

**“Special Session: “TERRITORIAL GOVERNANCE, RURAL AREAS and LOCAL AGRO FOOD SYSTEMS”**

## **Public Policies for the Promotion of Horticulture: The Case of Algarve’s Citrus**

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**ABSTRACT** This research approaches some factors that have been affecting the competitiveness faced by the Algarve’s citrus culture since the European Single Market came into force and before a more and more global economy.

As it is already known, in a global economy any competitive strategy must have underlying quality(ies). These are understood as the capacity to satisfy the market considered as a whole of the main types of agents at the different levels of Algarve’s citrus system. So, the main object of this work is to identify eventual (technical and institutional) mal-functions concerning the Algarve citrus system, that can fail either directly or indirectly to meet the principal clients/consumers’ expectations.

The study took into account the general context where the Algarve’s citrus culture is inserted. The aim is to identify the constraints faced by the sector in order to understand the main clients, suppliers and competitors’ behaviours.

The results have allowed us to characterize the quality attributes considered as determinants when the citrus fruits are acquired, namely the Algarve’s citrus, by the national consumers as well as by the main distribution channels, in case they are presented in the market as differentiated or undifferentiated.

The facts identified in the empirical research indicate that limitations of technical and institutional order can make unfeasible or strongly condition the capacity of the Algarve citrus culture (production subsystem) to meet the market requirements.

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The conclusions reached for the development of the Algarve citrus culture, were based on Hayami and Ruttan's "induced technical and institutional innovation" theory (1998). We think we have given a contribution towards the definition of strategies for the Algarve's citrus culture development, bearing in mind both the market and the available resources.

**Keywords:** competitiveness; strategy; quality(ies); IGP – "Algarve's Citrus", technical and institutional innovation; citrus system.

## **I – INTRODUCTION**

The culture of citrus fruit has a huge importance for the Algarve, a region situated in the south of Portugal, both from the history-culture, and the social, economic and territory points of view. According to the Statistics Office - Instituto Nacional de Estatística (RGA1999), the citrus orchards in the Algarve occupied an area larger than 15.000 hectares, which correspond to 27% of the permanent cultures area and were distributed with more or less weight in 57% of the Algarve's explorations and in all the councils. These explorations are an important source of employment in the region, not only for the family's workmanship existing there but also for the jobs it creates. Under the economic point of view, it is to refer that this activity contributed with 38% to the agricultural final product in the region (CER, 2000).

The large expansion of this activity took place specifically in the period from 1950 to 1962, during which the majority (64%) of the Algarve's citrus fruits were planted (INE, 2002), still in a strict market, with good price levels and without competition problems. However, the past situation is very different today, as it will be in the near future. From a protectionist economy we went into an increasingly competitive one, without having been found solutions, which allow a better evaluation of the regional production. From 1995 to 2004 a decrease of around 6% in the producer's average current prices was verified, as well as increases in the current consumption goods and services along with investment goods, 14% and 29% respectively (INE, 2006). Significant changes in the markets were registered: from the offer, due not only to the citrus culture worldwide expansion, but also to the increasing opening of countries' borders. From the demand, due to the changes in the requirements, namely in terms of environment, concentration and quality(ies).

The analysis of the Algarve's citrus system external context, from the socio-cultural, political-legal and economic points of view, has allowed to identify some aspects, which may function as strong points or as obstacles to the Algarve's citrus culture.

As strong points to be highlighted, until now, the Portuguese market has been supplied mainly by national citrus fruit (91%), especially by those from the Algarve (70%). It is also worth of note that it is not foreseeable a decrease in the citrus consumption, presently 27 kilograms of fresh fruit *per capita*, bearing in mind the increasing acknowledgement of its value, either from the organoleptic and nutritional points of view, or their importance to health in general. Adding to this, the latest reform of PAC aims at stimulating the fruit consumption in the EU, namely at schools.

