



OIL REFINING INDUSTRY OF KOSTANAY REGION OF THE REPUBLIC OF KAZAKHSTAN: STATE AND KEY TASKS

ҚАЗАҚСТАН РЕСПУБЛИКАСЫ ҚОСТАНАЙ ОБЛЫСЫНЫҢ МҰНАЙ ӨНДЕУ САЛАСЫ: ЖАЙ-КҮЙІ ЖӘНЕ ТҮЙІНДІ МІНДЕТТЕРІ

МАСЛОПЕРЕРАБАТЫВАЮЩАЯ ОТРАСЛЬ КОСТАНАЙСКОЙ ОБЛАСТИ РЕСПУБЛИКИ КАЗАХСТАН: СОСТОЯНИЕ И КЛЮЧЕВЫЕ ЗАДАЧИ

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Abstract. The current state of the world economy requires ensuring food security, and the oil industry of Kazakhstan plays a huge role in this regard. Kostanay region is not a leader in the production of vegetable oils and products of their processing, but it makes a significant contribution on a national scale. The goal is to show the current situation in the oil refining sub-complex of the region, to develop economic measures to improve its efficiency. *Methods* - statistical, comparison to identify internal and external constraints, generalization, justification of priority areas of development and development of measures to improve the mechanism for the functioning of this industrial sector. *Results* - the sunflower oil market is being considered against the background of a global increase in food prices. The volume of production, processing and sales of oilseeds was analyzed, problems of lack of raw materials resources and incomplete loading of processing capacities were identified. Statistical calculations on the volume of revenue and sales of sunflower seed oil for 2020-2024 were presented, trends in intensifying the production process were identified. The selection achievements of the cultivation of oil raw materials were demonstrated, the impact of state policy and World Trade on increasing the capacity of the oil industry was studied and recommendations were given to improve its efficiency. *Conclusions* - oil agroindustrialization of Kostanay region requires a systematic approach, which includes strengthening the raw material base, technological modernization and expanding production capabilities. High demand and demographic growth exacerbate the need for vegetable oils, giving priority to the tasks of import substitution and expansion to foreign trade. It is necessary to use agricultural land in accordance with scientifically based norms, which will increase the yield of oilseeds and increase the competitiveness of domestic agricultural products.

Аңдатпа. Әлемдік экономиканың қазіргі жағдайы азық-түлік қауіпсіздігін қамтамасыз етуді талап етеді және осы тұрғыда Қазақстанның май саласы үлкен рөл атқарады. Қостанай облысы өсімдік майлары мен оларды қайта өңдеу өнімдерін өндіруде көшбасшы болмаса да, республикалық ауқымда елеулі үлес қосуда. *Мақсаты* - өңірдің мұнай өңдеу кіші кешенінде қалыптасқан жағдайды көрсету, оның тиімділігін арттырудың экономикалық шараларын әзірлеу. *Әдістер* - статистикалық, ішкі және сыртқы шектеулерді анықтау үшін салыстыру, жалпылау, дамудың басым бағыттарын негіздеу және осы өнеркәсіптік сектордың жұмыс істеу тетігін жетілдіру жөніндегі шараларды әзірлеу. *Нәтижелер* - күнбағыс майы нарығы азық-түлік тауарлары бағасының жаһандық өсуі аясында қаралуда. Майлы дақылдарды өндіру, қайта өңдеу және сату көлемі талданды, шикізат ресурстарының жетіспеушілігі және қайта өңдеу қуаттарының толық жүктелмеуі мәселелері анықталды. 2020-2024 жылдардағы күнбағыс



