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Export potential development of wild plants

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Abstract. The article presents the prospects for the wild plants export development in Krasnoyarsk Krai. The analysis of the wild plants export from the region over the past five years is carried out. The commodity structure of the wild plants export was revealed and the main foreign trading partners were identified. The article considers factors and prospects for the development of wild plants harvesting and sending them for export on the example of Krasnoyarsk Krai.

1. Introduction

Improving the agricultural sector of Russia is inseparably related with the problem solving associated with the improvement of the economic, social efficiency and productivity of manufacturing and agricultural production realization. It is especially important for agrarian production subjects to find the development course aimed at the resource potential optimization. In these conditions, the integration into the global economy and the use its potential in foreign markets is one of the key factors in increasing the social and economic efficiency of agricultural production [1].

The Siberian Federal District (SFD) is considered as one of the significant regions for agriculture. SFD has significant capacity of the land for agricultural development. The capacity of the land amounts 45.7 million hectares of arable land. 24 million hectares of them are agricultural lands, which accounts for 23.9 and 19.4% of the land capacity of the whole country, respectively. Krasnoyarsk Krai has one of the leading roles in the dynamics of the agricultural sector among other regions of the Siberian Federal District [2].

Wild plants remain the most important source of food development in Krasnoyarsk Krai. Their resources are consumed to a small extent. In 2018, about 1706.7 tons of wild plants were harvested in Krasnoyarsk Krai - 820 tons of fern, 586 tons of chanterelles, 91.5 tons of porcini mushroom, 92 tons of pine nuts, 63 tons of cranberries, 40.2 tons of cowberries, 5 tons of blueberries, 2 tons of sweets and candied fruits from pine and 7 tons of bioproducts.

2. Materials and methods

The wild plants harvesting is carried out today in the following regions of the world:

- Eastern Europe (mainly Russia);
- Asia (mainly China);
- South America.



The harvesting industries of Western Europe and North America, previously prosperous, are now in decline due to the sharp reduction in natural resources. In these regions, a cultivation method of producing wild berries and mushrooms is becoming popular. For example, the USA is the largest producer of cranberries grown in cultivated plantations. However, in world markets, products of natural origin are more in demand as a biologically cleaner product [3].

China is traditionally the largest consumer of pine nuts in the world, and Russia takes an honorable second place on this list, ahead of the United States, Germany and other industrialized countries. Most of which do not grow pine nuts, but they are in high demand as a delicacy among wealthy consumers. That is why industrial countries are the world's largest importers of pine nuts.

In Russia, three leading centers dealing with harvesting and processing wild plants have been organized.

The first one is the North-West region, mainly Karelia and Arkhangelsk Oblast. Investments in harvesting wild plants came here from Northern European countries such as Sweden, Finland and Norway. There are about 40 small and medium-sized harvesting firms. But the development of processing did not work, because investor countries are interested in raw materials, and they are engaged in processing independently.

The second is Central District, which is primarily focused on the Moscow market. Leaders among canning companies are "Ecoproduct" and "Bogorodskaya Trapeza". A leader among frozen berries and mushrooms processing companies is "Cantarella". Also, in canning and freezing, such companies as "Ledovo" and "Khladokombinat Zapadny" are noticeable.

The third center is Siberia. The leading region for the harvesting and processing wild plants, not only in Siberia, but also in Russia, is Tomsk Oblast, where the main player is the Tomsk Food Company. This company is engaged in processing a wide range of products such as berries, and mushrooms, nuts, and other species of wild plants. This company has its own powerful brands and an extensive network for harvesting and marketing products, which is not limited to one Tomsk Oblast. So, for example, the company operates in the market of Novosibirsk and Tyumen Oblasts, Altai and Krasnoyarsk Krai. So, wild plants harvested in the amount of 1.2 billion rubles in Tomsk Oblast in 2018. Of these, 38.5% of wild plans were for the domestic market of the region, 25% of wild plans were accounted for by exports to other regions, 36.5% of them were exported to China and Pakistan (pine nuts), Italy, Austria, Germany, Poland (mushrooms), South Korea and India (tinder fungus) [4].

