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Diagnosis for the design and implementation of a crisis manual in the horticultural export industry of Almeria.

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RESUMEN:

El sector hortofrutícola en Almería es uno de los sectores estratégicos de la economía local y regional. Al tener la condición de "sector estratégico" hay que mantener una evaluación continua para detectar a tiempo posibles problemas. En este trabajo se pretende analizar el sector hortofrutícola almeriense desde un punto de vista estratégico, para así conocer cuáles son sus puntos fuertes y sus puntos débiles. Conociendo el sector se pueden detectar eventuales situaciones de crisis, conocer el origen y establecer un plan de actuación estándar para cada caso.

ABSTRACT:

Horticulture in Almería is one of the strategic sectors of the local and regional economy. By having the status of "strategic sector", it's needed to keep an ongoing evaluation to detect possible problems. This paper analyzes the horticulture in Almería from a strategic standpoint, in order to know which are its strengths and weaknesses. By knowing the industry, we can identify potential crisis situations, know the origin of them and establish a standard operating plan for each case.

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1. INTRODUCTION

1.1. Objectives of the Project.

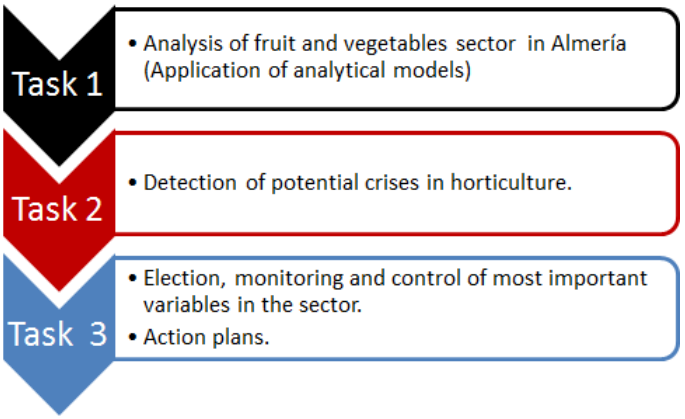
The Almerian horticulture is one of the key drivers of the economy of Almeria. Currently, it employs over 47,600 people and accounts for 22.3% of gross value added generated in the province. In fact, the importance of the sector is a key-factor as it impacts directly on the performance of another major industry, services.

The initial objective of this paper is to provide an industrial analysis to detect possible disparities between horticultural supply and demand southeast Spain. These imbalances will affect both production and marketing. In summary, it will be considered the fundamental problem that manifests itself in the possibility of existence of crisis, whether strategic or circumstantial, and internal or external to the sector.

In this context it is essential the analysis, monitoring and control of key variables (eg: production costs, exports, prices, etc) that can reveal anomalous behavior.

At the same time, it aims to develop a control method for measuring changes in market trends and the existence of potential system threats. Levels will be established from which it will run a pre-designed plan of action for each case, consisting in operating corrective mechanisms.

Figure 1. Working scheme.



Source: Own elaboration.

1.2. Methodological features: industrial analysis and threat detection systems.

As a starting point of the study, it will be set up a theoretical industrial analysis framework based on different models that are often used in the context of strategic planning. The standard for excellence is the **SWOT** analysis based on **S**trengths, **W**eaknesses, **O**pportunities and **T**hreats, in this case applied to a particular sector. Closely related to the SWOT is the Porter's **"5 Competitive Forces Model"** (1980) that lets us know what are the competitive conditions in the environment of the company, or industry under study. As an extension of the previous one, the Bueno's **"10 Forces Model"** was born (1996), which is based on an expanded system with 3 factors which are considered as decisive in the organizational environment: i) bargaining power of owners (shareholders), ii) bargaining power of the State (government), and iii) bargaining power of social agents.

Both the Porter's 5 Forces Model and the Bueno's 10 Forces will help to complete the SWOT analysis, especially the external analysis. As a new point, it is inserted a new analysis factor as the "quality and environmental management capacity" which will try to be integrated in both models of forces and SWOT. The importance of the environment as variable of competitiveness has been analyzed in several studies, for example, Galdeano et al. (2011) or Galdeano et al. (2005). In these articles, environmental efficiency is related to the export capacity applied to horticulture business, finding positive effects between the two variables.

1.2.1. SWOT Analysis (Humphrey, 1960s)

The SWOT analysis was developed in the Stanford Research Institute, by Professor Albert Humphrey at the beginning of the 60's. The aim is to determine the competitive advantages of the business and to use the most convenient generic strategy based on its own features and those of the market in which it is involved. The applications of the SWOT method for the horticultural industry in Almería have been diverse, outstanding for their depth Pérez Mesa (2003), or Consejería de Agricultura y Pesca de Andalucía (2002) in the development of its strategic plan 2003-2007.

Business is an open system, since it is placed in an environment from which it obtains resources and to which it gives back products/services, information, revenues… The

company's survival is subject to its ability to adapt to the environment. This requires having a thorough knowledge of itself and an ability to anticipate their evolution.

The SWOT helps us to:

- Take advantage of the strengths,
- Exploiting the present opportunities,
- Block the weaknesses,
- Defend ourselves from threats.

To do this we must first determine what the SWOT is. The SWOT consists of two parts: internal analysis and external analysis. (**Figure 2)**

With the internal analysis we obtain the strengths and weaknesses of the company or studied sector. By **strength** it is meant the resources and skills that the company acquired; they tells us how we differentiate ourselves from the competition and what we do best. The **weaknesses**, however, are those factors which are at a disadvantage compared to our competitors. The elements to consider in the internal analysis include the availability of capital resources, human resources, assets, product quality, the internal structure or the perception of consumers.

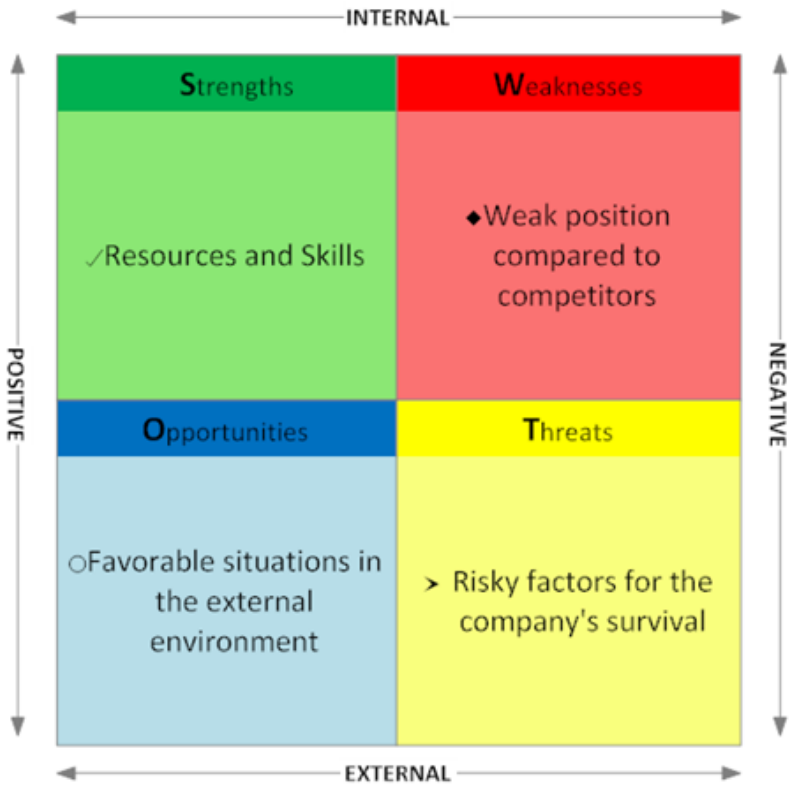
Resource-based view of the company.

Recently, the popularity of the resource-based view (RBV) has brought back the focus of the strategic direction to the inside of the company. Its significance was recognized when the work “Resource-based View of the Firm”, Birger Wernerfelt (1984) was selected in 1994 as the best article published in Strategic Management Journal. Theoretically, the central premise of the RBV addresses the fundamental question of why firms differ and how they can achieve and sustain competitive advantages. Methodologically, the RBV has collaborated with the reintroduction of induction, the case-based approach focuses on one or a few companies to complement deductive methods that work with large samples.

Through the external analysis we can know what are the threats and opportunities that the environment offers. **Opportunities** describe potential markets, niches and others that are available to all (but should be recognized in time to be supposes as a competitive advantage). **Threats**, on the other hand, are the factors that may endanger the survival of

the organization (as well as the opportunities, being recognized on time is key to avoid them or turn them into opportunities). For an external analysis of the company in depth, it is convenient to analyze the Porter's *"5 competitive forces model"* (1980).

Figure 2. SWOT Matrix



After performing the analysis both internally and externally, we proceed to develop the square matrix of 2 inputs that will allow an easy identification of the determinant factors of analysis. In a row (or column) have the internal analysis and the other the external while in a column (or row) we have the positive factors and the other negative. Thus, at a glance, we can obtain an overview of the entire analysis.

After designing the matrix, we can study some new parameters that can be conditioning the future of the company:

1. Potentialities: are the sum of the strengths and opportunities and represent the most promising lines of action.

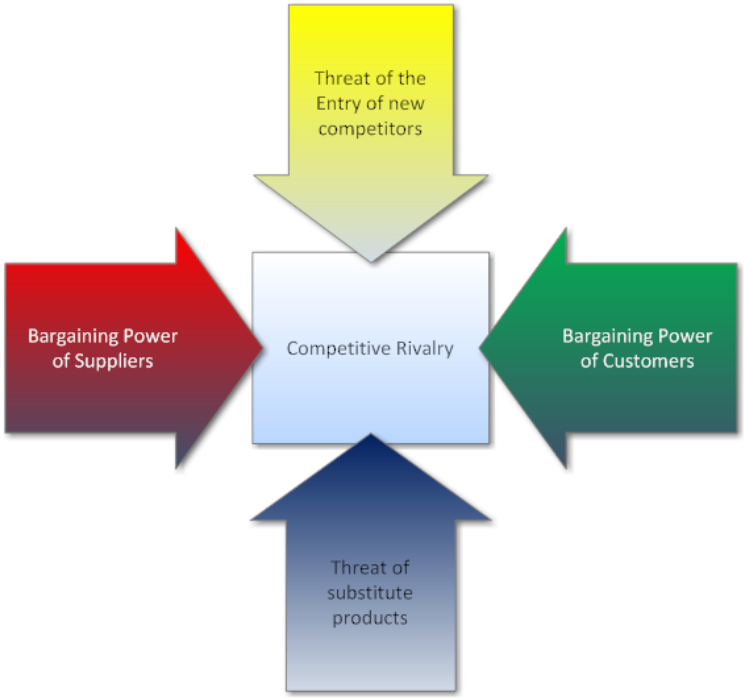
2. Serious warnings: the union of the weaknesses and threats.

3. Risks: combination of strengths and weaknesses.

4. Challenges: is so called to the sum of weaknesses and opportunities.

1.2.2. PORTER'S 5 COMPETITIVE FORCES (1980)

Figure 3: Porter's 5 Forces Analysis



Source: Adapted from Michael Porter, "Competitive Strategy" (1980)

The "5 Competitive Forces Model" was developed by Professor Michael Porter from Harvard Business School in 1980. Several studies have used Porter's diamond to analyze an activity of a sector or industry. More concretely, in the food industry outstand: Banks and Bristow (1999) studied the competitiveness of the food supply chain in Wales, or van der Meulen et al. (2003) carried out similar work in the Netherlands. For Almeria, Marin et al. (2004) analyze the competitive forces of the horticultural sector, recognizing the existence of strong competitive pressure

This model helps a sector analysis in terms of profitability. The model shows 5 forces present in the environment of the analyzed company and examines their influence on this. These 5 competitive forces are:

- **Threat of the entry of new competitors:**

It is the possible entry into the sector of enterprises producing the same type of products.

The threat of the entry of new competitors in the market can pose the company an opportunity to establish means to hinder the entry of those competitors, such as economies of scale, achieve specialization, reduce costs or increase quality and/or uniqueness of the product.

- **Threat of substitute products:**

It makes reference to the existence or potential market entry of products that can replace ours.

To evaluate the real threat, you should take into account the price of our products and that of substitutes, the level of consumer propensity to switch products, the ease of finding substitutes or degree of differentiation of our products compared to substitutes.

- **Bargaining power of customers:**

It is about negotiating skills that customers have against the company.

This ability depends on the size and concentration of both consumers and producers. The more concentrated the demand, the greater its bargaining power due to the lack of numerous clients. On the other hand, if customers are small and numerous, their bargaining power is reduced almost to the minimum as they are easier to replace.

Apart from the number of buyers that there are, their bargaining power also varies depending on the volume of purchases they make, reliance on distribution channels, the degree of product specialization, the scarcity of the concrete product, etc.

Virtually in every industry, the customers are who have more bargaining power.

This analysis allows us to develop strategies to increase the number of customers and increase loyalty of the current ones to avoid losing sales.

- **Bargaining power of suppliers:**

It refers to the bargaining power of suppliers against us. This case is identical to the previous, only in the opposite way. The parameters affecting the bargaining power are the same: concentration and size of the offer, purchase volume, product differentiation, etc.

- **Competitive rivalry:**

It refers to companies that compete directly in the same industry.

More than a force, rivalry among competitors is a sum of the other 4 factors. The degree of rivalry is often associated with the degree of profitability: the more competitive a market is less profitable will result.

The level of this rivalry grows as the number of competitors increase, they homogenize in size and capacity, the demand of products decreases, lower prices, etc.

1.2.3. BUENO'S 10 COMPETITIVE FORCES MODEL (1996)

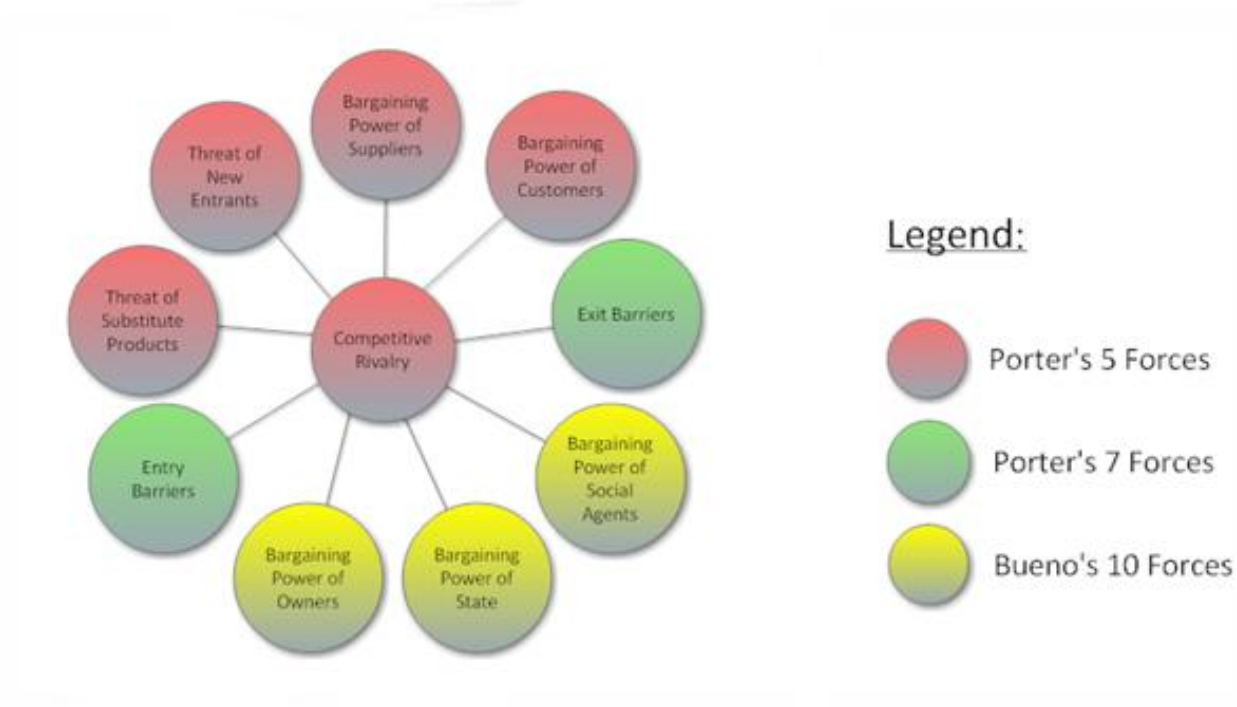
Professor Bueno (1996) established a 10 competitive forces model, based on the model of the extended version of the 5 forces of Porter (1980) (this extended model adds "entry barriers" and "exit barriers"), adding 3 other decisive factors:

- Bargaining power of owners (shareholders),
- Bargaining power of the State (Government),
- Bargaining power of social agents.

This improvement of Porter's model has been applied in several studies: Figueroa and Fernandez (1997) use it for the analysis of manufacturing and services sector in Galicia. In

the agricultural sector, Borrero (2003) reflects on its applicability in the familiar food industry.

Figure 4: Bueno's 10 Forces Analysis



Source: Own elaboration. Adapted from Bueno, E.: Dirección Estratégica de la empresa: metodología, técnicas y casos (1996).

2. INDUSTRIAL ANALYSIS

2.1. General structure of the fruits and vegetables industry in Almería.

Almeria is the area with more hours of sunlight per year in all Europe. This is a key factor in the agricultural orientation of the province, because weather conditions are very favorable for most of the year. Productivity in Almeria comes naturally, unlike their European competitors, which require expensive heating systems for this purpose. This is a great advantage for the Almerian horticulture, as it involves cost saving and higher productivity, making it more competitive, being at the same time more environmentally friendly.

Almería is located in a unique place, connected with Europe and North Africa via motorways and maritime networks, and the high-speed train in project. In addition, Almeria has an international airport, allowing us to be in less than 3 hours in almost all Europe.

Almerian horticulture fits the needs jointly and at high speed. The latest phytosanitary crises that hit the sector, led to the introduction of biological pest control to the detriment of chemical products in a record time, becoming the province as the first region worldwide in terms of volume grown with integrated control. This fact is fundamental for the ecological image of the Almerian products and its awareness for a feeding as natural as possible.

Besides being the world leader in biological control, Almeria is the world leader in terms of optimizing the use of water resources, surpassing countries such as Israel. The lack of water in the near environment of Almeria makes necessary to optimize the use of this resource. Drip irrigation is essential for the sector, and the use of hydroponics enhances crop productivity Almeria

The large amount of cultivated area allows Almeria to have farms devoted to new horticultural varieties research, trying to optimize the nutritional and organoleptic properties of products, providing them with better taste to meet the likes of end users

For the horticultural industry of Almería is one of the drivers of the economy of the province. It has about 30,000 hectares of crops, bringing together about 16,000 small farmers organized in about 200 cooperatives or processing companies. Almerian intensive

horticultural production is carried out in 3 areas: Bajo Almanzora, Campo de Dalías and Campo de Níjar.

In 2011, production reached 3,000,000 tons, with a market value of 1,800 million euros. From this production, about 62% went to foreign markets, showing the exporting nature of this industry.

