REPORT FOR CONSUMERS SURVEY

IN ATHENS «DOUKAS»

Chania -2011

1. Introduction

The objective of this survey is to promote sustainable production and consumption with the example of olive oil, within the framework of European program Infoil. In the survey 351 consumers took part in the area of Athens, St. Demetrios and specifically in the grocery store "Doukas."

St. Demetrios is a southern suburb of Attica and the population is around 73,000 inhabitants.

In this store there are all types of olive oils such as organic, virgin olive oil, extra virgin olive oil, classic, pomace olive oil, soya oil, refined oil, corn oil and sesame oil. According to official records for the year 2010, sales are actions as:

- 1.439 L Virgin olive oil (3,65%)
- 1.389 L Extra Virgin olive oil (3,52%)
- 132,35 L Organic(0,35%)
- 36.396 L Conventional (92, 48%)

2. Statistical Analysis

The table below shows the variables, as well as their interpretation. Specifically :

Table 1 Variables:

Variables	Interpretation
Gender	Male or Female
Age	Age of respondent
Nationality	Greek or Foreign
Education	Educational Level of Respondent
Occupation	Private - Public Servant - Farmer etc
O. Olive Oil	If the respondent knows about Organic Olive oil
IMS	If the respondent is aware of the IMS (Integrated Management System)
Comparison	Comparison of Organic Olive Oil with Olive oil produced by the IMS and the Convetional.
Pastry-Cooking	Preference for Pastry - Cooking (Olive oil - vegetable oil - Butter-Other)
Salads	Preference for Salads (Extra Virgin Olive Oil - Olive oil - Other)
Products	Use of goods containing olive oil
Categories	Awareness of olive oil types (Extra Virgin Olive Oil - Virgin Olive Oil - Olive oil - Other)
Comparison	Which one of the above categories is considered as the best for the respondent
Package	Packaging Materials for Olive Oil (glass, stainless, etc)
Storage Conditions	Olive oil storage conditions (exposure to light / air / temperature)
Properties	Biological-Nutritional Value of Olive Oil
Cost	Higher costs for Certified Olive Oil
Information	Sufficient Information on Organic Agriculture, IMS, etc
Certification	Certified products - certified production systems
Sufficient Control	Sufficient control in primary production

2.1. Figures

A view to forming the profile of our sample, we create figures for some of the variables that are listed in Table 1.

Figures 1 below display the gender of participants and we can see that the majority are women (58.6% women and 41.4% males).

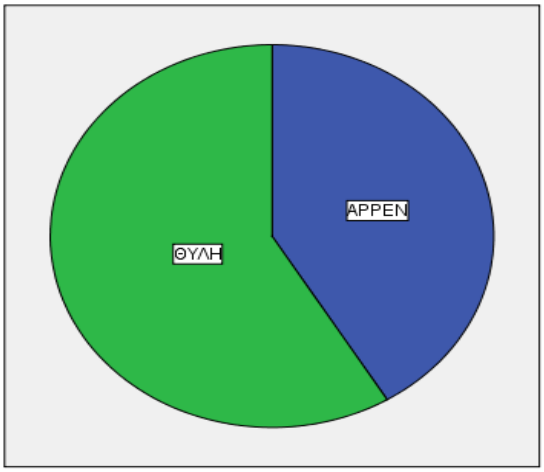


Figure 2.1: *Gender*

Figure 2 showing the ages of respondents. The majority of the sample belongs to the age of "25 to 35 'years (35.3%), followed by a sample of the range of" 36-50 "years (29.05%). On the scale "51-65" owns 16.2% of the sample, over 65 is 7.9% of the consumers and finally the age under 25, 11.55%.

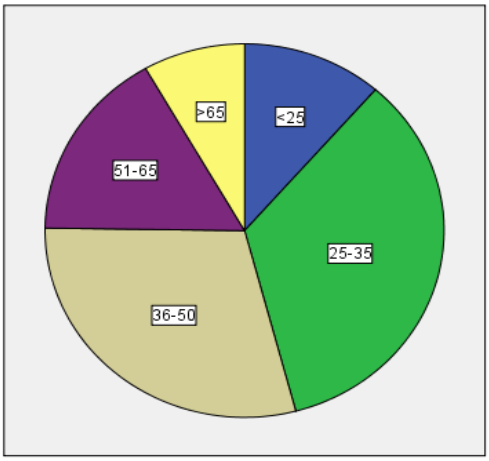


Figure 2.2: *Age*

Regarding now the level of education is evident that the majority of the sample (58.9%) is higher education. In particular, primary education is 44 consumers, secondary display 100 consumers, and the remaining 207 are higher education.

