

## STATISTICAL STUDY ON CONSUMER AWARENESS TO PRESERVATION AND STORAGE REQUIREMENTS OF FRESH FOOD

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### **Abstract**

*Movement of goods and maintaining their quality characteristics during the technical - economic circuit is a constant concern of all those involved in this chain: producers, distributors, transporters, traders and consumers. Food does not stop its natural course, not interrupt their activity as soon as they reach the final customer. Even if the consumer is the last link of the circuit techno - economic food here will follow and will be maintained optimal conditions for their preservation and storage. Therefore, we considered a study on the extent to which consumers know the preservation and storage of fresh food.*

**Keywords:** food, consumer, storage, buying behavior

**JEL classification:** D12, D18, M31, L66

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### **1. Introduction**

Into the trade, during the technical - economical circulation of food, products are influenced by a number of internal and external factors. The influence of these factors gives rise to a number of processes and changes that may adversely affect the quality of food. From their production until consumption of food is in a continuous process of storage. Maintaining quality

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parameters within normal condition is imperative in maintaining food quality. Hence the need to know the extent to which traders meet the preserved and food storage requirements recommended by manufacturers and the degree to which consumers know and respect these conditions.

## **2. Research Methodology**

In order to observe the extent to which consumers know the conditions of storage of fresh food and their importance in technical - economic circuit of goods, we undertook research at Mehedinti County, especially in its main shopping centers, namely cities Drobeta Turnu Severin, Orșova, Strehaia and Vinju Mare. The study was conducted at the county level to observe the differences between the areas where the products are mainly purchased from commercial network and areas where it is mostly self-consumption.

The research is based on an oral investigation (face to face) among consumers of this county, investigation based on questionnaire as the methodological tool. The population studied consisted of Mehedinti population (265 400 inhabitants in 2011, since the last census, of which 235 439 aged between 15 and 74 years), extracting a representative sample of 599 subjects. The research was carried out from 1 to 30 December 2013, when, due to the holiday season flow sale - purchase was higher than usual. The sample was determined by applying simple random selection, using the non-return ball method, the sampling step being every fifth customer passed before the interviewer.

Data collection points were established in major commercial centers of the cities listed.

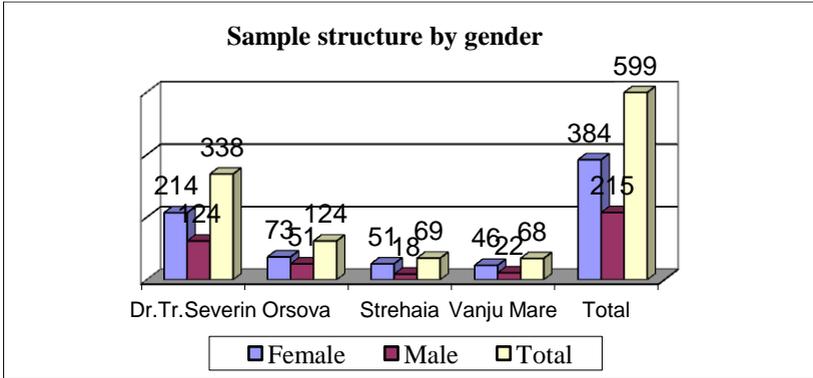
To start, a pilot survey was conducted among 25 people to check if the questions are well formulated, and buyers can respond to them easily. Following this investigation found no difficulty in completing the questionnaire, for which the past administration of questionnaires to interviewers for the entire sample.

The questionnaire developed for finding consumer opinion about preservation conditions and storage of fresh food is completed only once by a respondent and contains 15 questions, 4 of which are questions of identification.

