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Analyses

Olive oil in the Mediterranean area: production, consumption and trade

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Olive oil is the single globally consumed product most closely linked to the Mediterranean area. In this paper we discuss recent trends in olive oil production, consumption, trade and relevant policies; in the final section we identify what we believe to be the key factors for future market developments.

Production

World production of olive oil has reached slightly under 2.8 million tons (biennial average in 2008/09), a much larger market compared with the beginning of the decade (+6.6%) albeit growing at a slower pace than in the 1990s. The growth in the main producing countries is uneven, however. Since 2000/01 olive oil production in Spain, by far the world's major producer, has experienced an irregular pattern, with a notable reduction in the middle years of the decade, followed by an upswing which limited the overall drop in production to 5.5% (with a consequent reduction of Spain's world market share from 45.8% to 40.5%).

This trend should be viewed, however, in the context of the uneven pattern of overall growth of olive oil production in Spain that began at the start of the 1990s. As regards the other major European Union (EU) olive oil producing countries it is worth underlining the basic stability of production in the last decade in Italy and a slight contraction in that of Greece.

When considering the trend in production in Spain, Italy and Greece in recent years, one must not forget the radical reform of the EU domestic policy for olive oil that led, in 2006, to the complete decoupling of support from production. The expected effects of this reform were a reduction, over the course of a few years, in production and an improvement in the quality of the oil produced.

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If we compare production in the four-year period 2002-2005 with that of the four years after the new regime came into force (2006-2009), we find an increase in production in Spain, Portugal and France and a reduction in Italy and Greece. It is rather more difficult to assess the impact of the reform on the quality of the olive oil produced, if it has already taken effect. Meanwhile, production has continued to grow in almost all non-EU producing countries at a high steady rate. Within this overall expansion in world production Tunisia, for example, has witnessed an increase in its share of production from 2.8% in 2000/01 to 5.9% in 2008/09 (though still much less than the figure of over 11% at the beginning of the 1990s); in the same period Morocco went from 1.4% to 3.1% and Syria from 5% to 5.9% (with a slowing down in the latter case from the growth rates observed in the 1990s). The performance of the Other Mediterranean Countries as a whole is also significant; production increased steadily in Algeria, which covers 40% of the group's production, Libya and Lebanon, whereas Jordan, the Occupied Palestinian Territories (OPT), Egypt and Israel experienced a reduction. Finally, the quota of the Rest of the World has continued to increase, from 0.4% of world production to 1.3%, driven by the production growth in Argentina, which is responsible for 2/3 of the overall production of the group, and Australia.

Olive Oil (virgin) - Production (1000 tonnes) – *Biennial Average*									
	2000/01	**2001/02**	**2002/03**	**2003/04**	**2004/05**	**2005/06**	**2006/07**	**2007/08**	**2008/09**
Spain	1187.3	1124.5	1143.0	1227.3	912.4	956.0	1139.3	1114.8	1121.4
Italy	540.5	574.2	587.7	697.5	732.9	637.3	588.8	569.1	575.8
Greece	355.3	341.9	378.3	348.1	353.9	386.0	351.9	323.2	330.4
Syria	130.4	145.0	149.3	153.0	162.6	187.7	175.3	127.3	162.3
Tunisia	72.5	51.0	176.0	205.0	170.0	195.0	190.0	188.1	163.1
Turkey	125.0	112.5	120.0	112.5	130.0	126.0	139.9	121.1	121.6
Morocco	37.5	47.5	52.5	72.5	75.0	62.5	75.0	75.0	85.2
Others Mediterranean	97.8	93.6	94.1	113.0	113.6	96.2	90.8	92.2	109.7
Others Europe	41.3	48.1	47.8	55.6	55.4	56.6	56.9	53.8	64.0
Rest of the World	10.0	10.2	15.1	20.8	27.0	28.3	28.1	32.7	36.1
Total	*2597.4*	*2548.6*	*2763.7*	*3005.2*	*2732.7*	*2731.6*	*2835.9*	*2697.2*	*2769.5*

Source: FAOSTAT

Note: when no information for a specific year was available the figure is that for the year for which information was available

Consumption

Global consumption of olive oil has continued to increase in recent years at a steady pace. Between 2000 and 2007 the annual growth rate was, on average, 2.4%, similar to the rate observed in the 1990s. In 2007 world consumption exceeded 2.8 million tons, compared with nearly 2.4 million tons in 2000 and 1.9 million tons in 1990. In the period 2000-2007, among the major consuming countries, the USA experienced a higher rise in consumption (+32.6%) than the rise in overall world consumption (+18.2%); in Italy and Spain the rise was smaller, but still significant (+11.4% for both countries). In all three countries the increase in consumption is associated with increases in per capita consumption, higher in the USA (from 0.7 kg per capita in 2000 to 0.85 in 2007) and Italy (from 13 to 14 kg) than in Spain (from 11.6 to 11.8 kg). As regards the other major consuming countries, consumption has been basically stable in Greece, where in more recent years the previously declining trend has been reversed (with per capita consumption increasing from 15.6 kg to 15.9; in 1990 was 17.5).

There has been a marked increase in France (+26.3% between 2000 and 2007), where the trend, first observed in the 1990s, to greater per capita consumption has also been maintained, and Morocco (+109%). Among the other Mediterranean countries, we find a reduction in consumption between the years 2000 and 2007, following a decade of growth, in Syria, Tunisia and Jordan. On the other hand, since the end of the 1990s, there has been an inversion of the negative trends in Lebanon and Libya, with an increase in olive oil consumption, whereas Turkey and Algeria show a marked cyclical trend in consumption over the period in question within the overall context of moderate growth. Moreover, the strong growth of consumption, first observed in the 1990s, both in the other European countries and in the Rest of the World group has been maintained in recent years; for the former group of countries the share of world consumption has passed from 4.5% in 1990 to 7.3% in 2000 and 10% in 2007, for the latter group the share has increased from 3.5% to 7.1% and, finally, to 9.2%, respectively. The increase in olive oil consumption in these countries has been determined, above all, by the rapid increase in per capita consumption confirming, once again, the trend begun in the previous years: for example, between 2000 and 2007 per capita consumption increased from 0.7 kg to 0.86 in the UK, from 0.4 to 1.04 in the Netherlands, from 0.8 to 1.05 in Canada and from 1.4 to 2.06 in Australia.

Olive Oil - Consumption (1000 tonnes)								
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**
Italy	744.201	751.068	775.205	780.44	805.8	830.077	828.505	829.276
Spain	466.636	475.247	479.735	493.004	514.545	518.762	549.744	519.907
USA	198.252	208.493	216.455	205.516	234.38	237.172	239.489	262.92
Greece	170.474	168.48	177.532	177.22	176.513	176.317	166.157	176.757
France	82.609	97.629	96.213	96.874	99.306	98.402	100.051	104.361
Syria	131.983	129.988	135.22	123.547	119.926	108.583	116.245	103.952
Morocco	43.394	44.723	69.32	58.579	82.232	25.832	65.782	90.694
Others Europe	174.07	180.361	193.98	219.396	275.734	251.477	254.48	281.212
Others Mediterranean	201.612	204.824	178.451	192.978	273.779	172.681	235.616	188.323
Rest of the World	170.25281	175.49887	183.12563	181.617	222.4498	231.26528	224.60923	259.27221
Total	2383.48381	2436.31187	2505.23663	2529.171	2804.6648	2650.56828	2780.67823	2816.67421

Source: FAOSTAT

Trade

Olive oil exports appear to be much more highly concentrated than production; in the year 2008 global export market share (in volume) for the three major producers (Spain, Italy and Tunisia in order of importance) was 84.5% and it has grown over the years. Notwithstanding the extreme variations of its exports over time, Tunisia seems to maintain a comfortable hold on third place among the key players; indeed, in recent years its exports have been roughly double those of Greece.

World trade in olive oil continued to grow steadily up till 2004, after which it suffered a slight decline. Exports increased from 994,500 tons in 2000 to 1.489 million in 2004, dropping subsequently to 1.311 million by 2008 (the figure for 1990 was 562,300 tons). The fall in overall exports of olive oil between 2004 and 2008 was largely determined by the performance of the three main exporters (Spain, Italy and Tunisia), while exports of other countries continued to rise, albeit at different speeds and with different regularities. Yet, despite this decline, when we look at the value of international trade (calculated in current prices expressed in US dollars) we find that the overall value of trade continued to grow, even when there was a drop in volume, thanks largely (but not solely) to the strong euro. The value of international trade in olive oil grew between 2000 and 2008 at an average annual rate of 12.9%, due to the strong increase in the average unit value of exports. The expansionary dynamic in the quantity traded was sustained by Spain (+6%) Tunisia and Portugal (both +5.1%); meanwhile, among the other major exporters, Italy and Greece saw a reduction in their exports, though this is less pronounced for the former (-0.2% per year, on average), than for the latter (-3.7%). Exports of other Mediterranean countries record, for the same period, an average annual increase in quantity of 6.5%; yet, the market share of these countries, although increasing over the years, remains quite small (3.1% in 2008). It is worth noting the different performance of the two main countries from the aforementioned group, Syria and Turkey.

Olive Oil (virgin) - Exports (1000 tonnes)									
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Spain	400.1	453.5	567.5	513.8	648.7	528.3	495.9	620.8	636.6
Italy	307.3	272.2	290.2	277.4	427.3	430.9	394.1	291.1	303.1
Tunisia	113.9	94.5	22.5	39.9	211.2	109.4	272.8	172.6	169.0
Greece	104.1	178.2	74.2	96.7	43.3	98.8	105.6	96.1	77.3
Portugal	21.5	21.5	18.4	17.4	23.9	26.0	25.7	31.5	32.0
Others Europe	9.2	12.5	16.3	15.4	16.8	18.1	19.5	21.3	20.0
Others Mediterranean	24.7	96.7	31.5	114.2	98.8	175.1	124.2	125.5	40.9
Rest of the World	13.7	11.2	15.2	21.4	19.6	43.9	28.0	33.3	32.5
Total	*994.5*	*1140.2*	*1035.6*	*1096.2*	*1489.6*	*1430.4*	*1465.8*	*1392.2*	*1311.3*

Source: FAOSTAT

In the period in question Syria showed an average annual increase of 34%, while Turkey's annual growth remained at 2%. If we compare developments between 2000 and 2008 with those in the previous decade, in the overall context of a slowing down in the expansionary trend of world exports (+5.9% per annum in the previous decade, +3.5% between 2000 and 2008), only Spain among the most important players experienced an acceleration in the speed of growth in its exports (a +5% average annual increase in the years 1990-2000, followed by a +6% average annual increase in the period 2000-2008). All the other main exporters experienced a reduction in the annual rate of growth, for example in Tunisia from +8.6% to +5.1%, or, indeed, in the case of Greece (+1.9% to -3.7%) and Italy (+10.9% to -3.7%) an actual drop in their exports.

The trend in world imports of olive oil, which inevitably reflects that of exports, is the result of the dynamics of production, consumption and, in the case of countries like Italy, that are at one and the same time important exporters and importers of olive oil, exports. All the major importers experienced a growth of imports between 2000 and 2008, albeit to differing degrees. The highest rate of growth is found in Spain, though the volume remains quite small, and in the other European countries not among the major importers. The differences in rates of growth have determined variations in market shares. Between 2000 and 2008 Italy, by large the number one world importer of olive oil, experienced a marked reduction in its share of global imports, from 41.3% to 34%, while, at the other end of the scale, the European countries that are not among the major importers, as a whole, saw their share of world imports rise from 4.7% to 8.9%.

New President of CIHEAM

At the last meeting of the CIHEAM Governing Board, held on 20 December in Tunis, Professor Adel El-Beltagy was elected President of the Board.

He will begin his four-year term as President of CIHEAM on 1 April 2011, succeeding Abdelaziz MOUGOU.

Adel El-Beltagy is currently Chairman of Egypt's Agricultural Research and Development Council (ARDC) and Professor at the Agriculture Faculty at Ain Shams University in Cairo.
He was Director General of ICARDA from 1995 to 2006 and chaired the Global Forum on Agricultural Research (GFAR) from 2006 to 2010.
Internationally renowned for his work and scientific publications, he is a member of the Institute of Egypt.

