement of premises, the training and re-organization of the staff, the introduction of informatics as a support to management, and the adoption - also in the field of organic products - of the marketing tools currently used for all agri-food products. In particular, the enlargement of the average selling area is essential for reducing the incidence of fixed costs on the turnover of the business. The experience shows that the limitation of commercial costs is the first step to get the reduction of selling prices, that is historically one of the critical points of district shop supply.
In 2000, in Italy there were 1038 points of sale by retail, including specialized shops of organic products, herbalist's shops, natural food shops, macrobiotic and dietetic shops.
The alternative to traditional retailing is the Modern Distribution, where till few years ago, the organic product had not its own space and in some cases it was devalued by a random arrangement.
Since 1999 all supermarket chains have entered into this niche market, all of them with their own private label (Table 16). At present organic productions are the core of a reasoned policy of single signboard differentiation. In 1998, in Italy there were 357 supermarkets with a selection of organic products, mostly fruits and vegetables. At the end of 2000 their number exceeded 1400 units.

Table 16 - Presence of organic foods in supermarkets

Chain	Private label	Launch
Coop - ipercoop	Naturali biologici	Nov 1995
Billa - Standa	Sì, naturalmente	Jun 1998
Pam	Pam da agricoltura biologica	Aug 1999
Panorama	Panorama da agricoltura biologica	Aug 1999
Superal (Pam)	Superal (PAM) da agricoltura biologica	Aug 1999
Famila	Biologico	Sep 1999
Esselunga	Esselunga Bio	Nov 1999
Gigante	Linea Biologica - Gusto Natura	Feb 2000
GS - Euromercato	Scelgo Bio	May 2000
Coop - ipercoop	Coop da agricoltura biologica	Nov 2000
Conad - Margherita Pianeta	Conad Nuovi Prodotti da AB	Nov 2000
Natura Sì	NaturaSì il Supermercato della Natura	Jan 2001
Despar - Eurospar - Interspar	Bio, Logico	Feb 2001
Selex	Bio Selex	May 2001
Crai	Crai Bio	Jul 2001

Source Santucci Pignataro 2002

Forms of organic product promotion

The promotion of organic products is usually undertaken so as to develop the knowledge and the consumption of a product or to contribute to the strengthening of products already consumed.
Promotion is often associated with “enhancement”, including several actions aimed at increasing the value of products and at subsequently increasing the market price.

The forms of promotion and enhancement are a major tool to stimulate the demand for organic products. Among the forms of promotion and enhancement including the participation in fairs and national and international events of the sector, the adoption and promotion of trade-mark policies, the promotion of the organic sector is also effected today through the association of the organic message and of its products to other aspects of public interest that are particularly successful towards consumers, citizens and their institutions. The organic sector is actually promoted also through actions and projects in the fields of environmental and food education, holidays on the farm, rural tourism and social solidarity, all action areas with which the organic sector seems to create easy and natural synergies.

Following the provisions in force, all the Italian organic products are marked by at least two trade-marks: the EU trade-mark, represented by the wording ORGANIC FARMING – EEC INSPECTION REGIME, supported by the private trade-mark of one of the nine certifying and inspection bodies recognised in our country.

On the same product, the single producer can also apply his own business trade-mark, to distinguish it from other similar products and exploit the renown and trust of the consumer, acquired through advertising campaigns and successful promotional actions.

Although still emerging for the moment, the introduction of organic products in collective catering services could be, in the long run, an important commercial outlet for the sector. It is, at the same time, an equally powerful promotional incentive.

Moreover, rural tourism has attracted an increasing number of visitors over the last few years. The reasons for the great success are basically the supply of new low environmental impact recreational services, that are alternative to the traditional tourist packages, and the possibility, supplied by rural tourism, to get near to nature, to its cycles and its equilibrium.