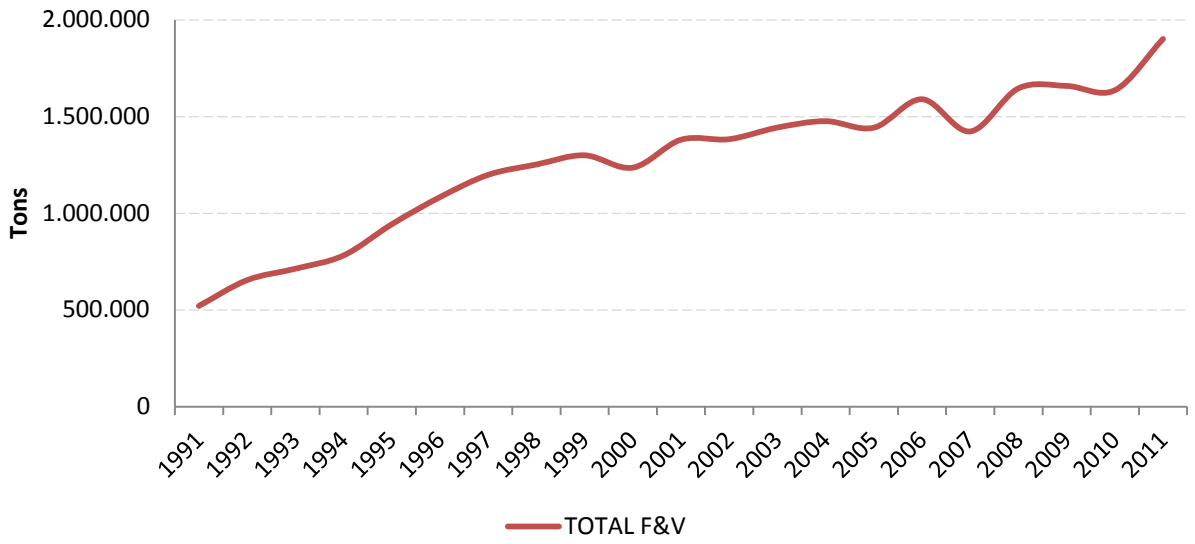
These figures reflect the economic and social significance that the horticulture has for the province of Almeria, where approximately 50% of its population depends directly on horticulture, generating around an auxiliary industry almost as important as this in size, where we can find companies dedicated to biological pest control, pesticides, seeds, plastic greenhouses, laboratories ... About 23% of GDP in the province depends directly or indirectly in horticulture.

As for the size of farms, it is necessary to mention that Almeria stands out for its great atomization, being very numerous the crops of small farmers, who come together around cooperatives to have greater market presence. These cooperatives are also grouped in associations of producers and exporters, such as **COEXPHAL** (Association of Organizations of Fruit and Vegetables Producers of Almería), **ECOHAL** (Association of Fruit and Vegetables Trading Companies from Almería) and **FAECA** (Andalusian Federation of Agricultural Cooperative Enterprises).

For example, COEXPHAL agglutinates 58 companies with 7,800 farmer members. These companies employ around 18,500 workers from over 150 nationalities. These companies account for 70% of total industry exports and 75% of horticultural production of Almería, reaching 1.8 million tons per year with a turnover of 1,461 million Euros. (Source: COEXPHAL)

In the last 20 years there have been a strong growth in terms of quantity exported fruit and vegetables. It has gone from about 500,000 tons to nearly 2,000,000 tons, which is an increase of 400% (see **Figure 6**).

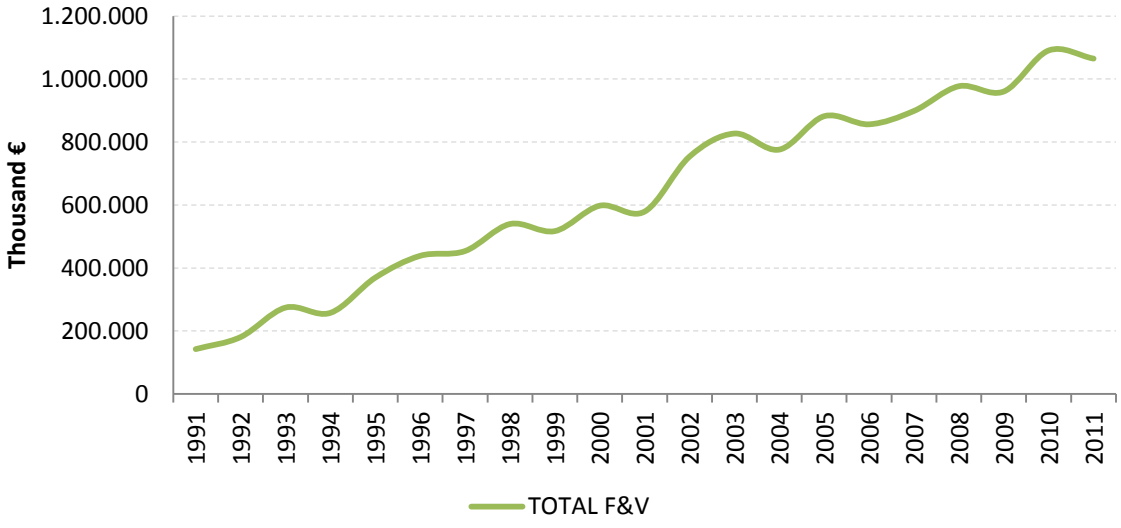
Figure 6: Total fruit and vegetables exportations from Almería (Tons)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

The value of these exports has increased from nearly 143 million Euros to just over 1,000 million Euros, this being a 745% growth (**Figure 7**). By growing more the value of exports than the total amount of tons exported, we can see the increase in revenue per ton over the period 1991-2011

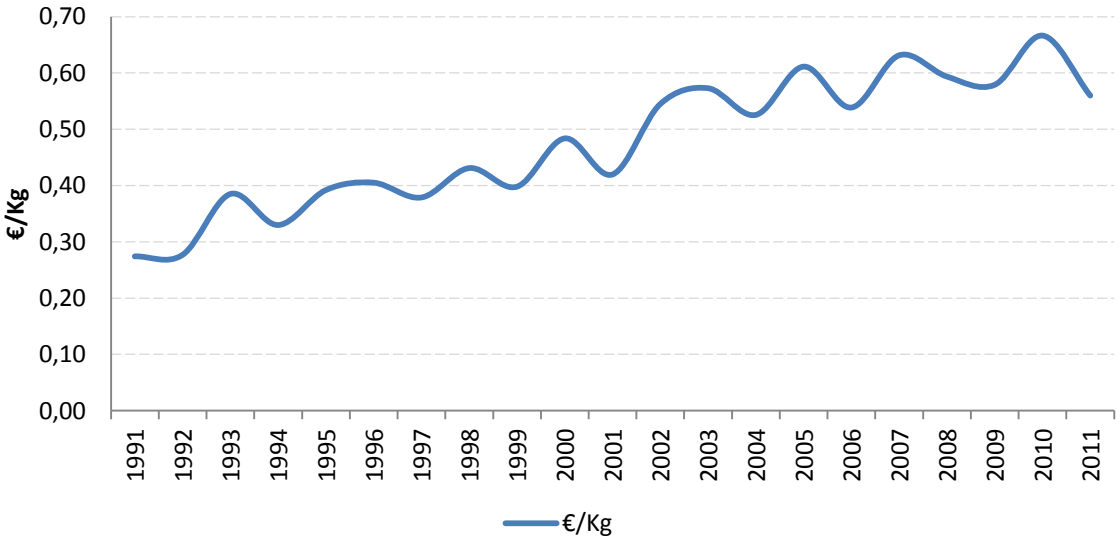
Figure 7: Total fruit and vegetables exports from Almería (in thousands Euro)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

The average price per kilo perceived by traders in 1991 was 0'27 €, and in 2011 was 0'56€. This represents an increase of 204% in 20 years, a 10'2% annually on average (**Figure 8**). Later in this paper, it will be analyzed whether these prices are enough to get benefits, to cover costs, or if they are deficient.

Figure 8: Average price of Almería's F&V exportations (€/kg)



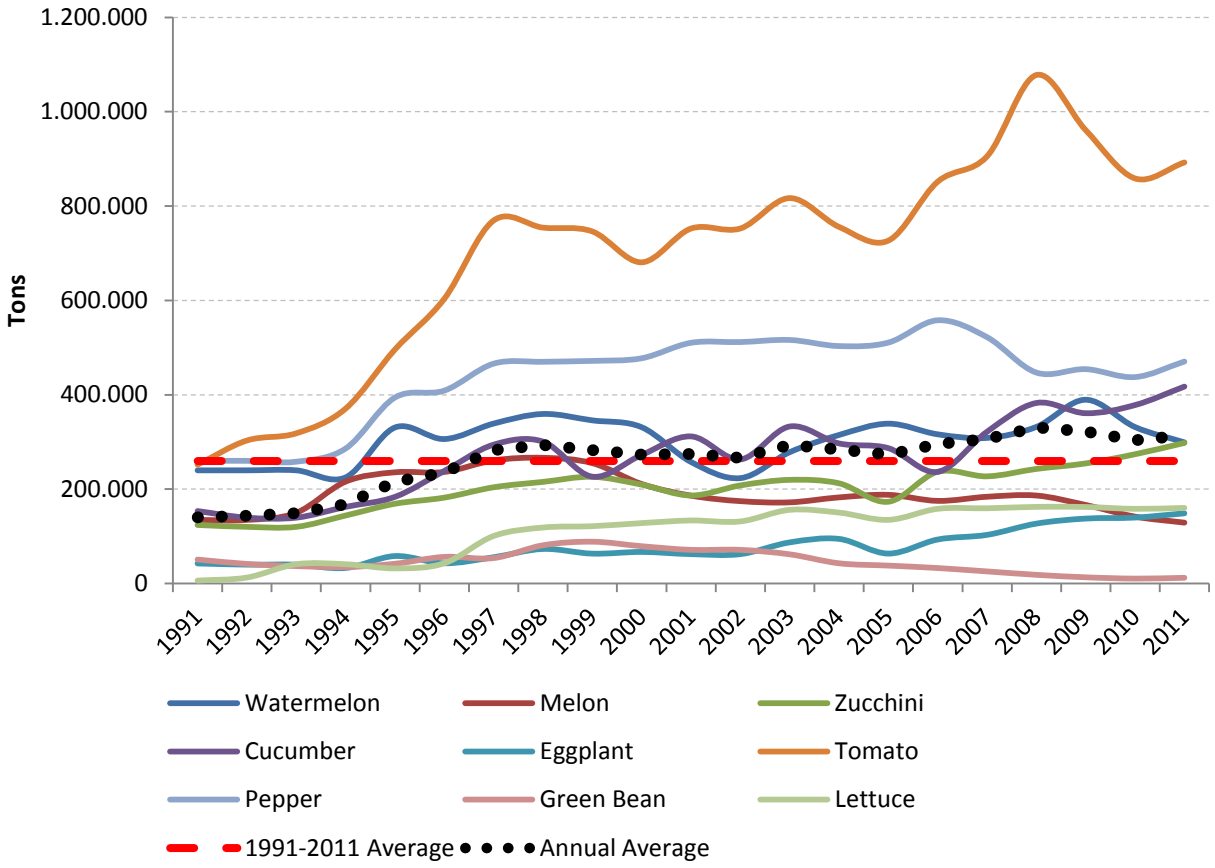
Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

Changes in internal and external environment of the industry finally influence in direct competition with rivals. This section will study the evolution of production and exports of major crops in Almeria in a timeline that goes from 1991 to 2011, the last full year of study.

Despite the different political and legislative changes that have hit the industry coupled with the various crises both phytosanitary and of prices and production, Almerian horticulture has maintained its competitiveness in European markets, which demonstrates its ability to innovate and adapting jointly and rapidly to changing circumstances imposed from outside.

First, in **Figure 9** we see how the production in tons of different Almerian products has evolved. At first glance, one can see how the tomato is the star product in terms of production, being its annual production far superior to the average for the whole sector. Next to the tomatoes, we can say that cucumber, pepper, zucchini and watermelon are the products that pull the provincial production, and their production is also above average.

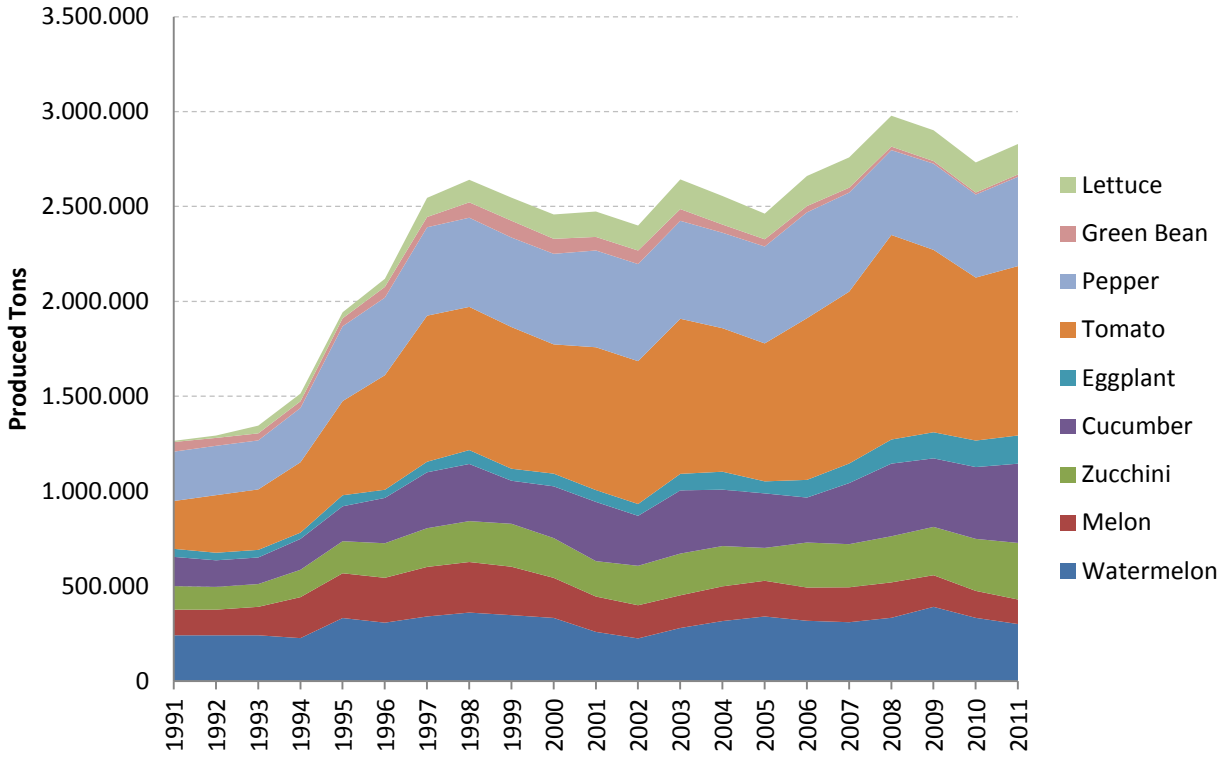
Figure 9: Comparison of F&V production in Almería (Tons)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

In the following graph, **Figure 10**, can be analyzed at a glance the evolution of the total production of major crops Almeria (watermelon, melon, zucchini, cucumber, eggplant, tomato, pepper, green bean and lettuce) and how much do they contribute to this sum

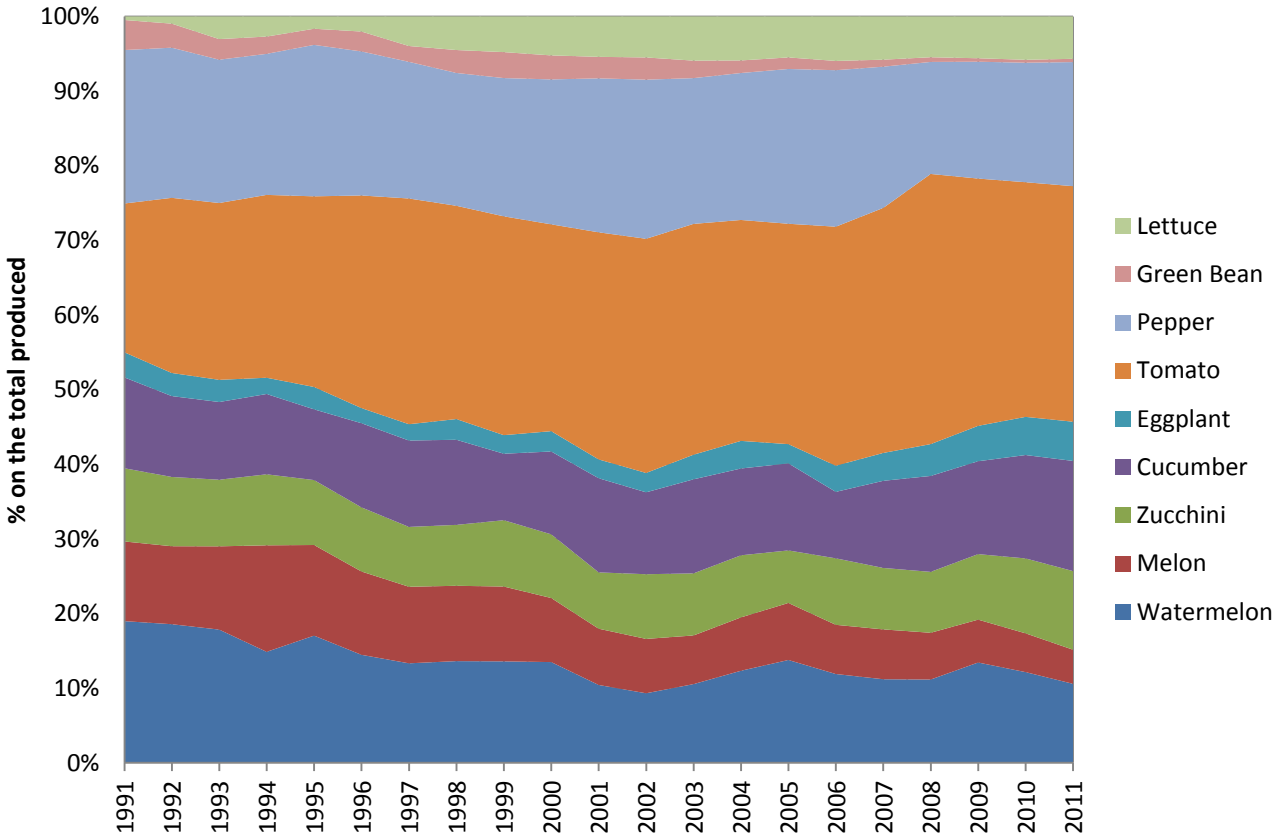
Figure 10: Aggregate production of F&V in Almería (Tons)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

Later, in **Figure 11** the share represented by each product is analyzed regarding the total produced each year. Among both graphs is observable the large decline in production that green beans have suffered, reaching almost their disappearance. The opposite is the case of lettuce, which, starting almost from 0, finished with a share of 7%. All the other products have been maintaining their share within the industry, with small logical oscillations when studying such a long period.