Olive Oil (virgin) - Imports (1000 tonnes)									
	2000	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**	**2007**	**2008**
Italy	462.8	492.8	520.1	485.5	691.7	566.4	554.8	495.0	485.1
USA	194.3	205.6	215.2	206.8	237.1	248.0	232.1	253.6	243.6
France	82.7	97.7	96.6	95.8	99.2	97.1	100.6	105.2	109.4
Germany	31.8	36.9	39.8	38.2	44.6	47.3	48.0	58.6	51.6
Portugal	38.0	49.5	44.4	53.6	57.3	60.0	63.8	70.2	45.5
United Kingdom	43.8	35.8	34.0	51.3	91.4	53.5	52.6	54.9	61.0
Brazil	26.2	23.6	22.1	21.4	23.7	27.0	27.5	35.5	42.8
Spain	24.3	26.6	10.4	37.7	107.8	112.6	128.0	59.8	53.6
Japan	27.3	29.2	32.3	30.8	31.7	32.7	29.8	28.3	29.6
Others Mediterranean	16.7	25.0	27.6	16.0	6.8	4.9	5.2	11.8	11.7
Others Europe	52.8	66.7	76.0	82.0	97.2	99.4	107.8	125.4	127.3
Rest of the World	119.4	123.1	124.1	129.3	159.7	166.8	168.3	202.1	166.1
Total	*1120.1*	*1212.4*	*1242.4*	*1248.3*	*1648.3*	*1515.6*	*1518.4*	*1500.3*	*1427.2*

Source: FAOSTAT

Trade Policies

Export subsidies for olive oil have not been used by the EU since 1998. Imports of olive oil from most Mediterranean countries enjoy preferential access, which differs from one country to another, under the form of duty free import quotas and preferential tariffs. Nevertheless, these are not the only relevant trade policies to be considered and on their own they are unable to explain the geography of trade flows between the two sides of the Mediterranean. In fact, a large part of EU imports from other Mediterranean countries takes place under IPRT (Inward Processing Relief Traffic) conditions. Within the context of the IPRT scheme it is possible to import olive oil into the EU duty free provided that the same quantity (and quality) of oil is subsequently re-exported after undergoing processing inside the EU, which could even be only bottling.

As regards 2008 and 2009, years for which the most recent data are available, table 1 reports total imports into the EU by type of olive oil, for each Mediterranean country, imports under the IPRT regime, the volume of duty free import quotas in place and imports which can be assumed to have taken place under Most Favoured Nation (MFN) conditions. Tunisia benefits from a duty free quota of 56,700 tons for virgin olive oil. In the two years considered imports of this type of oil reached 127,900 tons in 2008 and 82,200 tons in 2009, 80% of which took place under the IPRT scheme in 2008 and 72% in 2009. Thus, in both years considered, the preferential duty free import quota was used for only approximately 40%. In 2008 Jordan enjoyed a quota of 7,000 tons of virgin olive oil; in that year imports of that type of oil reached 647 tons, 62% of which under the IPRT scheme. In 2009 the quota was raised to 9,500 tons but imports declined to 220 tons, only 2% of the quota (in that year there were no imports under the IRPT scheme). One should add that Jordan enjoys duty free access for other types of oil, but in the two years considered there were hardly any imports of those either.

The same holds for Lebanon, which benefits from a duty free quota of 1,000 tons for certain types of olive oil, while other types have duty free access. In 2008 and 2009 overall exports to the EU from this country did not exceed 105 tons. The case is similar for Morocco and the OPT. Syria and Libya, on the other hand, do not enjoy preferential access conditions to the EU, i.e. their imports are subject to MFN conditions. In 2008 imports from Syria reached 14,526 tons, 62% of which under the IPRT scheme. In 2009 total imports dropped to 1,291 tons, with only 9% occurring under IPRT. Most Libyan imports take place under MFN conditions. Neither Egypt nor Israel enjoyed preferential access conditions in the two-year period under consideration, and their exports to the EU, which in any event are very small, took place for Egypt mainly under IPRT, and for Israel under MFN conditions.

Starting in 2010 these two countries have been granted duty free access for certain types of olive oil which, however, in the previous two years represented only a small share of their already slight olive oil exports to the EU. Finally, Turkey benefits from a preferential tariff of 7.5% within a quota of 100 tons for virgin olive oil. This quota was fully utilised in both years, but most imports (1,200 tons in 2008 and 4,500 tons in 2009) concerned other types of olive oil and almost entirely entered under the aegis of the IPRT scheme.

Scientific Advisory Committee

The composition of the CIHEAM's Scientific Advisory Committee (SAC) was changed in December 2010 in accordance with the policy of rotating representatives of CIHEAM member countries.

The outgoing members, Foued Chehat (INRA, Algeria), Mohamad Talal Farran (AREC, Lebanon) and George Attard (University of Malta) are to be replaced with Prof. El Houssine Bartali (IAV Hassan II, Morocco), Dr. Luis Lavadinho Telo da Gama (INIA, Portugal) and Sami Reda Saber Sabry (Agricultural Research Centre, Egypt).

The SAC will meet on 11 and 12 April 2011 in Zaragoza.

The conclusion one can draw from the above is that it is by no means obvious that preferential access, even if duty free, is the most convenient import regime; the conditions to be satisfied linked to the use of a duty free quota and the IPRT scheme determine a country's choice of option. Indeed, most EU imports of olive oil occur duty free, within a preferential quota or, more frequently, under the IPRT regime, and only a small proportion (in the years 2008 and 2009 it was less than 5%) are subject to the payment of a tariff. While preferential duty free access affects the relative competitiveness of imports from different countries, the IRPT scheme affects the volume of olive oil imported by the EU, with the decision on where to import from based solely on considerations to do with competitiveness (price and quality).

Table 1- Olive oil. European Union. Imports from Mediterranean countries: preferential duty free quotas, imports under "Inward processing relief traffic" (IPRT) provisions and imports which apparently occurred at MFN conditions (t; 2008, 2009).

Imports in 2008

	Total imports	*Imports of refined olive oil (150990)*	*Imports of virgin olive oil (150910)*	*Imports of other olive oils (1510)*	Duty free import quota, refined olive oil (150990)	Duty free import quota, virgin olive oil (150910)	Duty free import quota, other olive oils (1510)	Total imports under IPRT	*Imports under IPRT, refined olive oil (150990)*	*Imports under IPRT, virgin olive oil (150910)*	*Imports under IPRT, other olive oils (1510)*	Imports which apparently occurred under MFN conditions
Algeria	14		*14*		1000							
Egypt*	486		*433*	*54*				430		*430*		56
Israel**	64	*36*	*29*	*0*								64
Jordan[1]	649	*0*	*647*	*2*		7000		406		*406*		
Lebanon[2]	101	*29*	*72*			1000						
Libya	1026		*117*	*910*				117		*117*		909
Morocco	1126	*3*	*1123*		3920			334		*334*		
Occ. Palest. T.	146		*146*			3000						
Syria	14526	*271*	*8848*	*5407*				8913	*269*	*8644*		5613
Tunisia	135859	*7950*	*127909*	*0*		56700		116513	*7802*	*103304*	*5407*	
Turkey[3]	1438	*1224*	*215*	*0*		100		1212	*1207*	*5*		226

Imports in 2009

	Total imports	*Imports of refined olive oil (150990)*	*Imports of virgin olive oil (150910)*	*Imports of other olive oils (1510)*	Duty free import quota, refined olive oil (150990)	Duty free import quota, virgin olive oil (150910)	Duty free import quota, other olive oils (1510)	Total imports under IPRT	*Imports under IPRT, refined olive oil (150990)*	*Imports under IPRT, virgin olive oil (150910)*	*Imports under IPRT, other olive oils (1510)*	Imports which apparently occurred under MFN conditions
Algeria	29	*13*	*17*		1000							
Egypt*	93	*4*	*89*	*0*				88		*88*		5
Israel**	31	*2*	*29*									31
Jordan[1]	222	*1*	*220*	*2*		9500						
Lebanon[2]	66	*22*	*44*			1000						
Libya	1564	*87*		*1476*				87	*87*			1477
Morocco	1996	*1538*	*458*		3920			1506	*1506*			
Occ. Palest. T.	146		*146*	*0*		3000						
Syria	1291	*1*	*139*	*1151*				121		*121*		1170
Tunisia	85234	*3049*	*82184*	*0*		56700		64286	*3409*	*59726*	*1151*	
Turkey[3]	4713	*4489*	*224*	*0*		100		4569	*4468*	*101*		144

1 EU imports of refined olive oil (150990) and other olive oil (1510) from Jordan are granted quota and duty free access.
2 EU imports of refined olive oil (150990) and other olive oil (15100090) from Lebanon are granted quota and duty free access.
3 EU imports of virgin olive oil (150910) from Turkey are granted on preferential tariff of 7.5%.
Notes
* Since 1/6/2010 the EU imports of olive oil (1509 and 1510) from Egypt are granted quota and duty free access.
** Since 1/1/2010 the EU imports of refined olive oil (150990) and other olive oil (1510) from Israel are granted quota and duty free access.
Source: EU Commission, COMEXT.

Key factors for the future of olive oil markets

In our opinion the two most important factors defining the medium term scenario of olive oil markets are: developments on the demand side, and the evolution of the relations between actors along the supply chain. One can expect that the growth in demand will continue in the years ahead, especially in countries that are not traditional consumers but also in those with a tradition of consumption, both developed and developing. The growing demand will be accompanied by a rise in the demand for olive oils differentiated based on quality characteristics (e.g. extra virgin olive oil, olive oil with a geographical denomination, and organic olive oil). The growth in the quantity and variety of oils consumed, in terms of their qualities, will doubtless depend as much on the dynamics of demography and per capita incomes of individual countries, as on the effectiveness of marketing campaigns promoting consumption. Production will also increase; the role of supply factors should not be underestimated, even if they seem less important in shaping future scenarios than developments on the demand side. One possible exception is consumer driven developments in the quality of the olive oils produced. Increased production in non traditional producing countries (e.g. the USA), rather than being a threat for exporters, will be a stimulus to faster growth of these markets.

The other key factor to shape future developments in olive oil world markets will be structural changes in the industry. The increasing concentration of the bottling industry and the growing importance of the role played by multinational firms, on the one hand, and the increasing concentration in the retail sector and the growing importance of olive oil sold under retailers' own private labels, on the other, will make the market structure even more imperfectly competitive, with the growers being the weakest actors because of their limited market power compared with the other actors. A more marked product differentiation based on specific quality characteristics and more effectively implemented and promoted protection schemes for geographical indications (including "country of origin" ones) are the best options available to help olive oil producers improve their bargaining position vis-à-vis other actors along the chain. Such measures would help them to capture a fairer share of the retail price of the oil they produce and lead to increased sales.

Albanian Delegate to the CIHEAM Governing Board

At the last meeting of the Governing Board, held on 20 December in Tunis, CIHEAM welcomed the new Albanian Delegate, Ms Ariana Misha, Head of the European Integration Department at the Albanian Ministry of Agriculture.

She succeeds Mr Sali METANI who had held this position since 1991, the year Albania joined CIHEAM.

Though domestic and trade policies will be an important factor for the future of the market, their role will be less important than is often assumed. The reform of the Common Market Organization for olive oil with the decoupling of support from production is expected to lead in the course of time, ceteris paribus, to a reduction in EU production of olive oil and an improvement in its quality. Trade policies have a limited impact on trade in the Mediterranean basin, as almost all EU imports already take place duty free.

Hence, the completion of the process of trade liberalisation in the Mediterranean is unlikely to have a major effect on the volumes of olive oil traded, but will rather lead to a diversion of EU imports, i.e. changes in the flow of imports from different Mediterranean countries. For the same reason the conclusion of the Doha round, should it come to pass, will affect the trade in olive oil with countries outside the area, but will have little impact on intra-Mediterranean trade. In conclusion, *market development*, *quality*, *product differentiation* and *effective marketing* will be the key words in identifying the challenges for public as well as private players in the years to come.