The majority of the sample are private employees (33.6%), followed by Public Employees (17%) with little difference in the self-employed (15.9%), retired (12.85%), a small sample (0.85%) appears to be related with farm work and finally the remaining sample (19.65%) have some other occupation as for example household, etc.

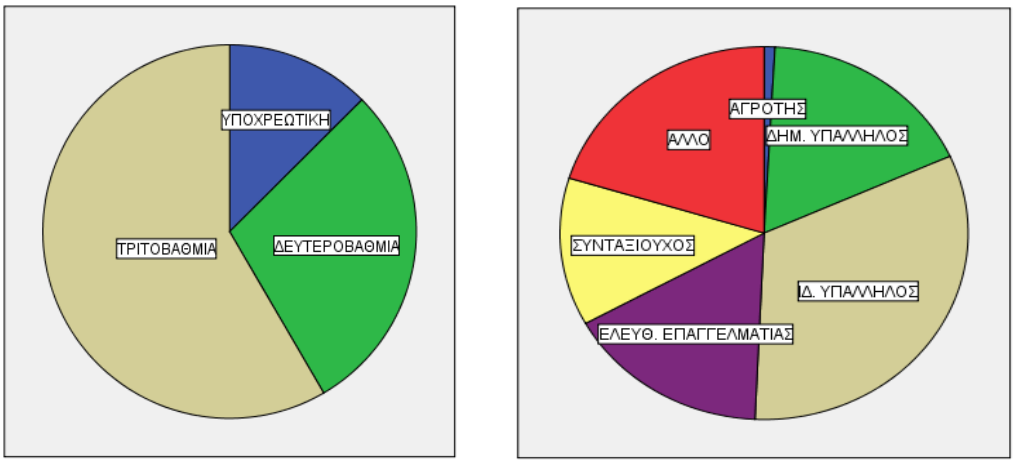


Figure 2.3- 2.4: *Education - Occupation*

Regarding the monthly cost of nutrition the majority of the sample (49.34%) its "200-500" euro per month for food, followed by 27.3% of consumer expenditure '500 -1000 "euro per month. With lower rates there are consumers (12.82%) who spent over 1000 euro and those (10.54%) who spent less than 200 euros.

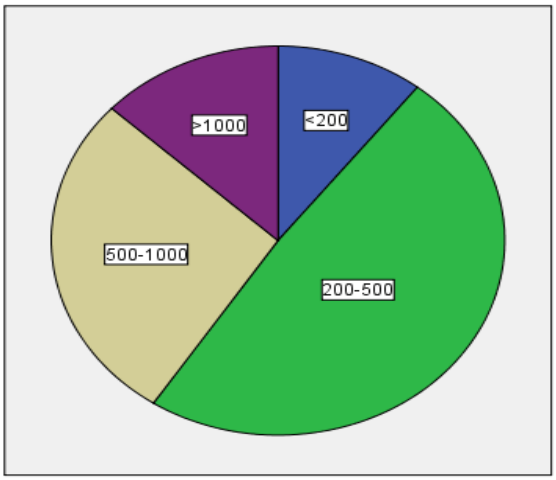


Figure 2.5: Monthly costs for nutrition

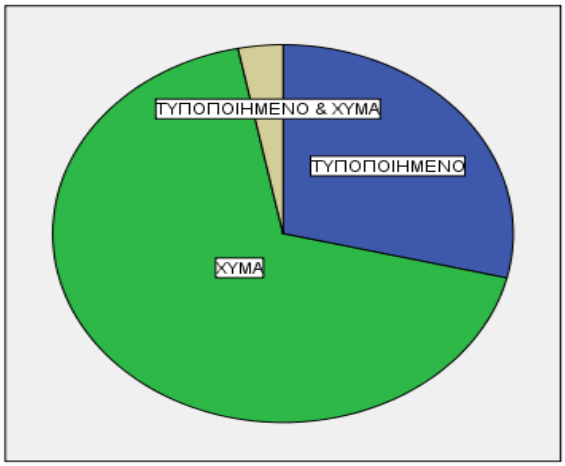
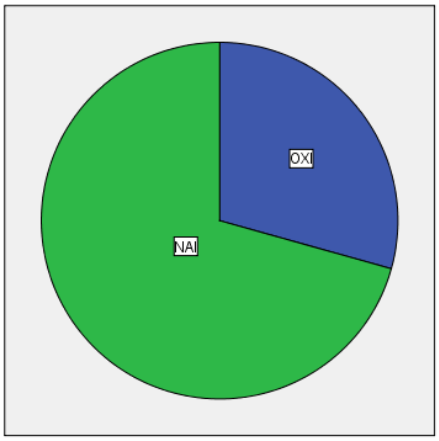
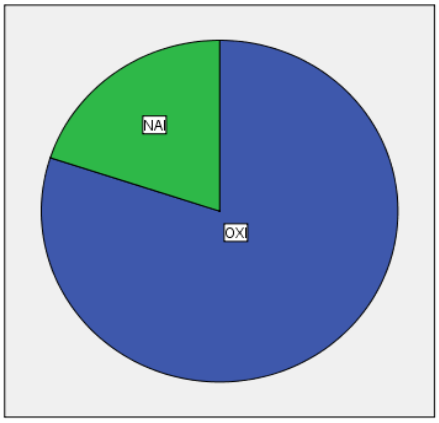


