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TRENDS IN THE FISH MARKET AND FISHING INDUSTRY PRODUCT DEVELOPMENT

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Abstract

The purpose of the article is to study the trends in the fish market and fish industry product development, to analyze the exports and imports of fish products to Ukraine to further develop cold supply chains. The paper gives a comprehensive analysis of fish and aquaculture production in the world. It has been identified that leaders in fish capture are Asian countries, while about 80% of the total fish production is provided by only 20 countries, among which China is an undisputed leader. Besides, the global fish and seafood supply in the market for a long time has been generated by Peru, the USA, Chile, Indonesia, Japan, India, the Russian Federation, Thailand, Norway, Latvia, and Estonia. It is figured out that the main countries importing fish and fish products to Ukraine are Ireland and Norway, the ratio of imports to exports of fish and fish products in Ukraine are 2% to 98%, despite the fact that Ukraine has access to the sea, capture levels and exports are very small. It is also considered the main importing countries of fish and fish products to Ukraine. It is estimated that 90% of all imported products are frozen, and their transportation from the countries of the European Union is carried out by automobile transport. The article enables to conclude that the Ukrainian fish market is import-dependent and has a seasonal nature. The article focuses on the need to take into account transportation geography to form the technological process of fish delivery.

Keywords: fish capture; market for fish and fish products; export; import; geography of transportation

1. Problem statement

The fishing industry is the most promising area of economic activity in most countries. The volumes of fish transportation are increasing every year around the world. The dynamics of imports of fish products to Ukraine in the last two years has been showing an upward trend. However, the level of the population provision with fish products in Ukraine is rather low. Therefore, the issues of creating customers for perishable goods and the construction of cold supply chains are topical.

2. Recent research and publications analysis

Among the domestic authors studying the development of the fish industry in Ukraine the works by N.M. Vdovenko, P.P. Barshchevskyi, V.A. Chemerys, V.I. Dushka, V.L. Maxym and others are especially noteworthy. In their papers they considered the issues of breeding and catching fish in Ukraine, increasing consumer prices for the sales of these products - factors affecting the decline in the entire Ukrainian fishing industry.

3. Articulation of the research objectives

The main objective of the article is to study the trends of the fish market and fish industry product development, to analyze the exports and imports of fish products to Ukraine to further develop cold supply chains.

4. Statement of basic materials

One of the most demanded food products in the world is fish. It serves as raw materials for a considerable number of different products. Every year 100 million tons of fish, marine and other bioresources are consumed in the world and are used in other sectors of the economy. In recent years 46% of fish or 79.3 million tons has been sold as foodstuff in a live, fresh and chilled form. In addition, 12% or 16 million tons of fish were used as dried, salted, smoked or otherwise processed, 13%

or 17 million tons – as prepared or fermented and 29% or 40 million tons as frozen fish. A significant proportion of the world's fish products are still being processed into fish-flour and fish oil. Fish-flour is used mainly as feed, and fish oil is useful to replace mineral oil and in medicine [6].

The main source of information used to update the database is FAO, the Food and Agriculture Organization of the United Nations. Thus, the quality of statistics is largely determined by the accuracy and reliability of the data collected and presented to the Organization by countries. The main fish and seafood exporting countries are those having access to the vast of ocean. Fishing and fish farming is a highly concentrated activity [3] (Fig. 1).

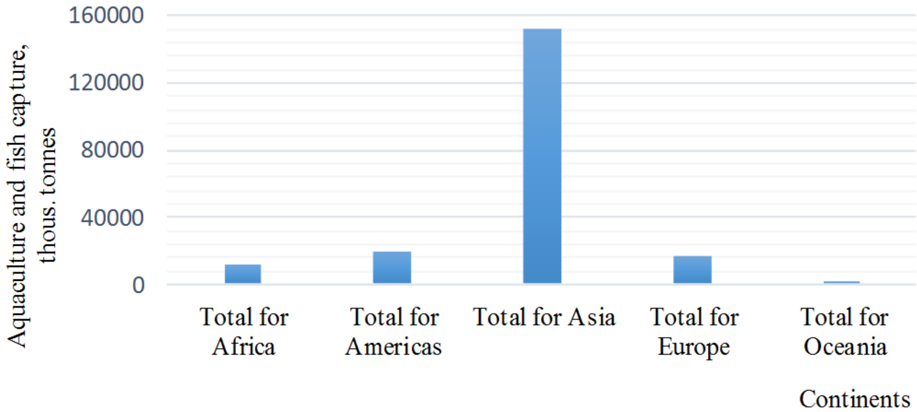

Fig. 1. World statistics on aquaculture production and fish capture by continent

As it can be seen, the largest fish and seafood catches worldwide take place in Asian countries.

