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Title**:** "Knowledge Intensive Business Services (KIBS) and Networking in Agriculture: the case of Thessaly"

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Acknowledgements

Abstract

In this dissertation, I will try to understand the function of cooperation and knowledge networks and of knowledge dissemination structures in the primary sector, as well as the treatment of knowledge-intensive services by producers.

In the era of knowledge, of the variety of ICT, of globalization of trade and the division of labour, a blooming of knowledge-intensive services is observed. Furthermore, there is a shift towards cooperation networks to exploit different knowledge bases for the diffusion of knowledge, aimed at introducing innovations and added value. Because of these changes, new forms of partnerships and networks evolve, bringing changes in the agricultural knowledge system. In turn, these new forms differentiate the way and networks through which producers extract information. It is now evident the role and existence of KIBS, as they participating in a increased or reduced extent in the daily activities of producers. The lack of access to services, inadequate skills and limited access to knowledge production and innovation are problems that could be solved if KIBS providers (who are parties of the production chain) and producers cooperate together and "exchange" knowledge.

For my dissertation, I use literature review and field research. The fieldwork took place in the Prefectures of Larissa and Magnesia. It was addressed to producers, in order to collect data on how they choose information resources, who they develop partnerships and with whom, how facing providers of knowledge-intensive services.

The results of the survey showed the existence of partnerships in the primary sector. The agronomists and cooperatives are those which producers cooperate and trust more. The use and the treatment of KIBS from producers, depends on the features of each producer, such as, age, educational level, the capital etc.
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Key words: knowledge intensive business services, rural development, agricultural knowledge system, agro industrial, knowledge economy, added value, rural innovation

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1. Introduction

This paper attempts to study the network of knowledge in the agricultural sector, but also between the two dominant systems prevail and somehow "conflict", these of conventional (industrial) and organic agriculture. Knowledge and innovation are the main element, through which there can be more added value in the production chain of the sector. The primary sector is not considered as a sector based on knowledge. For this reason, most discussions of the knowledge economy have the bypass it.

But in recent years, with the continuous technological improvements in agricultural applications and the belief by many scholars that the sector can be a key pillar of the economy, a turn is becoming. Also, the increase in skilled labour in the sector, the mobility of the population and the growth of Knowledge Intensive Business Services, gave new perspectives. The study of networks but also individual partnerships that grow and evolve between the competent bodies, research institutions and allows producers to better see this flow of information. We also believe that there should be a record as regards the presence of occupations which included in knowledge intensive services in order to demonstrate practically the existence and their importance for the sector. In other words, to prove that modern primary production has gone into a new era and boasts not only labor-intensive activities, but with the appropriate conditions, the adequate and effective cooperation networks, it can be transformed into knowledge-intensive activities (in the sense that we define today purely knowledge-intensive services eg Software consultancy and supply, Legal activities, etc.) and give additional value to the product and in general.

The recording the introduction of knowledge in the field through collaborations and interactions, how (and if) involved in the production chain (ie if you come across the production chain from the farm to the formulation) the number of occupations and scientific training, and how extrovert are the parties will form a basis for how the primary sector can be improved to become more outgoing, be a growth factor and a key pillar of the economy.

1.1 The primary sector in Greece

We consider it appropriate to present a picture of the primary sector in Greece. Agriculture remains important and considers a pillar for the Greek economy. It is a key feeder of a range of products and services, which in turn set in motion the food industry,

manufacturing and other types of services. The production value of the industry in 2012 was estimated at 10.8 billion Euros with an upward trend. In contrast, the gross added value is in lower levels just 4% of the total economy. For 2011, the sector contributed to exports 3.986 billion, most of which were final products mainly addressed to the European Union by 66%. As said before, knowledge economy and technology are not mainly involved with the sector. However, in recent decades where the diffusion of knowledge and globalization are creating a new social and economic environment, there have been significant changes in the field (for example: watered by satellite, certification standards, export growth, management methods, contracting farming and vertical integration of production etc).

As regards holdings, there is familial character, the number of women has increased, 50% of the workforce is engaged in the field is full time. The latter shows an increasing trend in the field of entrepreneurship, something which contrasts with data showing reduction of the workforce. (PASEGES, 2013; Alexiadis, S. et al)

Problems identified is the increase in production costs and energy, the small lot, lack of jobs and a wide range of economic activities throughout the production chain, strengthening education, continuous flow of knowledge and information, measures for the world to know the biological markets , lack of consumer credit (0.65% for agriculture loans to consumer credit) etc.

1.2 Primary sector in Thessaly

Thessaly uses the 36.1% of its land for cultivation and 37.5% for pastures. The activities of the sector may occupy a large geographical area, but they produce 9.1% of GDP. In contrast, the secondary and tertiary sectors producing 24.6% and 66.3% respectively. The existence of substantial secondary sector indicates a concentration of industrial capital and the large tertiary implies the existence of many services. (Economic Chamber of Greece, 2013; Petrakos G., 2008)

Prominent position has the production of cotton, wheat, tomatoes and peaches follow olive oil, apples, potatoes etc. (Economic Chamber of Greece, 2013)

Thessaly participate in country's exports of 5.5% in 2010, which was the highest position held by food exports (ie 315895 thousands euro in 2008, Economic Chamber of Greece, 2013).

Figure 1

Πηγή: Economic Chamber of Greece (2013)

2   Main Goal

The aim is to provide a comprehensive picture of the existence and structure of the knowledge and learning network, the operating mechanism and its effectiveness for disseminating of knowledge from actors to producers and vice versa.

More specifically the questions that set out are:

   a. Are there cooperation and knowledge networks within the production chain of the primary sector? What is their significance?

   b. Are there the appropriate structures for the "transfer" of new knowledge (and experience) from the relevant actors and practitioners of knowledge-intensive services to producers?

   c. Can knowledge-intensive services that exist in the field be leveraged to bring more added value to the producers?

In order to answer the above questions, we will do a literature review on the Knowledge Intensive Business Services and then through field research and the creation of a questionYESre aimed at producers, we will jump to conclusions. Our research took place in Thessaly and more specifically in the Prefectures of Larissa and Magnesia, as they cover a large part of Thessaly Region and feature a variety of products and production methods.

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The main tool of this research is: at first the collection, the recording and the evaluation of knowledge flows to and from the above actors of the production system of the primary sector, in order to create a comprehensive and clear view of knowledge sharing network and also of network which create new knowledge. The recording and evaluation of data describing the collaborations between organizations, that are purely service providers (research and development carriers, higher education, Aberofios Agricultural School , banks of propagating material, Directorate of Rural Development, improvement centres, Chemical State Laboratory, certification carriers, outsourcers supplies), actors who act as service providers but also as productive entities (cooperatives, producer groups, municipal vet) and producers.

In the following chapters, there will be a literature review of Knowledge Intensive Business Services, their definition and in which categories are separated, their location and the factors (drivers) that influencing them in order to develop. Also, we prove theoretically their existence in the primary production sector through literature examples and their networks. In second chapter we prove their existence, practically this time through questionnaires. Finally in third chapter, there will be an analysis of the statistical results.

2. Knowledge Intensive Business Services

2.1 Introduction to Knowledge Intensive Business Services

Knowledge as a concept has now conquered the position that it should have had. Along with entrepreneurship, are the key components for the success and prosperity of a business. It operates as capital, as an other productive factor which is crucial. This is obvious from the fact that in 2000, the European Union signed the Lisbon Treaty, in order Europe to be lead to a to a 'knowledge economy' and to compete globally.

The modern way of live and the technological changes have caused changes in people's needs. However, at the same time, the opposite also happened. People to cover their ever growing needs were led into technological innovations and specialization. Therefore, we observe the last two decades, the emergence of a variety of professions, which were subsets of a sector. The professional specialization leads to specialization of knowledge, R & D becomes increasingly important for the development of new technologies, networks are now more important than ever to business be able to cope with this new situation. Finally, the need for interdisciplinary problem solving and the service oriented structural changes in the industrial world (Illeris, 1991; in Koch A. & Stahlecker T., 2006) has changed the business operation.

2.1.1 Definitions of KIBS

Thus, in this climate, we observe a flourish of so-called Knowledge Intensive Business Services (KIBS). We can say that the first reference was made in 1980 by Wood who refers to "consulting firms or business services" and highlights the need for information and expertise-rich, but there is no recognition of the importance of knowledge. Since then there have been many attempts to define KIBS, but without to come up with a definition. Den Hertog and Bilderbeek (1998) considered the KIBS as "a 'second' knowledge infrastructure and complete or take over the intermediary role traditionally played by the institutionalized public ('first') knowledge infrastructure" (Koch A. & Stahlecker T., 2006). Tovoinen defines KIBS as ''expert companies that provide services to other companies and organizations'' (Muller, E and Doloreux, D. 2007). Finally, Bettencourt et al. defined KIBS as ''enterprises whose primary value-added activities consist of the accumulation, creation, or dissemination of knowledge for the purpose of developing a customized service or product solution to satisfy the client's needs'' (Muller, E and Doloreux, D., 2009).

The definition that is widely used is the one of Miles et al. (1995: 18), who has defined KIBS as "services that involved economic activities which are intended to result in the creation, accumulation or dissemination of knowledge" (Muller, E. and Doloreux, D., 2007). Miles believes that within the above framework of the emergence of knowledge, there are service industries figure as high tech and highly innovative. KIBS are mainly concerned with providing knowledge-intensive inputs to the business processes of other organizations. These other organizations can, and often do, include public sector clients – KIBS do not only provide services to businesses. (Miles I. and Kastrinos N. 1995).

2.1.2 KIBS Classification

 The KIBS sector is quite heterogeneous. We can say as heterogeneous as knowledge. Most writers and scholars use the index of economic activity in the European Union NACE (Classification of Economic Activities in the European Community), to categorize KIBS. In this index, KIBS classified into three major categories: computer and related activities, R & D, business services which have subcategories. However, there are overlays, and other services which may not be KIBS, but they related with specialized services based on other sectors (agriculture, forestry, mining and gas extraction etc). (Muller, E. and Doloreux, D., 2007).

Major KIBS sectorsNACE
Division 72: Computer and related activities, 72.1: Hardware consultancy; 72.2: Software consultancy and supply; 72.3: Data processing; 72.4: Database activities; 72.5: Maintenance and repair of office, accounting and computing machinery; 72.6: Other computer related activities
Division 73: Research and experimental development 73.1: Research and experimental development on natural sciences and engineering; 72.2: Research and experimental development on social sciences and humanities
Division 74: Other business activities 74.11: Legal activities; 74.12: Accounting, book-keeping and auditing activities; tax consultancy; 74.13: Market research and public opinion polling; 74.14: Business and management consultancy activities; 74.20: Architectural and engineering activities; 74.3: Technical testing and analysis; 74.4: Advertising; 74.5: Labour recruitment and provision of personnel; 74.8: Miscellaneous business

activities n.e.c.; 74.81: Photographic activities; 74.84: Other business activities n.e.c.

Note: the broad divisions here include some subsectors that are probably not strictly KIBS. Thus the following have been omitted from the list: 74.6 (Investigation and security activities); 74.7 (Industrial cleaning); 74.82 (Packaging activities); 74.83 (Secretarial and translation activities).

Division 71, excluded from the list above

Renting of Machinery and Equipment: it is often grouped together with these sectors (and in turn, these are also often aggregated together with ''real estate'', and then in turn this group with ''financial intermediation'' for purposes of statistical analysis

Table: Major KIBS sector

Source: Milles I. 2005

Some of them are more open to accept standardization, while others can not easily codify and standardize their procedures. For example, technical testing services have more routine procedures. But in the case of advertising, the processes are constantly changing. New ideas and concepts are added, there is more direct and continuous contact with the client to ensure satisfaction for their needs and products.

Thus, apart from the major categories that reported, another distinction has made in 2008 by I. Miles. Depending on the manner of learning patterns that formed inside the professions, he separates KIBS into Professional (P-KIBS) and Technical (T-KIBS). The latter is more technology oriented, so these KIBS mainly use high scientific and technological knowledge in order to produce and transfer technological innovations. Their self- support process has no intensive, as there are specific routines that followed. More generally, their structure is more standardized and they are focus on technical activities, mainly on information and communication technologies (IT-related services, engineering, R & D consulting, etc.). (Doloreux D. and Shearmur R., 2012).

Regarding the Professional KIBS, they are more related with knowledge. Are those which are most closely connected, have strong and direct contact with their customers in order to cover their demands. They are characterized by transparency and networking and they depend heavily on the knowledge and experience of their employees. For this reason, they usually employ workers with higher qualifications in relation to the level of creativity and innovation (Frell, 2006, in Fernades, C. and Ferreira J., 2010)**.** Due to the lack of routine processes and the heterogeneity in the necessary skills, it is easier to create a process of self-support. They are completely in terms with innovation processes

as they can easily reject outdated routines and introduce new elements. So with these continue changing processes there are some of the most complex forms of services.

It is now clear that P-KIBS are beyond standardization and that there are differences between them and T-KIBS. However, due to the existence of a variety of professional knowledges and needs, the original classification of Miles has bee enriched and has been undergone further distinction. They are divided into Rural KIBS (R-KIBS) and Urban KIBS (U-KIBS). This classification is more administrative and regulatory guidance. We can say that there were the Traditional KIBS which include Rural, Urban and Technical KIBS, while in recent years with the development of innovations, coding and the increased importance of knowledge throughout the economy, appeared Professional KIBS. Once again we confirmed the heterogeneity, as there is variety in structures and professional skills bases.
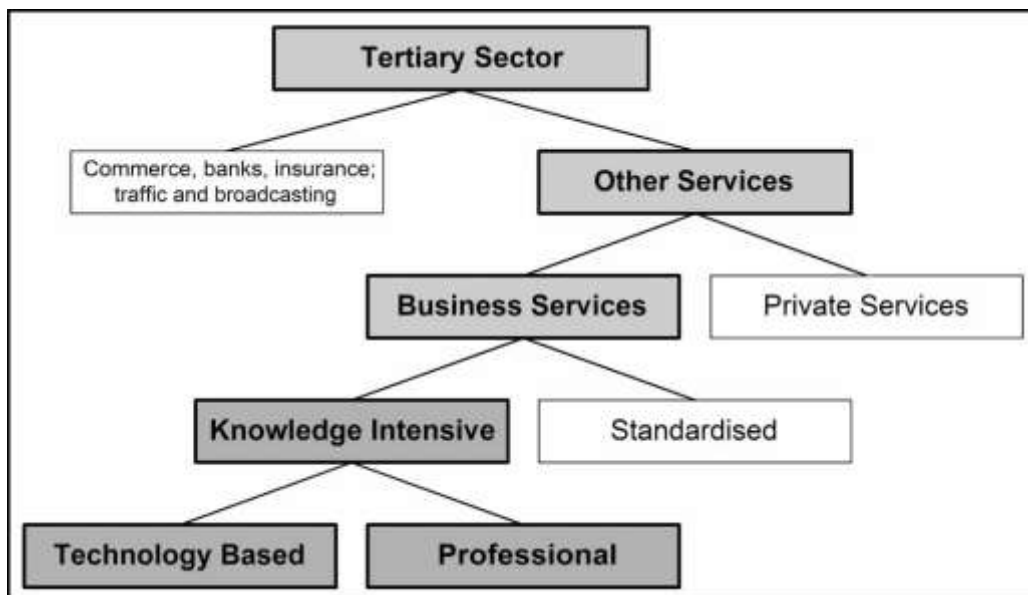
Figure 2: KIBS as a Part of the Tertiary Sector

Source: Koch, A. and Stahlecker, T. (2006)

2.1.3 The role of KIBS

It should be noted that their services are differentiated from those of manufacturing. This happened because Knowledge Intensive Business Services provide access to dispersed scientific and technological information, in each actor which searches for them (Antonelli, 1999 in Muller, E. and Doloreux, D. 2007). The differentiation is also

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indicated by the diversification of their output. While manufacturing firms have as final product something tangible, outputs of KIBS are intangible. In manufacturing, we observe the existence of a codified and commercialized knowledge, while knowledge-intensive services possess a non-codified and tacit knowledge. Their role is to bring together the knowledge base of their clients with that of the whole society, but also their own.

The key to understanding KIBS emergence, is the importance of knowledge transferring (den Hertog, 2000; Muller and Zenker, 2001; Miles, 2008 cited in Doloreux D. and Shearmur R., 2012). The role of KIBS is essentially twofold. On the one hand they function as an external source of knowledge that contributes to creating innovations for their clients and on the other they are contributing in the development of internal innovation and economic efficiency.

They function as transducers of technological information to the economy, by exploiting information and communication technologies. They do not simply transfer or provide information services, but they generate new knowledge that helps them to have better internal communication for the conversion of this knowledge. They consider as one of the main agent of technological change and economic development, and therefore, "a vast body of research suggests an important role for knowledge-intensive business services in the innovation and growth processes of regions" (eg Marshall et al., 1987; Hansen, 1993; Miles et al., 1995; Muller and Zenker, 2001; Czarnitzki and Spielkamp, 2003; Miles, 2003, in Andersson M. and Hellerstedt K.)

They act as drivers of innovation, but are innovative themselves too. KIBS are not simple intermediaries and knowledge carriers, but contribute substantially to the creation through the merger of knowledge. Here there is a "conflict" between literature and empirical studies. While the latter have not come up with specific innovative features of KIBS, the literature considers them key factors for innovation.

Their main contribution, as before, is the collection and transmission of information and services through cooperation with their customers (mainly the manufacturing industry, but also with other companies). Essentially they are functioning as intermediaries for both their customers and for themselves. The developed relationships with their customers work both way (as buyers, or as providers or as partners). With this in mind, many scholars call them "bridges for innovation". Even when KIBS are not directly innovating, they contribute to innovation through the social and professional

bonds. [Emmanuel Muller, E. and Zenker, A. (2001); Shearmur, R and Doloreux, D., (2009)].

With the creation of the knowledge loop through the accumulation of knowledge and experience, improvement of internal operations and reconfigured structures work is observed. In this mode, the business professionals focused on managing the core activities and assign auxiliary activities to supportive staff. Simultaneously, the amount of 'stored' information grows and encouraged efforts to create differentiated strategies to solve local and specialized problems. Thus, adopting Simon's sayings at 1969, "accumulated experiential learning and there is a multidisciplinary approach to solving process issues, which challenges the sectoral and professional boundaries" (cited in Consoli, D. and Elche-Hortelano, D, 2010).

Therefore, we understand, that the variety and specialization in the fields are increased, as enterprises evolve their core activities. The same happens with the employees of sectors. Especially in KIBS, which rely on their human capital, workers are usually high tech. The interactions of tasks with the needed skills create a new emerging knowledge structure. This depends heavily on the tacit knowledge held by each of the employees of a company and of codified knowledge of inputs and outputs. So, the 'power' every KIBS, is the individual knowledge base, which in a way must be connected and interacting with internal and external factors. Thus, besides its viability, every business achieves a reduction of uncertainty and the creation of a new cycle of knowledge.

2.1.4 KIBS location

Great discussion is in progress in both literature and empirical studies, as regards the choice of KIBS installation. There are various points of views. The majority however, deals with the prnomity to large urban centres and the interaction processes encountered strongly knowledge intensive services.

Most studies have focused on urban-metropolitan areas, with consequence to neglect the less developed regions (rural, peripheral). Those who have dealt with the last areas showed that KIBS there, have slower growth rates and that there are structural barriers (Gatrell, 1999, Martinelli, 1991 in González-López M, 2009). Thus it has become widely accepted that KIBS emerge and accumulate in large urban areas due to the existence of diversity and economies of scale. But there are always exceptions.

The spatial prnomity is the first examined factor for the choice of location. Because of existence of agglomeration economies, skilled workers and the reduction of costs, most scholars argue that KIBS installed near metropolises. There, they can develop interactions with other institutions and businesses. Also, there is a "pool" of human resources from which they can choose the appropriate and qualified staff they need. The coexistence of responsible actors and involved parties, interactions and innovations can occur develop more easily. In other words, metropolitan areas provide more direct access to knowledge, which is derived from external research for both, private use and to produce products in order to cover the emerging needs.

It is commonly observed start-up businesses to choose to settle in metropolitan centres, as to compensate for the possible lack of ability to produce large-scale problems in introducing new technologies, with the prnomity to customers. The same choice usually also made by small and individual businesses, to constrain their drawbacks and to exploit economies of scale. In addition, all firms can improve their operation by observing the strategies and procedures that followed by others, through the dissemination of information. Thus, they minimize risk, have a sunk cost and create strong social ties. (Koch, A. and Stahlecker, T. 2006; Andersson M. and Hellerstedt K., 2009).

This access to knowledge depends on partnerships networks that businesses create. Their integration to theses networks is of increasing importance, due to the development of new technologies and the emergence of global multinationals, which offer prnomity and variety. As mentioned, the role of KIBS is not only to collect, combine and carry the knowledge but also to create a market. In the big cities, are concentrated the majority of (the large) businesses who need the services offered by KIBS. Customers will be "educated" and new knowledge (after the redesign of existing knowledge) will be incorporated into a tank of knowledge of clients but also of KIBS enterprises.

Also, fact is that some areas have more knowledge-based economy than others. This has to do with the path dependence and the current policy. The latter was unfortunately unaware of the possibilities of decentralization and national and was been designed in a way that caused imbalance, which in return creates differences and "one size fits alls" practices.

Thus, we observe an apparent trend favouring urban-metropolitan centres, but in the same time become visible an emergence of KIBS in provincial cities (by Woods' et al research, 1993; cited in Muller, E. and Doloreux, D. 2007). Let's not forget that

innovation has spatial data, is integrated and has specific and local features. It is created and maintained through a highly localized process (Doloreux D. and Shearmur R. 2012). Also, technology is evolving so that conciliations and contacts there may be from a distance, and while the nature of the outputs of KIBS is intangible, it is paradnocal to talk about sovereignty of prnomity as location factor.

As Galbraith, Arauzo and Viladecans, Felsenstein and Ferreira, et conclude, there is not a specific location strategy, since some other criteria such as quietness and good standards of living are satisfied, which are improved by the presence of a skilled workforce. (Fernades, C. and Ferreira, J.J. 2010).

In research conducted by Leydesdorff, Dolfsma and Van der Panne in 2006, at Germany (Leydesdorff, L. ; Dolfsma W.; Van der Panne G., 2006), it is argued that the installation is not affected by whether an area is rural or urban, but on whether there may be synergies and interactions between the organizational and technological structure. In the same study is found that KIBS provide interregional services without geographical orientation (physical installation only, due to the nature of their output). Thus, their location choice may not be associated with the existence of the Triple Helix, but depends on whether they are high tech or medium tech. The high tech KIBS may need local support, but they reduce the configuration of information as they usually have protective measures and non-information leakage (Leydesdorff, L.; Dolfsma W.; Van der Panne G., 2006). This happened because KIBS are disconnected from the knowledge flows within regional or local economy, as technology (but also their very nature) gives the ability to provide services outside of their geographical area.

McCann (2007), provides us with an other approach. He considers that different companies with different activities require different types and intensities of contacts. The face-to-face contacts are more intense as we are getting closer in metropolis and so, different types of innovation are distributed concentrically around them. So the question that arises here is whether the innovation in KIBS varies depending on their distance from the metropolis? In research he concludes that:

- ✓ "all KIBS are more innovative to the outer limits of the metropolis
- ✓ Computer systems are more innovative in remote areas but also in the suburbs. Shearmur and Alvergne (2002) are confirm that: high-tech computer services tend to locate in suburban rather than central locations, whereas maintenance activities are more central

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- ✓ design services innovate more in the centre of metropolis (due to face-to-face contacts)
- ✓ for other areas there is a lack of spatial pattern"

(Shearmur, R and Doloreux, D., 2009)

The sources of knowledge and R & D, which are building blocks for the operation of KIBS, are both external and internal. Also, at the past two decades, there is an increased mobility of well trained workers who can be moved and installed anywhere so as to cover the specific (or not) gaps that may have a region. Most major businesses nowadays, have their own R & D sector and this happens to be able to cope with competition. The growth of market, the complex and specialized activities which depend on tacit knowledge (which can not be transferred), have led to a shift towards local services rather than their simple imports. **(**González-López M. (2009)**).**

Also, there are companies that do not seek the co-installation with others and choose to place away, so that they can innovate in secrecy, to maintain their staff and to prevent unintended information leaks (Suarez-Villa and Walrod, 1997). Another research, from Quebec of Canada this time, confirms the above and declares that KIBS are more innovative in remote areas (high- tech construction) (Shearmur, 2010; in Doloreux D. and Shearmur R. 2012). This occurs for strategic reasons (mainly for privacy) but also because of the different nature of the businesses and markets in remote areas. There is sparse demand, so companies must adapt to customer needs, to internalize innovation as there are no specialized niches for every need.

The knowledge and experience of the workforce have a particular role in the selection of the location as earlier mentioned. In a Swedish study demonstrated that for start- up KIBS, what matters most is the existence of people with academic education in science, technology and medicine. The 78% of start-ups hire people with previous work experience in service, so we have a KIBS concentration where the sector is already large. However, the assumption that start- up companies is higher in areas with universities and R & D is not identifying. (Andersson, M. and Hellerstedt K., 2009)

Generally, prNOmity-knowledge base technologies-organizational structures are considered independent sources of variation that either reinforces one another helping to the uncertainty reduction or they conflict. Also, the dynamic of the sectors depends on the interrelationships between the knowledge base- key actors and networks within they operate- institutional infrastructure (Consoli, D. and Elche-Hortelano, D, 2010).

If we consider

1. the division and specialization, but also the fact that companies in order to be able to cope with the new challenges, they are giving away the management of 'peripheral' or non-vital functions and keep close to them and engage themselves in activities in the core and

2. the natural intangible outputs of KIBS,

we can understand that the spatial prnomity does not have in this field the role that still has to other sectors (eg construction industry)

2.1.5 Drivers of KIBS

Companies that belong in KIBS, have been emerged especially in the last two decades. This change has to do with the fact that the required inputs of the businesses have changed. Therefore, the development factors of Knowledge-Intensive Businesses are those which dealing with the extent and the intensity of inputs.

The outsourcing is the main and the most rapidly evolving growth factor. According to McIvor (2005), outsourcing indicated as "activities that were formerly done inside the organization now performed by an external supplier" (Bengtsson, L and Dabhilkar, M., 2009). According to the definition, firms that perform outsourcing, choose to give externally, the management of an operation which can not be resolved internally. Its importance has been documented by several studies (Beaumont and Sohal 2004; Kakabadse and Kakabadse 2002, 2005 in Bengtsson, L. and Dabhilkar M, 2009) and on the expectations regarding the reduction in operating costs and the focus on core competencies and ambitions to learn from innovative suppliers (cf. The Outsourcing Institute 2005).

Companies retain control of their core functions and outsource the management activities or the general supervision of their "peripheral" operations, in order to achieve greater efficiency and effectiveness. The accumulated experience and learning of KIBS, help towards this direction and give impetus to the customers' products, due to the creation of advantages leading to increased competitiveness. The literature focuses on "integrated outsourcing" in which there is close interaction between buyers and suppliers, knowledge cogeneration, products and services. But we observe the emergence of "total outsourcing" (Willcocks and Lacity 2006), which is characterized by the general management and control of functions from KIBS. Namely, the design and the engineering service are transferred to providers. (Bengtsson, L. and Dabhilkar M, 2009).

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The decline in costs due to economies of scale, the release of key factors of production from non-core functions have highlighted the outsourcing to an emerging strategy for the rationalization and viability of business. Also, attention is increased into structural business issues (access to new skills, flexibility and rapid development of products), external knowledge is growing and unnecessary investments are avoided in the sense that they invest in activities that cover the basic functions which made them more productive. Certainly, positive effects are expected, but there are also fears for negatives. The loss of core skills, the leak of crucial information to competitors, the loss of the created informal and social networks and the underestimation of costs and problems during the industrialization phase (Dankbaar 2007; Berggren and Bengtsson 2004 in Bengtsson, L. and Dabhilkar, M., 2008) are some of the negatives that are encountered in the literature.

Another but different form from outsourcing is the off-shoring. The difference lies in the fact that the latter can provide services from a foreign country keeping all the functions of the first. In this way and with the development of new Information Technologies (IT), the cost transaction, resultant from the external management, reduced for both customers and for KIBS themselves, as the relocation of information is permitted in countries with low wage economies where there is a specialized course workforce. The communication cost is reduced, the contact with stakeholders is facilitated and is treated with the same way as face-to-face contact.

Certainly it is important to underline, that both are an alternative business development strategies, but those who dealing with outsourcing must take into account the hidden costs that can affect the flexibility and ability to deliver. The most important point is that they can not replace the internal development capacities, even if they related to core business.

As mentioned, the business requirements have changed in that regards with the requested inputs. Thus, the new types of knowledge inputs must be taken into account when we talking about KIBS drivers.

Businesses that depend on the fields of computer and information technology services must be alerted and monitor the developments. Their activity can be negatively affected if they can not keep up and adapt quickly to new situations that arise daily. They must reconfigure their internal capabilities so that they can integrate the knowledge derived from the emergence of new technologies. Their operation becomes more demanding and complicated due to the existence of many different technologies. KIBS must be

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informed and have an opinion about the pros and cons of each new technology, in order to be able, after cooperation with their clients, to choose the suitable solution to solve specialized problems.

Regulations and social challenges, is a consequence of the emergence of new types of knowledge. Let us not forget that the emergence of KIBS arose from the need for division and specialization, which led to the independence of many internal activities. Many KIBS services have appeared in recent years to satisfy the needs of their clients to prosper in their social environment. This is more obvious and understandable in KIBS which have multinational activity (or simply are active in a country other than the country of origin). The challenges faced are greater due to the fact that they need firstly to learn and to consolidate the different socio-economic conditions themselves and then to transfer the knowledge and experience to their customers. Example of changing social conditions is the emergence of environmental concerns which led to the development of environmental services, ie, services like waste disposal as well as KIBS dealing with" clean" technologies and environmental law (Miles, I., 2005).

The internationalization and globalization of trade are directly linked to the growth and internationalization of KIBS (Miles, I., 2005 and Abecassis-Moedas, C.; Ben Mahmoud-Jouini S.; Dell'Era, C.; Manceau, D. and Roberto Verganti, 2012). In the past we were observing small KIBS which were operated locally and now in order to survive, they should be more extroverted and ready to operate in the global market, something which constitutes a major challenge. Demand and supply have changed. Customers supply services from foreign firms (which may be more innovative or less costly), while KIBS internationalize themselves to follow their customers who extend their activities across national borders. The agreements on trade liberalization, and the efforts of states to reduce barriers as to improve their economy, reinforce the importance of internationalization for the development of KIBS.

2.2 KIBS in Rural Activities

In the previous chapter we analyzed the role of "knowledge intensive business services" and the impact on the economy and society. They are a fairly heterogeneous sector, with results that are evident throughout the economy. Businesses that use knowledge-intensive services innovate, grow and develop, satisfying both their needs and the needs of their customers and society.

The European Union, recognizing the importance of knowledge and innovation in a new era of globalization and technological developments has introduced since 1997, the term "knowledge economy" in all sectors. The Lisbon Strategy clearly demonstrated the new era:

"Europe to become the most competitive and dynamic knowledge- based economy in the world, capable of sustainable economic growth with more and better jobs and great social cohesion'' (European Council, Lisbon, March 2000).

The agricultural sector was, from the creation of the EEC (1957), the central point of economic development policy, so it could not participate in this transformation of the economy. Thus, even earlier, in the 2000 Agenda, one of the main objectives was to upgrade the European Model of Agriculture (European Commition, Agriculture and Rural Development). All this, of course occur within a context, which often leaves out the field that has to do with changes in technology, innovation and research, and is not considered as knowledge intensive but as labor intensive. The latter is something which is not true, as the sector is heavily technologically dependent, despite the fact that it includes diverse and heterogeneous activities not totally dependent on the technology (high dependence on weather conditions but also by individual work).

2.2.1 Technological applications and services in the agricultural sector

Therefore we understand that despite the prevailing view, agriculture is related to the development and integration of technology and knowledge. After the Second World War we may not have the huge and obvious changes in the industry, the services may have become more bureaucratic and with hierarchical structures, but the technology and knowledge continue and act in society, in networks, in the mode of production and economy. The picture changed in recent years and diversification trends emerged, increasing population mobility and new approaches to economic development and governance. (Fieldsend A. F. & Kerekes K., 2011).