Figure 2.6: *Olive Oil type*

The 68% of the sample is using 'Bulk' Olive oil, 28.7% "standard" while only 3.3% is using both categories.

The majority of our sample appears to know about Organic Olive Oil (70.65%), while for the olive oil produced by the Integrated Management System only 19.9% know what it is, as shown in figures 7 and 8.





Organic Olive Oil IMS

Figures 2.7-2.8: *Organic Olive Oil- Olive Oil produced by Integrated Management Systems*

Next, consumers were asked whether they are willing to pay more for certified organic olive oil. The 54.4% of consumers are willing to choose products organic olive oil at higher cost under the condition of certification.

Below figure 9 in which both appear above information.

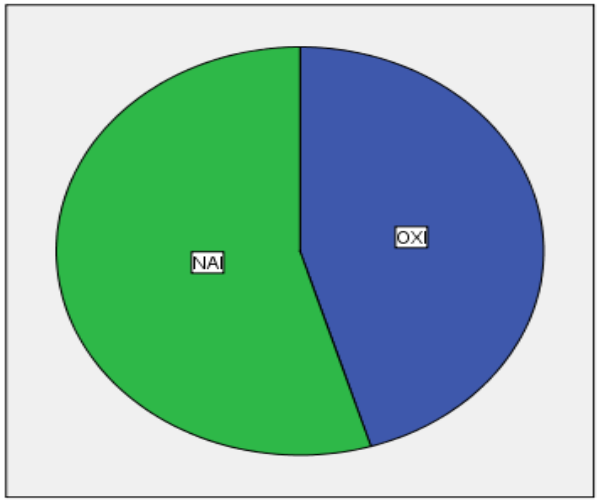
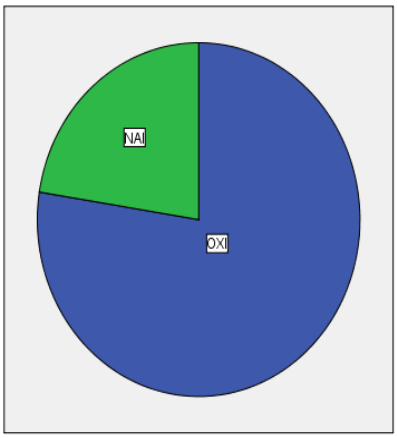
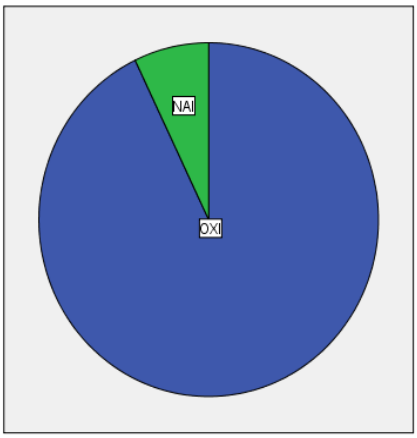


Figure 2.9: Higher costs for Certified Oil



Sufficient Information

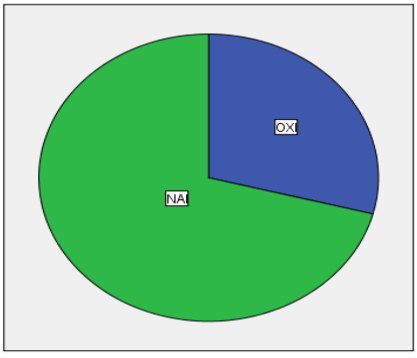


Sufficient control

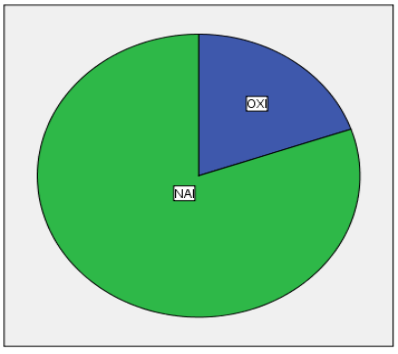
Figure 2.10-2.11: *Sufficient control in primary production and sufficient information on Organic Agriculture, IMS, etc.*

In figures 10 and 11 consumers appear dissatisfied in the control of primary production and the quality of products, and generally with the awareness of products produced by the Integrated Management System and Organic Agriculture. Specifically, 77.5% of the sample claims that there is sufficient control and 92.8% say there is insufficient information.