тұқымы майының кірісі мен сату көлемі бойынша статистикалық есептеулер ұсынылды, өндіріс үдерісін қарқындату үрдістері анықталды. Мұнай шикізатын өсірудің селекциялық жетістіктері көрсетілді, мемлекеттік саясат пен әлемдік сауданың май өнеркәсібінің әлеуетін арттыруға әсері зерттелді және оның тиімділігін арттыру бойынша ұсыныстар берілді. *Қорытындылар* - Қостанай облысының майлы агроөндірісі шикізат базасын нығайтуды, технологиялық жаңғыртуды және өндірістік мүмкіндіктерді кеңейтуді қамтитын жүйелі тәсілді талап етеді. Жоғары сұраныс пен демографиялық өсу өсімдік майларына деген қажеттілікті күшейтеді, бұл импортты алмастыру және шетелдік сауда орындарына кеңейту міндеттеріне басымдық береді. Ауыл шаруашылығы алқаптарын ғылыми негізделген нормаларға сәйкес пайдалану қажет, бұл май тұқымдарының өнімділігін арттыруға және отандық ауыл шаруашылығы өнімдерінің бәсекеге қабілеттілігін арттыруға мүмкіндік береді.

Аннотация. Современное состояние мировой экономики требует обеспечения продовольственной безопасности и в этом контексте масложировая отрасль Казахстана играет большую роль. Костанайская область, хотя и не является лидером производства растительных масел и продуктов их переработки, вносит значительный вклад в республиканском масштабе. *Цель* – показать сложившееся положение в маслоперерабатывающем подкомплексе региона, разработать экономические меры повышения его эффективности. *Методы* - статистический, сравнения, обобщения для выявления внутренних и внешних ограничений, обоснования приоритетных направлений развития и разработки мер по совершенствованию механизма функционирования данного промышленного сектора. *Результаты* - рассматривается рынок подсолнечного масла в динамике на фоне глобальной эскалации цен на продовольственные товары. Проанализированы объёмы изготовления, вторичной обработки и реализации масличных культур, обозначены проблемы недостатка сырьевых ресурсов и неполной загрузки перерабатывающих мощностей. Представлены статистические расчёты по выручке и объёмам продаж масла семян подсолнечника за 2020-2024 годы, определены тенденции интенсификации производственного процесса. Отображены селекционные достижения выращивания масличного сырья, изучено влияние государственной политики и мировой торговли на наращивание потенциала масложировой индустрии и даны рекомендации по увеличению ее результативности. *Выводы* – масличное агропроизводство Костанайской области требует системного подхода, включающего укрепление сырьевой базы, технологическую модернизацию и расширение производственных возможностей. Высокий спрос и демографический рост усиливают потребность в растительных маслах, что делает приоритетными задачи импортозамещения и экспансии на зарубежные торговые площадки. Необходимо использовать сельхозугодья в соответствии с научно обоснованными нормами, что позволит поднять урожайность маслосемян и повысить конкурентоспособность отечественной сельскохозяйственной продукции.

Key words: oil industry, oilseeds, vegetable oil, productivity, production capacities, processing of agricultural raw materials, prices, Food Products, Food Safety.

Түйінді сөздер: май саласы, майлы дақылдар, өсімдік майы, өнімділік, өндірістік қуаттар, ауыл шаруашылығы шикізатын қайта өңдеу, бағалар, азық-түлік өнімдері, азық-түлік қауіпсіздігі.

Ключевые слова: масложировая отрасль, масличные культуры, растительное масло, урожайность, производственные мощности, переработка сельхозсырья, цены, продукты питания, продовольственная безопасность.

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Introduction

Vegetable oil refers to fatty acids, extracted from various plants, mainly seeds or fruits. The most common sources of vegetable oil are sunflower, rapeseed, soy and flax. There are large variations of use of vegetable oils, ranging from cooking and baking to cosmetology production and biofuels. Different types of oil have rich nutritional value. The relevance of the research lies in the strategic im-

portance of oil and fat industry for the agro-industrial complex (AIC) and food security in Kazakhstan. The purpose of the research is to develop economic basis for improvement of efficiency of the oil and fat industry in Kazakhstan.

The topic featured prominently in the works of domestic and foreign authors, but the economic aspects of the industry efficiency at the regional level remain under-researched. Approaches to development of the oil and fat subcomplex in modern economic conditions

had been justified. Recommendations can be used in the management of agro-industrial policy, the development of processing and export potential.

