The Spanish nut sector at a crossroads

Albisu L.M., Sengul S., Meza L.

in

Albisu L.M. (ed.).
Economics of nuts in the Mediterranean basin

Zaragoza : CIHEAM
Options Méditerranéennes : Série A. Séminaires Méditerranéens; n. 37

1999
pages 89-102

The Spanish nut sector at a crossroads

L.M. Albisu*, S. Sengul and L. Meza***
*Unidad de Economía Agraria, Servicio de Investigación Agroalimentaria
Diputación General de Aragón, P.O. Box 727, 50080 Zaragoza, Spain
**University of Cukurova, Faculty of. Agriculture, Dept. of Agriculture Economy
01330, Balcali, Adana, Turkey

SUMMARY – Spain has been a traditional nut producer. It is the second largest producer of almonds in the world, after United States, and the fourth largest for hazelnuts, after Turkey, Italy, and the USA. However, nuts are not only important for their productive purpose since there are planted in areas with few, if any other, agricultural alternatives. This is the reason for their wide coverage, in many geographical areas all over Spain, with low planted density playing a more important environmental role than source of income for farmers. Many growers are part time farmers and their main income does not come from their fields. It is quite common to find growers who live in urban areas and they spend weekends on their farms trying to find a balance between their farming activities and their leisure time. Most producers are, at least, aware of the problems that the introduction of new cultivation techniques, varieties and new ways of organisations imply. But a large number are too old to undertake the necessary reforms. New challenges, forced by the international competitive environment, require a more dedicated approach. The internationalisation of the economy brings new competitors from different countries that are expanding the cultivated areas for nuts. Consumers require diversity and new varieties are most appreciated. This is the case for Spanish consumers who are more willing to consume other nuts, apart from almonds and hazelnuts. There is still a small recognition for varieties and this is a critical issue as the differential aspect for Spanish nuts is the kind of variety. The Spanish nut sector is at a crossroads because the direction it takes in the next decade will be critical for its future.

Key words: Spain, nuts, almonds, hazelnuts.

RESUME – *"Le secteur des fruits secs en Espagne dans un moment décisif". L'Espagne a été un producteur traditionnel de fruits secs. Elle est le deuxième pays producteur d'amandes du monde après les Etats-Unis, le quatrième producteur de noisettes, après la Turquie, l'Italie et les Etats-Unis. Cependant, les fruits secs ne sont pas seulement importants dans un but productif car ils sont cultivés dans des zones qui offrent peu d'alternatives agricoles. Pour cette raison les fruits secs ont une grande étendue en Espagne, et la basse densité de plantation joue un rôle surtout environnemental plutôt que comme une source importante de revenus pour les agriculteurs. Beaucoup d'agriculteurs travaillent à temps partiel et leur principal revenu ne vient pas de leurs champs. Il est assez courant de rencontrer des agriculteurs qui habitent les villes et qui passent les week-ends dans leurs exploitations en essayant de retrouver l'équilibre entre l'agriculture et le loisir. La plupart des producteurs connaissent le problème de l'introduction des nouvelles techniques de culture, variétés et nouvelles formes d'organisation. Les nouveaux défis, forcés par l'environnement international compétitif, demandent une approche plus spécifique. L'internationalisation de l'économie apporte de nouveaux concurrents de différents pays qui sont en train d'élargir leur surface de culture de fruits secs. Les consommateurs demandent de la diversité et les nouvelles variétés sont plus appréciées. C'est le cas des consommateurs espagnols qui vont consommer d'autres fruits secs, à part les amandes et noisettes. L'importance des variétés est encore peu reconnue et c'est un sujet décisif car l'aspect différentiel des fruits secs espagnols est le type de variété. Le secteur des fruits secs en Espagne est dans un moment critique parce que la direction prise dans la prochaine décade sera décisive pour son futur.*

Mots-clés : *Espagne, fruits secs, amandes, noisettes.*

Introduction

Spain has been a traditional nut producer. It is the second largest producer of almonds in the world, after the USA, and the four largest of hazelnuts, after Turkey, Italy and the USA. The production of walnuts, although of limited significance, started more than 50 years ago and it has been quite stable during the last 10 years.

There are other new productions, such as the pistachio. The pistachio was considered as one of the most interesting alternatives in the last decade but its planted area, of around 1000 ha, is very small if compared with the main crops.

Spain is also the main producer of the Mediterranean Pinekernel, coming from *Pinus pinea*, with around 1500 t to 2000 t and it contributes to 50% of the total Mediterranean production.

However, nuts are not only important for their productive purpose since there are planted in areas with few, if no other, agricultural alternatives. This is the reason for their wide coverage in many geographical areas all over Spain with a low planted density playing more an environmental role than an important source of farmers income.

Many growers are part-time farmers and their main income does not come from their fields. It is quite common to find growers who live in urban areas and they spend their weekends on their farms trying to find a balance between their farming activities and their leisure time.

Cultivated area

The area cultivated with nuts in Spain accounts for 70% of the total area dedicated to fruit trees, except for citrus. Nevertheless, the area cultivated has never been precisely known, especially for almonds because they are spread in many regions and, quite often, cultivated in marginal lands. Approximately three-fourths of Spain's total almond cultivated area is located in three regions- the Ebro region, the Levante region and Andalusia. The main areas are close to the Mediterranean coast.

However, hazelnuts are highly concentrated in the Catalonia region (Tarragona), which accounts for around 90% of the total area. Walnuts are distributed in several regions and in land regions, such as Navarre and Castile La Mancha, which are the leaders.

If we look at Fig. 1 we see that the surface dedicated to almonds has been growing to reach a peak over 600,000 ha in 1997. But unofficial estimates are around 400,000 ha of productive orchards. The main reason is that many trees are spread over large areas with scarce density. Whether they are considered productive or unproductive areas has great implications on total cultivated area. This means that we could distinguish real cultivated area from total cultivated area. Probably the real cultivated area could gather those orchards that are regularly harvested whether there is a good o bad crop.