At the figures below, 80% of sample is interesting about products from certified production systems and the 70,9% of sample choose certified products.

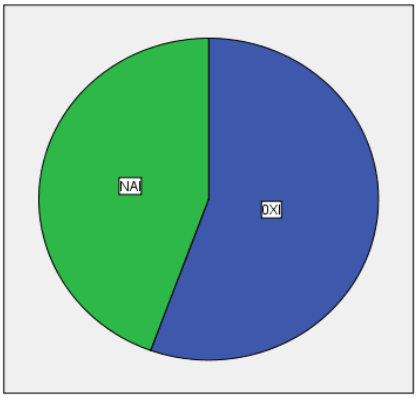


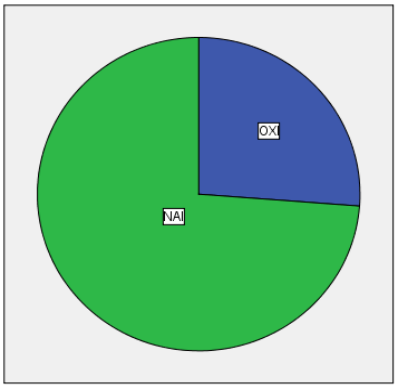
Certified products



Certified production systems

Figures 2.12-2.13: *Certified Products- Certified production systems*



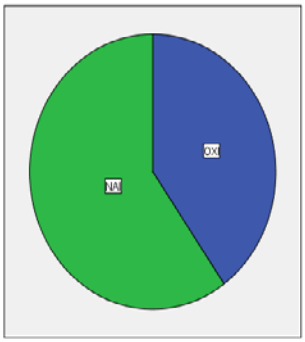


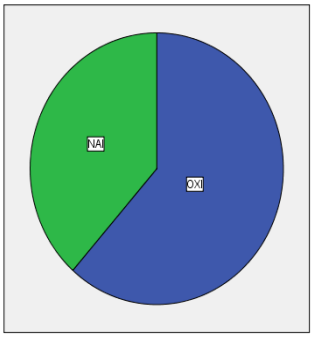
Biological Value

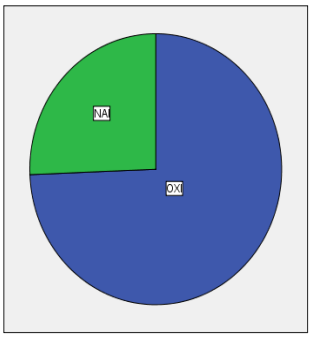
Nutritional Value

Figures2.14-2.15*: Biological-Nutritional Value of olive oil*

Regarding the biological and nutritional value of olive oil, 44,4% of consumers appear to know the Biological Value of Olive and 73.8% appear to know the nutritional value.







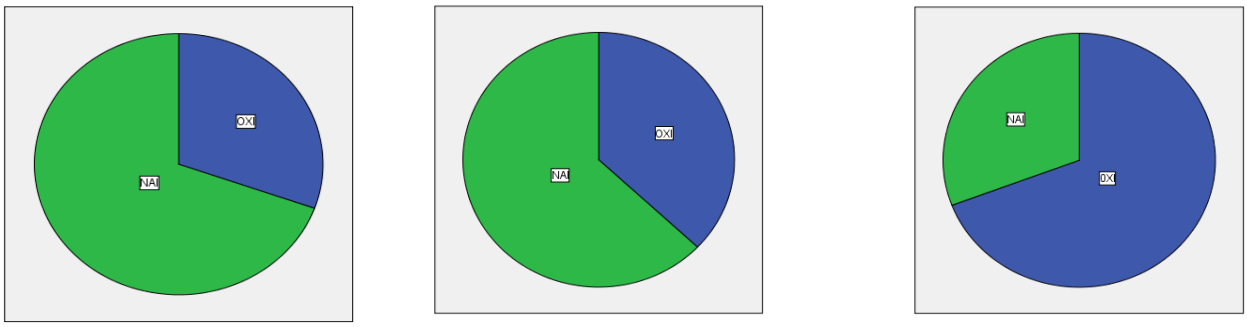
glass

stainless steel

plastic

Figure 2.16- 2.17- 2.18*: Materials and Olive oil packages*

From the figures above is obvious that 60,7% of sample use “glass”, 38,6% “stainless steel” and 25.64% “plastic” as a material of olive oil package.



light air temperature

Figure 2.19 - 2.20 - 2.21*:* Factors affecting olive oil quality

As shown in figures 19 to 21, 69.51% of the sample considers light as an important factor in olive oil quality degradation, 30.48% exposure to air and finally 62.9% exposure to high temperature.