Steady growing population directly increases demand for food products, whereas agricultural producers are pushed to improve production with a bias towards increasing its efficiency. Due to the high content of nutrients and high-quality fatty acids, oilseeds occupy one of the leading places in agricultural production around the world. The growing demand for oil and fat products in Kazakhstan derived from biological requirement, where its satisfaction is not fully achieved through domestic production at this stage. Kazakhstan remains a net importer, despite the priority, given to increase of the production of vegetable oil.

It should be noted, that the structure of consumption, and therefore imports of vegetable oil in Kazakhstan differ significantly from the global trend: the country's population, due to culinary traditions, prefers sunflower oil, when palm and soybean oil dominate the world market (Gridneva Y.E., Kaliakparova G.Sh., Kassenova A.M.) [1]. Sunflower seed production is characterized particularly by highly profitability among agricultural products due to steady demand for them year-round (Petrenko V., Topalov A., Khudoliy L. et al.) [2]. Import of vegetable oils has the largest share, accounted for the nearest neighbors, EAEU countries. Ready-made oil and fat products are exclusively imported into the republic, while raw vegetable oils, cake and meal are exported (Ibragimov Ya. M., Romashkin R. A.) [3].

Literature Review

In the modern context, poor households have to limit consumption of nutrient-rich foods, preferring a more satisfying basic food basket. The consequences of this restriction included recorded cases of stunt growth and delayed development of children (Alioma R., Zeller M., Ling Y.K.) [4]. Also increase of level of food culture and general awareness in health care resulted in change of types of vegetable oils consumed with preference of more nutritional oils (González-Torres P., García-Ruiz Á., La Rubia M.D.) [5]. The research on sunflower oil tend to focus on its nutritional value, ignoring synergies of the substances, contained therein (Lue X., Yang R., Wang X. et al.) [6]. According to the experts' estimates, around a third of agricultural and food production is wasted at worldwide level, causing irreparable damage to the global economy (Sandhu H., Müller A., Weigelt J.) [7].

In addition to public concerns about the ecological state, conscious consumption of

food products is often followed by change of chemical composition of products during improper storage and transportation. Extension of shelf life, provided for long supply chains, has direct impact (Niu R., Gao S., He J. et al.) [8]. Food security is carried out through availability, affordability and quality of food consumed. The economic availability of healthy food depends both on the prices of food and drinks, and on the financial capabilities of the family. The key factors affecting access to quality food are income levels, financial turmoil, and rising cost of living (Lewis M., Herron L.-M., Chatfield M.D. et al.) [9].

Access to safe, nutritious and acceptable food, relevant to individual preferences is a fundamental human right and basis for wellness management. The development of specialized, equipped oilseed production facilities, focused on the production of finished, ready-to-consume goods is a logical tool for adaptation in the context of diversification of consumer demand, expansion of market opportunities and globalization of trade in oilseeds (Guirrou I., El Antari A., El Harrak A. et al.) [10].

Reducing supply chains has a good effect on sustainability-focused business. Thus, direct purchases from local farmers can reduce the complexity of logistics, simplify interaction with suppliers and increase the transparency of products. This solution is unlikely to become revolutionary and widely used in real terms, since in the context of globalization a return to local supplies can lead to a loss of competitive advantages (Khan M., Papadas D., Arnold L. et al.) [11]. Multi-level supply chains spanning different geographical regions are often managed remotely, which weakens the interaction between buyers and lower-level suppliers. This, in turn, creates various sustainability issues for both sides. The inefficiency of the logistical system, in particular the lack of transparency and traceability in the food supply chain, jeopardizes the food security of the republic (Ahmad Rashid M. R., Hasan M., Islam M.A. et al.) [12].

Materials and methods

The research was carried out at a micro level by the districts of Kostanay region. This research of the oil and fat complex of Kostanay region is based on various methods of collecting information and data processing. It includes the analysis of secondary data, presented in statistical collections, casual economic analysis, statistical method of dynamic series, interval level of dynamic series of cash receipts, absolute growth in prices and base values. The actual works of foreign and domestic authors in the field of food security, economic and production-mechanical aspects of the production of

vegetable oils is considered a methodological and theoretical basis of the research.