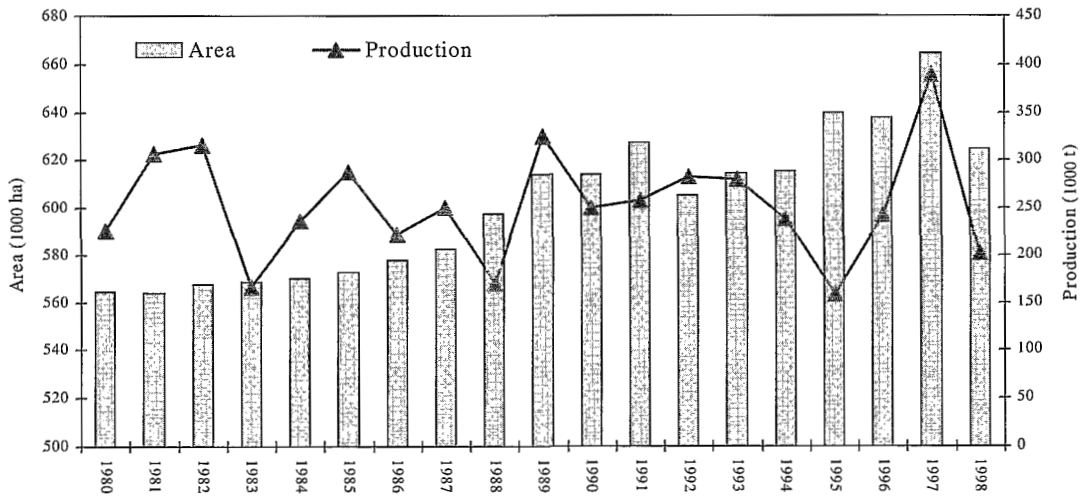

Fig. 1. Cultivated area (ha) and production (t) for almonds (Source: MAPA, 1998a; EUROSTAT, 1999).

This problem has severe implications to know the real evolution of cultivated surface of almonds in Spain and it is an important constraint to analyse yields. Any econometric work faces serious problems and production estimates might be misleading.

Figure 2 shows the area cultivated with hazelnuts according to official sources. From 1980 until 1987 total cultivated area was around 37,000 ha. There was a downward jump in the next season and, a downtrend in the following seasons. According to unofficial sources, since 1991 it has been estimated that about one third of the hazelnut orchards have been abandoned. The yearly rate of abandonment has been: 14% (1992), 12% (1993), 9% (1994) and 5% (1995). Since then, the area decrease continues, although there are clear signs that abandonments are diminishing. Nevertheless farmers are going through a continuous crisis due to low international prices because of the influence of cheap Turkish hazelnuts on international markets.

Walnut cultivated area (Fig. 3) has been steadily raising since 1980 and it has more than duplicated but the total figure is still below 3000 ha. Catalonia, Andalusia and Extremadura gather around 75% of the total cultivated area.

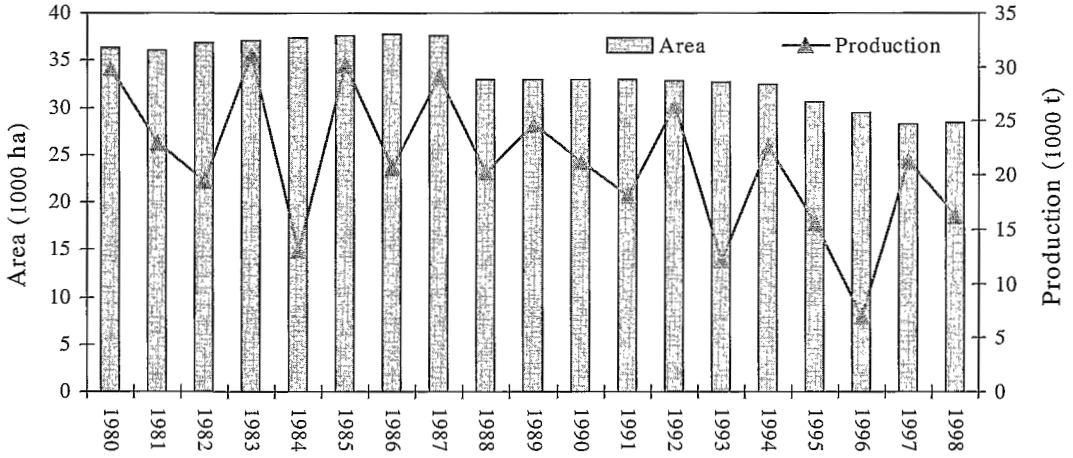

Fig. 2. Cultivated area (ha) and production (t) for hazelnuts (Source: MAPA, 1998a; EUROSTAT, 1999).

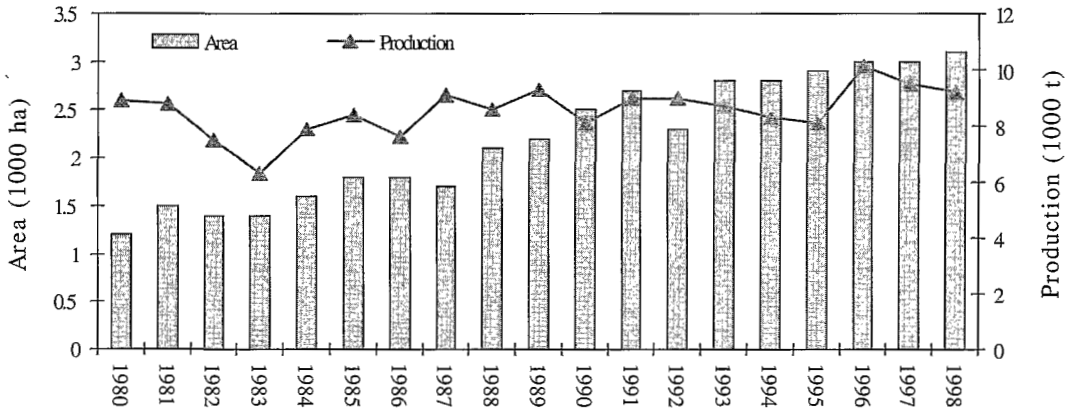

Fig. 3. Cultivated area (ha) and production (t) for walnuts (Source: MAPA, 1998a; EUROSTAT, 1999).