2.2 Correlations

The SPSS gives the possibility to control the variables that are related to each other as well as the degree of this correlation. It's perfectly natural for some variables to be directly related to others, while there are some that are uncorrelated with each other. The table of variables correlations is a very important and useful tool for statistical analysis.

This table, after the variables be selected and be examined, produces two results for each pair of variables. One called Correlation the other Significance. These two effects are directly related to each other since Significance is the significance level of two variables. In order to be important the relationships between two variables, the price of Significance should be smaller than some significance level. In statistics there are three levels of significance. The first level is when the Significance is less than 0.05, the second is less than 0.01 and the third one when Significance is less than 0.001.

Regarding our sample (number: 351 consumers), the results are as follows:

Consumers with an elevated educational level (eg higher education) are better informed on the Organic Olive Oil, Olive Oil produced by the IMS and compare them with the simple conventional oil. Additionally, they use extra virgin olive oil in salads and they are willing to pay more for certified organic olive oil. They know the Biological and Nutritional Value as well as the factors that degrade the quality of olive oil, such as the exposure to light. They want certified products and certified production systems and they consider that consumer's awareness about the products produced by Integrated Management System, organic farming etc inadequate. Furthermore, consumers who know about the Organic Olive Oil, tend to use it in cooking, baking and salads. They know under which conditions they must store olive oil without altering its quality and they consider it safer and healthier than conventional. They are informed about biological and nutritional value of olive oil and they show a greater preference for products from certified production systems

We observe that consumers who know about olive oil produced by IMS, they consider it safer than the conventional oil, and they are willing to pay higher costs for certified olive oil.

Finally, it appears that consumers who spend more money per month for the their food, they are awarded concerning the Organic Olive Oil and IMS, and they consider it better than the conventional, they desire the certification of the product and they are willing to pay for organic products.

3. Primary - Secondary Education

In this chapter we will post a "filter" in the sample of consumers, aiming to display the behavior of the sample of primary and secondary education. For this reason it will be "subtracted" the percentage of respondents who corresponds to Higher education, namely 58.9% of the sample. Consumers of primary and secondary education have the following results:

3.1. Figures

Figure 1 below shows the gender of participants and we can see that the majority are women (67.2% women and 32.8% men).

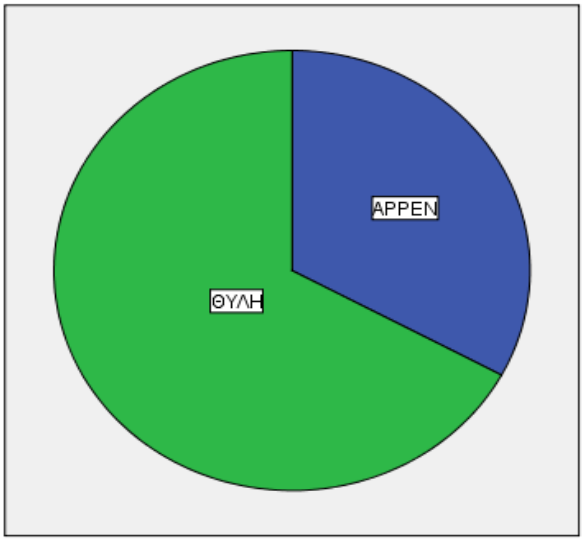


Figure 3.1: *Gender*

Figure 2 below shows the respondents' age. In the scale "25 to 35" years are 19.82%, the sample of the range of "36-50" years is 34.24%. The scale "51-65" owns 22.7% of the sample, over 65 is 17.9% of consumers and finally the age of 25, is 5.48%.

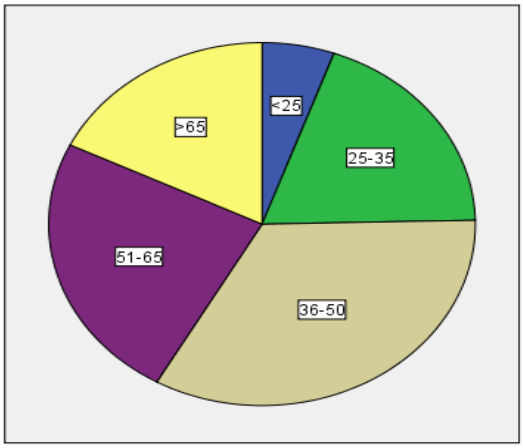
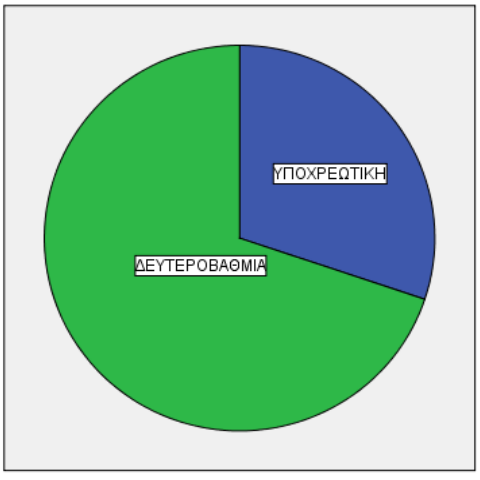