However, at the worldwide level, the citrus culture continues to grow, the markets are more and more globalized and an increasing saturation of the main countries importing fresh citrus fruit can be witnessed. It has also been verified that in Portugal there has been an even larger affluence of citric products and their substitutes, arriving from different origins and with very different qualities, either from the organoleptic or the hygiene and services points of view. As a consequence, the Algarve citrus fruit may have to face an increasing competitiveness, especially from Spain, once this is the biggest exporter of fresh citrus fruit. Other reasons have to do with: their geographic nearness to Portugal; the large expansion that has been verified in the Spanish citrus culture; the coincidence relating to the periods of production/ purchase; the dominant varieties in both countries and the best capacity to meet the market needs. This last one is due not only to the already known better organization of production for the citrus fruit trading by Spain, as well as to the fact that the citrus fruit arriving from Spain have a better aspect than those from the Algarve.

The competitive strategies for the Algarve's citrus culture should meet the challenges, due to the markets globalization, the consequent changes in demand, the worries with environment, as well as the consumers' demands, namely regarding the organoleptic qualities and the food security.

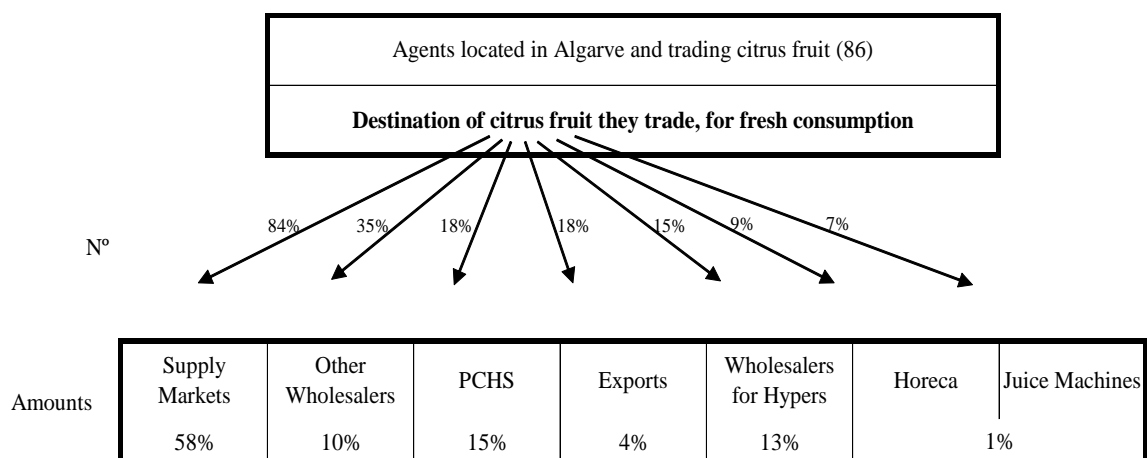
## Methodology

1.-The characterization of the Algarve's citrus system was done, at two levels: the final consumer and the trading subsystem.

1.1- The analysis, at the national final consumer's level allowed to perceive what are the quality attributes they value most when acquiring citrus fruit. If these appeared in the market without differentiation, the external aspect (associated to the absence of spots), the sweetness and the price were the attributes the consumers gave more importance. Differently, if the citrus fruits are referred to as being from the Algarve, the consumers give them a positive reputation, because they are sweeter, have more juice and are more tasteful, compared with those from other origins.

1.2 - The study of the purchasing subsystem allowed to understand the different distribution channels structure and functioning, namely in economic and social terms, as well as quality demands associated to them. We came to the conclusion that the Supply Markets and the Purchasing Centrals of Hypermarkets and Supermarkets were distribution channels presenting the most importance either in economic terms (58% and 15% respectively) or in social terms (84% and 18%). However, the Supply Markets had the

**Figure 1 – Algarve citrus distribution channels – representativeness of each one, concerning the number of agents using them and traded amounts.**



Source: Madeira, E. (2007)

most importance in selling the citrus of Algarve, 58% of production, which was from 84% of the agents marketing these citrus. As to the quality attributes, more valued by these two channels, it is worth to say they have very different nature and intensity. From among the most valued four quality attributes appear the fruit “external aspect” and colour.