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Initially, rural services have now been recognized as a key mechanism for information and advice, having developed diverse activities. Apart from the basic facilities (provision of agricultural and livestock consultancy, providing propagating material, etc.), we have a wide range that includes, besides other commercial activities, marketing, delivery and quality assurance of products, agricultural development projects (eg land reclamation[1]) etc, and with the respective professions to contribute, too, to this field. (Garforth C. & Jones GE, 1997; Bryden J. & Karen Refsgaard K., 2008).

The multi-activity and multi-functionality of agriculture is evident in many European countries such as farms in Finland[2] and the food innovation cluster of Iceland (variety of activities that have to do with manufacturing, health, tourism and education thus creating multi-activity). (Risku-Norja H. & Yli-Viikari A., 2008). This confirms van Haylenbroeck (2007) who argued that there is a shift towards multifunctional agriculture that enables rural areas to add value to their business activities. (Fieldsend A. F. & Kerekes K., 2011).

The same happened with agricultural applications[3], which fills a gap in the provision of information to farmers. In order to be to developed, it is required the existence of a system of collecting information, utilization of knowledge for training producers and to explore new methods and knowledge, appropriate legislative, organizational and administrative framework. (Garforth C. & Jones G. E., 1997).

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[1] They are intended to ensure water conservation and to meet the irrigation needs of crops, the rational management of soil water resources, ensuring the quality of irrigation water and soil protection. Also, the lubrication of various crops, soil fertility, application of new technologies in greenhouses, the use of treated waste for irrigation and the use of renewable energy in agriculture. Research and experimentation (includes all the major Greek crops) on the field made by Agricultural Research Institute, which also made participates in cooperation programs with various organizations such as the European Union (EU), the International Atomic Energy Agency (IAEA) and the Research Promotion Foundation (RPF). The objective of land reclamation projects is to increase the value added crops and ultimately improve the competitiveness of farm in Greece through the principles of sustainable agriculture. (Ministry of rural development and Food)

[2] Finland understood that agriculture alone is not sufficient to achieve economic growth in a globalized economic system, so combined the features and through multi-activity did increase the value of agriculture (1% contribution of agriculture as a whole, but the turnover value tenfold).

[3] In Greece, information and education are made through the Agricultural Extension Program which includes training in Agricultural Education Centers, lectures, individual contacts, and proof test fields (new varieties, enemies etc). The objective is to implement an action plan for identification and analysis of good transferable practices, information, network management, exchange of experience and know-how, training programs for local action groups and technical assistance. Also, the industry is responsible for the functioning of the National Rural Network. (Department of Agriculture, Ministry of Agriculture National Resaursess and Environment)

The different physical, environmental, socio - economic characteristics, as well as the population structure, etc, render the rural areas themselves, necessary for the existence of a system for agricultural applications. The difficulty of the transportation of empirical skills, the limitations due to the distance from urban centers, the lack of knowledge structures and the lack of cooperation between the competent authorities and trained personnel (eg agronomists) led to a difficult situation (not sought or had access to sources of information). Finally, the view that had prevailed for the industry (labor intensive rather than knowledge intensive) contributed to creating the current situation. (Bryden J. & Karen Refsgaard K., 2008; Risku-Norja H. & Yli-Viikari A., 2008).

But even if the professional staff was informed and transported information and applications to interested parties, they are concidered to have the role of passive receiver (an intermediary knowledge) of research at universities, research centers etc. The same happens with the producers. Education, research and implementation services are offered to enable them to meet their needs for knowledge and technology to meet the new requirements, new consumer needs (quality, new products with specific characteristics, reduced price, specifications etc.) to increase their production and therefore their income and welfare. The system's response to the problems and objectives of producers ensure coordination between the members of the system and make producers more active and not just recipients.

The need for change and leadership made agricultural services to flourish. Apart from the recognition, an important role in this situation played the social changes, globalization and the needs / changes to meet the demand for products. Both governments and citizens themselves now recognize that in order to have a sustainable agricultural model, they should incorporate new knowledge and innovations. New specialized programs were created. LEADER II, DORA, Food, Agriculture, Fisheries and Biotechnology (FAFB) are some of them. European Technology Platforms (ETPs)[4] appeared, which are based on strategies for Europe 2020 and were created so that all parties come together, to develop broad themes of research and innovation, as a key element of the European innovation ecosystem. (Community Research and Development Information Center, 1994; Bryden J. & Karen Refsgaard K., 2008).

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[4] For the sectors involved in FAFB, the initiative to create a platform derived from industrial multinational companies in order to support scientific organizations such as the EPSO and EPOBIO (Levidow L. et al, 2013).

We take as an innovation and formation "national farm advisory systems" (FAS) which are intended to provide information and knowledge for producers to comply with the recommendations of the EU environmental and simultaneously adapt their production systems. Successful example is FARMSTAR from France, a network that combines private-public innovation, incorporating precision agriculture utilizing modern technology (information from computers, satellites, GPS). The use and the positive effects of precision agriculture are observed in America (in Colorado), where they had invested in technology for water conservation by cost -sharing to farmers (watering via GPS, laser, etc.) (Labarthe P., 2012; Ramirez A., 2013).

Also, we observe the introduction of new methods of promoting products like e-buy and sale via internet. This corresponds to a part of the technological "invasion" sector. Another point to observe the increasing use of ICT is increasing telecommuting. According to the CRC (2009), in rural areas lives the one third of those who work through telecommuting. This is something that promotes and the British government. (Bryden J. & Karen Refsgaard K., 2008; Fieldsend AF & Kerekes K., 2011).

2.2.2 Knowledge networks, distribution and innovation.

So despite the applied innovations and developments, the continuing need for changes in guidance problems occur and an update (due to specialization and globalization) have made both governments and citizens to give value to knowledge (informal and formal), innovation, networks, supply chain, cooperation in forms of regional policy in education. Each of these has its own role in the development of the agricultural sector and all together are interrelated.

The agricultural knowledge system (AKS) is now recognized as a source of growth, by-bureaucracy and decentralization (Garforth C. & Jones GE, 1997).

"The AKSs that have been developed outside the mainstream, to support organic, fair trade, and agro-ecological systems, are identified. . . as meriting greatly increased public and private investment"
(SCAR FEG, 2011: 87-89) (Levidow L. et al, 2013)

According to Swanson, Sands & Peterson (1990), relates to all individuals and organizations that are involved in:

1. Technology generation (planning, administrative and research activities, etc.)

2. Technology transfer

3. Technology utilization

4. Agricultural policy

(Vasstrøm M., et al, 2008).

System components include databases, research institutes, universities, extension, NGOs etc

Figure 3:

Agricultural Knowledge System
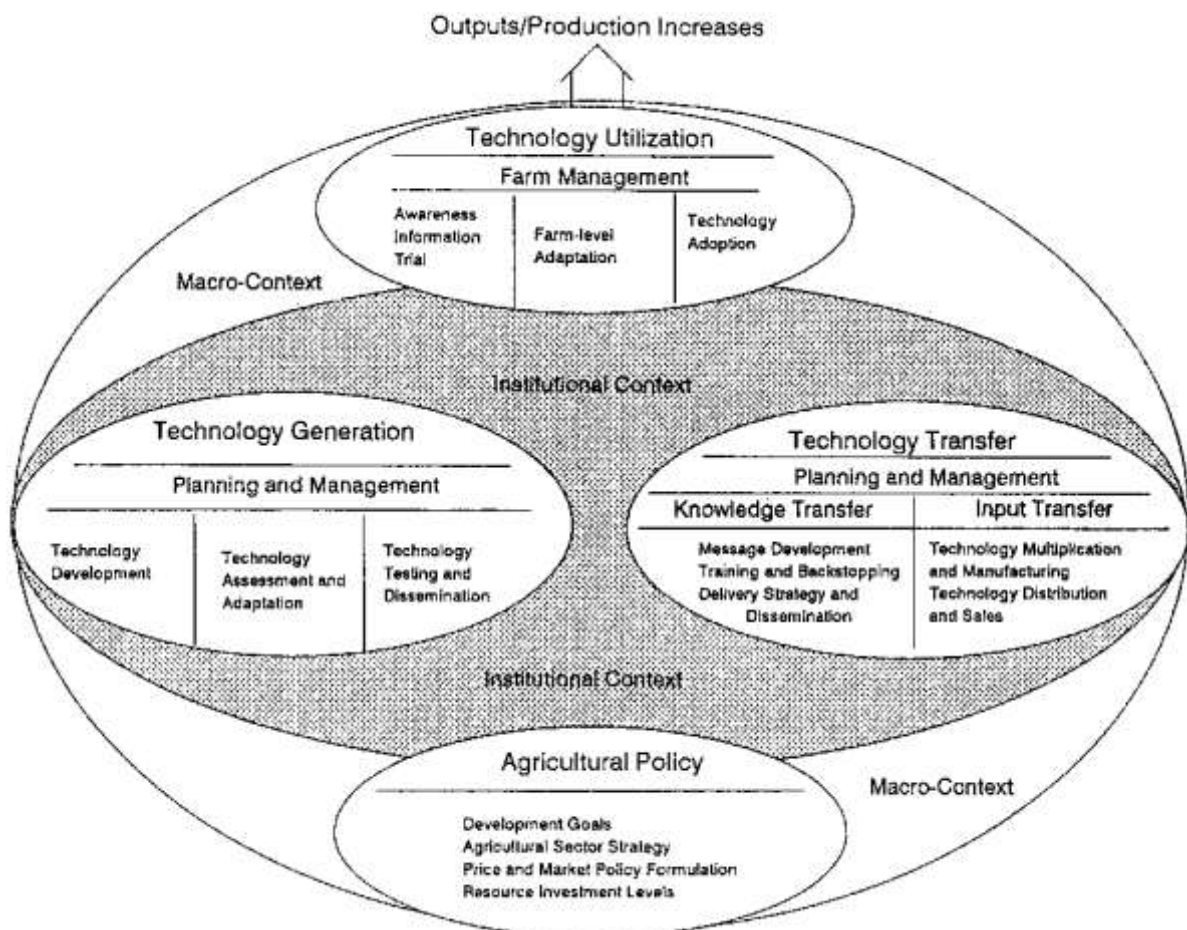
Source: Peterson W (1997)

An important role is played by inputs. The knowledge and information that is transferred to the system begin from the education of the population. Through education

and lifelong learning producers the producers will be able to meet new challenges by combining local mechanisms, empirical knowledge and traditional techniques (so as not to be lost), along with new skills and new opportunities which are opening up throughout the productive chain of the industry.

The variety of skills and knowledge available to everyone individually helps to deal with changes in outward orientation, experimentation but also to increase the collective knowledge base. The populations are better educated and with new skills, it is easier to overcome problems such as isolation, prnomity, reduced demand, the way of the distribution of goods etc. They are more open-minded, willing to introduce new information to implement and experimenting. This leads to improvements and services, as local / regional bodies must be able to accommodate a wide range of needs of producers which forces them to improve and monitor developments. (Garforth C. & Jones G. E., 1997).

To achieve this, and to strengthen the common knowledge base, we need to share information. The information exchange is part of a set of utilities that affect individual and collective aspirations, needs, lifestyle, socio- political motives and relationships. (Information Transfer). It is directly affected by the manner in which occur the transfer of information and knowledge, and is a key factor of the system. In every society there are formed social networks through which information and knowledge flow. These are an important part of the techno-economic system.

Specialization, apportionment, globalization and international competition, the diffusion of ICT and the interactions that occur, the increasing integration of production, diversification of markets and the complexity of the system added value leading to remodeling of the organizational, institutional and political structures. Thus we observe a shift in the literature for the networks, which are a new organization and strategy. The relationships developed in them a source of competitive advantage for each of the Contracting States.

Through the networks can be generated economies of scale for the agricultural sector , to develop services that will bring greater value to the product produced at a lower cost to producers (eg, processing , packaging , export etc) (Bryden J. & Refsgaard K., 2008; Selfa T. & Qazi J., 2005). They can more easily integrate new technologies, which as individual producers would not be able to do either because they lacked capital, or because they had information or even because they did not want to experiment. Also, they can expand their activities in other sectors (multi activity as

mentioned previously), but everyone will focus on the part of the chain which has a competitive advantage. Generally, through the process of exchanging information and experiences, there appear economic, productive and cognitive benefits that otherwise would not be evident. (Brynjolfsson E. & Hitt L. M., 2000).

Involving oneself in a network does not mean the exclusion of the other. Conversely, the greater the variety of individual knowledge, the more effective the network. At the same time however, on each different type of network the knowledge is changing as there is access to a different field of the knowledge. (Ramirez A., 2013). This implies that one can be embedded in a local community and also through local connections have contacts worldwide. The importance of networks is increasingly recognized and helps in understanding the problems. (Prell C., 2011; Duysters & Hagedoorn 2002).

The configuration of the network is a changing process. It is influenced by history, geography, environment and consumer conditions / perceptions of a place. Hierarchies, markets and networks coexist in modern society and observe a variety in the form of networks. (Selfa T. & Qazi J., 2005). There are local and international networks, alternative and conventional networks, transmission of information and knowledge networks that extend throughout the production chain of the agricultural sector (by providing propagating material supply chain, collection, processing and standardization, distribution) .

2.3 New forms of networks

The process of change and transformation of networks is not done at once and was not accidental. Technological change and innovation as well as the need to respond and meet the challenges, contribute in this direction.

It is accepted that the production of social and scientific knowledge becomes through interactions and new combinations of existing knowledge (Kogut & Zander 1992). In this era of specialization and division, individual knowledge must be combined with other specialized knowledge in order to reach an innovation which will create a new, partially distributed knowledge base. (Robert M. & Grant RM, 1996; Hage J. & Hollingsworth JR, 2000). This offers new knowledge, perspectives and meanings. The collection and "exposure" to information is one of the most important elements for the functioning of the system and even more important for new forms of networks. The more information one has, the more easily he selects and integrates

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appropriate new knowledge to solve problems. (Ramirez A., 2013). The interactions that occur from the participation in networks and organizations or face-to-face communication help in this direction by bringing together interested parties.

According to many researchers (Bjornlund et al 2009; Anderson et al 1999; Wozniak 1993; Slade & Wozniak 1993) the capital that one has, is considered as an indicator of possibility for gathering, access and adoption of information more easily than someone who does not possess it (Ramirez A., 2013). Those who have the resources are alert to new practices, adoption of innovations and new technologies but also have the ability to experiment. Also, research centers and universities, are considered by many tasks that are a key source of research and transfer of knowledge (Bryden J. & Refsgaard K., 2008). They are regarded as external sources of knowledge, so, it is required coordination and cooperation with producers (groups or networks) and with relevant bodies (local, regional or national level) for proper operation and system productivity.

We understand, therefore, that when knowledge and research ability belongs to the few, it is difficult to bring about sustainable development in the sector. To address this problem, manufacturers developed networks where we integrated cooperatives some years ago, while today we see a change. Changing social alliances, changing policies, the mode of collection and standardization of information, the relationship between the producer and the consumer is reinforced, smart strategies such as cost othercation, investment, connection to other communication channels and social networks are introduced etc. (Labarthe P., 2012; Levidow L. et al, 2013; Ramirez A., 2013).

We observe enhancement of alternative networks in response to the industrial system. There is a marked shift to quality, the consolidation and localism. The difference with the industrial networks, as mentioned by Renting (2003) lies in the fact that the consumer that chooses food from the AFNS (alternative food networks systems), may learn about the method, manner, place ("relocalization"), why etc, as it is produced after incorporating such information. The AFNS or short food supply chains[5] incorporate alternatives for producing new types of food (other than those of industrial operation) , shorten the supply chain thereby giving more value to the product and strengthen the local economy . (Venn L. et al, 2006; Selfa T. & Qazi J., 2005; Levidow L. et al, 2013)

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[5] We note that there is no commonly accepted definition (Venn L. et al, 2006)

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There is an emerging trend the producer-consumer relations but also the importance of quality to be identified and assessed. Consumers are now paying great attention to the quality of the food, which connect directly to the increasing information on the issues that have to do with health and the environment. This reasoning leads consumers to the emergence of new markets, giving the opportunity to create and promote new forms of networks. Once again the existence oof KIBS but also technology deployment can help. Traditional networks and multinationals, although having experience, networking, κεφάλαιο and knowledge are not flexible enough because of bureaucracy and size. (Selfa T. & Qazi J., 2005).

Thus, in the local / regional systems we observe self-organized groups, participation and informing citizens about the safety of food, variety in structural and organizational level. Different distribution channels such as direct marketing to schools hospitals to enhance sales capacity, cooperation with local restaurants etc. Cooperation, transparency and trust are developed between those who form the chain food, there is more direct communication.

Also the information through different knowledge bases and interconnections is improved, costs are reduced and endogenous knowledge is gained. As for the product itself, there is a record of local origin, label production of local networks, using traditional / empirical methods combined with new technologies. Generally they consist the most sustainable type of agriculture (Selfa T. & Qazi J., 2005; Lucy Jarosz L. , 2000; Venn L. et al, 2006).

In this developing system, which differs in organizational, institutional and productive manner by the dominant (conventional / industrial agriculture), innovation and production method does not remain the same. Since as explained earlier there are different streams of knowledge and information, which interactions are more direct, the technology has provided the possibility of renovation and expansion of sales outside the boundaries of the local system (which helps promote the products even if there is not enough local demand eg e-buy) producers individually or in groups can interpret and implement new methods as barriers have fallen.

So, agricultural innovation must be based on the participation of local stakeholders, to stimulate social learning and incorporate local characteristics, methods and knowledge. According to Leeuwis (2004), the innovation should be a new solution to be implemented on a farm , but should come through communication of all party members from top to bottom. (Vasstrøm M. et al, 2008).

Another element that is characteristic of the development of innovation in new networks and methods is the fact that in the traditional industrial system there are some problems. There is an increasing demand and is a trend to have available processed products certainly something that adds value to them. But as mentioned earlier, due to lack of knowledge (production and / or exports) capital etc, but also because of changing consumer habits so only a few benefits from the positive results. (Risku-Norja H. & Yli-Viikari A., 2008).

In new systems, since producers and consumers show ingenuity and have more open mind to innovative solutions for marketing in the use of new technologies, the food supply is not territorial or time limited (Venn L. et al, 2006). According to Chambers (1993) the problems that may arise are faced by all participants in the chain (producers and actors do not behave as exclusive knowledgeable in the field, customers are informed and inventive, individuals are identified as key resources) (Levidow L. et al, 2013). Through this process, occurs innovation, creating new skills and abilities, as Garforth (1993) and Smith (1994) state, which aim to solve the problems of negotiation, conflict, organization, the bureaucracy is increased and enhanced, the way of implementation of the new information and communication technologies changes and evolves.

One of the main technological systems, with great momentum in recent years is that of organic farming. According to Schmid (2009) Organic agriculture is characterized by "the most efficient use of nutrients by keeping their cycles short and as closed as possible" (Levidow L. et al, 2013). It is indeed an innovative sector needing producers involved in this form of cultivation, developing of new skills, knowledge and to be able to integrate new technologies so as to be able to respond to the needs.

As already mentioned, agriculture and especially organic farming progresses, so it should not only have traditional / empirical methods but applies new scientific and technological methods, for example pollinating of plants with useful insects and technical co cultivation. The new technological knowledge, that is all the techniques and practices used throughout the production chain, consists of new knowledge and empirical techniques. Considering all the above, we can understand the importance of organic farming networks, education and gathering of knowledge. (Tsiaggalis F.2014; 10th conference of young farmers; Keranis G. & Theodosius I., 2010).

Despite the fact that consumers are turning to quality products and there are new emerging markets for products with specific quality or characteristics of marketing,

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organic farmers face various problems. According to the bibliography, a major problem is the difficulty in finding providers for supplies. (Goodman D., 2000)

The lack of markets, as paradnocal as it may sound, can be considered an additional issue. To deal with this problem, we can see new ways of direct marketing: farmers markets, rural tourism and sales from the internet. Especially the latter, solves the problem of poor local demand, as organic farming produces high quality products that appeal to a specific market. It also aims at export orientation, stimulating the local market and consequently the entire chain (Selfa T. & Qazi J., 2005).

The lack of knowledge about exports and weak consumer information is treated with the help of knowledge intensive business services. Tags and branding is the contribution of KIBS, which have a dual role. It explains the origin of the product and each tag is associated with the path dependence of the area. Example here is the Apple which was combined with the agri-food sector in the wider area of Washington or if you look in the Greek markets the example of Zagorin.

The bibliography suggests a continuing need for strengthening social alliances, for interaction between producers and consumers, the existence and use of competent and skilled workers to meet the challenges and sustainability of organic / organic agriculture. The above is confirmed by the Organic Technological Platform[6], to be flexible and adaptable in order to strengthen local economies (and therefore chains), complementarily troubleshooting regarding the global chain. (Levidow L. et al, 2013; Garforth C. & Jones G. E., 1997; Technology Platform (ETP) for organic food, 2007)

The Greek reality is no different. We see the same problems for outlets (the markets of Organic Farmers are the only markets in our country that possess a viable option), legislation problems and difficulty in consultations with stakeholders. As troubleshooting solutions are proposed those that emphasize on research as the key in growth. (10[O] Panhellenic Conference of Young Farmers Working for organic farming).

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[6] Organic Technological Platform (OTP), started its operations in 2007 with private initiative. The aim is to prioritize R & D to exploit the potential of the sector and to address the emerging challenges of incorporating the opinions sector and civil society. The involving of all stakeholders along the food supply chain is vital in order to identify research needs in the field of organic farming. It counts 28 organizations / networks in sustainable agriculture, research, environment and consumer protection, SMEs 4 national technology platforms for biological research; it collaborates with 20 research institutes of research networks. (Technology Platform (ETP) for organic food, 2007)

From the literature review we observe that in the agricultural sector, partnerships and knowledge networks are created. The term "knowledge economy" has been introduced in the field, new services were emerdged in order to fill gaps in the process of knowledge "transfer" and to link experiential / tacit knowledge to new technologies and methods. Also, the Agricultural Knowledge System, which, as mentioned, consider a source of growth and decentralization, are constantly evolving and includes generation, transfer, utilization of technology but also agricultural policy. It does not differ, nor loacks nothing from the knowledge systems developed in other fields.

More analytically, we observe that agricultural activities have enriched, specialized, new forms of commercialization and new networks have been developed. They have developed just as KIBS did. The services professions, through their available knowledge and networking, have the ability to disseminate scientific and technological knowledge, which converts them automatically to "innovation bridges" (Czarnitzki & Spielkamp, 2000). So we understand the need for KIBS professions that act as drivers of innovation and growth.

Their role is to be constantly alert for new knowledge and technologies, in order to integrate them into the provided services. Also, to diffuse them through collaborative networks that they have, so experiential learning and knowledge accumulation function as loop, which will lead to the development of new knowledge, enriching the knowledge base and finally will give added value to the sector having as ultimate target its development.

Cooperatives, producer groups, local Department of Rural Development, "DIMITRA" Institute of Training and Development and other bodies, organize workshops and strengthen the efforts of the producers to information. Also some first steps made for cooperation between institutions, universities and colleges. These bodies and their activities confirmed that there KIBS sector. This is happening because they serve a dual role (Zenker, A. and Muller, E. 2001): as a means of transport external knowledge but also as creators of new knowledge and innovation. This shift to scientific knowledge, combined with the empirical, seems to have results in the way of communication and cooperation between actors and producers.

Through the development that has been in the sector, we observe the emergence of specialized agronomists, specialized drugs, new varieties with different efficiencies in production, new ways of sowing (which need time in order to be effective and embedded from producers, using special course). There is a bloom of certification

bodies that are active in a variety of products produced and in all processes of the production chain. The value of certification can be understood if we see how important are the PDO (Protected Designation of Origin), PGI (Protection of Geographical Indication) and TSG[7] (Traditional Specialities Guaranteed) products for our country and exports. The standardization, manufacturing, marketing and branding of products is no longer "unknown" words / activities for producers, particularly for the younger. These activities are daily enhanced their position in the production system, as producers understand that these will give added value to their products.

As regards the distinction between the industrialized / conventional production model and biological / organic model, except for the differences that we observed above, there are also differences concerns professions that been involved. Due to the non use of agrochemicals, other practices are been used (experiential / traditional, formulations manufactured by the producers themselves without the use of chemicals or obtain them from specialized shops, benefit insects are used, etc). Here we observe the professions of conventional farming to operate differently and adapt their services to the needs of organic farmers.

The providing supplies companies, manufacture products without chemicals ingredients and involved in the supply of beneficial insects, employing agronomists, chemists, chemical engineers, entomologists, biologists etc. The analysis laboratories engaged in soil survey and analysis, so that they can identify with the help of agronomists, soil scientists and chemicals which ingredients contained in the holding, which products would be most productive and what needs it has (always non-chemical

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[7] "Designation of origin" is a name which identifies a product:
(a) originating in a specific place, region or, in exceptional cases, a country;
(b) whose quality or characteristics are essentially or exclusively due to a particular geographical environment with its inherent natural and human factors; and
(c) the production steps of which all take place in the defined geographical area.

"Geographical indication" is a name which identifies a product:
(a) originating in a specific place, region or country;
(b) whose given quality, reputation or other characteristic is essentially attributable to its geographical origin; and
(c) at least one of the production steps of which take place in the defined geographical area

A name shall be eligible for registration as a "traditional speciality guaranteed" where it describes a specific product or foodstuff that:
(a) results from a mode of production, processing or composition corresponding to traditional practice for that product or foodstuff; or
(b) is produced from raw materials or ingredients that are those traditionally used.
(Ministry of rural development and Food)

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solutions) . The certification bodies in their turn, offer suitably qualified personnel for controls. Finally the processing / standardization and packaging are done at certified facilities for organic products.

We therefore observe a wide range of professions which is not much different from the professions of conventional agriculture. So through the literature and personal interviews, we observe the following professions at the various stages of the production chain:

In the next chapter, wanting to confirm the above (networks, information collection, the professions in sector, the existence KIBS etc) in Thessaly, we will examine the production system in the primary sector through empirical research.

3. Field research

In this chapter we present the methodology of field research, including the questionnaire which was created in order to answer the research questions outlined in the introduction and the results of field research analysis.

3.1 Sample description

We chose to spatially confine field research in the Prefectures of Larissa and Magnesia, as they cover a large part of Thessaly Region and feature a variety of products and production methods. The questionnaire was addressed towards agricultural producers.

3.1.1. Questionnaires for producers

The questions for questionnaires for producers were divided into four subcategories. These are the following:

• Identity respondent

• Identity of the operator

• Problems

• Collaborations

In the first part we refer to the demographic characteristics that make up our sample. The aim is to identify the characteristics of the respondents on gender, age, education level importance to producers.

In the second part, the questions related to the identity of the farm / business. We want to determine the geographical location of the respondents in order to achieve spatial diffusion, the legal form / type of incorporation of farms, the sector in which they operate (chemical, biological or mixed farming), and the type of cultivation (annual or multiannual cultivation). The level of mechanization, the level of vertical integration that a holding has (manufacturing, standardization, existence of branded products), but also certification are very important to understand the evolution and existence of knowledge intensive services. Moreover, requested data are the degree of specialization (the number of employees, the level of knowledge in agriculture) and participation in distribution networks (selection of propagating material as well as partnerships that each producer develops).

The next section related to the problems that exist in the field. Essentially we want to understand both the problems faced by producers as a whole and to identify differences

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between the two production systems (conventional / chemical and organic farming). The increased costs, uncertainty in all aspects of the production chain, lack of understanding, lack of cooperation, lack of qualified staff and knowledge-intensive services are the dominant issues. Namely, we try to document the problems faced by producers in order to apply advices and recommendations, new technologies and methods.

For better understanding of the role that each institution in the chain of production of primary sector bodies separated in research / technology, cooperatives / producer groups, service providers, operators and providers of supplies contract farming[8]. Understanding the problems and how they relate to the operation of bodies is imperative for policy planning, research development, coordination of party members and the general development of the sector.

In the last part of the questionnaire, we focus on information and cooperation developed by producers with bodies. The main objective is to understand whether over time and through the evolution of science, there was diffusion of new knowledge, whether and how these could eventually be embedded and "become property" of the producers. The sources of information, the content of partnerships and how they are exploited, accessibility of stakeholders, extraversion and open minded both from bodies and producers and ultimately the use of knowledge and the results of collaborations (through changes achieved) are key questions.

The questionnaires were prepared following literature review. Also they have some elements from the questioners prepared by the Laboratory of Rural Space[9].

The questionnaires were piloted with 5 producers, who contributed to the final result.

The final questionnaires consists of eight pages with structured questions.

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[8] The introduction of this option made because contractual farming is a developing model for agriculture. More specifically, it means that the producers have made a contract with their cooperative, which actually acts as "middleman" since it brings together producers with companies-processors, providing their products at certain price. The companies, which interested in products, they supply the cooperating producers with propagating material and agrochemicals (producers can choose among a selected range). Producers in turn should follow the advice they give and working in this area have indicated that the final product has the desired characteristics. (Kyristis N. and Drosos G, 2014)

9 [LACTIMED (Agro-clusters locaux pour des produits laitiers méditerranéens typiques et innovants - Local agro-clusters for
typical and innovative Mediterranean dairy products) Project Code : I-A/1.1/048]. (Department of Planning and Regional Development, University of Thessaly, School of Engineering)

3.1.2. Study Population

As study population, we have included producers operating in the prefectures of Larissa and Magnesia. Thus, according to the Hellenic Statistical Authority 2009 (Agriculture Livestock Census 2009), the number of employees in the area is 62342. Specifically, 38651 people in the prefecture of Larissa and Magnesia in 23691.