Yields

Yields suffer great variations along the seasons. Figure 4 shows yields for almonds and hazelnuts and Fig. 5 for walnuts. Both almond and hazelnut yields have been well below 1000 kg per hectare, although hazelnut yields have been usually higher than almond yields, although they have had a greater variation between seasons. Average yields for almonds are very low but, if we consider the real cultivated area, then probably average yields are much higher and they could be around 150 kg per hectare which corresponds to 1 kg per tree. It is strange to observe the jump for walnut yields from 1988 to 1989, which is another sign of poor data quality.

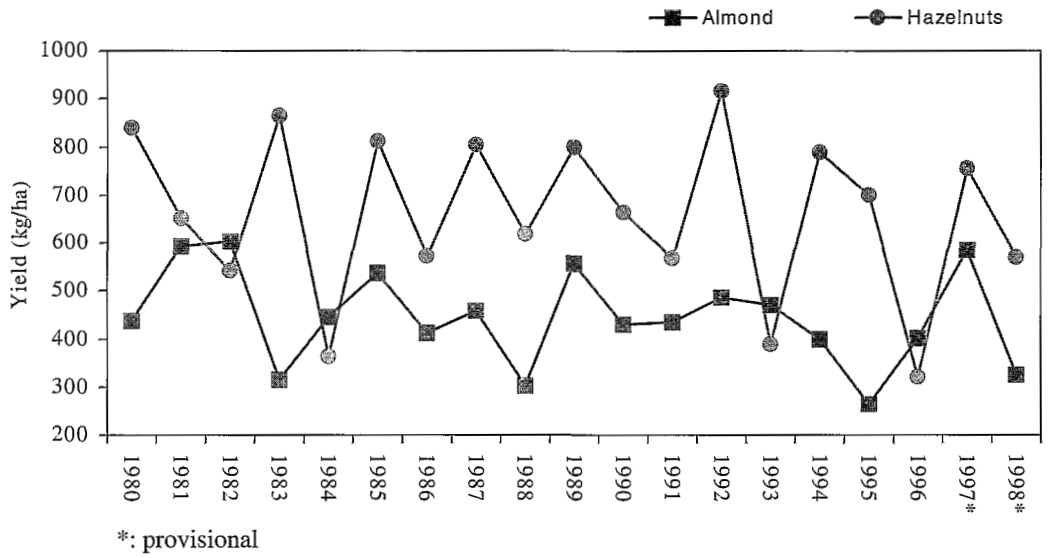

Fig. 4. Yields for almonds and hazelnuts (kg/ha) (Source: MAPA, 1998a).

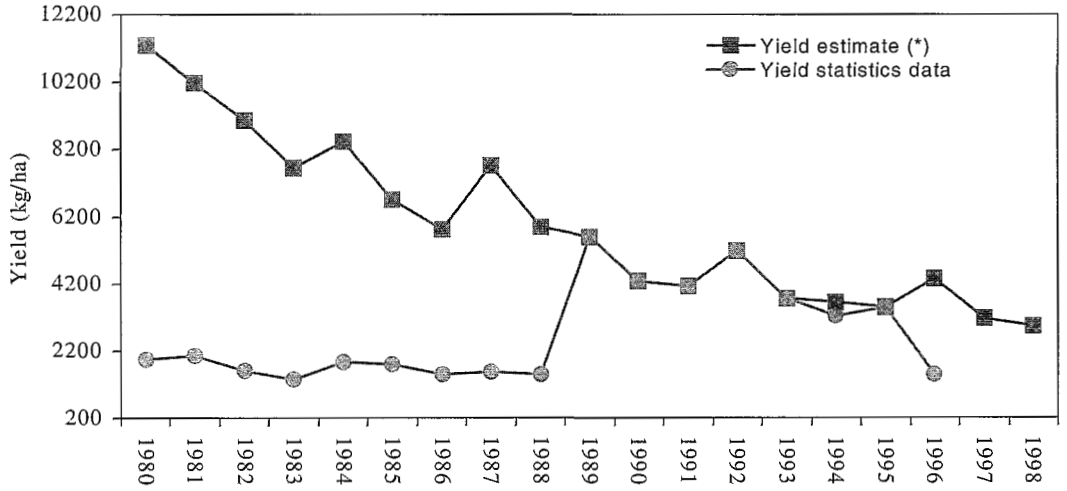

Fig. 5. Yields for walnuts (kg/ha) (Source: MAPA, 1998a).

Somehow almond yields have been more regular than other tree nuts. The main reason is that they are cultivated in different regions in Spain and hazards are more compensated in large areas. Thus, frosts have a negative impact on yields but even so they still have limited implications on the national average yields because they usually affect specific areas in a particular season. Orchards

are not extensively protected against frosts and, in the long run, only late varieties will avoid this problem.

Most orchards are cultivated on dry land (more than 90%) and the amount of rain, in critical periods of time, is the most critical factor for yield variations. The amount of precipitation varies from region to region but somehow it has a greater regularity all over Spain, for a particular season, than other climatic factors. We should differentiate areas with less than 400 to 500 mm from those which have a precipitation over that range. Yields in the driest areas change a great amount with small precipitation variations and their yields variability is greater than for the rest of the areas.

Orchards on irrigated land have different problems. In certain areas of the South part of Spain it is not always possible to obtain the necessary amount of water and there are also salinity problems. Drip and sprinkle irrigation have helped to alleviate part of those limitations.

Production

Production figures are the result of a simple multiplication of cultivated land by yields. The factors that have an effect on both variables have previosuly been explained. It is important to point out at their seasonal variations, especially for almonds, which have usually been between 150,000 t and 300,000 t (Fig. 1). There has been almost a constant downward trend for hazelnut production during the last decade, with typical ups and downs of any perennial plant (Fig. 2). Almost the opposite trend occurs for walnuts (Fig. 3).