**Table 1 – Quality attributes required by the Purchasing Centrals of Hypermarkets and Supermarkets and by the Supply Markets in acquiring citrus fruit, considered as “very important” and presenting replies above 50%.**

Quality Types	Attributes of great importance for the PCHS	Replies Frequency > 50%	Attributes of great importance for the Supply Markets	Replies Frequency > 50%
Organoleptic	External aspect	100%	Colour	83%
	Colour	92%	Sugar amount	79%
	Size	75%	External aspect	77%
	Juice amount	75%	Size	72%
	Sugar amount	58%	Juice amount	64%
Service	Product transport	100%	Package image	75%
	Product durability	83%	Product durability	75%
	Package type	83%	Product with Cont. and homog.	53%
	Package image	75%		
	Product with cont. and homog.	67%		
Hygiene /sanitary	Without pesticide residues	92%		

Source: Madeira, E. (2007)

It was concluded that the Supply Markets give a great importance to the organoleptic quality, because three from the four attributes considered the most important in marketing terms (color, amount of sugar and “external aspect”) are of this nature. On the other hand, the four quality attributes considered of major relevance by the Purchasing Centrals of Hypermarkets and Supermarkets are associated not only to the organoleptic quality ( the external aspect and the color) but also to the service quality ( the transport of the product) and to the product hygiene and sanitation ( without pesticide residues).

**2.-** Later, it was tried to obtain knowledge that would allow showing evidence or refutation whether some of the techniques and / or institutions of the Algarve’s citrus system meet the market requirements, taking into account the existing constraints.

In the studied period, from 1994 to 2006, some political measures were adopted, both from the technical and institutional points of view, namely: Integrated Protection in the citrus

fruit in 1994; The Geographic Protection Indication (IGP – “Algarve’s citrus fruit”) in 1994 and the Technological Center for the culture of citrus fruit was created (CTC) in 2000.

Evoking “The theory of Induced technical and institutional progress” (Hayami and Ruttan, 1998), that served as reference framework to the present research, we tried to understand if these technical and institutional innovations have contributed towards the Algarve’s citrus culture development. Those authors consider the following as conditions necessary to have development:

- a) The technical and institutional techniques to have essentially an endogenous to the system origin. They should appear as a reaction to the economic forces and respond dynamically to the changes in the factors endowment and to the changes in demand.
- b) For the technical progress, it is fundamental the existence of an efficacious system of information exchanges about the market, established between farmers, technological centers, research public institutions, private companies of agro-industries, political decision-makers and administration.
- c) A lot of importance should be attributed to the reciprocal interactions between technical and institutional progresses.
- d) The technical and institutional progresses must be underlying the specific cultural characteristics of each society.
- e) There must be systems of education/ training and decentralized agricultural research and publicly supported.
- f) There should be mechanisms able to stimulate the researchers, in order to give contributions to solutions of important problems for society.
- g) It is fundamental to know how a society affects its means to the different activities in the agricultural sector.

h) The institutional innovations should take into account the power structure or the groups of interest making part of a society, once the government intervention that induces benefits for some groups of interest, in general, doesn't contribute to the creation of wealth and brings costs that correspond to losses in market efficiency, as well as to a waste of resources

Were the above referred political measures conceived bearing in mind the just mentioned guiding principles? This is the question we are going to try to answer as follows.

## **RESULTS**

### **I – INTEGRATED PROTECTION**

The Integrated Protection (IP) has presented a significant impact (20%) in terms of Algarve's citrus area and is considered by the EU a technique of the future in the fit sanitary range.