In Siberia, the dominant positions belong to Tomsk Oblast: local harvesting companies successfully work in the same way in Altai and in Krasnoyarsk Krai. One of the peculiarities of the harvesting market in Siberia is the presence of pine nuts that do not grow in other areas. Moreover, some companies have emerged in the region positioning themselves not only as harvesters, but also as processors of raw materials: remoteness from borders usually stimulates the development of the processing products stages locally in order to minimize the cost of delivering products to foreign markets. The same factor makes Siberian companies to more serious work in the domestic market. Today in Siberia, branched harvesting networks are being built, equipped with transport, refrigerators and other machinery. One of the largest companies is "Tomsk Food Company". It has a leading position not only on the Siberian, but also on the Russian scale.

The area of nut-producing cedar forests available for the development in the Siberian Federal District is 10.7 million ha, or 40.4% of the area of cedar forests. The average yield of nuts for administrative subjects varies from 32 to 52 kg/ha. Operational resources are estimated in 357,200 thousand tons.

3. Results and discussions

Currently, the Ministry of Forestry of Krasnoyarsk Krai, together with the Interregional Public Organization of Entrepreneurs of Siberia "Siberia without borders", is working for creation the enabling environment for organizing the harvesting and processing of wild plants in Krasnoyarsk Krai. A great number of measures have been planned in this sphere. They include the foundation of

enterprise associations involved in the harvesting and processing of wild plants with a network of centralized units for collecting raw materials [3].

According to the information received from the Ministry of Forestry of Krasnoyarsk Krai, about 30 enterprises and individual businessmen work in the field of harvesting and processing wild plants in Krasnoyarsk Krai. Among the regional firms, one can distinguish some large firms that are increasing their production volumes. They are KSPO “Kraypotrebsoyuz”, LLC “Kraspilts”, LLC “Rik” (TM “Travi Sibiri”), LLC “SayanResurs”. Companies such as LLC “Kuraginsky promkhoz”, LLC “Zagotovitel”, LLC “Ermakovsky coopzverpromkhoz”, LLC “Polesye”, LLC “Bezmyanskoye”, LLC “Brigantina+” are actively developing.

According to the results of the study, Krasnoyarsk Krai has prospects for the development of the wild plants export potential. About 15% of production remains on the local product market. About a quarter of wild plants are distributed in the regions of the Siberian Federal District, 40% of processed wild plants are for the Russian market and another 20% of wild plants are intended for export. The main consumers of pine nuts are China, Germany; Lithuania and Germany are consumers of mushrooms (chanterelles); cranberries, cowberries and blueberries were not exported; ferns are exported to China and Japan (for more details see table 1). In total, more than 340 tons of wild plants were exported.

In the future, Krasnoyarsk Krai needs to increase wild plants harvesting and expand the international geography of sales, as there exist all the prerequisites for this. For example, Japan is interested in importing pine nuts as Japanese culinary specialists use cedar oil in cooking. Also, they produce balsams in medicine.

Table 1. Wild plants export from Krasnoyarsk Krai for 2013-18s, million dollars.

| Wild plants | Year | | | | | |
|--|----------------------------------|------------------------------------|---------------------|-----------------------------|---------------------|----------------------------------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 |
| Pine nuts | - | China - 0,17 | China -0,23 | China -0,56 Germany-0,09 | Germany - 0,09 | Germany -0,42 |
| Chanterelles | Lithuania -1,24 Germany -0,04 | Lithuania - 1,46 Poland-0,15 | Lithuania - 0,33 | Lithuania -0,46 | Lithuania - 0,14 | Lithuania -0,08 Germany -0,05 |
| Cranberries, blueberries, cowberries | - | - | - | - | - | - |
| Fern | - | - | China-0,1 | - | - | Japan-0,12 China -0,17 |

Krasnoyarsk farmers exported more than 100 tons of fern to Japan and China. “Orlyak” fern growing in the local taiga is very much appreciated in Japan and China (a stem of the “exported” fern should not exceed 30 centimeters). The plant’s stems are processed and salted, and then they are sent abroad. In Japan itself, fern grows little, and in the forests of the Far East and Siberia, these plants are widely spread [4-5].