Region and Prefecture	Farms	Number of Employees	Exclusively	Mainly	Secondarily
Thessaly	63.465	104.583	80.718	4.249	19.616
Prefecture Karditsa	13.579	21.819	18.333	1.017	2.469
Prefecture Larissa	24.397	38.651	30.524	1.339	6.788
Prefecture Magnisia	14.636	23.691	17.647	533	5.511
Prefecture Trikala	10.853	20.422	14.214	1.360	4.848

Source: EL.STAT (Census of Agriculture Livestock 2009)

To find how many questionnaires are to be distributed, we used confidence interval calculation. Thus, for a given population of the two Prefectures with confidence interval 7% and confidence level 95%, according to the following formula, distributed 166 questionnaires.

ss= [Z^2*p*(1-p)] / C^2

όπου Z= Z value

P= percentage picking a choice, expressed as decimal

C= confidence interval, expressed as decimal

3.2 Descriptive Statistics

✓ In the questionnaires, 166 people responded. Of these, 129 (77.7%) were males and 37 (23.3%) were females. The largest proportion belonged between the ages of 40-50 (29.5%) and 30-40 (27.1%) years. The level of training varies from primary school to university, but the largest percentage gather those who have finished the general High School (21.51%), followed by those who were educated in Universities (18.01%).
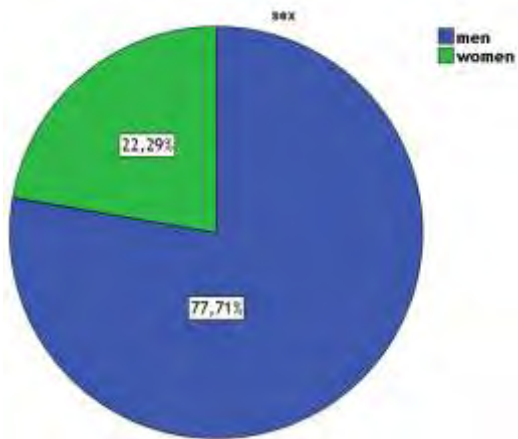
SEX

	Frequency	Valid Percent
men	129	77,7
women	37	22,3
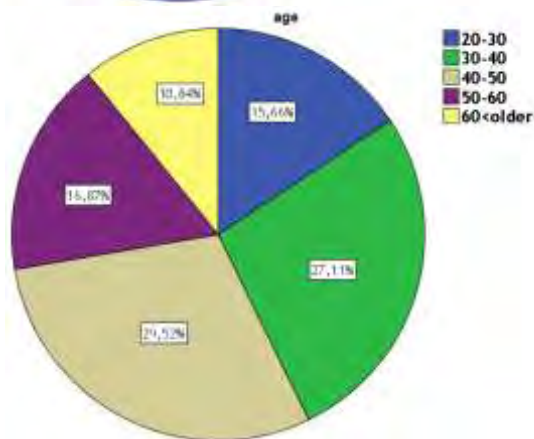
AGE

	Frequency	Valid Percent
20-30	26	15,7
30-40	45	27,1
40-50	49	29,5
50-60	28	16,9
60<older	18	10,8
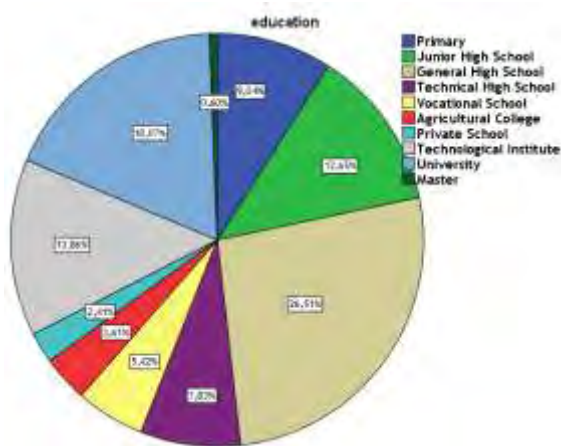
EDUCATION

	Frequency	Valid Percent
Primary	15	9,0
High school	21	12,7
General High School	44	26,5
Technical High School	13	7,8
Vocational School	9	5,4
Agricultural college	6	3,6
Private School	4	2,4
Technical Vocational Institute	23	13,9
University	30	18,1
Master	1	0,6

✓ As for the location of the farm, we tried to have a spatial diffusion in the prefectures of Larissa and Magnesia. Thus, the results obtained from 41 villages. The farm size was varied and we observe a variation from 10 to 1,400 acres. (**Appendix 5**)

REGION

	Frequency	Valid Percent
Άγιος Γεώργιος	3	1,8
Αερινό	2	1,2
Αργαλαστή	8	4,8
Βασιλί	2	1,2

	Size
Valid	166
Mean	188,91
Std. Deviation	230,25

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Βελεστίνο	**3**	**1,8**			
Γόννοι	**3**	**1,8**			
Δασόλοφος	**2**	**1,2**			
Δέντρα	**2**	**1,2**			
Δίλοφος	**1**	**,6**	Σκλήθρο	**2**	**1,2**
Ζαγορά	**12**	**7,2**	Σκοτούσα	**2**	**1,2**
Ζάπειο	**4**	**2,4**	Σοφό	**3**	**1,8**
Καλαμάκι	**1**	**,6**	Σταυρός	**8**	**4,8**
Καλό Νερό	**2**	**1,2**	Στεφανοβήκειο	**3**	**1,8**
Καρυές	**4**	**2,4**	Σωτήριο	**2**	**1,2**
Κιλελέρ	**3**	**1,8**	Τσαγκαράδα	**3**	**1,8**
Κοροπή	**2**	**1,2**	Τύρναβος	**3**	**1,8**
Λάρισα	**6**	**3,6**	Καλλιθέα Φαρσάλων	**2**	**1,2**
Μ. Μοναστήρι	**13**	**7,8**	Φάρσαλα	**9**	**5,4**
Μακρυχώρι	**2**	**1,2**	Χάλκη	**6**	**3,6**
Μέλισα	**2**	**1,2**	Χαρά	**16**	**9,6**
Μηλιές	**2**	**1,2**			
Μύρα	**9**	**5,4**			
Ν. Περιβόλι	**5**	**3,0**			
Νίκαια	**4**	**2,4**			
Ξινόβρυση	**2**	**1,2**			
Περίβλεπτο	**2**	**1,2**			
Πλατανούλια	**2**	**1,2**			
Ριζόμυλος	**2**	**1,2**			
Σκήτη	**2**	**1,2**			

✓ The legal form of farms, mostly is family business (59.9%) or individual business (35.5%)
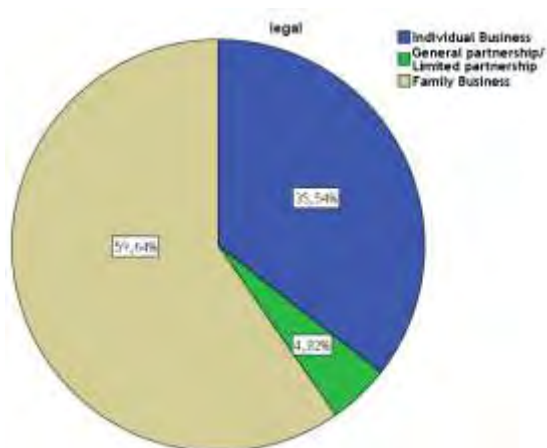
LEGAL		
	Frequency	Valid Percent
Individual business	**59**	**35,5**
General partnership/ Limited partnership	**8**	**4,8**
Family business	**99**	**59,6**

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✓ As for the sector of interest, an overwhelming percentage of 83.1% of producers engaged in conventional (chemical) agriculture. The largest percentage, selects annual crops (65.1%) in which dominates the production of cereals, while in multiannual crops dominate the olive and apples cultivation. We also observed that many producers have more than one crop (grow wheat with barley or feed, two kinds of trees for example chestnut apple, or even cereal with trees). The percentage of producers that have multicultivation reaches 48.19%.
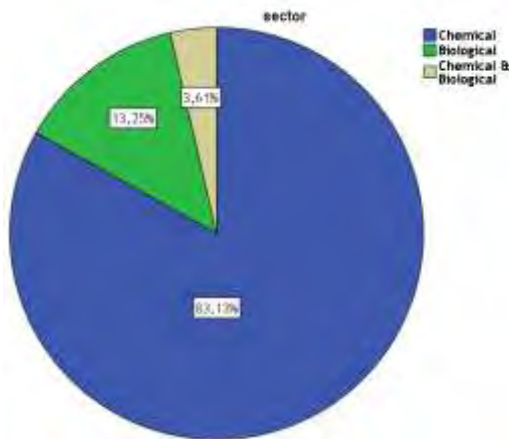
SECTOR

	Frequency	Valid Percent
Chemical	138	83,1
Biological	22	13,3
Chemical & Biological	6	3,6
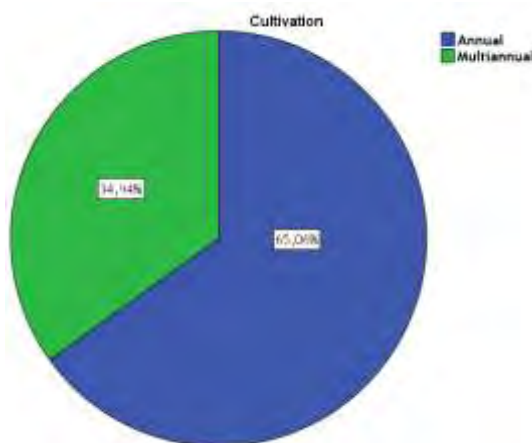
CULTIVATION

	Frequency	Valid Percent
Annuals	108	65,1
Multiannual	58	34,9

✓ As regards vertical integration that exists in the field we observe that 80.1% of the sample has mechanical equipment, 27.1% process their products (13.25 in private facilities and another 7.23% in cooperatives), 22. 9% standardizes their products (20.24% in cooperatives and follows a rate of about 6.02% in their own facilities), 10.8% have branded products, while only 15.7% have certification.

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	MECHANICAL EQUIPMENT		FOOD PROCESS		PACKAGING	
	Frequency	Valid Percent	Frequency	Valid Percent	Frequency	Valid Percent
Yes	133	80,1	45	27,1	38	22,9
No	33	19,9	121	72,9	128	77,1

Mechanical Equipment

Food process

Packaging
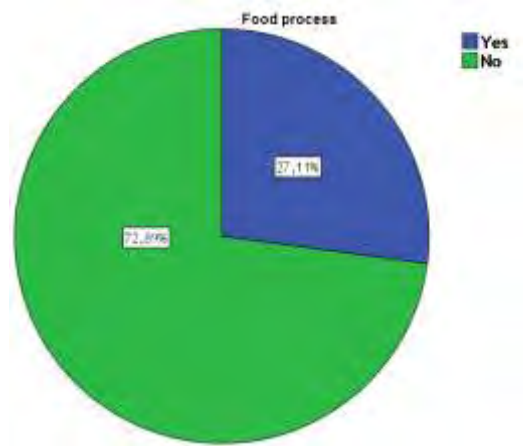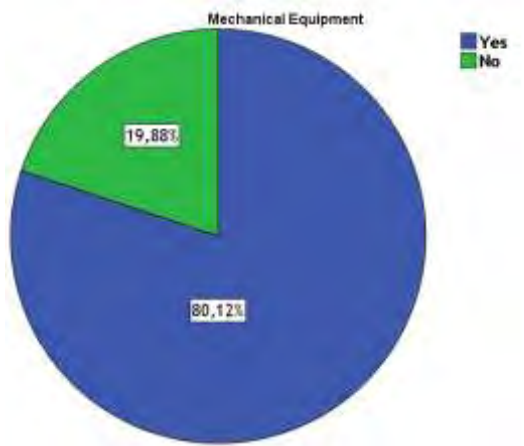
	BRANDED PRODUCTS		CERTIFICATION	
	Frequency	Valid Percent	Frequency	Valid Percent
Yes	18	10,8	26	15,9
No	148	89,2	138	84,1

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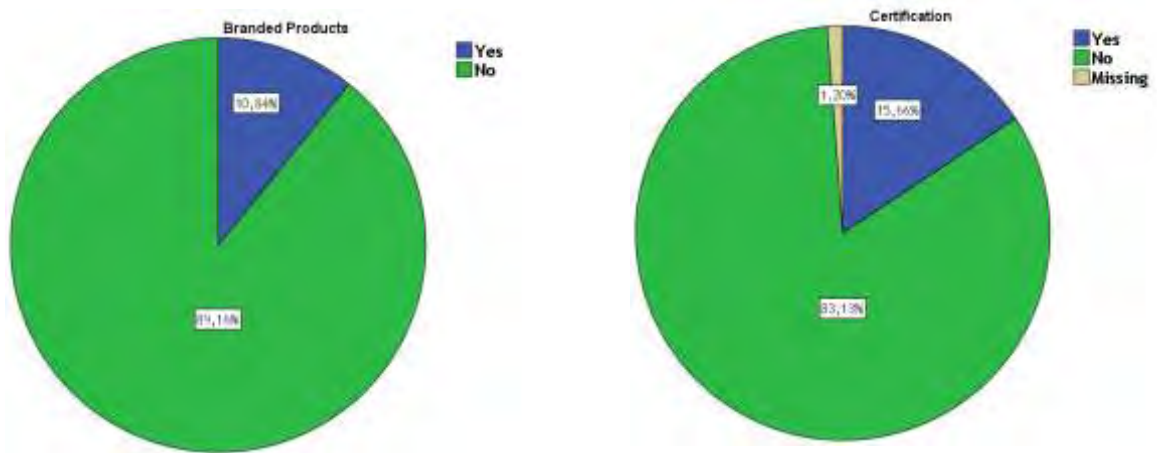
✓ The 53.6% considers that it has sufficient knowledge on agriculture, and there is a rate of 30.1% which considers that the level of their knowledge on the field is much too good. Also, we observe that 81.3% of respondents, taking into account the opinion of their family (of them 37.95% takes into account the opinion of heir father and another 24.10% consult their brothers, husbands, uncles, etc.)

Knowledge about Agriculture		
	Frequency	Valid Percent
Least	2	1,2
Partly	25	15,1
Sufficiently	89	53,6
Much	50	30,1
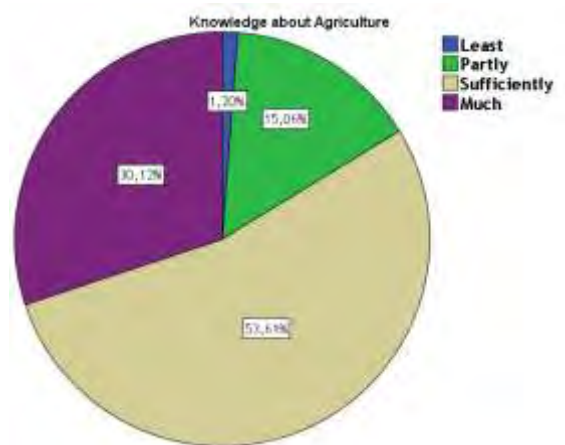
Family's' Opinion		
	Frequency	Valid Percent
Yes	135	81,3
No	31	18,7
Total	166	100,0

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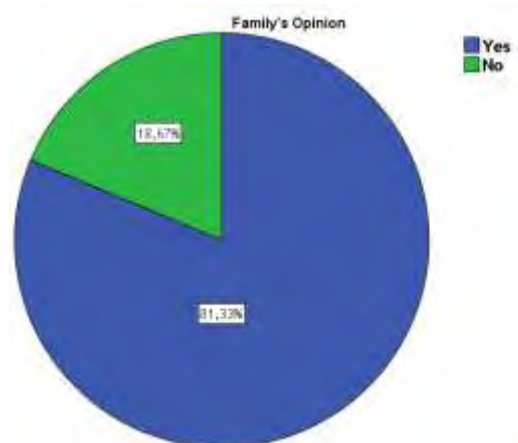
√   The 63.3% of the respondents belong to the cooperative. Noteworthy here that there is a rate up to 5.4%, that do not answer the question
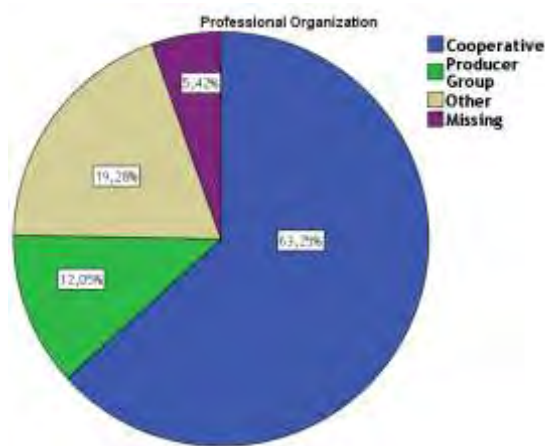
	Frequency	Valid Percent
Cooperatives	105	66,9
Producer Group	20	12,7
Other	32	20,4

3.3 Results of factor analysis

3.3.1   Testing the Reliability

To measure the internal consistency of the questionnaire and since we use 5-point scale, we made reliability analysis. That is, we examine how closely the observations of each question are as a group. Alpha Cronbach was used and as an acceptable result we receive the a >0.69. (George, D., & Mallery, P., 2003)

For all items the alpha Cronbach was acceptable. There was high cohesion, ie all variables contribute to cohesion without being weaker than the other. The highest prices were recorded for the question "how important are the following problems for your activity"= 0,940, "how important is it to you the following to implement the advice / suggestions from stakeholders contract farming"= 0,948, "how important is to you the cooperation with cooperatives"= 0,952, "how important is to you the cooperation with research centres"= 0,949, "how important is to you the cooperation with other service providers"= 0,964 , "how important is to you the cooperation with bodies of contracting farming"= 0,952.

3.3.2   Factor analysis

Then, we performed factor analysis to make the analysis of factors. We used the SPSS Statistics 20. SPSS is a statistical analysis program that allows the use data, for in-depth examination and analysis.

Here, we demonstrate that in the question about "how important are the following problems in your activity", three factors were formed (**Appendix 1**):

• The first includes 27 items,

• the second 3 items and

• the third 7 items

To the question "how important are the following for the implementation of advice / suggestions from cooperatives", the factor analysis, showed that there is a strong and a weak factor with 1 item. Instead remove it, we kept it in the composition of the questionnaire as "how important is the lack of confidence to the bodies to apply the advice / suggestions from cooperatives" as we assume that the question was not understood by the respondents. The same applies to the question about "how important are the following for application of advice / suggestions from their service providers," the factor analysis, showed that there is a strong and a weak factor with 1 item which kept it in the questionnaire as "how important is the different mindset to apply the advice / recommendations from service providers".

When asked "what is believed to be the obstacles to the implementation of new technologies and methods in the field", the factor analysis, showed that there is a strong and a weak factor with 1 item. We kept it in the questionnaire as "do you believe that the uncertainty for quantitative performance is an obstacle to the implementation of new technologies and methods in the field" in the sense that the question was not fully understood by the producers.

When we asked "how important is the collaboration with agronomists", the factor analysis, showed that there is a strong and a weak factor with 2 items. But with the logic that we mentioned earlier, we kept items in the questionnaire as "the importance of cooperation with agronomists to provide propagating material" and "the importance of cooperation with agronomists to improve machinery". In the question "how important is cooperation with other producers", the factor analysis, showed that there is a strong and a weak factor with 2 items. Maintained them in the questionnaire as "the importance of cooperation with other producers to provide propagating material" and "the importance of cooperation with other producers to reduce risk and uncertainty". Similarly, the question "how important is collaboration with other service providers", the factor analysis, showed that there is a strong and a weak factor with 2 items. We retain them in the questionnaire as "the importance of cooperation with agronomists to provide propagating material" and "the importance of cooperation with agronomists to improve

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reproductive material". Finally, in the question "how important is cooperation with operators contract farming", the factor analysis, showed that there is a strong and a weak factor with 1 item. But keep it as "how important is cooperation with operators contract farming to reduce risk and uncertainty".

When we asked "how satisfied are you with the response of agronomists" the factor analysis, showed that there is a strong and a weak factor with 1 item. By the same logic as above, we retained it as "how satisfied are you with the response agriculturists in question if it is easy to find them". Also, in the question "how satisfied are you with the response of the Directorate of Rural Development" the factor analysis, showed that there is a strong and a weak factor with 1 item. But keep it as "how satisfied are you with the response Directorate of Rural Development to cooperation with you to solve problems by using new technologies ".

When we asked "how often do you make changes to your farm", the factor analysis, showed that there is a strong and a weak factor with 2 items. However, we kept as "how often do changes in crop type in your farm" and "how often do you change the material in your farm".

When we asked "how do you affected by the following factors to change farming practices" to improve the KMO, we remove the items with low communality ie, "service providers" and "special forms". The factor analysis, showed that there is a strong and a weak factor with 2 items. The latter kept in the questionnaire as "how you affect your family to change farming practices" and "how you affect other farmers to change farming practices", as we assumed that they were not understood by the producers. When we asked "how do you affected by the following factors to change propagating material", the factor analysis, showed that there is a strong and a weak factor with 1 item, which we kept it in the questionnaire as "how do you affected by your studies to change propagating material". Finally, in the question "how do you affected by the following factors to adapt to new requirements", to improve the KMO, we remove the item with the lowest communality that is "cooperatives / producer groups". The factor analysis, showed that there is a strong and a weak factor with 3 items.

For questions that we remove items in order to improve the KMO, new calculations were made.

For questions on which the factor analysis indicated the existence of one strong and one weak factor, which has no more than 2 items, we could not regard it as a second single factor. (J Raubenheimer 2004).

3.4 Results of comparative analysis

For the results of the comparative analysis used two methods. This happened because the variables that were compared were two types. So we made NOVA for trisector variables and T- Tests for dichotomies variables. Below, will be listed, those results which were statistically significant. (**Appendix 2**)

- A one-way between subjects ANOVA was conducted to compare the "choice of propagating material from companies" and "choice of propagating material from companies" for chemical- biological- mixed farming. There was a significant effect of amount of choice of propagating material from theirs reserved seed at the $p<.01$ level for the three conditions [$F(2, 163) =$**8,334**, $p = 0.005$]. Post hoc comparisons using the Scheffe test indicated that the mean score for biological producers to choose theirs reserved seed for providing propagating material (M = 1,81, SD =1,05) was significantly different than the chemical (M = 2,9, SD =1,6) and mixed (M=4,33, SD=1,21). Also, for the three conditions [$F(2, 163) =$**8,334**, $p = 0.005$], post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers to choose theirs reserved seed for providing propagating material was significantly different than the mixed and biological. Moreover, there was a significant effect of amount of choice of propagating material from companies at the $p<.01$ level for the three conditions [$F(2, 163) =$**7,509**, $p = 0.006$]. Post hoc comparisons using the Scheffe test indicated that the mean score for biological producers to choose companies for providing propagating material (M =2, SD =1,69) was significantly different than the chemical (M =3,12, SD =1,46) and mixed (M=1,66, SD=1,63). Also, for the three conditions [$F(2, 163) =$**7,509**, $p = 0.006$], post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers to choose companies for providing propagating material was significantly different than the mixed and biological.

Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
choice of propagating material of yours reserved seeds from previous crops	biological	chemical	2,992	1,605		8,334	2,163
		biological	1,818	1,052	,005*		
		mixed	4,333	1,211			
	mixed	chemical			,005*		
choice of propagating material from companies	chemical		3,123	1,462		7,509	2,163
		biological	2,000	1,690	,006*		
		mixed	1,666	1,632			
	biological	chemical			,006*		

Table 1a

- A one-way between subjects ANOVA was conducted to compare the "how important is the cooperatives distribution networks" and "how important is the producer group distribution networks" for chemical- biological- mixed farming. There was a significant effect of the importance of cooperatives distribution networks at the p<.01 level for the three conditions [F(2, 163) = **10,818**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for biological producers the importance of cooperatives networks (M = 3,77, SD = 1,35) was significantly different than the biological (M = 2,45, SD = 1,18) and mixed (M=2,66, SD=1,03). Also, for the three conditions [F(2, 163) = **10,818**, p = 0.00], post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the importance of cooperatives networks was significantly different than biological producers. Moreover, there was a significant effect of amount of the importance of producer group distribution networks at the p<.01 level for the three conditions [F(2, 162) =**12,431**, p = 0.007]. Post hoc comparisons using the Scheffe test indicated that the mean score for biological producers the importance of producer group distribution networks (M = 2,57, SD =1,53) was significantly different than the chemical (M =3,57, SD =1,31), for biological producers the importance of producer group distribution networks (M = 2,57, SD =1,53) was significantly different than the mixed (M=1,33, SD=0,81) and for mixed producers the importance of producer group distribution networks was significantly different than the chemical.

Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
how important is the cooperatives distribution networks	chemical		3,775	1,356			2,163
		biological	2,454	1,184	,000**		
		mixed	2,666	1,032			

	biological	chemical			,000**	10,818	
how important is the producer group distribution networks	biological	chemical	3,572	1,311		12,431	2,162
		biological	2,571	1,535			
		mixed	1,333	,816	,000**		

Table 2a

- A one-way between subjects ANOVA was conducted to compare the "how important are the following to implement the advice of cooperatives" and "how important are the following to implement the advice of agronomists," for chemical-biological- mixed farming. There was a significant effect of amount of choice of propagating material from companies at the p<.01 level for the three conditions [F(2, 162) = **14,552**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for biological producers the importance of the following to implement the advice of cooperatives (M = 2,17, SD = 0,88) was significantly different than the chemical (M=3,23, SD = 0,87) and mixed (M=2,68, SD=0,16). Also, for the three conditions [F(2, 162) = **14,552**, p = 0.00], post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the importance of the following to implement the advice of cooperatives was significantly different than the biological. Moreover, there was a significant effect of amount for chemical producers the importance of the following to implement the advice of cooperatives at the p<.01 level for the three conditions [F(2, 163) =**10,932**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the importance of the following to implement the advice of agronomists (M = 3,2, SD =0,95) was significantly different than the biological (M =2,3, SD =0,91) and mixed (M=2, SD=0,07). Also, for the three conditions[F(2, 163) =**10,932**, p = 0.00], post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the importance of the following to implement the advice of cooperatives was significantly different than the biological.

Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
how important are the following to implement the advice of cooperatives	chemical		3,238	,876		14,552	
		biological	2,171	,887	,000**		2,162
		mixed	2,683	,160			
	biological	chemical			,000**		
how important are the following to	chemical		3,204	,986		10,932	2,163
		Biological	2,313	,918	,000**		

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| implement the advice | | mixed | **2,000** | **,070** | | | |
| of agronomists | biological | chemical | | | **,000**** | | |

Table 3a

- A one-way between subjects ANOVA was conducted to compare the "importance of cooperation with agronomists to provide propagating material" for chemical- biological- mixed farming. There was a significant effect of amount of importance of cooperation with agronomists to provide propagating material at the $p<.01$ level for the three conditions $[F(2, 163) = \textbf{15,116}, p = 0.001]$. Post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the cooperation with agronomists to provide propagating material (M =2,63, SD =1,43) was significantly different than the biological (M =1,5, SD =1,2) and for mixed producers (M=3,53, SD=1,38) was significantly different than the chemical. Also, for the three conditions $[F(2, 163) = \textbf{15,116}, p = 0.001]$, post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the cooperation with agronomists to provide propagating material was significantly different than the biological. Moreover, for the three conditions $[F(2, 163) = \textbf{15,116}, p = 0.000]$, post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the cooperation with agronomists to provide propagating material was significantly different than the mixed.

Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
importance of cooperation with agronomists to provide propagating material	chemical		**3,760**	**1,258**		**15,116**	
		biological	**2,636**	**1,432**	**,001****		
		mixed	**1,5**	**1,224**	**,000****		**2,163**
	biological	chemical			**,001****		
	mixed	chemical			**,000****		

Table 4a

- A one-way between subjects ANOVA was conducted to compare the "how influenced you the following to decide to make changes in material" for chemical- biological- mixed farming. There was a significant effect of amount of importance of cooperation with agronomists to provide propagating material at the $p<.01$ level for the three conditions $[F(2, 162) = \textbf{10,830}, p = 0.001]$. Post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the changes in propagating material (M =2,32, SD =0,65) was significantly different than the biological (M =1,7, SD =0,7) and for mixed producers (M=1,58, SD=0,56).

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Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
how influenced you the following to decide to make changes in material	chemical		**2,3207**	**,65118**		**10,830**	
		biological	**1,7083**	**,70858**	**,001****		
		mixed	**1,5833**	**,56826**			**2,162**
	biological	chemical			**,001****		

Table 5a

- A one-way between subjects ANOVA was conducted to compare the "how satisfied are you with the Directorate of Rural Development whether aware of local circumstances" for chemical- biological- mixed farming. There was a significant effect of amount of importance of satisfaction at the $p<.01$ level for the three conditions [$F(2, 163)$ = **6,699**, $p = 0.002$]. Post hoc comparisons using the Scheffe test indicated that the mean score for chemical producers the satisfaction (M =2,47, SD =0,89) was significantly different than the biological (M =2,27, SD =0,82) and for mixed producers (M=1,16, SD=0,4).

Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
how satisfied are you with the Directorate of Rural Development whether aware of local circumstances	chemical		**2,4783**	**,89783**		**6,699**	
		biological	**2,2727**	**,82703**			
		mixed	**1,1667**	**,40825**	**,002****		**2,163**
	mixed	chemical			**,002****		

Table 6a

- A one-way between subjects ANOVA was conducted to compare the "how important are the following to implement the advice / suggestions from the R&D centres" ,"how important are the following to implement the advice / suggestions from cooperatives", "how important are the following for the application advice / suggestions from providers supplies" and "how important are the following to implement the advice / suggestions from their service providers" between aging groups. There was a significant effect of amount for the implementation of advice from R&D centres at the $p<.01$ level for the three conditions [$F(4, 155)$ = **7,770**, $p = 0.004$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the implementation of advice from R&D centres from producers 60<over years old (M = 4,2, SD = 0,69) was significantly different than those between 20-30 years (M = 3, SD = 0,89), 30-40 (M=2,83, SD=0,98), 40-50 (M=3,36, SD=1,01) and 50-60 (M= 3,4, SD=0,9). Also, there was a significant effect of amount for the implementation of advice from cooperatives at the $p<.01$ level for the three

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conditions [$F(4, 160) = 4,036$, $p = 0.009$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the implementation of advice from cooperatives from producers 60<over years old (M = 3,08, SD = 1,5) was significantly different than those between 20-30 years (M = 3,03, SD = 0,63), 30-40 (M=2,78, SD=0,66), 40-50 (M=3,05, SD=0,87) and 50-60 (M= 3,71, SD=1,04). Also, there was a significant effect of amount for the implementation of advice from supply providers at the p<.01 level for the three conditions [$F(4, 161) = 7,833$, $p = 0.003$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the implementation of advice from supply providers from producers 60<over years old (M = 3,88, SD = 0,96) was significantly different than those between 20-30 years (M = 2,87, SD = 0,49), 30-40 (M=2,66, SD=0,80), 40-50 (M=2,76, SD=0,92) and 50-60 (M= 2,95, SD=0,80). Finally, there was a significant effect of amount for the implementation of advice from services providers at the p<.01 level for the three conditions [$F(4, 158) = 5,158$, $p = 0.01$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the implementation of advice from services providers from producers 60<over years old (M = 3,83, SD = 0,92) was significantly different than those between 20-30 years (M = 3,65, SD = 0,91), 30-40 (M=2,84, SD=0,93), 40-50 (M=3,10, SD=1,04) and 50-60 (M= 3,35, SD=0,88)

Dependent Variable	(I) age	(J) age	Mean	Std. Deviation	Sig.	F	Df
how important are the following to implement the advice / suggestions from the R&D centers	20-30		3,000	,891		7,770	4,155
		30-40	2,834	,981			
		40-50	3,369	1,012			
		50-60	3,478	,977			
		60<over	4,211	,605	,004**		
	30-40	60<over			,000**		
	40-50	20-30			,004**		
		30-40			,000**		
	60<over	60<over			,004**		
how important are the following to implement the advice / suggestions from cooperatives	40-50	20-30	3,034	,634		4,036	4,160
		30-40	2,784	,662			
		40-50	3,057	,807			
		50-60	3,714	1,041			
		60<over	3,082	1,537	,009*		
	60<over	40-50			,009*		
how important are the following to implement the advice /	30-40	20-30	3,656	,911			4,158
		30-40	2,843	,935			

suggestions from service providers		40-50	3,101	1,046		5,158	
		50-60	3,353	,882			
		60<over	3,833	,921	,010*		
	60<over	30-40			,010*		

Table 7a

- A one-way between subjects ANOVA was conducted to compare the "how often informed by cooperatives / producer groups" and "how often informed by agronomists", for aging groups. There was a significant effect of amount of frequency of information by cooperatives at the p<.01 level for the three conditions [F(4, 159) =**4,226**, p = 0.005]. Post hoc comparisons using the Scheffe test indicated that the mean score for frequency of information by cooperatives to producers 60<over years old (M =**1,68**, SD =0,**98**) was significantly different than those between 20-30 years (M = **2,79**, SD = 0,**73**), 30-40 (M=**2,58**, SD=0,**98**), 40-50 (M=**2,42**, SD=0,**87**) and 50-60 (M= **2,44**, SD=**1,01**). Also, there was a significant effect of amount of frequency of information by agronomist at the p<.01 level for the three conditions [F(4, 159) =**4,226**, p = 0.005]. Post hoc comparisons using the Scheffe test indicated that the mean score for frequency of information by agronomist to producers 60<over years old (M =**2,15**, SD =**1,09**) was significantly different than those between 20-30 years (M = **3,45**, SD = 0,**92**), 30-40 (M=**2,62**, SD=**1,01**), 40-50 (M=**2,84**, SD=0,**97**) and 50-60 (M= **2,53**, SD=**1,05**).

Dependent Variable	(I) age	(J) age	Mean	Std. Deviation	Sig.	F	Df
how often informed by cooperatives / producer groups	20-30		2,790	,739		4,226	4,159
		30-40	2,587	,982			
		40-50	2,427	,871			
		50-60	2,444	1,010			
		60<over	1,687	,983	,005*		
	60<over	20-30			,005*		
how often informed by agronomists	20-30		3,454	,927		5,354	4,161
		30-40	2,621	1,008			
		40-50	2,841	,975			
		50-60	2,535	1,055			
		60<over	2,159	1,096	,002**		
	60<over	20-30			,002**		

Table 8a

- A one-way between subjects ANOVA was conducted to compare the "how affected by your studies to make changes" and "how affected by the internet to make changes", between aging groups. There was a significant effect of amount of affection by studies at the $p<.01$ level for the three conditions [$F(4, 161) =$**5,846**, $p = 0.001$]. Post hoc comparisons using the Scheffe test indicated that the mean score for affection by studies to producers 60<over years old (M =**1,42**, SD =**0,95**) was significantly different than those between 20-30 years (M = **3,20**, SD = **1,45**), 30-40 (M=**2,47**, SD=**1,35**), 40-50 (M=**2,04**, SD=**1,26**) and 50-60 (M= **2,16**, SD=**1,35**). Also, there was a significant effect of amount of frequency of affection by the internet at the $p<.01$ level for the three conditions [$F(4, 161) =$**5,828**, $p = 0.005$]. Post hoc comparisons using the Scheffe test indicated that the mean score for frequency of information by agronomist to producers between 50-60 years old (M =**2,02**, SD =**1,14**) was significantly different than those between 20-30 years (M = **2,86**, SD = **1,18**), 30-40 (M=**2,96**, SD=**0,72**), 40-50 (M=**2,06**, SD=**1,14**) and 60<over (M= **2,03**, SD=**1,03**).