Giovanni Anania and Maria Rosaria Pupo D'Andrea

Organic Olive Growing and Environment in Greece

Charikleia Minotou
President of AgriBioMediterraneo, IFOAM

Today Greece is one of the most important organic producers in the European olive growing sector. Organic agriculture in Greece arose in the early 1980s and has continued to grow to this day. According to the latest Eurostat figures it accounted for 4% of the total agricultural area in Greece. The land is mainly used to produce permanent crops, arable crops and as pasture. As Greece is situated in the Mediterranean, agriculture is adapted to the Mediterranean climate and olive groves, vineyards, citrus fruits and vegetables enjoy pride of place. Greek olive products such as olive oil, table olives, olive pate and cosmetics are recognized worldwide for their quality.

Greece is also well known for the quality of its environment. Twenty-one percent of the total surface of the country belongs to the Natura 2000 network. Natural resources, biodiversity and protected areas have priority status in national and European environmental policy and legislation. As a result organic agriculture effectively helps to protect the environment and promote rural development. The Mediterranean landscape has been well protected in the past decades and olive groves are an essential part of this landscape.

Olive growing in Greece

In Greece the organic olive sector produces olive oil, table olives, olive pate and cosmetics. Olive trees are cultivated first for olive oil and secondly for table olives. Greece is regarded as a high-quality production area. Throughout Greece olive growing predominates and olive trees are to be found in the Peloponnese, Crete, Ionian Islands, Aegean Islands and western Greece. Greek olive products have unique organoleptic qualities and are rich in polyphenols, which is why Greek olive oil has such a good reputation. Organic olive cultivation accounts for 55% of all organic agriculture in Greece (with olive oil accounting for 51% and table olives for 4%. According to the most recently published data from the Greek Agricultural Ministry (2007) olive groves make up a total of 51,922.75 ha. According to statistics it is estimated that 20% goes into the domestic market and 80% is for export. Of all the organic products consumed, 30% is from domestic sources and 70% is imported.

Organic olive growing requires healthy soil, sustainable farming practices, respect for natural resources and biodiversity, environmental friendly plant protection techniques, and storage and processing methods that have low environmental impact. In Greece the main olive variety for oil production is Koroneiki although other varieties are grown locally in some regions. The Kalamata and Amfissis varieties are most frequently used as table olives. The plantation density of the old olive groves amounted to just 160 trees/ha whereas the new plantations can provide for as many as 480 trees/ha.

Improving fertility, the percentage of organic matter and increasing the nutrient content are the three priorities in treating soil for organic olive growing in Greece. A healthy soil can increase yields and have a positive influence on the quality of the produce. Limited use of heavy agricultural machines helps to avoid any degradation of the soil structure and prevent soil erosion.

Ecological constraints

The Mediterranean climate is characterized by high temperatures and humidity, and rain during autumn and winter. As a result olive cultivation flourishes and the quality of the crop is excellent. Pruning serves to control diseases like *Capnodium oleaginum*, *Bacterium savastanoi, Pollinia pollini, Saissetia oleae*, by improving circulation of the air inside the foliage and exposing the whole plant to the rays of the sun. Trimming the offshoots of olive trees prevents the emergence of parasites and fungi. In Greece pruning is crucial to ensuring quality and quantity of output.

According to scientific papers on Greek olive cultivation, ninety species of fungus, five species of bacteria and twenty five different bacteria have been recorded. The most common threats to organic olive cultivation are: *Bactrocera oleae (Dacus*), *Prays oleae, Cycloconium oleaginum, Capnodium elaeophilum*, *Cladosporium*, *Bacterium savastanoi, Verticillium alboatrum*, *Saissetia oleae, Rhynchites cribripennis, Lytta vesicatoria, and Otiorhynchus cribriocolis.*

Bactrocera oleae (Dacus or olive fly*)* appears every year in early summer until the end of the harvesting period. The population increases or diminishes depending on climate conditions (temperature or humidity). In some parts of Greece with a particular landscape and micro climate, as many as four or fine generations have been identified. The *dacus* population seriously degrades the quality of olives and has been known to damage as much as 80% of the crop.

Traps are the most common device used by organic olive farmers in Greece to control *dacus.* Six different types of trap may be used: a. food attractant, b. pheromones, c. food attractant and pheromones, d. food attractant and pyrethrines, e. food attractant, pheromones and pyrethrines, f. sticky, coloured surfaces. The food attractant commonly used is ammonium salt or protein hydrolysate. The setting of the traps depends on the area and the olive fly population. In coastal areas and in areas with high recorded populations the traps are installed at the end of flowering; in regions with medium-sized recorded populations the traps are installed at the beginning of the fruiting period and in regions with low populations they are installed later in the fruiting period or after five days' permanent monitoring of the population. Alternatively, the olive trees or wild vegetation around the olive grove may in some cases be sprayed with rotenone. Over the past decade, farmers working in cooperation with universities and scientific centres, have been releasing beneficial insects such as the *Opius concolor, Psyttalia concolor, Eupelmus urozonus.* The results of this method are still being studied.

Prays oleae, with three generations, is regarded as the second great enemy of olive trees in Greece. The first generation appears in early spring and destroys the leaves, the second destroys the blossom and the third causes damages to the olive crop. Installation of traps with sticky surfaces and pheromones or spraying with Bacillus thuringiensis are the best ways to control *prays oleae*. *Rhynchites (Coenorrhinus cribipennis)* appear in late April or early May. They cause damage to new branches and destroy the underside of the leaves. In summer they can also damage the olive crop. To deter *Rhynchites* farmers mill the soil or spray with ash and sulphur. *Ottiorrhynchus critoricollis* is a pest and has only one generation per year. The egg-laying period starts at the beginning of September and lasts three months.

Adults appear from the end of May and are present for a period of one month. *Ottiorrhynchus critoricollis* is inactive during the day, sheltering under the bark or branches, or between the olive fruit and the leaves causing damage that is clearly visible. In order to control *Ottiorrhynchus critoricollis,* lopped branches are left on the field as a trap and in many regions glue is smeared on the bark of the tree, approximately 50 cm from the soil. In order to control *Capnodium oleaginum,* usually caused by the *Saissetia oleae,* branches are often cut well back. Other methods are commonly used, such as spraying with a blend with copper and extract of seaweeds. In the case of *Saissetia oleae,* summer mulch or mineral or paraffin oils are applied.

European Union DG Research

In 2010 CIHEAM helped draft a report on the outlook for the Mediterranean Region in 2030, which was being produced for the European Commission under the supervision of DG Research.

The report was presented and discussed at a conference in Brussels on 16 December 2010, which brought together around a hundred experts and representatives from all countries in the Mediterranean basin.

This report is freely available for consultation on the DG Research website: http://ec.europa.eu/research/social-sciences/events-135_en.html

Richness of the soil

Olives are widely grown in Greece because soils are so fertile, containing specific nutrients such as nitrogen, phosphorus, potassium and boron. Fertilizing agents are applied in the autumn, when rain is frequent. For the past five years, pursuant to law 834/2007, many commercial fertilizing inputs have been authorised. These inputs can be divided into two categories: inputs for general use and inputs to make up for specific shortages (of K, N, P, and CA) and remedy the attendant problems. Green manure – cereals, rye, split, oats and vetch – are also used to fertilise organic olive groves. Sowing takes place early in the autumn and by the time the trees flower the fertiliser is incorporated into the soil. Plants may be sown on the entire surface of the grove or in rows between the olive trees. Green manure enriches the soil with nitrogen and the roots of the green manure plants improve its structure.

Compost is also commonly used as a fertiliser. A well prepared compost enriches the soil with nitrogen and also increases the percentage of organic matter in the soil. It is normally made from manure, grape and other residues, prunings, weeds, olive leaves, olive processing waste and seaweed. If the compost is to be effective, the mixture must be properly balanced and the humidity and temperature carefully controlled. Mulching is also widely used as a fertilizing method and as a way to control the existing surface vegetation. A cultivator is used to transform pruned branches, leaves and vegetation into a mulch with nutritional value for the soil. At the same time mulch protects the soil from erosion, solar heat and rain.

Because Greece is a coastal country, seaweeds are widely used to control pests and diseases, make compost, and fertilise the olive groves. Scientific papers prove that seaweed extracts fertilise the olive tree, improve the quality of the yield and increase the trees' resistance to pests and diseases. Harvest starts at the end of October and continues until the middle of January, depending on the region, the variety and the local micro climate. The olive crop must be sufficiently mature to ensure low acidity. The quality of the product depends on many factors, including harvesting techniques, storage procedure, and the delay between harvesting and pressing. The pressing process at the oil mill is the final stage in the olive oil production chain. Organic olive oil is produced in certified mills where the oil is pressed at a controlled temperature (25 degrees) using two or three phase decantation. Certification requires that the environment be respected.

Greek environment- Organic olive growing

Greece is a typical Mediterranean country with a traditional landscape, where olives are cultivated in semi-mountainous and coastal areas. The Greek landscape has been famous since ancient times. The olive tree is part of the history, heritage and civilization of the country. It is also essential to the landscape and the natural ecosystems. Protection of the environment is a priority and is governed by a specific legislative framework. Organic olive growing and agriculture contribute to the effective protection of the environment by respecting natural resources (water, soil, energy, and air), conserving natural ecosystems, protecting biodiversity and habitats and mitigating the effects of climate change. Organic agriculture and olive growing also have a social dimension in that they support local societies and traditional products and encourage sustainable rural development.

Charikleia Minotou

The Chinese olive sector: an emerging market with high potential

Yvette Lazzeri
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Over thousands of years, the olive tree has shaped the landscape, history, culture and gastronomy of the Mediterranean. With 80% of the world's olive plantations, the region continues to be its favoured milieu and is also the productive and commercial centre of the olive oil industry, accounting for 80% of world output and consumption. Nevertheless the olive-growing sector has faced great challenges over the past two decades: per capita consumption has declined in virtually all Mediterranean countries while increasing in others, notably the United States, Australia, Canada and Switzerland; new producer countries have emerged (with Argentina and Australia occupying 11th and 13th place respectively among the world's olive oil producers); competition has been growing both in mass consumption and in niche markets; producers have diversified and quality has improved (Benhayoun/Lazzeri, 2007).

In this changing landscape, particular attention should be given to China, which could be an attractive target for the Mediterranean olive-oil industry. The size of its population, changes in consumption patterns as a result of rising living standards, the opening up of the economy to international traders, the possibility of travel, as well as the taste the Chinese have recently developed for olive oil, make it a market with great potential and a trading zone of considerable importance for the international olive oil market.

Its annual exhibition "Oil China", held in Shanghai since 2004, is described as the "showcase for the world olive oil industry" and is evidently becoming the point of entry for companies that wish to penetrate this booming market. In 2010 the exhibition attracted many producer countries (Spain, Portugal, Greece, Jordan, Tunisia, Australia), as well as operators from China and its neighbouring countries. The organisation of the international competition "Olive Asia" by SIAL China in Shanghai is confirmation of China's interest in olive oil. Italy, winner of the "Golden Olives" prize in 2009 and 2010, is competing with Spain for the top spot, although Greece. Portugal and France are also expected to do well. The competition also highlights the rise of Chile and Australia as new producers, whose oils have received honourable mentions in the past.

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Chinese Olive oil: market share still marginal for this exciting new product

Olive oil is appreciated more and more by the Chinese. Its nutritional and health-giving properties (offering protection against diabetes, coronary and cardio-vascular diseases, cancer and osteoporosis, for example) make it increasingly sought after by a population with high purchasing power, whether for personal consumption (60%) or as a gift (40%). Quality and brand are decisive factors for the more affluent clientele, which explains why there is much greater demand for extra virgin olive oil (accounting for 67% of consumption in 2009), than for virgin olive oil (27%) and olive-pomace oil (5%). Chinese standards (General Administration of Quality Supervision) distinguish between:

- Olive oil (OO): Extra virgin OO; Medium quality virgin OO; lampante virgin OO; Refined OO; Blended olive oil
- Olive-pomace oil (OPO): Crude OPO; Refined OPO; Blended OPO.