Not only quantitative matters should be considered but also the quality produced. It is commonly the case that poor production is correlated with poor quality. That means that, whenever a short production happens a smaller share can be exported because international markets require high quality standards.

For almonds, the variety 'Marcona' occupies the warmest areas along the Mediterranean coast and 'Desmayo Largueta' is planted in colder areas. Both varieties account for more than 50% of total almond production. The rest is a large assortment of many different varieties. But almost all of them are of hard shell and sweet flavour. Their kernel yields are commonly around 25%. New varieties, such as 'Masbovera' and 'Ynara', account for around 5% of the plantings. The ideal is to have varieties which flower late, to avoid fruits, and that can be harvested early. Hazelnut production is concentrated in a small number of varieties, 80% corresponds to 'Negret', 10% to 'Morrell' and 5% to 'Grifoll'. 'Haryley' and 'Ser' are the most common commercial varieties.

The normal tree density is between 150 to 200 trees per hectare, on dryland, but on irrigated land can be higher than 500 trees per hectare with around 3000 m^3/ha. Harvesting is usually performed by hand and there are not too many mechanized orchards.

Production estimates have been tried by different individuals and organizations in Spain. There have even been estimates from the California Almond Board that regularly sent a person to have their own ideas about total Spanish production. The export sector (COLEFRUSE) has been doing a subjective work based on personal data collection around Spain. CRISOL, one of the biggest producer organizations, has also tried to undertake such a job but its coverage in Spain was not large enough.

In the last couple of seasons there has been a significant effort to estimate almond crops by two professional organizations which have undertaken that task. One is related to cooperatives and the other to the private sector. Both try to estimate, through their organizations, first their production and then they project those estimations for the rest of the country. The cooperative movement bases its study on the hectares which belong to their members. The other, called AEOFRUSE, tries to give a final almond production estimation figure at the end of June based also on their members, which are considered to account for 75% of the total almond cultivated hectares in Spain. Final estimations are based on objective information collected by sampling

This information exercise has provided more accurate information and quite different from the figures which existed before. These projections are known farther in advance than in previous years. They have had a clear impact on domestic prices and it avoids speculations.

The average farm is small, around 6 ha, which means that, in certain cases, is part of a greater farming enterprise or, in other cases, farmers are part-time. It is estimated that there are over 120,000 farmers, which adds an important social dimension.

There are expectations that almond production might duplicate in the coming years as a result of the amelioration plans and new productive orchards. The potential production for hazelnuts is estimated to be around 25,000 t.

Organizations

The first producer organizations for nuts were created in 1989 under the Rules of the European Union (CEE 789 and 790). There are two organizations: one is called AEOFRUSE (Asociación Española de Organizaciones de Frutos Secos) which has been promoted by the private sector and the second is CCAE (Confederación de Cooperativas Agrarias de España) which originated from the cooperative movement.

Producers organizations, although they started in 1989, they moved very rapidly. In 1995 there were already 362,000 ha under those organizations and it can be assured that other cultivated area is on marginal land or abandoned. There were 67 producers organizations with an expected investment of 388,406 million pesetas and the integrated cultivated area amounted to 507,734 ha. Their number increased from 29 in 1989 to 67 in 1995. Most of the organizations (43) deal with almonds, 5 with hazelnuts (only 2 exclusively), and 2 with walnuts and pistachios. Finally, it has been estimated that there are 71 organizations that control around 534,000 ha of almonds, hazelnuts and walnuts.

The dimension of those organizations varies a lot from the largest one (95,000 ha) to a group with less than 5000 ha. The last movement for producers organizations is to be integrated in bigger units. It is estimated that producers organizations account for 84% of the cultivated area for almonds, 36% of walnuts and 100% of hazelnuts. Producers organizations have been a key factor to improve orchards but mostly to join growers who have been finally able to store together their production and, some of them, to sort their products, and even to transform them. Most of the commercial activities are carried out by those organizations and a small amount goes through other channels.

Table 1 shows sales for the 10 most important enterprises in the Spanish nut sector. Almost all of them have increased their sales from 1996 to 1997. Borges stands out as the most important one; it deals with production and transformation of many different nut products as well as trade.

A similar ranking for the producers organizations is presented in Table 2. In this case there are great difficulties because some of those organizations sell many products, and the amount of nuts sold should be, in some cases, a small amount.

An important international organization has its headquarters in Reus by the name of the International Nut Council (INC). It is a non-profit organization formed in 1983, that gathers 500 members from 20 nut producing countries around the world. Their activities include organizing an annual conference, publishing an industry magazine, called *The Cracker*, as well as a newsletter. Their main aim is to sponsor numerous activities to promote the industry.

Prices

National prices follow closely international prices. In each case there is a clear leader which sets up the worldwide price and the other countries are the followers. United States is the price setter for almonds and walnuts, and Turkey for hazelnuts.

For the last 16 years there has been price cycles for almonds and hazelnuts of around 6 years from the top price to the bottom price (Fig. 6). These cycles are typical of perennial crops. Hazelnut prices usually have been higher than almond prices except for a complete of seasons. Walnut prices have had an increasing trend and they have more than duplicated in the last 15 years.