It is a way of production where the farmer, aiming to combat plagues, diseases and weeds, resorts rationally, systematically and with a program to namely biological, biotechnical, cultural and chemical means, integrating them, in order to find more favorable solutions from the economic, ecological and toxicological points of view, reducing the chemical combat to a minimum. (Amaro and Baggiolini, 1982).

The farmers, namely the farmers of Algarve, received financial support, through the Agro-environmental Measures, to incentivize the adoption of Integrated Protection. For that purpose, they had to comply with a series of norms defined by the Ministry of Agriculture, Rural Development and Fishery (MADRP). Among other procedures to follow, it is worth to highlight that the implementation of Integrated Protection compelled the farmers to belong to a Farmers' Organization, recognized by the MADRP for services rendering, namely technical support in the Integrated Protection area. Equally, it obliges to use only chemical products homologated by MADRP for the Integrated Protection. These products include only active substances with little toxicity for the environment and for man (both as user and consumer).

The research carried out has highlighted that:

a) The Integrated Protection object was to combat plagues and diseases, with a minimum impact on the environment, without having the aim of overcoming any time of constraint imposed by the market. It was verified that for the recognition by MADRP of the farmers' organizations practicing IP, it was necessary that their programs comprehended "the culture characterization and its fit sanitary protection, and should integrate the strategy of combat to plagues, diseases and weeds". These facts have led to infer that the MADRP when deciding to accept these associations with the Integrated Protection statute did not give the suitable importance to the role that the plagues can play, as constraints to the citrus fruit valuation by the market. The combat to plagues and diseases appears here, not as a means that could contribute to overcome constraints in the market. The decision for the acceptance of these associations, with such a statute, has not taken into account the market demands.

b) One of the market constraints is the citrus fruit external aspect, especially due to spots caused by thrips, mites and cochineals. However, concerning the availability of technical, chemical and biological means to get an attractive aspect in fruit, the conclusion is there were no means efficacious enough to combat some of the fit sanitary agents that strongly affect with spots the external aspect of the fruits. There were neither active substances homologated by MADRP for an efficient combat to thrips, nor efficacious biological means to combat both thrips and mites and cochineals. For that reason, it was not possible to eliminate one of the main factors that contribute to the citrus fruit devaluation in the market in the presence of competitors.

It was also verified that it was not for the lack of financial support that there was no research, in order to supply the Integrated Protection with technical means to meet the market requirements. As a matter of fact, between 2000 and 2006 two million and eight thousand Euros were spent in research developed in the Algarve in the citrus culture area. Yet, this research didn't focus on the aspects related with the factors that most influence the degradation of the fruits external aspect, namely the mites, the cochineals and thrips, as well as the branch scratches. From among the reasons that may clarify the just mentioned fact, it is thought that a plausible explanation can be in the distraction from technicians and

researchers in what regards relevant aspects in the citrus fruit commercialization. In fact, according to Hayami and Ruttan (1998) “for the success of the technical progress it is fundamental the existence of an efficacious system of information exchange about the market”. However, the majority of technicians and researchers have their activity without considering these data.

c) This way of production of Algarve’s citrus fruit in IP has shown positive aspects, namely for the use of a chemical combat based on a less number of treatment applications, as well as for the use of less toxic active substances (Rodrigues, 2000). These facts have contributed to improve the environment and the conditions of the fit pharmaceutical product administration as well as the fruits salubriousness, due to the guarantee of low levels of pesticide residues in the production and for eliminating the use of more toxic active substances. In face of this, it should be useful for the consumers’ health.