About 80% of the total fish production is provided by only 20 countries, among which China is an undisputed leader. Besides, the global fish and seafood supply in the market for a long time has been generated by Peru, the USA, Chile, Indonesia, Japan, India, the Russian Federation, Thailand, Norway, Latvia, and Estonia.

The major countries producing fish and their capture levels [3] are presented in Table 1.

Table 1

Major fish producing countries

Country	Average capture 2005-2014, tons	Capture in 2015, tons	Capture in 2016, tons	%
China	13 189 273	15 314 000	15 246 234	–0,4
Indonesia	5 074 932	6 216 777	6 109 783	–1,7
USA	4 757 179	5 019 399	4 897 322	–2,4
Russian Federation	3 601 031	4 172 073	4 466 503	7,1
Peru	7 338 839	5 786 551	4 774 887	–21,1
Norway	2 348 154	2 293 462	2 033 560	–11,3
Unite Kingdom	631 398	705 249	701 749	–0,4
Denmark	735 966	868 892	670 207	–22,9
25 major countries	65 451 506	66 391 560	63 939 966	–3,7
Other 170 countries	14 326 675	14 856 282	15 336 882	3,2
World total	79 778 181	81 247 842	79 276 848	–2,4

The share of the major countries accounts for 82% of the total capture production in the world.

Today, the world's population is about 7.4 billion people, fish and aquaculture production is 170.9 million tons meaning that the average consumption of fish is 20.3 kg, where 9.2 kg is provided relying on traditional commercial fishing, and 11.1 kg is supplied through the development of aquaculture.

Based on expert estimates, the consumption level of fish and fish products is the following: in Europe

20-60 kg per year (in Germany and the Netherlands – 15-20 kg, and in Spain and Portugal - 40 -60 kg), in Japan - more than 60 kg / year, in China - 20-40 kg / year [3]. It has to be taken into account the fact that the minimum rates of fish consumption are 12 kg, while rational ones stand at 20 kg. Ukraine is far behind the countries with the developed fish consumption culture.

Starting from 2015, the level of fish consumption in Ukraine has been gradually increasing (Fig. 2).

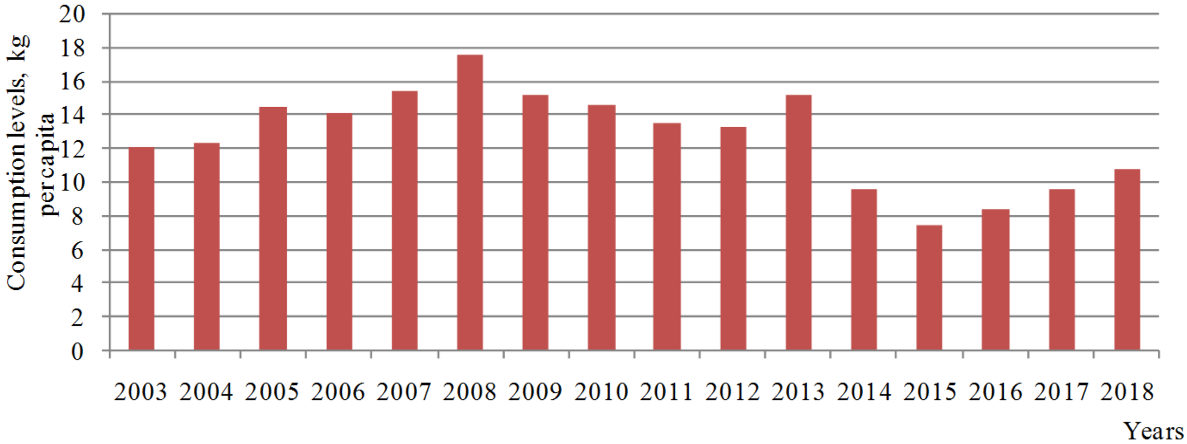

Fig. 2. Basic fishery product consumption by the population of Ukraine from 2003 to 2018

However, even in 2018, the consumption of fish and fish products in Ukraine is almost twice as little as the worldwide average and accounts for 10.7 kg per capita annually which is 55% less than the rational index.