Table 1. Sales of the ten most important firms in the nut sector (million pts – million Euros†) (Source: Alimarket, 1998)

Firms	1996		1997	
	Pts	Euros	Pts	Euros
Borges, S.A.	19,148	115.082	21,000	126.213
Comercial Levantina Frutos Secos, S.A	8,900	53.490	9,760	58.659
Importaco, S.A.	9,763	58.677	9,500	57.096
Zaragoza Almendras, S.A.	7,662	46.050	8,000	48.081
Grefusa, S.L.	6,211	37.329	7,200	43.273
Almendras Llopis, S.A.	5,983	35.959	5,850	35.159
Frit Ravich, S.L.	4,701	28.254	5,249	31.547
Productos Churruca, S.A.	3,674	22.081	3,850	23.139
Sirvent Almendras, S.A.	3,166	19.028	3,694	22.201
Sucesores de Luis Cremades, S.A.	2,900	17.429	3,050	18.331
Alonso Almendras, S.A.	1,437	8.637	2,759	16.582

†1 Euro = 166.386 pts

Table 2. Sales of the ten most important producers organisations in the nut sector (million pts – million Euros†) (Source: Alimarket, 1997)

Producers organizations††	1995		1996	
	Pts	Euros	Pts	Euros
Coop. Uteco Zaragoza	9,140	54.933	12,836	77.146
Unión Agraria Cooperativas	4,126	24.798	5,215	31.343
Coop. COATO	3,623	21.775	3,814	22.923
Coop. Agraria Prov. UTECO Castellón	3,175	19.082	3,600	21.636
Crisol Frutos Secos, S.A.T.	3,600	21.636	2,808	16.876
Coop. Agrícola Ganadera de Alicante	1,800	10.818	2,175	13.072
Coop. Agroles, S.C.C.L.	1,145	6.882	2,050	12.321
Coselva-Coop. Agr. Y C.A. Selva del Camp.-	1,479	8.889	1,764	10.602
Coop. Frutos Secos del Mañan	1,422	8.546	1,692	10.169
Fruisecs Coop. Valenciana	820	4.928	1,200	7.212

†1 Euro = 166.386 pts
††Some of these organizations deal with many products and the figure corresponds to their total sales.

The world price setter for the entire nut sector are almonds coming from California. That price has a strong influence over the Spanish almond price as well as over the Spanish hazelnut price. There is quite a high correlation between almond and hazelnut prices which means a great degree of substitution on the industry when those products are used as ingredients in their manufactured products.

Prices along the season show great variations. There is a price at the beginning of the season which tries to react to information provided by the main worldwide suppliers but later on prices react not only to demands and carry-overs but also to speculative information.

The Lonja system in Spain is a good way to gather and spread information. Producers and commercial agents are confronted and they try to reach an agreement about the market price in the previous week. In case of conflict there is an arbitration which is performed by a person from the Lonja. That information is published in a bulletin and it is also recorded on a tape which can be reached through the telephone. There is also the possibility to get the information on line, with the computer, and to obtain other information from Spanish and international markets.

There is also price information from official sources, such as the Ministry of Agriculture, but they publish average prices for the entire season. Brokers transmit information from international markets through their agents and contacts but as well from key market outlets in Europe and the USA.

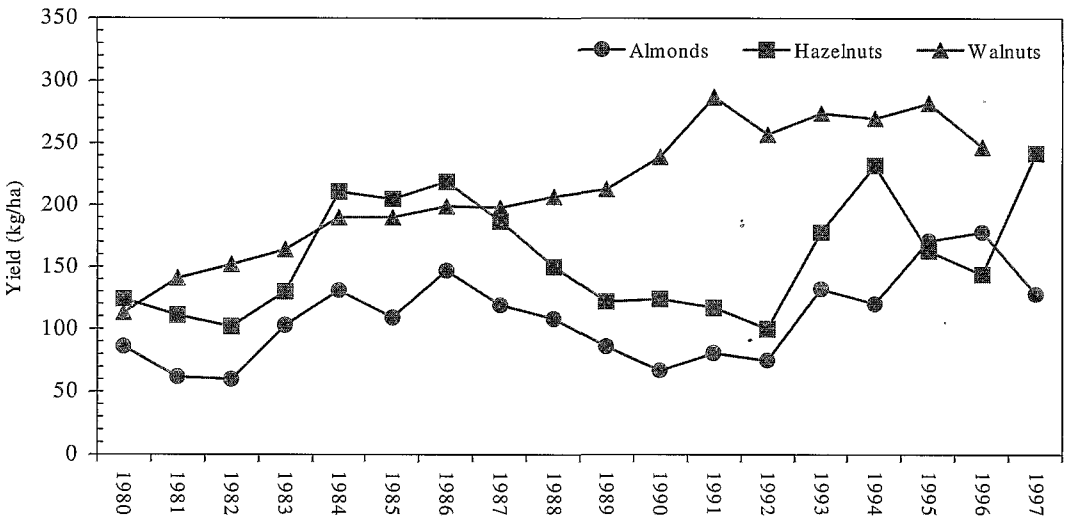

Fig. 6. Price for nuts (pts/kg) (Source: MAPA, 1998a).

Agricultural policy

The main rules have been established by the European Union although some complementary actions have been taken in Spain following measures established by the Spanish government. The Spanish government had to finance most of the EU measures. Spain has tried to exert influence on the EU rules because the nut sector is important and it is the country with the most powerful sector. This had clear implications on hazelnuts policies. However, most of the rules are the usual result of mutual compromises among European countries and the accommodation to other international agreements.

Nuts are also part of more general policies dealing with fruits and vegetables. The general philosophy is established for the entire group and some particularities are pinpointed for nuts. This is the reason that the European Council approved in 1989 specific measures to be applied in the nut sector (Rule CEE 789/89) that modified previous norms for all fruits and vegetables (Rule 1035/72). Its first aim was to facilitate the establishment of producers' organizations in order to ameliorate products quality and to enhance competitively. This programme included plans to ameliorate the quality and the marketing of the products. It established subsidies by hectare if certain productive and commercial improvements were introduced. This approach was established for the entire group of fruits and vegetables starting in 1997.

The EU plans to ameliorate cultivation started in 1990 and they finish in the year 2000. Subsidies by hectare were in between 241.5 Ecus[1] to 573.57 Ecus depending on the measures to be applied and the number of years. It has been estimated that the overall investment per hectare has reached a figure close to 1.5 million pts, over ten years, and producers have to incorporate around 45% of the total amount. This implies an investment of around 150,000 pts per hectare each year. Hazelnuts have received a special treatment and the Rule (CE) 2200/96 provided the opportunity for farmers to get 15 Ecus per 100 kg to face a structural crisis. It has been applied to 1997/98, 1998/99 and 1999/2000 seasons.