Nevertheless, this way of production in the Algarve’s citrus fruit didn’t have an impact for the consumer. It was verified that from the 86 citrus fruit trading agents in the Algarve only one certified citrus fruit with this quality reference, using it individually in each fruit. It was an irrelevant quantity (approximately 400 tons) and took place in a single year. Also, other agents were compelled to have the certification of citrus fruit they commercialized, as produced in Integrated Production, to comply with the specification, which was imposed by some Hypermarkets and Supermarkets Purchasing Centrals. Yet, these citrus fruit didn’t reach the consumer with this differentiation, because, when sold in retail, no type of reference appears relating to this fact, which would value this product as opposed to the non certified one, and would make the consumer aware of the value added proposed to him. Another point is neither the Ministry of Agriculture nor the Ministry of Health have carried out campaigns to inform and sensitize the public in general about the advantages of consuming fruit produced according to the IP rules, due to the food security associated to it. The data from the National Institute for Medical Emergency (INE, CIAV, 2007) show an average of five to six diary intoxications, in 2006 and 2007, due to pesticides and these happened essentially (62%) due to very toxic products, whose utilization is not allowed in Integrated Protection. So, it is evident the importance that the products in Integrated Protection could have for the public health.

d) The distribution of subsidies has benefited mainly the farmers/ citrus farmers, paying them for their contribution towards the environment preservation. It is also worth to refer that, in six years, about thirteen millions of Euros were applied in subsidies to incentivize the farmers to practice an “Integrated Protection”, which can be understood as “Directed Chemical Combat”, once it has insufficient alternative or complementary means to the Chemical Combat (Amaro, 2003; Franco *et al*, 2005), namely biological means for the efficient combat to mites, cochineals and thrips, as it was verified in this research.

This IP didn’t take into account the culture of citrus fruit development, once it left aside many technical applications necessary for this type of production to be transmitted and identified by the consumer as an “added value”.

It remained evident that:

1 – The Integrated Protection was conceived exogenously. The Ministry of Agriculture, especially when he started to recognize the farmers’ associations, which give them their technical support, didn’t value the importance that plagues and diseases may have as a constraint to the market;

2 – The MADRP, as the Official Entity homologating the products, that are allowed to be used in the practice of Integrated Protection, didn’t pay attention to the demand requirements nor the conditions prevailing at the production level, namely a lack of homologated products to combat the thrips.

3 – There were financial supports, regarding certain public policies, both to implement the IP and for research. However, the Research Public Institutions didn’t care enough about the techniques/ technologies that could contribute to improve the external aspect of the citrus fruit, thus valuing the product on the Market.

Therefore, it can be concluded that this Integrated Protection didn’t explore the future development possibilities that this technique could have brought to the sector.

## 2 – IGP – “ALGARVE’S CITRUS FRUIT”

The IGP - “Algarve’s citrus fruit” has been analyzed, since it is a differentiation tool for the citrus fruit in this region, hence with a lot of interest for the valuation of the same in an environment where there is an increasing competition. It is known that a differentiation of this type must be associated to the notoriousness and positive reputation of the region’s products with the production social-technical restrictions, as well as to the region’s soil and climate conditions. It is also worth to say that a product having an IGP (Protected Geographic Indication) should meet the conditions stated in the specifications and that any IGP should be considered as an important trump for development

So, in what concerns IGP- “Algarve’s Citrus Fruit”, it was concluded it was a failure, not having worked as an advantage for the Algarve’s citrus culture. The quantities traded yearly, with this quality reference (between 1996 and 2007) presented very low values, about 1% of the Algarve citrus’ production and the number of agents using it was reduced.

**Table 2 – Agents trading Algarve’s citrus fruit, distribution channels used, and suitability to IGP.**

Type of agent	Trading		Trades for				IGP - Algarve' Citrus Fruit					
	Total for fresh consumption		PCHS		Supply Markets		Knows what it is		Meet the requirements			
	n°	%	Ton	%	Ton	%	Ton	%	n°	%	n°	%
Producer	18	33%	10.228	9%	2.520	16%	3.841	6%	5	28%	5	28%
OP	6	11%	21.973	21%	6.399	40%	3.697	6%	6	100%	5	83%
Wholesaler inter	31	56%	80.106	70%	7.112	44%	52.415	87%	9	29%	4	13%
Total	55	100%	112.307	100%	16.031	100%	59.953	100%	20	36%	14	25%

