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# Market liberalisation and harmonisation of the fruit sector in the Mediterranean region

Giulio Malorgio<sup>1</sup>

The fruit sector plays an important role in the world market of agricultural products. It has experienced great changes not only in relation to production, through the introduction of new techniques and varieties, but also from a commercial point of view, since the distribution and marketing systems are changing and are oriented more and more towards an upgrading of products and the incorporation of additional services based on the market needs. A further interesting change is also occurring in the geographical distribution of fruit productions. The current trend is a shifting of the production towards new relatively less developed areas, where the favourable climatic conditions, the massive presence of cheap labour and the increased availability of capital allow fruit growing to be more competitive.

Also in the Mediterranean area fruit growing is a very important strategic sector for the economy of single countries, not only for the climatic but also for the social and economic conditions. Actually, for most Mediterranean countries agriculture contributes by more than 10% to the GDP and employs over 20% of the total working population. As a whole the Mediterranean region is a world-wide market for fruit products. It gathers at the same time the biggest fruit producers and importers of the world.

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The structural and economic differences that characterise different Mediterranean countries accelerate the trade opening process and justify the relevance of the relations that are being established.

The problems related to trade development and market liberalisation between the Mediterranean countries concern not only the production issues but also the interactions and the development of the whole supply chain, as well as the market organisational processes. Actually the occurrence of efficient product marketing systems, appropriate post-harvest technologies, systems of prompt reaction to the consumer's behaviour and of adaptation to the rules and quality standards of different markets, and the presence of an efficient sanitary and phyto-sanitary inspection of products are the key elements for the definition of a competitive sector.

The present work is intended to analyse both the evolutionary trends of the fruit sector in its production and trade aspects, and the trends of fruit nurseries, which play an important role for fruit growing development in the Mediterranean region. Special attention is devoted to the problems concerning market liberalisation, and to the harmonisation of the quality standards that will be defined within a Euro-Mediterranean free trade area.

The productions being analysed concern those that are relevant for the Mediterranean and are related to the nursery activity concerned<sup>2</sup>. The choice, although limited, does not seem to affect the significance of results, since the species under consideration are the most important ones, and account for the two thirds of the fruit world production.

### Evolutionary trends of the fruit sector

The world production of the fruit species under consideration is currently about 284 million tons.

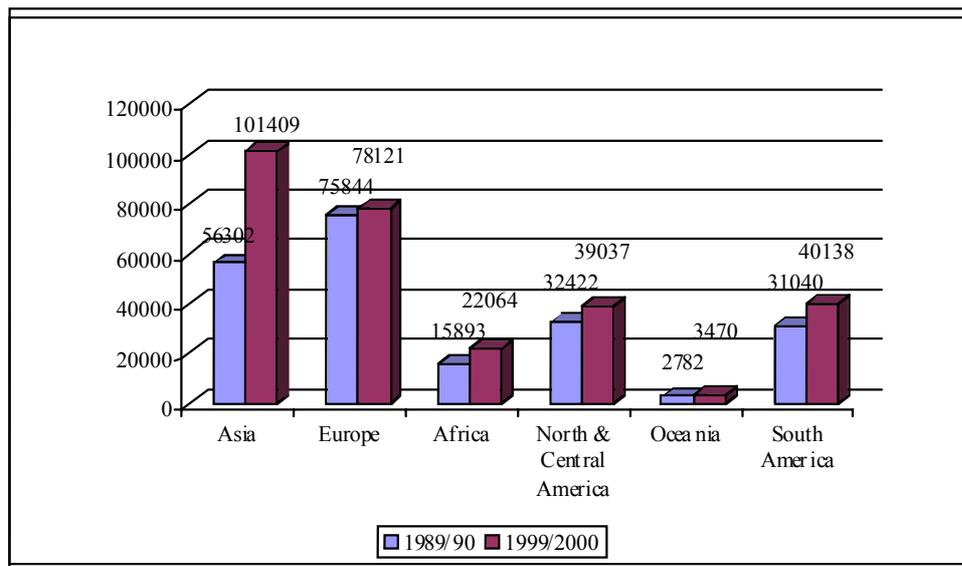
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<sup>2</sup> The species considered include citrus, peach, nectarine, plum, pear, apple, almond, pistachio, grapevine, olive, date, cherry, apricot, strawberry, kiwi.

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An interesting evolution has been recorded over the last ten years both in terms of production and geographical distribution. Actually, as shown in Figure 1, from 89/90 to 99/2000 the yield increased by about 33%; this increase has mostly concerned Asia, Africa and Southern and Central America by respectively 80%, 39% and 29%.

Figure 1. Dynamics of fruit productions per continent (000 tons)