Krasnoyarsk Krai needs to develop the export potential of wild plants, as there exist all the prerequisites for this, and, therefore, to supply products to new foreign markets. Annually about 1.6 million tons of wild plants, i.e., berries, mushrooms, nuts, tree saps, ferns, medicinal plants can be harvested in Krasnoyarsk Krai. The largest supply of food forest resources in the region is concentrated in the Yenisei, Ermakovsky, Irbeysky, Karatuzsky, Kuraginsky, Motynginsky, Birilyusky, Tyukhtetsky, Shushensky, Taimyr, Dolgan-Nenets and Evenki regions.

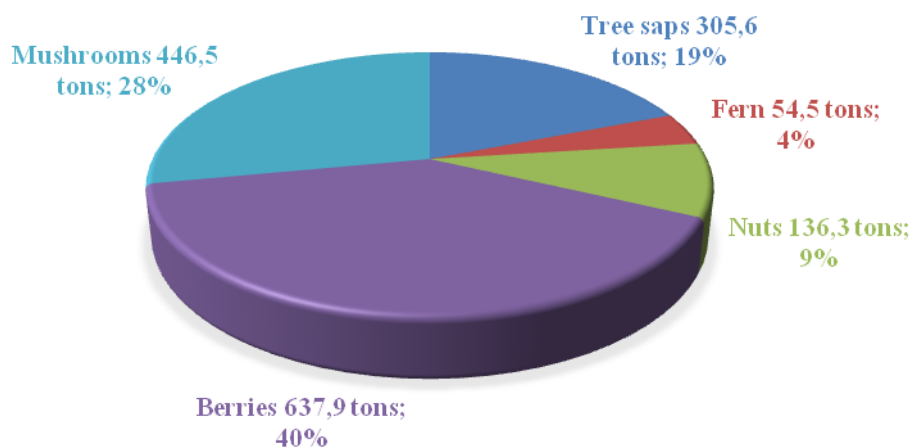


Figure 1. Annual potential harvesting of food forest resources.

Today, less than 1% of wild plants are used in the region. It is connected with such constraints as:

- inaccessibility of harvesting territories and considerable remoteness from consumption and processing centers;
- seasonality and cyclicity of wild plants;
- lack of qualified specialists;
- lack of cooperation among enterprises.

Some enterprises have warehouses and production facilities with the necessary equipment for processing (drying, freezing, preservation, etc.), but there are no sources and working capital for raw materials purchasing. Another part of the production enterprises are located at the start, and premises are being selected and equipment, as well as the search for sources of financing for the implementation of projects.

For the wild plants export development from Krasnoyarsk Territory, it is necessary:

- to consolidate efforts of all interested departments, public organizations and the business community, as well as to create a single coordination center;
- to organize appropriate structures with the state support, including joint ventures with firms in foreign markets;
- to form the Siberian food image as products of the "green line", both in the external and domestic markets;
- to consider the possibility of non-wood, food and medicinal resources harvesting under sales contracts by analogy with forest stands.

4. Conclusion

So, recently, the development of regional foreign economic relations has become increasingly important. The most promising direction for their further improvement is the establishment of regional programs for the development of foreign economic activity [6]. Krasnoyarsk Krai has a high export potential and till now export has been realized to a small number of countries, but today it becomes possible to export production to new markets. Also, Krasnoyarsk Krai has prospects to develop wild

plants further and send them for export. The improvement of the region's export potential will significantly increase the supply of the region's agricultural products to the traditional and new markets, by expanding a number of exporters and the range of exported products.

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