Fonte: Madeira, E. (2007)

It is worth to say that in the year of major affluence of agents to use the IGP- “Algarve’s citrus fruit” (2002/2003) they corresponded to just 12 from the 86 agents operating in the Algarve. Most of the production with this IGP was traded by Producers’ Organizations (OP) and was essentially aimed at Hypermarkets and Supermarkets. From the Fruit Centrals that asked permission for use, only four weren’t OP. Yet, this research allowed to conclude that the Algarve’s citrus production, aimed at a fresh consumption, was traded essentially (70%) by wholesale mediators, and the OP trading was not beyond 21%. It was

verified that this IGP gave a disproportionate importance to the OP in relation with the “weight” they have in the Algarve’s citrus trading (Table 2).

It was understood the failure of IGP – “Algarve’s citrus fruit”, by comparing its specification items with this study results on the reality of the Algarve’s citrus culture system, since:

a) The regulations the trading agents have to comply with, namely in what concerns every year’s month of September, as the period when the authorization request for the use of this IGP must be made, as well as the demanded requirements for its authorization, namely those related with the verifying of production conditions, the local and the general state of the orchards didn’t take into account the way how the different types of trading agents purchase the citrus fruits they trade. In September, the majority of agents, especially the wholesale intermediaries are not in conditions to inform about the citrus quantities they will trade in the agricultural year about to begin, as well as the state of the respective original orchards and their places. Only the agents who trade their own production (Producers and wholesale intermediaries with own production) the one of their associates (OP) or those who have “leasing” contracts already made until then are in conditions to meet these requirements. Hence, as from the start, it is excluded to use this IGP a significant amount of Algarve’s production (44%) which was verified to be purchased along the year at the warehouse doors ( to farmers or to collectors) and at the explorations (in trees or already picked fruits ). It can be concluded that this IGP conception excludes a significant part of the Algarve’s citrus production.

b) The specifications related with the “external aspect” of the Algarve’s citrus fruit, particularly regarding the spots caused by thrips and branch scratches make evident that the technical constraints have not been taken into account, namely a lack of homologated products to combat the thrips, and suitable technical guidance to diminish the branch scratches, in part due to the region’s climatic conditions.

c) Still about the demands relating to the Algarve’s citrus “external aspect” it is worth to say that the market survey carried out at the national level, allowed to conclude that the inquired consumers base the positive reputation of the Algarve’s citrus fruit, comparing

with citrus fruits from other origins, on the fact of being sweeter, having more juice and a better taste, not on their good aspect.

d) In what regards the requirements at the level of preparation and packing centrals, in spite of a significant percentage of agents having made investments with the purpose of modernization and adapting to environmental, hygiene-sanitary and labor security norms, the majority of Producers and Wholesale Intermediaries don't comply with the IGP's requirements. Once again, this IGP's specifications didn't take into account the offer conditionings, namely at the centrals level. It was verified that only 25% of the agents complied with the requirements by IGP and in these were included only 13% of the Wholesale Intermediaries, 28% of Producers, but from the Producers' Organizations were included 83%. We have to recall the very small importance of the OP in the Algarve's citrus trading for consumption in fresh, which doesn't go beyond 21%. Effectively, the specifications don't distinguish national rules feasible by most of the agents ( especially those concerning the product tracking down, the citrus sanitary guarantee, as well as the environment protection) from inadequate demands as far as the real conditions of the Algarve's citrus system is concerned, namely in what regards the facilities.