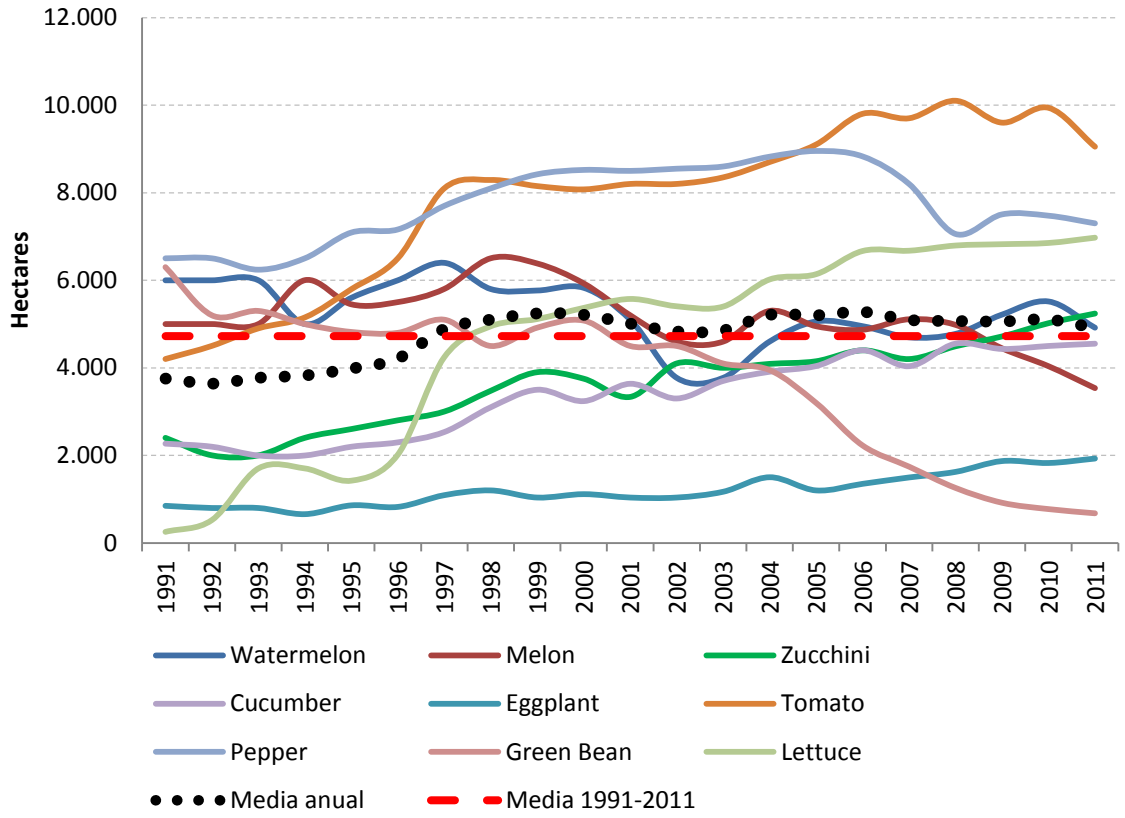
Figure 11: Share of each product within the Almería's F&V production (Tons)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

In terms of grown surface, in **Figure 12** tomato, pepper and lettuce stand out above the average. It is important that both tomato and pepper outstand in area and production, making them the predominant products in Almerian horticulture. On this same graph, we see a large fall in the area devoted to green beans and a continued decline in melon-devoted surface. Green beans tend to disappear. Melon carries a slight decrease in surface from its peak in 1997. It is noteworthy to see how most crops have fallen on the surface in the last year (the case of tomatoes, peppers, watermelon, melon and green bean), remaining the rest almost the same over the year 2010. Later we will analyze the possible causes of these declines.

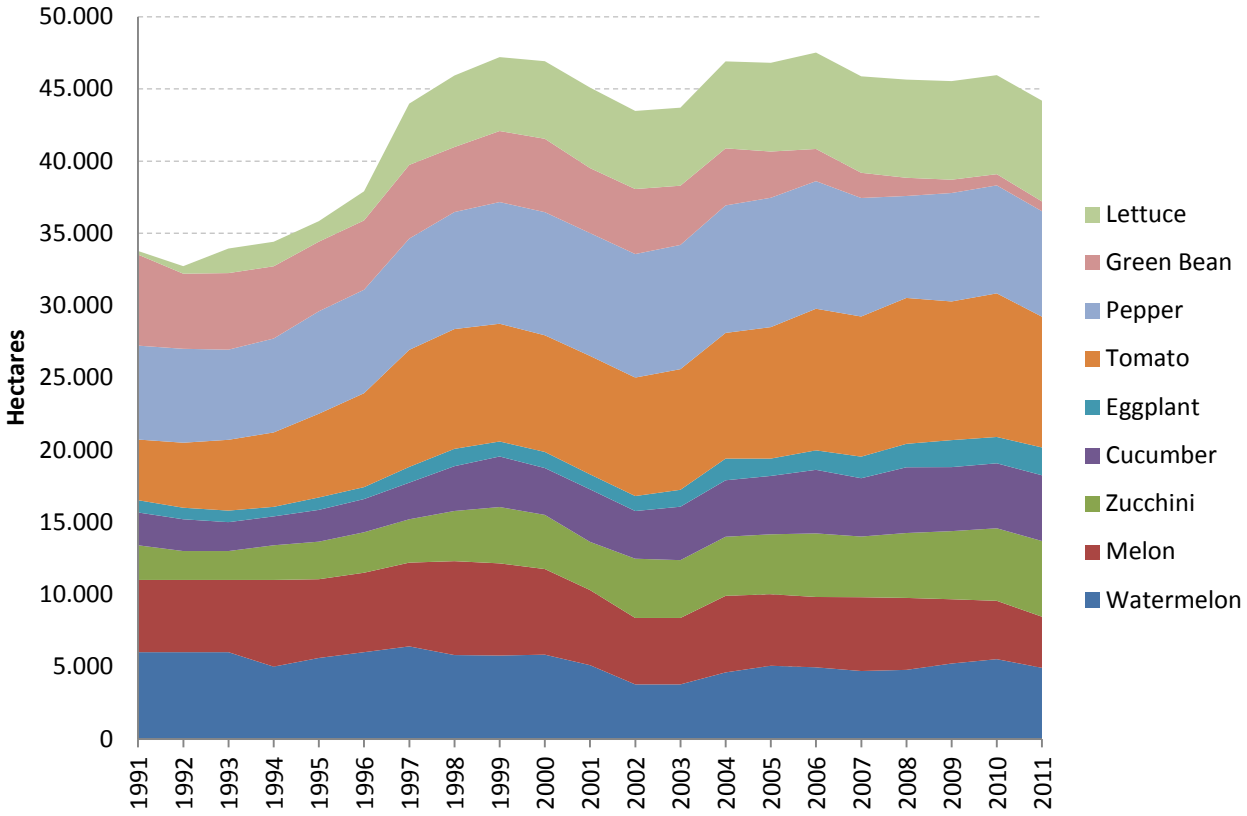
Figure 12: Comparison of F&V production in Almería (Hectare)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

As in the case of production in tons, **Figure 13** and **Figure 14** comparatively analyze the extension in hectares of each product. It is highlighted, as discussed above, the great rise of land devoted to lettuce, making almost symbolic the one dedicated to green beans. There has been a gradual migration from one type of crop to the other. Between 1999 and 2003 it is observed a general decrease of the total grown area due to cyclical oscillations. From 2010 to 2011 there was another decline in surface. With only one reference year cannot be inferred that there will be another cycle of constant decreases on area as discussed previously between 1999 and 2003, but it makes us to be aware for a possible recession situation.

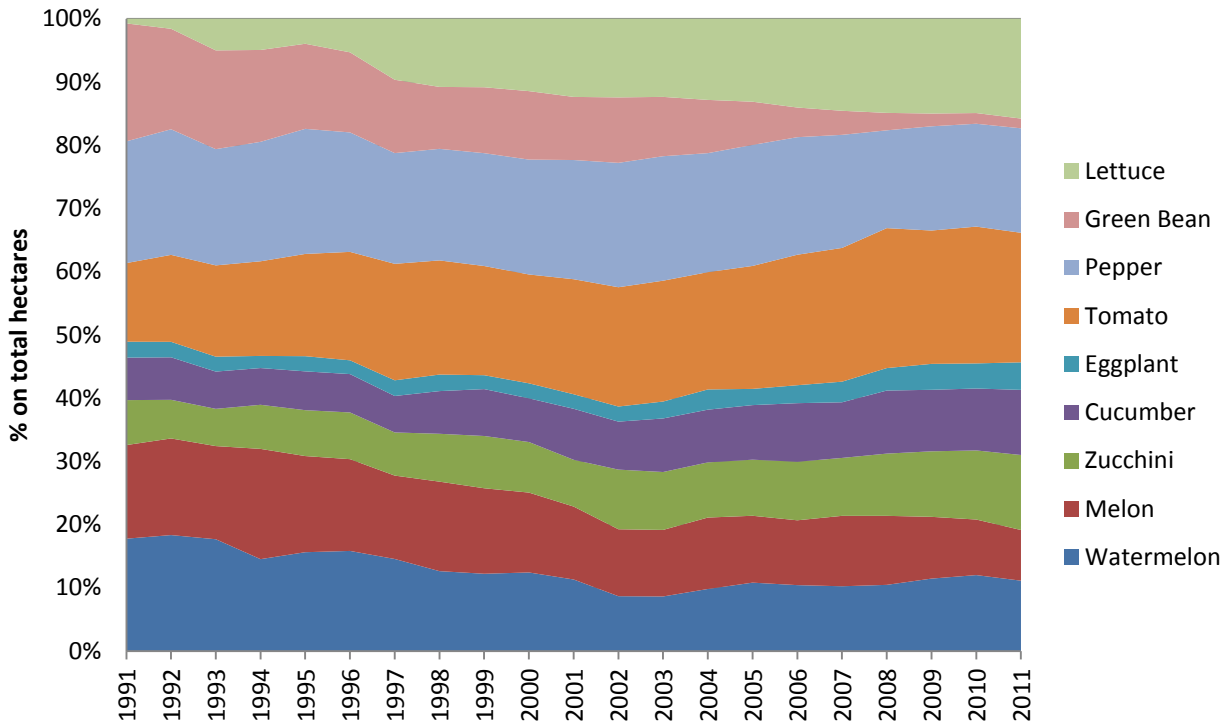
Figure 13: Aggregate F&V production Almería (Hectare)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

As regards to relative shares, it happens as with the production, where each product has been maintaining its share (within margins of fluctuation) in the Almerian industry. The most significant change has been the one already commented, the green bean in exchange with the lettuce. Green beans fall from almost 20% to just 1-2%, being the evolution of lettuce-devoted land from 1-2% to over 15%. These changes have occurred gradually, which suggests that a possible lack of profitability of green beans has "forced" farmers to replace their crop for other products, in this case the lettuce. Several factors have contributed to this fact; the most important is labor cost, which has led to shifting production to areas where this cost is lower, such as Morocco or Kenya (Fundación Cajamar, 2011).

Figure 14: Share of each product within the Almería's production (Hectare)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

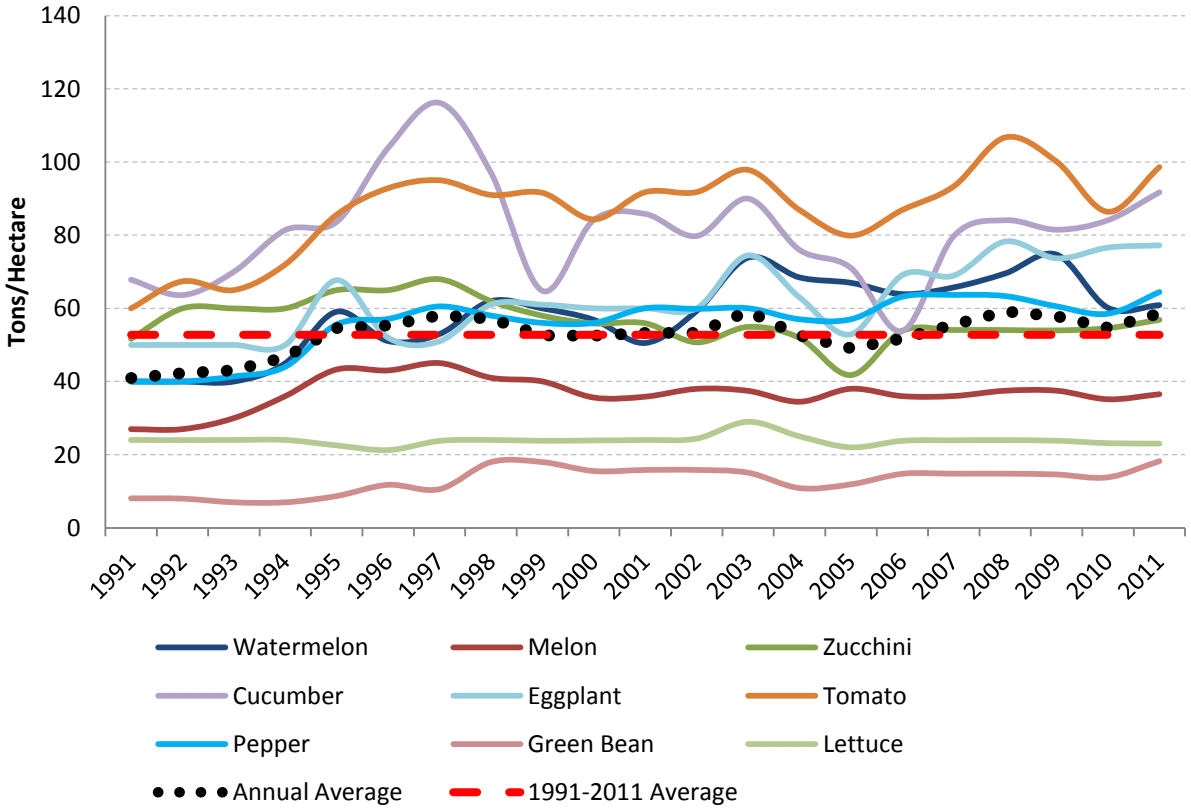
Known production and surface data, obtaining the productivity of each crop is automatic. This measure is more representative than the previous two, as they are interrelated and allow us to standardize the data. A lot of area devoted to a single product, does not mean that the crop produces more than another. In this case, comparing the output with the surface we can obtain reliable data of which crop optimizes the area devoted to it.

In the case study, the horticultural industry in Almeria, the most productive crops (above average) are tomato, cucumber, eggplant and peppers. In **Figure 16** there are two remarkable facts:

- The first one is that unlike what happened with the cultivated area, most crops have productivity growth in the last year. This is because although the surface dedicated decreased, the production increased and, therefore, there is a greater productivity.
- The second one is that although the lettuce is the third crop in devoted area, productivity is far below the average, being the second last, just above green beans.

As shown in **Figure 15**, the green bean has maintained throughout the period a much lower productivity than the average, being that reason the cause of the abandonment of this type of crop to the detriment of other more profitable.

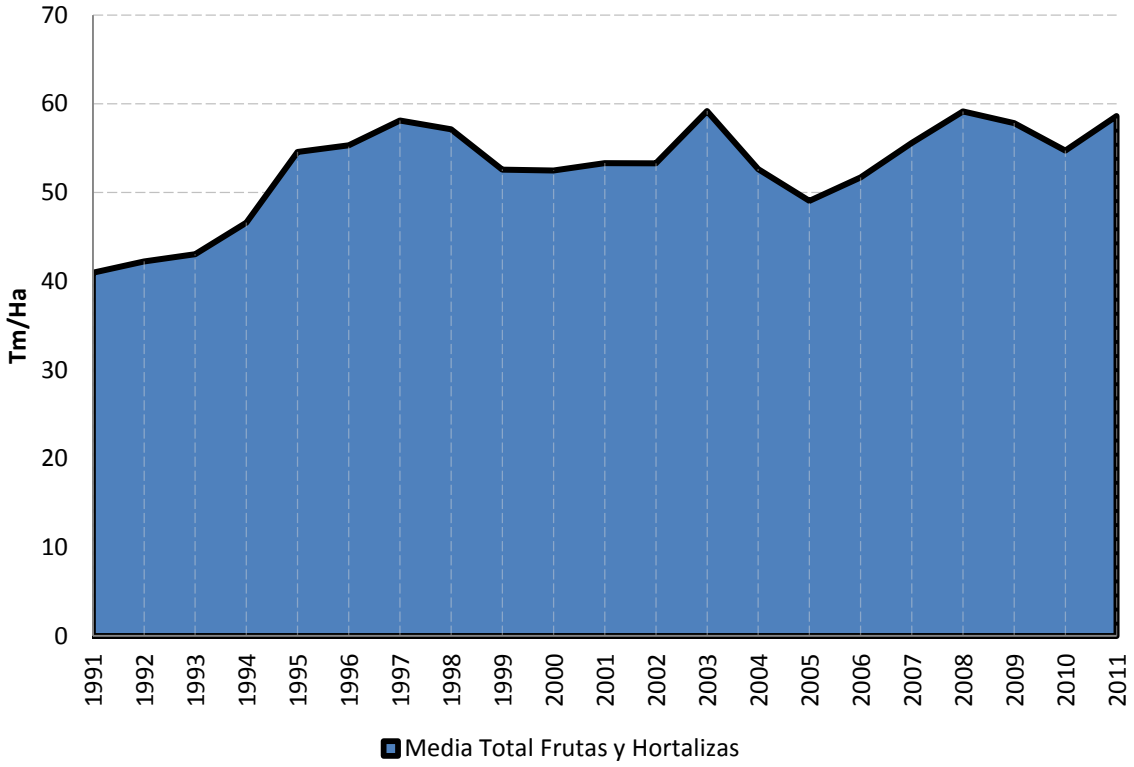
Figure 15: Productivity of each product (Tons/Hectare)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

In **Figure 16** is bonded on the same graph the total productivity of major fruit and vegetable in Almería. Although as it is shown in **Figure 16,** productivity has increased by 43%, the cultivated area has increased by 31%, which makes the total production has rocketed, more than doubled, showing how efficient is the industry in terms of production.

Figure 16: Evolution of total average productivity (Tons/Hectare)

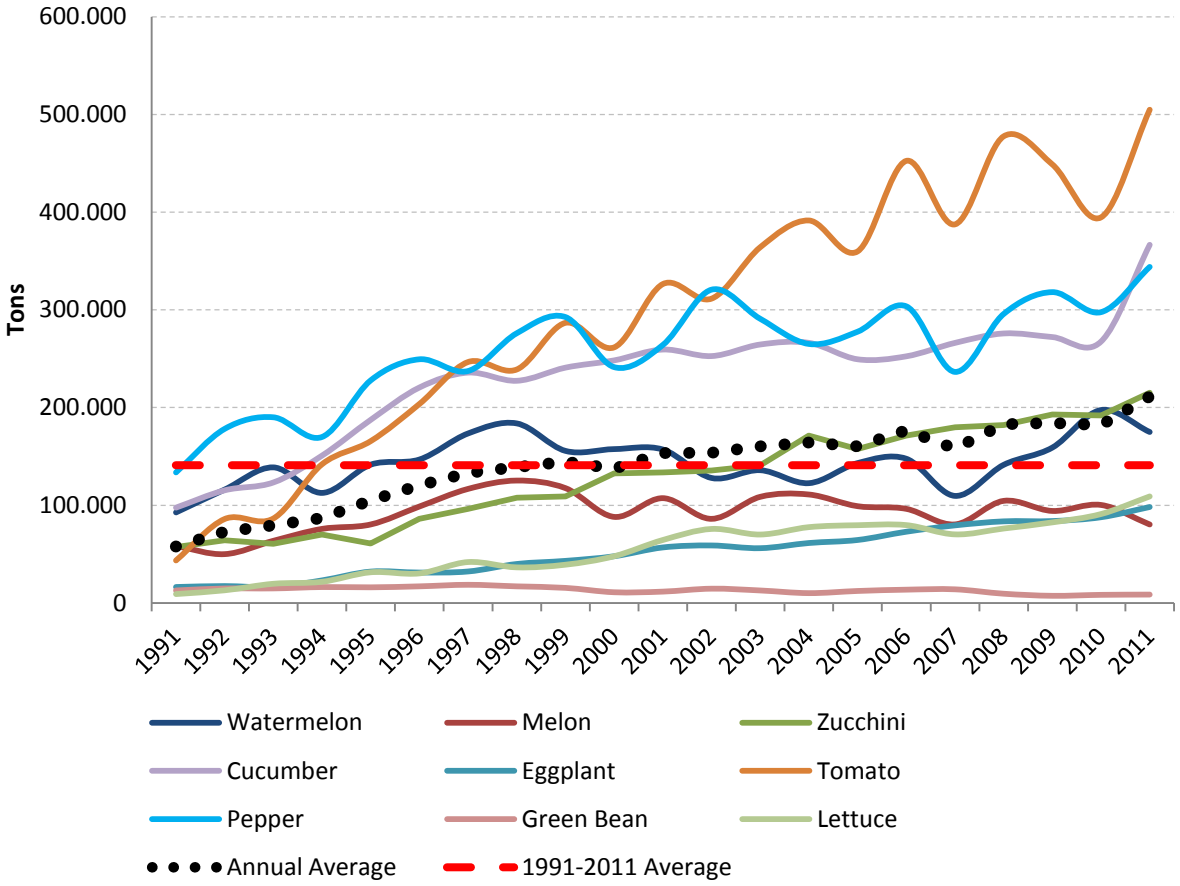


Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

In terms of exports, which is what is special about the industry, different variables such as the tons exported and the turnover derived from such exports are analyzed.