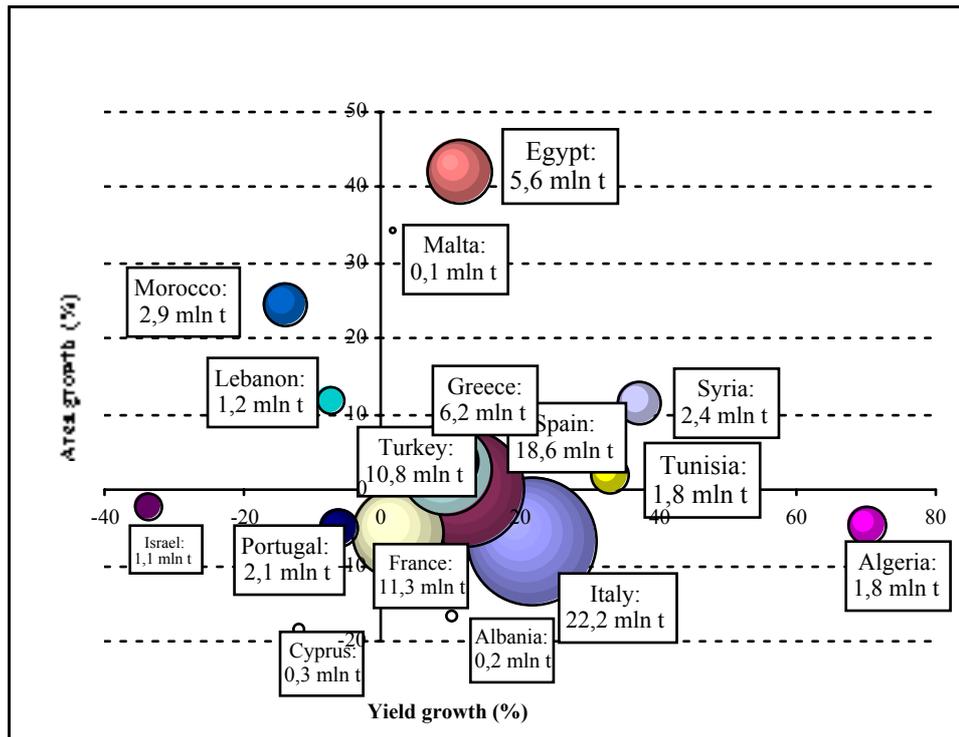


A lower but always positive trend has been observed for production in the other continents. Such a dynamics has resulted in a change of fruit crop production localisation. Indeed Europe has lost the production supremacy shifting from 38% in 1989/90 to 27% in 1999/2000, whereas a significant increase was observed through the same period in Asia that rose from 28% to 36% of the world production.

The Mediterranean countries supply about 31% of the world output considered, of which 33% is produced by the south-eastern countries; this confirms the strategic role of the fruit sector and its potential on the world market.

Figure 2. Fruit production: ranking of the Mediterranean countries in relation to the change in yields and areas (1989-2000)

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Over the last 10 years, an intensive and diversified evolution of the productions has been observed within the Mediterranean countries. While a slight output reduction has been generally observed in some European and non-European countries (notably in France, Portugal, Israel and Greece), the Southern countries (in particular Egypt, Lebanon, Tunisia, Morocco, Syria, Algeria and Turkey) have experienced the highest increases of fruit productions. It is interesting to observe (Figure 2) that for most countries the output increase is due both to the increase of areas and yields, such as in the cases of Egypt, Syria, Turkey, Tunisia and Malta. In other cases the production growth is mostly related to the yield increase like for Italy, Albania, Spain and Greece. In other countries, instead, only an expansion of the areas has been observed like in the case of Morocco and Lebanon where, despite the yield reduction, the output has increased all the same. In Portugal, Israel and Cyprus a drop in yields and areas (lower quadrant on the left side of the graph) has resulted in an output reduction; finally, the level of production of different countries in the graph is quantitatively expressed by the size of the circles.

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Among the Mediterranean countries Italy is the major fruit producer with 22 million tons accounting for 25% of the total production; Spain (21%), France (13%), Greece (7%), Egypt (6%), Morocco and Syria (3%) follow it.

Table 1. Areas, yields and productions of fruit crops in the Mediterranean region

	media 1989-90			media 1999-2000		
	Superficie	Rese	Produzione	Superficie	Rese	Produzione
Albania	86.985	2,18	189350	72.688	2,39	173.906
Algeria	498.102	2,27	1.130.318	475.535	3,86	1.835.739
Cyprus	46.512	8,57	398.405	38.001	7,52	285.738
Egypt	241.754	14,71	3.555.585	344.230	16,35	5.628.910
France	1.126.550	10,39	11.704.863	1.062.812	10,63	11.293.146
Greece	1.057.064	5,15	5.440.076	1.098.751	5,61	6.169.431
Israel	64.204	26,01	1.670.011	62.840	17,20	1.081.150
Italy	2.766.344	7,06	19.522.497	2.584.646	8,59	22.201.634
Jordan	56.335	4,74	267.275	122.224	2,30	281.333
Lebanon	116.673	9,75	1.138.057	130.545	9,03	1.178.500
Malta	1.245	7,32	9.111	1.675	7,41	12.420
Morocco	695.218	3,86	2.685.352	867.355	3,32	2.878.063
Portugal	832.445	2,82	2.343.372	791.113	2,63	2.082.776
Spain	4.577.073	3,62	16.575.012	4.596.750	4,05	18.597.450
Syria	613.825	2,56	1.568.398	684.419	3,50	2.397.317
Tunisia	1.673.075	0,80	1.340.506	1.707.380	1,06	1.816.350
Turkey	1.572.979	6,09	9.578.750	1.618.865	6,65	10.758.800
Mediterraneo	16.026.380	4,94	79.116.934	16.259.828	5,45	88.672.659

Fonte: Ns elaborazione dati FAO

Between 1989 and 2000 in the whole Mediterranean area yields increased by 12%, whereas the areas increased only by 1.5%. Comparing the region grouping the Mediterranean countries of the EU, which are relatively more developed, with the remaining Mediterranean countries, one can observe that the production trend of the two areas has a different pattern. Actually, the output growth of the south-eastern Mediterranean region, in the same period, is much higher (about 24%) than in the EU Mediterranean countries (7%) (Graphs 3 and 4). Another peculiarity is the great variability in south-eastern country fruit productions that is mostly influenced by the changing climatic conditions and the unreliable water resources.

However, based on the forecasts of fruit production trends effected for the next five years (2000-2005) by linear regression on the basis of the last

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twelve-year data, a growth process of about 10% is estimated for the south-eastern countries as compared to the present fruit production, against a steady pattern for the fruit productions of the EU Mediterranean countries (Figure 3 and 4).