Let's take a closer look at the current situation in Ukraine with fish production and export and import of fish products.

The total fish catches and other aquatic biological resources by the fish industry enterprises of Ukraine in 2018 amounted to 61.5 thousand tons of biological resources with fish comprising 58 thousand tons (in 2017 the figures were 82 thousand tons).

If to compare Ukraine with the leaders in the market such as China catching more than 15 million tons of fish a year, Ukraine's capture level constitutes 0.4% out of China`s output rate.

In 2017, Ukrainian companies increased exports of fish products to 9.4 thousand tons, compared with 6.7 thousand tons in 2016 [7]. At the same time, in monetary terms in 2017, fish products exports amounted to $ 27.7 million, as compared with $ 16.3 million in 2016. Due to the fish companies` active cooperation with foreign partners, it was possible to open up new markets and points of sale for their products.

Mostly, Ukraine has exported its fish products to the following countries: Moldova (1424 tons), Germany (1036 tons), Belarus (852 tons), Georgia (846 tons), Denmark (825 tons) (Fig. 3).

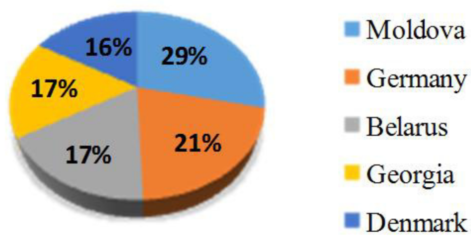

Fig. 3. Geographical structure of Ukraine`s fish product exports in 2017

Moldova became the main importer of Ukrainian live fish in 2017, having purchased 253 tons of the product (almost 99%) for 254 thousand US dollars. Besides, Ukrainian live fish was imported by Poland and Turkey.

If we compare the total volume of imports and exports according to the main commodity items and the codes of the Ukrainian Commodity Coding System from 2015 to 2018, Ukraine exports only 2 -2.5% in relation to the imports of the same goods.

Figure 4 shows the dynamics of imports according to commodity items.

In total, according to the State Statistics Committee, the imports of fish products in 2018 accounted for 365 thousand tons, which is 45 thousand tons more than in 2017. Import volumes from 2013 to 2018 are presented in Figure 5.

All imports of fish and fish products are divided into: frozen products - (90%), chilled products - 3,6%, salted products - 2,7%, canned fish - 1,6%, surimi products - 1,4 and live fish - 0,7% [6].

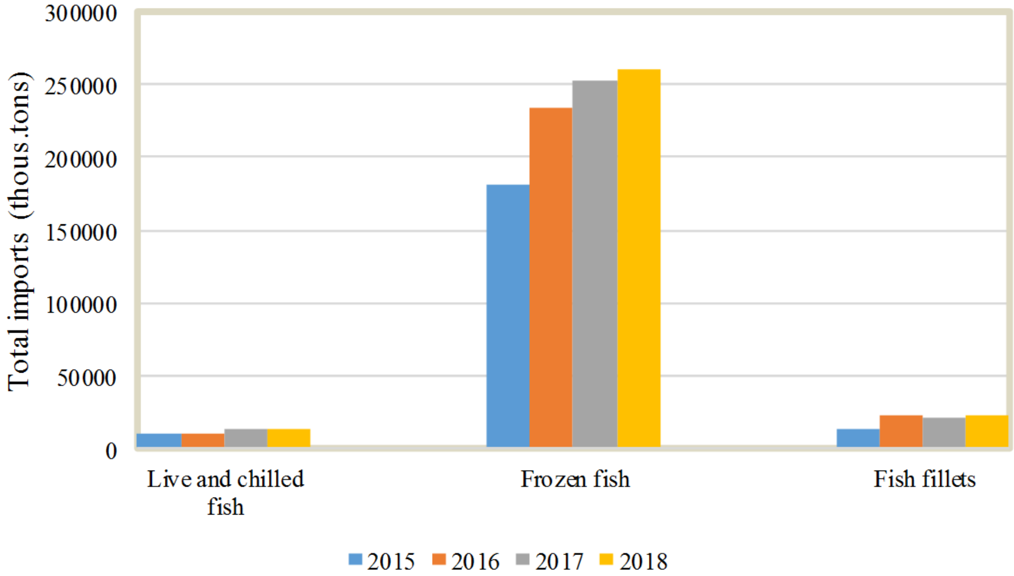

Fig. 4. Dynamics of imports to Ukraine according to the commodity items over the period between 2015 and 2018