Figure 3.2: *Age*

Regarding now the educational level, primary education is 30.13% of the consumers and secondary appears to 69.86%.

The majority of the sample is private employ (33.66%), self-employed (8.9%), civil servant (15.06%), pensioner (23.9%), a small sample (2.05%) appears to be related to agricultural work and finally the remaining sample (16.43%) has some other occupation as household, etc.



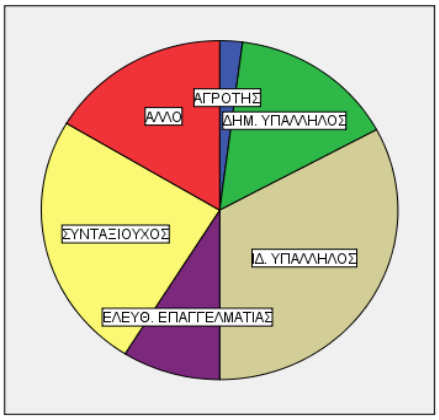


Figure 3.3- 3.4: *Education - Occupation*

Regarding the monthly cost of feeding the majority of the sample (51.36%) spend "200-500" per month for food, followed by 32.19% with consumers expenses

"500 -1000" per month. With lower rates they are consumers (8.9%) who spent over 1000 euro and those (7.54%) who spent less than 200 euro..

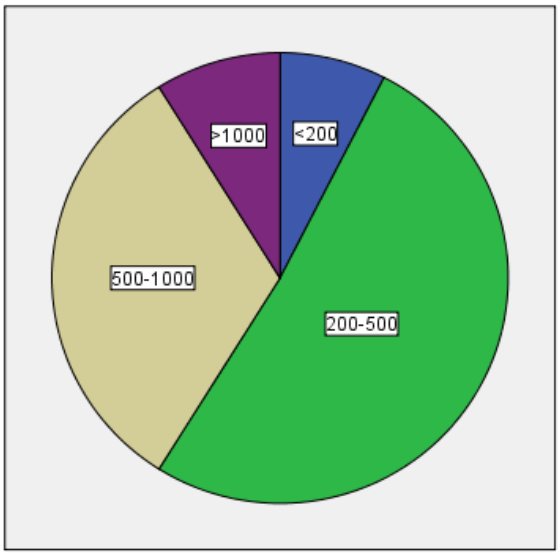


Figure3.5: Nutrition's Monthly Expenses

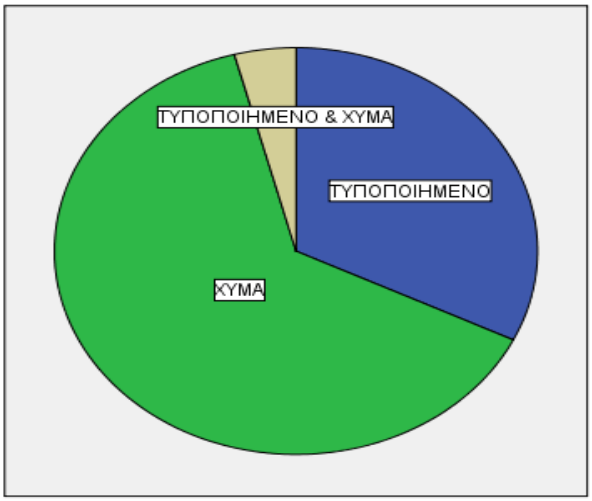
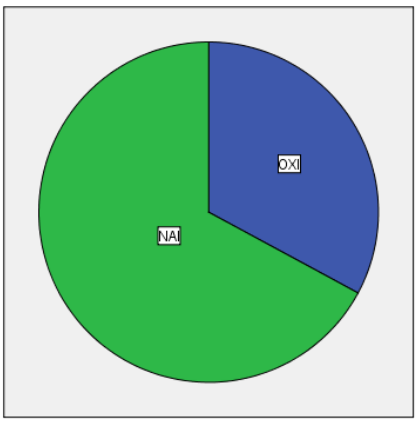
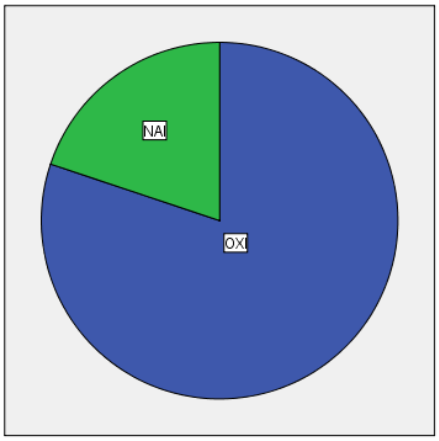