Of the promoters of olive oil in China, particular mention should be made of professionals in up-market restaurants and hotels. In Beijing, Shanghai and Guangzhou, Mediterranean or gourmet restaurants and five-star hotels use only extra-virgin olive oil, mainly imported from France and Italy. However, while sales are increasing at a rapid rate (35% per year on average between 2004 and 2008), olive oil still occupies a very marginal position in the market. In 2008, of the 25 million tonnes of edible oil consumed only 10,000 tonnes was olive oil (ie only 0.4% compared with 3% worldwide). Several reasons can be adduced to explain this state of affairs. Domestic output is very low, which means that the olive oil on sale in the country tends to be imported and therefore very expensive (10 times the price of other vegetable oils. For what is considered a basic product, the price is prohibitive, both for people on modest incomes and for Chinese restaurant owners.

Furthermore, there is still considerable ignorance surrounding olive oil in China: vegetable oil is only used for cooking and olive oil therefore fails to satisfy consumer requirements. Supermarkets only began selling it fairly recently (less than five years ago) and it tends to be consumed only in a few large cities (90% of it is sold in Shanghai, Guangzhou and Tianjin). Lastly, consumers who are aware of its virtues are not yet capable of distinguishing between different qualities of oil and are calling for regulation of labelling to ensure that quality, country, *terroirs*, and designation of origin are clearly indicated. In the shops, blended olive oils are found next to virgin or extra virgin varieties; the expiry date is modified when oil is transferred from large to small volume containers; moreover, the words "olive-pomace oil" are never used in the Chinese market, which leads experts to fear that this variety is being repackaged as ordinary olive oil. Although the Chinese market is the largest consumer of vegetable oil (mainly soya, palm, peanut and sunflower), per capita consumption (15 kg in 2008) is below the world average (20 kg). It is increasing rapidly however (by 10% per year between 2002 and 2006, at which rate it will reach 30 million tonnes by 2015). Although the preference for soya and palm oils is still entrenched in consumer habits, there could be a place for olive oil in this trend, provided that it is of high quality and affordable. According to Chinese estimates, olive oil consumption will continue to increase and will reach 65,000 tonnes in 2012, which amounts to a sixfold increase on 2008 levels. The Chinese market therefore offers an opportunity for increased trade in olive oil.

Olive oil in China: an import market

The first olive trees were introduced into China in 1964. After trials in the subtropical province of Yunnan, where the trees failed to bear fruit, olive groves were successfully established in the south of the Gansu province, which is now the country's main centre of olive tree cultivation. At the present time the total area planted with olive trees is 20,000 hectares (0.2 of the world area). Trees typically yield between 1 and 2 kg of olives and never more than 20 kg in China, compared with 15 to 50 kg in the Mediterranean. Domestic output is therefore low – about 20 tonnes per year since 2000 – and most of it is consumed locally. Aid amounting to a million US dollars has been granted by the state to encourage the planting of olive trees in this western province. However, development of olive growing countrywide hardly seems feasible given the unfavourable geographical conditions, lack of professional skills and shortage of technological and financial resources.

With growing demand in the internal market and low domestic output, China is an import market (today 98% of all the olive oil consumed is imported) and will continue to be for some time. It is mainly retailed in the provinces of Sichuan, Gansu, Shanxi and Yunnan. Bulk imports are increasing particularly rapidly (from less than 400 tonnes in 2001 to more than 10,000 tonnes in 2008: an annual average of nearly 60%). According to the latest forecasts, based on estimated demand, imports in 2012 will amount to nearly 63,000 tonnes. The most optimistic forecasts for the period up to 2015 are as high as 100,000 tonnes per year. Since 2005 most demand has been for extra virgin olive oil (accounting for 70% of olive oil imports in 2008).

Increasing market share for some Mediterranean countries

The Chinese market leaders are three Mediterranean countries: Spain (supplying 40% of Chinese imports), Italy (30%) and Greece (20%). The remainder is shared by Turkey, Tunisia and France. Spain is very much the dominant player in the market and fully intends to remain so. Of the 86 brands of olive oil sold in China, seven have been continuously present in the market, four of them Spanish. Spanish producers market their products with the financial and administrative support of Spain's central government, which helps to promote "Olive Oil from Spain" on a special website. Greece supplies China with olive oil under an agreement signed in 2010 in the context of an investment programme and several other trade agreements. Moreover Tunisia intends to make China its foremost olive oil export market: in 2010 it set up a plant in Jiangsu (near Shanghai) for bottling Tunisian extra virgin olive oil and it is now setting up marketing services to develop branding and packaging and to launch whatever strategies and communications campaigns are appropriate.

Product quality and communication: two important factors in winning over the Chinese consumer

Quality is a crucial factor in raising consumption levels. It is essential to promote the idea that olive oil is a quality product and to develop a quality strategy (involving clear, precise labelling of the product showing the use-by date, the Protected Designation of Origin and organic status of the product, etc.). But the Mediterranean countries will need more than a quality product if they are to make massive inroads into the Chinese market, bearing in mind that Australia is becoming a serious competitor at the top end of the market. Substantial public relations work is needed to make Mediterranean olive oil better known in China and pique the curiosity of the Chinese, who are on the look-out for new products. It is a matter of drawing importers' and consumers' attention to the strong points of Mediterranean olive oils.

Exporters should target the health food niche without limiting themselves to it, bearing in mind that other vegetable oils, some of them cheaper than olive oil, are also penetrating this market (canola oil from the United States and Canada). It is also important to provide information about the olive tree and the way it is cultivated, the flavour of olive oil, its applications in Chinese food, designations of origin, vintage years, varieties and *terroirs*. Lastly, the Mediterranean countries must maintain the image of olive oil special by offering special products that are made from it (tapenade, chocolate, etc.) and developing new flavours (aromatic oils).

Most efforts by Mediterranean exporters are concentrated on the top-end of the Chinese market, where they can claim particular expertise and achieve credibility, and are therefore aimed at an affluent clientele. The market for a particular foodstuff in China depends on the price. The high price of olive oil combined with the strong rate of the euro in European Mediterranean countries tends to sideline olive oil, which is still regarded as a basic product and as such considered too expensive compared with other oils. If the Chinese market is to be accessed further, it will be necessary to package the product in a way that highlights its quality, provide information about its virtues and take steps to ensure that retail prices are lowered.

Yvette Lazzeri

"*Olio del Libano*" project. Activities, results and outlook

Enrico Azzone, Biagio Di Terlizzi, Eustachio Dubla
CIHEAM - MAI Bari

Social and economic support for the families of producers in olive-growing marginal regions in Lebanon, through the "Olio del Libano" project, is implemented by CIHEAM-IAM Bari, in partnership with the Lebanese Ministry of Agriculture and is funded by the Italian Cooperation. The general objective of the "Olio del Libano" project is improving the economic conditions of the Lebanese olive growers through actions of support for the olive industry, in terms of agronomy and environment, as well as the promotion and development of productive and human resources.

The specific objectives are supporting individual olive growers to increase the quantity of their production and improve its quality, preserving the environment and reducing the production costs; reinforcing and stimulating management and planning activities of existing olive cooperatives/groups of targeted producers in poor olive-growing regions in Lebanon, through training, technical assistance and subsidies in technical means; promoting the products and sub-products in the olive industry by ensuring the sale of the production. The project target areas are the olive-growing zones selected on the basis of social and economic criteria and income-related indicators (Living conditions mapping, UNDP, 1998): Cazas of Akkar, Dannieh-Minieh, Zgharta-Bcharre, Hermel, Rachaya al Wadi, West Bekaa, Marjayoun, Hasbaya, Tyr, Nabatieh and Bent Jbeil. The project activities started in April 2009 and will last 3 years.

Problems to be solved in Lebanese oliviculture

The olive oil chain is an important sector in the Lebanese agricultural tradition, but it is currently conducted at household level and in need of a revival. The industry and the producers of the olive oil sector in Lebanon suffer from a large number of problems that limit its potential. In particular, the efficiency of the whole area is reduced due to lack of facilities and organizations, public or private, conveniently organized to provide services to operators, assisting the process of production on the field, the collection and processing of products as well as marketing. The need to reduce production costs following the adoption of incorrect choices in the conduct cultivation of olive groves, and consequently the production are more scarce and of lesser quality, which does not promote the organization and development of a suitable processing industry, still organized mainly at household level and by using obsolete techniques and technologies. Families living in marginal rural olive-growing regions benefit from no income from the sale of products in the whole supply chain. Briefly, the main problems observed at different levels of the chain are:

- the lack of technical capacity and financial management of agricultural cooperatives;
- young people not working in olive growing and the lack of skilled and active labour means that olive groves are abandoned and the owners have difficulty finding affordable skilled labour;
- negative environmental impacts, caused by inappropriate use of products and by-products;
- the most visible environmental problems in this area (bad habits such as burning of the remains of the olive tree on the ground, burning the dried pomace, the disposal of vegetable water into drains, the exclusive use of chemical fertilizers due to the high cost of manure);
- the lack of information and training at all levels of the chain;
- the low quantity/quality of products with high production costs, due to the absence of basic knowledge of production techniques;
- the low mechanization, lack of irrigation and the maintenance of obsolete farming systems and cultivation techniques, due to lack of technical support and motivation of farmers;
- the lack of a system of grants for the support of producers and cooperatives of olive and olive oil;
- the lack of specialized personnel at all levels (pruning, grafting, and harvesting, marketing, technical support) in the cooperatives;
- the lack of knowledge about the basic techniques of olive processing, storage and preservation;
- rural women's work is not appreciated and is only used as labour for harvesting olives;
- lack of knowledge of marketing and promotional tools to promote adequately the cooperatives products;
- consumers are not aware about nutritional and healthy values of the extra virgin olive oil.

Online indicators

In January 2011, CIHEAM posted a series of statistics online. These indicators are an invaluable aid in monitoring and analysing developments in agriculture and food in the Mediterranean.

This data is as up-to-date as possible, reflecting the current situation in the 13 CIHEAM member countries.

This section of our observatory is divided into six thematic groups (agricultural economics, agricultural output, food security, environment, demographics and society, and general economics).

www.ciheam.org

To address these problems the Lebanese Government, through its Ministry of Agriculture, initiated a forum with social partners and institutions to define lines of action to improve the living conditions of populations of olive areas. Following this agreement, the Lebanese government requested from CIHEAM-IAM Bari technical assistance for the formulation and the implementation of the project. CIHEAM-IAMB prepared the Global Work Plan with an approach based on a close collaboration between local private operators, farmers and cooperatives, local municipalities, the Italian consultants and the experts of the Ministry of Agriculture of Lebanon.

Under this strategy, the plan set up activities for the promotion of products and by-products of the olive oil chain, technical assistance and training with the introduction of the Good Agricultural Practices (such as pruning of olive trees, fertilization, irrigation -where possible and economically feasible-, harvesting and post harvesting, management of by-products), management of demonstration field, analysis and reduction of costs for plot, promotion and marketing skills.

Project main activities and solutions provided

During the first half of the project multiple activities were carried out aiming to achieve the results planned. To increase the quantity and quality of olive oil the main actions realized were the following:

- 17 Lebanese technicians were selected and trained in Italy, at IAM-Bari headquarters, during 3 cycles of theoretical and practical internship; moreover more than 70 training sessions were realized in Lebanon by an Italian expert on mission on pruning, harvesting, breeding of the olive, IPM, GAP, table olives and soap;
- 15 demo fields were selected and managed to monitor the main pests and diseases of the olive tree and to apply appropriate production methods (GAP, IPM, Biological);
- the results of the periodical surveys were analyzed and reported in the Phytosanitary Bulletin, published every week by the Regional Extension Service, under the Ministry of Agriculture, and sent to all the players concerned in the target areas; also a GAP Bulletin is issued monthly;
- 5,000 technical brochures on "Good Agricultural Practices (GAP) for the olive and olive oil chain" produced and distributed by the project;
- 5,000 calendars on GAP produced and distributed by the project;
- in partnership with UNACOMA, the "Demonstration days on the Italian technology of harvesting and pruning machines" were organized in 2009 and 2010;
- 52 multi-sector projects, drafted by an equal number of cooperatives and farmers groups, working in the project area of interest, were co-financed to spread the products and processes innovation in the olive and oil sectors.