Dependent Variable	(I) age	(J) age	Mean	Std. Deviation	Sig.	F	Df
how affected by your studies to make changes	20-30		**3,201**	**1,450**			
		30-40	**2,472**	**1,351**		**5,846**	**4,161**
		40-50	**2,040**	**1,266**			
		50-60	**2,169**	**1,357**			
		60<over	**1,425**	**,956**	**,001****		
	60<over	20-30			**,001****		
how affected by the internet to make changes	30-40		**2,865**	**1,181**			
		30-40	**2,961**	**,728**		**5,828**	**4,161**
		40-50	**2,627**	**,958**			
		50-60	**2,026**	**1,149**	**,005***		
		60<over	**2,037**	**1,033**			
	50-60	30-40			**,005***		

Table 9a

- A one-way between subjects ANOVA was conducted to compare the "how important are the problems of factor 3",between aging groups. There was a significant effect of amount of affection by studies at the $p<.01$ level for the three conditions [$F(4, 161) =$**4,940**, $p = 0.005$]. Post hoc comparisons using the Scheffe test indicated that the problems are more important to producers between 40-50 years old (M =**3,31**, SD =**0,92**) was significantly different than those between 20-30 years (M = **2,46**, SD = **0,82**), 30-40 (M=3,31, SD=0,92), 50-60 (M=**3,39**, SD=,065) and

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60<over (M= **3,29**, SD=**1,19**). Also, There was a significant effect of amount of affection by studies at the p<.01 level for the three conditions [F(4, 161) =**4,940**, p = 0.007]. Post hoc comparisons using the Scheffe test indicated that the problems are more important to producers between 50-60 was significantly different than others.

Dependent Variable	(I) age	(J) age	Mean	Std. Deviation	Sig.	F	Df
how important are the problems of factor 3	20-30		**2,469**	**,904**			
		30-40	**3,080**	**,823**			
		40-50	**3,316**	**,929**	**,005***	**4,940**	**4,161**
		50-60	**3,396**	**,650**	**,007***		
		60<over	**3,294**	**1,190**			
	40-50	20-30			**,005***		
	50-60	20-30			**,007***		

Table 10a

- A one-way between subjects ANOVA was conducted to compare the "how important is cooperation with agronomists to provide propagating material", "how important is cooperation with other producers to provide propagating material" and "how important is cooperation with operators for contract farming reduce risk and uncertainty", between aging groups. There was a significant effect of amount of the importance of cooperation with agronomists for material at the p<.01 level for the three conditions [F(4, 161) =**5,209**, p = 0.005]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with agronomists for material producers between 30-40 years old (M =**3,06**, SD =1,25) was significantly different than those between 20-30 years (M = 4,34, SD =0,84), 40-50 (M=3,81, SD=1,41), 50-60 (M=3,17, SD=1,39) and 60<over (M= 3,38, SD=**1,64)**. Also, there was a significant effect of amount of the importance of cooperation with other producers for material at the p<.01 level for the three conditions [F(4, 161) =**4,692**, p = 0.009]. Post hoc comparisons using the Scheffe test indicated that the mean score for cooperation with other producers for material producers 60<over years old (M =**3,27**, SD =**0,46**) was significantly different than those between 20-30 years (M = **2,88**, SD = 1,03), 30-40 (M=**2,71**, SD=**1,21**), 40-50 (M=**2,14**, SD=1,06) and 50-60 (M= **2,85**, SD=**1,26**). Moreover, there was a significant effect of amount of the importance of cooperation with contract farming bodies to reduce risk at the p<.01 level for the three conditions [F(4, 161) =**4,692**, p = 0.005]. Post hoc comparisons using the Scheffe test indicated that the mean score for cooperation with contract farming bodies producers between 50-60 years old (M

=**1,60**, SD =**0,68**) was significantly different than those between 20-30 years (M = **3,75**, SD = 1, 83), 30-40 (M=**2,88**, SD=**1,64**), 40-50 (M=**2,4**, SD=1,41) and 60<over (M= **1,36**, SD=**0,5**)

Dependent Variable	(I) age	(J) age	Mean	Std. Deviation	Sig.	F	Df
how important is cooperation with agronomists to provide propagating material	20-30		**4,346**	**,845**		**5,209**	**4,161**
		30-40	**3,066**	**1,250**	**,005***		
		40-50	**3,816**	**1,409**			
		50-60	**3,107**	**1,396**			
		60<over	**3,388**	**1,649**			
	30-40	20-30			**,005***		
how important is cooperation with other producers to provide propagating material	40-50	20-30	**2,884**	**1,032**		**4,692**	**4,161**
		30-40	**2,711**	**1,217**			
		40-50	**2,142**	**1,060**			
		50-60	**2,857**	**1,268**			
		60<over	**3,277**	**,460**	**,009***		
	60<over	40-50			**,009***		
how important is cooperation with contract farming bodies to reduce risk and uncertainty	20-30		**3,750**	**1,388**		**6,820**	**4,86**
		30-40	**2,888**	**1,648**			
		40-50	**2,400**	**1,414**			
		50-60	**1,600**	**,680**	**,005***		
		60<over	**1,363**	**,504**	**,005***		
	50-60	20-30			**,005***		
	60<over	20-30			**,005***		

Table 11a

- A one-way between subjects ANOVA was conducted to compare the "how satisfied are you with the agronomists", "how satisfied are you with cooperatives" and "how satisfied are you with the other service providers", between aging groups. There was a significant effect of amount of the importance of the satisfaction from agronomists at the p<.01 level for the three conditions [F(4, 161) =**6,564**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the satisfaction from agronomists to producers between 30-40 years old (M =**2,59**, SD =0,89) was significantly different than those between 20-30 years (M = **3,71**, SD =0,86), 40-50 (M=**2,96**, SD=1,06), 50-60 (M=**2,96**, SD=0,67) and 60<over (M=**2,7**, SD=0,92**)**. Moreover, there was a significant effect of amount of the importance of satisfaction with cooperatives at the p<.01 level for the three conditions [F(4, 159) =**4,288**, p = 0.004]. Post hoc comparisons using the Scheffe test indicated that the mean score for satisfaction with cooperatives producers 60<over years old (M =**1,90**,

SD =**0,7**) was significantly different than those between 20-30 years (M = **2,94**, SD = 0,68), 30-40 (M=**2,58**, SD=**0,82**), 40-50 (M=**2,5**, SD=0,86) and 50-60 (M= **2,38**, SD=**0,99**). Also, there was a significant effect of amount of the importance the satisfaction from other service providers at the $p<.01$ level for the three conditions [$F(4, 154)$ =**4,035**, p = 0.007]. Post hoc comparisons using the Scheffe test indicated that the mean score for cooperation with other producers for material producers between 30-40 years old (M =**2,03**, SD =0,62) was significantly different than those between 20-30 years (M = **1,75**, SD =1,01), 40-50 (M=**1,86**, SD=0,63), 50-60 (M=1,685, SD=0,63) and 60<over (M=**1,29**, SD=0,38**).

Dependent Variable	(I) age	(J) age	Mean	Std. Deviation	Sig.	F	Df
how satisfied are you with the agronomists	20-30		3,715	,866		6,564	4,161
		30-40	2,599	,890	,000**		
		40-50	2,966	1,062			
		50-60	2,964	,667			
		60<over	2,700	,924			
	30-40	20-30			,000**		
how satisfied are you with cooperatives	20-30		2,940	,680		4,288	4,159
		30-40	2,589	,826			
		40-50	2,504	,862			
		50-60	2,389	,994			
		60<over	1,909	,707	,004**		
	60<over	20-30			,004**		
how satisfied are you with the other service providers	60<over	20-30	1,759	1,010		4,035	4,154
		30-40	2,030	,625	,007*		
		40-50	1,864	,639			
		50-60	1,685	,633			
			1,292	,382			

Table 12a

- A one-way between subjects ANOVA was conducted to compare the "how the following factors influenced you to change farming practices" and "how your studies influence you to change propagating material", between aging groups. There was a significant effect of amount of the importance of the satisfaction from agronomists at the $p<.01$ level for the three conditions [$F(4, 161)$ =**4,743**, p = 0.004]. Post hoc comparisons using the Scheffe test indicated that the mean score for the influence to change farming practices producers between 40-50 years old (M =**2,91**, SD =1,14) was significantly different than those between 20-30 years (M =2, SD =1,01), 30-40 (M=2,46, SD=0,82), 50-60 (M=2,42, SD=0,67) and 60<over (M=**2,88**,

SD=0,97). Also, there was a significant effect of amount of the importance the influence to change to change propagating material at the $p<.01$ level for the three conditions [$F(4, 160) =$**5,673**, p = 0.004]. Post hoc comparisons using the Scheffe test indicated that the mean score for influence to change propagating material producers between 40-50 years old (M =**1,85**, SD =1,39) was significantly different than those between 20-30 years (M =3,19, SD =1,57), 30-40 (M=2,17, SD=1,36), 50-60 (M=2,03, SD=1,4) and 60<over (M=**2,35**, SD=0,99). **Also**, there was a significant effect of amount of the importance the satisfaction from agronomists in the question of easily to find them at the $p<.01$ level for the three conditions [$F(4, 160) =$**5,673**, p = 0.002]

Dependent Variable	(I) age	(J) age	Mean	Std. Deviation	Sig.	F	Df
how the following factors influenced you to change farming practices	20-30		**2,000**	**1,009**		**4,743**	**4,161**
		30-40	**2,466**	**,821**			
		40-50	**2,918**	**1,142**	**,004****		
		50-60	**2,428**	**,676**			
		60<over	**2,888**	**,978**			
	40-50	20-30			**,004****		
how your studies influenced you to change propagating material	20-30		**3,192**	**1,575**		**5,673**	**4,160**
		30-40	**2,177**	**1,369**			
		40-50	**1,857**	**1,399**	**,004****		
		50-60	**2,035**	**1,400**			
		60<over	**1,352**	**,996**	**,002****		
	40-50	20-30			**,004****		
	60<over	20-30			**,002****		

Table 13a

- A one-way between subjects ANOVA was conducted to compare "how important are the problems of factor 2", between the legal forms of farms. There was a significant effect of amount of the importance of the problems at the $p<.01$ level for the three conditions [$F(2, 163) =$**5,784**, p = 0.004]. Post hoc comparisons using the Scheffe test indicated that the mean score for the important of problems for producers who have General partnership/ Limited partnership farm (M =4,01, SD =0,75) was significantly different than those who have individual farm (M =4,01, SD =0,75) and family farm (M=3,8, SD=0,91).

Dependent Variable	(I) legal	(J) legal	Mean	Std. Deviation	Sig.	F	Df
how important are the problems of factor 2	individual business		**4,012**	**,752**		**5,784**	
		General partnership/ Limited partnership	**2,910**	**,912**	**,004****		**2,163**
		Family business	**3,847**	**,917**			
	General partnership/ Limited partnership	individual business			**,004****		

Table 14a

- A one-way between subjects ANOVA was conducted to compare "what are the obstacles to the implementation of new technologies and methods in the field", between the legal forms of farms. There was a significant effect of amount of the obstacles to the implementation of new technologies at the $p<.01$ level for the three conditions [$F(2, 163) =$**6,452**, $p = 0.003$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the obstacles to the implementation of new technologies according to those who have General partnership/ Limited partnership (M =**2,67**, SD =0,68) was significantly different than those who have individual farm (M =**3,659**, SD =0,72) and family farm (M=**3,65**, SD=0,77).

Dependent Variable	(I) legal	(J) legal	Mean	Std. Deviation	Sig.	F	Df
what are the obstacles to the implementation of new technologies and methods in the field	individual business	individual business	**3,659**	**,727**		**6,452**	
		General partnership/ Limited partnership	**2,673**	**,682**	**,003****		
		Family business	**3,655**	**,777**			**2,163**
	General partnership/ Limited partnership	individual business			**,003****		
		Family business			**,002****		
	Family business	General partnership/ Limited partnership			**,002****		

Table 15a

- A one-way between subjects ANOVA was conducted to compare "how important are the following to implement the advice / suggestions from cooperatives", "how important are the following to implement the advice / suggestions from service providers", "how important are the following for the implementation of advice / suggestions from agronomists", "how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists" and "how important are the following to implement the advice / suggestions from their service providers", between the type of processing. There was a significant effect of amount of the importance of implementation of cooperative advices at the $p<.01$ level for

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the three conditions [$F_{(2, 410)}$ =**9,681**, p = 0.001]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of implementation of cooperative advices according to those who proceed their products in cooperative facilities (M =**3,66**, SD =1,04) was significantly different than those who proceed their products in their facilities (M =**2,212**, SD =0,53) and in private facilities (M=**3,65**, SD=0,77). Moreover, there was a significant effect of amount of the importance of implementation of agronomists advices at the p<.01 level for the three conditions [$F_{(2, 420)}$ =**8,331**, p = 0.004]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of implementation of agronomists advices according to those who proceed their products in cooperative facilities (M =**3,47**, SD =1,14) was significantly different than those who proceed their products in their facilities (M =**2,22**, SD =0,69) and in private facilities (M=2,29, SD=0,76). Also, there was a significant effect of amount of the importance of lack of confidence to implement agronomists advices at the p<.01 level for the three conditions [$F_{(2, 420)}$ =**12,022**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of lack of confidence to implement agronomists advices according to those who proceed their products in cooperative facilities (M =**4,27**, SD =1,19) was significantly different than those who proceed their products in their facilities (M =**2,25**, SD =0,96) and in private facilities (M=**2,54**, SD=1,1). Finally, there was a significant effect of amount of the importance of service providers advices at the p<.01 level for the three conditions [$F_{(2, 420)}$ =**10,066**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of lack of confidence to implement agronomists advices according to those who proceed their products in private facilities (M =**3,60**, SD =0,92) was significantly different than those who proceed their products in their facilities (M =**1,94**, SD =0,78) and in cooperative facilities (M=**2,98**, SD=1,4)

Dependent Variable	(I) type of processing	(J) type of processing	Mean	Std. Deviation	Sig.	F	Df
how important are the following to implement the advice / suggestions from cooperatives	own facilities		**2,212**	**,534**			
		private facilities	**2,459**	**,877**			
		cooperative facilities	**3,663**	**1,042**	**,001****		
	private facilities	cooperative facilities			**,002****		**2,41**
	cooperative facilities	own facilities			**,001****		
		private facilities			**,002****	**9,681**	
how important are the	own facilities		**2,222**	**,691**			**2,42**

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following for the implementation of advice / suggestions from agronomists		private facilities	2,292	,761			
		cooperative facilities	3,474	1,147	,004**		
	private facilities	cooperative facilities			,002**		
	cooperative facilities	own facilities			,004**		
		private facilities			,002**	8,331	
how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists	own facilities		2,250	,965			2,42
		private facilities	2,545	1,100			
		cooperative facilities	4,272	1,190	,000**		
	private facilities	cooperative facilities			,000**		
	cooperative facilities	own facilities			,000**		
		private facilities			,000**	12,022	
how important are the following to implement the advice / suggestions from the service providers	own facilities		1,942	,779			2,42
		private facilities	3,601	,928	,000**		
		cooperative facilities	2,989	1,406			
	private facilities	own facilities			,000**	10,066	

Table 16a

- A one-way between subjects ANOVA was conducted to compare "how important is cooperation with cooperatives", "how important is cooperation with other producers to provide propagating material" and "how important is cooperation with agronomists to provide propagating material" between the type of processing. There was a significant effect of amount of the importance of cooperation with cooperatives at the $p<.01$ level for the three conditions [$F(2,320) =$**6,413**, $p = 0.002$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with cooperatives according to those who proceed their products in cooperative facilities (M =**3,50**, SD =1,04) was significantly different than those who proceed their products in their facilities (M =**2,06**, SD =1,2) and in private facilities (M=**2,79**, SD=1,1). Moreover, there was a significant effect of amount of the importance of cooperation with other producers to provide propagating material at the $p<.01$ level for the three conditions [$F(2, 320) =$**12,501**, $p = 0.00$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with other producers to provide propagating material according to those who proceed their products in cooperative facilities (M =**3,37**, SD =0,7) was significantly different than those who proceed their products in their facilities (M =**2,01**, SD =0,9) and in private facilities (M=**3,44**, SD=0,76). Also,

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there was a significant effect of amount of the importance of cooperation with agronomists to provide propagating material at the $p<.01$ level for the three conditions [F(2, 420) =**6,574**, p = 0.004]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with agronomists to provide propagating material according to those who proceed their products in cooperative facilities (M =**3,272**, SD =0,9) was significantly different than those who proceed their products in their facilities (M=**1,83**, SD=1,26) and in private facilities (M=**2,27**, SD=**0,82**).

Dependent Variable	(I) type of processing	(J) type of processing	Mean	Std. Deviation	Sig.	F	Df
how important is cooperation with cooperatives	own facilities		2,060	1,205			
		private facilities	2,793	1,109			2,32
		cooperative facilities	3,505	1,044	,002*		
	cooperative facilities	own facilities			,002*	6,413	
how important is cooperation with other producers to provide propagating material	own facilities		2,011	,938			
		private facilities	3,444	,760			2,32
		cooperative facilities	3,372	,703	,000**		
	cooperative facilities	own facilities			,000**	12,501	
how important is cooperation with agronomists to provide propagating material	own facilities		1,8333	1,26730			
		private facilities	2,2727	,82703			
		cooperative facilities	3,2727	,90453	,004**		2,42
	cooperative facilities	own facilities			,004**	6,574	

Table 17a

- A one-way between subjects ANOVA was conducted to compare "how often do you informed by agronomists", between the type of processing. There was a significant effect of amount of the frequency of information by agronomists at the $p<.01$ level for the three conditions [F(2, 420) =**10,093**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of information by agronomists according to those who proceed their products in cooperative facilities (M =**3,8** , SD =1,06) was significantly different than those who proceed their products in their facilities (M =1,98, SD =0,44) and in private facilities (M=**2,9**, SD=**1,13**)

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Dependent Variable	(I) type of processing	(J) type of processing	Mean	Std. Deviation	Sig.	F	Df
how often do you informed by agronomists	own facilities		1,958	,445			2,42
		private facilities	2,900	1,138			
		cooperative facilities	3,803	1,064	,000**		
	cooperative facilities	own facilities			,000**	10,093	

Table 18a

- A one-way between subjects ANOVA was conducted to compare "how important are the following to implementation advice / suggestions from cooperatives" and "how important are the following to implementation advice / suggestions from agronomists", between the type of stadarization. There was a significant effect of amount of the importance of implementation advice from cooperatives at the $p<.01$ level for the three conditions [$F(2, 310) = 9,448$, $p = 0.002$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of implementation advice from cooperatives according to those who standarize their products in cooperative facilities (M =3,33 , SD =0,92) was significantly different than those who standarize their products in their facilities (M =2,32, SD =0,74) and in private facilities (M=1,9, SD=0,7). Also, there was a significant effect of amount of the importance of implementation advice from agronomists at the $p<.01$ level for the three conditions [$F(2, 320) = 12,573$, $p = 0.005$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of implementation advice from agronomists according to those who standarize their products in cooperative facilities (M =3,5 , SD =0,78) was significantly different than those who standarize their products in their facilities (M =2,32, SD =0,87) and in private facilities (M=1,9, SD=0,65)

Dependent Variable	(I) type of standardization	(J) type of standardization	Mean	Std. Deviation	Sig.	F	Df
how important are the following to implementation advice / suggestions from cooperatives	private facilities	own facilities	2,322	,746			2,31
		private facilities	1,900	,701			
		cooperative facilities	3,335	,929	,002**	9,448	
	cooperative facilities	private facilities			,002**		
how important are the following to implementation advice / suggestions from agronomists	own facilities		2,388	,873			2,32
		private facilities	1,972	,652			
		cooperative facilities	3,500	,783	,005*		
	private facilities	cooperative facilities			,000**		
	cooperative facilities	own facilities			,005*		

		private facilities			,000**	**12,573**	

Table 19a

- A one-way between subjects ANOVA was conducted to compare "how important is cooperation with cooperatives", "how important is cooperation with other producers", "how important is cooperation with agronomists to provide propagating material" and "how important your cooperation with other producers to reduce risk and uncertainty", between the type of stadarization. There was a significant effect of amount of the importance of cooperation with cooperatives at the $p<.01$ level for the three conditions [$F_{(2, 320)} =$ **6,413**, $p = 0.005$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of the importance of cooperation with cooperatives according to those who standarize their products in cooperative facilities (M=3,5, SD=0,81) was significantly different than those who standarize their products in their facilities (M =2,06, SD =0,96) and in private facilities (M=2,79, SD=1,42). Also, there was a significant effect of amount of the importance of cooperation with other producers at the $p<.01$ level for the three conditions [$F_{(2, 320)} =$ **12,501**, $p = 0.00$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with other producers according to those who standarize their products in cooperative facilities (M =3,37, SD =0,63) was significantly different than those who standarize their products in their facilities (M =2,01, SD =0,88) and in private facilities (M=3,44, SD=0,74). Moreover, there was a significant effect of amount of the importance of cooperation with agronomists to provide propagating material at the $p<.01$ level for the three conditions [$F_{(2, 320)} =$ **14,901**, $p = 0.002$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with agronomists to provide propagating material according to those who standarize their products in cooperative facilities (M =4,05, SD =1,25) was significantly different than those who standarize their products in their facilities (M =2,2, SD =1,71) and in private facilities (M=1,5, SD=1,55). Finally, there was a significant effect of amount of the importance of cooperation with other producers to reduce risk and uncertainty at the $p<.01$ level for the three conditions [$F_{(2, 320)} =$ **8,219**, $p = 0.002$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with other producers to reduce risk and uncertainty according to those who standarize their products in cooperative facilities (M =**3,64**, SD =0,49)

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was significantly different than those who standarize their products in their facilities (M =2,2, SD =1,03) and in private facilities (M=3,5, SD=1,41).

Dependent Variable	(I) type of standardization	(J) type of standardization	Mean	Std. Deviation	Sig.	F	Df
how important is cooperation with cooperatives	own facilities		2,060	,966			2.32
		private facilities	2,793	1,426			
		cooperative facilities	3,505	,816	,005*		
	cooperative facilities	own facilities			,005*	6,413	
how important is cooperation with other producers	own facilities		2,011	,888			2,32
		private facilities	3,444	,747	,001**		
		cooperative facilities	3,372	,639	,000**		
	private facilities	own facilities			,001**		
	cooperative facilities	own facilities			,000**	12,501	
how important is cooperation with agronomists to provide propagating material	own facilities		2,200	1,712			2,32
		private facilities	1,500	1,557			
		cooperative facilities	4,058	1,250	,002**		
	private facilities	cooperative facilities			,000**		
	cooperative facilities	own facilities			,002**		
		private facilities			,000**	14,901	
how important your cooperation with other producers to reduce risk and uncertainty	own facilities		2,200	1,032			2,32
		private facilities	3,500	1,414			
		cooperative facilities	3,647	,492	,002**		
	cooperative facilities	own facilities			,002**	8,219	

Table 20a

- A one-way between subjects ANOVA was conducted to compare "how often do you informed by cooperatives / producer groups", between the type of stadarization. There was a significant effect of amount of the frequency of information from cooperatives at the p<.01 level for the three conditions [F(2, 30) =**6,770**, p = 0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the information from cooperatives according to those who standarize their products in cooperative facilities (M=3,06, SD=0,91) was significantly different than those who standarize their products in their facilities (M=2,73, SD =0,78) and in private facilities (M=1,67, SD=0,92).

Dependent Variable	(I) type of standardization	(J) type of standardization	Mean	Std. Deviation	Sig.	F	Df
how often do you informed by cooperatives / producer groups	private facilities	own facilities	2,734	,784			2,30
		private facilities	1,671	,928			
		cooperative facilities	3,068	,912	,004**		

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	cooperative facilities	private facilities			,004**	6,770	

Table 21a

- A one-way between subjects ANOVA was conducted to compare "how satisfied are you with cooperatives / producer groups", between the type of stadarization. There was a significant effect of amount of the satisfaction with cooperatives at the p<.01 level for the three conditions [F(2, 30) =**11,236**, p = 0.009]. Post hoc comparisons using the Scheffe test indicated that the mean score for the satisfaction with cooperatives according to those who standarize their products in cooperative facilities (M=3,32, SD=0,79) was significantly different than those who standarize their products in their facilities (M=2,21, SD =0,8) and in private facilities (M=1,89, SD=0,73). Also, for the three conditions [F(2, 30) =**11,236**, p = 0.001], post hoc comparisons using the Scheffe test indicated that the mean score for the satisfaction with cooperatives according to those who standarize their products in private facilities was significantly different than those who standarize their products in private facilities. Moreover, for the three conditions [F(2, 30) =**11,236**, p = 0.009], post hoc comparisons using the Scheffe test indicated that the mean score for the satisfaction with cooperatives according to those who standarize their products in their facilities was significantly different than those who standarize their products in private or in cooperative facilities.

Dependent Variable	(I) type of standardization	(J) type of standardization	Mean	Std. Deviation	Sig.	F	Df
how satisfied are you with cooperatives / producer groups	own facilities		2,215	,801			
		private facilities	1,897	,732			
		cooperative facilities	3,326	,791	,009*		
	private facilities	cooperative facilities			,001**	11,236	2,30
	cooperative facilities	own facilities			,009*		
		private facilities			,001**		

Table 22a

- A one-way between subjects ANOVA was conducted to compare "how often do you informed by the research / technological centres" and "how often do you informed by other service providers", between professional organizations. There was a significant effect of amount of the frequency of information by R&D centers at the p<.01 level for the three conditions [F(2, 154) =**11,605**, p = 0.002]. Post hoc comparisons using the Scheffe test indicated that the mean score for the frequency

of information by R&D centers according to those who are members in producers group (M=1,82, SD=1,02) was significantly different than those who are members in cooperatives (M=1,82, SD =1,02) and in other organizations (M=1,37, SD=0,66). Also, for the three conditions [F(2, 154) =**11,605**, p = 0.002], post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of information by R&D centers according to those who are members in cooperatives was significantly different than those who are members in producers group and in other organizations. Moreover, for the three conditions [F(2, 154) =**11,605**, p = 0.00], post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of information by R&D centers according to those who are members in producers group was significantly different than those who are members in other organizations. Finally, there was a significant effect of amount of the frequency of information by other service providers at the p<.01 level for the three conditions [F(2, 150) =**7,358**, p = 0.001]. Post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of information by other service providers according to those who are members in other organizations (M=1,54, SD=0,75) was significantly different than those who are members in cooperatives (M=1,97, SD =0,78) and in producers group (M=2,44, SD=1,1).

Dependent Variable	(I) prof. organization	(J) prof. organization	Mean	Std. Deviation	Sig.	F	Df
how often do you informed by the research / technological centers	cooperative		1,829	1,019			
		producers group	2,678	,967	,002**		
		other	1,373	,664			2,154
	producers group	cooperative			,002**		
		other			,000**	11,605	
	other	producers group			,000**		
how often do you informed by other service providers	producers group	cooperative	1,979	,785			
		producers group	2,447	1,100			2,150
		other	1,546	,756	,001**		
	other	producers group			,001**	7,358	

Table 23a

- A one-way between subjects ANOVA was conducted to compare "how important is cooperation with research / technology centres", between professional organizations. There was a significant effect of amount of the importance of cooperation with R&D centers at the p<.01 level for the three conditions [F(2, 151) =**7,127**, p = 0.007]. Post hoc comparisons using the Scheffe test indicated that the mean score for the

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importance of cooperation with R&D centers according to those who are members in producers group (M=3,02, SD=0,99) was significantly different than those who are members in cooperatives (M=2,28, SD =0,97) and in other organizations (M=2,03, SD=0,84). Also, for the three conditions [F(2, 151) =**7,127**, p = 0.001], post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with R&D centers according to those who are members in other organizations was significantly different than those who are members in cooperatives and in producers group.

Dependent Variable	(I) prof. organization	(J) prof. organization	Mean	Std. Deviation	Sig.	F	Df
how important is cooperation with research / technology centres	cooperative		**2,282**	**,970**		**7,127**	
		producers group	**3,027**	**,999**	**,007***		
		other	**2,029**	**,845**			**2,151**
	producers group	cooperative			**,007***		
		other			**,001****		
	other	producers group			**,001****		

Table 24a

- A one-way between subjects ANOVA was conducted to compare "how influenced you are by research and technology institutes to make changes", between professional organizations. There was a significant effect of amount of the influence of R&D centers to make changes at the p<.01 level for the three conditions [F(2, 154) =**13,613**, p=0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the influence of R&D centers to make changes according to those who are members in producers group (M=2,85, SD=0,78) was significantly different than those who are members in cooperatives (M=1,8, SD=0,95) and in other organizations (M=2,85, SD=0,78).

Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
how influenced you are by research and technology institutes to make changes	cooperative		**1,800**	**,946**			
		producers group	**2,850**	**,779**	**,000****		
		other	**1,606**	**,779**			**2,154**
	producers group	cooperative			**,000****	**13,613**	
		other			**,000****		
	other	producers group			**,000****		

Table 25a

- A one-way between subjects ANOVA was conducted to compare "how satisfied are you with agronomists in question to easily find them", between professional organizations. There was a significant effect of amount of the satisfaction with agronomists in question to easily find them, at the $p<.01$ level for the three conditions [$F_{(2, 154)}$ =**8,573**, p=0.002]. Post hoc comparisons using the Scheffe test indicated that the mean score for the satisfaction with agronomists in question to easily find them according to those who are members in other organizations (M=3,15, SD=1,39) was significantly different than those who are members in cooperatives (M=3,93, SD=0,81) and in producers group (M=3,25, SD=1,51). Also, for the three conditions [$F_{(2, 154)}$ =**8,573**, p=0.002], post hoc comparisons using the Scheffe test indicated that the mean score for the satisfaction with agronomists in question to easily find them according to those who are members in other organizations and those who are members in cooperatives.

Dependent Variable	(I) prof. organization	(J) prof. organization	Mean	Std. Deviation	Sig.	F	Df
how satisfied are you with agronomists in question to easily find them	cooperative		**3,933**	**,811**		**8,573**	**2,154**
		producers group	**3,250**	**1,517**			
		other	**3,156**	**1,393**	**,002****		
	other	cooperative			**,002****		

Table 26a

- A one-way between subjects ANOVA was conducted to compare "how often do you informed by agronomists", between the different levels of knowledge. There was a significant effect of amount of the frequency of information by agronomists, at the $p<.01$ level for the three conditions [$F_{(3, 162)}$ =**8,888**, p=0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of information by agronomists according to those who have sufficiently knowledge (M=2,6, SD=0,97) was significantly different than those who have least knowledge (M=1,87, SD=0,00), those who have partly knowledge (M=3,67, SD=0,9) and those who have much knowledge (M=2,59, SD=1,05). Also, for the three conditions [$F_{(3, 162)}$ =**8,888**, p=0.00], post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of information by agronomists according to those who have partly knowledge and those who have sufficiently knowledge. Finally, for the three conditions [$F_{(3, 162)}$ =**8,888**, p=0.00], post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of information by agronomists according to those who have partly knowledge and those who have much knowledge.