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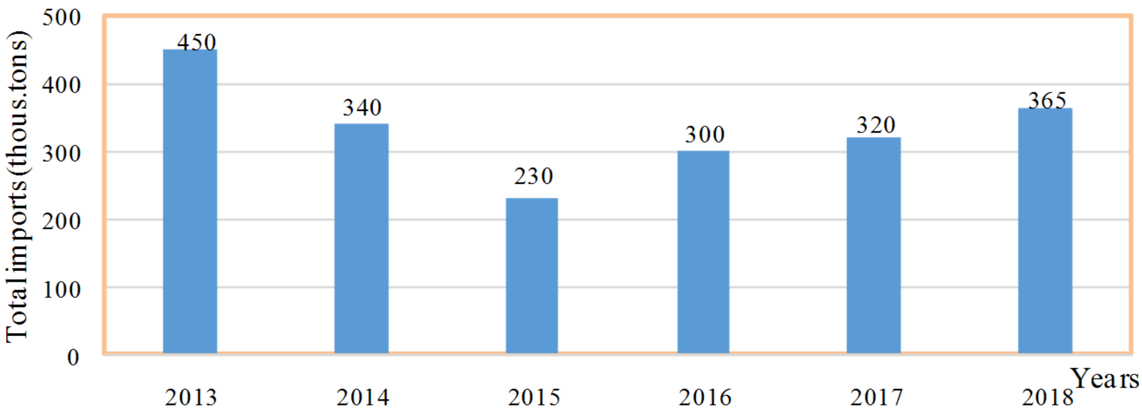

Fig. 5. Dynamics of fish product imports to Ukraine from 2013 till 2017

In order to better meet the needs of the population for fish and the fishing industry products, as well as to ensure variety in food and the expansion of the product range, Ukraine imports fish products from abroad. So, much of the frozen fish comes from overseas.

We are going to consider the countries that are the main exporters of frozen fish to Ukraine.

Ukraine imports fish from almost 60 countries. 62% of the total imports is supplied by the five largest fish exporters. Iceland has the most consistent share of 22%, Norway accounts for 16%. In different years, the share of imports from this country fluctuates. Other countries exporting fishery products to Ukraine are Estonia (9%), Canada (8%) and the USA (7%). (Fig. 6).

In 2017 the herring was a traditional leader of frozen fish consumption (60 thousand tons). In addition, Ukraine imported the following fish species: the mackerel (42.7 thousand tons), the hake (40.5 thousand tons), the Baltic herring (33.7 thousand tons), the salmon (25 thousand tons), the sprat (13, 6 thousand tons), the Alaska pollack (11 thousand tons), the capelin (10,5 thousand tons), the sardine (9,4 thousand tons), the Antarctic marbled perch (7,25 thousand tons) (Fig. 7).

