

## **HIGHLIGHTS OF THE MARKETING MIX STRATEGY ON THE MARKET OF SEA BUCKTHORN PRODUCTS**

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### **Abstract**

*In the food and pharmaceutical industry, but also as an ornamental plant sea buckthorn has been used since ancient times. It is also of particular interest in today's conditions due to its valuable food and pharmaceutical qualities. The fruits of sea buckthorn are rich in vitamin C, A, B1, B2, B6, B9, E, K, P, F, cellulose, beta-carotene, microelements and ethereal oils. In recent years, consumption and consumer interest in sea buckthorn fruits and products derived from sea buckthorn are increasing.*

*The article addresses the problem of consumption of sea buckthorn products through increasing the degree of satisfaction of consumers' desires and expectations. Market study of sea buckthorn products, conducted on the basis of a questionnaire within the research project "Development of technology for the production of sea buckthorn in an ecological system and the processing of fruits and biomass", highlights the problems to be solved by managers and specialists in production and sales to meet the needs and expectations of consumers on the domestic market and not only.*

*Both producers of sea buckthorn products and wholesalers or retailers must take into account not only their valuable food and therapeutic properties, but also the desires of consumers, the complexity of the marketing mix, the type of measures, methods of promotion, distribution and marketing to the final consumer.*

*The results of the survey identified the general informative picture about the consumers of the sea buckthorn products and allowed the elaboration of some recommendation for the plant producers.*

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**Keywords:** sea buckthorn, consumers, consumer market, market research, marketing mix, strategic landmarks

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### **1. Introduction**

Sea buckthorn – *Hyppophaerhamnoides*, is a shrub known as part of the spontaneous flora of Moldova, which is used in the food industry, forestry, pharmacy, but also as an ornamental plant. Sea buckthorn originates in the steppes of Central Asia, Caucasus region.

Due to its valuable food and therapeutic properties, sea buckthorn has been of particular interest among fruit species since antiquity. The truest source of the use of sea buckthorn dates back to 200 BC during campaign of Alexander the Great. Genghis Khan, the emperor of Mongolia, who created one of the largest empires in the 13<sup>th</sup> century, relied on three things: a well – organized army; strict discipline and the sea buckthorn that didn't lack in the soldiers' food. At the 29<sup>th</sup> edition of the Summer Olympics in Beijing (China 2008), the Chinese Olympic team was served at any table with sea buckthorn juice.

Sea buckthorn fruit contains twice as much vitamin C as rosehip and 10 times more than citrus fruits. In ripe fruit the content exceeds 400-800 mg per 100 g of fresh juice. Other vitamins present in the fruit are A, B1, B2, B6, B9, E, K, P, F. we also find cellulose, beta-carotene ( in a net percentage higher than the carrot pulp), trace elements such as phosphorus, calcium, magnesium, potassium, iron and sodium, complex oils, etc.

Sea buckthorn is used in the food industry (juices, syrups, jams, sweets, alcoholic beverages, nectar), for the treatment of diseases and joint edema in the pharmaceutical industry, but and in the cosmetics industry.

Both producers of sea buckthorn products and wholesalers or retailers must take into account not only their valuable food and therapeutic properties, but also the desired of consumers, the complexity of the marketing mix, the type of measures, methods of promotion, distribution and marketing to the final consumer.

## **2. The degree of investigation of the problem and purpose of research**

In the Republic of Moldova, sea buckthorn is a species that has not been widespread as in the case of Asian countries or some in Europe. In recent years, with the selection of highly productive varieties, including without thorns, and machines for mechanized fruit harvesting, fruit growers both abroad and in our country show an exceptional interest in sea buckthorn which is becoming one of the most profitable fruit species. In the Republic of Moldova, the first commercial plantation on an area of 40 ha was established in 2014. Later, the number of plantations and areas of this crop increased being at the beginning of 2018 around 180 ha [1].

The marketing activity in the production of white sea buckthorn represents the process of studying the market of this product by white sea buckthorn producers and the subsequent use of marketing- mix elements in order to obtain a profit by satisfying the population with white sea buckthorn products. [2].

The problem of consuming sea buckthorn products in terms of increasing the satisfaction of consumers' wishes and expectations is a current one. At the same time, there are not enough studies on the market of sea buckthorn products and the authors set out to research this important topic.

The purpose of the research is to identify the problems to be solves by managers and specialists concerned with the production and sale od sea buckthorn to meet the needs and expectations of consumers in the domestic market.

## **3. Applied methods and materials**

In this research there were mainly used the following methods of scientific research: the dialectical method and its components: analysis and synthesis, comparison method, presentation of results obtained in graphical form - diagrams and diagrams.