Figure 3. Trend and projection of fruit production in the south-eastern Mediterranean countries

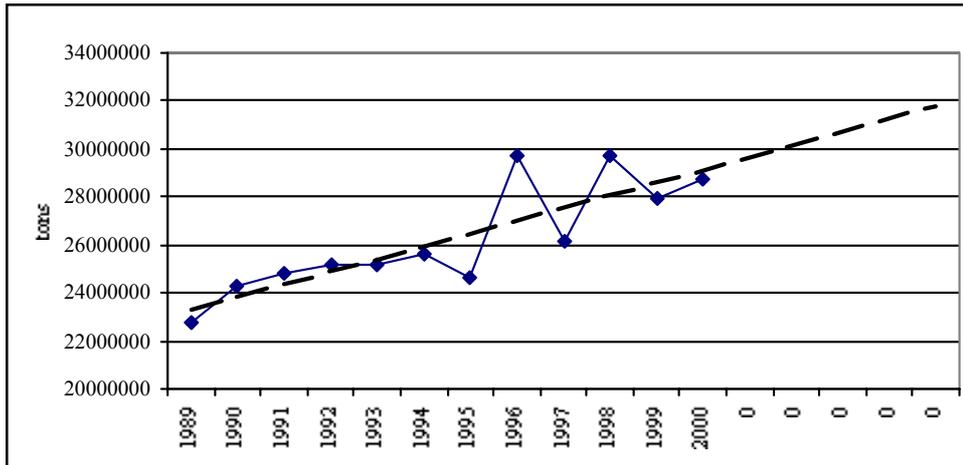
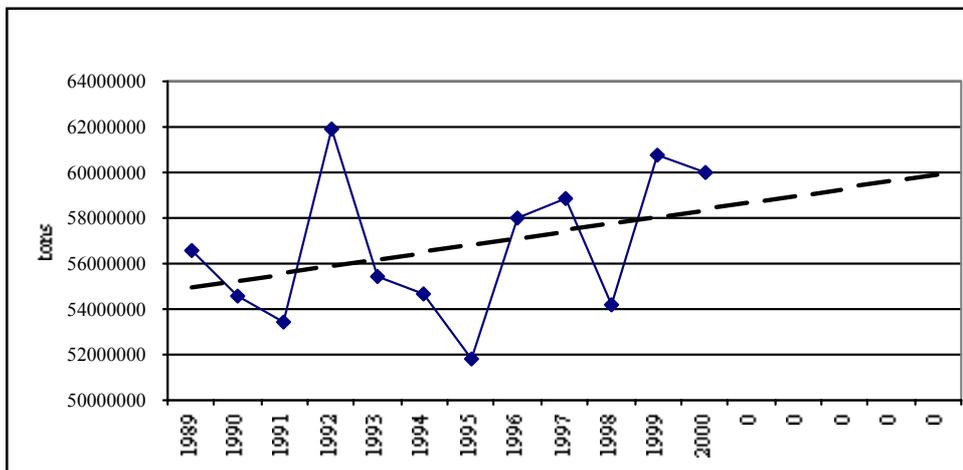


Figure 4. Trend and projection of fruit production in the EU Mediterranean countries



A preliminary remark on the previous analysis of the Mediterranean production dynamics, which can be extended to the world scale, is that the development of fruit crops is mostly concentrating in less developed regions where the supply of labour and the intensive technique characterising the fruit

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production process are favourably combined and play an important social and economic role. Actually the fruit producing activity may trigger the economic development of large regions where the presence of small family farms finds in fruit productions the highest income per hectare and the major source of employment.

As to the commercial aspects, the output enhancement of some countries follows different reasons and paths. On the one hand it responds to the need to satisfy domestic demand, and is thus intended to reduce the weight of imports and increase the degree of supply; on the other, it finds an outlet in the international market improving the trade balance through the strengthening of its competitive advantages. To highlight the paths followed by each country, it is necessary to analyse the dynamics of the normalised fruit trade balance<sup>3</sup> between 1989/90 and 1998/99. First of all it results that exports prevailed over fruit imports in the whole Mediterranean area with a positive balance of 0.50. Exceptions include Albania, France Jordan, Malta and Portugal. If comparing the two periods, the countries that experienced an improvement in the normalised balance are Algeria, Turkey, Tunisia and Syria, which show a higher growth in exports. For the total Mediterranean countries, however, the normalised balance was stable around 0.50 between 1989/90 and 1998/99. This means that the Mediterranean region, although remaining a net exporter of fruits, is still a major pool of fruit imports; at the same time it does not improve its competitive stand on the world market.

A further element indicating the production specialisation targeted to the sale of fruit products in the international market of the Mediterranean countries, is the index of propensity to export, i.e. the ratio of exports to the fruit production of single countries. Based on the data analysis, a

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<sup>3</sup> The normalised balance is the  $(\text{Exports} - \text{imports}) / (\text{Exports} + \text{imports})$  ratio. It is a dimensionless value ranging from -1 where the country only imports, to + 1 where it only exports.

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strong propensity to exports, already occurring in the late '80s and further consolidated over the last decade, is observed in Spain, Morocco, Cyprus and Israel, where over 20% of the production is exported. A drop is evident in Jordan and Lebanon (presently 12%). A slight increase is observed for Italy, Greece and France (10%), whereas the remaining countries reach very low values.

Moreover fruit imports in the Mediterranean region are concentrated in three countries, France with 52% of the total Mediterranean fruit imports, Italy with 18% and Spain with 14%. Exports, instead, are better distributed including Spain that is the biggest exporter with 38% of total fruit exports to the whole Mediterranean region, Italy (22%), France (11%), Morocco, Greece and Turkey (6%).

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Table 2. Fruit trade normalised balance

	89-90 mean	98-99 mean
Albania	1,00	-1,00
Algeria	0,32	0,92
Cyprus	0,99	0,88
Egypt	0,98	0,03
France	-0,31	-0,21
Greece	0,96	0,84
Israel	0,98	0,91
Italy	0,64	0,56
Jordan	-0,05	-0,22
Lebanon	0,92	0,89
Malta	-0,99	-1,00
Morocco	0,99	0,98
Portugal	-0,72	-0,78
Spain	0,88	0,78
Syrian	0,02	0,81
Tunisia	0,89	0,98
Turkey	0,93	0,96
Mediterranean	0,50	0,50

Source:

Table 3. Propensity to export and import and export and import shares of fruit products for

	Export/ 89/90 output	Export/ 98/99 output	Quota 98/99 export	Quota 98/99 import
Albania	1,49	0,01	0,00	1,02
Algeria	0,54	0,61	0,10	0,01
Cyprus	42,39	32,61	0,96	0,18
Egypt	4,52	0,88	0,49	1,39
France	8,41	10,07	11,24	52,40
Greece	7,90	10,02	6,02	1,60
Israel	33,90	38,30	4,42	0,61
Italy	8,26	10,42	21,97	18,65
Jordan	23,03	12,04	0,35	1,67
Lebanon	13,03	12,95	1,53	0,28
Malta	0,89	0,31	0,00	0,72
Morocco	19,19	20,91	6,45	0,20
Portugal	0,52	1,42	0,27	6,39
Spain	16,25	21,23	38,35	14,08
Syria	0,89	4,68	1,20	0,39
Tunisia	3,99	2,69	0,48	0,01
Turkey	5,08	5,40	6,17	0,39
Mediterranean	10,01	11,44	100,00	100,00