To decrease the pollution of the environment due to the by-products of processing mills the project realized pilot initiatives for the environment-friendly use such as composting and spreading of waste water on the soil of the olive orchards. To promote the extra virgin olive oil and to strengthen the marketing of olive oil and the olive-growing sector the project set up a marketing plan for the cooperatives involved in the project and organized the participation in fairs and national events.

Moreover, the name of the umbrella label "L'olio del Libano" was officially registered in the Ministry of Agriculture by the cooperatives to address the international quality standards for olive oil production. To raise awareness of the food and health properties of the olive, and of olive oil quality, stands and panel tests during exhibitions and fairs were organized and 500 promotional packs with 3 bottles of extra virgin olive oil of 500 ml of three different territories targeted by the project were produced and distributed in 2009 and 2010.

Moreover, the project, in partnership with the CNRS of Lebanon, realized the new olive map of Lebanon with a higher resolution (1:10,000 scale), to verify the actual status of the olive-groves, as a valuable tool for the decision that the Ministry of Agriculture could take regarding the sector; then the project promoted the establishment of an institutional table for the preparation of guidelines on organic olive growing, the regulation on the reuse of waste water, quality control in mills and typical geographical indication for the use of spatial areas olive vocation. Press conferences, national workshops, brochures, information sheets and the website are the tools used for the dissemination of the project activities.

Project impact

Field activities and dissemination, daily technical assistance and a continuous dialogue between farmers and project's technicians, allow a more confident attitude to be created in the innovations introduced by the project in the olive oil chain. Pruning, distribution of waste waters in the olive orchard, re-use of pomace for composting, appropriate harvest (made with mechanical harvester, plastic crates and nets), quality control of the oil, training about olive mill management, processing table olives and soap production, have increased the awareness of the producers about the importance of taking care of every single step of the chain to obtain a high quality product.

Given the positive impact in the project areas the Lebanese Ministry of Agriculture has requested an extension of the territory concerned, extending the activities to other Lebanese provinces. Moreover during fairs and events on healthy quality of the extra virgin olive oil, the project technical team organized and conducted numerous promotion and awareness raising activities concerning the extra virgin olive oil by presenting its organoleptic properties and nutritional aspects to hundreds of visitors. In conclusion the "Olio del Libano" project started a process of agricultural and social change to achieve the objective of full crop improvement, management, environmental and cultural productions of olive-oil chain from the marginalized areas to all the olive-growing areas in Lebanon.

Enrico Azzone, Biagio Di Terlizzi, Eustachio Dubla

The Value Chain and Price Formation in the Spanish Olive Oil Sector

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One of the objectives of the Spanish Ministry of the Environment and Rural and Marine Affairs (MARM), is to promote transparency by way of conducting price formation studies throughout the value chain. Thus, with the backing of the Plenary Board, the Food Prices Observatory undertook a study of value chains and price-formation processes for 38 food products.

The aim is to improve the system by acquiring knowledge of the whole chain through the collaboration of all the stakeholders whereby each player is acquainted with the business of the other links in the chain and thus may increase their own efficiency. A total of 20 studies of the value chain were undertaken in 2009 and 2010 concerning the following food products: fruits and vegetables (citrus, apple, pear and banana; tomato, pepper and courgette; potato and carrot), meat (lamb, beef, pork, chicken and rabbit), milk, bread, eggs and olive oil. Studies are currently being carried out on fishery and aquaculture products and will also be available throughout 2010 and 2011. These are pioneering studies in Europe of a descriptive nature whereby the main configurations of the value chain are identified and analysed for each link in the chain as well as for the main stakeholders and their interactions.

Finally, a price structure is built from information provided by the sector about costs and benefits at every stage. This information comes from different sources and is cross-checked for inconsistencies through an iterative process. The purpose is not to provide statistically rigorous studies about revenues, costs and benefits of the different agents participating in the chain, and, when drawing conclusions about the sector, it is important to take into consideration that the information refers exclusively to the products, varieties and period analysed.

The study of the olive oil value chain involves two specific products that best represent domestic consumption: Extra-Virgin Olive Oil (EVOO) and Olive Oil (OO), which only contains refined olive oils and virgin olive oils, accounting for 35% and 64%, respectively, of total olive oil consumption in Spanish households.

These two products show process-related differences which directly affect cost-price structures and thus, two independent value chains have to be studied: The EVOO value chain for 1-litre and 5-litre clear PET plastic containers and in ≤1-litre glass containers. The OO value chain for 1-litre and 5-litre clear PET plastic containers. The reference period selected for the production and processing stages went from 1st November 2007 to 31st October 2008, since this was the last crop year with complete data on costs and prices. Data on prices from the distribution stage refer to the second term of 2008, when oils obtained in the 2007-2008 crop year were marketed.

Characteristics of the sector and trends

2007-2008 crop year

The Oil-olive producing surface area in Spain in 2007 was 2,221,300 hectares. Between 2003 and 2006, this surface area increased almost 3%, a trend which is becoming stable. There are many olive varieties in Spain which are used for oil production, of which the most representative are: 'Picual', 'Hojiblanca', 'Cornicabra', 'Arbequina', 'Lechín', 'Verdial de Badajoz', 'Empeltre', 'Carrasqueña', 'Blanqueta' and 'Farga'. Olive oil production in Spain in the 2007-2008 crop year amounted to 1,236,100 tonnes, with an average oil-olive yield of 21%. This is a medium-high value, considering the production trends observed in Spain in the past fifteen years. Spain is the first olive-oil producing country in the world, according to data from the 2007-2008 crop year, followed by Italy and Greece. As in the case of world production, the first producing-country in the EU is Spain, accounting for 60% of total production, followed by Italy, with 23%, and Greece, with 15%. Olive oil marketing in the 2007-2008 crop year in Spain amounted to 1,195,000 tonnes, the greatest value since 2003-2004 (1,260,000 tonnes), with an average monthly value of almost 100,000 tonnes.

Spain is mainly an olive-oil exporting country, with 662,850 tonnes exported in the 2007-2008 crop year, which was a historical record. It is the first world exporter and almost 80% of the total exported volume is sold to EU countries. Total imports of olive oil accounted for 59,700 tonnes in the 2007-2008 crop year. Imports from EU countries represented 35%, among which Italy stands out with 14% of the total. It is important to note that produce from Italy is bottled. It should also be mentioned that, the sale through retailer brands (RB) has increased over the period under study, up to 44% in the case of EVOO (hypermarkets 28% and supermarkets 54%) and 57% for OO (a similar percentage in both types of outlet).

2008-2009 crop year

In 2008, the Spanish surface area used for olive growing was 1,860,000 hectares, a 16% decrease compared to 2007. Almost 1,400,000 tonnes of olive oil were supplied to the Spanish market during the 2008-2009 crop year, which is an average supply and indeed lower than the 8% obtained in the previous crop year. This supply was made up with some significant surplus stocks (325,000 tonnes) which excessively conditioned the onset of the crop year, even though this was soon balanced with a production of 1,030,000 tonnes, clearly below the initial predictions, and with some 40,600 tonnes from imports, the lowest value of the last five-year period. Indeed, only 1,030,000 tonnes were actually produced in that crop year, which can be considered a medium-low level of production for the increasing types of production obtained in Spain in the past fifteen years. During the 2008-2009 crop year 1,189,900 tonnes were marketed, almost the same figures as in the previous year and, thus, one of the greatest amounts sold (the third highest in history).

Again, exports showed a remarkable performance with 659,000 tonnes, since it almost equalled the record obtained in the previous crop year, and again exceeded the values for domestic consumption with 530,900 tonnes which, nevertheless, slightly improved that of the previous year. With the export of these 659,000 tonnes, the crop year 2008-2009 ranks slightly below the historical record of 665,000 tonnes exported in 2007-2008, and it is the second highest in history. The main destination of the exported oil in this crop year was Italy, accounting for 48% of the total, mainly in bulk, whereas 31% was sent to other Member States. Therefore, within-EU exports accounted for roughly 80% of the Spanish export trade this crop year. Regarding non-EU importing countries, United States, Japan and Australia should be highlighted. Imports only contributed 40,600 tonnes, which was a value far below that of the other crop years in the past five-year period.

Paris International Agricultural Show

CIHEAM participated in several events associated with the Paris International Agricultural Show.

First it took part in the FranceAgriMer seminar on "food security and new approaches in the agricultural sectors", held on Monday 21 February 2011, then in another seminar on "the development of organic agriculture", organised by France's Agence Bio on 23 February.
It subsequently participated in several topical debates on the food situation in the Euro-Mediterranean Region and across the world.

ARIMNet

On 2 February 2011, the organising committee of the ARIMNet met in Rome to review the results of the stakeholders' conference held in Palma Majorca on 28 and 29 October 2010, where future plans for cooperation in agricultural research in the Mediterranean were addressed.

The Committee adopted a report, which mapped and analysed research programmes and identified possible obstacles to future cooperation.

Discussion also focused on ways and means of launching transnational bids in the three main areas identified by the Palma conference: (i) agricultural output in the context of growing ecological constraints, (ii) Mediterranean agricultural products with high added value, (iii) management of natural agricultural resources and environmental services.

www.arimnet.net

In 2009, Spanish households consumed around 449.5 million litres of olive oil and spent 1,145.6 million euros on this food product. Per-capita consumption and expenditure was 9.83 litres and 25.05 euro, respectively. The most remarkable consumption is associated with non-virgin olive oils (6.44 litres per person and per year), followed by virgin olive oils (3.39 litres per capita). Regarding expenditure, non-virgin olive oil concentrates 61.1%, with a total of 15.3 euro per person, whereas virgin olive oil accounts for 38.9%, with a total of 9.75 euro per person. As for the place of purchase, in 2009 most households bought olive oil in supermarkets (53% of market share). Hypermarkets held a market share of 30.9% for these products, whereas specialty shops concentrated 3%. Cooperatives amounted to 2.6%, self-consumption to 1.8% and the other types of outlet accounted for the remaining 8.7%.

Description of the value chain and cost-price structure of the value chain

The olive oil value chain has three distinct stages involving different agents with a high degree of specialization. The olives produced in the groves are transported to olive mills for the extraction of virgin olive oil. There, it can be bottled directly if it belongs to the pure category (apt for consumption), or it can be sold to the refineries to produce refined olive oil. What is known as olive oil is a blend of refined olive oil and virgin olive oil, in variable proportions.

Production stage (Olive growers)

Olive growers are farmers, who either work individually or are part of an association such as a cooperative or agricultural processing firm (SAT), that grow, harvest and transport the olives to the mill where they are pressed for oil extraction. Regarding types of farming and olive growing, two main modalities are practised in Spain: traditional or extensive growing or intensive and super-intensive. The first modality is usually practised in areas of longstanding olive-growing tradition, generally in rainfed systems. The planting density is around 80-120 trees/ha (with one or several branches) and, depending on the possibility of mechanizing harvest, we can differentiate between traditional mechanized olive groves and traditional non-mechanized olive groves. The latter generally incurs high costs.

In the intensive crop system (requiring the best soils and irrigation) the planting density is 200-400 trees/ha and in the super-intensive systems (also known as hedgerow systems) it is over 800 trees/ha. These have come to be known as the "new olive growing" systems. The intensive crop systems (intensive and super-intensive) aim to increase productivity per hectare and save on production and harvest costs, through mechanization. Furthermore, they are characterized by their earliness in production onset. At present, the contribution of the intensive systems to the total national production is still small because its large productive potential is not yet fully expressed.