Thus, it can be concluded that when this institutional innovation, the IGP- "Algarve's citrus fruit" was conceived, the importance of the citrus external aspect as a market demand was not taken into account. The constraints faced by the citrus culture in the Algarve, namely a lack of homologated products for the combat to thrips or the culture techniques to avoid the branch scratches were not considered as well. From the social point of view this IGP didn't pay the necessary attention to the structure and functioning of the Algarve's citrus trading subsystem. When it was conceived this institutional innovation turned away from the actual situation that wished to value. Yet, as it is known, when we enter a process of resource valuation it is indispensable to consider the availability of material and human resources, the cultural context and the technical and institutional development level. Without this there is the risk of missing the economic and /or political feasibility (Hayami and Ruttan, 1998).

### 3 – TECHNOLOGICAL CENTRE OF CITRUS CULTURE

The Technological Centre of Citrus Culture (CTC) was also analyzed once it is an institution aiming mainly at promoting the sector of citrus culture development, through the companies' competitiveness improvement, the development of research projects that could lead to the production qualitative valuation, the broadcast of technical and scientific information that allowed a more competent performance by companies, as well as through human resources training / information.

The CTC (Technological Centre of Citrus Culture) was created in 1999 and gathered around 50 associates. Among these the Central, Regional and Local Institutions detained 69% of the share capital. Within the remaining associates were all the present in the Algarve Producers' Associations (11), six Intermediary Wholesalers and three citrus individual farmers, as well as Unions and Confederations of the Algarve Entrepreneurs, along with four rendering services associations and companies connected to the citrus trading and changing into juice.

However, the absence of a guarantee of financial support, due to the fact of not having reached an agreement regarding the associates' contributions, led this Technological Centre to a performance not matching the expectations of a program of activities that highlighted a great importance for the culture of citrus fruit. Therefore, this CTC survived only when it spent (in fixed and variable expenses, as well as in the very projects co-participation), the money relating to the share capital, and the subsidies received when it was launched and from some research projects. So, this CTC ended its activity in April 2004, due to a lack of money to pay its functioning expenses.

It was evident that this Centre conception was wrong, as follows:

a) It is not possible to ensure the functioning of a Centre of this type based on contributions. It is thought that the co-participation of public funds to guarantee the functioning of institutions like this is fundamental to overcome some constraints that have been faced by the citrus culture. In fact, by the model of development underlying concepts it is known that the development of systems of education and agricultural research

decentralized and publicly supported contribute, in a decisive way, towards the success of technological innovations. On the other hand, it is verified the need for public supports, for the implementation of research and agricultural technology transfer systems, once the information or the innovations resulting from this type of research, especially in the biological area, having characteristics of public goods .

b) The analysis of this CTC's partner component has also allowed to conclude that the conception of this Institution was exogenous to the Algarve's citrus culture system, because it didn't consider the region's different interests, nor took into account its cultural characteristics. It is highlighted the weak participation, both of citrus farmers and Wholesale Intermediaries in this Technological Centre. Yet, it became clear in the carried out research that the Wholesale Intermediaries were the agents presenting the major importance, either from the economic point of view (trading 70% of the Algarve's citrus fruit production aimed at fresh consumption) or from the social point of view (representing 56% of the total number of agents), while the OP traded only 21% of the citrus fruit aimed at fresh consumption and correspond to 11% of the agents (Table 2).

In short, as explained above, the conception of this CTC was at the origin of its unfeasibility, once it didn't guarantee its functioning through a public financing, nor integrated large part of the economic agents interested in its activity, namely farmers and wholesale intermediaries.

## CONCLUSION

Thus, it was concluded that the analyzed technical and institutional innovations were adopted exogenously: the study of Integrated Protection in the Algarve's citrus fruit, of IGP- "Algarve's citrus fruit", and of the Technological Centre of Citrus Culture evidenced that they didn't take into account the real constraints faced by the Algarve's citrus culture.

The Integrated Protection was conceived without the purpose of being useful to the consumers, not having explored the possibilities of future development that this technique could have brought to the sector.