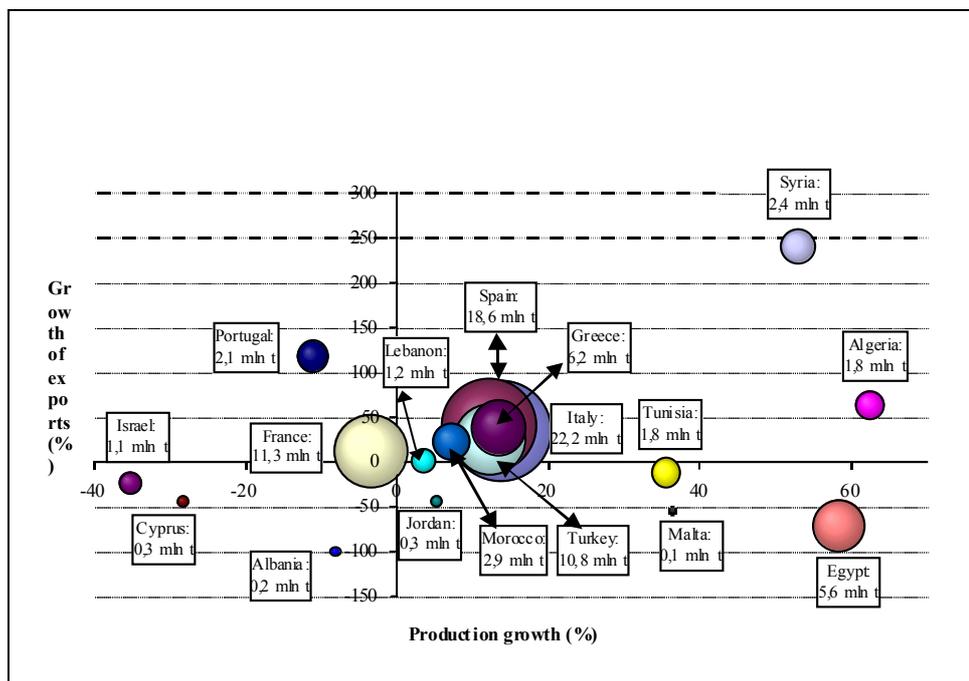
Source: FAO

As a complement to the analysis carried out, it is possible to outline the competitive stand of each

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country by plotting on a graph (Figure 5) the production growth, the export growth and the production share. The graph shows that while a more or less accentuated production growth is observed in most Mediterranean countries, the increase in exports is not proportional, except for Algeria and Syria that are in the upper quadrant on the right. It may be inferred that the persistence of restrictive national policies and the low influence of the production and commercial strategies of different countries tend to reduce the comparative advantages that the Mediterranean countries, especially the Southern ones, show for fruit products. Probably the trade liberalisation in the Euro-Mediterranean area, through the barrier reduction and the rule definition and transparency, could re-balance the commercial trend, and provide the elements for markets' development to the benefit of Southern countries.

Figure 5. Ranking of countries in relation to the growth of exports and production 1989-2000



Evolutionary aspects of nursery activities

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It is well known that prior to varietal innovations, the industrial nursery activity was essential for the breeding and spreading of the best varieties.

Since the post-war period till the '70s, the most consolidated nurseries started to seek new varieties all over the world to take the lead of the market.

Towards the late '70s, after the introduction of the legislation on the protection of plant innovations in Europe, the nursery sector assumed a key position for the fruit and vegetable activity. Since then the varieties freely widespread have started to lose their importance, and have been replaced by patent-protected varieties.

In Europe the nursery system is mostly represented by small and medium-sized enterprises, although there is an enlargement of the production structure due to the processes of acquisition and merging of the existing structures, the exploitation of scale economies and the introduction of new technologies that create the advantages derived from a transnational organised and productive structure.

The fruit nursery sector finds in the Mediterranean region its strength because of the possibility of a know-how exchange between the countries of the two shores, the climatic conditions, the vocation and importance of the sector in the entire region and the economic-social conditions characterising the Mediterranean area.

It should be specified that the current globalisation process is also favouring a gradual transformation of the "commercial" market into the "information or option" market. This explains the importance of the management, contractual and relational aspects with the partners, the know-how, the digital networks, the instruments to control and manage transactions, etc.

It is within this framework that nursery firms should necessarily develop or enhance their tools and, for legislative gaps, they should lobby the

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institutions involved to stimulate appropriate actions to the new needs.

In the light of these aspects, some forecasts on the degree of commercial competitiveness of the countries involved in the Euro-Mediterranean partnership can be formulated: on the European side, the high degree of development of nursery activities of Belgium, France, Italy, Netherlands and Spain is a guarantee of strength. These countries have long carried out diversified breeding programmes, the products of which benefit indirectly from the new European regulations in the matter of patent protection. For example, the EU Regulation n° 2100 of July 27, 1994 plays an important role for the protection of plant innovations, and supplies the European nursery sector with an excellent tool for the management of the new products.

Within a progressive opening of frontiers, the nursery sector is aware of the need to introduce high tech plant innovations, whose guarantee of quality is since now a complement to the product itself, suggesting a large spread to all the marketed species.

It may be presumed that also the nursery activities of the southern and eastern Mediterranean countries follow the same development trend. It is reasonable that the estimated fruit production growth of the southern-eastern countries will necessitate a higher availability of certified propagating material for a consistent and lasting process of production expansion to be undertaken. It should also be pointed out that in these countries there are no official data to quantify the domestic production of nursery material, if any, since it is excluded that it can be supplied from foreign countries, given the high market prices. Therefore it may be assumed that there is a hidden market of propagating material that escapes any service and inspection, with detrimental consequences on the product quality and on any action of production and commercial planning.