The need for re-establishing a contact with the natural environment, on one hand, and the concern for its preservation, on the other, are indeed topical themes that are increasingly common to the different social and economic groups of modern societies.
Organic farming, for its part, responds, in an efficient and stimulating way, to this wish of nature. It favors the preservation and enhancement of rural resources, agricultural systems, local landscapes and communities, and, at the same time, through the supply of healthy and genuine products, it acts on the diet that is a crucial aspect of the every-day life.
Lastly, it seems important to mention, in this context, the so-called “organic small-scale markets”, organized by local bodies and associations, to upgrade a village, a district or a natural area, supplying tourists and residents with a pleasant attractive. These are, mostly, occasional events in which organic producers exhibit and sell their own goods together with bee-keepers, craftsmen and artists, retailers of herb-products, booksellers, organic, environmentalists', volunteers' associations and other agents of the ecological world and of "natural living". Within these fair-markets other activities and events are also organized to enhance the informational and promotional aspect of the event, beyond the merely commercial one.

CONCLUSIONS AND PROPOSALS

Needs

The worldwide application of unified and/or harmonized production standards for organically produced foodstuffs is extremely important for a greater development of organically grown land and of markets of organic products. Organize or reorganize local and regional market is crucial to guarantee a "fresh and seasonal market " (Ciclo corto) where organic producers are really competitive.
The history, the experiences and the dynamics of evolution on the application of organic farming method between the Northern and Southern-Eastern countries shores are different from each other.

Identifying forms for a sustainable use of lands is a primary need in order to reduce the degradation of primary resources, of biodiversity and of the rural environment. Land management through the organic production method is a model which responds to needs of sustainable development. A crucial land access problem is needed to be solved in Mediterranean area where farm dimension doesn't really permit a complex management of soils. Anyhow, the application of this production method necessitates new knowledge relating to technical, agronomic, legislative and market aspects, in order to produce and sell on the market in compliance with the rules set by the inspection and certification system.

In order to respond to the growing information needs on organic agriculture in the Mediterranean area, the Italian offshoot of the International Centre for Advanced Mediterranean Agronomic Studies (CIHEAM) started up in 1999 a Network on Organic Agriculture (MOAN) and in 2000 a Master course on the Mediterranean Organic Agriculture. A preliminary objective of MOAN was to gather detailed data on organic agriculture in the Mediterranean states . Based on the analysis of the economic fallout of organic agriculture in each single country, it was tried to reconstruct the economic weight of the whole sector, to cast light on the major technical, agronomic and market issues, on the institutions dealing with education, research and experimentation and to get acquainted with the activities carried out by agencies and organizations operating in this sector.

Agriculture multifuncionality

The great challenge for this age in agriculture is, the concept of multifuncionality that deal with an holistic development of the system. Agro-ecosystems provide goods and services, defined as the products and benefits that people derive from cultivating plants and animals. Conceptually, such agricultural goods and services are broader than the production of sufficient food and include the provision of industrial fibers and bio-energy, the regulatory effects that agro-ecosystems have on biogeo-chemical, pest and disease cycles and the subjective cultural services of landscape aesthetics and diversity. Handin-hand with goods and services is multifunctional farming as a land-use that can expand the provision of agro-ecosystem goods and services. We have to explore the linkages between agro-ecosystem goods and services and multi-functional farming and consider the role that such thinking might play in future European agricultural policy.
Agricultural practices have shaped the landscape generating ecosystem services through time, therefore these practices strongly decide the kind and amount of services generated. The definition of these services for natural ecosystems needs to be reinterpreted for use in an agricultural context. To increase the awareness of agriculture's contribution to generating such services and the potential

for increasing its contribution, accurate methods for assessment have to be available. We have to focus on defining the concept of ecosystem services in relation to agriculture, how these services can be assessed and the theoretical aspects of their evaluation.
Multifunctionality includes the production of environmental, recreational, societal and cultural values that are demanded by society. To generate a large part of these values, different kinds of ecosystem services are of the outmost importance and there is a strong correlation between ecosystem services and multifunctionality.

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- Azione 2 - Strategie di controllo delle infestanti su colture a semina primaverile estiva (mais) coltivate con i metodi ell'agricoltura biologica.

- Azione 3 - Strategie di controllo delle infestanti su colture a semina primaverile estiva (mais e soia) coltivate con i metodi dell'agricoltura biologica.

- Azione 15 - Strategie di controllo delle infestanti su colture a semina primaverile estiva (mais e soia) coltivate con i metodi

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