The research was conducted on the basis of a questionnaire, which included 12 questions. The survey was carried out within the Research Project "Development of technology for the

production of white sea buckthorn in an ecological system and the processing of fruits and biomass", with the number 20.80009.5107.13, on a sample of 326 people, aged +18 years, inhabitants of the Republic of Moldova, with a margin of error of +/- 3%. The data were collected between April and September 2020 by the CAPI (Computer Assisted Personal Interviewing) method. The interviewed sample is representative in terms of sex, age, marital status and living environment.

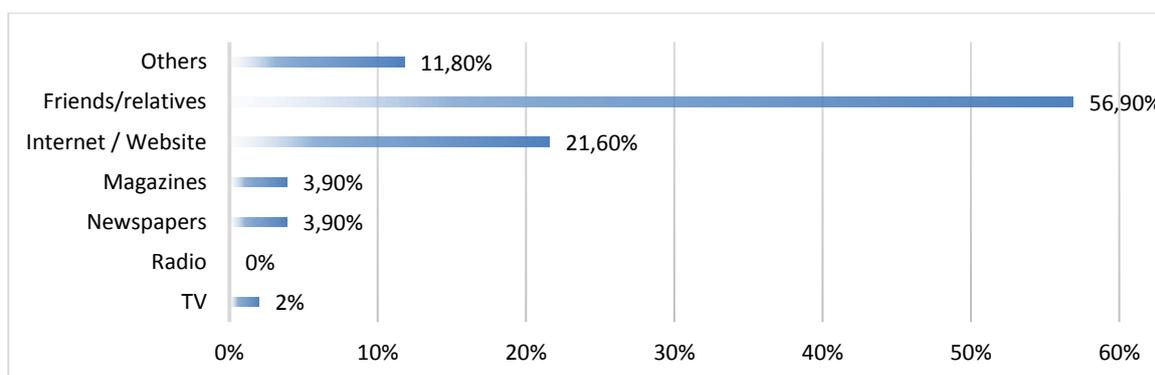
#### 4. Obtained results and discussions

The advantages, set out above, place sea buckthorn and its derivatives at the forefront of a healthy physiological diet. Of course, the share of products in the food set differs from one country to another and it depends a lot on the economic development of the given state formation. All these arguments favored the beginning of the research process on the consumption of sea buckthorn products in the Republic of Moldova.

The results of the questionnaire show that in our country these products are known to consumers, but we are going to carry out thoughtful actions of persuasion to increase the consumption of sea buckthorn products.

From the answers to the question if the respondents are consumers of sea buckthorn, more than a third of the interviewed people answered that they know and consume these products periodically. So, we can say that every third person in the Republic of Moldova is a real consumer of sea buckthorn products.

When asked "What sources did you first learn about sea buckthorn products from?" the results were distributed as follows (Fig. 1).

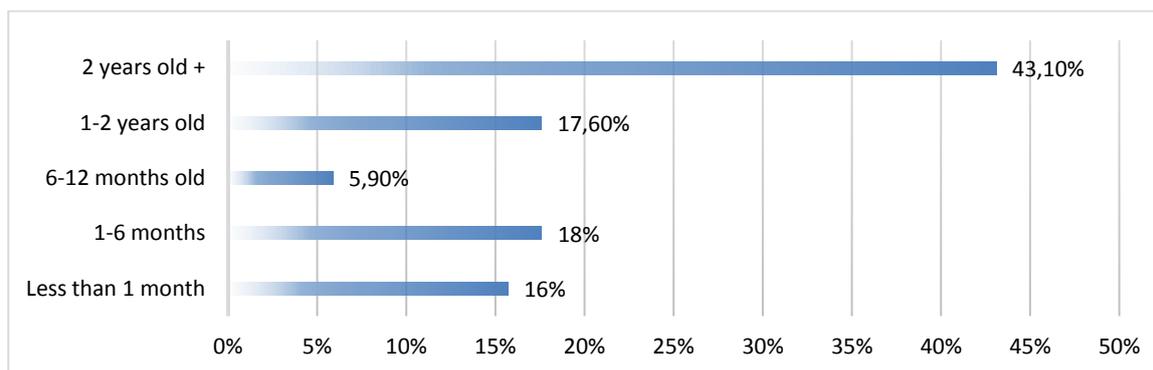


**Figure 1. Diagram of the respondents' information sources about sea buckthorn**

Source: Developed by the authors based on the study

Thus, consumers of sea buckthorn products learn more about them from friends and relatives (56.9%), who are positioned on the first position being followed by internet sources. There are also new sources of information about the consumer of sea buckthorn products, these being the doctor's prescription and the offer of teas and other sea buckthorn products in public catering establishments and restaurants.