If on one hand, the EU countries make unceasing efforts to harmonise, also through certification,

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their own products, on the other, the Third Mediterranean Countries (TMCs) that lobby commercially to achieve new trade fluxes, and to strengthen the existing ones within the Mediterranean, should not remain behind in this field. As it may be observed, however, in Third Mediterranean Countries there are more complex and difficult structural conditions, in particular for the poor diffusion of agencies in charge of the certification and control of plant material, and this will unavoidably affect the time needed for the development.

However, if considering the certification costs, it may be estimated that the products obtained by the TMCs, which take advantage of the lower labour costs as compared to the EU, should not lose in competitiveness in relation to the European one, and this removes immediately one of the most delicate obstacles to the process of plant propagating material certification.

### The market liberalisation and the Euro-Mediterranean area

The debate on the international trade of agricultural products has become increasingly lively and controversial over the last few years. On the one hand, the studies supporting a greater trade liberalisation emphasise that each country acting under free trade conditions gets benefits in terms of increase of the social welfare, both for the producer (for the better use of resources) and the consumer (for the lower market prices). In this case, in agreement with the orthodox theory of international trade, "a protective policy (based on tariffs or not) leads to generate inefficiencies in the use of domestic resources, and induces production (welfare) levels always lower than those that can be ensured by a non interfering trade policy "[1].

However, the agricultural chapter within the international negotiations on market liberalisation is very complex because, as was the case in the Seattle Conference in 1999, there are at the same time global commercial interests and local interests related to the agriculture multi-functionality and to

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its role of stabiliser of the rural world, or relative to the regulations on workers' protection [2].

The role of the European Union (EU) in trade liberalisation and in the world economic integration has become increasingly influential over the last few years. The Union acted in several directions: at the domestic level, *Agenda 2000*, the Commission's communication on the future of EU policies, submitted in July 1997, has defined the criteria to initiate the process of enlargement to the Central-Eastern Europe countries (PECO), based on the principles of the more general Community policy of economic and social cohesion; at the same time the agricultural policies, both in terms of market and structural measures, are being substantially revised. At the international level, instead, the EU activity has concerned both the global and regional components. On the one hand, it is working to start up a comprehensive and diversified cycle of negotiations within the World Trade Organisation (WTO), with a view to promote a sustainable development taking into account the needs and interests of the developing countries. On the other, with the "new Mediterranean policy", initiated at Barcelona Conference in 1995, which resulted in the project of a Euro-Mediterranean partnership, the EU is strengthening the regional block of the Mediterranean, with the long-term objective to create progressively a free trade area. The two components, which seem to be conflicting, find their implementation in the implementation of the world economic growth through the progressive trade liberalisation, of which the regional component is a crucial part.

The outcome of Barcelona Conference points out that the EU is today much more aware of the strategic, political, economic, demographic and environmental implications of the relationships with the Mediterranean partners, and of the influence that these relationships could have for its own development. The integration of the European Union with the Third Mediterranean Countries is considered as being largely positive, primarily for the political stabilisation of a neighbouring region, which is very unstable, and very important for the supply of raw materials; secondly, for the weight assumed by

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the EU in a system of international trade characterised more and more by regional blocks. Moreover, this integration process can also contribute to a management of migration flows which takes into account the needs of destination countries and is inoffensive towards the origin countries.

The relationships between the two shores of the Mediterranean are basically affected by the rules defined by the agreements of the '70s, at the beginnings of the "global Mediterranean policy". These agreements have granted facilities for importing in the Community some Mediterranean agricultural products (vegetables, fruits, citrus, olive oil) [6].

Basically, the access to the market is still limited to the products for which the Third Mediterranean countries seem to be "suitable for": non-competitive products (tropical fruits), or Mediterranean productions, including, above all, vegetables, fruits and citrus. For these products although the Community preference agreements involve tariff reductions applied to shares, the CAP constraints still hold true: on one hand, schedules preventing the inflow of products in the season of the domestic production and, on the other, for many products that are considered as being "sensitive", non-tariff and tariff barriers represented by the "entry-price", the observance of which is imposed by a system of compensation duties. The protections under analysis are deliberately "non prohibitive" in the periods of low Community production of Mediterranean products, without jeopardising the role of Community suppliers, and have induced these countries to specialise in these commodities. On the other hand, the preferences have not been able to greatly enlarge this role, due to the resistances of the producers of the Southern shore of the EU who would feel threatened by a Euro-Mediterranean free trade area. Indeed, such preferences and the limitedness of quotas have frozen the traditional flows of Mediterranean agricultural trade towards the EU.

The persistent stagnation of the Euro-Mediterranean agricultural preferences is related to the differ-

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ent perceptions of the Mediterranean problem by the three actors involved:

- the Third Mediterranean countries have always lobbied to obtain some privileges for products of which they are traditionally exporters, and that play a key role for the local agriculture;
- the EU Mediterranean countries, on their side, have always insisted so that grants would not penalise the sectors of the Mediterranean agriculture and fruit and vegetable productions, on which the low protection supplied by the common market organisation has already caused some complaints;
- lastly, the Northern EU countries are in favour of a trade liberalisation, as they would profit by the expansion of market outlets for their agricultural and manufacturing continental products.

There is a bilateral component in trade in which asymmetries between the two shores are evident. The Third Med. Countries are for the European Union a relatively important foreign market, as they supply about 8% of non-Community agricultural imports, and account for about 11% of European exports. The EU supplies the Third Med. countries with about 40% of their agricultural imports, and absorbs more than half of their agricultural exports.