Figure3.6: *Olive Oil Type*

63.61% of the sample use "bulk" Olive Oil, 32.19% "standard" while only 4.2% use both categories.

The majority of our sample appears to know about Organic Olive Oil (67.12%), while for the olive oil produced by Integrated Management System only 19.86% know what it is, as shown in Figures 7 and 8.





Organic Olive Oil I.M.S

Figure3.7- 3.8 *Organic Olive Oil – Olive Oil produced by Integrated Management System*

Then, consumers were asked if they are willing to pay more for certified organic olive oil. The 48.63% of consumers are willing to choose products of organic olive oil at higher cost, on condition of certification. Figure 9 below appears the information displayed above.

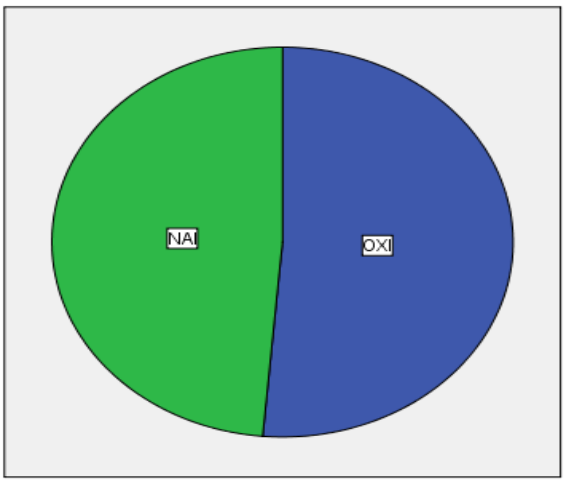
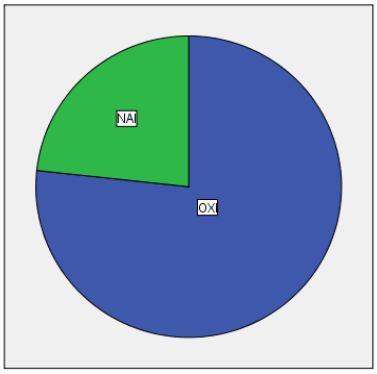
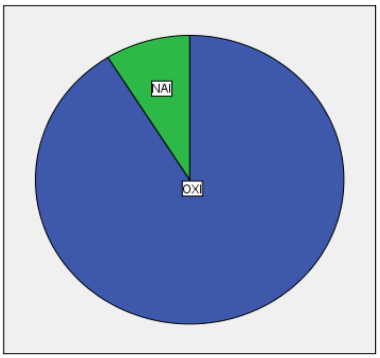


Figure 3.9: *Higher Cost for Certified Olive Oil*



Sufficient Control

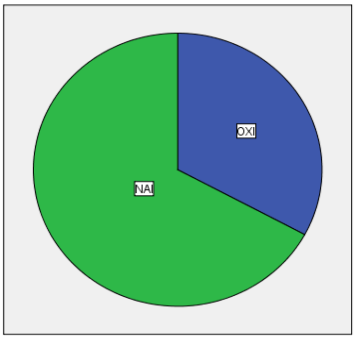


Sufficient Information

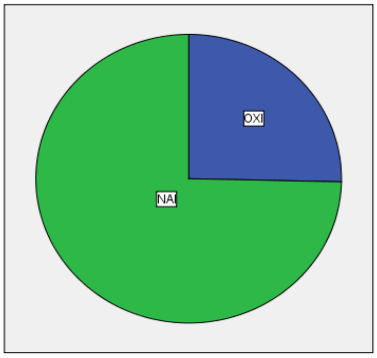
Figure 3.10- 3.11*: Sufficient control in primary production and sufficient information on Organic Agriculture, IMS, etc.*

Figures 10 and 11 appear consumers who are dissatisfied with the control of primary production and product quality, and generally with provided information on products produced by Integrated Management System and Organic Agriculture. Specifically, 76.6% of the sample claims that there is sufficient control and 91.1% claims that there is sufficient information.

In figures below, 74.63% of sample is interested in products by certified product systems and 67.12% choose certified products.