There is also a marginal, low-yield olive production. These are traditional olive groves that are found on worse-quality soils and in more difficult climatic conditions, whose topographical situation make it difficult to grow olive trees, thus leading to lower production and higher costs. Regarding the size of olive groves for oil production in Spain, 54% corresponds to farms under 5 hectares, ranging from an average of 0.12 and 2 hectares according to Autonomous Community. The production sector, in general, is characterized by excessive fragmentation and geographical dispersion. In recent years, and as a response to the need to develop productive models that bring together agricultural practices and the conservation of environmental wealth, a rapid growth has taken place in alternative production systems to conventional olive growing methods, such as organic olive growing and integrated olive growing production. In the case of the Andalusian olive grove, it is noteworthy that 16% of the surface area is currently in organic or integrated production.

Type of industrialization (oil mills)

The number of working oil mills in the 2007-08 season was 1,732, distributed among 13 Autonomous Communities. Andalusia hosts the largest percentage (45%), followed in importance by Castilla-La Mancha and Catalonia. The most frequent mill size is the one that works between 20 and 100 tonnes of oil produced per crop year (23% of the total). The greatest weight falls on those which have a production range between 1,000 and 2,500 tonnes (34% of the total national production), even though they are less than 11% in number.

There are two main legal figures in the oil mill sector: Cooperative oil mills or SAT (agricultural processing firms); they press the olives supplied by their members and represent about 55% of the total. These oil mills produced approximately 70% of the total amount of oil produced in the year 2007-08. Industrial oil mills or private firms have contracts with olive-growers and represent about 45% of the number of mills and 30% of the oil production. The mills distribute the oil through two main channels, consumption by the farmers themselves (virgin and extra virgin), and the sale of bulk oil to the refineries (not refined), bottled (virgin and extra virgin) and to the wholesalers. Some mills have extra virgin olive oil bottling lines and focus their production on local consumption and short-chain markets. In recent years supply has become more concentrated, through the integration of second-degree cooperatives. In many cases, these entities undertake the bottling of virgin olive oil and have developed their own brands.

Type of industrialization (Refineries and bottling plants)

At present there are 15 olive oil refineries in Spain, 9 of which are in Andalusia. These industries are the first to be supplied with the unrefined oil from the mills or the second degree cooperatives. Some of these refineries also work with seed oils. In order to obtain olive oil, it should be refined and then blended with virgin olive oils before being bottled for sale. The extra virgin olive oil is bottled directly and does not undergo a refining process. Ten of these industries belong to firms that also bottle the oils.

In 2007-2008, a total of 711,000 tonnes of oil were bottled, by 1,471 bottling plants. The five biggest plants bottle 35% of the oil, the 10 largest account for 50%, followed by the 15 largest with 58% and the 20 largest with 65%. The bottling activity is assumed by firms that operate in different stages of the oil value chain and therefore, depending on the stage which undertakes this activity, there are different types of bottling plant: Plants integrated with refineries; these firms sell the whole range of olive oils, including olive oil and extra virgin olive oil, which are the most important in volume terms. Plants belonging to oil mills of a certain size or second degree cooperatives. They only bottle virgin olive oil. Independent bottling plants; these plants bottle all types of oil. Some are among the leading group. As commented previously, the configurations of the value chain studied refer to the two most representative products as far as domestic consumption is concerned: extra virgin olive oil and olive oil. Likewise, the modern distribution channels are the main marketing channels both for extra virgin olive oil and olive oil (86% of olive and extra virgin olive oils consumed are bought through these channels). Therefore, the analysis of costs and prices focuses on the modern configuration of the value chain of both products.

Conclusions of the study

Spain is the first producer and exporter of olive oil in the world. Andalusia represents 60% of the olive-growing surface area and 80% of the production. Domestic consumption barely represents half of the production which is increasingly exceeded by exports, although for this market destination the oil is sold more in bulk than under a brand name. The Spanish olive oil producing sector is organized in clearly stratified layers of activity as far as operations are concerned. Each stratum is highly specialized and very efficient, although the functional relations between the most immediate layers are difficult and complex. A gradual concentration of the links of the chain is observed: whilst the production sector is highly fragmented, with little management and bargaining power, the distribution is increasingly more concentrated.

The traditional rainfed olive grove (80-120 olives/ha) covers the greatest area and although irrigation has increased, in recent years a new, very intensive system is being implemented. This new system requires better quality soils, irrigation and a high degree of mechanization, which means more productivity and lower production costs that lead to a significant improvement of the present productive potential. Great investment has been made in the oil mills by incorporating new technologies (processes, equipment and materials) that have led to significant improvements in the average oil quality and in eliminating the environmental impact from waste. More recently a process of horizontal integration is developing, lead by the cooperatives, in order to concentrate supply at the source.

In turn, the large industrial groups are developing vertical integration strategies by creating alliances in the subsequent links in the chain or by purchasing firms with well positioned brands in foreign markets. On a world scale, there is a balance between the production and consumption of olive oil. Therefore the potential increases in production should drive equivalent growths in demand through greater efforts in the promotion of Spanish olive oil and its consumption.

In the crop year studied, the total costs of the chain accounted for 91% of the retail price of the extra virgin olive oil (EVOO), and 93% of the PVP in the category "olive oil" (OO). The value chains of the EVOO and the OO are very dense, since the profit to be shared between all the links in the chain amounts to 2.5% over the retail price of the extra virgin olive oil and drops to 0.5% for olive oil. This means that the price paid for extra virgin olive oil by the end consumer is 1.56 times the price paid to the farmer and for olive oil is slightly less (1.43 times), including extraction, elaboration, bottling and distribution. The farming costs have the greatest weight in both value chains: they represent 68% of the retail price (VAT excl.) for extra virgin olive oil and 75% for olive oil. Of those costs, labour accounts for over a quarter, that is 27%, of the total costs of the whole chain for both oil categories. The remaining costs incurred in the chain expressed above the retail price (VAT excl.) represent 32% for extra virgin olive oil and 25% for olive oil, with the following distribution: oil mills 7% extra virgin olive oil and 8% olive oil, bottling 20% extra virgin olive oil and 12% olive oil and distribution 5% for both categories of oil.

In the period considered, the distributor brands play the most important role in the distribution of olive oils, 44% of the sales of extra virgin olive oil and approximately 58% for olive oil, with a clear rising trend. In the context of the crisis, the policy for reducing margins applied by the distribution chains has had repercussions on the other sectors of the value chain. The Spanish market applies excessive concentration of prices for the different commercial categories of olive oil, which expresses the scarce appreciation of their quality. Thus, the retail price of the extra virgin olive oil is only 10% higher than that of olive oil and besides, retail prices of both categories overlap in many instances.

José Miguel Herrero Velasco

For the complete study: *http://www.mapa.es/ministerio/pags/observatorio/pdf/estudios/Estudio_Aceite.pdf*

Cooperation with Lebanon

The President of the Lebanese Republic, His Excellency General Michel Sleiman, awarded the insignia of the National Order of the Cedar to the Director of MAI Bari, Mr Cosimo Lacirignola, in recognition of the cooperation activities instigated over many years and designed to develop Lebanese agriculture.

In addition to providing post-graduate education, CIHEAM-MAIBari had set up numerous networks and rural development research projects such as the TerCom project, NOWARA and the Olio del Libano project.

Morocco: Agro-pôle Olivier, Meknes

A new kind of partnership between research and development and the agro-industrial world

Dr Noureddine Ouazzani
Initiator and Head of the Agro-pôle Olivier project, ENA Meknes Morocco

Covering a surface area of 25 ha in the region of Meknes-Tafilalet, the cradle of olive cultivation in Morocco, the Agro-pôle Olivier is a skills and innovation centre dedicated to research and development, technology transfer and the promotion of the olive oil industry. The Agro-pôle Olivier is an integrated project which provides the Moroccan olive oil sector with a scientific, technical and relational toolkit for its development. Initiated in 2005 with the signing of a partnership between the National Agricultural College of Meknes, the agro-industrial profession of the Meknes-Tafilalet region (supported by the regional council), and public and private national and international bodies, the Agro-pôle Olivier was opened in 2009, although many projects and tools for developing and promoting the Moroccan olive oil sector had already been operational since 2005.

The Agro-pôle seeks to be a special hub for exchanging information and sharing the new techniques and technologies driving change in the olive oil sector, which is increasingly oriented towards innovation and improvement in product quality. The new trend is reflected in various activities:

- Extension and transfer of new techniques and technologies used in the national and international olive oil industries in order to help upgrade and develop the sector as a whole (with the organisation of thematic open days and seminars aimed at different operators in the olive oil chain, demonstrations of cropping techniques, classes on tasting and sensory analysis, etc.);
- Research and development to find ways of overcoming problems facing the olive oil sector;
- Technical, technological, legal, commercial and strategic watch;
- Promotion of "Huile Olive Meknès" and "Huile Olive Maroc" (national and international taste panel and prize for the best brand of packaged olive oil);
- Establishment of an information system designed to develop the olive oil sector and featuring databases containing technical, economic and financial data together with information on qualities and types of olive oil.

Components and laboratories

The Agro-pôle Olivier is an integrated centre addressing different stages and operations in the production of olive oil, from the genetic improvement and cultivation of the olive tree to the production of olive oil and exploitation of the tree's by-products. In addition to an administrative headquarters, the Agro-pôle Olivier has a number of laboratories, the Olive-ENA tree nursery with a 10000 plant capacity, a collection of international varieties and demonstration orchards, a pilot trituration unit with a trituration capacity of 20 tonnes/day, a tasting and sensory analysis room, a weather station and agricultural equipment suitable for olive tree cultivation. The Agro-pôle Olivier also makes use of the ENA Meknes laboratories for diagnosing the diseases and pests to which the olive tree is prone and for analysing soil.

Financing and collaboration

The infrastructure and facilities of the Agro-pôle Olivier have been paid for directly by donations from project promoters, from the budgets of various research and development projects conducted by the Olivier team at ENA Meknes, and from the investment budget of ENA Meknes. However, under the terms of the agreement signed by ENA Meknes and the promoters of the project, the Agro-pôle must be self-financing as of the fourth year of its foundation and any surplus must be ploughed back into the centre and used to develop its projects. It should be pointed out that the Agro-pôle Olivier is staffed by two lecturers-researchers from the ENA (whose research work has to do with the olive tree), an assistant manager (a doctor), two young agricultural engineers, a secretary and four permanent labourers. All the contractual staff are paid from the budget of the Agro-pôle Olivier, as are temporary staff employed to do agricultural work. Thanks to its partners, the Agro-pôle operates as a public interest group serving the olive oil sector as a whole.

Since 2007, the Agro-pôle Olivier has enjoyed the support of the council of the Meknes-Tafilalet region under the terms of a framework agreement. The purpose of the agreement is to support the Agro-pôle, notably by helping it organise technical and scientific events and develop olive oil orchards using new techniques that will benefit small planters.

At international level, the Agro-pôle Olivier has developed special partnerships with international organisations working to develop and promote regional and national olive oil industries. They include the International Olive Council (IOC), the CNR-IVALSA in Florence (Italy), INRA and the CNRS of Montpellier (France), the International University of Andalusia and the international cultural foundation "Routes of the Olive Tree" (Kalamata, Greece).

Projects and work in progress at the Agro-pôle Olivier

In addition to the projects and activities in progress, the Agro-pôle Olivier is launching new ventures, attracting partners from such sectors such as tourism and cultural heritage which have an interest in the olive tree. Indeed, in the context of the main Mediterranean olive oil producing countries, it is impossible to talk about regional tourism without referring to the olive tree. Local strategies for promoting tourism associated with the olive tree and its products actually do exist, as in the region of Meknes, which is well placed to use the olive oil industry as a way of boosting regional tourism and raising its international profile.

With this idea in mind the Agro-pôle Olivier has for some years been involved in different international programmes designed to promote tourism and the olive grove landscape and also to share relevant strategies. It is privileged to be participating in the EU MEDA project Knoleum "Olive grove landscapes" with France, Italy, Greece, Portugal and Spain, the aim of which is to promote the Mediterranean landscape and the region's olive-oil producing tradition. This project, which is managed by the regional council of Jaen (Andalusia), is a showcase for promoting cultural traditions and tourist venues associated with the olive tree in the Meknès region. Its object is to highlight the historical and cultural heritage of the olive tree in the region by organising tours of the olive tree roads in Meknes and its organisers are studying the feasibility of establishing an olive tree museum in Meknes.