Firstly, in **Figure 17** the tons exported from each product are compared. Tomato, pepper, cucumber and zucchini are once again the most important products, being their exports always above the industry average and experiencing a growth in the last year.

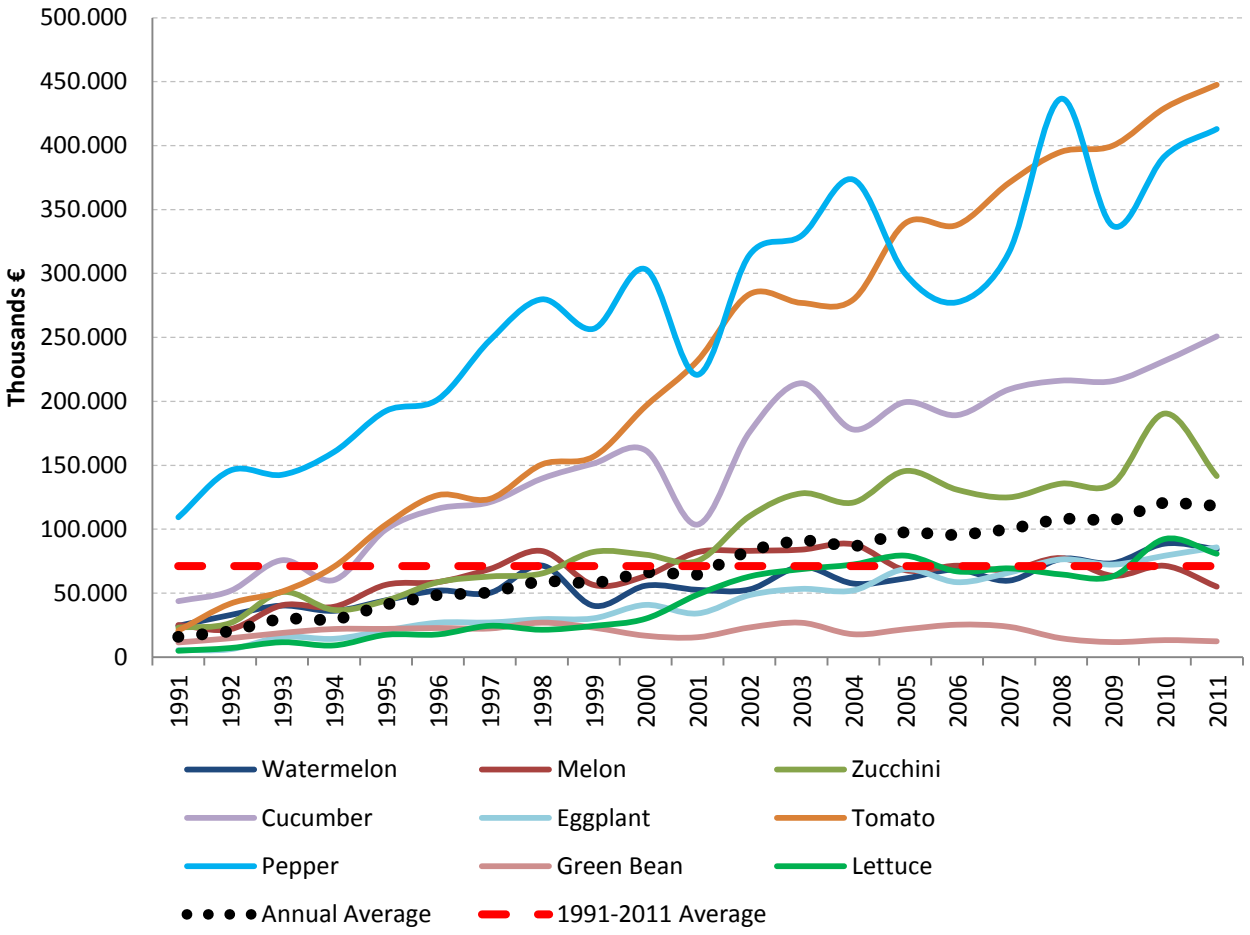
Figure 17: Comparison of the total amount exported of each product (Tons)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

The **Figure 18** highlights again the power of these 4 products on the export facet of the horticultural industry in Almería. This figure compares the annual export turnover of each type of crop, and again tomato, cucumber, pepper and zucchini have much higher figures than the rest, standing as the top products in international markets.

Figure 18: Comparison of the total amount exported of each product (Thousands €)



Source: Own Elaboration. Data from Consejería de Agricultura y Pesca de Andalucía

Once known the characteristics and general data of the industry, we proceed to do a more in depth analysis of it. Applying the theoretical methodological basis explained in paragraph "*1.2) Methodological aspects: industrial analysis and threat detection systems*", there will be developed a SWOT analysis. Although having studied different models that help the external analysis, for extension issues there will be applied only Bueno's model because it is the most comprehensive, since it contains within the Porter's model. For internal analysis it will be applied an analysis of resources and capabilities that has been done implicitly throughout this section.

2.2. Application of the "10 Competitive Forces" Model to the horticultural trading industry in Almería.

To begin the SWOT, we proceed to an external analysis, using the model of Porter's 5 Competitive Forces:

1) Threat of the entry of new competitors

At the moment this is the point of greatest concern in the horticultural industry of Almeria. The European Union, the main market of horticultural products from Almería, has signed an agreement with Morocco to increase its contingents of horticultural products without customs duties, and reducing those fees in a significant percentage. While the problem is not the entry of a new competitor, it is the increased presence of existing competitors in the European market. These competitors also produce at costs below those of the Almerian area, so their sales prices to final consumers are lower, difficulting sales of horticultural products from Almeria.

2) Threat of substitute products

From a product point of view, considering the product as "fresh product", the rapid growth that are having IV range (fresh products portioned and packaged to improve the keeping and ease of use; for example: salads ready to eat or bricks of gazpacho) and V range products (practically IV range products, cooked with heat treatment and with long-term storage conditions; for instance: "fritada", scrambled vegetables ...), makes fresh products have to increase their competitive strength through differentiation in quality, since cost leadership is not reachable due to the presence of products from countries with developing economies. The main causes in the decline in consumption of fruits and vegetables may be attributed to changes in current living habits (eating out, replacement for sweets and desserts) and loss of flavor in fruit and vegetables (attractive products but tasteless flavor) as consequences of increasingly intensive cultivation techniques. In this situation, innovation in IV and V range products implies a diversification of supply, adapting to current needs and consumer requirements.

Currently the products of IV and V range are marked by market experts as one of the most promising areas of growth, since these products are in line with various socio-demographic trends: average aging population, increased occupation of the women, reduced members of the family, increased income level, etc…

In Spain, the consumption of products of IV and V range range has increased significantly in recent years and will continue to rise progressively in the next few, following the trend of other developed countries such as Britain, France and USA. It has evolved from consumption of around 3 kg per year to figures around 10 kg per year. Yet, they have enormous commercial potential as demonstrated by the fact that in Spanish households they still represent less than 3% of total food expenditures.

As for the V range products, the wide range of available items, fully cooked, ready to heat and eat, forms already a new market in Spain, which has generated specific linear in retailers, to give the customers an almost comprehensive answer in order to solve a lunch or dinner.

3) Bargaining power of suppliers

In this case, since agriculture is the primary sector, suppliers can only belong to the auxiliary industry to agriculture. This industry is characterized by highly specialized firms, which ends up in a differentiated oligopoly. Being an ever-changing industry with regard to innovation and product improvement, relationships with suppliers are based on cooperation rather than in competition. In addition it also influences delayed charging of farmers respecting their customers, which generates a debt, thus farmers are willing to have a better relationship with their suppliers (José Antonio Peralta Ruiz, 2011).

4) Bargaining power of customers

This is another hot spot for the industry. Nowadays, retail chains control, directly or indirectly, the flow of purchase sale of fruit and vegetables. These organizations set timelines and standards from their suppliers in terms of the detected consumer trends. Moreover, although these companies are large multinationals there is significant competition in its sector to maintain, and expand market share. We can say, in this sense,

the consumer and domestic competition set their strategies, that at a tactical and operational level must shift to suppliers. The major trends that are detected, and that may affect the productive and marketer sector of fruits and vegetables, are the concern for the environment and social responsibility, the search for differentiation, and control of the supply chain.

Figure 19: Main World and Europe food retailers.

Top-Worldwide	Top-Europe	Top-Spain (Food)	Name	Thousand Millions ($) Total Revenues	Country of origin
1	-	-	Wal-Mart	345,0	USA
2	1	1	Carrefour	97,9	France
4	2	-	Tesco	80,0	United Kingdom
5	3	-	Metro	74,9	Germany
10	4	7	Schwarz (Lidl)	52,4	Germany
11	5	-	Aldi	50,0	Germany
14	6	-	Rewe	45,9	Germany
16	7	4	Auchan	42,2	France
17	8	-	Edeka	40,7	Germany
22	9	-	E. Leclerc	38,7	France
22	10	-	Ahold	37,1	Holland
39	20	5	Grupo C. Inglés	21,7	Spain
50	26	2	Mercadona	14,2	Spain
105	48	3	Eroski	7,4	Spain
247	138	6	Caprabo	2,8	Spain

Source: García y Pérez-Mesa (2010)

5) Competitive rivalry

Currently competition that has the Almerian industry in Europe is mainly marked by the increased presence of products from countries with lower production costs. Before the increased presence of these competitors, Almería competed with other producing areas of fruit and vegetables in Spain such as Granada, Murcia, the Canary Islands; and outside Spain with Germany, France, Italy and especially Holland, which even being producer summer season, is the main re-exporter in Europe, with a high share of presence in European markets. Currently they are added to non-EU competitors from Mediterranean countries such as Morocco, Israel and Turkey. These countries are

getting stronger in the markets due to their lower production costs, and in the case of Morocco, as discussed above, favored by the trade agreements signed with the EU.

Let us remember that the Bueno's 10 Competitive Forces model is an expanded model of Porter's one recently analyzed, so then the analysis will continue with the remaining 5 competitive factors.

1) Entry barriers

The network system and trade agreements facilitates the entry of new competitors in markets involving fruit and vegetables from Almeria. The European Union is constantly seeking provision of cheaper products, thus it establishes trade agreements with third countries so they can introduce economically and periodically their products.

2) Exit barriers

It is very difficult for a grower to dismantle his farm to focus on something else, because the investment needed to start is high, and the residual value of the facilities is almost nil. It is very difficult for a grower to dismantle his farm to focus on something else, because the investment needed to start is high, and the residual value of the facilities is almost nil. Another case would be selling the farm to another farmer, in which the exit of industry is substantially easier. From the point of view the industry as a whole, to leave the European market would be impossible since by size and proximity is optimal for the industry's success.

3) Bargaining power of the State

Although each country and each autonomous community has jurisdiction over agriculture, it is true that agricultural policy is marked from the European Union. In this situation, the Almerian horticultural industry is completely powerless to changes in agricultural policy, as has happened with the opening of the European market for Moroccan products. This factor poses a serious threat to the industry so that decisions taken are based primarily on price for European final consumers, leaving Almeria in disadvantage, since production costs are higher, although their product is characterized by higher quality.

4) **Bargaining power of social agents**

In this case, the constant and showy protests by the different producers associations, unions and interprofessional facing changes in agricultural policies have gone to deaf ears, as they have not been heard by the European Union, among other reasons, because it is a quite small region compared to the total European production. Europe defends consumer interests more than those of the producer, so that the social pressure has no effect once the decisions have been taken.

5) **Bargaining power of owners**

In the case of horticulture industry in Almería, farms are usually familiar, being the owner also working with his family and the extra labor needed to work their land. In such plantations, the bargaining power of the owners is total, since the owner is employee of the company.

From the point of view of commercial agencies, the most widespread type of horticultural companies in the province, the owners themselves also produce, so it happens as in the example above, the worker and the owner are the same person, so the ability to control over the exploitation is complete.

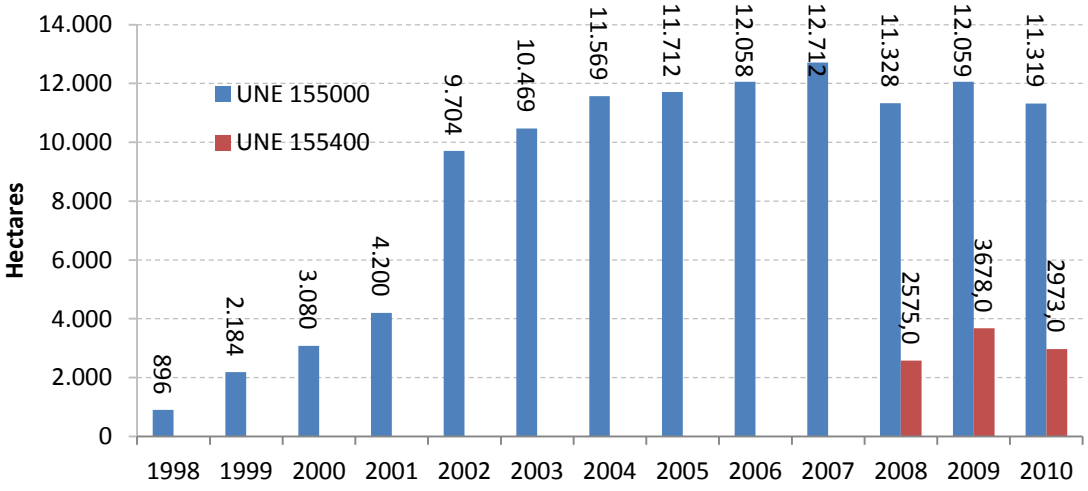
2.2.1. "Quality and environmental management" as a strategic element in the analysis.

Regarding the environmental factor as an element of competitiveness, Porter and Van der Linde (1995) recognize it as a competitive force that manifests itself through expansion of margins, but not specifically included in the model of forces. On the other hand, in relation to intensive agriculture, the concept of "sustainability" is becoming very relevant (Perez-Mesa, 2011). The definitions of sustainable agriculture cover different aspects such as maintaining economic activity in the long term, but certainly one that stands out is the conservation and re-establishment of the environment. All these reasons make it necessary to include this factor as distinct aspect within all industrial analysis models.

In the agriculture of Almeria, quality-environment interaction has been demonstrated by the introduction of new farming techniques. Is the case of integrated pest control, which in a few years has made Almeria the first region in the world in use of this technique, having nearly 21,000 hectares currently under this system.

On the other hand Almeria has more than 11,000 hectares certified by the standard UNE 155000 (**Figure 20**) which introduces strict environmental restrictions in the field.

Figure 20: Total of hectares certified by the norms UNE-155.000 and UNE-155.400



Source: García y Pérez-Mesa (2010)

2.3. SWOT summary of the industry.

Having analyzed the different models, this paper will proceed to design the SWOT matrix including the factors discussed above:

Figure 21: SWOT Analysis of the F&V industry in Almería.

STRENGTHS	
5	Development of a large commercial network in origin and destination.
7	No dependence on public subsidies. The majority of revenues come from the market.
7	No dependence on the ground (sanding, hydroponics ...)
7	High level of expert counseling (highly trained technicians).
7	Consolidated production cycles which coincide with periods of higher prices.
8	Quality of Products. High degree of certification.
8	Strong implementation of systems of quality certification
7	Leadership in the market for certain products: high market shares in specific dates.
10	Optimal weather conditions.

WEAKNESSES	
5	Scarcity of water resources (overexploitation of aquifers, salinization of the sea ...). Lack of environmental planning applied to production.
6	Low development of processed fruits and vegetables, and IV and V Range.
8	Low concentration of supply.
8	Large retail chains establish standards of production and handling
7	Lack of planning of the crops regarding the commercialization.
6	Lack of strategies of consortium, complementarity ... (joint marketing).
6	Lack of application of R & D + i in the sector
6	Lack of resources for R & D + i.
5	Deficiencies in infrastructure (power supply, roads ...)

8	Big supply capacity and wide product range
6	Concentration of producers, which helps the creation of producers' organizations.
6	Important ancillary industry.
6	Unique combination of natural conditions and geographical proximity to target markets.
5	Increase in the degree of technological advancement of cultivation.
3	Development of the cold chain.
3	Farmers are younger than the rest of the agricultural industry.

7	Aging plants and equipment that make difficult to incorporate technological improvements.
5	Dependence on 3 rd countries (Netherlands) to obtain seeds.
4	High dependence on road transport.

103	**TOTAL**

73	**TOTAL**

OPORTUNITIES	
8	Comprehensive implementation of traceability.
8	Possibility of concentration of supply.
9	Development of IV and V range. Processed products.
9	Potential growth in demand for quality products (even organic), which allows to have better prices.
8	Expanding portfolio of products to meet new demands.
7	Improving road infrastructure in Almeria.

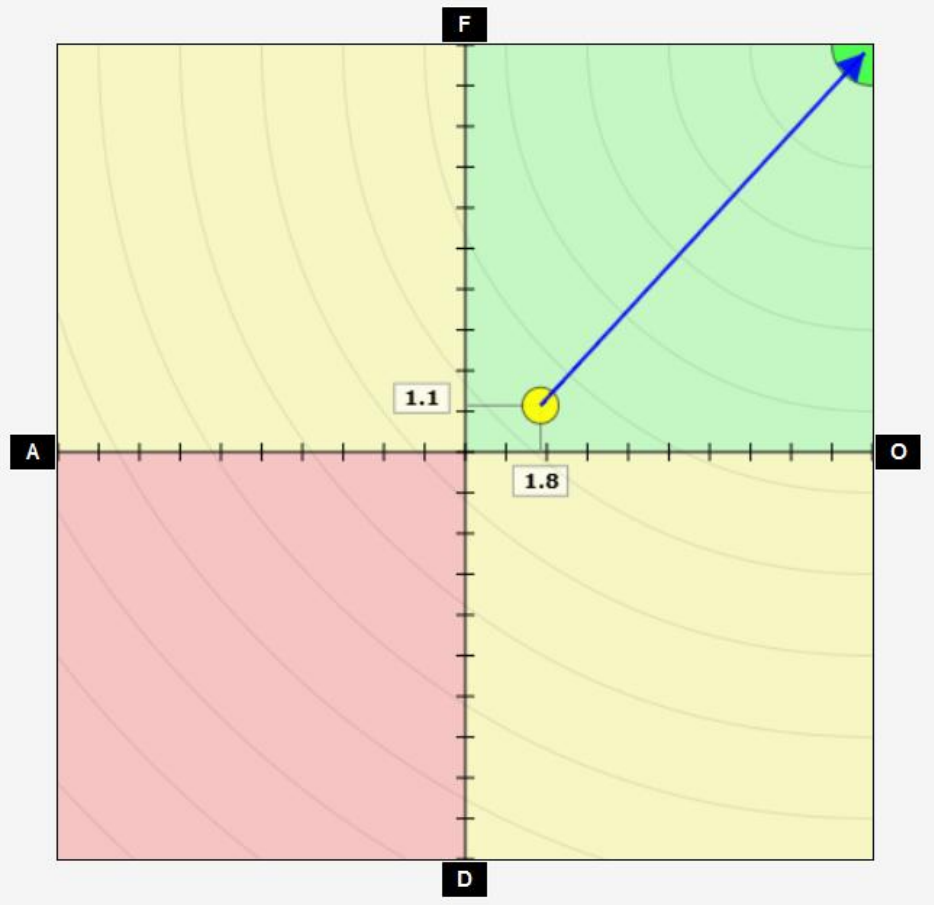
THREATS	
9	Low bargaining power due to the concentration of the mass distribution.
8	Existence of campaigns to discredit Almerian fruits and vegetables at certain times and countries (international lobbies, especially Dutch).
8	Competitors from countries where labor is much cheaper.
7	Changes in agricultural policy by the EU: new trade agreements and modification of the CMO.
7	Insufficient level of investment in the commercialization sector.
6	Existence of new pests and diseases with resistance to chemical and biological fighting.