### 3. The research results

From data analysis follows the following structure of the sample by gender:

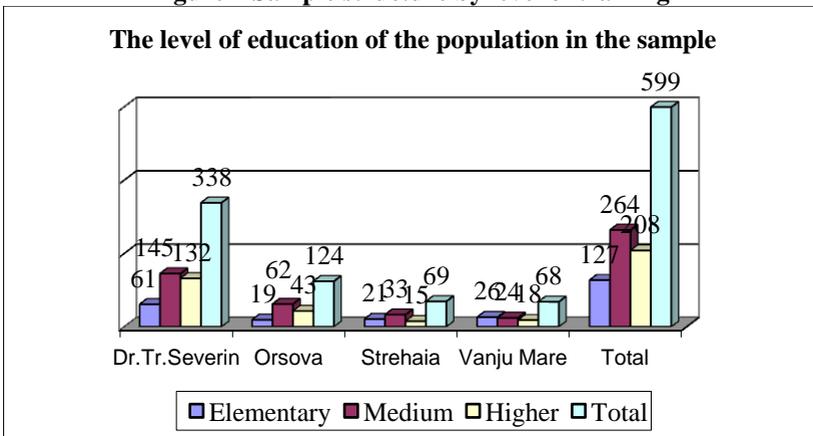
**Figure 1 Structure of the sample by gender**



The data suggest that women are more concerned with the problem of food supply of the family (64.11% of respondents were female). This is due to the concern of women for food preparation and involve them more deeply in matters relating to quality of fresh food.

Regarding the level of preparedness of those interviewed we observed the following structure:

**Figure 2 Sample structure by level of training**

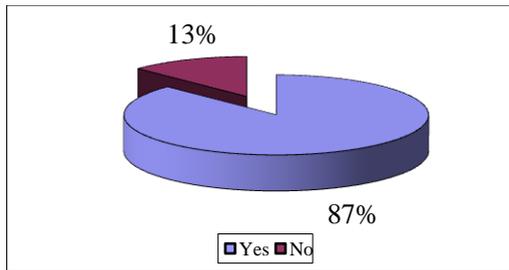


From the chart 2 it can be seen that the preparation level is mostly the medium (44.07% of respondents have ordinary skill).

Conclusions of the study resulting from the processing of information from the questionnaires are as follows:

When we asked "Do you know the meaning of preservation and storage of foods?" responses were those in figure 3.

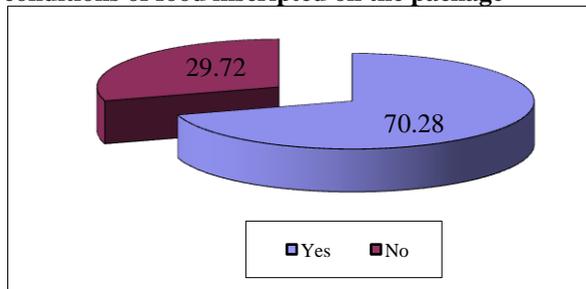
**Figure 3 The knowing the significance of preservation and storage condition of foods**



Of the 599 people interviewed, all constantly buying fresh food, 523 people (87.31%) know the meaning of preservation and storage of foods, and 76 of the people (12.69%) responded negatively to this question. It should be noted that most of those who responded negatively to this question were men, and they said they are not interested in this, someone else dealing with these issues.

Regarding the question "When buying fresh food, you consult the valability term and storage conditions on the package", the situation is as follows:

**Figure 4 The measure in which consumers consult the validity term and storage conditions of food inscripted on the package**



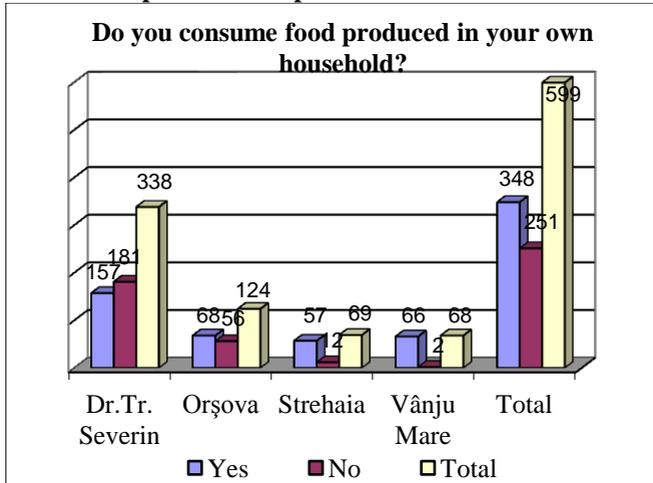
- 421 people (70.28%) consult the the term of validity and storage conditions inscribed on the product packaging;

- 178 people (29.72%) of them responded negatively on this question.