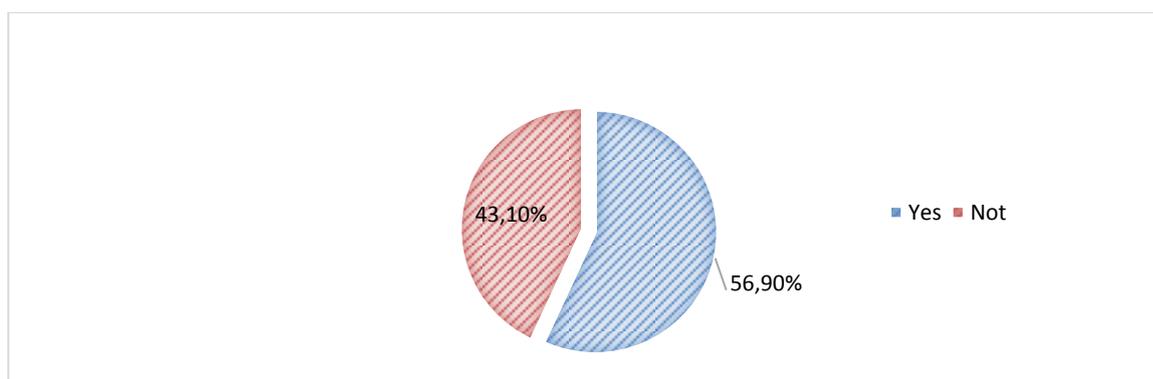
Regarding the question "How long have you been using sea buckthorn products?" the results were distributed as shown in Figure 2.



**Figure 2. Diagram of the structure of sea buckthorn consumers by duration of use of sea buckthorn in consumption**

Source: Developed by the authors based on the study

The vast majority of consumers of sea buckthorn products consume these products for more than a year, constituting over 60% of the respondents. Thus, we can mention that the sea buckthorn products pass from the new products phase to the traditional products phase. However, there is a need to increase production from producers. When asked "Do you know the difference between sea buckthorn products and other products that offer the same utilities?" the results were distributed as follows: 43.1% do not know the difference between sea buckthorn products and other similar products and 56.9% know these differences (fig. 3).



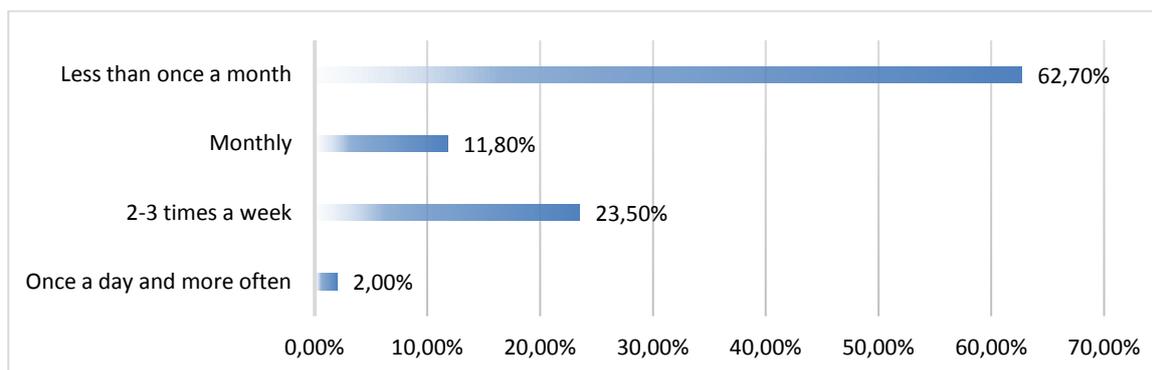
**Figure 3. The structure of the respondents with reference to the knowledge of the difference between sea buckthorn products and other products that offer the same utilities**

Source: Developed by the authors based on the study

Although most consumers of sea buckthorn products know the benefits of this product, there is a need for permanent information about the importance of consumption of sea buckthorn for human health.

While being asked "How often do you consume sea buckthorn products in general?" 62.7% of respondents answered that less often than once a month, 23.5% consume 2-3 times a week and only 2.0% once a day and more often (fig. 4).

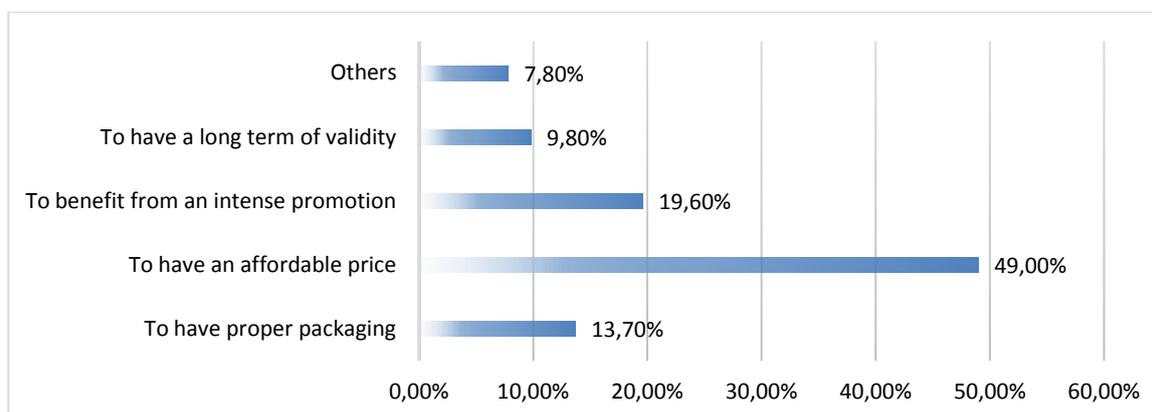
The consumer of sea buckthorn products perceives their need, but the frequency of consumption is still low and this is explained by the fact that the price is not so affordable. In this situation, producers of sea buckthorn products must constantly review their prices.