7	Advantageous position facing an increase in health and environmental requirements
7	Quality certification and food safety actions.
7	Establishment of own offices and staff in destination countries, to solve any problems that arise. Logistic centers at destination.
7	Wider use of the Internet by consumers (E-Commerce).
7	Improvement of the cold chain, which allows to go further.
7	New emerging markets (China, Russia, Eastern Europe ...).
6	Potential cooperation agreements with major retailers toward the establishment of joint actions (promotion, transport,...).
6	Technological improvements (IT, production techniques ...)
6	Andalusian irrigation plan, for an improved use of water resources.
6	Use of the maritime and air transport, for respectively, lower costs and access to far away countries.
108	**TOTAL**

6	The enlargement of the EU represents a reduction in subsidies.
6	Competition from other countries given the liberalization of markets.
5	Increase in the environmental degradation by over-exploitation.
5	Lack of weight in decision-making in agricultural policy.
67	**TOTAL**

Source: Own elaboration. Data obtained from "Plan del sector hortícola de Almería" (Junta de Andalucía)

Figure 22: Almerian F&V industry placement in relation with an ideal situation.



Source: Own elaboration. Data obtained from "Plan del sector hortícola de Almería" (Junta de Andalucía)

3. POTENTIAL CRISIS SCENARIOS IN THE INDUSTRY.

3.1. Political and legislative changes.

Spain's membership to the European Union is highly beneficial for horticulture in Almeria in terms of ease to export products to the EU market. The free entry of goods into the importing countries without taxes or tariffs favors the export position of the sector. If this condition was not given, the competitive capacity of Almeria in the European fruit and vegetables market would be drastically damaged.

However, these benefits have a great contrast, which is the dependence on the decisions made in Brussels about agricultural policies of the European Union. Almeria is in this case in a weak position in terms of Community decision-making, as there are many political and economic interests which move these actions and in which Almeria has no voice, given its size and weight concerning the Union.

The EU focuses its agricultural policy in environmental respect factors, and establishes trade agreements with third countries for cheaper priced products for the final consumer. In this sense, for example, the aids that farmers receive from the CAP (Common Agricultural Policy) are decoupled from production, being the subsidies focus on the maintenance of land and the aids are received in terms of surface and not in terms of quantity produced. This fact makes small farmers receive a small portion of the subsidy, and people with large extensions of land receive higher proportion of Community support, whether or not they grow anything (remember that the aids are given based on *"good agricultural and environmental practices"*). As mentioned above, the horticultural industry of Almeria is characterized as a conglomerate of many small farms, which influences that the aids received by farmers are small.

Following the price competition policy pursued by the European Union, the new direction they have taken has been to facilitate the entry of products from Morocco through a trade agreement which partially liberalized the entry of fruit and vegetables in the European Union. This agreement allows Morocco to increase the quota of fruits and vegetables

entering Europe and reduce and/or completely remove customs fees to those quotas. The labor cost in Moroccan farms is much lower than the one in Almería, so the first can produce at lower costs, and therefore sell at a lower price, making the Almerian products less competitive.

3.2. Health-Quality crisis.

The issue of hygiene, health and environment is very important for the European Union. So much so that most of the aids of the EU in agricultural policy come in this regard, to the detriment of production. Moreover, the distributors are those who have marked their suppliers the quality control systems to have an assurance that their own brand is not jeopardized in case of a possible crisis of quality or health. For example outstand:

- The British Retail Consortium protocol (BRC) Global Standard Food, which was developed by large retail chains in the UK to ensure food security through the implementation of good practices.
- In France and Germany, retail chains created the International Food Standard (IFS), in order to ensure standards of food safety management.
- From the industry itself, comes the utilization of UNE 155000 standards, the ISOs, and the new UNE 155400 series, which certifies the use of biological control.

These actions involve tighter control than the one imposed by the Spanish and EU laws regarding the use of pesticides, traceability, quality, control of critical points and the environment.

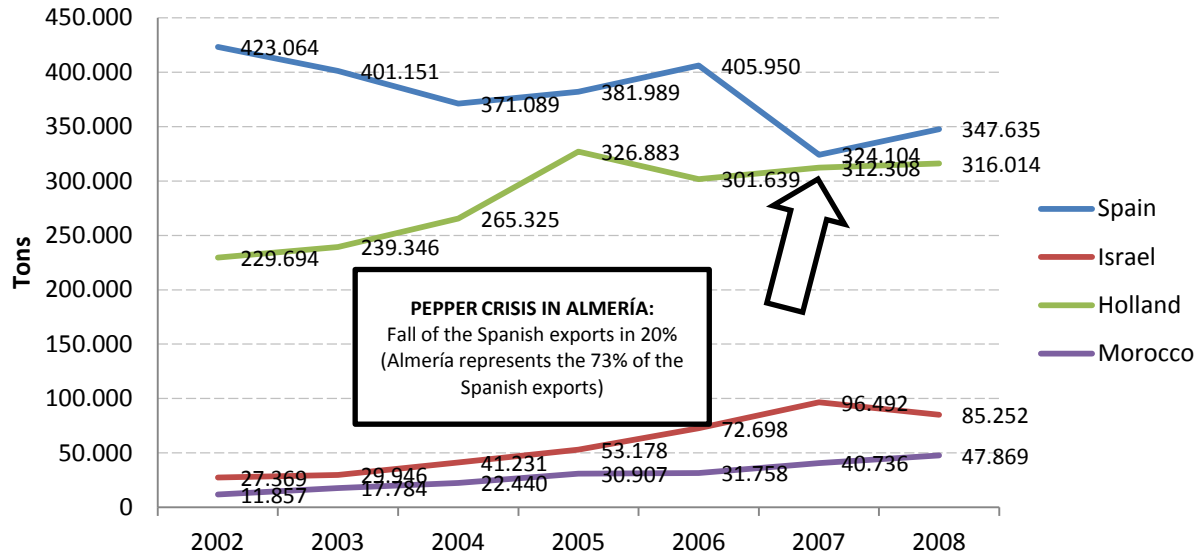
It is vitally important the implementation of these standards, as this can prevent most health crises in the industry, which can have serious consequences for the results of the season. Upon detecting a source of infection, the alarm switches on, and thank to traceability it can be known exactly where the product which is causing the problem comes from, so permitting to take the necessary steps and minimize the damage, as much as possible, caused to other products and other producers

Almería has recently suffered two major phytosanitary crises:

- The crisis of Isofenphos-Methil in pepper, by the end of 2006.
- The crisis of cucumber (E.Coli), in May 2011.

The first crisis occurred in December 2006, when in Germany they found remains of isofenphos-methyl in peppers from Almeria. The isofenphos-methyl is an organophosphate prohibited in the EU for food use (its use is generally for the treatment of golf courses) because it is a neurological poison. It did not really committed public health. Germany, Holland and United Kingdom asked for information to Almerian producers and distributors, and called them for a change of attitude, forcing them to pass chemical analysis and replacing Almerian products for other from different origins. Almerian producers had no choice, so they implanted biological pest control collectively. (Pérez-Mesa, 2010)

Figure 27: Importations of pepper within the EU, by countries of origin

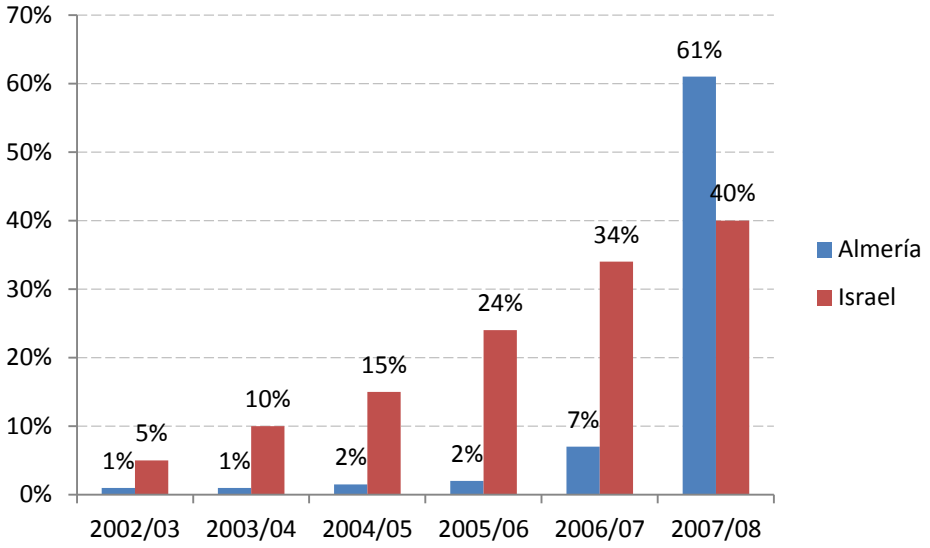


Source: García, Pérez-Mesa (2010)

This implementation of the new model was imposed by external pressures, rather than on own initiative. This implies the presence of a problem in the industry: producers and traders from Almeria are unable to proactively innovate to differentiate themselves from their competitors, but they act reactively when the problem has arisen. By coming this change from the pressure of demand, other production areas also take further steps, which makes again that the Almerian product is no longer differentiated. If this innovation was applied proactively with several years in advance, the Almerian origin product would have been much more differentiated from within its competitors, gaining a very important competitive

position in the European markets, thus surpassing its weakest competitors. (Pérez-Mesa, 2010)

Figure 28: Evolution of the area under biological pest control in Almería and Israel (Pepper).



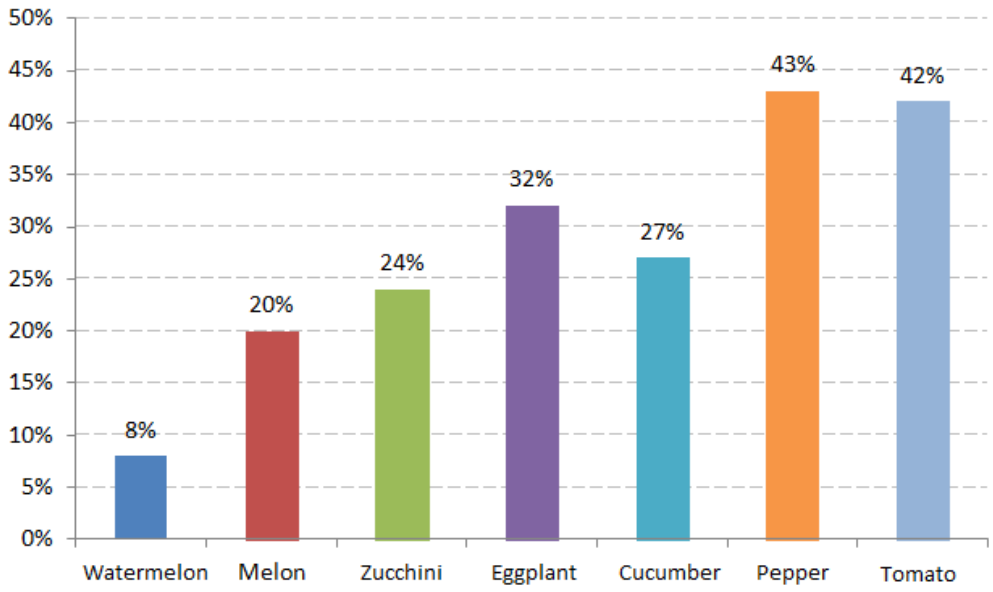
Source: García, Pérez-Mesa (2010)

Almería has become, in a few years in the area of the world with greater use of biological pest control, that is, the use of predatory insects of plagues as a substitute for pesticide use (Pérez-Mesa, 2010).

As for the cucumber crisis, it is the latest and the one which produced greatest to the Spanish horticultural marketer industry, and especially to Almeria, in its history. In late May 2011, the health authorities of Hamburg (Germany) linked an outbreak of infection caused by bacteria of fecal origin, E. coli, with cucumbers from Spain, especially Almeria. The alert also influenced the consumption of tomatoes and lettuce, expanding rapidly to other products. Many orders were returned even halfway and many others were canceled by larger retailers. Although in less than a month it was recognized that the source of the outbreak was not in Spain, the untraded product could not be sold once again, since it is very perishable, assuming producers and traders the losses.

Germany is the main destination of Spanish fruit and vegetable products, with 25% of Spanish exports. The cucumber crisis affected the Spanish horticultural industry in two ways: first, with the loss of direct sales in Germany, and second, with prices falling due to a greater presence of products from other origins (such as Holland). The main reason for these problems is the decline in consumption.

Figure 29: Negative variation in liquidation prices for the grower in Almería. Weeks 20-24 average. Comparison year 2011 with average 2006-2010.



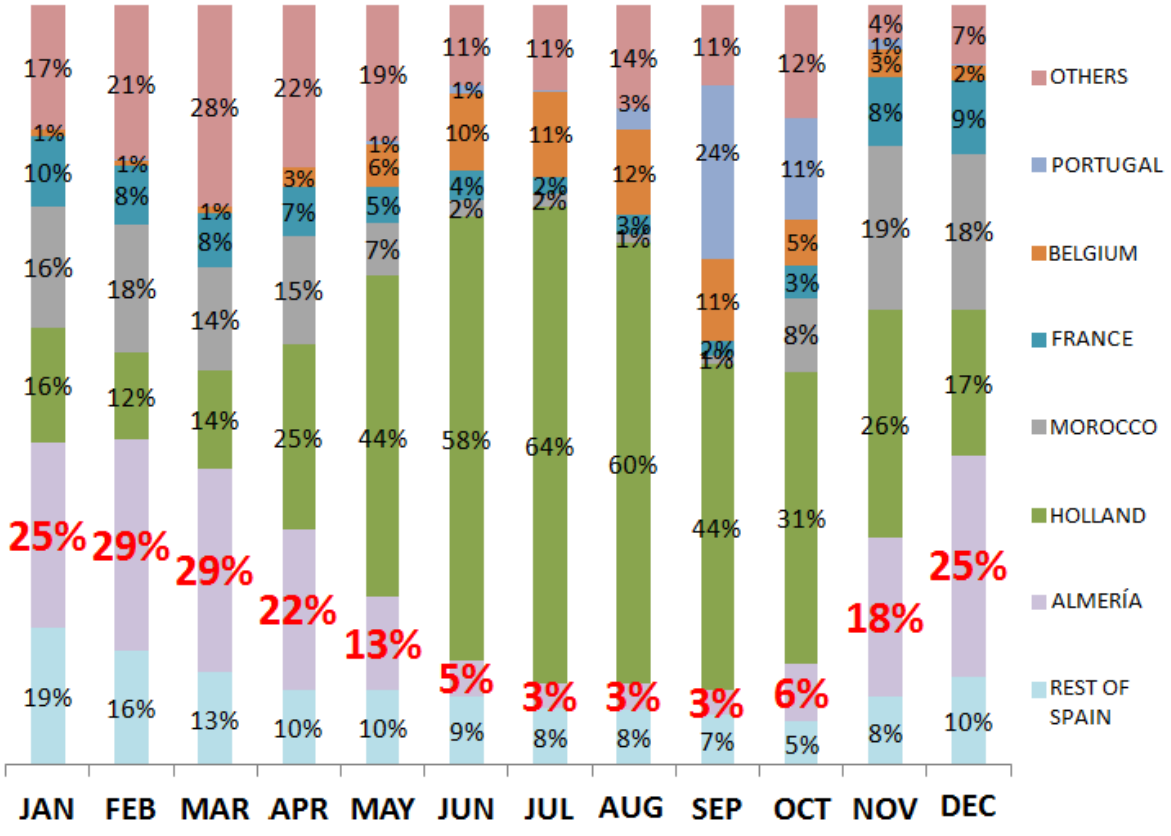
Source: Perez Mesa (2011)

3.3. Market competition.

In this section, due to economy of space, it will be studied the case of exports of tomatoes, cucumbers and peppers to the EU, being the main products of horticulture in Almería. Almerian market share will be compared with respect to the other competitors. **Analogously, one could proceed individually with the various markets where the horticultural industry of Almeria operates,** for instance, Germany, France, UK, Poland ... Although for reasons of space this analysis has been applied only to tomato, cucumber and pepper, the remaining crops should be also analyzed.

First of all will be seen the case of tomatoes. **Figure 23** shows how the main competitor of Almeria in the EU-27 is Holland, especially in the summer months. During these months come together the campaign of production in Holland with the re-exports, obtaining most of the European market share. The new agreement with Morocco can make its share in EU-27 increase significantly to the detriment of other producers, like Holland or Almeria. The danger involved in the massive influx of tomatoes from Morocco, is that its campaign begins in autumn, when Almeria begins to gain share in the EU-27. A drop of presence in European markets in the autumn-winter would be quite damaging for tomato growers Almeria.