These results indicate that not all consumers are interested in these issues when purchasing products due to an insufficient culture in this respect, poor advertising on consumer protection in the smaller towns and lack of consumer interest.

The question "Do you consume food produced in your own household?" we detailed it on cities to highlight the greater consumption of food in their household in smaller towns.

**Figure 5. Consumption of food produced in their own household**

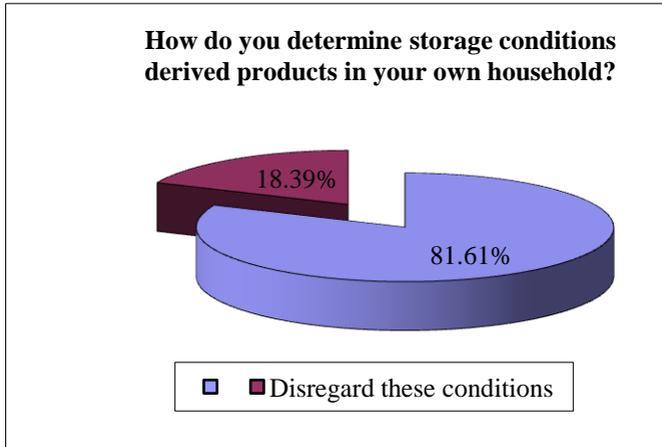


High share of population that consuming food, produced in their own household in the smaller towns from the county Mehedinti leads to the conclusion that most of them sitting at house, every family grow their own vegetables, fruit and domestic livestock in their own household. On the other hand, a significant number of people said that they make canning of fresh produce on autumn buying fresh products from private producers or from their household.

When asked "How do you determine preserved and storage of food that you produce in your own household?" the 348 respondents who consume foods from their own household responded as follows (figure no.6):

- Following the conditions of the similar products on the market 284 (81,61%)
- Not take account of these conditions 64 (18,39%)

**Figure 6. The way of determining the conditions of storage and preserving food products in their own household**



Regarding the main way to inform on how to appeal consumers when they want to buy fresh food new appeared on the market, interviewees responded as follows:

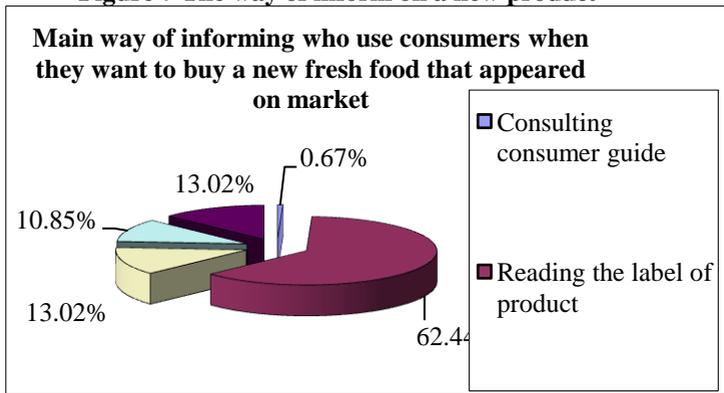
- 4 people (0.67%) consulting consumer guide
- 374 people (62.44%) reading the label
- 78 persons (13,02) appealing to advertising and publicity in the media
- 65 people (10.85%) of the information gathered from acquaintances, friends
- 78 persons (13,02) I informed from the seller

The data analysis shows that most consumers consult the product label before you buy, and very few consumers are aware of the existence of a consumer guide.