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Dependent Variable	(I) levels of knowledge	(J) levels of knowledge	Mean	Std. Deviation	Sig.	F	Df
how often do you informed by agronomists	partly	least	1,875	,000		8,888	3,162
		partly	3,673	,907			
		sufficiently	2,602	,974	,000**		
		much	2,594	1,057	,000**		
	sufficiently	partly			,000**		
	much	partly			,000**		

Table 27a

- A one-way between subjects ANOVA was conducted to compare "how affected by your studies to make changes" and "how you affect the following factors to change farming practices", between the different levels of knowledge. There was a significant effect of amount of the affection by studies to make changes, at the p<.01 level for the three conditions [F(3, 162) =**7,294**, p=0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the affection by studies to make changes according to those who have much knowledge (M=**2,93**, SD=1,53) was significantly different than those who have least knowledge (M=1, SD=0,00), those who have partly knowledge (M=2,46, SD=0,93) and those who have sufficient knowledge (M=1,91, SD=1,26). Also, for the three conditions [F(3, 162) =**7,294**, p=0.00], post hoc comparisons using the Scheffe test indicated that the mean score for the affection by studies to make changes according to those who have sufficient knowledge was significantly different than those who have much knowledge. Moreover, there was a significant effect of amount of the affection from factors to change farming practices, at the p<.01 level for the three conditions [F(3, 161) =**5,572**, p=0.003]. Post hoc comparisons using the Scheffe test indicated that the mean score for the affection from factors to change farming practices according to those who have much knowledge (M=**2,71**, SD=1,6) was significantly different than those who have least knowledge (M=1, SD=0,00), those who have partly knowledge (M=2,4, SD=1,38) and those who have sufficient knowledge (M=1,76, SD=1,29). Also, for the three conditions [F(3, 161) =**5,572**, p=0.003], post hoc comparisons using the Scheffe test indicated that the mean score for the affection from factors to change farming practices according to those who have sufficiently knowledge was significantly different than those who have much knowledge.

Dependent Variable	(I) levels of knowledge	(J) levels of knowledge	Mean	Std. Deviation	Sig.	F	Df
how affected by your studies to make changes	sufficiently	Least	1,000	,000		7,294	3,162
		Partly	2,460	,934			
		Sufficiently	1,915	1,268			
		Much	2,938	1,533	,000**		
	much	Sufficiently			,000**		
how you affect the following factors to change farming practices	sufficiently	Least	1,000	,000		5,572	3,161
		Partly	2,400	1,384			
		Sufficiently	1,764	1,297			
		Much	2,714	1,607	,003**		
	much	Sufficiently			,003**		

Table 28a

- A one-way between subjects ANOVA was conducted to compare "how the changes you made attribute", between the different levels of knowledge. There was a significant effect of amount of the contribution of changes, at the p<.01 level for the three conditions [F(3, 960) =**5,077**, p=0.004]. Post hoc comparisons using the Scheffe test indicated that the mean score for the contribution of changes according to those who have much knowledge (M=**4,12**, SD=0,65) was significantly different than those who have least knowledge (M=2, SD=0,00), those who have partly knowledge (M=3,76, SD=0,44) and those who have sufficient knowledge (M=3,83, SD=0,9). Also, for the three conditions [F(3, 960) =**5,077**, p=0.004], post hoc comparisons using the Scheffe test indicated that the mean score for the contribution of changes according to those who have least knowledge was significantly different than those who have much knowledge.

Dependent Variable	(I) levels of knowledge	(J) levels of knowledge	Mean	Std. Deviation	Sig.	F	Df
how the changes you made attribute	least		2,000	,000		5,077	3,96
		partly	3,766	,444			
		sufficiently	3,835	,903			
		much	4,123	,654	,004**		
	much	least			,004**		

Table 29a

- A one-way between subjects ANOVA was conducted to compare "how important are the problems of factor 3", between the different levels of knowledge. There was a significant effect of amount of the importance of the problems of factor 3, at the

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p<.01 level for the three conditions [F(3, 162) =**8,069**, p=0.006]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of the problems of factor 3 according to those who have much knowledge (M=**2,65**, SD=0,87) was significantly different than those who have least knowledge (M=4,29, SD=0,00), those who have partly knowledge (M=3,42, SD=0,9) and those who have sufficient knowledge (M=3,29, SD=0,87). Also, for the three conditions [F(3, 960) =**5,077**, p=0.001], post hoc comparisons using the Scheffe test indicated that the mean score for the importance of the problems of factor 3 according to those who have much knowledge was significantly different than those who have much knowledge. Moreover, , for the three conditions [F(3, 960) =**5,077**, p=0.001], post hoc comparisons using the Scheffe test indicated that the mean score for the importance of the problems of factor 3 according to those who have much knowledge was significantly different than those who have much and partly knowledge.

Dependent Variable	(I) levels of knowledge	(J) levels of knowledge	Mean	Std. Deviation	Sig.	F	Df
how important are the problems of factor 3	partly	least	4,296	,000		8,069	3,162
		partly	3,424	,903			
		sufficiently	3,290	,874			
		much	2,652	,873	,006*		
	sufficiently	much			,001**		
	much	partly			,006*		
		sufficiently			,001**		

Table 30a

- A one-way between subjects ANOVA was conducted to compare "how important is cooperation with agronomists" and "how important is cooperation with agronomists to improve the mechanical equipment", between the different levels of knowledge. There was a significant effect of amount of the importance of cooperation with agronomists, at the p<.01 level for the three conditions [F(3, 162) =**4,414**, p=0.009]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with agronomists according to those who have partly knowledge (M=3,85, SD=0,62) was significantly different than those who have least knowledge (M=2,89, SD=0,00), those who have sufficiently knowledge (M=3,35, SD=0,68) and those who have much knowledge (M=3,21, SD=0,9). Also, there was a significant effect of amount of the importance of cooperation with agronomists to improve mechanical equipment, at the p<.01 level for the three conditions [F(3, 162)

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=**6,635**, p=0.001]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with agronomists to improve mechanical equipment according to those who have much knowledge (M=2,88, SD=1,36) was significantly different than those who have least knowledge (M=3, SD=0,00), those who have partly knowledge (M=6,88, SD=9,91) and those who have sufficiently knowledge (M=3,1, SD=1,24). Moreover, for the three conditions [F(3, 162) =**6,635**, p=0.001]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with agronomists to improve mechanical equipment according to those who have partly knowledge was significantly different than those who have sufficiently knowledge.

Dependent Variable	(I) levels of knowledge	(J) levels of knowledge	Mean	Std. Deviation	Sig.	F	Df
how important is cooperation with agronomists	much	least	2,8889	,00000		4,414	3,162
		partly	3,8533	,62770	,009**		
		sufficiently	3,3525	,68860			
		much	3,2189	,90284			
how important is cooperation with agronomists to improve the mechanical equipment	partly	least	3,0000	,00000		6,635	3,162
		partly	6,8800	9,91346			
		sufficiently	3,1011	1,24357	,001**		
		much	2,8800	1,36487	,001**		
	sufficiently	partly			,001**		
	much	partly			,001**		

Table 31a

- A one-way between subjects ANOVA was conducted to compare "how satisfied are you with the agronomists", "how satisfied are you with the Directorate of Rural Development to easily find them" and "how satisfied are you with the other service providers", between the different levels of knowledge. There was a significant effect of amount of the satisfaction with agronomists, at the p<.01 level for the three conditions [F(3, 162) =**7,629**, p=0.001]. Post hoc comparisons using the Scheffe test indicated that the mean score for of the satisfaction with agronomists according to those who have much knowledge (M=**2,73**, SD=1,05) was significantly different than those who have least knowledge (M=1,6, SD=0,00), those who have partly knowledge (M=3,67, SD=0,93) and those who have sufficiently knowledge (M=2,9, SD=0,83). Also, for the three conditions [F(3, 162) =**7,629**, p=0.004], post hoc comparisons using the Scheffe test indicated that the mean score for of the satisfaction with agronomists according to those who have partly knowledge was

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significantly different than those who have sufficiently knowledge. For the three conditions [$F_{(3, 162)}$ =**7,629**, p=0.001], post hoc comparisons using the Scheffe test indicated that the mean score for of the satisfaction with agronomists according to those who have partly knowledge was significantly different than those who have much knowledge. Moreover, there was a significant effect of amount of the satisfaction with the Directorate of Rural Development to easily find them, at the $p<.01$ level for the three conditions [$F_{(3, 162)}$ =**7,163**, p=0.002]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with the Directorate of Rural Development to easily find them according to those who have much knowledge (M=**2,22**, SD=1,05) was significantly different than those who have least knowledge (M=1, SD=0,00), those who have partly knowledge (M=3,04, SD=0,73) and those who have sufficiently knowledge (M=2,35, SD=0,77). Also, for the three conditions [$F_{(3, 162)}$ =**7,163**, p=0.008]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with the Directorate of Rural Development to easily find them according to those who have partly knowledge was significantly different than those who have sufficiently knowledge. Finally, there was a significant effect of amount of the satisfaction with other service providers, at the $p<.01$ level for the three conditions [$F_{(3, 155)}$ =**8,023**, p=0.00]. Post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with other service providers according to those who have much knowledge (M=**1,63**, SD=0,71) was significantly different than those who have least knowledge (M=1,72, SD=0,00), those who have partly knowledge (M=2,46, SD=0,95) and those who have sufficiently knowledge (M=1,73, SD=0,55). Also, for the three conditions [$F_{(3, 155)}$ =**8,023**, p=0.00], post hoc comparisons using the Scheffe test indicated that the mean score for the importance of cooperation with other service providers according to those who have partly knowledge was significantly different than those who have sufficiently and much knowledge.

Dependent Variable	(I) levels of knowledge	(J) levels of knowledge	Mean	Std. Deviation	Sig.	F	Df
how satisfied are you with the agronomists	partly	least	1,600	,000		7,629	3,162
		partly	3,678	,932			
		sufficiently	2,904	,837	,004**		
		much	2,738	1,053	,001**		
	sufficiently	partly			,004**		
	much	partly			,001**		
how satisfied are you with the Directorate of Rural Development to easily find them	partly	least	1,000	,000		7,163	3,162
		partly	3,040	,734			
		sufficiently	2,359	,772	,008*		
		much	2,220	1,055	,002**		
	sufficiently	partly			,008*		
	much	partly			,002**		
how satisfied are you with the other service providers	partly	least	1,727	,000		8,023	3,155
		partly	2,466	,950			
		sufficiently	1,739	,551	,000**		
		much	1,631	,716	,000**		
	sufficiently	partly			,000**		
	much	partly			,000**		

Table 32a

- A one-way between subjects ANOVA was conducted to compare "how often do you use agronomists for information" and "how often do you use the certifiers of organic products for information", between the sectors. There was a significant effect of amount of frequency of using agronomists for information , at the $p<.01$ level for the three conditions [$F_{(2, 810)}$ =5,581, p=0.006]. Post hoc comparisons using the Scheffe test indicated that the mean score for of frequency of using agronomists for information according to those who make mixed agriculture (M=**2,5**, SD=1,22) was significantly different than those who make chemical (M=4,1, SD=1,11) and those who make biological agriculture (M=3,75, SD=1,28). Also, for the three conditions [$F_{(2, 810)}$ =5,581, p=0.006], post hoc comparisons using the Scheffe test indicated that the mean score for of frequency of using agronomists for information according to those who make chemical agriculture was significantly different than those who make mixed. Moreover, there was a significant effect of amount of the frequency of using certifiers of organic products for information, at

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the p<.01 level for the three conditions [$F_{(2,750)} = 10{,}033$, $p=0.00$]. Post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of using certifiers of organic products for information according to those who make biological agriculture ($M=2{,}87$, $SD=1{,}8$) was significantly different than those who make chemical ($M=1{,}37$, $SD=0{,}82$) and those who make mixed agriculture ($M=1$, $SD=0{,}00$). Also, for the three conditions [$F_{(2,750)} = 10{,}033$, $p=0.002$], post hoc comparisons using the Scheffe test indicated that the mean score for the frequency of using certifiers of organic products for information according to those who make mixed agriculture was significantly different than those who make chemical or biological agriculture.

Dependent Variable	(I) sector	(J) sector	Mean	Std. Deviation	Sig.	F	Df
how often do you use agronomists for information	chemical		4,100	1,118		5,581	2,81
		biological	3,750	1,281			
		mixed	2,500	1,224	,006*		
	mixed	chemical			,006*		
how often do you use the certifiers of organic products for information	chemical	chemical	1,375	,826		10,033	2,75
		biological	2,875	1,807	,000**		
		mixed	1,000	,000			
	biological	chemical			,000**		
		mixed			,002**		
	mixed	biological			,002**		

Table 33a

- Independent samples t-test to compare "decision to change propagating material influenced by your studies" between sex, indicated significant differences. Results indicated that there were significant greater means for men (t= 3,77, p=0,000).

Dependent Variable	sex	Mean	Std. Deviation	F	Sig.	df
decision to change propagating material influenced by your studies	men	2,503	1,448	23,481	,000**	164
	women	1,567	,778			

Table 34b

- Independent samples t-test to compare "how important are the problems of factor 2" between sex, indicated significant differences. Results indicated that there were significant greater means for men (t= 3,03, p=0,002).

Dependent Variable	sex	Mean	Std. Deviation	F	Sig.	df
how important are the problems of factor 2	men	3,970	,790	9,702	,002**	164
	women	3,480	1,093			

Table 35b

- Independent samples t-test to compare "how important agronomists are to improve the reproductive material" between sex, indicated significant differences. Results indicated that there were significant greater means for men (t= 1,96, p=0,008). Also, independent samples t-test to compare "how important are the other service providers for the provision of reproductive material", between sex, indicated significant differences. Results indicated that there were significant greater means for men (t= 1,55, p=0,001).

Dependent Variable	sex	Mean	Std. Deviation	F	Sig.	df
how important is the cooperation with agronomists to improve the reproductive material	men	3,263	2,922	7,325	,008**	164
	women	4,783	6,960			39,703
how important is the cooperation with the other service providers for the provision of reproductive material	men	2,399	,991	10,659	,001**	155
	women	2,679	,763			73,551

Table 36b

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- Independent samples t-test to compare "decision to change propagating material influenced by your studies", between sex, indicated significant differences. Results indicated that there were significant greater means for men (t= 3,13, p=0,000).

Dependent Variable	sex	Mean	Std. Deviation	F	Sig.	df
decision to change propagating material influenced by your studies	men	2,320	1,536	24,044	,000**	163
	women	1,486	,931			97,751

Table 37b

- Independent samples t-test to compare "how important are the following to implement the advice / suggestions from cooperatives" between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t=1,45, p=0,003). Also, independent samples t-test to compare "how important are the following to implement the advice / suggestions from agronomists", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t= 3,42, p=0,000).

Dependent Variable	Mechanical Equipment	Mean	Std. Deviation	F	Sig.	df
how important are the following to implement the advice / suggestions from cooperatives	yes	3,030	,843	8,867	,003**	163
	no	3,292	1,223			39,905
how important are the following to implement the advice / suggestions from agronomists	yes	2,974	,935	14,631	,000**	164
	no	3,319	1,304			40,526

Table 38b

- Independent samples t-test to compare "how often do you information by the research / technology centers", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t=3,78, p=0,000). Also, independent samples t-test to compare "how often do you get informed by other service providers", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t= 4,27, p=0,000).

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Dependent Variable	Mechanical Equipment	Mean	Std. Deviation	F	Sig.	df
how often do you information by the research / technology centers	yes	1,943	1,009	19,551	,000**	164
	no	1,299	,759			63,221
how often do you get informed by other service providers	yes	2,046	,881	19,351	,000**	160
	no	1,439	,404			109,879

Table 39b

- Independent samples t-test to compare "how influenced you are by research and technological institutes to make changes", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t=4,16 , p=0,000). Also, independent samples t-test to compare "how affected by your studies to make changes", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t= 0,16, p=0,000). Finally, independent samples t-test to compare "how influenced you your studies to make changes to the material", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t= 3, p=0,000).

Dependent Variable	Mechanical Equipment	Mean	Std. Deviation	F	Sig.	df
how influenced you are by research and technological institutes to make changes	yes	2,010	,9446	18,095	,000**	164
	no	1,257	,7274			61,754
how affected by your studies to make changes	yes	2,506	1,433	29,299	,000**	164
	no	1,439	,661			112,864
how influenced you your studies to make changes to the material	yes	2,325	1,530	29,409	,000**	163
	no	1,363	,783			100,005

Table 40b

- Independent samples t-test to compare "how important are the problems of the factor 1", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t=1,74 , p=0,000). Also, independent samples t-test to compare "how important are the problems by a factor of 3", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t= 3,19, p=0,004).

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Dependent Variable	Mechanical Equipment	Mean	Std. Deviation	F	Sig.	df
how important are the problems of the factor 1	yes	3,517	,754	13,166	,000**	164
	no	3,545	1,229			38,173
how important are the problems by a factor of 3	yes	3,025	,847	8,450	,004**	164
	no	3,555	1,127			41,408

Table 41b

- Independent samples t-test to compare "how important is cooperation with other service providers for the provision of reproductive material", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t=2,37 , p=0,002).

Dependent Variable	Mechanical Equipment	Mean	Std. Deviation	F	Sig.	df
how important is cooperation with other service providers for the provision of reproductive material	yes	2,044	,967	9,828	,002**	155
	no	1,468	,621			74,246

Table 42b

- Independent samples t-test to compare "how changes taking place in your farm yielded", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t=1, p=0,000).

Dependent Variable	Mechanical Equipment	Mean	Std. Deviation	F	Sig.	df
How often do you make changes in your farm	yes	3,921	,634	16,596	,000**	98
	no	3,727	1,248			26,845

Table 43b

- Independent samples t-test to compare "how important is cooperation with agronomists to improve the mechanical equipment", between those who proceed their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who procced their products (t=0,61, p=0,000). Also, independent samples t-test to compare "how important is cooperation with other service providers", between those who procced their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who procced their products (t= 2,35, p=0,000). Moreover, independent samples t-test to compare "how important is cooperation with agronomists to improve the mechanical equipment", between those who procced their products and those who do not, indicated

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significant differences. Results indicated that there were significant greater means for those who procced their products (t= 1,63, p=0,000). Finally, independent samples t-test to compare "how important is cooperation with other service providers", between those who have mechanical equipment and those who have not, indicated significant differences. Results indicated that there were significant greater means for those who have mechanical equipment (t= 1,83, p=0,001).

Dependent Variable	Processing	Mean	Std. Deviation	F	Sig.	Df
how important is cooperation with cooperatives	yes	2,896	1,270	16,721	,000**	164
	no	3,002	,871			58,101
how important is cooperation with agronomists	yes	3,396	1,025	12,972	,000**	164
	no	3,376	,660			44,961
how important is cooperation with agronomists to improve the mechanical equipment	yes	5,266	7,584	19,439	,000**	155
	no	2,983	1,297			52,081
how important is cooperation with other service providers	yes	2,336	1,179	11,943	,001**	
	no	2,505	,861			

Table 44b

- Independent samples t-test to compare "how affected by your studies to make changes", between those who proceed their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who procced their products (t=0,14, p=0,002).

Dependent Variable	Processing	Mean	Std. Deviation	F	Sig.	Df
how affected by your studies to make changes	yes	2,898	,805	9,930	,002**	164
	no	2,475	1,097			106,915

Table 45b

- Independent samples t-test to compare "how important are the problems of the factor 1", between those who proceed their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who procced their products (t=3,2, p=0,002).

Dependent Variable	Processing	Mean	Std. Deviation	F	Sig.	Df
how important are the problems of the factor 1	yes	3,344	1,011	9,933	,002**	164
	no	3,589	,798			65,480

Table 46b

- Independent samples t-test to compare how important are the following to implement the advice / suggestions from their service providers", between those who proceed their products and those who do not, indicated significant differences.

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Results indicated that there were significant greater means for those who procced their products (t=0,96, p=0,001).

Dependent Variable	Processing	Mean	Std. Deviation	F	Sig.	Df
how important are the following to implement the advice / suggestions from the service providers	yes	3,009	,985	11,635	,001**	161
	no	3,329	,983			62,860

Table 47b

- Independent samples t-test to compare "how satisfied are you with the response agriculturists", between those who proceed their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who procced their products (t=0,46, p=0,000). Also, independent samples t-test to compare "how satisfied are you with the response of other service providers", between those who procced their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who procced their products (t= 3,99, p=0,000).

Dependent Variable	Processing	Mean	Std. Deviation	F	Sig.	Df
how satisfied are you with the response agriculturists	yes	3,012	1,232	20,103	,000**	164
	no	2,933	,862			60,768
how satisfied are you with the response of other service providers	yes	2,109	,842	7,859	,006*	157
	no	1,684	,618			57,633

Table 48b

- Independent samples t-test to compare ""how often do you informed by cooperatives / producer groups", between those who standarize their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=0,55, p=0,005).

Dependent Variable	Standardization	Mean	Std. Deviation	F	Sig.	Df
how often do you informed by cooperatives / producer groups	yes	1,736	,792	8,114	,005*	164
	no	1,838	1,051			79,367

Table 49b

- Independent samples t-test to compare "how influenced you are by research and technological institutes to make changes", between those who standarize their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=1,94, p=0,01). Also, independent samples t-test to compare "how affected by your studies to make changes", between those who standarize their products and

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those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=1,6, p=0,000).

Dependent Variable	Standardization	Mean	Std. Deviation	F	Sig.	Df
how influenced you are by research &technological institutes to make changes	yes	1,866	,792	6,854	,010*	164
	no	1,859	,997			75,169
how influenced you are by your studies to make changes	yes	2,853	,622	25,449	,000**	164
	no	2,511	1,126			112,752

Table 50b

- Independent samples t-test to compare "how important is cooperation with agronomists", between those who standarize their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=1,78, p=0,002). Also, independent samples t-test to compare "how important is cooperation with agronomists to provide propagating material", between those who standarize their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=2,15, p=0,00). Moreover, independent samples t-test to compare "how important is cooperation with agronomists to improve the mechanical equipment" between those who standarize their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=2,17, p=0,00). Finally, independent samples t-test to compare "how important is cooperation with other producers to provide propagating material", between those who standarize their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=3,51, p=0,002)

Dependent Variable	Standardization	Mean	Std. Deviation	F	Sig.	Df
how important is cooperation with agronomists	yes	3,147	1,028	9,637	,002**	164
	no	3,451	,668			46,658
how important is cooperation with agronomists to provide propagating material	yes	3,105	1,656	13,959	,000**	164
	no	3,656	1,276			50,724
how important is cooperation with agronomists to improve the mechanical equipment	yes	5,631	8,221	29,076	,000**	164
	no	3,000	1,254			37,513
how important is cooperation	yes	2,236	1,303	10,370	,002**	164

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with other producers to provide propagating material	no	**2,781**	**1,064**			**52,498**

Table 51b

- Independent samples t-test to compare "how satisfied are you with the response of other service providers", between those who standarize their products and those who do not, indicated significant differences. Results indicated that there were significant greater means for those who standarize their products (t=2,62, p=0,002).

Dependent Variable	Standardization	Mean	Std. Deviation	F	Sig.	Df
how satisfied are you with the response of other service providers	yes	**2,235**	**,827**	**10,054**	**,002****	**157**
	no	**1,659**	**,606**			**50,096**

Table 52b

- Independent samples t-test to compare "how often do you informed by cooperatives / producer groups", between existence of branded and non-branded products, indicated significant differences. Results indicated that there were significant greater means for those who have branded products (t=0,95, p=0,002).

Dependent Variable	Branded products	Mean	Std. Deviation	F	Sig.	Df
how often do you informed by cooperatives / producer groups	yes	**2,509**	**,863**	**10,369**	**,002****	**164**
	no	**2,441**	**,968**			**26,498**

Table 53b

- Independent samples t-test to compare "how important are the problems of factor 3", between existence of branded and non-branded products, indicated significant differences. Results indicated that there were significant greater means for those who have branded products (t=0,32, p=0,002).

Dependent Variable	Branded products	Mean	Std. Deviation	F	Sig.	Df
how important are the problems of factor 3	yes	**3,062**	**,478**	**9,787**	**,002****	**164**
	no	**3,139**	**,971**			**37,300**

Table 54b

- Independent samples t-test to compare "how important are the following to implement the advice / suggestions from agronomists", between existence of branded and non-branded products, indicated significant differences. Results indicated that there were significant greater means for those who have branded products (t=0,93, p=0,008). Also, independent samples t-test to compare "how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists", between existence of branded and non-branded

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products, indicated significant differences. Results indicated that there were significant greater means for those who have branded products (t=3,12, p=0,000).

Dependent Variable	Branded products	Mean	Std. Deviation	F	Sig.	Df
how important are the following to implement the advice / suggestions from agronomists	yes	2,830	,676	7,191	,008*	164
	no	3,069	1,057			28,316
how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists	yes	2,333	,685	17,221	,000**	164
	no	3,263	1,236			32,500

Table 55b

- Independent samples t-test to compare "how important is cooperation with agronomists to improve the mechanical equipment", between existence of branded and non-branded products, indicated significant differences. Results indicated that there were significant greater means for those who have branded products (t=5,96, p=0,000).

Dependent Variable	Branded products	Mean	Std. Deviation	F	Sig.	Df
how important is cooperation with agronomists to improve the mechanical equipment	yes	8,666	11,261	126,328	,000**	164
	no	2,986	1,250			17,051

Table 56b

- Independent samples t-test to compare "how satisfied are you with the Directorate of Rural Development to the question whether knowledge of local circumstances", between existence of branded and non-branded products, indicated significant differences. Results indicated that there were significant greater means for those who have branded products (t=1,02, p=0,008).

Dependent Variable	Branded products	Mean	Std. Deviation	F	Sig.	Df
how satisfied are you with the Directorate of Rural Development to the question whether knowledge of local circumstances	yes	2,611	,501	7,120	,008*	164
	no	2,378	,943			34,040

Table 57b

- Independent samples t-test to compare "how important are the following to implement the advice/suggestions from providers supplies", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=1,72, p=0,004).

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Dependent Variable	certification	Mean	Std. Deviation	F	Sig.	Df
how important are the following to implement the advice / suggestions from providers supplies	yes	2,653	,574	8,337	,004**	162
	no	2,976	,917			52,609

Table 58b

- Independent samples t-test to compare "how do you affected by your studies to make changes", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=1,2, p=0,007). Also, independent samples t-test to compare "how influenced you your studies to make changes to the propagating material", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=2,04, p=0,004).

Dependent Variable	certification	Mean	Std. Deviation	F	Sig.	Df
how do you affected by your studies to make changes	yes	2,814	,783	7,473	,007*	162
	no	2,545	1,087			45,349
how influenced you your studies to make changes to the propagating material	yes	1,960	,805	8,355	,004*	161
	no	2,267	,668			30,278

Table 59b

- Independent samples t-test to compare "how important is cooperation with agronomists", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=2,54, p=0,000). Also, independent samples t-test to compare "how important is cooperation with other producers", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=3,45, p=0,000). Moreover, independent samples t-test to compare "how important is cooperation with agronomists to provide propagating material", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=0,2, p=0,001). Furthermore, independent samples t-test to compare "how important is cooperation with other producers to reduce risk and uncertainty", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=1,75, p=0,009). Finally,

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independent samples t-test to compare "how important is cooperation with other services providers to provide propagating material",   between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=0,67, p=0,008).

Dependent Variable	certification	Mean	Std. Deviation	F	Sig.	Df
how important is cooperation with agronomists	yes	3,029	1,192	17,795	,000**	162
	no	3,445	,656			27,923
how important is cooperation with other producers	yes	2,506	1,075	14,737	,000**	162
	no	3,067	,684			28,950
how important is cooperation with agronomists to provide propagating material	yes	3,461	1,771	12,414	,001**	162
	no	3,521	1,308			30,342
how important is cooperation with other producers to reduce risk and uncertainty	yes	2,769	1,450	6,991	,009*	162
	no	3,195	1,066			30,289
how important is cooperation with other services providers to provide propagating material	yes	2,579	1,226	7,111	,008*	153
	no	2,439	,895			30,582

Table 60b

- Independent samples t-test to compare "how satisfied are you with the response of cooperatives / producer groups", between existence or no of certification, indicated significant differences. Results indicated that there were significant greater means for those who have certification (t=0,07, p=0,006).

Dependent Variable	certification	Mean	Std. Deviation	F	Sig.	Df
how satisfied are you with the response of cooperatives / producer groups	yes	2,515	1,149	7,755	,006*	160
	no	2,501	,819			27,213

Table 61b

- Independent samples t-test to compare "how influenced you the experience to make changes", between whether someone take into account the opinion of the family, indicated significant differences. Results indicated that there were significant greater means for those who take into account familys' opinion (t=1,22, p=0,000). Also, independent samples t-test to compare "how influenced you your studies to make changes to the propagating material", between whether someone take into account the opinion of the family. Results indicated that there were significant greater means for those who take into account familys' opinion (t=0,55, p=0,001). Moreover, samples t-test to compare "how influenced you the following actors to make changes to the propagating material", between whether someone take into account the opinion of the family, indicated significant differences. Results indicated that

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there were significant greater means for those who take into account familys' opinion (t=1,48, p=0,000).

Dependent Variable	Opinion of family	Mean	Std. Deviation	F	Sig.	df
how influenced you your experience to make changes	yes	3,219	1,121	13,367	,000**	164
	no	3,475	,640			78,469
how influenced you the following factors to make changes to the propagating material	yes	2,201	,739	11,191	,001**	163
	no	2,278	,453			72,055
how influenced you your studies to make changes to the propagating material	yes	2,052	1,356	14,827	,000**	163
	no	2,483	1,841			37,866

Table 62b

- Independent samples t-test to compare "how important is the following to you to implement the advice / suggestions from their service providers", between whether someone take into account the opinion of the family, indicated significant differences. Results indicated that there were significant greater means for those who take into account familys' opinion (t=1,19, p=0,001).

Dependent Variable	Opinion of family	Mean	Std. Deviation	F	Sig.	Df
how important is the following to you to implement the advice / suggestions from the service providers	yes	3,195	,929	10,742	,001**	161
	no	3,433	1,274			37,834

Table 63b

- Independent samples t-test to compare "to implement new technologies and processes if they believe that the uncertainty in quantitative yield an obstacle", between whether someone take into account the opinion of the family, indicated significant differences. Results indicated that there were significant greater means for those who take into account familys' opinion (t=0,72, p=0,003).

Dependent Variable	Opinion of family	Mean	Std. Deviation	F	Sig.	Df
to implement new technologies and processes if they believe that the uncertainty in quantitative yield is an obstacle	yes	3,651	1,088	8,786	,003**	164
	no	3,483	1,480			37,775

Table 64b

- Independent samples t-test to compare """how important is cooperation with agriculturalists", between whether someone take into account the opinion of the family, indicated significant differences. Results indicated that there were significant greater means for those who take into account familys' opinion (t=3,92, p=0,002). Also, independent samples t-test to compare "how important is cooperation with contract farming carriers to reduce the risk and uncertainty", between whether someone take into account the opinion of the family. Results indicated that there were significant greater means for those who take into account familys' opinion (t=4,15, p=0,001).

Dependent Variable	Opinion of family	Mean	Std. Deviation	F	Sig.	Df
how important is cooperation with agriculturalists	yes	3,274	,777	10,197	,002**	164
	no	3,853	,553			60,540
how important is cooperation with contract farming carriers to reduce the risk and uncertainty	yes	2,610	1,443	38,839	,000**	89
	no	1,000	,000			76,000

Table 65b

- Independent samples t-test to compare "how satisfied are you with the Directorate of Rural Development in the matter of cooperating together to solve problems by using new technologies", between whether someone take into account the opinion of the family, indicated significant differences. Results indicated that there were significant greater means for those who take into account familys' opinion (t=6,47, p=0,000).

Dependent Variable	Opinion of family	Mean	Std. Deviation	F	Sig.	Df
how satisfied are you with the Directorate of Rural Development in the matter of cooperating together to solve problems by using new technologies	yes	1,840	,729	22,906	,000**	161
	no	2,967	1,328			34,355

Table 66b

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4. Analysis of the statistical results

From the statistical analysis performed in the previous chapter we can draw analytical conclusions on the following issues discussed in our literature review. Generally we observe that the producers use of knowledge-intensive services, but also that the location and distance is not a problem for collaborations. Two sectors are been distinguished. The first has to do with vertical integration and the other with the use and value of KIBS in the field.