Figure 23: EU-27 importations of tomato, year 2011

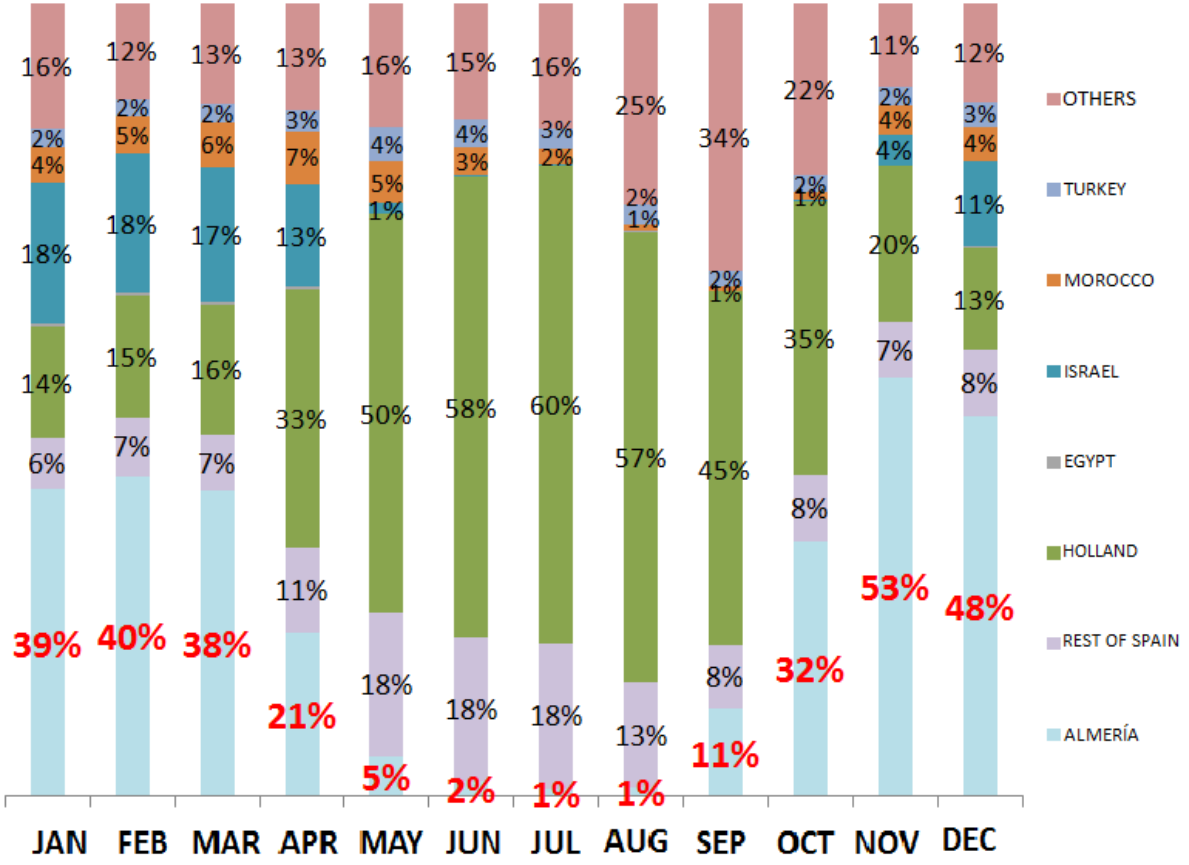


Source: Own Elaboration. Data from ICEX and Eurostat

Regarding pepper, Almería has the largest share in the autumn-winter, when Dutch products lose presence (**Figure 24**). In the summer months, Almeria does not produce peppers, so their rate drops to 0. It is in these months when Holland gets the best results. Holland has a strong point that Almería should try to apply and is that their numbers are much more

regular. Their share peaks are higher than those of Almeria and their lowest are also higher and more constant, which makes the presence of Dutch pepper in the EU-27 to be fairly regular. This is due to re-export character of the Dutch traders in addition to domestic production.

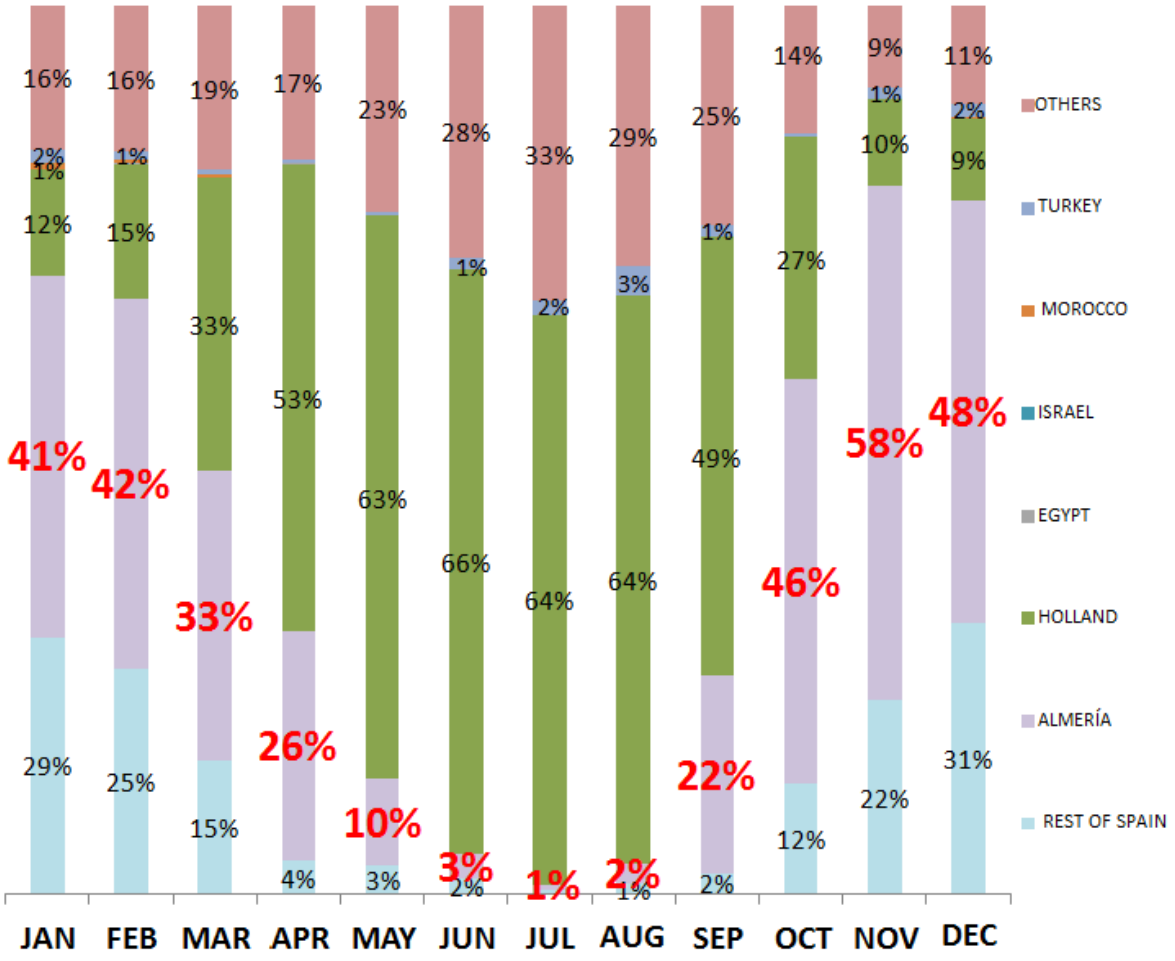
Figure 24: EU-27 importations of pepper, year 2011



Source: Own Elaboration. Data from ICEX and Eurostat

The case of cucumber (**Figure 25**) is almost equivalent to the one of pepper. Almería dominates the European markets during autumn and winter, while Holland does so in the spring and summer campaigns. Again Holland has a significant presence throughout the year, being the absolute leader in the summer season, when the cucumber of Almeria has stopped producing. Is remarkable the presence of cucumbers from the rest of Spain, which are second share during the months in which Almerian cucumber leads the European markets.

Figure 25: EU-27 importations of cucumber, year 2011



Source: Own Elaboration. Data from ICEX and Eurostat

As seen throughout the section, Holland is now the main competitor of Almeria in the European market. In almost all studied fruit and vegetable products, they share the leadership in market share. They complement on dates coinciding points of higher share of one with the lowest share of the other. In general terms, Holland dominates the European market presence during the summer months, when they couple their own production with the re-export of other products they buy in large quantities to other producers.

Most products are imported from Holland for re-export to the rest of Europe. They are based on their competitive advantages, such as the strategic situation in Europe, being very well connected to major European capitals, Rotterdam has the largest port in Europe and is prepared to handle fresh products; Holland is producer in the summer season, but keeps

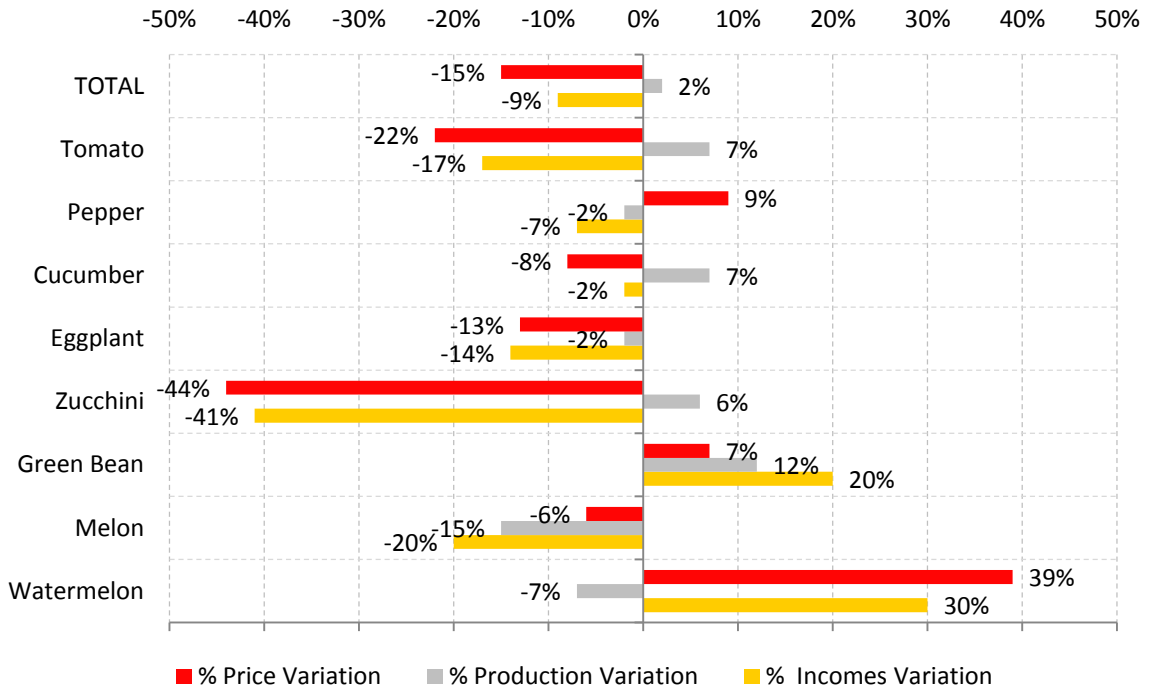
supply agreements with major European distributors even in winter, due to their re-exporter character. The advance logistics of the Dutch trading industry allow them to master the presence in European markets even if they are a small producer. This is reflected in their trade balance, which is positive with a value of 1,596 million Euros (Pérez and De Pablo, 2007).

3.3.1. Impact on sales prices in origin.

The existence of collusion between competitors and own production in the target markets can cause price declines in origin; this makes it imperative to check them. This be carried out in section ***4.1*** by supplementing it with the inclusion of unit costs (per kilo) of production.

As an example, in the following graph we can appreciate how an increase in production in origin usually forces price declines more than proportional as a result of the existence of a stiff demand.

Figure 26: Variation of prices, incomes and total ammount comercialized in Almería. Season 2010/2011



Source: Coexphal (2012).

4. Control, measurement and analysis of crisis and changing trends.

4.1. Monthly general evolution of the industry: evolution of prices and comparison with the production.

This paper examines different variables that are vital to the development of the industry, such as market share in absolute terms (**3.3**), the number of exported tons (**2.1**), the monthly market share in relation to the quantity exported (**4.3**) and profitability in origin (**4.2**).

Obtaining, weekly, this type of data (those which are published with this periodicity) in comparison with the same data from the previous week and the same week last year, allow having some control over how the whole industry evolves, or one or various specific products, as required. It can also be made monthly.

In addition to our own data, knowledge of the evolution of the main competitors is necessary to counterbalance an eventual growth to a greater degree than expectedsuch a way not to lose competitiveness in target markets.

An early detection of an anomalous situation is essential to solve the eventual problem in time without letting it go further. The available amount of information and the frequency (weekly, monthly or annually) mean that the time involved in this work does not make neglect other kind productive tasks.

The data of exported quantity indicate any increase in market preference for our product or if instead there is a rejection for any reason. The quantity exported data indicate any increase in market preference for our product or if instead there is a rejection for any reason. In that case it should be checked if the market share has changed. In the event that exports drop, but the share is maintained or increased, imply a decrease of total imports by the target market, so even if sales are lower, product competitiveness in that market increases. However, if the share drops, this means that there is some reason why our product is less demanded by the importer, being changed by products from other origins.

One could then search for the reasons which led to this situation (quality, price ...). Once detected the source of the problem, you can proceed with the remedial action in the shortest time possible.

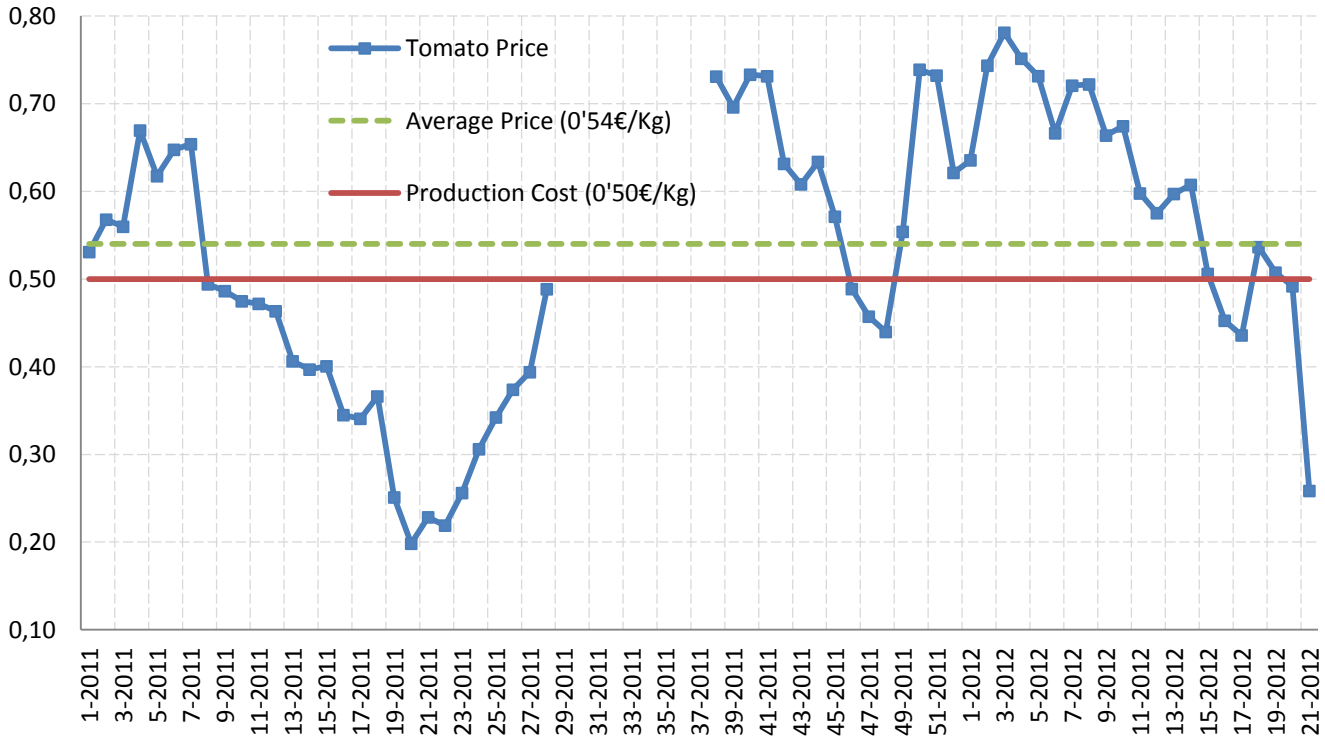
The relative market share (relative to the total quantity imported in each month by the target market) compared to the same period the previous year shows whether our product is competitive, or if there is another producer who is gaining market share at the expense of our exports. The fact that campaigns are cyclical means that the comparison with previous months is not useful, therefore, it should be compared with the same month of last season. The loss of share during a month is not an alarming situation as it can be for a temporary cause, however, if this downward trend is maintained over time, for at least 3 months, we have a loss of competitiveness in the concerned market, and should be switched the appropriate action systems. At the same time it is necessary to determine whether this share loss is equally distributed among the remaining competitors (which would imply some kind of defect in our product) or if it concentrates on only one (this is an increase of competitiveness of the competitor, thus we must seek the causes of this growth, know their strengths and try to implement them in our industry, if possible).

Furthermore, the analysis of profitability is a key source for a general improvement of the industry. As mentioned earlier, fresh horticultural products are highly generic, so that to be competitive we must differentiate our product from competitors through the value added, mainly in quality. To add value to the final product requires the continuous innovation of processes and products so that you can increase productivity and / or quality, in order to obtain higher profits. To implement this innovation in the farm it is necessary that at the end of the season, farmer get enough profits to be re-invested in the improvement of his plantation. It is important to obtain these benefits through the commercial margin of the direct sale of his products. The great pressure on the profit margin applied by the large distribution chains to the traders of fruits and vegetables makes these margins are minimized, even to its disappearance in 2011. Greater bargaining power due to greater concentration of supply and an improved product is an objective that the industry must work on to maintain and increase their competitiveness.

Now this paper will proceed to analyze the evolution of the price of tomato, pepper and cucumber, and their comparison with their production costs. We will analyze only these 3 products due to space issuesand for occupying among the 3, up to 60% of production and exports of the industry in Almería. These data are available weekly on the Price Observatory of the Consejería de Agricultura y Pesca of the Junta de Andalucia.

Tomato has a production cost of 0'50 €/Kg (Perez-Mesa, 2011). The evolution of the prices of tomato in 2011 and what is going of 2012 presents large ups and downs. Price falls below cost are presented from April to August 2011. The trend of 2012 leads us to predict that this campaign will have a similar behavior. The difference between the prices above cost and the prices below cost is positive, reaching the average price of the period 0'54 €/Kg (**Figure 30**).

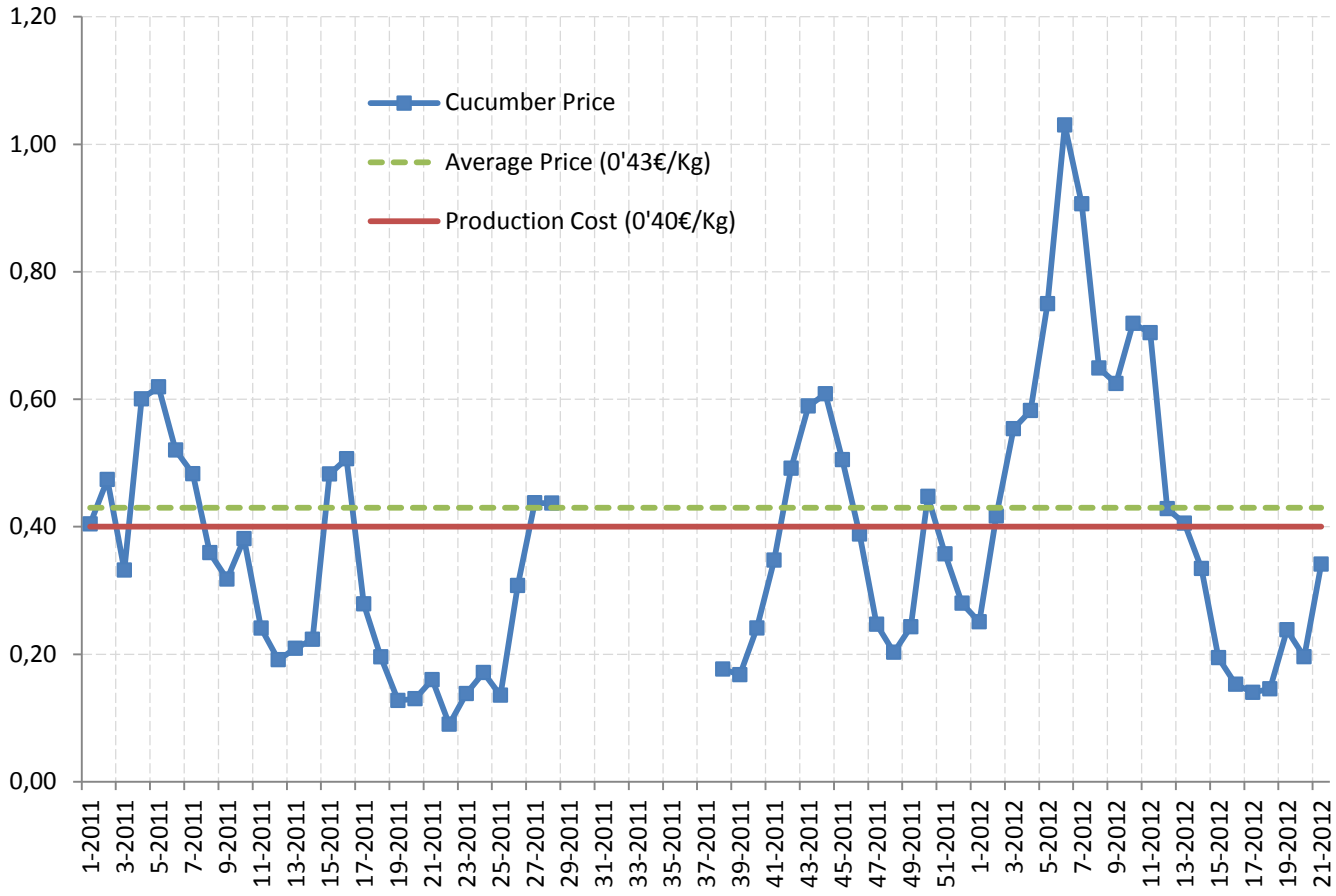
Figure 30: Evolution of weekly prices of tomato. Comparison with production costs.