**Figure 4. Diagram of sea buckthorn consumption in temporal aspect**

Source: Developed by the authors based on the study

When asked “Mark the main features that in your opinion, a quality sea buckthorn product should present:” the results were distributed as follows: 49.0% of respondents focus primarily on an affordable price, and 19.9% on an intense promotion. Consumers who pay attention to the packaging in which sea buckthorn products are sold are also highlighted - 13.7% (fig. 5).



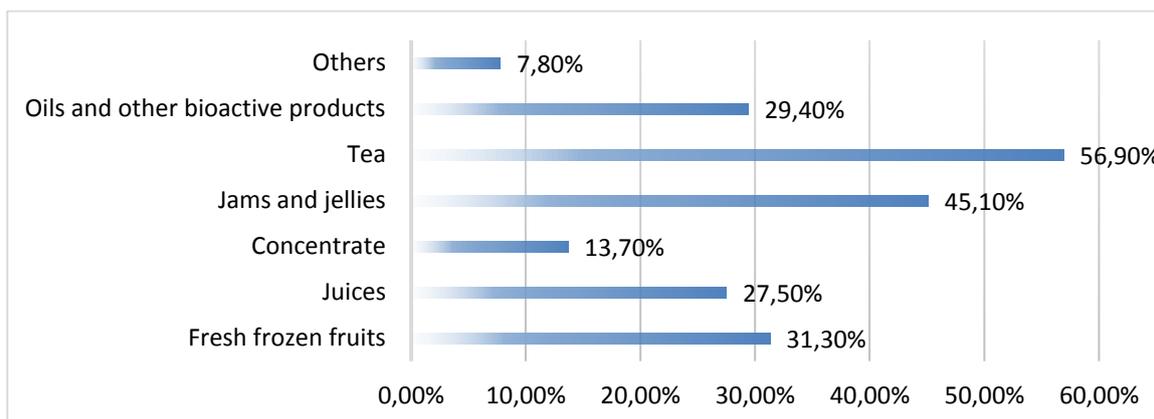
**Figure 5. The structure of consumers' opinions with reference to the characteristics of a quality sea buckthorn product**

Source: Developed by the authors based on the study

The answers obtained to this question come to argue the results of the previous answer that the consumer of sea buckthorn products wants first of all an acceptable price.

Another question that respondents were asked to answer was "What type of sea buckthorn products do you prefer?".The respondents could choose several products, therefore when totaling the results in% or there was obtained data in the amount exceeding 100%.However, from the obtained data we see that the most requested product of sea buckthorn is tea with 56.9%, followed by jams and jellies with 45.1%, fresh products, juices, oils, etc. (fig. 6).

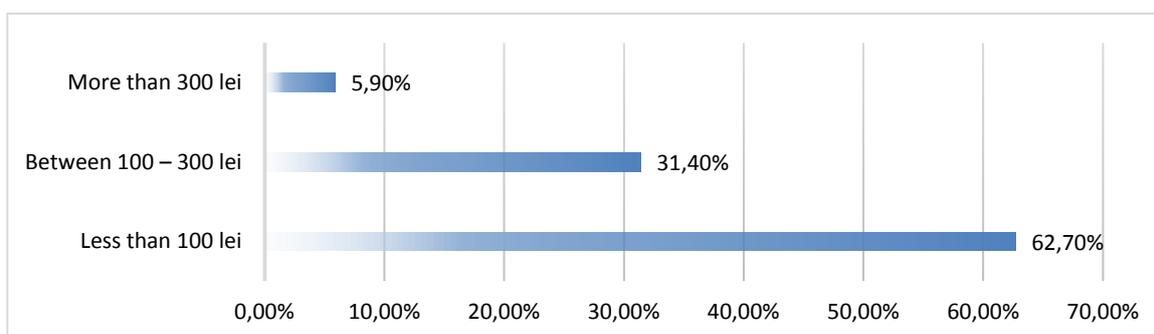
Thus, we can mention that the assortment of sea buckthorn products purchased by consumers is very varied. The largest share is white sea buckthorn tea and jams and jellies. However, cosmetology products based on sea buckthorn fruits (oils and creams for external use, toothpaste, soap, shampoo) are getting to gain popularity. The main problem of these products is that they are imported, in the Republic of Moldova there is only one producer S.A."Viorica", which has not yet launched its own line of sea buckthorn products.