4.1 Few producers in our sample who made process and standardize, have certification for their products and have brand. The proportion maybe small but they seem to understand the importance and value that can be added to their products.

All these procedures are associated with having or not capital. From our results observe that, those who process their products, make changes in their holdings influenced by their studies, collaborate and are satisfied with agronomists and service providers. This we believe, is related to provision of quality products, which have specific characteristics. So, they exploit knowledge and new technologies available to agronomists and KIBS occupations. They also cooperate more frequently with cooperatives, something normal, as they exploit the advantages of economies of scale from their cooperation, and use cooperative facities to process their products. Moreover, they cooperate with service providers, but they consider important the problems for the implementation of their advice. The same applies for problems that have to do with lack of cooperation.

The same things apply to producers who standardize their products. It is important to cooperate and be informed from cooperatives and other producers (interpreted by the same logic as those who process their products). Those who make standardization, are frequently informed by cooperatives / producer groups, something natural if we consider that in many cases they use their facilities. They are more satisfied from service providers, as they utilize more of their activities. Finally, they influenced by the R&D centres and their studies to make changes, but also by agronomists to change the mechanical equipment.

The above are related to the existence of branded products. For those who have branded products, the cooperation with agronomists to improve reproductive material, is more important because, as we said earlier, they want qualitative products. In the same time

they conceder important the existing problems in order to implement advices from agronomists. They make changes in their mechanical equipment and are influenced by their studies. They are also more satisfied from the Directorate of Rural Development in terms of its knowledge to local specificities.

Regarding certification, those who have, collaborate with agronomists and other producers, with service providers for the provision of reproductive material, are satisfied by the response of cooperatives / producer groups, their studies affecting the changes that they make to their farm. They consider that in order to implement provider's supplies advices, there are important problems. We believe that this can be explained by the fact that due to the emergence of certification. For any product, anywhere you want to sell it, you must have certification (A-CERT, 2014), certified products appear to have greater added value (PDO , PGI, etc.), and the concomitant lack of relevant certificates.

4.2 Different characteristics, different use of KIBS

As regards the KIBS in the sector, their use and their value are been clear from the results. Levels of knowledge, networks, capital, the sources of information, professional organizations, mechanical equipment etc, are factors which affect their using and their attribution to the field.

Participation in collaborative and information networks, participation in programs, experimentation, flexibility that can someone show, the way that somebody collaborates (or not) with other producers and actors, the way that he choose to acquire new information, the production method that he used, etc., is directly connected with age and level of education.

The higher the level of education one has the more easily he can accept new information, understands and integrates it in his production. This whole process is directly related to the absorptive capacity. It's easier for someone with the above characteristics to use the benefits of new technologies and seek new opportunities, new markets (eg e-buy, precision farming, using GPS).

We therefore observe that in the two examined prefectures, most producers have training Lyceum. Noteworthy is the fact that the next largest percentage is those producers who have a university education. This happened because we chose our sample consist of all groups, but also because we observe that educated young people

are turning to the primary sector either for a supplemental income or for a permanent job.

Those who believe that they have knowledge on agriculture, seems that they are more frequent informed by agronomists, by the Directorate of Rural Development and service providers. This results in better utilization of their advice, most direct contact, and greater satisfaction from the services provided by bodies. Namely, greater openness, contact with new knowledge and methods is manifested. Also, education influence the decision to make changes to the producers on their farms. An important point is that men are more affected. Furthermore, those with higher educational level, consider the uncertainty of each type, the most important problem for their activity (eg bureaucracy, delays, increased investment costs etc). Here we can say that knowledge in agriculture associated also with experience.

Those who have experience and education, is easier to understand new challenges, to engage in emerging markets and products with specific quality attributes, in products with added value in production. So, he can seek the advice of service providers and work with them, after having understood that only with traditional techniques can not has a sustainable production. In this way not only benefit himself, but also the entire area, as he sets in "function" competent bodies and service providers, making them more informed and constantly looking for new developments.

Regarding age, easily we understand why it has a key role. Usually, the older someone is, the more difficult he can adjust in changes and renews the methods of production. It is also more difficult the collaboration with others, there is disbelief at both in the level of participation in a network (an example of the dissolution of cooperatives, so one of older producers is difficult to trust again) and in outcomes that can be afforded by the proposed change, his flexibility is reduced. The aim is someone to combine empirical / traditional techniques with knowledge and new technological developments.

So we see that indeed those who are younger age, are more affected by their studies, cooperate and trust most all types of KIBS, make changes to the propagating material and in farming practices. Also, collaborate with agronomists to provide them propagating material. They are more satisfied with service providers, maybe because they consult them more until they reach their own experiences and knowledge, are more open-minded and try to combine their studies and new knowledge with the experience derived from their family environment. On the other side, we observe that older collaborate with other producers, they consider more important their cooperation with

cooperatives. This shows an expected trend in that those who are older do not change habits easily and do not adapt quickly to new data. Noteworthy here is a fact that is in contrast with the generally accepted view. From the responses gathered revealed that, producers in age 50-60 and 60 <over, consider a significant the collaboration with contract farming bodies. That is, one sector now deploying in Greece. We believe that this has to do with the fact that they take into account the opinion of their family (younger members) and the fact that they have access to information through other producers.

The desire to increase and / or improve production, the increase of knowledge on the subject, the improvement of individual knowledge base, the cost reduction, the outsourcing of peripheral functions and the focusing on key ones ["integrated outsourcing" or "total outsourcing" (Bengtsson, L. & Dabhilkar M, 2009)], the participation in learning networks, etc. are motivated for cooperation producers / actors-KIBS.

Those who are engaged in the research are able to affect the production capacity and the integration of new products and processes. According to Haythornthwaite and Wellman links with research groups, affect the way that information exchange, making them more direct (face to face communication) (Otte E. and Rousseau R., 2002). So we can say that private companies (which possess capital), is able to develop a certain type of technology, providing supplies and tips for specific use of their production. Their collaboration with producers can create a channel of interactions and knowledge (Peterson W., 1997). The same thing happens with the various research institutions and universities.

All these are valid, however, we must bear in mind that the knowledge produced by private companies, is not accessible to the wide public, as opposed to knowledge derived from public bodies such as Universities or Public Laboratories (theoretically at least they are "open" to all). It is now clear that the importance of the survey of the latter is greater, as they are reaching a wider audience, which does not need to pay for access. They also refer to a more specialized audience, this of organic farmers, who due to the non use of agrochemicals, has not the same opportunity to access new knowledge (or they have district access). Here we must highlight that there are private companies that are engaged in organic agriculture but fall in number. Also, we meet other consulting firms, non -profit, which helps in the development of new approaches to

reduce the use of agrochemicals (eg integrated management) and they support inter-disciplinarity (Peterson W., 1997).

The sources of information are varied within networks. Apart from agronomists, public agencies and other relevant to field professionals, there are other ways for information. As we have seen, the networks are affected by work, family / friendly and social organizations ties. Everyone has embedded values and beliefs of all the above, something that affects the criterion of deciding whether or not to adopt new technologies. In 1984, Slade and other researchers, focused on the "head" of the family for taking such decisions. Most modern scholars, however, focus on the wider social environment, because of the change that has occurred in society. So Participation in networks and groups, are among the main factors for the adoption of a technology / innovation. Also, as reported by Ramirez (2010), peers are a key source of information and influence, due to the existence of relations of trust and mouth to mouth transfer experience / knowledge networks. (Ramirez A., 2013)

Internet and special themes magazines are an additional source of information. The development of ICT, has helped in this direction, give access to a multitude of information that previously were not easily accessible or were slow to be transferred to stakeholders. They also provide the opportunity for an opening to new markets and products. From its side, the state helps in this direction. The institutions, are organizing seminars and workshops, there are the Vocational Training Centres (KEK Dimitra), the Agricultural Schools like Aberofios, which can provide information and training to anyone who interested. This situation, indicates a shift in relations with producers, understanding that they must work together to exist development in the field.

As regards organic agriculture we can say that it can use for information all public bodies, the internet, but also to address to some certification bodies who are both public (see Thessagro[10] and Agrocert) and private.

From the results of research that we conducted, is clear that all professional organizations of producers, give importance to cooperation and information from the research/ technology centres, which affect the decision to change. The interpretation of

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[10] It constitutes "Quality Certification protocol and origin of Thessalian agricultural products Thessagro", with the aim to give added value in products. Launched in collaboration of the Region of Thessaly with the Development Company of Larissa Prefecture (AENOL), in order to promote the Thessalian quality products and improve business profitability of agri-food industry. An important addition is the online auction that reveals the contribution of KIBS occupations. (Electronic Platform Agricultural Products of Thessaly, 2014; Larissa Prefecture Development Company S.A. - A.E.NO.L. SA, 2011)

this result is contradictory. Whether the producers and their organizations do not consider that there is contact and communication with the R&D organizations, so the importance of cooperation is low, or an "open" is made from research centres to producers. The latter is considered to be related to the fact that now the importance and role of R&D organizations for the development of the sector is understood. An evident that shows such a development is that those producers participating in producer groups, informed more frequent from service providers. This is associated with an effort to reverse the negative climate that existed for the operation of old cooperatives, the notion that there should be cooperative and not partnership (Kyristis N. and Drosos G, 2014). Also, with this new concept, producers understand the importance of service providers, introducing and effectively exploiting many of their functions in the daily producers programme. An important element is the fact that those who belong to cooperatives are pleased to find needed agronomists. This has to do with the fact that those of the old cooperatives how continue their normal operation, have a network of relationships and interconnections, but also that even the service providers (in this case agronomists) choose the cooperation with cooperatives as a constant value. Finally, the producer groups seem to understand that there is a need for modernization in the field, so affect their members to make changes to their mechanic equipment. This has to do with the change in perception mentioned above, but also with the best information, as producer groups composed mainly of young people.

In our research revealed that the view of the family is important and taken into account by producers (of any age), as it reached the figure of 81.3%. With this in mind, we observe that those who take into account the view of the family, consider that the uncertainty for quantitative yield, as barrier to the introduction of new technologies and methods in the field. Furthermore, the cooperation with agronomists is very important and they based also on their experience and studies to make changes on their farms. They believe that the existing problems in order to implement the advice of service providers is important (in conjunction with the former, it seems they understand the value of service providers and they want to cooperate with them to acquire new knowledge). Also, consider the cooperation with the contract farming bodies very important and are satisfied with the Directorate of Rural Development on cooperation for solving problems using new technologies.

As concerns the existence of capital, those who possess it, consider that they have more direct access to information / knowledge in both the possession and the use of

machinery (machines for sowing, harvesting, processing, etc.). It has been observed that those who have capital are natural "carriers" of knowledge, willingly or unwillingly. Having reduce production and operating costs, producers have understood the value that attach to their production the use of KIBS professionals, so they are willing to pay in order to acquire their services (Fieldsend A. F. & Kerekes K., 2011). Liquidity is an important factor for access to new know-how. Those without capital, seeking alternative financing methods, resulting the influx of economists with more active role, the existence of national or / and European programs, subsidies, etc. (Peterson W., 1997) As a result of the above we can characterize those who have capital as "middlemen" who can reduce the time "approval" of new technology and knowledge, from other producers (insecurity for the adoption of new know-how) and contribute to the wider productivity growth and social prosperity . (Ramirez A., 2013) And collectively, producers who do not have much capital, opting to join networks and groups (cooperatives, producer groups, organic farming programs by state or EU) in order to exploit the advantages offered and analyzed above, but also to operate throughout the production chain. (Selfa T. & Qazi J., 2005)

The reproductive material is an important input for producers. Each seed or seedling has incorporated some features. The so-called "old" seeds were "compatible" and respond better to local conditions. Over the years, however, the introduction of science in the field, those who are responsible for the provision of reproductive material (private companies , universities , technical colleges and centres for improvement) create new data , highlighting differences and particularities (or not) , new varieties appear from outsourcers seeds which have specific commercial characteristics (quantity, quality , durability etc) and they require specific management. (Peterson W., 1997) So, it is clear that the choice for the importation of propagating material, has to do with whether someone has a chapter (experimentation, using new expensive agrochemicals to meet the needs of the plant, if can cleanse himself seed and sells it, etc.), but also whether dealing with organic agriculture (use minimum fertilizers, seed banks, seed from another manufacturer, etc.).

The existence of mechanical equipment is something associated with the existence of capital and liquidity. This is evidenced by the results presented in the previous chapter, as we observe that those with mechanical equipment, more frequent make changes in their holdings. Also, they are informed more frequently from R&D centres and other service providers. This proves that those who have mechanical equipment have

understood the importance of KIBS and is willing to learn, apply and pay to acquire the services offered. It is important to emphasize the fact that those who have equipment consider as important problems those related to uncertainty, but no major problems the high cost of supplies and promoting products to new markets. Moreover, they consider as more important the problems for the cooperation with cooperatives / producer groups and agriculturalists.

4.3 Differences between chemical and biological agriculture

There are differences between conventional, organic and mixed farming. As for the propagating material, cooperation with companies having greater importance for conventional farmers. Instead, organic farmers choose propagating material to come from their own reserved seeds. The responses indicate that the agronomists are accepted by all producers (regardless sector) as regards the material. Also, organic farmers are those who are most affected to make changes to the propagating material, by factors such as family, other farmers, cooperatives/ producer groups, service providers, experience, internet etc. So we understand that the importance of KIBS for them is particularly important as the choice of propagating material defines many of the subsequent steps. The above view is supported by the results showing that problems exist in the area to implement the advice of agronomists, are equally important for both chemical and organic growers. This means that their role as KIBS is important and understood by all. Producers need the knowledge they have. With this in mind for better communication and exploitation of their knowledge, understanding of local conditions, funding, better training for both producers and agronomists etc., should exist.

Another element that shows their importance is that those engaged in the chemical or mixed farming choose agronomists as an information source. That did not choose organic farmers, associated with the fact that there are restrictions on agrochemicals and most producers, agronomists targeted for solution to problems associated with them. So, choose to make themselves its stores, either to order from abroad as there is shortage in the Greek market (Tsiaggalis F., 2014).

Another point that differentiates producers, is that organic producers consider most important producer groups networks and not cooperatives, contrary to conventional farmers. This relates to the fact with the change that occurred to cover the need for new networks. Producer groups as more new forms in the field and utilize networks of cooperatives and new forms as normative or small processing units (vertical integration)

production, selling via the internet, public market, contracting agriculture etc. They identify more with the new terms of consumer for more qualitative food.

After empirical research and data analysis, we observe the existence of partnerships and networks. All those mentioned in the first chapter are part of the production chain (producers, agronomists, services of the Region and the State, research centers, universities and technological institutes, supplies providers, service providers, processors etc).

The findings of the survey are consistent with the literature review. The educational level, the capital, the opinion of family and peers, affect the way that of KIBS are dealing and using. Those who have high educational level are influenced by this to make changes on their farms, it associated with vertical integration of production and with trust to service providers. We observe that a large proportion of our sample has a university education, while there is an equally large percentage with lower education. This suggests a process of evolution and the gap between gennerations, as the latter are older producers (predominantly). The existence of capital strengthens the relationship with research centers and information sources. Also associated with the vertical integration of production.

According to the literature, producers are influenced by the social networks that are members to make decisions, not only from their family. The results showed clearly familys' influence, despite the increased influence of social networks. This shows that the model of the patriarchal family still exists in Greece, but evolves due to the emergence of networks and new professional organizations. Also, our results agree with the literature that age is another characteristic that influences the way that producers treat service providers. Finally, in the framework of social networks, it was found that the professional organization to which a person is, the sources of information and choice provider for material factors are affecting producers in cooperation with KIBS.

Noteworthy is the fact that we had no finding relating to training. The interpretation of this, can have many options. Whether it has to do with the fact that producers do not give much importance to training and cooperation with agronomists (consider it very important) is sufficient, or that there is no information on created training programs (due to reduced activity of primary cooperatives, to age, lack of information).Επίσης εξαρτάται σε μεγάλο βαθμό από το αν οι παραγωγοί ασχολούνται με παλιές καλλιέργειες (πχ σιτάρι, βαμβάκι, κριθάρι κλπ) ή με νέες (πχ αρώνια, ιπποφαές κλπ). It

is assumed that the producers dealing with "old" cultures do not require constant communication with arborist, and either know things by their families, or those who do not have that opportunity (mostly younger) have other sources of information. For the first we can characterize someone as "agronomist in his field", as producers said.

However, the structures for knowledge transfer exist. Seminars and workshops are organized, there are many agronomic schools, research laboratories and agronomists in which someone can addressed. Here we observe differences between producers with different ages, educational levels, from different professional organizations, etc. The new cooperatives and producer groups have internal "training" for their members (seminars and workshops) and cooperation with agronomists and other service providers. (Kyristis N. and Drosos G, 2014). Differences also observed, between organic and chemical producers. Organic farmers Thessaly work together with Thessalys' Technical Institution, to combine empirical with new knowledge and to create supplies, as they manufacture their own many of those who need. (Tsiaggalis F., 2014).

5. Concluding remarks

Specialization, globalization of trade and the growing needs led to the fragmentation of work. Also, "knowledge economy" led to the development of knowledge-intensive services. The term "knowledge economy" is going into all sectors of the economy as the role of knowledge has been recognized. So, the literature lays strong emphasis on networks and on the diffusion of knowledge, with development as the ultimate aim.

The primary sector considered as labour intensive, but at the same time, is a pillar of the European Union since the beginning of its existence, thus it could not be a part of this change. Here too, are growing needs for production, the rising costs and the need for greater added value in the field, made imperative the establishment of rural service providers and network partnerships, aiming at the diffusion of knowledge and new technologies. The change in consumer behavior towards quality products and the shift of producers from the industrial model to an alternative for greater quality and added value to their products, contribute also, to the creation of service providers. From their side, the networks developed are complex, with many interfaces and service providers are an important piece of the.

Considering the above, the bloom of KIBS and the contribution of knowledge networks, we wanted to investigate the existence and structure of partnerships and knowledge networks in Thessaly, as it is the largest plain in Greece.

The findings of the literature review, agree with those obtained from the field reaserch, as concerns the existence of partnerships and knowledge networks. Everyday, producers cooperate with other producers, with supplies providers, with public bodies and knowledge-intensive services (all of the three forms that we defined in the introduction) to more or less extent. The same applies for all service providers. The cooperation of each producer with the above, is associated with their level of education, age, social networks that is part, the chapter that he posses. All are interrelated and affect the perception and use of KIBS. The literature and empirical results show us that the more educated someone is, the greater absorptive capacity he has. Also, the more capital has, the easier is the access to information, more easily he experiment (whether in a new machine, a new production method, or a new culture) and eventually becomes the bearer of new technologies and knowledge, made them easier to implement from other producers. This is because the latter, will not have the uncertainty about the performance of new knowledge or methods. From the results of the questionnaire, there

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is a clear relationship between the existence of capital and level of education with the vertical integration of production and, by extension, the use of more professions KIBS (eg graphic designers, consultants, marketers etc).

The knowledge networks that grow, are directly related to the above. The members of each network have a knowledge base, which is influenced by the social networks to which they belong. The more knowledge and information has everyone individually, the more enriched the producers group or cooperatives' knowledge networks. Here we observe the existence of new forms of cooperation with outcome, the emergence of new knowledge networks. Producers mainly cooperate with agronomists, the Directorate of Rural Development and supplies providers. Through cooperatives and producer groups, which are trying to operate differently from the "old cooperatives" and adapt to new developments and demands of both producers and consumers, an effort become in order to inform and educate their members. Moreover, for more direct contact with research laboratories in order to reduce costs and exploit economies of scale that generated. Of course, everyone has an agronomist to which collaborates, but the degree of cooperation varies due to the different characteristics of each producer mentioned earlier.

Strive for education and training, also become from government agencies such as the CPC Dimitra, through the organization of seminars and training courses. Also, there are rural schools (eg Averofios Agricultural School) where classes take place, as well as University and Technological Schools. The literature states that the cooperation with research institutions is essential for the sector. But from our empirical research, the producers and their organizations, not seems to cooperate with them. Here we must emphasize that there are differences. Research centers and schools, which operate both as sources and as producers of knowledge, targeted more at younger producers who want to study on the subject or to those who understand their role. Older producers addressed and trust, the knowledge and activities of cooperatives or producer groups. The close cooperation and confidence in cooperatives, is also clear from the answers of the questionnaires, but simultaneously, producers are asked for them to solve problems such as lack of information, financing, bureaucracy and reduce uncertainty. All these can be done through better use of KIBS services.

From the empirical research shows, that there <u>are differences between the use of KIBS from conventional and organic farming</u>. Organic farmers choose their propagating material mainly from their own reserved seeds, create their own network to exchange information and experiences, informed by other producers and the internet. Their

collaboration with research bodies and agronomists are more important as they need their knowledge, to prepare the needed supplies. In contrast, conventional producers choose companies as providers of propagating material and cooperate with agronomists to respond to arising problems.

Therefore, we understand, that the structures for dissemination of knowledge there exist. But the contracting parties and service providers, do not cooperate as much as they could, to make the best extent the advantages of such cooperation and to add value to products.

As regards the question we set for leveraging KIBS to bring added value to the sector, the literature mentions education as a driver. Producers with a good level of education, are the ones who will motivate others, will become agents of new methods, technologies and knowledge. Eventually, they will give boost to service providers, to be vigilant and not be passive recipients of knowledge. Contrary to become co-producers of knowledge and innovation in collaboration with producers. This can be understood also from the survey results, as those who are educated, cooperate with more service providers, tap into the growth of ICT in order to to inform, be aware of the new developments. Also their activity expanded in sectors such as manufacturing and standardization. Moreover, outsourcing is one of the major drivers of growth of KIBS. Processing activities, standardization, product design associated with. Furthermore the use of laboratories for soil analyzes and the use of knowledge agronomists, biologists, chemical engineers, geneticists for products with specific quality characteristics, are activities that enhance the use of ICT can help in the development of knowledge-intensive services.

In conclusion we could say that there are knowledge networks and partnerships in the primary sector and particular in Thessaly. Their characteristics vary depending on age, experience, educational level, capital and the use of KIBS (which is affected by the above). There are all interrelated. With the change that occurs to the producers, their organizations and the state apparatus, we could say that the introduction of new educated people are the beginning to enable sectors' evolution. The change in mindset, the exploitation of relationships which developed in networks, the effective cooperation of producers and services which are responsible for the sector, research institutions and the education and the continuous training of the workforce are the first steps that must be made.

Further research

The development of the primary sector is a subject that contains many different suggestions and theories. In future analysis, In future analysis, the theory and contribution of Triple Helix model could examine, as well as the regional innovation systems and cluster (eg food cluster Iceland) in rural areas that have been successful examples.

In terms of empirical research, could be extended to the whole region of Thessaly in order to be able to make comparisons among cooperation and knowledge networks. Also, data collection and views of the bodies associated with the production chain, could provide data and make more comprehensive the picture derived from the existing research.

Appendix 1

First factor
Increased cost of supplies
Lack suppliers biological supplies
Lack of information on alternative sources of propagating material
Lack of information about new cultures (change from one culture to another)
Lack of information about organic farming
Lack of liquidity
Lack of funding
Small production
Lack of specialized workshops nearby
Distance from providing technical and advisory services
Lack of certification companies
Lack of standards certification
Difficult access to markets
Lack of information on markets
Lack of knowledge for promoting products to new markets
Lack of training structures
lack of buyers
Lack of knowledge about export
Difficulty finding specialists for new cultures
Difficulty finding specialists for new methods
Difficulty finding specialists for processing
Difficulty finding specialists for standardization
Difficulty finding qualified partners for marketing / brand
Difficulty finding specialists for packaging
Difficulty finding qualified partners for exports
Difficulty cooperation with other farmers
Difficulty joint initiatives with colleagues
Difficulty for joint investment with colleagues

Second factor
Increased cost of supplies
Hybridization culture
Lack of information structures

Third factor
High initial investment cost for launch
Increased cost of cultivation
Change of mechanical equipment
Uncertainty values
Uncertainty applicable regulations and legislation
Bureaucracy
Delays in the mechanisms of financing and control

Appendix 2
ANOVA Tables

- **Table 1: Anova table for Propagating material**

Dependent Variable	(I) sector	(J) sector	Mean Difference (I-J)	Std. Error	Sig.
Promithiaetairies	chemical	chemical			
		biological	1,12319[*]	,34411	,006
		mixed	1,45652	,62511	,069
	biological	chemical	-1,12319[*]	,34411	,006
		biological			
		mixed	,33333	,69037	,890
	mixed	chemical	-1,45652	,62511	,069
		biological	-,33333	,69037	,890
		mixed			
choice of propagating material of yours reserved seeds from previous crops	chemical	chemical			
		biological	1,17457[*]	,35217	,005
		mixed	-1,34058	,63975	,115
	biological	chemical	-1,17457[*]	,35217	,005
		biological			
		mixed	-2,51515[*]	,70654	,002
	mixed	chemical	1,34058	,63975	,115
		biological	2,51515[*]	,70654	,002
		mixed			

			N	Mean	Std. Deviation
promithiaetairies		chemical	138	3,1232	1,46219
		biological	22	2,0000	1,69031
		mixed	6	1,6667	1,63299
		Total	166	2,9217	1,55696
choice of propagating material of yours reserved seeds from previous crops		chemical	138	2,9928	1,60518
		biological	22	1,8182	1,05272
		mixed	6	4,3333	1,21106
		Total	166	2,8855	1,60081

		df	F
promithiaetairies	Between Groups	2	7,509
	Within Groups	163	
	Total	165	

choice of propagating material of yours reserved seeds from previous crops	Between Groups	2	8,334
	Within Groups	163	
	Total	165	

- **Table 2: Anova Tables for Distribution Networks**

Dependent Variable	(I) sector	(J) sector	Mean Difference (I-J)	Std. Error	Sig.
how important is the cooperatives distribution networks	Chemical	chemical			
		biological	1,32082[*]	,30453	,000
		mixed	1,10870	,55320	,138
	Biological	chemical	-1,32082[*]	,30453	,000
		biological			
		mixed	-,21212	,61095	,942
	mixed	chemical	-1,10870	,55320	,138
		biological	,21212	,61095	,942
		mixed			
how important is the producer group distribution networks	Chemical	chemical			
		biological	1,00104[*]	,31136	,007
		mixed	2,23913[*]	,55435	,000
	Biological	chemical	-1,00104[*]	,31136	,007
		biological			
		mixed	1,23810	,61534	,135
	mixed	chemical	-2,23913[*]	,55435	,000
		biological	-1,23810	,61534	,135
		mixed			

		N	Mean	Std. Deviation	Std. Error
how important is the cooperatives distribution networks	chemical	138	3,7754	1,35635	,11546
	biological	22	2,4545	1,18431	,25250
	mixed	6	2,6667	1,03280	,42164
	Total	166	3,5602	1,40324	,10891
how important is the producer group distribution networks	chemical	138	3,5725	1,31186	,11167
	biological	21	2,5714	1,53530	,33503
	mixed	6	1,3333	,81650	,33333
	Total	165	3,3636	1,41891	,11046

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		df	F
how important is the cooperatives distribution networks	Between Groups	2	10,818
	Within Groups	163	
	Total	165	
how important is the producer group distribution networks	Between Groups	2	12,431
	Within Groups	162	
	Total	164	

- **Table 3: Anova Tables for Sector**

		N	Mean	Std. Deviation
how important are the following to implement the advice of cooperatives	chemical	138	3,2387	,87627
	biological	21	2,1714	,88777
	mixed	6	2,6833	,16021
	Total	165	3,0827	,93326
how important are the following to implement the advice of agronomists	chemical	138	3,2049	,98693
	biological	22	2,3131	,91858
	mixed	6	2,0000	,07027
	Total	166	3,0432	1,02410
importance of cooperation with agronomists to provide propagating material	chemical	138	3,7609	1,25886
	biological	22	2,6364	1,43246
	mixed	6	1,5000	1,22474
	Total	166	3,5301	1,38684
how satisfied are you with the Directorate of Rural Development whether aware of local circumstances	chemical	138	2,4783	,89783
	biological	22	2,2727	,82703
	mixed	6	1,1667	,40825
	Total	166	2,4036	,90774
how influenced you the following to decide to make changes in material	chemical	138	2,3207	,65118
	biological	21	1,7083	,70858
	mixed	6	1,5833	,56826
	Total	165	2,2159	,69438
	Total	166	2,2726	,73561

	df	F

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how important are the following to implement the advice of cooperatives	Between Groups	2	14,552
	Within Groups	162	
	Total	164	
how important are the following to implement the advice of agronomists	Between Groups	2	11,786
	Within Groups	163	
	Total	165	
importance of cooperation with agronomists to provide propagating material	Between Groups	2	15,116
	Within Groups	163	
	Total	165	
how satisfied are you with the Directorate of Rural Development whether aware of local circumstances	Between Groups	2	6,699
	Within Groups	163	
	Total	165	
how influenced you the following to decide to make changes in material	Between Groups	2	10,830
	Within Groups	162	
	Total	164	

Dependent Variable	(I) sector	(J) sector	Sig.
how important are the following to implement the advice of cooperatives	chemical	chemical	
		biological	,000
		mixed	,308
	biological	chemical	,000
		biological	
		mixed	,443
	mixed	chemical	,308
		biological	,443
		mixed	
how important are the following to implement the advice of agronomists	chemical	chemical	
		biological	,000
		mixed	,013
	biological	chemical	,000
		biological	
		mixed	,780
	mixed	chemical	,013
		biological	,780

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		mixed	
importance of cooperation with agronomists to provide propagating material	chemical	chemical	
		biological	,001
		mixed	,000
	biological	chemical	,001
		biological	
		mixed	,160
	mixed	chemical	,000
		biological	,160
		mixed	
how satisfied are you with the Directorate of Rural Development whether aware of local circumstances	chemical	chemical	
		biological	,596
		mixed	,002
	biological	chemical	,596
		biological	
		mixed	,026
	mixed	chemical	,002
		biological	,026
		mixed	
how influenced you the following to decide to make changes in material	chemical	chemical	
		biological	,001
		mixed	,029
	biological	chemical	,001
		biological	
		mixed	,919
	mixed	chemical	,029
		biological	,919
		mixed	

- **Table 4: Anova Tables for Age**

Dependent Variable	(I) age	(J) age	Mean Difference (I-J)	Std. Error	Sig.
how important are the following to implement the advice / suggestions from the R&D centers	20-30	20-30			
		30-40	,16519	,24573	,978
		40-50	-,36950	,24401	,682
		50-60	-,47857	,26911	,533
		60<over	-1,21111[*]	,30021	,004
	30-40	20-30	-,16519	,24573	,978
		30-40			
		40-50	-,53469	,19700	,124

		50-60	-,64376	,22736	,097
		60<over	-1,37630*	,26343	,000
	60<over	20-30	1,21111*	,30021	,004
		30-40	1,37630*	,26343	,000
		40-50	,84161*	,26182	,039
		50-60	,73254	,28537	,165
		60<over			
how important are the following to implement the advice / suggestions from cooperatives	20-30 40-50	20-30			
		20-30	-,53295	,21849	,208
		30-40	-,24974	,18703	,775
		40-50			
		50-60	-,27279	,21333	,802
		60<over	-,92984*	,24819	,009
	60<over	20-30	,39689	,27612	,724
		30-40	,68011	,25196	,127
		40-50	,92984*	,24819	,009
		50-60	,65705	,27205	,217
		60<over			
how often informed by cooperatives / producer groups	20-30	20-30			
		30-40	,20366	,22866	,939
		40-50	,36382	,22333	,618
		50-60	,34667	,25068	,752
		60<over	1,10337*	,28223	,005
	60<over	20-30	-1,10337*	,28223	,005
		30-40	-,89971*	,25840	,019
		40-50	-,73954	,25369	,080
		50-60	-,75670	,27807	,122
		60<over			
how often informed by agronomists	20-30	20-30			
		30-40	,83322*	,24746	,026
		40-50	,61275	,24373	,182
		50-60	,91861*	,27359	,027
		60<over	1,29460*	,30802	,002
	60<over	20-30	-1,29460*	,30802	,002