Source: Own elaboration. Data obtained from Observatorio de Precios, Consejería de Agricultura y Pesca, Junta de Andalucía.

Cucumber has a calculated cost of 0'40 € / Kg (Perez-Mesa 2011). The price evolution of cucumbers is very uneven. In 2011 prices were only two months over the cost of production (**Figure 31**), because of the E. coli crisis suffered by the cucumber in May in Germany, which spread to the rest of European markets. Instead, in early 2012, the price has reached a considerably higher price, up to 0'82 € / kg, making the average price the period under review higher than the cost of production.

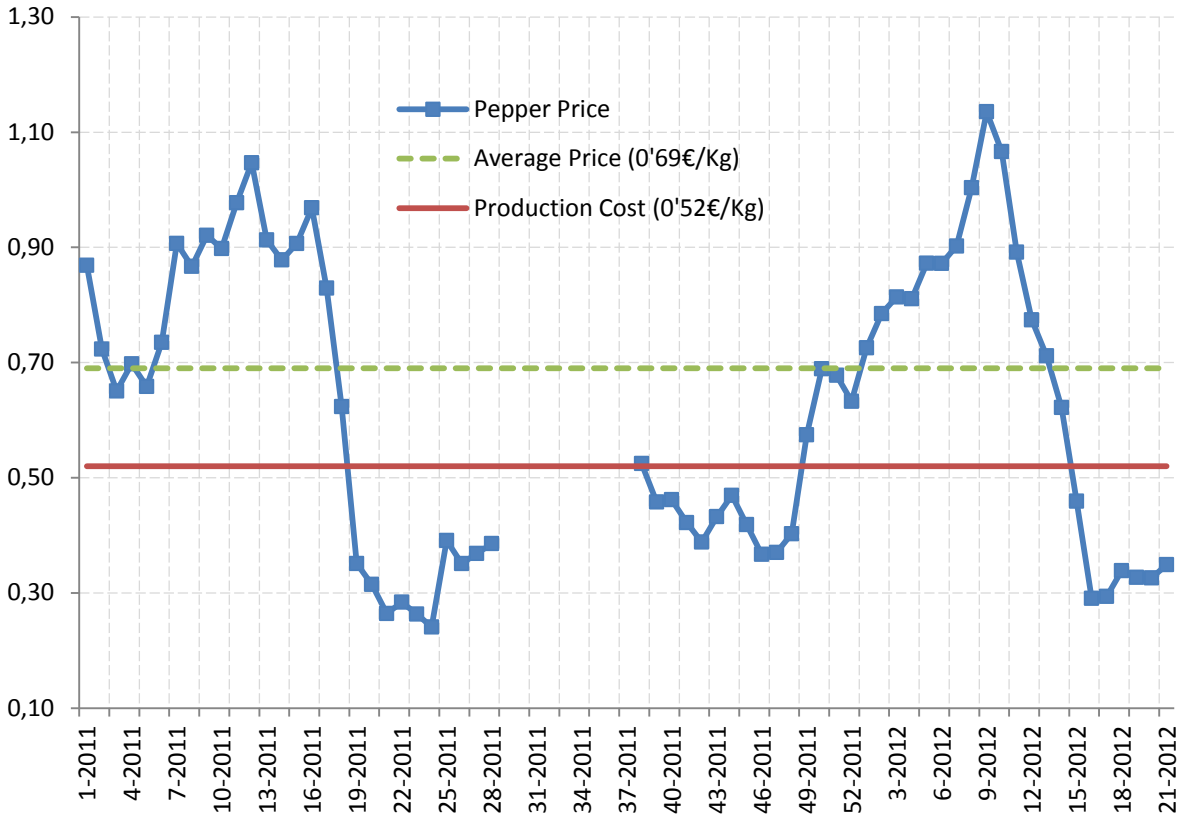
Figure 31: Evolution of weekly prices of cucumber. Comparison with production costs.



Source: Own elaboration. Data obtained from Observatorio de Precios, Consejería de Agricultura y Pesca, Junta de Andalucía.

The case of pepper has been generally in deficit. The production cost is estimated at 0'52€/Kg (Perez-Mesa, 2011) and the average price that the product has had is 0'69 €/Kg. The pepper was only 2 months above the cost price, and one at the same price (**Figure 32**). Prices presented by the pepper during much of 2011 were well below the cost of producing it, due to the influence of the crisis of cucumber.

Figure 32: Evolution of weekly prices of pepper. Comparison with production costs.



Source: Own elaboration. Data obtained from Observatorio de Precios, Consejería de Agricultura y Pesca, Junta de Andalucía.

4.2. Profitability in origin.

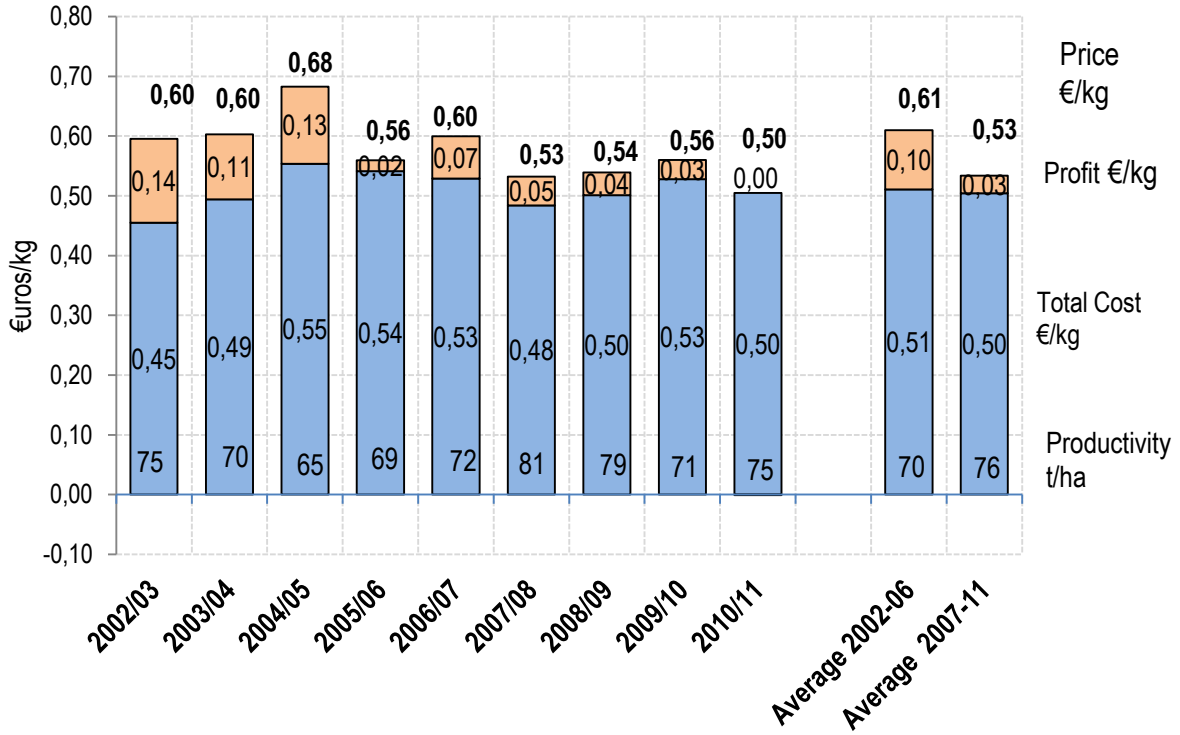
Through continuous monitoring of profitability in origin the existence of abnormal situations which can be harmful for the industry may be controlled. As mentioned above, the aggressive policy of low margins which is subjected to the industry by the purchasing centers of major European distributors, coupled with increasing competition from other producing countries make profit margins for farmers are getting smaller.

In **Figure 33** we can see how the margin has narrowed since 2006/07 season to become 0 in the 2010/11. A situation where the profit per kilo is null is unsustainable in the long run. Cost control has been done considering that for every 2'5 hectare work people, including the owner, so are considered wages for workers (again, including the owner) within these costs. This makes at least, the farmer-owner, even if he doesn't get any marginal benefit from production, does not jeopardize his economy home by receiving a salary at the end of the month. Yet for maintaining competitiveness in the industry, it takes a large proactive investment in technology and product innovation, making it convenient to obtain a large enough margin to keep the farm upgraded and thus add value to the final product, in order to distinguish it from its competitors and to have more sales, which provide feedback on this circle.

Figure 33: Comparison of production costs, selling price (in origin) and net profit for the grower, in Almería. (2003-2011)

Producto	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11
Current Costs (€)	38.082	38.811	39.831	41.332	42.638	44.620	44.575	42.162	42.162
Amortization (€)	11.953	12.395	12.983	13.452	13.406	13.428	13.362	13.255	13.255
Total Costs (€)	**50.035**	**51.206**	**52.814**	**54.784**	**56.044**	**58.048**	**57.937**	**55.417**	**55.417**
Current Costs (€/Kg)	0,35	0,37	0,42	0,41	0,40	0,37	0,39	0,40	0,38
Total Costs (€/Kg)	**0,45**	**0,49**	**0,55**	**0,54**	**0,53**	**0,48**	**0,50**	**0,53**	**0,50**
Incomes (€/Kg)	0,60	0,60	0,60	0,56	0,60	0,53	0,54	0,56	0,50
Current Margin (€/Kg)	**0,25**	**0,23**	**0,27**	**0,15**	**0,20**	**0,16**	**0,15**	**0,16**	**0,12**
Total Margin (€/Kg)	**0,14**	**0,11**	**0,13**	**0,02**	**0,07**	**0,05**	**0,04**	**0,03**	**0,00**

Average 2002-06	Average 2007-11	% Var Averages
39.514	43.380	9,8%
12.696	13.325	5,0%
52.210	56.705	8,6%
0,39	0,39	-0,2%
0,51	0,50	-1,3%
0,59	0,53	-9,4%
0,22	0,15	-33,8%
0,10	0,03	-70,4%



Source: Perez Mesa (2011)

Monitoring margins per kilo that the producer gets is an effective measure to detect potential crises and act accordingly to remedy the problem. Since the farmer's income is included in production costs, it can be established the price level from which it is considered a crisis in the profitability of production.

When the price remains below cost **during a campaign**, it activates the action protocol, consisting of **an analysis, by the boards of the cooperatives, of the state of crops for the next campaign. It would be created a committee by product composed of commercial agents and/or CEOs of the trading companies. The ideal would be to articulate this process in any business association, for example, APROA or COEXPHAL. Even within the own interprofessional (Hortyfruta);**

This committee should try to: i) analyze in depth the causes of the lack of profitability (increased production, increased costs,...), ii) in the case of increases in production in origin, adjust the surface of each product to avoid saturation in the markets in peak periods of competitive collusion. In a conjunctural way, when appreciate a drop in prices, maintained for at least 2 consecutive weeks, this business committee should act to regulate the withdrawal of of second category products.

Although profitability 0 (price = cost) is not considered critical, is an undesirable situation because of the great need for reinvestment in technical improvements required by the farms, and that comes from the benefits of the various campaigns.

Almerian fruit and vegetable industry, lacking almost entirely of annual planning, causes that when a product has had high market prices, the following campaign farmers grow this same type of product, resulting in an excess of supply (web effects) and therefore its price falls, undermining the profitability of the farmer.

4.3. Market shares. Almería in relation to the EU-27.

To detect a possible export crisis, it is necessary to monitor at least annually the presence of Almerian products in the EU markets destination of the exports. The measurement of absolute data (exported tons) and relative ones (market share) is essential for a crisis management.

We will now analyze the data studied in section **3.3** of this work, but this time on an annual basis for the rest of, with data from annual shares of Almeria, exported tons both by Almeria as by its competitors. It will be studied the evolution and deducted if a product is suffering a crisis of demand in the European market.

TOMATO IN THE EU-27

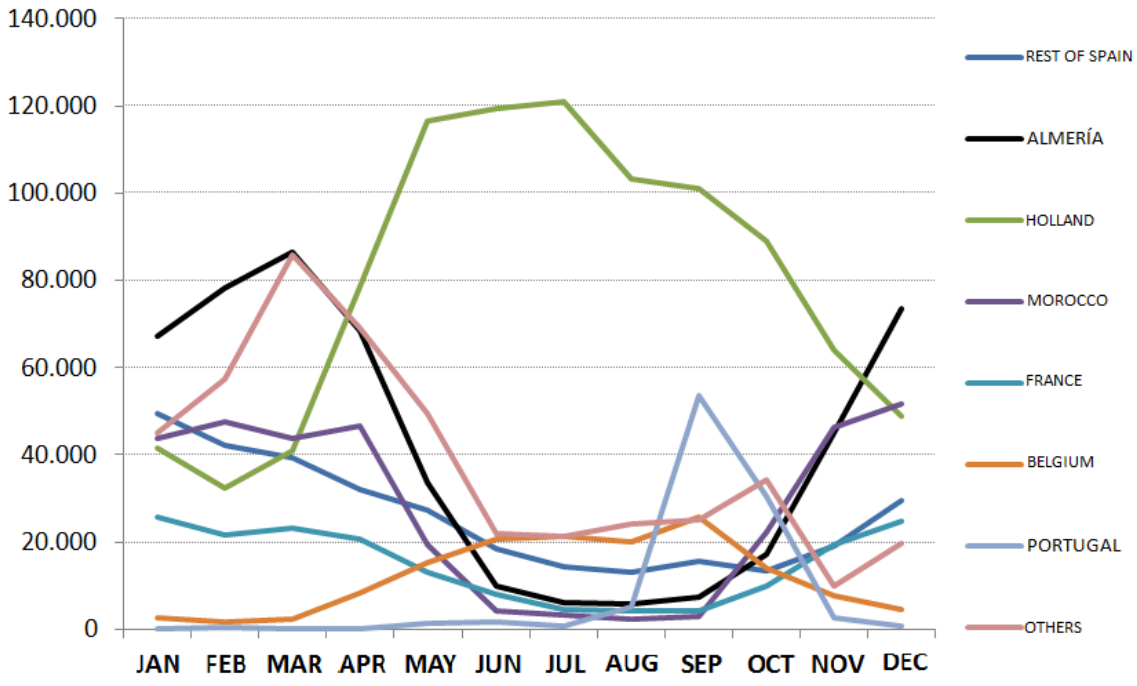
The case of the tomato, as shown in **Figure 34**, Almerian exports to the EU-27 have been growing, between 2009 and 2010 suffering a marked decline, which was solved in 2011 with a new upturn of total tons exported. In terms of market share, Almerian tomato in these 2 years faced a drop of 2%, but was able to recover this last campaign. As can be seen, despite the variations in the last few years, the share has remained stable at values close to 16%, so that it can be said that the product is in a normal situation. Dutch leadership in the summer months is absolute, reaching export peaks which become a 40% higher than the highest export figure of Almeria, as shown in **Figure 35**.

Figure 34: Evolution of EU-27 importations of tomato, 2007-2011 (Tons)

	2007	2008	2009	2010	2011
ALMERÍA	377.287	462.788	438.638	384.897	499.256
REST OF SPAIN	433.483	400.899	373.452	343.667	314.553
HOLLAND	828.369	808.723	888.094	927.534	956.972
ISRAEL	26.761	19.062	25.239	25.301	35.134
EGYPT	2.372	2.678	2.958	3.618	5.332
FRANCE	128.727	149.387	163.643	138.402	179.300
MOROCCO	301.785	305.611	353.953	289.441	334.336
TURKEY	91.357	97.774	103.226	115.737	106.527
EU27_EXTRA	470.923	473.047	524.927	488.440	455.995
EU27_INTRA	2.449.059	2.432.694	2.420.591	2.330.040	2.570.398
SPAIN/TOTAL	28%	30%	28%	26%	27%
EXTRA EU/TOTAL	16%	16%	18%	17%	15%
HOLLAND/TOTAL	28%	28%	30%	33%	32%
MOROCCO/TOTAL	10%	11%	12%	10%	11%
ALMERIA/SPAIN	47%	54%	54%	53%	61%
ALMERIA/TOTAL EU	13%	16%	15%	14%	16%

Source: Own Elaboration. Data from ICEX and Eurostat

Figure 35: Comparison of EU-27 importations of tomato by countries of origin, 2011 (Tons)



Source: Own Elaboration. Data from ICEX and Eurostat

PEPPER IN THE EU-27

The pepper of Almeria, after the crisis of isofenphos-methyl (it can be observed in the poor sales figures for 2007) (**Figure 36**) enjoyed a rise in the export figures, increasing by 57,000 tons exported in 2008 and from 23 % to 27% market share. In 2010 sales fell again, but slightly, returning in 2011 to a figure even higher than the one it had in 2009 before the fall. The share is stable at values close to 27%.