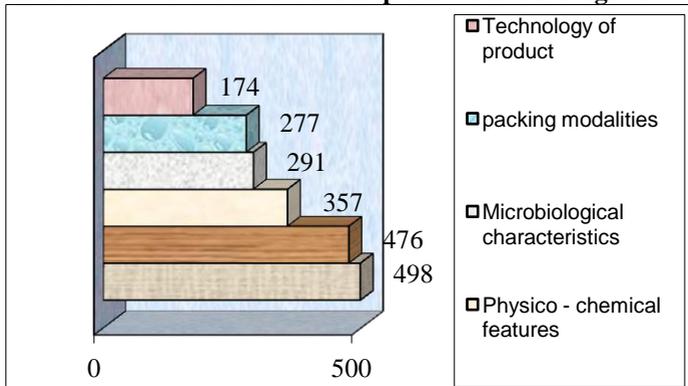
When asked "What elements (features) consider to be necessary to be considered by manufacturers to determine the conditions of preserve and storage for fresh food" following data centralization was reached following hierarchy:

- On first placed were placed sensory characteristics (appearance, taste, smell, touch) 498
- The validity term on second place 476
- 357 people found that the physic - chemical characteristics occupies the third place
- Microbiological characteristics in fourth place with 291
- Packing modalities fifth place 277
- Technology of production of the product at the sixth 174

**Figure 7 The way of inform on a new product**

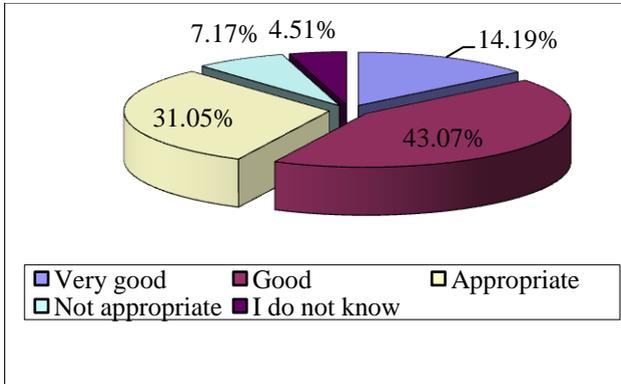


**Figure 8 The hierarchy of elements that should be taken into account by manufacturers to determine the conditions of preserve and storage for fresh food**



When asked what were the maintenance of the quality characteristics of fresh food into the validity term on storage period set by the manufacturer, subjects gave the following answers:

**Figure 9 Appreciation of maintain the quality characteristics of food products into validity term on storage period set by the manufacturer**



Most of subjects considered maintaining the quality characteristics of fresh food as good (43.07%), followed closely by those who see it as appropriate (31,05%). Only 4.51% of them do not know what to answer on this question, and 7.17% consider maintaining quality characteristics as inappropriate. The unsatisfactory percentage of consumers who find as very good the maintaining of these features while preserving and storage of food, leads to the idea that somewhere in the technical – economic circuit of food there are disruptions of these parameters that are maintain these quality features; these disruptions affecting the consumer satisfaction.

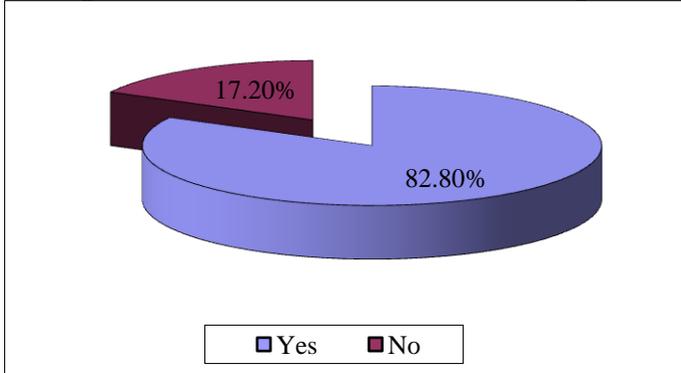
Ask if they have seen in the stores products marketed under degraded conditions, subjects responded as follows:

- 496 (82,80) answered affirmatively
- 103 (17,20) responded negatively or did not give importance to this

The products to that 496 subjects found most nonconformities were:

- Vegetables 18,62%
- Fuits 22,13%
- Milk and milk products 32,21%
- Meat and meat products 38,14%