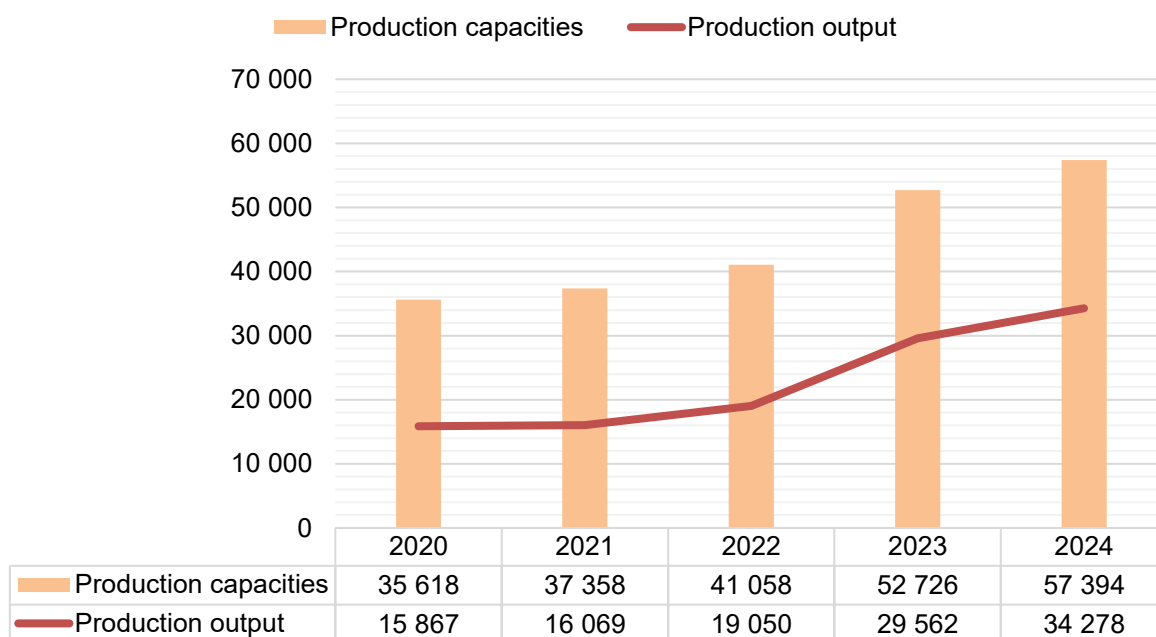
Since the data on the financial activities of enterprises are not publicly available, the average data of enterprises in the region are used in the research. The main relevant data on the oil and fat industry of Kostanay region were obtained through the study of data from the catalogue of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan. Publications in various editions, materials of republican and international conferences were used for release of the main prospects of the research of the oil and fat industry of Kostanay region. Above-listed approaches ensured the complexity and consistency of this study. The combination of these methods makes it possible to identify key trends in the development of the fat and oil sector in the region, as well as identify the main challenges and growth points.

Results

Economists have observed a major increase in food pricing over a long period of time. Thus, the world food pricing index showed an increase of 51 points from January 2000 till January 2020. This dynamic brings the transfer of world food pricing to domestic mar-

kets, making worse living standards of low-income sections of the population in developing countries (Alioma R., Zeller M., Ling Y.K.) [4]. In Kazakhstan, the main types of food products are actively produced to meet local consumption demands. The leading produced products include: flour from grain and other plants (3.38 million tons in 2023), vegetable oil (672 thousand tons), milk (619 thousand tons), bread (513 thousand tons), meat and edible by-products (408 thousand tons).

Traditionally, East Kazakhstan occupies the first place in the production of vegetable oils in the republic. Kostanay region is not among the leaders of the vegetable oils production in the republican scale, but, still, it has great potential. Vegetable oil production in Kostanay region demonstrated a significant commercial increase. The production capacities of commissioned oil processing enterprises make it possible to double production. Despite the growth of gross production of oilseeds, the production capacity is raising at a rapid rate, which causes the use of production capacity by only half. It should be also noted, that production capacities in the region grow each year (figure 1) (Official statistics of Bureau...) [13].