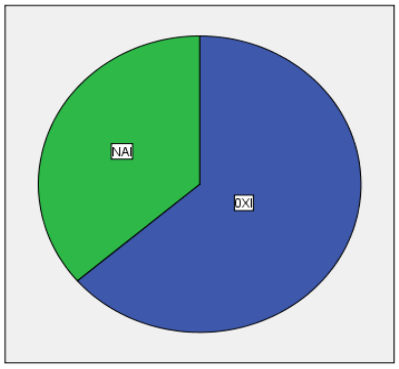


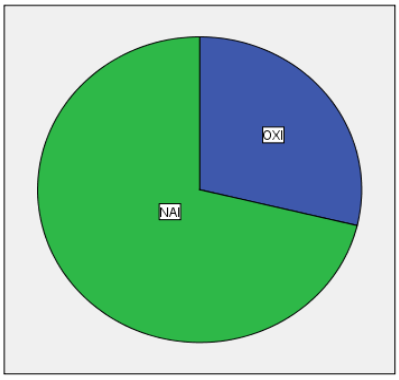
Certified products



Certified Product Systems

Διαγράμματα 3.12- 3.13*: Certified products – Certified product systems*



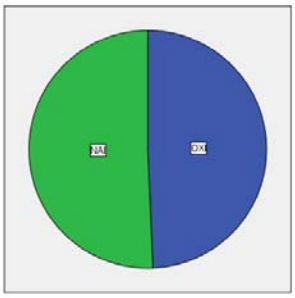


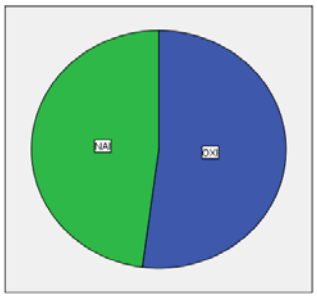
Biological Value

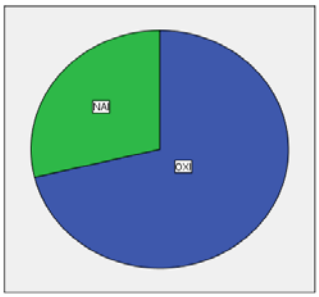
Nutritional Value

Figure 3.14- 3.15*: Biological- Nutritional Value*

Regarding Biological and Nutritional Value of olive oil, 36.3% of consumers appear to know the Biological Value of Olive oil and 71.23% the Nutritional Value.







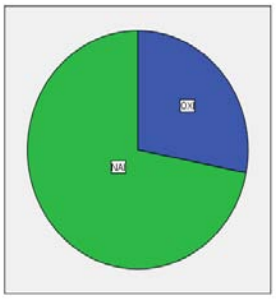
Glass

Stainless

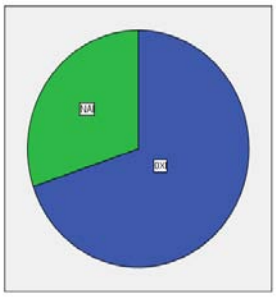
Plastic

Figure 3.16- 3.17- 3.18*: Materials and Olive Oil Packages*

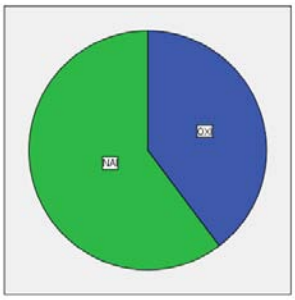
From the figure above it is obvious that 50.68% of the sample uses "Glass", 47.94% "Stainless" and 28.76% "plastic" as olive oil packaging material.



Light



Air



Temperature

Figure 3.19-3.20 -3.21*:* *Factors affecting olive oil quality*

71.92% of the sample considers light as an important factor in olive oil quality degradation, 30.13% the exposure to air and finally 60.27% the exposure to high temperature.

3.2 Correlations

The sample is composed by consumers of primary and secondary education, reflecting the profile of "average consumer". Consumers who know the organic olive oil they usually know its nutritional and biological value, they consider it healthier and with better quality than the conventional one. Moreover, they prefer certified production systems and they are dissatisfied with the control in primary production and product quality. Consumers now who are informed about the Integrated Management System and Organic Olive Oil, they consider these categories safer than the conventional one. These consumers do not tend to use plastic as a packaging material of olive oil, in additional they know the nutritional and biological value and they are willing to pay more for certified olive oil.

Those who have more money to spend per month for food they use glass to store olive oil and they belong to secondary education. Moreover, those who prefer to buy products containing olive oil and specific biological; they tend to use Extra Virgin Olive Oil in salads, as they consider it as best quality Organic Olive Oil, they prefer certified products and they are willing to pay higher costs.