As a result of the EU plans there is a greater supply concentration. In the 1996/97 season, producers' organizations already controlled the commercialization of 95% and 84% of the total almond and hazelnut supply, respectively. A considerable number of technicians have been incorporated, who have had a great impact on orchards cultivation, industrial transformations and commercial practices.

Distribution

The distribution system has been changing very rapidly in Spain during the last fifteen years. As a consequence, the nut sector has been adjusting to that change. That means that instead of going through traditional outlets they have moved to supermarkets and hypermarkets. Currently, supermarkets are the leading commercial channel with over 35% of total sales, followed by traditional shops with less than 30% and hypermarkets with around 20%, according to official governmental sources. Nielsen provides a different picture because, according to that source, hypermarkets have almost 40%, supermarkets around 50% and only 5% goes through traditional shops.

Nevertheless, in the last decade many new specialist shops have opened in big urban areas. They are not only dedicated to nuts but these products occupy an important part of the shop. These outlets have encouraged nut consumption and above all, they have educated the consumer. They offer an assortment of different nuts, some of them are new and some are the traditional ones but sold in many different forms. These shops sell nuts in bulk and they are usually self-service. There is only a cashier who takes the money and provides some information. There is usually a differentiation by varieties.

An opposite trend has occurred in supermarkets and hypermarkets. There is a tendency to sell nuts in packs. A large assortment of national and international products and brands have their significance. There are promotions, both of generic nature and brands, and price is an important reference. These shops dedicate a larger area to these products before Christmas time, because consumption raises a lot.

Last figures indicate that around 60% is sold in traditional shops and supermarkets, with a similar share for each type; around 14% in hypermarkets and the rest through other channels.

Consumption

Consumption data has not been very precise for many years. Only apparent consumption was given and it was calculated taking into consideration production, trade and stocks. Only trade figures have been accurate but production estimates had serious errors and guesses for stocks had not been sound.

Since 1987 the Ministry of Agriculture has been undertaking a survey from a sample of around 2500 families based on daily information. Precise consumption figures have been obtained from that source (Table 3). Only small changes have occurred during the last few years. Total per capita consumption of nuts has been decreasing and the distribution among almonds, hazelnuts, peanuts, walnuts and the rest has changed over the years.

[1] The Ecu was the currency used by the European Union to define subsidies. Later on, in 1999, the Euro was introduced as a common currency but with a different value.

Consumption of tree nuts is not regular along this year and they are still considered as typical Christmas products. Their consumption in December increases over 200% with respect to the average for the rest of the year. Less than 30% of the households, on average, buy nuts during the year but this proportion increases to close to 55% in December. However, prices are usually lower during that month and it is a unique characteristic if we compare with other food products.

Table 3. Per capita consumption of nuts (kg) (Source: MAPA, 1998b)

	1990	1991	1992	1993	1994	1995	1996	1997
Almonds	0.49	0.52	0.52	0.41	0.3	0.3	0.3	0.2
Hazelnuts	0.13	0.17	0.15	0.18	0.1	0.1	0.1	0
Peanuts	0.41	0.41	0.43	0.41	0.4	0.4	0.5	0.5
Walnuts	0.46	0.46	0.49	0.48	0.4	0.4	0.3	0.3
Others	0.76	0.76	0.71	0.77	0.6	0.6	0.5	0.7
Total nuts	2.33	2.14	2.31	2.24	1.9	1.8	1.7	1.7

Almost 75% of the households consume almonds and walnuts. It is considerable higher for peanuts (around 95%) and lower for hazelnuts (around 65%). Consumption is decreasing in households and it is stable in hotels and restaurants. Households represent 75% of the total quantity bought whereas hotels and restaurants gather 23%. This percentage increases to around 40% for almonds, peanuts and walnuts which has been constantly increasing.

Around 60% and 40% of the almond and hazelnuts production, respectively, goes to the industry to make pastry, especially at Christmas time, ice cream, chocolates and cosmetics, among other uses. Snack consumption is increasing as well as the consumption of an assortment of different nuts.

There are several products with the designation of origin which include almonds, as an important ingredient. Also among the typical products and regional specialities nuts are commonly considered. Hazelnuts from Reus (Tarragona) have a label with designation of origin.

Trade

Spain has been traditionally an exporting country especially for almonds but also minor quantities of hazelnuts (Fig. 7). The quantity exported of almonds has changed a lot over the years from a minimum of around 40,000 t to over 120,000 t. It all depends on the pressure that exports coming from California put on the market, but also from its own supply. There is not a clear trend for hazelnut exports and they have been in the range from 5000 t to 20,000 t. Walnut exports are almost non existent.

Overall imports have been increasing with special emphasis for walnuts, but there have been important quantities of imported almonds in the last seasons (Fig. 8). Until 1987 almond imports had a top of around 5000 t and since then they have been growing but not steadily. In the last few years there has been a couple of years with almonds imports over 20,000 t. Hazelnuts imports follow an increasing trend and they have been over 10,000 t in the last years.

The trade balance has been positive, except for 1996, between 9000 to 17,000 million pts in the past years. There has been export subsidies over the years, but following the GATT agreement, only in the season 1997/98 total subsidies reached the amount quoted on historical grounds. Almonds imports benefit from a limited tariff of 2%, up to 90,000 t, and a reduced tariff for greater quantities. Hazelnuts coming from Turkey receive a special treatment because they have to pay only a 3% tariff for all imports.