**Figure 6. Diagram of consumers' preferences of sea buckthorn products**

Source: Developed by authors based on the study

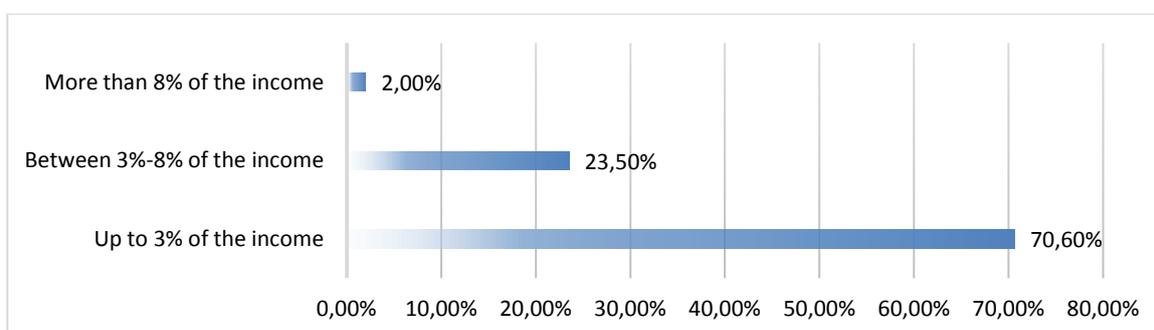
While asked "How much do you spend on average per week on sea buckthorn products?" the answers of the respondents were distributed as follows: over 62.7% spend less than 100 lei for the purchase of sea buckthorn products and only 5.9% more than 300 lei per week (fig. 7).



**Figure 7. Structure of average expenditures for the procurement of sea buckthorn products**

Source: Developed by the authors based on the study

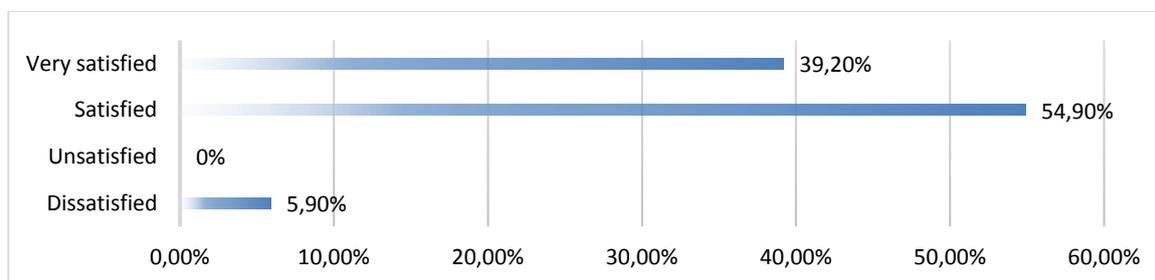
The problem of high prices and low incomes limits consumers to spend more on the purchase of sea buckthorn products. While asked "What percentage of your income are you willing to allocate monthly to your family to consume only sea buckthorn products?" it was found that it could allocate up to 3% of the income - 70.6% of the respondents, and 8% of the income only - 2.0% of the respondents (fig. 8).



**Figure 8. Diagram of assigned revenues for the purchase of sea buckthorn products**

Source: Developed by authors based on the study

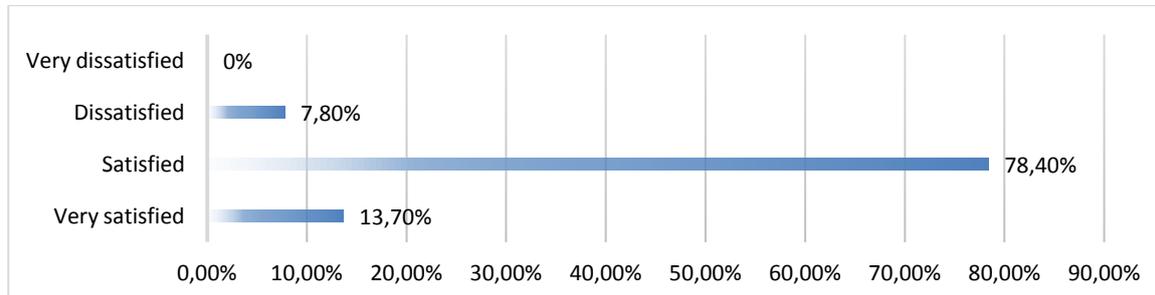
From the above diagram we see that consumers of sea buckthorn products are largely unwilling to allocate more than 3% of their income to those products, due to their lack of knowledge of the benefits and advantages of consuming these products. While asked "How satisfied are you with sea buckthorn products?" the results were distributed as follows:



**Figure 9. Consumers' satisfaction diagram with reference to sea buckthorn products**

Source: Developed by authors based on the study

So, the sea buckthorn products currently existing on the market of the Republic of Moldova satisfy in proportion of over 90 percent the consumers' requirements, which proves that the producers of sea buckthorn products have taken a correct step in order to satisfy the demands with these products. In order to find out the level of satisfaction with the value for money, there was asked the question "How satisfied are you with the value for money for sea buckthorn products in general?", where the answers show that 78.4% are satisfied, 13.7% very satisfied and only 7.8% dissatisfied (fig.10).