The IGP- “Algarve’s citrus fruit” was idealized without taking into account the quality attributes, that confer positive reputation to the Algarve’s citrus fruit comparing with those from other origins, and without considering the technical, social and climatic constraints that are inherent to the culture of citrus fruit in this region.

In what regards the Technological Centre of Citrus Culture, the State didn’t guarantee the necessary financing of an institution of this type. This CTC, through the information exchange with the farmers/entrepreneurs about the market would be in conditions to transmit to the research public and / or private institutions the constraints detected at the technical level, thus stimulating the success of technical progresses.

In brief, the conclusion we can draw is that the way of thinking of those who decided, the technicians and politics in charge, didn’t take into account the constraints faced by the culture of citrus fruit, thus giving origin to the referred technical and institutional innovations as constructions aside this reality. Therefore, it is considered important the change of development paradigm.

Recalling the Theory of Induced Technical and Institutional Progress referred in this work, the conception of the techniques and of the institutions must take into account the real and actual constraints faced by the farmers in their activity. These aspects are very relevant and if they aren’t considered, hardly there will be development. So, it is advisable that the strategies for the future, either technical or institutional innovations, along with political measures are thought having this conceptual framework as a reference.

We will finish this work with the presentation, merely as an example, of alternatives with a view to the IGP reformulation and the revival of the Technological Centre of Citrus Culture, having as a reference framework the Hayami and Ruttan’s Theory of Technical and Institutional Innovation, which oriented this research.

Thus, and in what concerns the IGP- “Algarve’s citrus fruit”, in order that this one integrates the majority of production and centrals of fruits , it has to suit the quality attributes more valued by the main distribution channels of the Algarve’s citrus fruit, the Supply Markets and the Purchasing Centrals of Hypermarkets and Supermarkets. Regarding this, it was highlighted above that these distribution channels have different requirement levels as to the citrus external aspect. The Provision Markets, which are those trading most of the fruits (58 %) give less importance to the external aspect of the citrus fruit than the Purchasing Centrals of Hypermarkets and Supermarkets. They give more importance to the amount of juice and sweetness the attributes that better suit the “present state” of the Algarve’s citrus fruit. So, this IGP should integrate two types of differentiation, with different requirements, according to the distribution channel to be used by the different types of agents. Worth of note is this specification should be agreed with the sector economic agents’ consensus, since it is known that a Geographic Indication must result from a collective agreement process, involving producers, traders, distributors, consumer associations and the public administration as a ruling entity. In an agro-food system all the stakeholders are independent and should coordinate their actions regarding a product, which, in spite of being protected, is subject to the development of technology and distribution (Fragata, 2003). Thus, the construction of this specific quality must be a process that gives origin to collective decisions, where the imposed constraints are pertinent and may be controlled by the stakeholders’ majority. As it is known, introducing a possibility of differentiation within a quality common convention, taking into account the market types, allows to integrate the diversity of interests and render the stakeholders more solidary.

In what regards the Technological Centre of Citrus Culture and bearing in mind its objectives, namely concerning the scientific and technical information broadcast, as well as the results of the applied research, we think that its “revival” could function as a competitive strategy for the Algarve’s citrus culture. However, that Technological Centre should have an underlying philosophy of financing. It should count on a significant support from the State and an active participation from the farmers. In fact, the agricultural Technologies, specially the biological ones, have “non exclusion” and “non rivalry” characteristics. So, in order to prevent bias when researching them it is defensible that this

type of activities have public support. The functioning/ financing of this Centre should be ruled by well defined pluri-annual protocols, whose elaboration should have a desirable consensus from the different agents.

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It is understood that the strategies drawn for the future will have to go through a rationalization of resources and the State must assume a regulating function in the Algarve's citrus culture system, so that this can have suitable technical and institutional means to meet the market needs in due time. Yet, the techniques and the institutions must be developed endogenously to the citrus culture system, and bearing in mind the existing constraints.

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