Noureddine Ouazzani

For more information: *www.agropoleolivier.com*

Interview

Jean-Louis Barjol

Executive Director IOC, International Olive Council - *www.internationaloliveoil.org*

Q - What are the main problems facing olive tree planters in the southern Mediterranean countries?

Various problems are associated with the cultivation of olive trees in countries to the south of the Mediterranean. As far as the crop itself is concerned, the climate and extreme conditions (aridity or semi-aridity), which tend to be characteristic of areas where olive groves are planted frequently, have a negative impact on the development of the tree, significantly reducing yields. It may also be that the water used for irrigation – when available – is applied using inadequate methods or is of poor quality (very often brackish).

In some cases, modern cultivation techniques have not been adopted. Olive trees are often grown in areas with fragile ecosystems, which further lowers their yield. These trees nevertheless play a fundamental role in protecting these areas from erosion due to the climate conditions to which they are inevitably exposed. Having said that, the olive oil sector in the southern Mediterranean countries has been radically modified over the past few years. In the new plantations, olive growers have selected varieties suited to their own ecosystems, plantation densities have greatly increased, the areas have been equipped with irrigation and fertigation systems and many plantations are now being farmed using intensive or super-intensive methods.

Q - How would you describe the organic olive oil market in the Mediterranean and how do you view its future prospects?

For the time being it is still a confidential market. Moreover, it should not be forgotten that virgin or extra virgin olive oil is simply the juice pressed from the fruit (the olive) by mechanical means. For the consumer, organic status is less obviously a plus for olive oil than for other agrifood products. It is nevertheless a growing market niche which should not be neglected. However, in the questionnaires the IOC sends to member countries and professional organisations, the information requested on the volume of organic olive oil produced in these countries is never provided. Given the lack of data, it is almost impossible for the IOC to give a properly informed opinion on this question. We plan to make countries more aware of the problem at the next meeting of the statistics group. Within European Union, Organic agriculture is a sector that is subject to EU controls. Farms that wish to use organic production methods and label their products accordingly are required to comply with production standards laid down in the annexes to Council Regulation (EC) No 834/2007. Other Countries (Jordan, Morocco) have established their own legislation.

Q - How is global warming affecting olive tree cultivation in the Mediterranean and what lessons can we learn from its foreseeable consequences for the olive tree economy over the next few decades?

The olive tree has biological and physiological features that enable it to endure drought conditions for a long time, which explains why it is mainly cultivated in arid and semi-arid zones. Indeed 98% of the world's olive tree heritage is concentrated in the Mediterranean basin, where winters are typically mild and summers are hot and dry. The zones that have this type of climate are situated between the 30th and 45th parallels of the two hemispheres.

Despite the innate ability of the olive tree to adapt to high temperatures, global warming is likely to cause significant changes to its biology. In this connection the results of an IOC pilot project dedicated to pollen monitoring in Tunisia show that the increase in temperature in certain areas is causing trees to flower earlier. As a result, the olive trees' reproductive system is more exposed to late frosts that may occur at the end of the winter season and output is lower than it would be if the trees flowered later. In many areas considered marginal, where the olive tree plays an essential role in the local economy, the disappearance of the crop could have the most grievous repercussions for the social fabric of the populations who depend on it.

Q - How is the IOC helping southern Mediterranean countries provide training in the areas of quality management, compliance with international standards and packaging of olive oil products?

The IOC has devised technical assistance and training operations which take account of the provisions of the 2005 International Agreement on olive oil and table olives, assessments of technical cooperation ventures and proposals by its member countries. In accordance with the international agreement, these operations involve: 1. Organising recycling exercises and different levels of training for technicians in the olive oil sector, and in particular organising or helping to organise international meetings and seminars and carrying out specific studies and operations; 2. Encouraging the transfer of technology in the fields of olive growing, olive oil extraction and table olive production, notably by gathering technical information and making it available to all members; 3. Facilitating any technical cooperation scheme that will make experts and consultants available to members that need them; and 4. Facilitating participation by member country delegations and experts at its general or scientific and technical meetings.

More generally, the agreement also requires parties to take account of possible environmental and ecological effects at all stages of the olive oil and table olive production chain. In order to meet the goals laid down in the agreement, the IOC regularly arranges for:

- Seminars and training courses to spread knowledge of innovations in the sector (new techniques, technologies, etc.) and bring experts up to date;
- Allocation of grants for courses specifically devoted to the olive oil sector in order to encourage technology transfer, particularly between the more advanced countries and the developing countries among its members;
- Specific missions by consultants and experts to help modernise olive oil sectors and improve quality in developing countries affiliated to the IOC and to organise courses for technicians in member countries for the purpose of transferring technology;
- Publication of technical information on the IOC website;
- Technical and scientific expert meetings to take stock of innovations in the sector (new techniques, technologies, etc.) before they are disseminated;
- General meetings of delegations to identify the most important areas for cooperation in each member country, promote bilateral and multilateral cooperation between members and compile a database on activity in members' olive oil sectors.

Q - Could you give examples of the more interesting trials in the field of registered designation of origin that are being conducted in the southern Mediterranean countries with the aid of the IOC?

We have not yet reached the trials stage. In 2010, the IOC carried out a study with three objectives: to identify the available legal bases in the IOC member countries and some other non-member producer countries for registration of Geographical Indications (a generic term that also covers RDO); to draw up a typology of existing geographical indicators for the purpose of identifying different technical requirements referred to in specifications; and to make an expert assessment of the potential for new GIs.

The results of this study were presented at a seminar held on 21 October 2010 in Reggio di Calabria (Italy) during which representatives of WIPO (World Intellectual Property Organisation) and the WTO were asked to report on progress in negotiations on the question of international recognition of geographical indications that were being held under the aegis of their organisations. All the results are available on the IOC website (www.internationaloliveoil.org). They show that generally speaking there are two types of legal instrument (trade mark law, mainly used in the English speaking countries, and a specific law in the EU and the Latin countries). They also reveal that technical requirements are very diverse and that, of the 105 olive oils with GIs, only 4 are produced outside the European Union (three in Turkey and one in Morocco). There is vast potential for new GIs (around 102, most of them outside the EU).

At the close of the seminar, the Council of Members of the IOC charged the IOC's executive secretariat to draft a good practice guide for the preparation of GI technical specifications. It will be begun in March and, once completed, will enable the IOC to offer support missions to help member countries adopt GIs in their own countries, should they so wish. These missions will begin in 2012 and will draw upon the best available experience and expertise.

Interviewed by Hassane Tlili

Journalist specialising in agricultural and environmental questions

New websites

Over the second half of 2010, the CIHEAM website was entirely renovated. The new site has been operational since December 2010.

MAI Montpellier likewise launched a revamped portal in February 2011.

(www.iamm.fr)

ACTIVITIES OF OUR INSTITUTES

MAI BARI

EBLA project in Syria

On 24 January 2011 Professor Paolo Matthiae, archaeologist, writer and orientalist, held a seminar at MAI Bari entitled "Fifty years of excavation at Ebla". Since 1963 Professor Matthiae has been director of the Italian Expedition to Ebla, an important proto-Syrian and paleo-Syrian urban centre, which he himself discovered. A former professor of Archaeology and History of Art in the Ancient Near East at the University of Rome *La Sapienza*, he is a member of several international academic institutions. He is also the author of many books and articles on Ebla and the history of Mesopotamian and Syrian art in general. He has drawn upon his discoveries and experience in the field in his writings, in which he offers a new critical assessment of the historical role of Syria in the civilisation of the Near East.

The seminar was organised as part of the project "Territorial enhancement and socioeconomic support to the rural communities of Ebla", which MAI Bari has been implementing for the Italian Foreign Ministry's Directorate General for Development Cooperation (DGCD) since 2010. A collaborative venture involving the provinces of Lecce, Bari and Bat, the Puglia region and many Syrian institutions, the project is intended to improve living standard in rural areas adjacent to the archaeological site of Ebla, and notably in the villages of Mardikh, Mardebsi, Anquarati, Sheikh Idriss and Al Rayyan in the Governorates of Idlep and Aleppo. These villages benefit from initiatives designed to help improve populations' living standards by identifying needs and appropriate solutions and giving access to, among other things, the microcredit schemes provided for by the project and other forms of funding available in the project zone. The project will involve capacity building and support for small and medium-sized enterprises from personnel permanently posted on the territory. The methodology calls for active participation of local and regional authorities which will be obtained with the help of the Italian partners. MAI Bari will be required to provide technical support in building up the socio-economic fabric of the areas so that integrated territorial development can be promoted in the Ebla region through the development of agriculture, tourism, archaeology, cottage industries and trade and the enhancement of the institutional role of local administrations. The project's many scientific partner institutions include the Department of Civil Engineering and Architecture of the Bari Polytechnic, and the Faculty of Human Sciences of the University of Rome *La Sapienza.*

The PESCAMED project

In January 2011 CIHEAM-MAI Bari brought the PESCAMED project (*Development of Cooperation in the Mediterranean Fishery sector: the World of Labour, Producers' Associations, Consumers' Associations and Training*) to a successful conclusion. The aim of the project was to conduct an analysis of the activities associated with maritime fisheries and fisheries organizations and associations, provide advanced education and training in liaison with institutions from across the Mediterranean, and disseminate the results of meetings and workshops involving representatives of the countries taking part in the project (Croatia, Montenegro, Albania, Turkey, Syria, Lebanon, Egypt, Libya, Tunisia, Algeria, Morocco and Italy). The project was funded by the Italian Ministry of Agriculture, Food and Forest Policies–Directorate-General for Maritime Fisheries and Aquaculture, and was implemented by the Mediterranean Agronomic Institute of CIHEAM-Bari. In pursuing this initiative the institute once again demonstrated its effectiveness in the field of international cooperation, establishing a dialogue between southern and eastern Mediterranean countries and giving the fishermen themselves a leading role in expanding and developing their fisheries.

The project attracted many professional organisations, such as UGLPesca, Federpesca, Federcopesca, Legapesca and AGCI, and institutional partners, such as the MiPAAF Directorate General for Fisheries and Aquaculture, CIHEAM-MAI Bari, TorVergata University, Bari University, research institutes and fisheries associations. Of the project activities, the training course on "a shared policy for sustainable fishing in the Mediterranean Sea", held from 22 November to 12 December 2010 and involving 37 participants, was particularly well received. It paved the way to the closing meeting on 27 January 2011, which was attended by representatives from Albania, Algeria, Croatia, Egypt, Lebanon, Morocco, Montenegro, Syria, Tunisia and Turkey. Furthermore, CIHEAM, with the backing of the FAO General Fisheries Commission for the Mediterranean, intends to encourage schemes that will enable Mediterranean countries to implement measures to support sustainable fishing, draw up policies to generate economic and social prosperity in coastal fishing communities, improve fisheries and aquaculture products, promote the quality of coastal environment, and foster national and transnational cooperation between fishing zones.

ACTIVITIES OF OUR INSTITUTES

MAI CHANIA

Quality-Certified Training of Trainers in Organic Agriculture

In the framework of the CerOrganic Project MAICh organises a seven-day programme on Quality-Certified Training of Trainers on Organic Agriculture (OA). The CerOrganic training, approved by the European Commission, includes presentations and practical sessions (hands-on labs) and aims to guide participants to develop and organise training seminars for groups of farmers with particular professional needs in OA topics. The training addresses all professionals with a university degree in Agriculture.