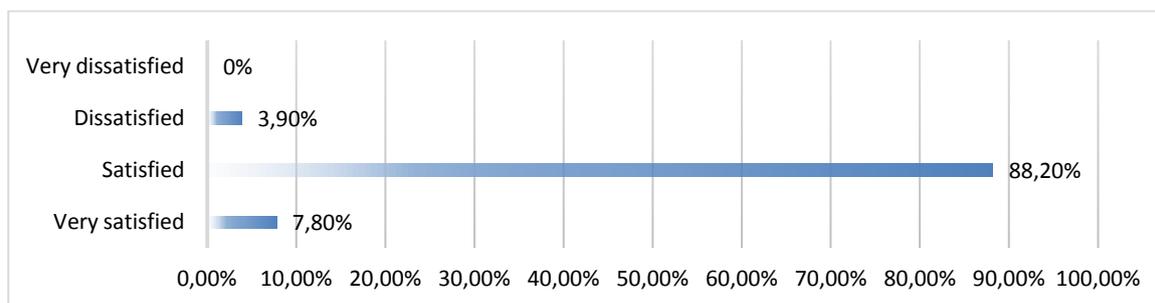
**Figure 10. Satisfaction level diagram with reference to value for money**

Source: Developed by the authors based on the study

Consumers are also satisfied with the value for money of sea buckthorn products, which inspires a viable perspective for the producers of these products.

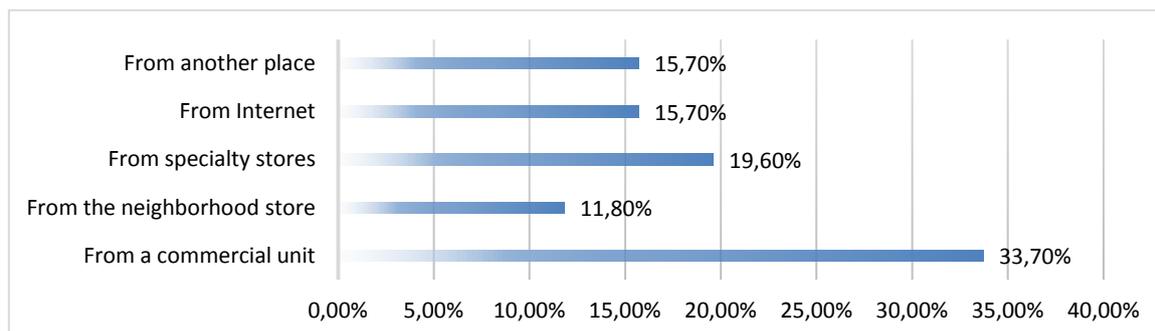
When asked "How satisfied are you with the price ratio between sea buckthorn products and other products that have the same utilities?" the respondents in proportion of 88.2% answered affirmatively that they are satisfied (fig. 11).

The answers to this question show that consumers are informed about other products with the same utilities and are satisfied with their price compared to similar products. Respondents were also asked where they prefer to buy sea buckthorn products. Thus, at the question "Where do you prefer to buy sea buckthorn products?" 33.7% answered that they buy sea buckthorn products from a mall, 19.6% - from specialty stores, 15.7% - from online stores, 11.8% from neighborhood stores and 15.7% from other commercial units (fig. 12).



**Figure 11. Satisfaction level diagram with reference to value for money**

Source: Developed by the authors based on the study

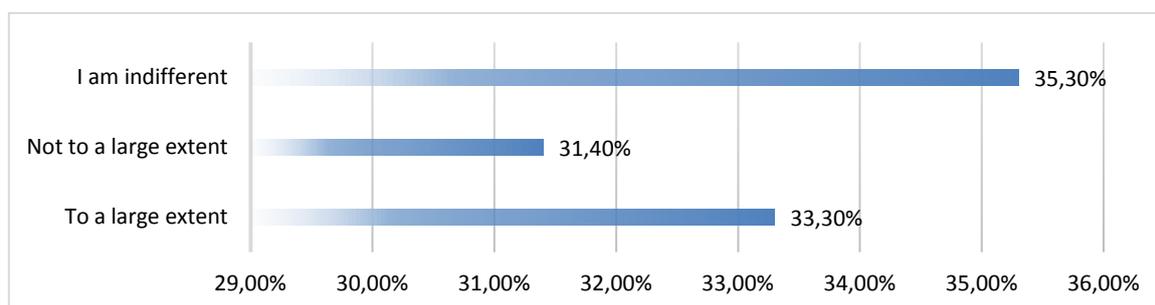


**Figure 12. Diagram of purchase preferences for sea buckthorn products**

Source: Developed by the authors based on the study

So, consumers of white sea buckthorn products supply white sea buckthorn products especially in shopping malls and specialty stores, but there is a tendency for fresh fruit to be sourced directly from the producer through direct and online sales.