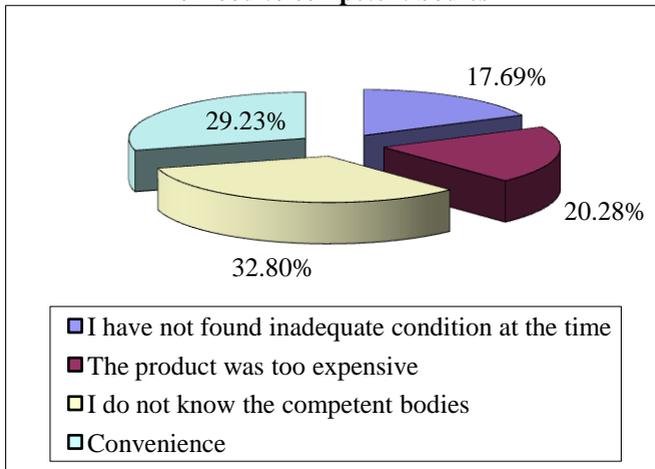
**Figure 10** The measure to which subjects were observed improper condition of marketing of food in commercial establishments or agro markets



This result leads to the necessity of an experimental study to highlight the influence of temperature fluctuations and improper storage conditions on the quality of dairy and meat products.

After buying fresh food 517 subjects (86.31) mention that they respect the conditions of storage and preserving indicated by the manufacturer, while 82 subjects (13.69) do not account for these.

**Figure 11** Causes of which have not been complaints about inadequate condition of food to competent bodies



Ask if they have notified the competent authorities about inadequate condition of food products in its period of validity 96 (16.03%) said they had made complaints in this regard, the remaining 503 (83.97%) did not, for the following reasons:

- 89 of the interviewed subjects (17.69%) have not found in that moment qualitatively inadequate condition of the purchased goods;
- 102 (20,28%) said that the product was too cheap;
- 165 subjects (32,80%) do not know the competent authorities in solving these problems;
- 147 people (29,23%) recognized that by convenience do not appealed to the competent authorities.

## **2. Conclusions**

The research followed closely by consumer awareness of preservation and storage conditions of food in general and especially fresh food, to see what problems arise for keeping fresh food to the final consumer. From the study conducted it was found that the vast majority of consumers knows and takes into account the conditions of storage of fresh food, drawing also our attention to the following issues:

- Fresh foods have an important weight and there are in current diet of the population, for which greater attention should be paid to maintain their quality during techno - economic circuit of goods;
- Conditions of preservation - storage of fresh food are interesting information for both merchants and consumers, and must always be printed on the label, or if the product has no label, the seller have to inform the buyer on them. These conditions must be clearly specified by the manufacturer for each type separately, to eliminate risks of food that are not related to the production process;
- The consumption of food from their own household is particularly high in rural areas and small towns, because of the possibility of cultivating fruits and vegetables and livestock and poultry for slaughter for human consumption. On these products there are not the problem of storage condition, those who practice this knows about storage parameter and having experience in this too;
- The largest focus for buyers / consumers is on the sensory properties of the products first, but also on the physic - chemical, microbiological

thereof, so products can be marketed only if conditions of preservation - storage are strictly observed and controlled;

- Of great importance in preserving fresh food is their the term of validity, so in establishing storage conditions during techno - economic circuit must take into account the distances we go through these foods from the producer to the retailer from retailer to final consumer, so as not to exceed its period of validity which is generally less fresh food than in those preserved;

- At the same time we are interested in the extent to which storage conditions and preservation somehow affect the validity of the food. It is interesting to see how this period is reduced if the storage conditions are not exactly the set of standards, that is, when a period even shorter time intervening fluctuations of these parameters;

- There is weak information to consumers concerning on their rights regarding the poor quality of the food they buy, especially in smaller towns and rural population. A major campaign to include the rural population would decrease information risk improper marketing of quality.

### **3. References**

- C. Florescu (coordonator), (1992) *Marketing*, Editura Marketer, p. 121.
- Somea, D., Calciu, M., (1998) Cercetarea de marketing asistată de calculator, Editura Tehnică, București, pp.49-54
- Sperdea, N. (2010), *Calitatea produselor alimentare în cadrul circuitului tehnico – economic*, Ed. Universitaria, Craiova
- Sperdea, N. (2007), *Economia comerțului*, Ed. Universitaria, Craiova
- INSSE (2012), Anuarul statistic 2012, *Populația județelor, municipiilor și orașelor în 2011*.