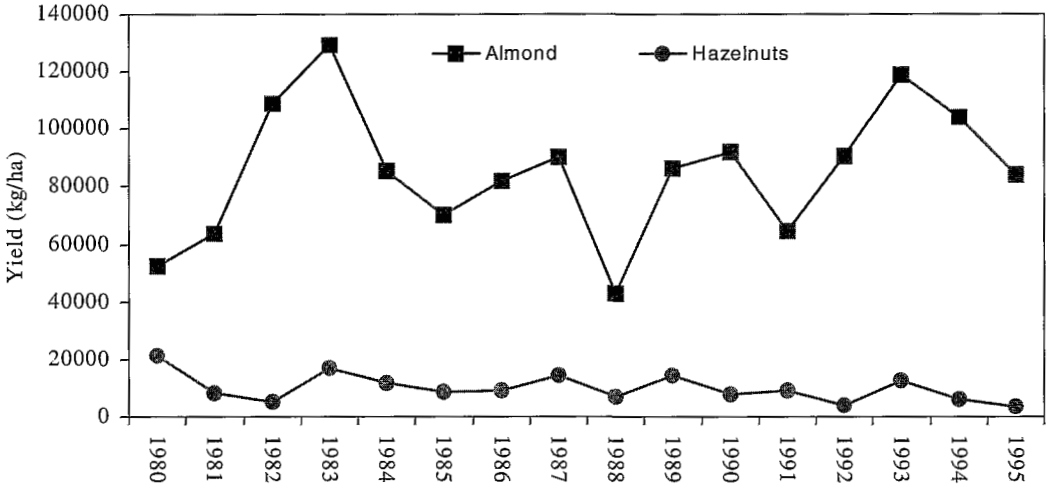

Fig. 7. Nuts exports (t) (Source: MAPA, 1998a).

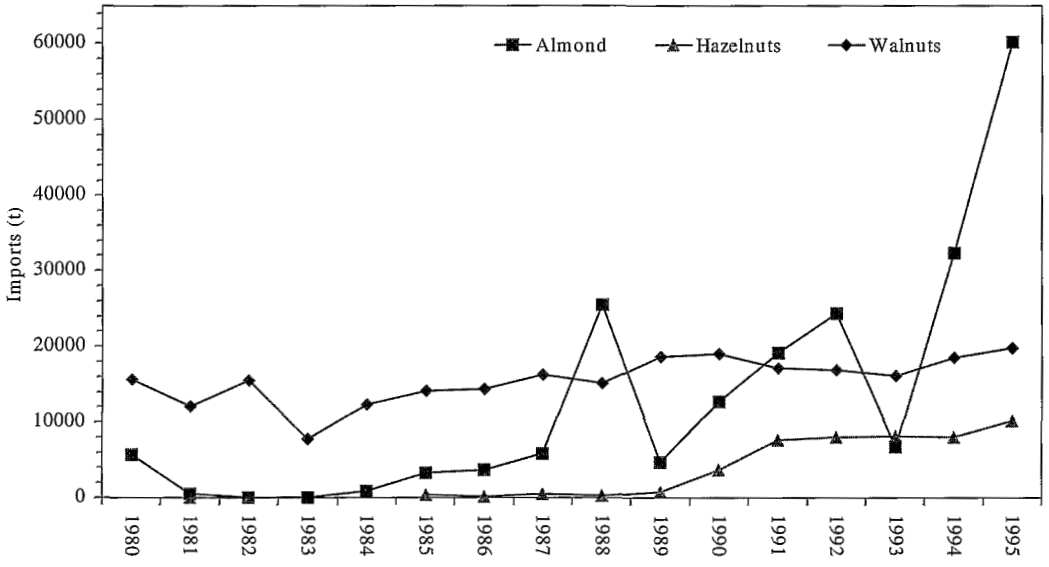

Fig. 8. Nuts imports (t) (Source: MAPA, 1998).

The main exporters are increasing their sales (Table 4). Borges stands out above the rest, but there is a group of traders with sales over 1,000 million pts.

California has been the import origin for almonds and walnuts, and Turkey for hazelnuts. In all cases those countries have exerted their leadership and they have been able to enter the market of one of their main competitors. Since 1989 imports have increased almost every year but exports were stagnant and very much related to internal supply.

Following the GATT agreement there has been generalized tariff decrease. In the year 2000 tariffs for almonds and walnuts, should be 3.5% and 5%, respectively. Hazelnuts will only have 3.2% but there is additional favourable treatment for Turkish hazelnuts with a 3% tariff. There is also a bulk of 90,000 t that can enter the EU with a 2% tariff.

Table 4. Sales of the most important exporters in the nuts sector (million pts – million Euros†) (Source: Alimarket, 1997, 1998)

	1996		1997	
	Pts	Euros	Pts	Euros
Borges, S.A.	8,200	49.28	9,900	59.50
Almendras Llopis, S.A.	4,425	26.59	4,680	28.13
Comerc. Levantina Frutos Secos, S.A.	2,890	17.37	3,140	18.87
Intercpomet, S.A.	196	1.18	2,500	15.03
Grexaval, S.A.	1,000	6.01	2,200	13.22
Alonso Almendras, S.A.	1,400	8.41	1,600	9.62
Sucesores de Luis Cremades, S.A.	1,300	7.81	1,500	9.02
Adrián Pujol, S.A.	866	5.20	1,109	6.67
Almendras Fco. Morales, S.A.	600	3.61	1,000	6.01
Almendras Mallorca, S.A.	207	1.24	409	2.46

†1 Euro = 166.386 pts

Concluding remarks

Needless to say, the cultivation of nuts in Spain has a great tradition but it might act as an advantage or disadvantage. Most producers are, at least, aware of the problems that the introduction of new cultivation techniques, varieties and new ways of organization imply. But there is a large number of them who are too old to undertake the necessary reforms. In many cases their main income comes from other sources and their professional dedication is very limited. New challenges, forced by the international competitive environment, require a more dedicated approach.

The Common Agricultural Policy, although highly critical for many producers, has had a clear positive impact. It has diverted from the main European policy path, which has been applied to many other products, but it has created a new productive atmosphere to be more competitive in the market. The greatest positive effect has been related to new organizations. Producers have been forced to act together in order to undertake quality improvements either at farms, industrial premises, marketing or promotion. This is a promising change for the entire sector.

The internationalization of the economy brings new competitors from different countries that are expanding the cultivated areas for nuts. Consumers require diversity and new varieties are most appreciated. This is the case for Spanish consumers who are more willing to consume other nuts, apart from almonds and hazelnuts. There is still a small recognition for varieties and this is a critical issue as the most differential aspect for Spanish nuts is the kind of variety.