Looking at the structure of trade between the EU and the Third Med. Countries for each production sector, a high degree of concentration of Third Med. Countries agricultural exports is evident, mostly for fruits and vegetables in which these countries have comparative advantages in relation to the EU. In particular the exports of fruits and vegetables account for 79% of the total agricultural exports towards the EU for Turkey, 77% for Morocco, 51% for Egypt and 30% for Tunisia. On the other hand, the EU is the main supplier to the Third Med. Countries for staple commodities such as cereals, dairy products and sugar. Considering the evolutionary trend, instead, a worsening in the commercial balance between the EU and the Third Med. Countries is observed in favour of the EU, for

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the latter increases its comparative advantage of continental products, strengthening its weight in relation to the Third Med. countries, whereas the latter tend to reduce the "classical" comparative advantages (like in the case of fruits and vegetables) on the European market, due to the national policies and the progressive opening of international markets [7]. Therefore the acceleration of the market liberalisation process in the Euro-Mediterranean area is considered as a remedy to the recovery and the re-balancing of commercial interdependence, that would mostly benefit the Third Med. countries. Actually, based on previous analyses, the effects of market liberalisation within agriculture are reflected, for the TMCs, in the higher productivity of resources and in the subsequent increase of the agricultural value added, whereas for trade a growth of agricultural exports towards the EU (particularly fruits and vegetables) is estimated [8]. These results will certainly require the adoption of common agricultural and commercial policies and maybe the introduction of compensatory and conversion measures of many European areas.

In conclusion, in contrast with the previous European actions, the Euro-Mediterranean partnership is based on mutuality, lasting bilateral relations, political dialogue, graduality, liberalisation, tolerance of the difference, and pluralism.

A free trade area is not an end by itself, but a tool to establish links between the two Mediterranean shores with a view to reduce the social and economic inequalities, achieve more rapidly a sustainable development, encourage regional cooperation and integrate the TMCs in the world economy.

However, the differences in the degree of development between the EU countries and the TMCs are indeed a barrier to the achievement of the partnership. Another problem is the uncertainty on the trade liberalisation of agricultural commodities, and on the strict national measures hampering the free movement of goods and labour.

## The problems related to the creation of a free trade area

Since the nineties, there has been an intensification of regional commercial agreements, i.e. bilateral agreements of free trade between countries. They include the NAFTA agreements in Northern America, MERCOSUR in Southern America, ANASE between some Asian countries, CCG in Middle East, and lastly those of the EU that has negotiated a second generation of free trade bilateral agreements based on the mutual preference with the partners of the Mediterranean region and Northern Africa, in view of the creation of a Euro-Mediterranean free trade area starting from 2010.

The interest of these agreements is to allow the partners to accelerate and enhance the trade and investment liberalisation on a bilateral or trilateral basis, and to solve other commercially relevant questions for the economic relationships, in particular those concerning regulations and technical rules, public markets, the protection of intellectual property or cooperation in the field of competition policy.

As a consequence, the parties of the agreement benefit from the closer integration, and their prospects of growth are strengthened.

The performance of the free trade area basically depends on two elements: 1) the origin rules, 2) the non-tariff protection measures.

The origin rules define the percentage of transformations that each country should implement for the final product to be sold in the area without any right. For example, the Euro-Mediterranean free trade area will not allow a Spanish exporter without any customs duty to sell an agri-food product that includes, by 80% of its value, raw materials imported from foreign countries. On the contrary, to be performing, the free trade area should accept that if the raw material mostly comes from an internal country of the area (for ex. Egypt or Morocco), the products can be considered as being locally made. The technical measure that allows this

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is the harmonisation of the origin rules between the countries belonging to the area.

The non-tariff protection measures should equally be suppressed or harmonised. The quota suppression (except in some specific sectors) should be general. The different health, environmental and technical regulations should be harmonised, otherwise any positive effect of the tariff barrier reduction would be jeopardised.

The final effects that could theoretically result in the creation of the free trade area may be summarised in a "diversion effect" of trade that involves an increase of internal exchanges characterised, however, by higher costs to the detriment of external countries that produce at lower costs. The other effect will be a trade creation effect in which local products are replaced by cheaper commodities obtained by the new partners within the area, with benefits for buyers. Lastly, this favours the introduction of foreign capitals, that is to say direct investments towards the countries with more favourable conditions for development.

The agri-food commodity free trade can be improved after solving various problems, including those related to the technical barriers to trade and to the sanitary and phyto-sanitary measures on quality standards. Around them, there are institutional, legislative, structural, social and environmental problems that make the situation even more complex.

From the perspective of the fruit sector, the market liberalisation implies upstream an exchange of one of the production factors, maybe the most important one, which enables to start production in different countries: the plant propagating material. It is the starting material for planting any orchard so that its phyto-sanitary status is directly responsible for the outcome of the whole investment.

At present, most of the propagating material from the Southern Mediterranean countries is produced in State-owned plantations and in private facilities. Only ten years before, the private sector was

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nearly absent. After some governmental changes, the privatisation of the nursery sector has become, in some cases, the prevailing legal form (Albania, Algeria, Tunisia, etc.).

It is important to consider that the nursery sector of the Southern Mediterranean countries is, in most cases, able to meet only the domestic demand for specific local fruit species.

With the introduction in the market of nursery species coming from various countries, there is a higher risk of diffusion of several pathogens that could jeopardise the yield of the future orchard. They include the *Plum pox virus* (PPV), one of the most severe virus pathogens of fruit plantlets, recently introduced in the Mediterranean region; another pathogen is the bacterium *Erwinia amylovora* (fire blight), which has recently caused severe damages to Italian pear growing. There are many other pathogens, which threaten the development of fruit plants and which should be taken into account during the transactions of propagating material between countries.

The problem of the propagating material safety gets clear if considering that most of the Southern Mediterranean countries are still unaware of plant phyto-sanitary features, even in the nurseries run by public authorities. However, over the last few years, many of these countries, such as Malta, Egypt, Albania, Tunisia, Turkey, Lebanon, etc. have realised how important the quality level is for their productions, and they have undertaken specific international cooperation programmes.

On the world scale, the problem of the exchange of infected plant material has been taken into the Agreement on the Application of Sanitary and Phyto-Sanitary measures ("SPS Agreement"), introduced by force with the establishment of the World Trade Organisation (WTO) in January 1995. This agreement is designed to regulate, on a world scale, the matter concerning the healthiness of foods and plants that are marketed at the world level. The same agreement is based on the previous rules formulated under the GATT and designed to limit the use of unjustified

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phyto-sanitary measures within the trade protection systems. The main purpose of the SPS Agreement is to guarantee the observance of the right of any government to apply the appropriate protection level to its own conditions but to ensure, at the same time, that no unjustified barriers are imposed against international trade.