An important question in determining the preferences of consumers of sea buckthorn products was "To what extent does your packaging determine you to buy these products?". The answers to this question were distributed proportionally between the three options: to a large extent - 33.3%, the packaging does not have a great influence - 31.4% and they are indifferent to the packaging - 35.3% (fig.13).

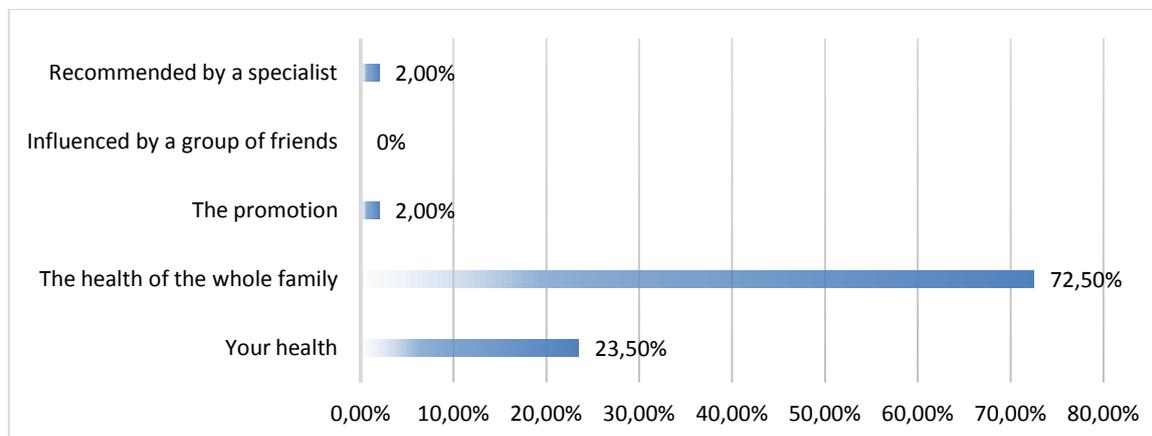


**Figure 13. Diagram of the degree of influence of the packaging on the purchase of sea buckthorn products**

Source: Developed by the authors based on the study

For sea buckthorn products, the consumer wants their content to be appropriate and he is less interested in its packaging. Thus, producers of sea buckthorn products must take into account the fact that the packaging of these products is a guarantee of the preservation of the quality of these products.

To find out why respondents consume sea buckthorn products, they were asked “What makes you eat sea buckthorn products the most? Analyzing the obtained answers, we observe that 72.5% of the respondents consume the sea buckthorn products for the maintenance of the health of the whole family, 23.5% for their own health (fig. 14).



**Figure 14. Diagram of the reasons for consuming sea buckthorn products**

Source: Developed by the authors based on the study

Therefore, according to the result of the survey, the consumption of sea buckthorn products is determined, as a rule, by the improvement of both the personal health and of the whole family of the consumer who together accumulated 96.0%. So, consumers of sea buckthorn products are aware of the need to use these products. The producers of these products have the task to develop the production and diversify the assortment of sea buckthorn products.

The research process also addressed the issue of the importance of certain variables in making the decision to purchase sea buckthorn products, respondents being asked to establish the order of their importance when choosing such products.

The purchase of sea buckthorn products depends on several factors. Consumers were asked to prioritize the following characteristics of sea buckthorn products: quality, price, quantity, familiarity and brand name. The data shown in Figure 15 show that consumers pay the most attention when making a purchase decision to the quality of the products, the price and the packaging being placed on the second and third position, the other features being on the lower positions. These three characteristics need to be taken into account by sea buckthorn growers in order to be successful in this market.

Quality		clasament 1.5/5
Price		clasament 2.5/5
Packaging		clasament 3.3/5
Familiarity		clasament 3.7/5
Brand's name		clasament 4.1/5

**Figure 15. Clasament – ranking. Diagram of the hierarchy of properties of sea buckthorn products in the process of making purchasing decisions**

Source: Developed by the authors based on the study

In order to determine what makes them consume sea buckthorn products, the respondents were asked "What do you like and what do you not like about this product?". From the answers of the respondents, we established that most of them like the taste and smell of sea buckthorn products - 65.0%, because of vitamin C as well as other vitamins and chemical elements beneficial to the human body - 24.6% and last but not least that sea buckthorn products are a natural medicine. Of course, there are also some shortcomings related to sea buckthorn products, namely: high price, quality in some cases and their unavailability throughout the year.