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			Mean Diff	Std. Error	Sig.
	r	30-40	-,46139	,28015	,608
		40-50	-,68186	,27687	,200
		50-60	-,37599	,30348	,820
		60<over			
how affected by your studies to make changes	20-30	20-30			
		30-40	,72970	,32218	,279
		40-50	1,16111*	,31732	,012
		50-60	1,03228	,35619	,083
		60<over	1,77600*	,40101	,001
	60<over	20-30	-1,77600*	,40101	,001
		30-40	-1,04630	,36474	,089
		40-50	-,61489	,36046	,574
		50-60	-,74372	,39511	,474
		60<over			
how affected by the internet to make changes	20-30	20-30			
	30-40	20-30	,09573	,24268	,997
		30-40			
		40-50	,33356	,20340	,612
		50-60	,93433*	,23712	,005
		60<over	,92407*	,27474	,027
	50-60	20-30	-,83860*	,26831	,049
		30-40	-,93433*	,23712	,005
		40-50	-,60077	,23338	,163
		50-60			
		60<over	-,01025	,29762	1,000
how important are the following to implement the advice / suggestions from service providers	20-30	20-30			
	30-40	20-30	-,81283*	,23954	,025
		30-40			
		40-50	-,25815	,19962	,795
		50-60	-,51006	,23122	,306
		60<over	-,99021*	,26760	,010
	60<over	20-30	,17738	,29565	,985
		30-40	,99021*	,26760	,010
		40-50	,73206	,26434	,110
		50-60	,48016	,28895	,600

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		60<over			
how important is cooperation with other producers to provide propagating material	20-30	20-30			
	40-50	20-30	-,74176	,26561	,105
		30-40	-,56825	,22602	,182
		40-50			
		50-60	-,71429	,25934	,114
		60<over	-1,13492*	,30172	,009
	60<over	20-30	,39316	,33566	,849
		30-40	,56667	,30530	,489
		40-50	1,13492*	,30172	,009
		50-60	,42063	,33072	,805
		60<over			
how important is cooperation with contract farming bodies to reduce risk and uncertainty	20-30	20-30			
		30-40	,86111	,52000	,604
		40-50	1,35000	,52473	,168
		50-60	2,15000*	,54040	,005
		60<over	2,38636*	,60025	,005
	50-60	20-30	-2,15000*	,54040	,005
		30-40	-1,28889*	,38111	,028
		40-50	-,80000	,38754	,379
		50-60			
		60<over	,23636	,48491	,993
	60<over	20-30	-2,38636*	,60025	,005
		30-40	-1,52525*	,46207	,035
		40-50	-1,03636	,46739	,305
		50-60	-,23636	,48491	,993
		60<over			
how satisfied are you with the agronomists	20-30	20-30			
		30-40	1,11637*	,22505	,000
		40-50	,74877*	,22166	,026
		50-60	,75110	,24881	,063
		60<over	1,01538*	,28012	,013
	30-40	20-30	-1,11637*	,22505	,000
		30-40			

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		40-50	-,36760	,18863	,437
		50-60	-,36527	,21990	,600
		60<over	-,10099	,25478	,997
how satisfied are you with the other service providers	20-30	20-30			
	60<over	20-30	-,46616	,21263	,312
		30-40	-,73737*	,19145	,007
		40-50	-,57107	,18959	,064
		50-60	-,39214	,20602	,462
		60<over			
how your studies influenced you to change propagating material	20-30	20-30			
		30-40	1,01453	,34149	,071
		40-50	1,33516*	,33634	,004
		50-60	1,15659	,37754	,057
		60<over	1,83937*	,43237	,002
	40-50	20-30	-1,33516*	,33634	,004
		30-40	-,32063	,28622	,868
		40-50			
		50-60	-,17857	,32840	,990
		60<over	,50420	,39020	,796
	60<over	20-30	-1,83937*	,43237	,002
		30-40	-,82484	,39464	,362
		40-50	-,50420	,39020	,796
		50-60	-,68277	,42623	,634
		60<over			
how important are the problems of factor 3	20-30	20-30			
		30-40	-,61004	,21899	,106
		40-50	-,84617*	,21570	,005
		50-60	-,92685*	,24212	,007
		60<over	-,82416	,27258	,062
	40-50	20-30	,84617*	,21570	,005
		30-40	,23613	,18355	,799
		40-50			
		50-60	-,08068	,21060	,997
		60<over	,02201	,24502	1,000

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	50-60	20-30	,92685[*]	,24212	,007
		30-40	,31682	,21398	,701
		40-50	,08068	,21060	,997
		50-60			
		60<over	,10269	,26857	,997

how important is cooperation with agronomists to provide propagating material	20-30	20-30			
		30-40	1,27949[*]	,32544	,005
		40-50	,52983	,32054	,605
		50-60	1,23901[*]	,35980	,021
		60<over	,95726	,40507	,238
	30-40	20-30	-1,27949[*]	,32544	,005
		30-40			
		40-50	-,74966	,27277	,115
		50-60	-,04048	,31799	1,000
		60<over	-,32222	,36843	,943

how satisfied are you with cooperatives	20-30	20-30			
		30-40	,35071	,20780	,585
		40-50	,43617	,20295	,333
		50-60	,55095	,22781	,216
		60<over	1,03147[*]	,25648	,004
	60<over	20-30	-1,03147[*]	,25648	,004
		30-40	-,68076	,23482	,083
		40-50	-,59530	,23054	,160
		50-60	-,48052	,25270	,463
		60<over			

how the following factors influenced you to change farming practices	20-30	20-30			
		30-40	-,46667	,23499	,417
		40-50	-,91837[*]	,23145	,004
		50-60	-,42857	,25981	,607
		60<over	-,88889	,29250	,060
	40-50	20-30	,91837[*]	,23145	,004
		30-40	,45170	,19696	,267
		40-50			
		50-60	,48980	,22599	,324

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60<over	,02948	,26292	1,000

		N	Mean	Std. Deviation	Std. Error
how important are the following to implement the advice / suggestions from the R&D centers	20-30	22	3,0000	,89176	,19012
	30-40	45	2,8348	,98193	,14638
	40-50	47	3,3695	1,01216	,14764
	50-60	28	3,4786	,97766	,18476
	60<over	18	4,2111	,60575	,14278
	Total	160	3,2821	1,02185	,08078
how important are the following to implement the advice / suggestions from cooperatives	20-30	26	3,3173	,63477	,12449
	30-40	44	3,0341	,66295	,09994
	40-50	49	2,7844	,80748	,11535
	50-60	28	3,0571	1,04187	,19690
	60<over	18	3,7142	1,53718	,36232
	Total	165	3,0827	,93326	,07265
how often informed by cooperatives / producer groups	20-30	26	2,7909	,73992	,14511
	30-40	43	2,5872	,98247	,14982
	40-50	49	2,4270	,87144	,12449
	50-60	28	2,4442	1,01055	,19098
	60<over	18	1,6875	,98378	,23188
	Total	164	2,4485	,95618	,07466
how often informed by agronomists	20-30	26	3,4543	,92762	,18192
	30-40	45	2,6211	1,00834	,15031
	40-50	49	2,8416	,97547	,13935
	50-60	28	2,5357	1,05566	,19950
	60<over	18	2,1597	1,09692	,25855
	Total	166	2,7523	1,05624	,08198
how affected by your studies to make changes	20-30	26	3,2019	1,45089	,28454
	30-40	45	2,4722	1,35179	,20151
	40-50	49	2,0408	1,26691	,18099
	50-60	28	2,1696	1,35751	,25655
	60<over	18	1,4259	,95653	,22546
	Total	166	2,2947	1,38254	,10731
how affected by the internet to make changes	20-30	26	2,8654	1,18159	,23173
	30-40	45	2,9611	,72878	,10864
	40-50	49	2,6276	,95895	,13699
	50-60	28	2,0268	1,14935	,21721

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	60<over	18	2,0370	1,03383	,24368
	Total	166	2,5899	1,04120	,08081
how important are the problems of factor 3	20-30	26	2,4699	,90408	,17731
	30-40	45	3,0800	,82351	,12276
	40-50	49	3,3161	,92903	,13272
	50-60	28	3,3968	,65082	,12299
	60<over	18	3,2941	1,19063	,28063
	Total	166	3,1308	,93047	,07222
how important are the following to implement the advice / suggestions from service providers	20-30	25	3,6560	,91195	,18239
	30-40	44	2,8431	,93556	,14104
	40-50	48	3,1013	1,04650	,15105
	50-60	28	3,3532	,88220	,16672
	60<over	18	3,8333	,92197	,21731
	Total	163	3,2408	1,00434	,07867
how important is cooperation with agronomists to provide propagating material	20-30	26	4,3462	,84580	,16588
	30-40	45	3,0667	1,25045	,18641
	40-50	49	3,8163	1,40940	,20134
	50-60	28	3,1071	1,39680	,26397
	60<over	18	3,3889	1,64992	,38889
	Total	166	3,5301	1,38684	,10764
how important is cooperation with other producers to provide propagating material	20-30	26	2,8846	1,03255	,20250
	30-40	45	2,7111	1,21771	,18153
	40-50	49	2,1429	1,06066	,15152
	50-60	28	2,8571	1,26825	,23968
	60<over	18	3,2778	,46089	,10863
	Total	166	2,6566	1,14264	,08869
how important is cooperation with contract farming bodies to reduce risk and uncertainty	20-30	8	3,7500	1,38873	,49099
	30-40	27	2,8889	1,64862	,31728
	40-50	25	2,4000	1,41421	,28284
	50-60	20	1,6000	,68056	,15218
	60<over	11	1,3636	,50452	,15212
	Total	91	2,3626	1,44926	,15192
how satisfied are you with the agronomists	20-30	26	3,7154	,86611	,16986
	30-40	45	2,5990	,89049	,13275
	40-50	49	2,9666	1,06227	,15175
	50-60	28	2,9643	,66734	,12612
	60<over	18	2,7000	,92482	,21798
	Total	166	2,9549	,97324	,07554
how satisfied are you with cooperatives	20-30	26	2,9406	,68015	,13339
	30-40	43	2,5899	,82688	,12610
	40-50	49	2,5044	,86277	,12325

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	50-60	28	2,3896	,99489	,18802
	60<over	18	1,9091	,70762	,16679
	Total	164	2,5110	,86956	,06790
how satisfied are you with the other service providers	20-30	24	1,7591	1,01059	,20629
	30-40	43	2,0303	,62524	,09535
	40-50	46	1,8640	,63921	,09425
	50-60	28	1,6851	,63346	,11971
	60<over	18	1,2929	,38260	,09018
	Total	159	1,7970	,70766	,05612
how the following factors influenced you to change farming practices	20-30	26	2,0000	1,00995	,19807
	30-40	45	2,4667	,82158	,12247
	40-50	49	2,9184	1,14267	,16324
	50-60	28	2,4286	,67651	,12785
	60<over	18	2,8889	,97853	,23064
	Total	166	2,5663	,99627	,07733
how your studies influenced you to change propagating material	20-30	26	3,1923	1,57529	,30894
	30-40	45	2,1778	1,36995	,20422
	40-50	49	1,8571	1,39940	,19991
	50-60	28	2,0357	1,40059	,26469
	60<over	17	1,3529	,99632	,24164
	Total	165	2,1333	1,46310	,11390

		df	F	Sig.
how important are the following to implement the advice / suggestions from the R&D centers	Between Groups	4	7,770	,000
	Within Groups	155		
	Total	159		
how important are the following to implement the advice / suggestions from cooperatives	Between Groups	4	4,036	,004
	Within Groups	160		
	Total	164		
how often informed by cooperatives / producer groups	Between Groups	4	4,226	,003
	Within Groups	159		
	Total	163		
how often informed by agronomists	Between Groups	4	5,354	,000
	Within Groups	161		
	Total	165		
how affected by your studies to make changes	Between Groups	4	5,846	,000

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		df	F	Sig.
	Within Groups	161		
	Total	165		
how affected by the internet to make changes	Between Groups	4	5,828	,000
	Within Groups	161		
	Total	165		
how important are the problems of factor 3	Between Groups	4	4,940	,001
	Within Groups	161		
	Total	165		
how important are the following to implement the advice / suggestions from service providers	Between Groups	4	5,158	,001
	Within Groups	158		
	Total	162		
how important is cooperation with agronomists to provide propagating material	Between Groups	4	5,209	,001
	Within Groups	161		
	Total	165		
how important is cooperation with other producers to provide propagating material	Between Groups	4	4,692	,001
	Within Groups	161		
	Total	165		
how important is cooperation with contract farming bodies to reduce risk and uncertainty	Between Groups	4	6,820	,000
	Within Groups	86		
	Total	90		
how satisfied are you with the agronomists	Between Groups	4	6,564	,000
	Within Groups	161		
	Total	165		
how satisfied are you with cooperatives	Between Groups	4	4,288	,003
	Within Groups	159		
	Total	163		
how satisfied are you with the other service providers	Between Groups	4	4,035	,004
	Within Groups	154		
	Total	158		
how the following factors influenced you to change farming practices	Between Groups	4	4,743	,001
	Within Groups	161		

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	Total	165		
how your studies influenced you to change propagating material	Between Groups	4	5,673	,000
	Within Groups	160		
	Total	164		

- **Table 5: Anova Tables for Legal form**

Dependent Variable	(I) legal	(J) legal	Mean Difference (I-J)	Std. Error	Sig.
how important are the problems of factor 2	individual	individual			
		General partnership / Limited partnership	1,10220*	,32495	,004
		family business	,16587	,14185	,506
	General partnership / Limited partnership	individual	-1,10220*	,32495	,004
		General partnership / Limited partnership			
		family business	-,93633*	,31702	,014
what are the obstacles to the implementation of new technologies and methods in the field	individual	individual			
		General partnership / Limited partnership	,98664*	,28485	,003
		family business	,00392	,12435	1,000
	General partnership / Limited partnership	individual	-,98664*	,28485	,003
		General partnership / Limited partnership			
		family business	-,98271*	,27790	,002
	family business	individual	-,00392	,12435	1,000
		General partnership / Limited partnership	,98271*	,27790	,002

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		N	Mean	Std. Deviation	Std. Error
how important are the problems of factor 2	individual	59	4,0129	,75291	,09802
	General partnership/ Limited partnership	8	2,9107	,91294	,32277
	family business	99	3,8470	,91774	,09224
	Total	166	3,8609	,88715	,06886
what are the obstacles to the implementation of new technologies and methods in the field	individual	59	3,6597	,72726	,09468
	General partnership/ Limited partnership	8	2,6731	,68278	,24140
	family business	99	3,6558	,77746	,07814
	Total	166	3,6098	,78064	,06059

		df	F	Sig.
how important are the problems of factor 2	Between Groups	2	5,784	,004
	Within Groups	163		
	Total	165		
what are the obstacles to the implementation of new technologies and methods in the field	Between Groups	2	6,452	,002
	Within Groups	163		
	Total	165		

- **Table 6: Anova Tables for Processing**

Dependent Variable	(I)process	(J))process	Mean Difference (I-J)	Std. Error	Sig.
how important are the following to implement the advice / suggestions from cooperatives	own facilities	own facilities			
		private facilities	-,24697	,31522	,737
		cooperative facilities	-1,45152[*]	,36399	,001
	private facilities	own facilities	,24697	,31522	,737
		private facilities			
		cooperative facilities	-1,20455[*]	,31522	,002

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	cooperative facilities	own facilities	1,45152*	,36399	,001
		private facilities	1,20455*	,31522	,002
		cooperative facilities			
how important is cooperation with cooperatives	own facilities	own facilities			
		private facilities	-1,06085*	,40226	,040
		cooperative facilities	-1,75630*	,46789	,002
	cooperative facilities	own facilities	1,75630*	,46789	,002
		private facilities	,69545	,41392	,255
		cooperative facilities			
how often do you informed by agronomists	own facilities	own facilities			
		private facilities	-,94167*	,35343	,038
		cooperative facilities	-1,84508*	,41109	,000
	cooperative facilities	own facilities	1,84508*	,41109	,000
		private facilities	,90341	,36367	,056
		cooperative facilities			
how important are the following for the implementation of advice / suggestions from agronomists	own facilities	own facilities			
		private facilities	-,07071	,30636	,974
		cooperative facilities	-1,25253*	,35635	,004
	private facilities	own facilities	,07071	,30636	,974
		private facilities			
		cooperative facilities	-1,18182*	,31524	,002
	cooperative facilities	own facilities	1,25253*	,35635	,004
		private facilities	1,18182*	,31524	,002
		cooperative facilities			
how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists	own facilities	own facilities			
		private facilities	-,29545	,39111	,753
		cooperative facilities	-2,02273*	,45493	,000
	private facilities	own facilities	,29545	,39111	,753
		private facilities			
		cooperative facilities	-1,72727*	,40245	,000
	cooperative facilities	own facilities	2,02273*	,45493	,000
		private facilities	1,72727*	,40245	,000
		cooperative facilities			
how important are the following to implement the advice / suggestions from the service providers	own facilities	own facilities			
		private facilities	-1,65888*	,36976	,000
		cooperative facilities	-1,04777	,43009	,062
	private facilities	own facilities	1,65888*	,36976	,000
		private facilities			
		cooperative facilities	,61111	,38048	,286
how important is cooperation with other	own facilities	own facilities			
		private facilities	-,56397	,28661	,157

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producers to provide propagating material	cooperative facilities			
	cooperative facilities	-1,45286[*]	,33337	,000
	own facilities	1,45286[*]	,33337	,000
	private facilities	,88889[*]	,29492	,016
	cooperative facilities			
how important is cooperation with agronomists to provide propagating material	own facilities			
	own facilities			
	private facilities	-,43939	,35115	,464
	cooperative facilities	-1,43939[*]	,40844	,004
	own facilities	1,43939[*]	,40844	,004
	private facilities	1,00000[*]	,36133	,030
	cooperative facilities			

		N	Mean	Std. Deviation	Std. Error
how important are the following to implement the advice / suggestions from cooperatives	own facilities	11	2,2121	,53457	,16118
	private facilities	22	2,4591	,87704	,18699
	cooperative facilities	11	3,6636	1,04237	,31429
	Total	44	2,6985	1,01140	,15247
how important is cooperation with cooperatives	own facilities	12	1,9482	1,20581	,34809
	private facilities	22	3,0091	1,10966	,23658
	cooperative facilities	11	3,7045	1,04486	,31504
	Total	45	2,8962	1,27048	,18939
how often do you informed by agronomists	own facilities	12	1,9583	,44541	,12858
	private facilities	22	2,9000	1,13831	,24269
	cooperative facilities	11	3,8034	1,06498	,32110
	Total	45	2,8697	1,17078	,17453
how important are the following for the implementation of advice / suggestions from agronomists	own facilities	12	2,2222	,69146	,19961
	private facilities	22	2,2929	,76177	,16241
	cooperative facilities	11	3,4747	1,14729	,34592
	Total	45	2,5630	,98570	,14694
how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists	own facilities	12	2,2500	,96531	,27866
	private facilities	22	2,5455	1,10096	,23473
	cooperative facilities	11	4,2727	1,19087	,35906
	Total	45	2,8889	1,33523	,19904
how important are the following to implement the advice / suggestions from the service providers	own facilities	12	1,9421	,77953	,22503
	private facilities	22	3,6010	,92877	,19802
	cooperative facilities	11	2,9899	1,40673	,42415
	Total	45	3,0093	1,22439	,18252
how important is cooperation with other	own facilities	12	2,2593	,93873	,27099
	private facilities	22	2,8232	,76051	,16214

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producers to provide propagating material	cooperative facilities	11	3,7121	,70353	,21212
	Total	45	2,8901	,94262	,14052
how important is cooperation with agronomists to provide propagating material	own facilities	12	1,8333	1,26730	,36584
	private facilities	22	2,2727	,82703	,17632
	cooperative facilities	11	3,2727	,90453	,27273
	Total	45	2,4000	1,09545	,16330

		df	F	Sig.
how important are the following to implement the advice / suggestions from cooperatives	Between Groups	2	9,681	,000
	Within Groups	41		
	Total	43		
how important is cooperation with cooperatives	Between Groups	2	7,263	,002
	Within Groups	42		
	Total	44		
how often do you informed by agronomists	Between Groups	2	10,093	,000
	Within Groups	42		
	Total	44		
how important are the following for the implementation of advice / suggestions from agronomists	Between Groups	2	8,331	,001
	Within Groups	42		
	Total	44		
how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists	Between Groups	2	12,022	,000
	Within Groups	42		
	Total	44		
how important are the following to implement the advice / suggestions from the service providers	Between Groups	2	10,066	,000
	Within Groups	42		
	Total	44		
how important is cooperation with other producers to provide propagating material	Between Groups	2	9,647	,000
	Within Groups	42		
	Total	44		

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how important is	Between	2	6,574	,003
cooperation with	Groups			
agronomists to provide	Within Groups	42		
propagating material	Total	44		

- **Table 7: Anova Tables for Stadarization**

Dependent Variable	(I)stadarization	(J) stadarization	Mean Difference (I-J)	Std. Error	Sig.
how important are the following to implementation advice / suggestions from cooperatives	own facilities	own facilities			
		private facilities	,42222	,40668	,589
		egkatatsaseis synetairismoy	-1,01307*	,34501	,022
	private facilities	own facilities	-,42222	,40668	,589
		private facilities			
		egkatatsaseis synetairismoy	-1,43529*	,35883	,002
	egkatatsaseis synetairismoy	own facilities	1,01307*	,34501	,022
		private facilities	1,43529*	,35883	,002
		egkatatsaseis synetairismoy			
how important is cooperation with cooperatives	own facilities	own facilities			
		private facilities	-,73375	,48403	,330
		egkatatsaseis synetairismoy	-1,44588*	,40667	,005
	egkatatsaseis synetairismoy	own facilities	1,44588*	,40667	,005
		private facilities	,71213	,43750	,280
		egkatatsaseis synetairismoy			
how often do you informed by cooperatives / producer groups	own facilities	own facilities			
		private facilities	1,06250	,44412	,073
		egkatatsaseis synetairismoy	-,33376	,38083	,684
	private facilities	own facilities	-1,06250	,44412	,073
		private facilities			
		egkatatsaseis synetairismoy	-1,39626*	,38083	,004
	egkatatsaseis synetairismoy	own facilities	,33376	,38083	,684
		private facilities	1,39626*	,38083	,004
		egkatatsaseis synetairismoy			
how important are the	own facilities	own facilities			

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following to implementation advice / suggestions from agronomists		private facilities	,41667	,37196	,540
		egkatatsaseis synetairismoy	-1,11111[*]	,31251	,005
	private facilities	own facilities	-,41667	,37196	,540
		private facilities			
		egkatatsaseis synetairismoy	-1,52778[*]	,33621	,000
	egkatatsaseis synetairismoy	own facilities	1,11111[*]	,31251	,005
		private facilities	1,52778[*]	,33621	,000
		egkatatsaseis synetairismoy			
how important is cooperation with other producers	own facilities	own facilities			
		private facilities	-1,43333[*]	,35137	,001
		egkatatsaseis synetairismoy	-1,36144[*]	,29521	,000
	private facilities	own facilities	1,43333[*]	,35137	,001
		private facilities			
		egkatatsaseis synetairismoy	,07190	,31760	,975
	egkatatsaseis synetairismoy	own facilities	1,36144[*]	,29521	,000
		private facilities	-,07190	,31760	,975
		egkatatsaseis synetairismoy			
how important is cooperation with agronomists to provide propagating material	own facilities	own facilities			
		private facilities	,70000	,57205	,481
		egkatatsaseis synetairismoy	-1,85882[*]	,48062	,002
	private facilities	own facilities	-,70000	,57205	,481
		private facilities			
		egkatatsaseis synetairismoy	-2,55882[*]	,51706	,000
	egkatatsaseis synetairismoy	own facilities	1,85882[*]	,48062	,002
		private facilities	2,55882[*]	,51706	,000
		egkatatsaseis synetairismoy			
how important your cooperation with other producers to reduce risk and uncertainty	own facilities	own facilities			
		private facilities	-1,30000[*]	,43959	,021
		egkatatsaseis synetairismoy	-1,44706[*]	,36933	,002
	egkatatsaseis	own facilities	1,44706[*]	,36933	,002
	synetairismoy	private facilities	,14706	,39733	,934

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how satisfied are you with cooperatives / producer groups	own facilities	egkatatsaseis synetairismoy own facilities			
		private facilities	,31818	,39021	,720
		egkatatsaseis synetairismoy	-1,11029*	,33460	,009
	private facilities	own facilities	-,31818	,39021	,720
		private facilities			
		egkatatsaseis synetairismoy	-1,42848*	,33460	,001
	egkatatsaseis synetairismoy	own facilities	1,11029*	,33460	,009
		private facilities	1,42848*	,33460	,001
		egkatatsaseis synetairismoy			

		N	Mean	Std. Deviation	Std. Error
how important are the following to implementation advice / suggestions from cooperatives	own facilities	9	2,3222	,74629	,24876
	private facilities	8	1,9000	,70102	,24785
	egkatatsaseis synetairismoy	17	3,3353	,92934	,22540
	Total	34	2,7294	1,02913	,17649
how important is cooperation with cooperatives	own facilities	10	2,0600	,96603	,30549
	private facilities	8	2,7937	1,42639	,50431
	egkatatsaseis synetairismoy	17	3,5059	,81698	,19815
	Total	35	2,9300	1,17168	,19805
how often do you informed by cooperatives / producer groups	own facilities	8	2,7344	,78401	,27719
	private facilities	8	1,6719	,92868	,32834
	egkatatsaseis synetairismoy	17	3,0681	,91272	,22137
	Total	33	2,6487	1,03609	,18036
how important are the following to implementation advice / suggestions from agronomists	own facilities	10	2,3889	,87371	,27629
	private facilities	8	1,9722	,65263	,23074
	egkatatsaseis synetairismoy	17	3,5000	,78365	,19006
	Total	35	2,8333	1,01663	,17184
how important is cooperation with agronomists to provide propagating material	own facilities	10	2,2000	1,22927	,38873
	private facilities	8	1,5000	1,06904	,37796
	egkatatsaseis synetairismoy	17	4,0588	1,24853	,30281

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	Total	35	2,9429	1,62595	,27483
how important your cooperation with other producers to reduce risk and uncertainty	own facilities	10	2,2000	1,03280	,32660
	private facilities	8	3,5000	1,41421	,50000
	egkatatsaseis synetairismoy	17	3,6471	,49259	,11947
	Total	35	3,2000	1,10613	,18697
how satisfied are you with cooperatives / producer groups	own facilities	8	2,2159	,80132	,28331
	private facilities	8	1,8977	,73283	,25910
	egkatatsaseis synetairismoy	17	3,3262	,79126	,19191
	Total	33	2,7107	,99934	,17396
how important is cooperation with other producers	own facilities	10	2,0111	,8884	,2809
	private facilities	8	3,4444	,7471	,2641
	egkatatsaseis synetairismoy	17	3,3725	,6397	,1551
	Total	35	3,0000	,9591	,1621

		df	F	Sig.
how important are the following to implementation advice / suggestions from cooperatives	Between Groups	2	9,448	,001
	Within Groups	31		
	Total	33		
how important is cooperation with cooperatives	Between Groups	2	6,413	,005
	Within Groups	32		
	Total	34		
how often do you informed by cooperatives / producer groups	Between Groups	2	6,770	,004
	Within Groups	30		
	Total	32		
how important are the following to implementation advice / suggestions from agronomists	Between Groups	2	12,573	,000
	Within Groups	32		
	Total	34		
how important is cooperation with other producers	Between Groups	2	12,501	,000
	Within Groups	32		
	Total	34		

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how important is cooperation with agronomists to provide propagating material	Between Groups	2	14,901	,000
	Within Groups	32		
	Total	34		
how important your cooperation with other producers to reduce risk and uncertainty	Between Groups	2	8,219	,001
	Within Groups	32		
	Total	34		
how satisfied are you with cooperatives / producer groups	Between Groups	2	11,236	,000
	Within Groups	30		
	Total	32		

- **Table 8: Anova Tables for Professional Organization**

Dependent Variable	(I) prof. organization	(J) prof. organization	Mean Difference (I-J)	Std. Error	Sig.
how important is cooperation with research / technology centres	cooperative	cooperative			
		producers group	-,74538*	,23227	,007
		other	,25301	,19244	,423
	producers group	cooperative	,74538*	,23227	,007
		producers group			
		other	,99839*	,27073	,001
	other	cooperative	-,25301	,19244	,423
		producers group	-,99839*	,27073	,001
		other			
how often do you informed by the research / technological centers	cooperative	cooperative			
		producers group	-,84836*	,23226	,002
		other	,45672	,19223	,063
	producers group	cooperative	,84836*	,23226	,002
		producers group			
		other	1,30508*	,27136	,000
	other	cooperative	-,45672	,19223	,063
		producers group	-1,30508*	,27136	,000
		other			
how often do you informed by other service providers	cooperative	cooperative			
		producers group	-,46771	,20586	,079
		other	,43278*	,16693	,037
	producers group	cooperative	,46771	,20586	,079
		producers group			
		other	,90049*	,23861	,001
	other	cooperative	-,43278*	,16693	,037
		producers group	-,90049*	,23861	,001

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how satisfied are you with cooperative agronomists in question to easily find them	cooperative	other cooperative			
		producers group	,68333*	,25822	,033
		other	,77708*	,21371	,002
	other	cooperative	-,77708*	,21371	,002
		producers group other	-,09375	,30168	,953
how influenced you are by cooperative research and technology institutes to make changes	cooperative	other cooperative			
		producers group	-,41270	,17643	,068
		other	,36699*	,14603	,045
	producers group	cooperative	,41270	,17643	,068
		producers group other	,77969*	,20613	,001
	other	cooperative	-,36699*	,14603	,045
		producers group other	-,77969*	,20613	,001

		N	Mean	Std. Deviation	Std. Error
how important is cooperation with research / technology centres	cooperative	102	2,2821	,97030	,09607
	producers group	20	3,0275	,99967	,22353
	other	32	2,0291	,84511	,14940
	Total	154	2,3264	,98709	,07954
how often do you informed by the research / technological centers	cooperative	105	1,8298	1,01947	,09949
	producers group	20	2,6781	,96724	,21628
	other	32	1,3730	,66476	,11751
	Total	157	1,8447	1,01463	,08098
how often do you informed by other service providers	cooperative	102	1,9797	,78523	,07775
	producers group	19	2,4474	1,10068	,25251
	other	32	1,5469	,75636	,13371
	Total	153	1,9472	,85765	,06934
how satisfied are you with agronomists in question to easily find them	cooperative	105	3,9333	,81177	,07922
	producers group	20	3,2500	1,51744	,33931
	other	32	3,1563	1,39375	,24638
	Total	157	3,6879	1,10855	,08847
how influenced you are by research and technology institutes to make changes	cooperative	105	2,2984	,75159	,07335
	producers group	20	2,7111	,69473	,15535
	other	32	1,9314	,63800	,11278
	Total	157	2,2762	,75182	,06000

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		df	F	Sig.
how important is cooperation with research / technology centres	Between Groups	2	7,127	,001
	Within Groups	151		
	Total	153		
how often do you informed by the research / technological centers	Between Groups	2	11,605	,000
	Within Groups	154		
	Total	156		
how often do you informed by other service providers	Between Groups	2	7,358	,001
	Within Groups	150		
	Total	152		
how satisfied are you with agronomists in question to easily find them	Between Groups	2	8,573	,000
	Within Groups	154		
	Total	156		
how influenced you are by research and technology institutes to make changes	Between Groups	2	7,303	,001
	Within Groups	154		
	Total	156		

- **Table 9: Anova Tables for Level of knowledge**

Dependent Variable	(I) level of knowledge	(J) level of knowledge	Sig.
how often do you informed by agronomists	least	least	
		partly	,109
		sufficiently	,787
		much	,797
	partly	least	,109
		partly	
		sufficiently	,000
		much	,000
	sufficiently	least	,787
		partly	,000
		sufficiently	
		much	1,000
	much	least	,797
		partly	,000
		sufficiently	1,000
		much	

how affected by your studies to make changes	least	least	
		partly	,514
		sufficiently	,812
		much	,244
	sufficiently	least	,812
		partly	,341
		sufficiently	
		much	,000
	much	least	,244
		partly	,529
		sufficiently	,000
		much	
how important are the problems of factor 3	least	least	
		partly	,608
		sufficiently	,463
		much	,084
	partly	least	,608
		partly	
		sufficiently	,928
		much	,006
	sufficiently	least	,463
		partly	,928
		sufficiently	
		much	,001
	much	least	,084
		partly	,006
		sufficiently	,001
		much	
how important is cooperation with agronomists	least	least	
		partly	,385
		sufficiently	,862
		much	,946
	much	least	,946
		partly	,009
		sufficiently	,797
		much	
how important is cooperation with agronomists to improve the mechanical equipment	least	least	
		partly	,628
		sufficiently	1,000
		much	1,000
	partly	least	,628