In the same way, but on a smaller scale, the free trade of plant propagating material within the Euro-Mediterranean area would necessitate the application of phyto-sanitary protection measures formulated by a *super partes* central body. Each single country fixes the level of such measures, so as to prevent the same measures from limiting the trade freedom or becoming unjustified constraints to marketing.

The actions to ensure the healthiness of the plant material and of what could potentially act as disease carrier should be based on the analyses and on the information made available by the scientific research.

The European Union, which has already accepted the need to regulate these issues, encourages the single governments, interested in the Euro-Mediterranean partnership, to take in consideration this matter through the diffusion of international standards, guidelines and recommendations, to be developed and maintained over time as the basic tool to achieve the commercial balance. One of the main obstacles to the free trade of guaranteed propagating material is the high degree of social and political heterogeneity of the Mediterranean area. The different "promptness" of single countries, provided or not with competent bodies, institutions and specific laws, to tackle this problem, extends the time for implementing the Euro-Mediterranean free trade system.

The international standards are often higher than the national standards of many countries, including the developing ones, but on a world scale, the SPS Agreement allows explicitly single governments to adopt or not the international standards.

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The question is not as easy as it might seem. Due to the similarity of some products or production processes, some countries that are still late in development feel, in some cases, they are treated unequally as compared to others, and they complain about the lack of general clearness in international trade problems.

To understand these problems, which occur both at the Euro-Mediterranean level and on the world scale, it is useful to observe the behaviour of the WTO and of the SPS Agreement. The latter proposes a "reasonable" time lapse to enable the developing countries to adjust their exported goods to the standard of the most advanced importing countries.

For a comparison between the existing conditions in Europe and in the Mediterranean countries, on the world scale some developed countries are concerned about the possibility to implement an agreement. The reasons include:

- the obligation to keep all member countries informed through the SPS Committee of the WTO, about their regulations;
- the monitoring of the new regulations on exports;
- the difficulty to demonstrate, through scientific evidence, the correctness of one's measures as related to those of others.

In this connection, a solution could be provided by the work of the same member countries, which should regularly revise their SPS measures to ensure that the decisions taken at the central level by the Community are consistent with the local protection levels. This brings forward the organisational set-up of each member country, in particular the adequacy of its institutional and legislative tools to the problems under discussion.

Among the less industrialised countries, taking part in the Euro-Mediterranean partnership, only Cyprus, Tunisia and Turkey seem to possess a high degree in their certification system. Actually Turkey has a considerable "legislative basis", ade-

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quately revised in its most obsolete parts. Moreover, since 1963 Turkey has been member of the International Seed Testing Association (ISTA).

Similarly, the Tunisian legislation, through act n° 99-42 of May 10, 1999, regulates the control of seed and plant production and marketing. Moreover in Tunisia the guidelines of the European Plant Protection Organisation (EPPO) have also been adopted. This organisation, the same as the SPS Agreement of the WTO on the world scale, describes the steps that should be taken for the production of the plant propagating material at the Euro-Mediterranean level.

On the other side, there are, however, countries that are not ready to fruit and vegetable liberalisation. The cases of Lebanon and Palestine are significant: the former has a nearly absent inspection of nursery systems as well as a deficient system of plant phyto-sanitary protection. Moreover, also from a legislative point of view, this country has no specific legislation in this field, and act n° 46/1, which should partly fill many gaps, is still under study.

Palestine, which has a high prestige in olive production and export, is deficient for its research and control institutes that are not yet fully operating in this field; these conditions are even aggravated by an inadequate and old legislation that also regards the human resources, difficult to be trained and found due to the scarcity of cooperation programmes with the other developed countries. The latter aspect is, instead, emphasised by many other countries including Albania, Algeria, Cyprus, Egypt, Turkey, etc. all being related to the main European countries that are the pioneers in plant pathology research (Belgium, France, Germany, Italy, etc.).

Some Southern Mediterranean countries, which have established close cooperation links with Europe, also benefit from training and apprenticeship programmes that enable to develop the required skills for the certified nursery activity. Some of these countries include Algeria with the French ENTAV,

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Albania, Egypt, Malta and Lebanon with the Mediterranean Agronomic Institute of Bari.

### The harmonisation process

The commercial integration between the Mediterranean countries, and generally the agricultural bargaining of multilateral negotiations, necessitate a harmonisation of the national rules, without which it is not possible to strengthen a stable free trade of goods and services.

Before reaching such a harmonisation, however, each country keeps the right to apply more stringent standards than the international ones. In this case, following the WTO, not only should the adopted measures comply with the principle of non discrimination and with the clause of the national treatment, but they should also be supported by an adequate scientific justification based on the risk assessment, and implemented following procedures accepted by international bodies. "[2]

There are several commercial international agreements regarding these themes, such as the above-mentioned SPS Agreement (Sanitary and Phytosanitary Measures), the TBT Agreement (Technical Barriers to Trade) and the TRIPs (Trade Related Aspect of Intellectual Property Rights), concerning given geographical areas and plant varieties, and lastly, the social right affairs. In all these areas, as already indicated, the most advanced countries have regulations that are in contrast with the international agreements in general. The importing countries, which have more rigorous phyto-sanitary standards, require certifications to exports that should ensure the goods' healthiness. The infrastructure required should be involved not only in the control of the transactions of phyto-sanitary risk products but also in the training of farmers and operators of the nursery and fruit sectors, and lastly in setting up barriers to isolate (quarantine) and destroy the material that is found to be dangerous.

The effective implementation of such an international apparatus that should enable the free trade

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but also ensure its continuity over time involves investments and costs that are not thoroughly examined in international negotiations.