## 5. Conclusions

The results of that survey familiarize us with the general picture with information about consumers of sea buckthorn products. It gives us the opportunity to develop some recommendations for producers of sea buckthorn products, namely:

- 1) It is necessary to increase the production of sea buckthorn fruit in order to ensure the current consumption of the final consumer, as well as the needs of the processing industry of these products.
- 2) Diversify the assortment of local products obtained from sea buckthorn to replace their import. To a large extent, this depends on the supply of raw materials which is at a very low level.
- 3) Permanent information to the consumer about the importance of sea buckthorn for this product to be a traditional one in the Republic of Moldova.
- 4) Price formation for sea buckthorn products taking into account the purchasing power of the local consumer. This will increase the consumption of these products.
- 5) Producers of sea buckthorn products must take into account that the packaging of these products is a guarantee of the preservation of the quality of these products.
- 6) In order to be successful on the market for sea buckthorn products, it is necessary to take into account three main variables: quality, price and packaging.

Thus, by introducing sea buckthorn in culture, there are cheap but economically valuable conditions, due to the fact that it does not involve the use of polluting means or methods, to solve the major problems related to lands degradation and exit from the agricultural crisis in the Republic Moldova.

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**Rezumat**

În industria alimentară și farmaceutică, dar și ca plantă ornamentală cățina albă se utilizează din cele mai vechi timpuri. Aceasta prezintă interes deosebit și în condițiile actuale datorită calităților valoroase alimentare și farmaceutice. Fructele de cățină albă sunt bogate în vitamina C, A, B1, B2, B6, B9, E, K, P, F, celuloza, betacaroten, microelemente și uleiuri eterice. În ultimii ani crește consumul și interesul din partea consumatorilor față fructele de cățină albă și produsele derivate din cățină.

În lucrare se abordează problema consumului produselor din cățina albă prin prisma sporirii gradului de satisfacere a dorințelor și așteptărilor consumatorilor. Studiul pieței produselor din cățină albă, realizat în baza unui chestionar în cadrul proiectului de cercetare „Elaborarea tehnologiei de producere a cătinii albe în sistem ecologic și a prelucrării fructelor și biomasei”, a scos în evidență problemele care urmează a fi rezolvate de către manageri și specialiști în producere și vânzări pentru a satisface nevoile și așteptările consumatorilor pe piața autohtonă și nu numai.

Atât producătorii produselor din cățină albă, cât și vânzătorii angroșiști sau detailiști trebuie să țină cont nu doar de însușirile valoroase alimentare și terapeutice ale acestora, dar și de doleanțele consumatorilor, de complexitatea mixului de marketing, tipologia măsurilor, metodelor de promovare, distribuție și comercializare către consumatorul final.

Rezultatele sondajului a identificat tabloul general informativ despre consumatorii de produse din cățină albă și au permis elaborarea unor recomandări pentru producătorii plantei.

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**Cuvinte-cheie:** cățina albă, consumatori, piața de consum, cercetarea pieței, mix de marketing, repere strategice

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**Аннотация**

В продовольственной и фармацевтической промышленности, а также как декоративное растение облепиха используется из древних времен. И в современных условиях растение пользуется большим интересом благодаря своим ценным пищевым и фармацевтическим качествам. Плоды облепихи богаты в витаминах С, А, В1, В2, В6, В9, Е, К, Р, F, целлюлозе, бета-каротене, микроэлементах и эфирных маслах. В последние годы растет потребление облепихи и интерес со стороны потребителей к плодам облепихи и продуктам из нее.

В работе рассматриваются проблемы потребления продуктов из облепихи относительно роста уровня удовлетворения ожиданий и запросов потребителей. Исследование рынка продуктов из облепихи осуществлено путем анкетирования в рамках научного и исследовательского проекта «Разработка технологии производства и переработки плодов и биомассы облепихи в экологически чистой среде». В результате проведенного исследования выявлены проблемы которые необходимо решить менеджерами и специалистами занимающимися производством и продажей данного продукта для того чтобы удовлетворить потребности и ожидания потребителей на местном и внешнем рынке.

Фермеры, занимающиеся производством, а также торговые предприятия должны учитывать не только ценные питательные и терапевтические свойства продуктов из облепихи, но и ожидания потребителей, комплексность элементов маркетинга, особенности формирования ассортимента, методов продвижения, дистрибуции и продажи конечному потребителю.

В результате опроса составлен обобщенный информационный портрет потребителей продуктов из облепихи, что позволило разработать ряд рекомендаций производителям данной культуры.

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**Ключевые слова:** белая облепиха, потребители, потребительский рынок, исследование рынка, комплекс маркетинга, стратегические ориентиры

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