The Spanish nut sector is at a crossroads because the direction taken in the next decade will be critical for its future. Hopefully the EU plans should have a persistent impact to introduce new dynamics that should not evade in the near future. But there is an urgent need to improve product differentiation through quality and promotion. There are too many topics that have been traditionally mentioned without great scientific or empirical evidence. Also the industrialization is lacking or is still very weak. Producers should act jointly with other productive and commercial steps in the supply chain. This integration does not imply economic investments but a great deal of communication and involvement.

The nut sector has important social implications in many marginal areas. In most cases there are not profitable substitutive products and the decrease of cultivated area might not have a noticeable

impact on production but erosion could be a problem in isolated areas without farmers to take care of the environment which is physically affected by a great degradation.

References

Alimarket (1997 and 1998). *Informe Anual Alimarket de Alimentación no Perecedera*. Publicaciones Alimarket, Madrid.

MAPA (1998a). *Anuario de Estadística Agraria*. MAPA, Madrid.

MAPA (1998b). *La Alimentación en España*. MAPA, Madrid.

Further Reading

Abdelwahed, M. and Albisu, L.M. (1992). *Costes alternativos y rentabilidad del cultivo de la almendra en Aragón*. Documento de Trabajo 92/4, SIA-DGA, Zaragoza.

Abdelwahed, M. and Albisu, L.M. (1994). Spanish almond costs: Alternatives and future evolution. *Acta Horticulturae*, 373: 317-324.

AEOFRUSE (1996). Estimación subjetiva de la cosecha española de almendra, campaña 1996-97. Paper presented at *V World Tree Nut Convention*, Tel Aviv- Jerusalén (Israel),18-20 May.

Ait, T., Ameur, M., Cohen, G., Ekinci, S., García, J., Pastori, R. and Tekelioglu Y. (1996). *Determinación de precios de la almendra española*. Trabajo monográfico. CIHEAM – IAMZ, Zaragoza.

Albisu, L.M. (1995). Can the Mediterranean countries afford not to be organised? *Nucis*, 4: 16-17.

Albisu, L.M. (1995). *Tree economic outlook in the Mediterranean Area. The selection of main research issues*. Documento de Trabajo 95/2, SIA-DGA, Zaragoza.

Albisu, L.M. (1996). Can the Mediterranean countries afford not to be organised?. *The Cracker*, 3: 16.

Albisu, L.M. (1996). La economía de los frutos secos: perspectiva mundial. *Frutos Secos Agromañán*, 4: 37-39.

Albisu, L.M. (1997). The hazelnut Spanish crisis: Worldwide competitive perspective. *The Cracker*, 1: 63.

Albisu, L.M., Ekinci, S., Ameur, M., Ait-Salem, T., Cohen, G.V., Gomez-Garcia, J.C., Nuñez-Pastori, R.J. and Tekelioglu, I. (1998). Modelización de los precios de la almendra en España. *ITEA*, 94(2): 89-103.

DAP (1999). *Frutos secos de cáscara y algarroba: un sector amenazado*. Documento de reflexión.

De Castro, S. (1998). El mercado de aperitivos y snacks crecio un 12% en 1997. *Aral*, 1339: 70-74.

EUROSTAT (1999). *Crop production. Half-yearly statistics*, 2: 62-63.

FAO (1999). Web page: FAOSTAT. Statistical databases, agriculture, agricultural production. http://fao.org/ or http://apps.fao.org/default.htm.

FAO (1999). Web page: FAOSTAT. Statistical databases, agriculture, agriculture & food trade. http://fao.org/ or http://apps.fao.org/default.htm.

Felipe, A.J., Socias, R. and Espiau, E. (1992). Nuevas variedades de almendro y su difusión en España. *Fruticultura Profesional*, 45: 49-56.

Fuentes, A. and Murua, J.R. (1994). La almendra española: limitaciones productivas y organizativas. *Fruticultura Profesional*, 66: 62-66.

Leskovar, M., Albisu, L.M. and Briz, J. (1991). *Distribución, consumo y precios de frutos secos en España*. Documento de Trabajo 91/3, SIA-DGA, Zaragoza.

Maluenda García, J.M. (1998). El sector exterior de los frutos secos. *Fruticultura Profesional*, 104 (especial frutos secos): 21-25.

Muncharaz, M. (1995). La producción de almendras en California y España. Estudio comparativo. *Fruticultura Profesional*, 68: 5-16.

Murua, J.R. (1993). *Análisis de la producción y demanda de almendra española*. Documento de Trabajo 93/4. Unidad de Economía y Sociología Agrarias. SIA-DGA, Zaragoza.

Murua, J.R. (1994). Yield model for Spanish almonds. *Acta Horticulturae*, 340: 325-332.

Murua, J.R., Carman, H. and Alston, J. (1993). California leads Spain in almond production, exports to world. *California Agriculture*, 47(6): 11-14.

Ninot, A. and Aleta, N. (1996). El cultivo de la nuez en España. *Agricultura*, 769: 685-689.

Ribera, J., Mateu, M., Cortada, D. and Gallinat, M. (1996). El pistacho expectativas de su cultivo en España (1ª parte). *Fruticultura profesional*, 76: 36-40.

Socias i Company, R. (1999). Situación actual del cultivo del almendro en España. *Vida rural*, Nov: 56-60.

Tous, J., Romero, A. and Rovira, M. (1995). Hazelnut production in Tarragona. *Nucis*, 3: 10-12.

Vargas, F.J. and Romero, M.A. (1993). El pistachero: Una alternativa interesante. *Fruticultura Profesional*, 54: 101-108.

Yalçin, I., Albisu, L.M. and Briz, J. (1991). *Análisis comparativo de la exportación de almendra y avellana en España y Turquía.* Documento de Trabajo 91/2, SIA-DGA, Zaragoza.

Yalçin, I., Albisu, L.M. and Briz, J. (1994). Spanish almond and Turkish hazelnut export sector development. *Acta Horticulturae*, 351: 189-192.

Yalçin, I., Briz, J. and Albisu, L.M. (1994). Almond and hazelnut international price relationships. *Acta Horticulturae*, 340: 367-374.