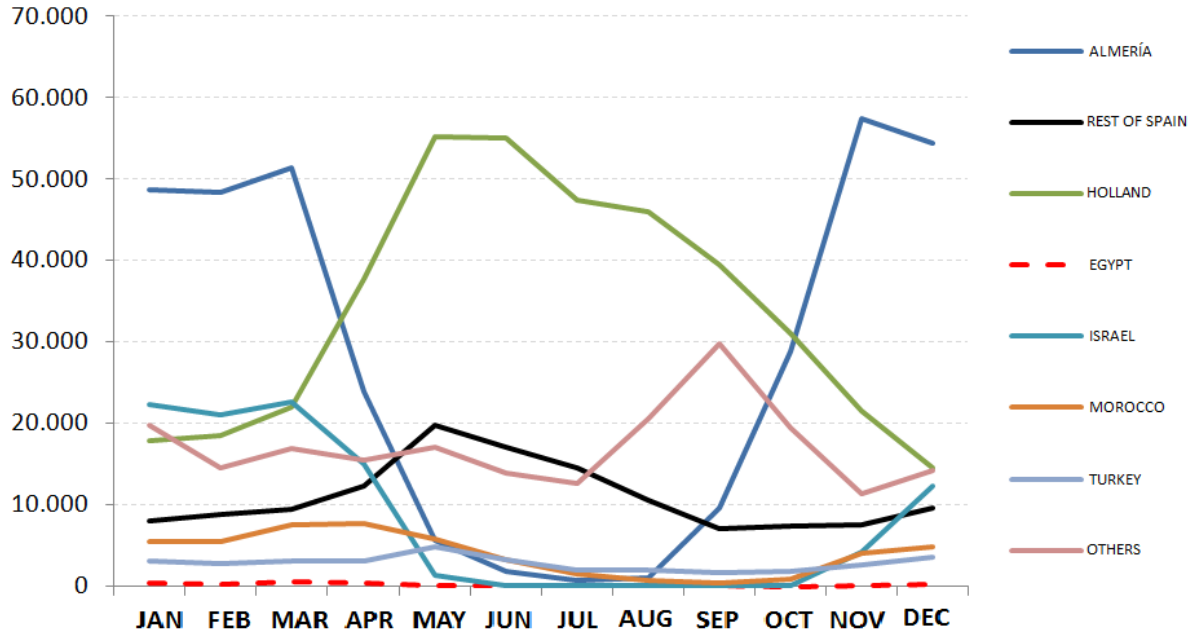
As shown in **Figure 37**, the absolute leadership is shared between Almeria (November-March) and Holland (April-October). As in almost all crops, as the Dutch season begins, Almerian product prices fall, so for the farmers is more profitable not producing than to produce at those prices.

Figure 36: Evolution of EU-27 importations of pepper, 2007-2011 (Tons)

	2007	2008	2009	2010	2011
ALMERÍA	231.614	288.319	307.023	292.884	331.879
REST OF SPAIN	104.527	76.476	72.306	88.849	132.687
HOLLAND	326.538	338.405	358.125	378.401	406.252
EGYPT	5.286	4.682	3.984	3.703	2.467
ISRAEL	100.115	88.870	109.313	101.970	99.284
MOROCCO	40.784	50.326	50.447	47.536	47.906
TURKEY	38.058	50.780	39.042	32.579	33.916
EU27_EXTRA	202.283	218.245	224.474	216.192	215.794
EU27_INTRA	821.588	857.095	903.494	900.733	1.003.862
SPAIN/TOTAL	33%	34%	34%	34%	38%
EXTRA EU/TOTAL	20%	20%	20%	19%	18%
HOLLAND/TOTAL	32%	31%	32%	34%	33%
MOROCCO/TOTAL	4%	5%	4%	4%	4%
ISRAEL/TOTAL	10%	8%	10%	9%	8%
ALMERIA/SPAIN	69%	79%	81%	77%	71%
ALMERIA/TOTAL EU	23%	27%	27%	26%	27%

Source: Own Elaboration. Data from ICEX and Eurostat

Figure 37: Comparison of EU-27 importations of pepper by countries of origin, 2011 (Tons)



Source: Own Elaboration. Data from ICEX and Eurostat

CUCUMBER IN THE EU-27

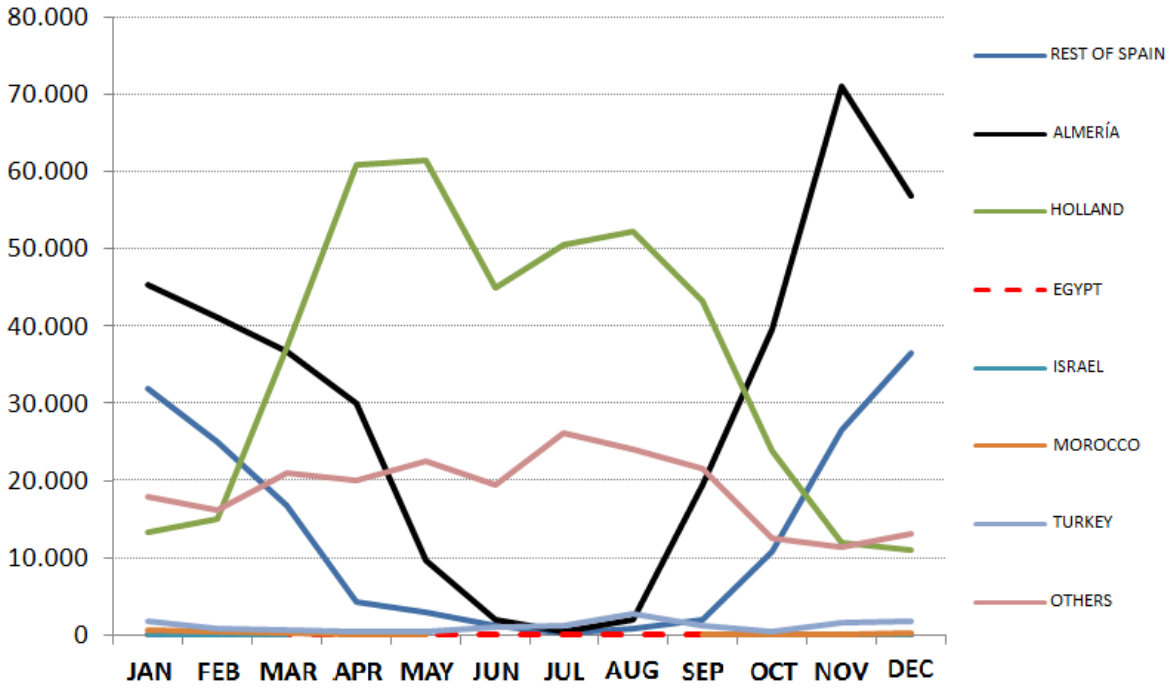
The cucumber Almerian suffered a severe setback in 2011 due to the crisis of the E.coli bacteria, which led many German orders to be canceled, and others who were on their way had to turn around. However, the annual data of **Figure 38**, reflect the opposite. There is an increase of 1% and an amount significantly greater of exported tons to the trend in recent years. This is because in the months before and after the crisis, European markets demanded more cucumber than in previous seasons, making the annual totals grow. Yet, in view of **Figure 39**, you can see how Almerian cucumber during the summer had an almost non-existent turnover in Germany, where this product was in the end of its season, and emerged the problem of E. coli. The peak observed in November is due the end of the Dutch campaign, the rectification by the Ministry of Health of Hamburg on the origin of the bacteria and low prices of the cucumber from Almeria after the crisis.

Figure 38: Evolution of EU-27 importations of cucumber, 2007-2011 (Tons)

	2007	2008	2009	2010	2011
ALMERÍA	231.614	288.319	307.023	292.884	331.879
REST OF SPAIN	104.527	76.476	72.306	88.849	132.687
HOLLAND	326.538	338.405	358.125	378.401	406.252
EGYPT	5.286	4.682	3.984	3.703	2.467
ISRAEL	100.115	88.870	109.313	101.970	99.284
MOROCCO	40.784	50.326	50.447	47.536	47.906
TURKEY	38.058	50.780	39.042	32.579	33.916
EU27_EXTRA	202.283	218.245	224.474	216.192	215.794
EU27_INTRA	821.588	857.095	903.494	900.733	1.003.862
SPAIN/TOTAL	33%	34%	34%	34%	38%
EXTRA EU/TOTAL	20%	20%	20%	19%	18%
HOLLAND/TOTAL	32%	31%	32%	34%	33%
MOROCCO/TOTAL	4%	5%	4%	4%	4%
ISRAEL/TOTAL	10%	8%	10%	9%	8%
ALMERÍA/SPAIN	69%	79%	81%	77%	71%
ALMERÍA/TOTAL EU	23%	27%	27%	26%	27%

Source: Own Elaboration. Data from ICEX and Eurostat

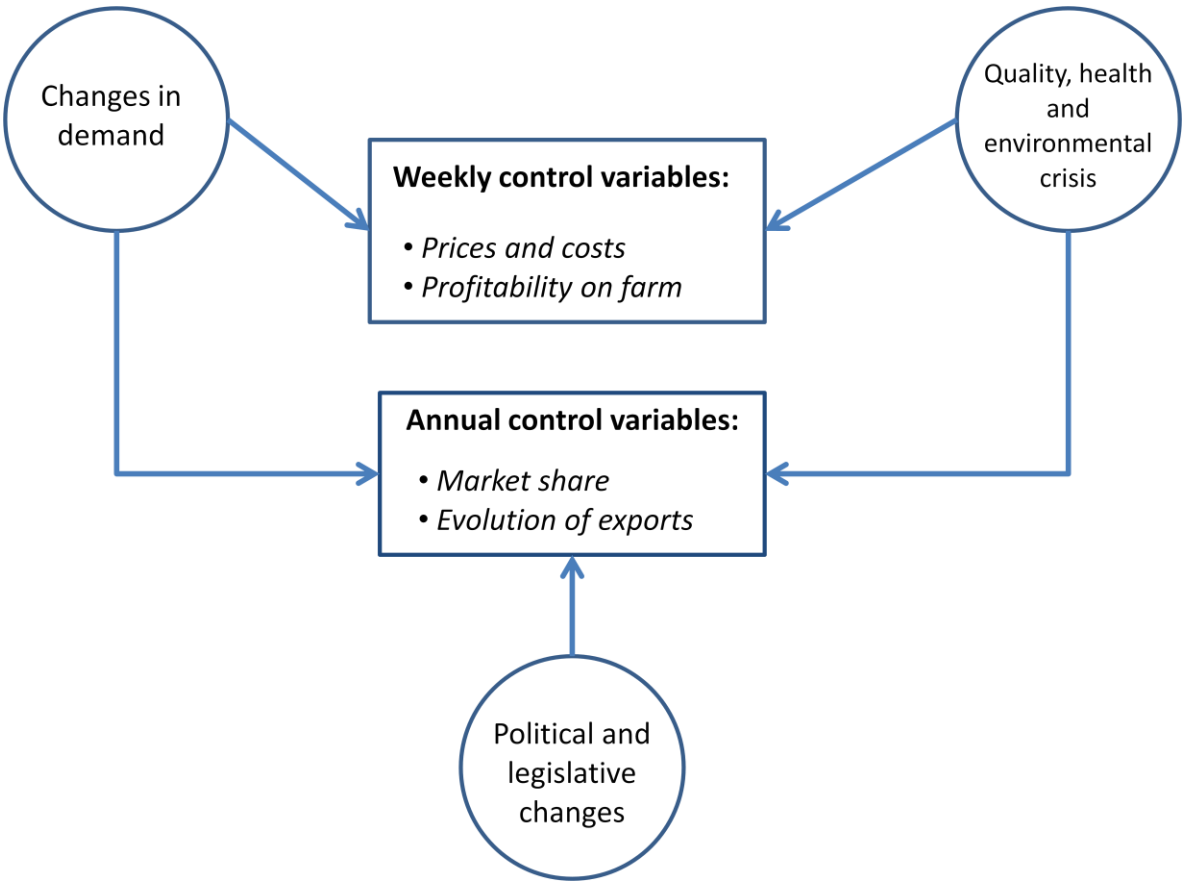
Figure 39: Comparison of EU-27 importations of cucumber by countries of origin, 2011 (Tons)



Source: Own Elaboration. Data from ICEX and Eurostat

A sustained drop for at least **one full season** of at least **10% of market share** should be considered as a crisis. In this case, the suggested preset action protocol consists in **the meeting of the committee suggested in Section 4.2, in order to analyze the origin of this decline, study the data analyzed in this section in detail country to country, to identify which countries have lost market share and in which proportion, and then decide what actions related to marketing carry out to recover that share (jointly promote fruits and vegetables from Almería, study costs of logistics and redistribution its for optimization...)**

Figure 40: Influence of the different kind of crisis to the analyzed variables.



Source: Own elaboration

5. CONCLUSSIONS

The main problem presented by the fruit and vegetables industry in Almería is that acts in a reactive manner to changes imposed by the demand (customers), that is, it does not try to anticipate the possible consequences of their actions, or establish planning mechanisms. This way it loses a source of competitive advantage by not differentiating itself proactively. The solutions proposed in this paper are focused in this direction: to anticipate events to avoid or minimize problems.

As a starting point it has been carried out a strategic analysis of the industry. From it is clear that the actions to be performed should be directed to:

- The search for differentiation in quality and environmental management of their products, as the cost leadership will be impossible against countries like Morocco, Egypt, Senegal, and Turkey. This differentiation may report higher profits and greater bargaining power with customers.
- Reinvest the commercial profits of each campaign in improving farms technology. Additionally the goal of quality differentiation can be achieved.
- Increase its bargaining power with large retail chains through greater concentration of supply, additionally, improved negotiation should be based on finding a mutually beneficial partnership (joint action plans).
- Implement a full traceability system to ensure product quality and safety at all times. This should be generalized in the industry in order to protect it from possible health crises like the one occurred in May 2011 with the discovery of E.coli in the wholesale market of Hamburg.
- Given the life style traits of the destination countries for fruit and vegetables of Almeria, it is becoming more necessary the presence of fresh products washed and trimmed, ready for consumption (IV Range). This is a resource that is yet to be exploited in Almeria and that it would help to a better market positioning. The processing costs of IV Range products is much lower than the reported extra benefit, making it an option to increase the benefits of the campaign, improve the Almerian product image and, due to its storage conditions, arrive further.

To summarize it can be said that the great scourges of the industry are its atomization, since producers compete with each other Almerian, thereby reducing the profits of the farmer. Another negative point is the lack of planning, causing severe price crises in origin. Furthermore by centralizing supply, it would be gained in bargaining power with large European retail chains and improve the coordination tasks of production, thus increasing the profits of companies and farmers. These margins should be used to improve farms in technological and quality innovation. The quality and environmental benefits should be the differentiating axes of horticulture in Almería. A differentiation of this type reports higher net profits. Adapting to the needs of target markets would help to improve the image of the Almerian products, being the IV and V range products a business to exploit.

Additionally, the industrial analysis also reveals that the major crises that can affect the horticultural sector in Almería are those derived from:

- Legislative and political changes, for example, trade liberalization,
- Problems with quality, health and environment,
- Increased competition, which typically ends in a crisis of profitability.

This paper focuses on the crisis of profitability as a result of increased competition as it is susceptible of implementing actions with short and medium term results. For this, several control variables have been established: price, profitability, level of exports and market shares.

Despite what has been said, the selected control variables may also gather the effects resulting from a crisis due to political-legislative changes (eg, liberalization of markets) or environmental, phytosanitary or public health risks (eg, type E.coli).

As a mean of action, for the crisis of profitability, it is suggested the creation of a commission formed by the commercial and CEOs at major Almerian trading companies to analyze the causes of the lack of profitability. In the case of unexpected increases in home production it should be aimed to regulate the surface of each product, to avoid saturation at periods with peak competitive collusion. In an eventual situation, if it is appreciated a drop in prices, maintained over time, the business committee should act to regulate the withdrawal of second category products.

In the case of loss of market share, this Committee should consider how markets (countries) have been affected, by how much, and why. It should also be considered possible joint promotion and measures to reduce logistics costs.

6. ANNEXES

7. BIBLIOGRAPHY

Banksa, J.; Bristowb, G. (1999): "Developing quality in agro-food supply chains: A Welsh perspective". International Planning Studies, Volume 4(3): 317-331.

Borrero, J.D. (2003): "La empresa familiar, la agricultura de vanguardia y la gestión del entorno. Una propuesta metodológica para gestionar su complejidad". Jornadas Hispano-Lusas, 12-14 febrero, Lugo.

Bueno, E.: "Dirección Estratégica de la empresa: metodología, técnicas y casos". Pirámide, Madrid, 5º Edición (1996).

Burgess, C. (1997): "International hotel groups: what makes them successful". International Journal of Contemporary Hospitality Management, vol. 7(2): 74-80.

Consejería de Agricultura (2002): *Plan del sector hortícola de Almería. Volumen I*. Documento de trabajo.

Figueroa, P.; Fernández, C.M. (1997): "Entornos competitivos: su caracterización y tipología en el contexto empresarial de Galicia". Investigaciones Europeas de Dirección y Economía de la Empresa, vol. 3(2): 61-73.

Galdeano, E.; Pérez Mesa, J.C.; Aznar, J.A. (2011): "Environmental Impact, Export Intensity and Productivity Interactions in Agri-Food Sector of South-east Spain". 21th Annual World Forum and Symposium. International Food and Agribusiness Management Association. Frankfurt (Alemania): 20-21 junio.

Galdeano, E.; Céspedes, J.; Rodríguez, M. (2005): "Productivity and Quality-Environmental Changes in Marketing Co-operatives: An Analysis on the Horticultural Sector". European Association of Agricultural Economists, International Congress, August 23-27, Copenhagen, Denmark.

García, R.; Pérez-Mesa, J.C. (2011): "Demanda internacional y control biológico de frutas y hortalizas". Cuadernos de estudios agroalimentarios, Nº. 1: 111-122.

Gómez-Orea, D. (2003): La horticultura de Almería: bases para un plan de ordenación territorial y Gestión mediomabiental. Ed. Instituto Cajamar. Almería.

Gunn, R.; Wil, W. (2003): "Strategic tools: an empirical investigation into strategy in practice in the UK". Strategic Change, vo. 16 (5): 201–216.

Marín, G.; Marín, M.B.; Castillo, D. (2004): "Análisis de las fuerzas competitivas del sector agrícola de Almería". Boletín económico de ICE, Información Comercial Española, Número 2798.

Normal, R.; Hill, D. (2011):"Restructuring–an over-used lever for change in New Zealand's state sector". Institute of Policies Studies, work document 11/06.

Peralta, J.A. (2011): "Diagnóstico Económico-Financiero de las principales comercializadoras del sector hortofrutícola de la Provincia de Almería". Universidad de Almería. Pag 108.

Pérez Mesa, J.C.; De Pablo, J. (2007): "Caracterización del comercio internacional de frutas i hortalizas en la Unión Europea". Estudios de economía aplicada, vol. 25(3): 619-642.

Pérez Mesa, J.C. (2003): *Competividad de la agricultura intensiva en un contexto globalizado: una visión de mercado*. Tesis doctoral, Universidad de Almería.

Pérez Mesa, J.C. (2011): "Primeras consideraciones sobre el impacto de la "crisis del pepino" en el sector hortícola español". Cuadernos de Información económica, nº 223: 29-36.

Porter, M.; van der Linde, C. (1995): "Toward a New Conception of the Environment-Competitiveness Relationship". The Journal of Economic Perspectives, vol. 9(4): 97-118

Van der Meulen, B., Wilt, J.; Rutten, H. (2003): "Developing futures for agriculture in the Netherlands: a systematic exploration of the strategic value of foresight". Journal of Forecasting, Vol.22 (2-3): 219–233.

Wernerfelt, B. (1984): "A resource-based view of the firm". Strategic Management Journal, 5: 171-180.

Websites:

COEXPHAL: http://www.coexphal.es

Prices observatory, Consejería de Agricultura y Pesca, Junta de Andalucía: http://www.juntadeandalucia.es/agriculturaypesca/observatorio/servlet/FrontController?action=SelectInformes&claseInforme=origen&tipoInforme=mensual&subsector=20 (29/05/2012)

Statistics of ICEX: http://www.icex.es/icex/cda/controller/pageICEX/0,6558,5518394_5519205_5548914_0_0_-1,00.html

Statistics data-base of Eurostat: http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database

Agricultural Statistics, Consejería de Agricultura y Pesca, Junta de Andalucía: http://www.juntadeandalucia.es/agriculturaypesca/portal/servicios/estadisticas/estadisticas/agrarias/index.html