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		partly	
		sufficiently	,001
		much	,001
	sufficiently	least	1,000
		partly	,001
		sufficiently	
		much	,992
	much	least	1,000
		partly	,001
		sufficiently	,992
		much	
how satisfied are you with the agronomists	least	least	
		partly	,026
		sufficiently	,273
		much	,403
	partly	least	,026
		partly	
		sufficiently	,004
		much	,001
	sufficiently	least	,273
		partly	,004
		sufficiently	
		much	,791
	much	least	,403
		partly	,001
		sufficiently	,791
		much	
how satisfied are you with the Directorate of Rural Development to easily find them	least	least	
		partly	,018
		sufficiently	,185
		much	,280
	partly	least	,018
		partly	
		sufficiently	,008
		much	,002
	sufficiently	least	,185
		partly	,008
		sufficiently	
		much	,839
	much	least	,280
		partly	,002

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		sufficiently	,839
		much	
how satisfied are you with the other service providers	least	least	
		partly	,524
		sufficiently	1,000
		much	,998
	partly	least	,524
		partly	
		sufficiently	,000
		much	,000
	sufficiently	least	1,000
		partly	,000
		sufficiently	
		much	,840
	much	least	,998
		partly	,000
		sufficiently	,840
		much	
how the changes you made attribute	least	least	
		partly	,032
		sufficiently	,016
		much	,004
	much	least	,004
		partly	,551
		sufficiently	,454
		much	
how you affect the following factors to change farming practices	least	least	
		partly	,608
		sufficiently	,901
		much	,417
	sufficiently	least	,901
		partly	,266
		sufficiently	
		much	,003
	much	least	,417
		partly	,843
		sufficiently	,003
		much	

	N	Mean	Std. Deviation

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how often do you informed	least	2	1,8750	,00000
by agronomists	partly	25	3,6735	,90787
	sufficiently	89	2,6020	,97411
	much	50	2,5943	1,05734
	Total	166	2,7523	1,05624
how affected by your	least	2	1,0000	,00000
studies to make changes	partly	25	2,4600	,93452
	sufficiently	89	1,9157	1,26858
	much	50	2,9383	1,53380
	Total	166	2,2947	1,38254
how important are the	least	2	4,2963	,00000
problems of factor 3	partly	25	3,4244	,90314
	sufficiently	89	3,2906	,87487
	much	50	2,6528	,87309
	Total	166	3,1308	,93047
how important is	least	2	2,8889	,00000
cooperation with	partly	25	3,8533	,62770
agronomists	sufficiently	89	3,3525	,68860
	much	50	3,2189	,90284
	Total	166	3,3821	,77292
how important is	least	2	3,0000	,00000
cooperation with	partly	25	6,8800	9,91346
agronomists to improve the	sufficiently	89	3,1011	1,24357
mechanical equipment	much	50	2,8800	1,36487
	Total	166	3,6024	4,19506
how satisfied are you with	least	2	1,6000	,00000
the agronomists	partly	25	3,6786	,93203
	sufficiently	89	2,9040	,83718
	much	50	2,7380	1,05383
	Total	166	2,9549	,97324
how satisfied are you with	least	2	1,0000	,00000
the Directorate of Rural	partly	25	3,0400	,73485
Development to easily find	sufficiently	89	2,3596	,77235
them	much	50	2,2200	1,05540

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	Total	166	2,4036	,90774
how satisfied are you with the other service providers	least	2	1,7273	,00000
	partly	20	2,4668	,95078
	sufficiently	87	1,7396	,55177
	much	50	1,6316	,71615
	Total	159	1,7970	,70766
how the changes you made attribute	least	2	2,0000	,00000
	partly	15	3,7667	,44454
	sufficiently	53	3,8353	,90308
	much	30	4,1231	,65422
	Total	100	3,8746	,82096
how you affect the following factors to change farming practices	least	2	1,0000	,00000
	partly	25	2,4000	1,38444
	sufficiently	89	1,7640	1,29705
	much	49	2,7143	1,60728
	Total	165	2,1333	1,46310

		df	F	Sig.
how often do you informed by agronomists	Between Groups	3	8,888	,000
	Within Groups	162		
	Total	165		
how affected by your studies to make changes	Between Groups	3	7,294	,000
	Within Groups	162		
	Total	165		
how important are the problems of factor 3	Between Groups	3	8,069	,000
	Within Groups	162		
	Total	165		
how important is cooperation with agronomists	Between Groups	3	4,414	,005
	Within Groups	162		
	Total	165		
how important is cooperation with agronomists to improve the mechanical equipment	Between Groups	3	6,635	,000
	Within Groups	162		
	Total	165		

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how satisfied are you with the agronomists	Between Groups	3		7,629	,000
	Within Groups	162			
	Total	165			
how satisfied are you with the Directorate of Rural Development to easily find them	Between Groups	3		7,163	,000
	Within Groups	162			
	Total	165			
how satisfied are you with the other service providers	Between Groups	3		8,023	,000
	Within Groups	155			
	Total	158			
how the changes you made attribute	Between Groups	3		5,077	,003
	Within Groups	96			
	Total	99			
how you affect the following factors to change farming practices	Between Groups	3		5,572	,001
	Within Groups	161			
	Total	164			

- **Table 10: Anova Tables for Source of information**

Dependent Variable	(I) sector	(J) sector	Std. Error	Sig.
how often do you use agronomists for information	chemical	chemical		
		biological	,42552	,714
		mixed	,48501	,006
	mixed	chemical	,48501	,006
		biological	,61577	,134
		mixed		
how often do you use the certifiers of organic products for information	chemical	chemical		
		biological	,35145	,000
		mixed	,40014	,646
	biological	chemical	,35145	,000
		biological		
		mixed	,50614	,002
	mixed	chemical	,40014	,646
		biological	,50614	,002
		mixed		

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		N	Mean	Std. Deviation	Std. Error
how often do you use agronomists for information	chemical	70	4,1000	1,11836	,13367
	biological	8	3,7500	1,28174	,45316
	mixed	6	2,5000	1,22474	,50000
	Total	84	3,9524	1,20145	,13109
how often do you use the certifiers of organic products for information	chemical	64	1,3750	,82616	,10327
	biological	8	2,8750	1,80772	,63913
	mixed	6	1,0000	,00000	,00000
	Total	78	1,5000	1,04135	,11791

		df	F	Sig.
how often do you use agronomists for information	Between Groups	2	5,581	,005
	Within Groups	81		
	Total	83		
how often do you use the certifiers of organic products for information	Between Groups	2	10,033	,000
	Within Groups	75		
	Total	77		
	Within Groups	156		
	Total	158		

Appendix 3

T- TEST tables

- **Table 11: T- Test table for Sex**

	sex	N	Mean	
decision to change propagating material influenced by your studies	men	129	2,5032	
	women			1,44801
		37	1,5676	,77873
how important are the problems of factor 2	men	129	3,9701	
	women			,79010
		37	3,4801	1,09353
how important is the	men	129	3,2636	

		N	Mean	Std. Deviation
cooperation with agronomists to improve the reproductive material	women	37	4,7838	2,92222 6,96074
how important is the cooperation with the other service providers for the provision of reproductive material	men women	121 36	2,3994 2,6791	,99170 ,76349
decision to change propagating material influenced by your studies	men women	128 37	2,3203 1,4865	1,53661 ,93159

Independent Samples Test

		Levene's Test for Equality of Variances			
		F	Sig.	t	df
decision to change propagating material influenced by your studies	Equal variances assumed	23,481	,000	3,772	164
	Equal variances not assumed			5,179	111,865
how important are the problems of factor 2	Equal variances assumed	9,702	,002	3,035	164
	Equal variances not assumed			2,542	47,290
how important is the cooperation with agronomists to improve the reproductive material	Equal variances assumed	7,325	,008	-1,960	164
	Equal variances not assumed			-1,296	39,703
how important is the cooperation with the other service providers for the provision of reproductive material	Equal variances assumed	10,659	,001	-1,559	155
	Equal variances not assumed			-1,794	73,551
decision to change propagating material influenced by your studies	Equal variances assumed	24,044	,000	3,134	163
	Equal variances not assumed			4,073	97,751

- **Table 12: T- Test table for Mechanical equipment**

Group Statistics

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	Mechanical equipment	N	Mean	Std. Deviation	Std. Error Mean	
how important are the following to implement the advice / suggestions from cooperatives	yes	132	3,0302	,84301	,07337	
	no	33	3,2926	1,22380	,21304	
how often do you information by the research / technology centers	yes	133	1,9431	1,00917	,08751	
	no	33	1,2992	,75966	,13224	
how often do you get informed by other service providers	yes	130	2,0461	,88161	,07732	
	no	32	1,4395	,40426	,07146	
how influenced you are by research and technological institutes to make changes	yes	133	2,0107	,94462	,08191	
	no	33	1,2576	,72749	,12664	
how affected by your studies to make changes	yes	133	2,5069	1,43350	,12430	
	no	33	1,4394	,66153	,11516	
how important are the problems of the factor 1	yes	133	3,5175	,75441	,06542	
	no	33	3,5455	1,22989	,21410	
how important are the problems by a factor of 3	yes	133	3,0253	,84732	,07347	
	no	33	3,5557	1,12702	,19619	
how important are the following to implement the advice / suggestions from agronomists	yes	133	2,9745	,93525	,08110	
	no	33	3,3199	1,30430	,22705	
how important is cooperation with other service providers for the provision of reproductive material	yes	125	2,0440	,96724	,08651	
	no	32	1,4688	,62136	,10984	
how influenced you your studies to make changes to the material	yes	76	3,9210	,63425	,07275	
	no	24	3,7278	1,24887	,25492	

Independent Samples Test

Levene's Test for Equality of Variances			
F	Sig.	t	df

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how important are the following to implement the advice / suggestions from cooperatives	Equal variances assumed	8,867	,003	-1,450	163
	Equal variances not assumed			-1,165	39,905
how often do you information by the research / technology centers	Equal variances assumed	19,551	,000	3,429	164
	Equal variances not assumed			4,061	63,221
how often do you get informed by other service providers	Equal variances assumed	19,351	,000	3,789	160
	Equal variances not assumed			5,761	109,879
how influenced you are by research and technological institutes to make changes	Equal variances assumed	18,095	,000	4,272	164
	Equal variances not assumed			4,993	61,754
how affected by your studies to make changes	Equal variances assumed	29,299	,000	4,162	164
	Equal variances not assumed			6,300	112,864
how important are the problems of the factor 1	Equal variances assumed	13,166	,000	-,165	164
	Equal variances not assumed			-,125	38,173
how important are the problems by a factor of 3	Equal variances assumed	8,450	,004	-3,001	164
	Equal variances not assumed			-2,532	41,408
how important are the following to implement the advice / suggestions from agronomists	Equal variances assumed	14,631	,000	-1,745	164
	Equal variances not assumed			-1,432	40,526
how important is cooperation with other service providers for the provision of reproductive material	Equal variances assumed	9,828	,002	3,195	155
	Equal variances not assumed			4,114	74,246
How often do you make changes in your farm	Equal variances assumed	16,596	,000	1,005	98
	Equal variances not assumed			,729	26,845

- **Table 13: T- Test table for Processing**

	process	N	Mean	STD. DEVIAT
how important is cooperation with cooperatives	yes	45	2,8962	1,27048
	no	121	3,0027	,87106
how affected by your studies to make changes	yes	45	2,8981	,80597
	no	121	2,4752	1,09706
how important are the problems of the factor 1	yes	45	3,3444	1,01155
	no	121	3,5895	,79874
how important are the	yes	45	3,0093	,98570

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following to implement the advice / suggestions from the service providers	no	118	3,3291	,98346
how important is cooperation with agronomists	yes	45	3,3963	1,02546
	no	121	3,3768	,66011
how important is cooperation with agronomists to improve the mechanical equipment	yes	45	5,2667	7,58407
	no	121	2,9835	1,29733
how important is cooperation with other service providers	yes	39	2,3362	1,17906
	no	118	2,5056	,86193
how satisfied are you with the response agriculturists	yes	45	3,0120	1,23200
	no	121	2,9337	,86266
how satisfied are you with the response of other service providers	yes	42	2,1096	,84295
	no	117	1,6848	,61877

Independent Samples Test

		Levene's Test for Equality of Variances			
		F	Sig.	t	df
how important is cooperation with cooperatives	Equal variances assumed	16,721	,000	-,613	164
	Equal variances not assumed			-,519	60,056
how affected by your studies to make changes	Equal variances assumed	9,930	,002	2,358	164
	Equal variances not assumed			2,709	106,915
how important are the problems of the factor 1	Equal variances assumed	9,933	,002	-1,630	164
	Equal variances not assumed			-1,464	65,480
how important are the following to implement the advice / suggestions from the service providers	Equal variances assumed	11,635	,001	-1,831	161
	Equal variances not assumed			-1,596	62,860
how important is cooperation with agronomists	Equal variances assumed	12,972	,000	,144	164
	Equal variances not assumed			,118	58,101

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how important is cooperation with agronomists to improve the mechanical equipment	Equal variances assumed	19,439	,000	3,203	164
	Equal variances not assumed			2,009	44,961
how important is cooperation with other service providers	Equal variances assumed	11,943	,001	-,966	155
	Equal variances not assumed			-,827	52,081
how satisfied are you with the response agriculturists	Equal variances assumed	20,103	,000	,460	164
	Equal variances not assumed			,392	60,768
how satisfied are you with the response of other service providers	Equal variances assumed	7,859	,006	3,450	157
	Equal variances not assumed			2,990	57,633

- **Table 14: T- Test table for Stadarization**

Group Statistics

	stadarization	N	Mean	Std. Deviation	Std. Error Mean
how often do you informed by cooperatives / producer groups	yes	38	1,7368	,79299	,12864
	no	128	1,8384	1,05103	,09290
how influenced you are by research &technological institutes to make changes	yes	38	1,8662	,79259	,12858
	no	128	1,8594	,99791	,08820
how influenced you are by your studies to make changes	yes	38	2,8531	,62284	,10104
	no	128	2,5117	1,12630	,09955
how important is cooperation with agronomists	yes	38	3,1477	1,02807	,16678
	no	128	3,4517	,66850	,05909
how important is cooperation with agronomists to provide propagating material	yes	38	3,1053	1,65692	,26879
	no	128	3,6563	1,27630	,11281
how important is cooperation with agronomists to improve the mechanical equipment	yes	38	5,6316	8,22133	1,33368
	no	128	3,0000	1,25491	,11092
how important is	yes	38	2,2368	1,30351	,21146

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		N	Mean		
cooperation with other producers to provide propagating material	no	128	2,7813	1,06437	,09408
how satisfied are you with the response of other service providers	yes	38	2,2351	,82788	,13430
	no	121	1,6594	,60676	,05516

		Independent Samples Test			
		Levene's Test for Equality of Variances			
		F	Sig.	t	df
how often do you informed by cooperatives / producer groups	Equal variances assumed	8,114	,005	-,550	164
	Equal variances not assumed			-,640	79,367
how influenced you are by research &technological institutes to make changes	Equal variances assumed	6,854	,010	,039	164
	Equal variances not assumed			,044	75,169
how influenced you are by your studies to make changes	Equal variances assumed	25,449	,000	1,786	164
	Equal variances not assumed			2,407	112,752
how important is cooperation with agronomists	Equal variances assumed	9,637	,002	-2,153	164
	Equal variances not assumed			-1,718	46,658
how important is cooperation with agronomists to provide propagating material	Equal variances assumed	13,959	,000	-2,175	164
	Equal variances not assumed			-1,890	50,724
how important is cooperation with agronomists to improve the mechanical equipment	Equal variances assumed	29,076	,000	3,510	164
	Equal variances not assumed			1,966	37,513
how important is cooperation with other producers to provide propagating material	Equal variances assumed	10,370	,002	-2,625	164
	Equal variances not assumed			-2,352	52,498
how satisfied are you with the response of other service providers	Equal variances assumed	10,054	,002	4,652	157
	Equal variances not assumed			3,966	50,096

- **Table 15: T- Test table for Branded products**

	Branded products	N	Mean	
how often do you informed by cooperatives / producer groups	yes	16	2,5099	,86340
	no	148	2,4418	,96812

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how important are the problems of factor 3	yes	18	3,0626	,47806
	no	148	3,1391	,97197
how important are the following to implement the advice / suggestions from agronomists	yes	18	2,8302	,67646
	no			1,05739
		148	3,0691	
how important is the lack of confidence in their bodies for the implementation of advice / suggestions from agronomists	yes	18	2,3333	,68599
	no			1,23642
		148	3,2635	
how important is cooperation with agronomists to improve the mechanical equipment	yes	18	8,6667	11,26160
	no			1,25078
		148	2,9865	
how satisfied are you with the Directorate of Rural Development to the question whether knowledge of local circumstances	yes	18	2,6111	,50163
	no			,94333
		148	2,3784	

Independent Samples Test

		Levene's Test for Equality of Variances			
		F	Sig.	t	df
how often do you informed by cooperatives / producer groups	Equal variances assumed	10,369	,002	-,955	164
	Equal variances not assumed			-1,267	26,498
how important are the problems of factor 3	Equal variances assumed	9,787	,002	-,328	164
	Equal variances not assumed			-,554	37,300
how important are the following to implement the advice / suggestions from agronomists	Equal variances assumed	7,191	,008	-,934	164
	Equal variances not assumed			-1,315	28,316
how important is the lack of	Equal variances assumed	17,221	,000	-3,128	164

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confidence in their bodies for the implementation of advice / suggestions from agronomists	Equal variances not assumed			-4,871	32,500
how important is cooperation with agronomists to improve the mechanical equipment	Equal variances assumed	126,328	,000	5,966	164
	Equal variances not assumed			2,138	17,051
how satisfied are you with the Directorate of Rural Development to the question whether knowledge of local circumstances	Equal variances assumed	7,120	,008	1,027	164
	Equal variances not assumed			1,646	34,040

- **Table 16: T- Test table for Certification**

	Certification	N	Mean	
how important are the following to implement the advice / suggestions from providers supplies	yes	26	2,6538	,57404
	no	138	2,9761	,91715
how do you affected by your studies to make changes	yes	26	2,8141	,78327
	no	138	2,5453	1,0871
how important is cooperation with agronomists	yes	26	3,0299	1,1927
	no	138	3,4452	,65697
how important is cooperation with other producers	yes	26	2,5064	1,07592
	no	138	3,0671	,6842
how important is cooperation with agronomists to provide propagating material	yes	26	3,4615	1,77157
	no	138	3,5217	1,30813
how important is cooperation with other producers to reduce risk and uncertainty	yes	26	2,7692	1,45073
	no	138	3,1957	1,06613
how important is	yes	26	2,5791	1,22688

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cooperation with other services providers to provide propagating material	no	129	2,4397	,89502	
how satisfied are you with the response of cooperatives / producer groups	yes	24	2,5152	1,14981	
	no	138	2,5016	,81996	
how influenced you your studies to make changes to the propagating material	yes	25	1,9600	,80584	
	no	138	2,2672	,66867	

		Levene's Test for Equality of Variances			
		F	Sig.	t	df
how important are the following to implement the advice / suggestions from providers supplies	Equal variances assumed	8,337	,004	-1,727	162
	Equal variances not assumed			-2,352	52,609
how do you affected by your studies to make changes	Equal variances assumed	7,473	,007	1,202	162
	Equal variances not assumed			1,499	45,349
how important is cooperation with agronomists	Equal variances assumed	17,795	,000	-2,540	162
	Equal variances not assumed			-1,727	27,923
how important is cooperation with other producers	Equal variances assumed	14,737	,000	-3,452	162
	Equal variances not assumed			-2,561	28,950
how important is cooperation with agronomists to provide propagating material	Equal variances assumed	12,414	,001	-,203	162
	Equal variances not assumed			-,165	30,342
how important is cooperation with other producers to reduce risk and uncertainty	Equal variances assumed	6,991	,009	-1,759	162
	Equal variances not assumed			-1,428	30,289
how important is cooperation with other services providers to provide propagating material	Equal variances assumed	7,111	,008	,677	153
	Equal variances not assumed			,550	30,582
how satisfied are you with the response of cooperatives / producer groups	Equal variances assumed	7,755	,006	,070	160
	Equal variances not assumed			,055	27,213
how influenced you your	Equal variances assumed	8,355	,004	-2,046	161

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| studies to make changes to | Equal variances not assumed | | -1,797 | 30,278 |
| the propagating material | | | | |

- **Table 17: T- Test table for Familys' opinion**

	N	Mean	
how influenced you your	135	3,2191	1,12159
experience to make changes	31	3,4758	,64017
how important is the following to you to	132	3,1955	,92982
			1,27443
implement the advice / suggestions from the service providers	31	3,4337	
to implement new technologies and	135	3,6519	1,08805
			1,48034
processes if they believe that the uncertainty in quantitative yield is an obstacle	31	3,4839	
how important is cooperation with	135	3,2740	,77714
			,55343
agriculturalists	31	3,8530	
how important is cooperation with contract	77	2,6104	1,44328
			,00000
farming carriers to reduce the risk and uncertainty	14	1,0000	
how satisfied are you with the Directorate of	132	1,8409	,72921
			1,32876
Rural Development in the matter of cooperating together to solve problems by using new technologies	31	2,9677	
how influenced you your studies to make changes to	31	2,4839	1,84157
the propagating material	134	2,0522	1,3562
how influenced you the following factors to make	31	2,2782	,4581
			,739
changes to the propagating material	134	2,2015	

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		Levene's Test for Equality of Variances			
		F	Sig.	t	df
how influenced you your experience to make changes	Equal variances assumed	13,367	,000	-1,227	164
	Equal variances not assumed			-1,710	78,469
	Equal variances not assumed			-3,135	47,295
how important is the following to you to implement the advice / suggestions from the service providers	Equal variances assumed	10,742	,001	-1,190	161
	Equal variances not assumed				
				-,981	37,834
to implement new technologies and processes if they believe that the uncertainty in quantitative yield is an obstacle	Equal variances assumed	8,786	,003	,721	164
	Equal variances not assumed				
				,596	37,775
how important is cooperation with agriculturalists	Equal variances assumed	10,197	,002	-3,922	164
	Equal variances not assumed			-4,833	60,540
how important is cooperation with contract farming carriers to reduce the risk and uncertainty	Equal variances assumed	38,839	,000	4,156	89
	Equal variances not assumed				
				9,791	76,000
how satisfied are you with the Directorate of Rural Development in the matter of cooperating together to solve problems by using new technologies	Equal variances assumed	22,906	,000	-6,469	161
	Equal variances not assumed			-4,563	34,355
	Equal variances not assumed				
				-1,230	37,866
how influenced you your studies to make changes to the propagating material		14,827	,000	-1,486	163
				-1,230	37,866
how influenced you the following factors to make changes to the propagating material		11,191	,001	-,553	163
				-,741	72,055

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Appendix 4

Questionaire to producers (farmers))

	University of Thessaly Department of Planning Postgraduate Studies: European Studies in Regional Development

This research is conducted within this thesis
The answers given are strictly confidential and will only be used scientifically, the objectives of this thesis. Your participation will be really valuable.
Volos, March 2014

Identity of the respondent
Sex: Men   ❑   Women   ❑

Age: 20-30 ❑ , 30-40 ❑ , 40-50 ❑ , 50-60 ❑ ,   60<άνω ❑

Level of education:
Primary   ❑   High school   ❑   General High School   ❑
Technical High School ❑   Vocational School   ❑   Agricultural College   ❑
Private School   ❑   Technical Vocational Institute   ❑
University   ❑   Master   ❑

Which is the title of your studies? _____

Identity of the farm / business
Region: _____
Farm Size: _____
Legal Form:
    Individual   ❑   General Partnership (GP)/ Limited Company (EE) ❑
    Societe Anonyme (SA) ❑   Limited Liability Company (LLC)   ❑
    Family   ❑

1. Deal with:	**Since when?**
Conventional agriculture	
Organic agriculture	
Mixed agriculture	

Annual cultivation ❑   Multiannual cultivation ❑
What exactly? _____

2. Do you have mechanical equipment for your cultivation? YES ❑ NO   ❑

3. Do you proceed your products YES   ❑ NO   ❑
What type of proceeding? ……………………………………………………………
                    Own facilities   ❑
                    Private facilities   ❑
                    Cooperative facilities   ❑

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4. Do you standardize your products?   YES ❑   NO ❑

What type of standardization? …………………………………………………

Own facilities	❑
Private facilities	❑
Cooperative facilities	❑

Do you have branded products?   YES ❑   NO ❑

Type of product	Brand

If so, which of following professions do you use?

Business Consultants	
Logotype	
Graphic Designers	
Specifications	
Marketing	

Do you have certification?   YES ❑   NO ❑

5. Which is the level of knowledge on agriculture?

None (1)	Least (2)	Partly (3)	Sufficiently (4)	Much (5)

Do you take into account the opinion, knowledge and experience of other members of your family?
Whose primarily (grandfather, father, child, etc.)?_____

6. What kind of personnel do you use?

	Permanent	Seasonal	External Collaborators
Agronomist / Viticulture			
Technical staff (Food Technology / Biology / Enologist / Chemical / Chemical Engineer, etc.)			
economist			
Business consultant			
Qualified (skilled) workers			
Unskilled workers			

7. Do you belong to any of the following?

Cooperation	❑
Group of producers	❑
Other	❑

Please named: _____

8. How important distribution networks are? [*Least (1), Partly (2), Sufficiently (3), Much (4), Too much (5)]*

Cooperative	
Producers Group	
Wholesale	
Retail	
Specific shops	

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9. Which of the following you choose to purchase your propagating material?

	Never (1)	Seldom (2)	From time to time (3)	Often (4)	Always (5)
Material from certified producers					
Since private companies					
From seed bank (Pelliti, Aigilopa etc)					
Yours Reserved by previous crops					
From other farmers					
through cooperative					
Through producer group					
From research and technology organizations (National Agricultural Research Foundation, University workshops etc)					
Through contract farming					

Problems

10. How important are the following issues for your activity? [*Least (1), Partly (2), Sufficiently (3), Much (4), Too Much (5)]*

	Significance
Increased cost of supplies	
Lack suppliers biological supplies	
Lack of information on alternative sources of propagating material	
Lack of information about new cultures (change from one culture to another)	
Lack of information about organic farming	
Hybridization culture	
High initial investment cost for launch	
Lack of liquidity	
Lack of funding	
Increased cost of cultivation	
Small production	
Change of mechanical equipment	
Uncertainty values	
Uncertainty applicable regulations and legislation	
Bureaucracy	
Delays in the mechanisms of financing and control	
Lack of specialized workshops nearby	
Distance from providing technical and advisory services	
Lack of certification companies	
Lack of standards certification	
Difficult access to markets	
Lack of information on markets	
Lack of knowledge for promoting products to new markets	
Lack of information structures	
Lack of training structures	
Lack of buyers	
Lack of knowledge about export	
Difficulty finding specialists for new cultures	

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Difficulty finding specialists for new methods	
Difficulty finding specialists for processing	
Difficulty finding specialists for standardization	
Difficulty finding qualified partners for marketing / brand	
Difficulty finding specialists for packaging	
Difficulty finding qualified partners for exports	
Difficulty cooperation with other farmers	
Difficulty joint initiatives with colleagues	
Difficulty for joint investment with colleagues	

11. How important are the following to implement the advice / suggestions from: [*Least (1), Partly (2), Sufficiently (3), Much (4), Too much (5)*]

	Research and technology bodies	Cooperatives	Agronomists	Service providers	Supply providers	Contracting farming bodies
Lack of understanding of local conditions by the competent						
Lack of proper knowledge						
Lack of adequate equipment						
Lack of funding structures						
Lack of information structures						
Lack structures education / training						
Cost of equipment changes						
Uncertainty results						
Lack of trust in institutions						
Different mindset						

12. Which is believed to be the barriers to implementing new technologies and methods in the field? Evaluate their significance. [*Least (1), Partly (2), Sufficiently (3), Much (4), Too much (5)*]

	Importance of barriers
Lack of recording local problems	
Lack of technology transfer mechanism	
different culture	
Lack of skilled workers	
bureaucracy	
Lack of trust in institutions	
Uncertainty over economic performance	
Uncertainty in quantitative yield	
Uncertainty over the implementation of new technology	
Uncertainty for a new culture	
Lack of knowledge of managers	

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Lack of coordination of partners	
Not exploiting the results of collaborations with organizations, associations, etc.	
Lack of expertise	

Cooperations

13. How often do you use the following service providers and information sources? How important they are? *[Least (1), Seldom (2), From time to time (3), Sufficiently (4), Much (5)]*

Frequency		*Significance*
	Agriculturalists	
	Private laboratory analyzes	
	research laboratories	
	Laboratory Member	
	NAGREF	
	university	
	TEI	
	centers for improvement	
	Companies contract farming	
	Companies providing supplies	
	Companies PDO certification	
	Organic certifiers	
	Directorate of Rural Development	
	Internet	
	Seminars / workshops	
	Cooperation with foreign institutions	
	other farmers	
	Special type magazines, newspapers etc.	

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14. For the following subjects the importance of cooperation with :*[Least (1), Partly (2), Sufficiently (3),Much (4), Too much (5)]*

	Cooperatives	Research and technology bodies	Agronomists	Other producers	Other service providers	Contracting farming bodies
Provision of reproductive material						
Improving reproductive material						
Improving production processes						
Reduction of production costs						
Reducing investment cost						
Reduced risk and uncertainty						
Find solutions to problems arising						
Growing new products that are in demand						
Monitoring technological developments						
Information on training programs, seminars etc.						
Information on programs of the EU						
Find funding						
Improving production method						
Improving the quality						
Improving production quantity						
Change in crop						
Improving of mechanical equipment						
Acquisition of new knowledge						
Acquisition of new skills						
Expand into new markets						

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How often do you informed for the following topics: *[Least (1), Partly (2), From time to time (3), Sufficiently (4), Much (5)]*

	Cooperatives/ producer groups	Research and technology bodies	Agronomists	Other service providers
New cultivation techniques				
New crop species				
Marketing				
Expand into new markets				
Information for new investments				
Working together to create new products				
Purchase and marketing				
New technologies in the production process				
New technologies in the manufacturing process				
New technologies in the harvesting				
New knowledge in the cultivation process				
New knowledge in the manufacturing process				
New knowledge in the process of harvesting				
Funding, grants				
Information on training programs, seminars etc.				
Update for new programs from EU				

15. Are you satisfied with the response of providers on the following issues? *[Least (1), Partly (2), Sufficiently (3), Much (4), Too much (5)]*

	Agronomists	Directorate of Rural Development	Cooperatives / producer groups	Other service providers
Frequent information				
Seminars, training, training events				
Satisfactory mechanisms support				
Satisfactory authentication mechanisms				
Working with you to solve problems by using new technologies				
Helping you understand how to use the new technology or a new way of growing				
Know the products demanded by the market, the consumer needs				
Know the local particularities				
Aware of the new technologies and techniques to improve production				
It is easy to find				
Working with you to create new products				

16. How often do you make changes to your farm in the following areas? To what extent these changes yielded? [*Least (1), Partly (2), From time to time (3), Sufficiently (4), Much (5)]*

Frequency	*Last change*		*Attribution*
		Cultivation practices	
		Type of culture	
		propagating material	
		Mechanical equipment	
		On premises	
		On-site storage	
		In irrigation	
		How to update	
		Adapting to new requirements	

17. How much influenced you the following factors to decide to make these changes?
[*Least (1), Partly (2), Sufficiently (3), Much (4), Too much (5)]*

	Changing farming practices	Changing propagating material	Changing mechanical equipment	Adaptation to new requirements
Family				
Other farmers				
Cooperatives / producer groups				
Service providers				
Research and technology bodies				
Studying your				
Your experience				
Internet				
Specific forms				

Thank you for your cooperation and your time

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