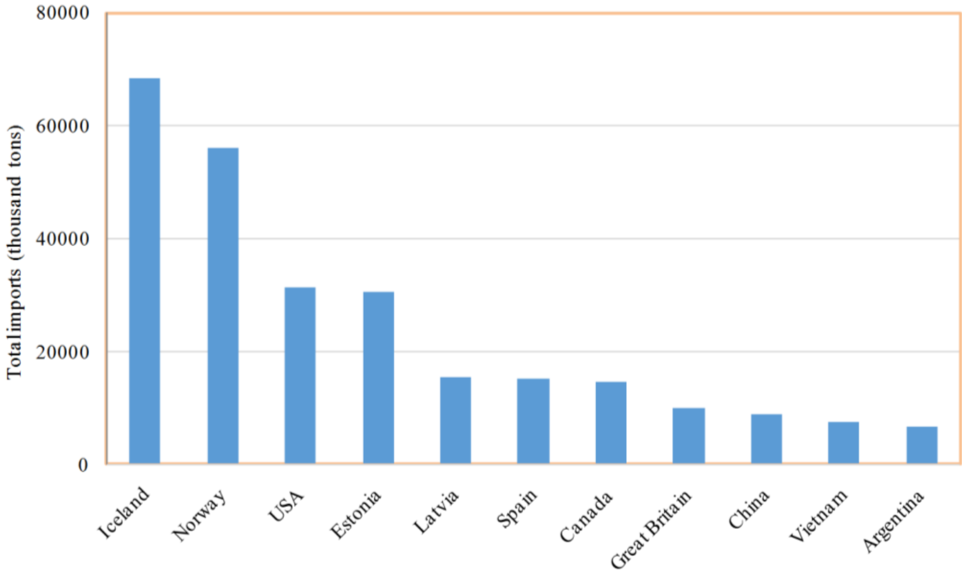

Fig. 6. The main countries exporting frozen fish to Ukraine in 2017

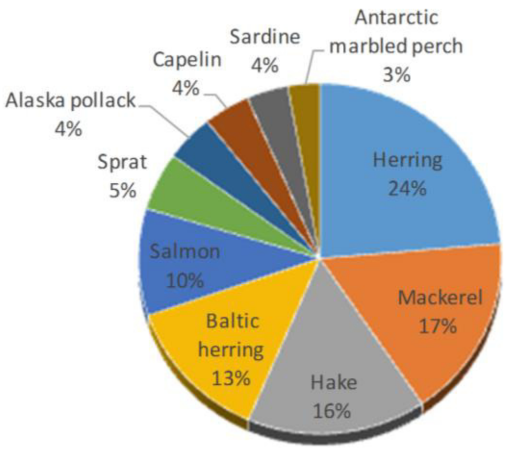

Fig. 7. Import structure by frozen fish species in 2017

Fish consumption is seasonal. It traditionally begins to increase in autumn reaching its peak during New Year holidays. Then there is a gradual decline in consumption figures intensified from the end of May. In summer fish consumption levels are the lowest. Thus, fish import is of a seasonal nature as well. Fig. 8 presents the data on the volumes of fishery product supply by month in 2017 [8].

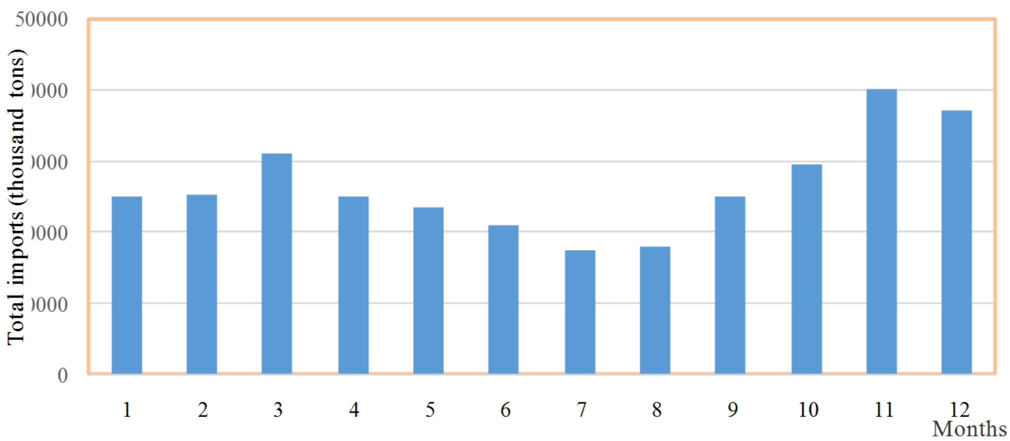

Fig.8. Dynamics of fishery product imports to Ukraine by month in 2017

In summer, imports and consumption are reduced by more than 2 times relative to the autumn-winter period. Fish consumption begins to pick up starting from October, gradually increasing in November and December reaching its peak. Comparing the figures in December and July, it can easily be noticed the difference in consumption and imports by more than 2 times.