The course consists of 7 days of lectures with European experts in the field of OA, hands-on activities & field trips hosted by the Mediterranean Agronomic Institute of Chania in Crete, but also self-paced online activities preceding and following the 7 days of training in Chania. The lecturers include professors and specialists at international level. The topics include:

- Principles, Methods & Practices in OA
- Challenges and prospects in e-Training in OA
- Legislation/ Certification/Conversion
- Agrobiodiversity and Crop Protection
- Biological Control of Pests
- Farm Management
- Marketing of OA products
- Training methods to approach and advise farmers

CerOrganic is a two-year Leonardo da Vinci Multilateral Project financed by the European Commission, which aims to develop and test a quality assurance procedure for the vocational education/training of agricultural advisors/trainers in Organic Agriculture, based on the European Quality Assurance Reference Framework (EQARF).

Organic Agriculture (OA) as a rural development strategy addresses the need for sustainable growth while meeting consumer demand for increased food quality and safety. Many EU countries have OA training initiatives, but the training is based on different quality standards. The innovative CerOrganic quality certified training is based on the European Quality Assurance Reference Framework (EQARF) and focuses on the education/training of agricultural professionals, combining traditional teaching methods with the adoption of ICT methods and online teaching resources.
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For more information, please contact Giorgos Koubouris (koubouris@maich.gr).

12th International Symposium on Soil and Plant Analysis, 6-10 June 2011

The 12th International Symposium on Soil and Plant Analysis will be held at the Mediterranean Agronomic Institute of Chania (MAICh) premises, from June 6 to June 10, 2011. This forum, organized by the "Soil and Plant Analysis Council", will bring together agricultural and natural resource scientists from around the world to disseminate information on methodology, interpretation and application of soil, plant and water analyses for the purpose of efficient resource management, sustainable production and the environment.

Posters will be displayed in a separate area adjacent to the plenary session meeting room. Parallel to the event, exhibitors will display products and services related to the activities of the Soil and Plant Analysis Council. An exhibit hall is planned for the room adjoining the plenary sessions.

The Conference Centre of MAICh with its versatile design combines first class standards of comfort and service with the latest technology in a prestigious location. It is situated in a picturesque, typical Mediterranean pine-tree forest setting, 3 km south-east of the city of Chania, 13 km from the international airport and 1 km from the port.

For more details: www.isspaonline.org

www.maich.gr

ACTIVITIES OF OUR INSTITUTES

IAM MONTPELLIER

Combating desertification

From 29 to 30 June 2011, MAI Montpellier will be hosting a research seminar organised by the CSFD (French Scientific Committee on Desertification) on the subject "*Politiques, programmes et projets de lutte contre la désertification : quelles évaluations ?*" It is one of a series of events the CSFD has held since 2005 on assessing the costs of desertification and the benefits accruing from investment in the fight against desertification, sustainable management of land and optimal exploitation of natural resources in arid regions.

From the international standpoint, the object is to prepare for the 2nd major scientific conference of the United Nations Convention to Combat Desertification (UNCCD). For the national authorities it is an opportunity to take stock of research on this subject in the French speaking world.

Indeed, it would seem that the attempt to achieve harmonious integration of economic, environmental and social factors raises complex questions: can economic development and social well-being be compatible with ecosystem resilience? Have the UNCCD arrangements succeeded in coping with these challenges? If so, how? If not, why not? How do we determine the relative importance of economic and environmental objectives in the fight against desertification? Are the lessons learnt in each of these areas compatible given the different time frames involved? What does research have to teach us?

These questions have been addressed from the standpoint of individual disciplines: economics, social anthropology, governance, naturalism; and also from a cross-cutting perspective, with outlook and indicators being viewed as tools to aid decision-making.

For more information contact Mélanie Requier-Desjardins (requier@iamm.fr)

A2DTRM Project – supporting development dynamics in Mediterranean rural territories

This project, which is being managed by MAI Montpellier, was launched in April 2010 by a convention that brought together the AFD, CIHEAM, the Provence-Alpes-Côte d'Azur region and the French Ministry of Food, Agriculture and Fisheries.

Although the rural situation in the North is very different from that in the South, there is nevertheless a common set of determinants, which justifies a regional approach to rural development in the Mediterranean. In order to help develop such an approach to dealing with rural areas, the project seeks to provide the players involved in drawing up and implementing policies and projects with the conceptual and methodological tools they need to make their thinking more relevant and their actions more effective. It is particularly necessary to:

- build, improve or consolidate capacities for observation, analysis, capitalising on experience and disseminating information through regional arrangements for sharing experiences and building on them;
- use the lessons learned from these projects to support players involved in the development of territories by providing training, advice, know-how and research findings.

The first meeting of the steering committee is due to take place in Rabat on 23 and 24 February 2011. It will bring together national coordinators from countries involved in the project (Egypt, Morocco, Tunisia and France) and MAI Montpellier, the general project coordinator. In addition to actually setting up a network between the four countries, this first meeting will be used for pooling ideas for innovation in the Mediterranean rural territories and launching project activities.

For more information, contact Isabelle Tyminski (isabelle.tyminski@iamm.fr)

www.iamm.fr

ACTIVITIES OF OUR INSTITUTES

IAM ZARAGOZA

The 9th Master's programme in Olive Growing and Oil Technology

This Master's programme, the official programme of the Spanish university system, will begin in September 2011 in Cordova and Seville (Spain). It is being jointly organised by the University of Cordova (UCO), CIHEAM through its Mediterranean Agronomic Institute of Zaragoza (MAI.Z), the Regional Ministry of Agriculture and Fisheries of the Junta of Andalusia (CAP), the Andalusian Institute of Agrarian, Fishing, Food Investigation, and Ecological Production (IFAPA), the International Olive Council (IOC), the Spanish National Research Council (CSIC), and the National Institute for Agricultural and Food Scientific Research and Technology (INIA).

The Master's programme covers two academic years. The first is devoted to the Postgraduate Specialisation course and the second consists of an initiation into research, culminating in the writing of a Master's thesis worth a total of 120 credits under the European Credit Transfer System (ECTS).

The aim of the Master's programme is to equip professionals to satisfy the increasing demand for top-level specialists in olive growing and olive pressing. The training is therefore both theoretical and practical, focusing on:

- the most recent scientific and technological developments.
- quality production.
- the economic context of the sector, in order to make it more competitive both in the new and in the traditional markets.

It also includes a period of training to initiate students into research in olive growing and oil technology, culminating in the preparation of a Master's thesis. The programme will be given by highly specialised teachers from the institutions who have organised it and by visiting lecturers from research and teaching institutions, government agencies and private bodies in a range of countries.

The IOC and CIHEAM grant a limited number of scholarships to students from their member countries. Non-Spanish candidates may also apply to the Spanish Agency for International Development Cooperation (AECID) for grants. Applications are open until 15 April 2011 for non-Spanish candidates and until the times specified in the timetable drawn up by the University of Cordova for Spanish nationals.

To enrol or obtain additional information go to www.masterolivicultura.org

The CREAM project

The three-year project CREAM (Improving Research in Support to Scientific Advice to Fisheries Management in the Mediterranean and Black Seas), part of the European 7th Framework Programme (FP7), is due to begin in May 2011.

It is being coordinated by MAI.Z and brings together 19 fisheries research institutes in the Mediterranean and Black Sea regions. It also involves international institutions, such as the FAO, the GFCM, ICCAT, UNEP RAC/SPA and the BSC, whose representatives sit on the External Consultative Committee.

The aim of the project is to encourage the establishment of a cooperative research network, which will assess and manage fisheries in preparation for the adoption of the "ecological approach to fisheries" in the Mediterranean and Black Sea. In addition to coordinating the project, MAI.Z will organise meetings on project coordination, two in-depth courses and a final conference on the results of the project.

Publications

- **IFAD**, *Rural Poverty Report 2011*, International Fund for Agricultural Development, 2010.
- **Jean-Louis Rastoin, Gérard Ghersi,** *Le système alimentaire mondial. Concepts et méthodes, analyses et dynamiques,* Versailles, Editions Quae, 2010.
- **Jon B. Alterman, Michael Dziuban** (eds.), *Clear Gold. Water as a Strategic Resource in the Middle East*, Center for Strategic and International Studies, 2010.
- **Hervé Hannin, Jean-Pierre Couderc, François d'Hauteville, Etienne Montaigne** (dir.), *La vigne et le vin. Mutations économiques en France et dans le monde*, Paris, La documentation française, 2010.
- **FAO Fisheries and Aquaculture Department** (ed.), *The State of World Fisheries and Aquaculture 2010*, FAO, Rome, 2010.
- **J. Vert, F. Portet (coord.)**, *Prospective Agriculture Energie 2030. L'Agriculture face aux défis énergétiques*, Centre d'Etudes et de Prospective, SSP, Ministère de l'Agriculture, de l'Alimentation, de la Pêche, de la Ruralité et de l'Aménagement du Territoire, Paris, 2010.
- **European Commission**, *Rural Development in the European Union*, Statistical and Economic Information, December 2010.
- **Olivier De Schutter,** *L'économie politique de la faim. Garantir le droit à l'alimentation dans un monde de ressources rares*, Inaugural lecture 2010, Les leçons inaugurales du Groupe ESA, 2010.
- **Worldwatch Institute**, *State of the World 2011: Innovations that Nourish the Planet*, 2011.
- **Michel Petit**, *Pour une agriculture mondiale productive et durable*, Versailles, Editions Quae, 2011.
- **Lelia Croitoru, Maria Sarraf** (eds.), *The Cost of Environmental Degradation. Case Studies from the Middle East and North Africa*, Washington, The World Bank, 2010.
- **Mary K. Muth, Shawn A. Karns, Samara Joy Nielsen, Jean C. Buzby, Hodan Farah Wells**, *Consumer-Level Food Loss Estimates and Their Use in the ERS Loss-Adjusted Food Availability Data*, Technical Bulletin of the United States Department of Agriculture, January 2011.
- **William D. Coleman, Yassine Essid** (dir.), *Deux Méditerranées. Les voies de la mondialisation et de l'autonomie*, Québec (Canada), Presses de l'Université Laval, 2011.
- **Derek Byerlee, Klaus Deininger, Jonathan Lindsay, Andrew Norton, Harris Selod, Mercedes Stickler***, Rising Global Interest in Farmland. Can it yield sustainable and equitable benefits?***,** Washington, World Bank, 2011.
- **Mohamed A. Chemingui, Reno Dewina, Nicholas Minot, David Orden, Marcelle Thomas,** *Trade Liberalization and Poverty in the Middle East and North Africa*, Washington, IFPRI, 2010.

Events

21-23 March 2011 – Rome (Italy)
"Eating the city. Mediterranean Regions: Social dialogue for a more sustainable supply chain"
http://www.ecomeal.info

18-21 April 2011 – Avignon (France)
Euro-mediterranean Symposium for Fruit & Vegetable Processing
https://colloque.inra.fr/fruitvegprocessing

8-10 May 2011 – Milan (Italy)
"BtoBIO Expo", World Organic Trade Fair
http://www.btobio.it/index_eng.html

17-18 November 2011 – PACA Region (France)
Foresterranée'11, "Land use, biodiversity and Mediterranean Forest"
http://www.foret-mediterraneenne.org/evts2.htm

Latest publications on **www.ciheam.org** in the past three months

Ministerial Meeting

Proceedings of the 8th CIHEAM Ministerial Meeting (Istanbul, March 8th, 2010) dedicated to the effects of climate change on food security and food safety in the Mediterranean Region and actions to be taken.

CIHEAM Briefing Notes

L'Afrique du Nord face à la dépendance céréalière, by Sébastien Abis, No 71, January 2011.

Stratégie d'amélioration de la rentabilité et de la compétitivité de la filière huile d'olive en Tunisie, by Boubaker Karray ARRAY, Habib Amamou MAMOU and Fatma Kanoun Kchaou, No 72, February 2011.

NewMedit

Summary of 04/2010 issue of the review, February 2011.

CIHEAM Watch Letter

No 15, "Agricultural trade and liberalisation in the Mediterranean area" , December 2010

Latest news on agriculture, food and the environment in the Mediterranean area

Press review December 2010

Press review January 2011

Press review February 2011

Forthcoming Watch Letter

Watch Letter No 17 will be issued in June 2011 and will address "Innovative ways of financing agricultural and rural development in the Mediterranean".

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