### The costs and benefits of harmonisation

In the absence of precise rules and information, the greater opening of markets induces controversial effects on the welfare of a country. The economic operators of a country, whether consumers or entrepreneurs, are not always adequately informed about the characteristics of the commodities available on the market. The lack of information, meant as an endogenous market system resource able to contribute to explain the value of the product and to become a tool indicating, for example, the occurrence of production rules, causes inefficiencies and market failures with repercussions on the economy and trade. The implementation of a certification system or of trade-marks can aid prevent the problems related to incomplete information, although the increase in welfare that could derive may be decreased by the cost of certification and the adoption of labels. Therefore a country should carefully study the effects deriving from the imports of products whose features are not perfectly identified by economic operators. The overall impact on the national welfare may be different for each particular case (according to the economic, cultural and social conditions of a given country); moreover, the cost of possible inefficiencies should be balanced by the cost of the possible retaliation by third countries, and by the cost deriving from the non observance of the rules of the supranational body.

In the case of the fruit sector, the production of certified propagating material involves additional costs for the nurseryman. These higher costs fall inevitably on the purchase cost of plantlets for the farmer with a subsequent increase in the investment costs of orchard planting.

Unluckily, it is not easy to exactly define the costs nurserymen should incur to certify their production. Except the "agronomic" costs relative to the production of the certified propagating mate-

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rial, poor information is still available on the costs relating to:

- inspection activities by the competent authorities;
- sanitary assessments;
- any additional service provided by bodies or associations (in Italy CIVI-Italia);
- base certified material.

It is thus essential to define the above items so as to be able to calculate investments and to identify the related economic-management issues, including the complex system of rules and regulations that characterise the nursery sector. A practical reference to quantify the cost of a plantlet is to correlate it with the price of the fruit; in simplified terms a plantlet costs as much as 5 Kg of fruit [9]. The cost thus varies from 1.5 to 5.2 Euros in Europe and from 3 to 6.2 Euros in the USA.

To assess from a technical and economic point of view the items that - within the propagating material production cost - could change as related to the final product certification, let us take the example of the production cost of virus-free pear plantlets of a typical nursery firm from Emilia-Romagna (Tab. 4).

A more correct computation of the production cost should also include the objective variables related to the different training techniques adopted in different countries, which are often climatologically diverse. For instance, the incidence of irrigation practices is different according to the production areas of plants, notably in the case of Northern Africa Mediterranean countries [10]

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Tab. 4. Production cost of pear plantlets

Production cost of pear plantlets (1999-2000) for producing 35,000 units	
Soil tillage	9.544.000
Fertilisation	1.060.000
Weed control	220.000
Planting	27.377.600
Irrigation	8.600.000
Pest control	2.020.000
Scaffolding	2.222.275
Grafting	27.459.200
Scaffold removal	1.824.000
Certification	6.253.200
Pulling out and selection of plantlets	18.320.000
Insurance, taxes, interests, overheads	52.814.827
<b>TOTAL COST</b>	<b>161.363.102</b>

1936,27 Italian liras = 1 Euro

It is important to observe that the incidence of certification costs (labels and labour) on the total cost equals 3.9 %. Moreover, this example is relative to an advanced social and economic context (Italy), where the cost of labour is particularly high, accounting for 17% on the total cost.

The nurseryman who produces his own certified scions in a less developed country (at a selling price 4% higher than uncertified products) where the labour has a substantially lower cost than for the European competitors, could hardly find a reduction in its competitiveness when accessing the international channels.

On the other hand, the fruit grower, vis-a-vis the more expensive virus-free certified material than the uncertified one (at the same labour cost), should consider that the former ensures, in principle, less production losses during the orchard life-span due to phyto-pathological reasons, or a

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higher productive longevity of the orchard. This longer duration of the fruit orchard would allow the farmer to further distribute part of fixed costs (interests and depreciation), compensating for the higher initial investment cost due to the certified plantlets.

## Conclusions

The current political and economic changes, the creation of free trade areas, as well as the technical progress are leading the agri-food sector, notably the fruit sector, towards a rapid change from a protected economy to a market competition. This favours the expansion of international trade that also creates new classes and forms of competition. New suppliers of agricultural and fruit products are now accessing the European and international markets. They come from new areas and are seeking consumers' markets of higher value added. This is supported by an on-going process of purchase centralisation at the European and international levels, favoured by merging and acquisition processes between the chains of distribution. The trend will be towards the development of a process ranging from the product standardisation and packaging, to the uniformity of placement and marketing strategies, till the centralisation of the operational marketing. Such a situation imposes to the fruit producer the need and the subsequent organisational and economic problems, to adjust to the existing trend in the international markets through the introduction of innovations within the production and commercial processes.

The quality, key-factor in the upgrading and differentiation of a product, is created since the first element of the agri-food chain, that is to say starting from the raw material whose level of technical-sanitary guarantee is the basis of the economic and yielding performances of the enterprises of the whole production area.

The development of the existing commercial relationships on the world market requires a greater liberalisation of domestic agricultural policies as

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well as the definition of well-specified rules so as to obtain the corresponding benefits. The lack of organisational forms enabling the use of efficient services in the supply of factors and in the post-harvest processing of commodities (standardisation, sanitary and phyto-sanitary inspections, transportation, promotional bodies) involves an increase in production and transaction costs that hamper any opening process in trade.

The national policies (subsidies on the consumption, aid for investments, support of price for strategic products, import monopolies) and the existence of tariff and non-tariff barriers are still important in some Mediterranean partner countries.

The suppression of tariff and non-tariff barriers in a free trade process changes the focus to the solution of new conflicts between the free trade partners, related to the determination of common rules, and in our case, to the definition of sanitary and phyto-sanitary measures regarding the traded commodities. The solution to these conflicts calls for the active participation of all the economic components of the partner countries in the definition and formulation of appropriate and rigorous standards enabling easier trade relations and favouring a more efficient use of resources.

The will of different governments to implement a certification programme able to improve the quality standards of their own nursery sector is not homogeneous. The general information on the conditions of some countries highlights the lack of different key factors for the success of the programme implementation (for example the updating and training of human resources and of legislative tools).

Emphasis is laid, however, on the role that a common project of plant propagating material certification could have in the economic integration and fruit market expansion of the Mediterranean area. Actually, despite the higher costs for the public sector, many benefits would derive from the reduced risk for the farmer who would benefit, on one hand, from his accrued presence on the markets through an easier trade of his commodities, and on the other,

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from a reduction in costs because of the higher yields and the higher longevity of the fruit investment.

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