5. Conclusions

The analysis of the conducted research results shows that the fish market in the world is developing; the volume of fish catches is getting bigger year by year. It is worth noting that nowadays the largest fish and seafood capture worldwide takes place in Asian countries, representing 80% of the total fishery catch. About 80% of the total fishery production is provided by only 20 countries, among which China is an undisputed leader. Besides, the world fish and seafood market is shaped by the following countries: Peru, the USA, Indonesia, Japan, India, the Russian Federation, Thailand, and Norway.

In Ukraine there is a controversy. On the one hand, the country has unlimited water resources, and on the other hand, 98% of fish and fish products are imported. The main importing countries are Ireland, Norway and others. It is identified that the Ukrainian fish market is import-dependent and of a seasonal nature. Out of all products imported from these countries 90% are transported as frozen. In recent years, the import of fish and fish products has been steadily increasing. Therefore, the organization of the delivery of fish and fish products internationally and the choice of specialized vehicles for transportation is still a topical issue.

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Тенденції розвитку ринку риби та продукції рибної промисловості

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Метою статті є вивчення тенденцій розвитку ринку риби та продукції рибної промисловості, аналіз обсягів експорту та імпорту рибної продукції в Україну для подальшої побудови холодних ланцюгів постачань. В роботі проведено аналіз обсягів рибальства та аквакультури в усьому світі за останні роки, лідерами по вилову риби залишаються країни Азії, пропозиції на ринку риби та морепродуктів залишаються за країнами, які складають 80% від загального об'єму вилову риби. Загальний видобуток рибної продукції забезпечують усього 20 країн, серед яких Китай виступає беззаперечним лідером. Також світовий стан пропозиції на ринку риби та морепродуктів протягом тривалого часу визначають Перу, США, Чилі, Індонезія, Японія, Індія, РФ, Таїланд, Норвегія, Латвія, Естонія. Визначенні основні країни – імпортери риби та рибної продукції в Україну – якими є Ірландія та Норвегія, співвідношення імпорту та експорту риби та рибної продукції в Україні складає експорт - 2% , імпорт - 98% , незважаючи, що Україна має морський простір, об'єм вилову та експорту дуже незначний. Розглянуті основні країни імпортери риби та рибної продукції в України, визначено, що 90% всієї імпортованої продукції є замороженою, доставка з країн Європейського Союзу відбувається автомобільним транспортом. У статті встановлено, що український ринок риби є імпортозалежним і має сезонний характер. У статті акцентовано увагу на необхідність урахування географії перевезень на формування технологічного процесу доставки риби.

Ключові слова: вилов риби; ринок риби та рибопродуктів; експорт; імпорт; географія перевезень

И.Г. Лебедь[1], Т.Г. Ануфриева[2].
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Целью статьи является изучение тенденций развития рынка рыбы и продукции рыбной промышленности, анализ объемов экспорта и импорта рыбной продукции в Украину для дальнейшего построения холодных цепей поставок. В работе проведен анализ объемов рыболовства и аквакультуры во всем мире за последние годы, лидерами по вылову рыбы остаются страны Азии, их предложения на рынке рыбы и морепродуктов составляют 80% от общего объема вылова рыбы во всем мире. Общая добыча рыбной продукции обеспечивают всего 20 стран, среди которых Китай выступает безоговорочным лидером. Также мировой состояние предложения на рынке рыбы и морепродуктов в течение длительного времени определяют такие страны как: Перу, США, Чили, Индонезия, Япония, Индия, РФ, Таиланд, Норвегия, Латвия, Эстония. Определены основные импортеры рыбы и рыбной продукции в Украину – этими странами является Ирландия и Норвегия. Соотношения импорта и экспорта рыбы и рыбной продукции в Украине складывает таким образом: экспорт - 2%, импорт - 98%, невзирая, что Украина имеет свои морские просторы, объем вылова и экспорта рыбы очень незначителен. Проанализировано, что основные страны импортеры рыбы и рыбной продукции Украины, 90% всей импортированной продукции поставляют в замороженном виде. Доставка замороженной рыбной продукции из стран Европейского Союза выполняется автомобильным транспортом. В статье также проанализировано, что украинский рынок рыбы импортозависимый и имеет сезонный характер. Также при транспортировке автомобильным транспортом необходимо учитывать географию перевозок и формирование технологического процесса доставки рыбы.

Ключевые слова: вылов рыбы; рынок рыбы и рыбопродуктов; экспорт; импорт; география перевозок

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