Note: source of the (Official statistics of Bureau...) [13]

Figure 1 - Dynamics of the relation of finished-product output to average annual production capacity of vegetable oil in Kostanay region, tons

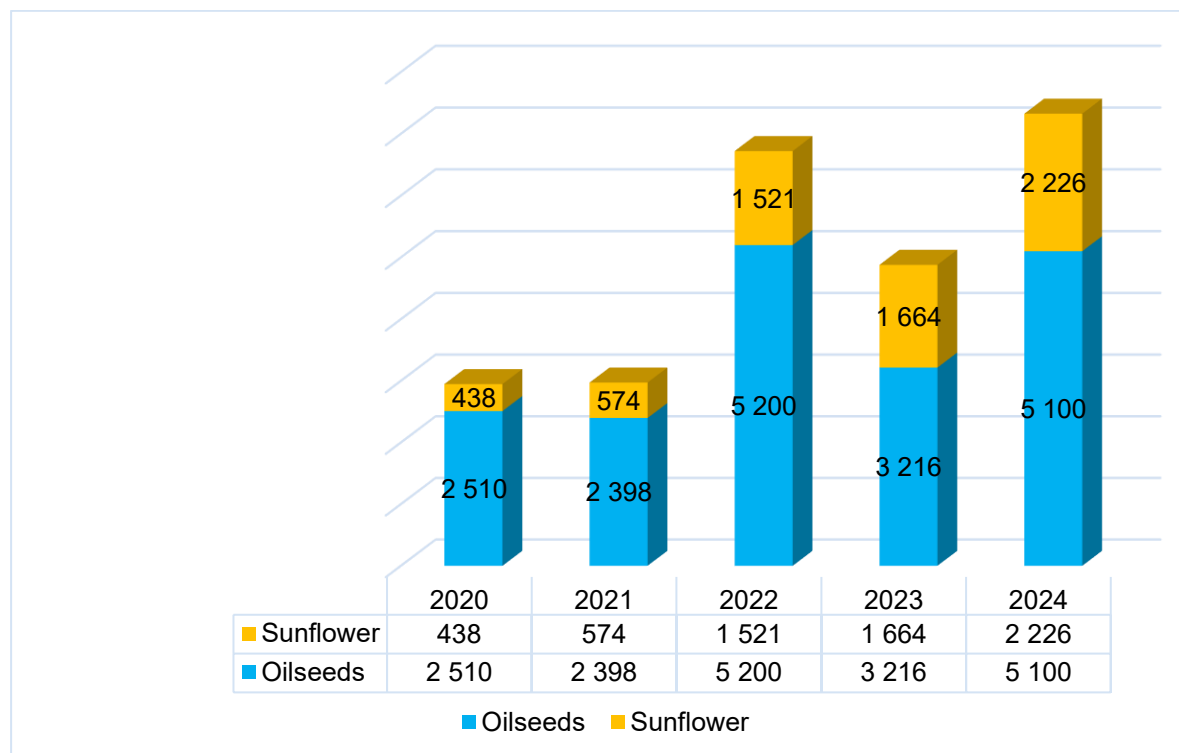
Under the conditions of reduced production output, the lack of processing raw materials plays a significant role. On the territory of the region there is a fairly diversified map of crops. The main oilseeds, grown in Kostanay

region, are sunflower, rapeseed and flax (figure 2). Therefore, processing of these crops is meant to show spearhead growth of the oil and fat industry of the region. In order to increase oilseeds production volumes, it is necessary,

that plantings should be expand and yields - increased. Kostanay region has enough favorable climate for the development of oilseed farming. Expansion of biological diversity contributes to the development of the agro-industrial sector and increase in oilseed production. Safflower, winter cress and false flax go alongside the traditionally grown oilseeds in the region.

The local agricultural experimental station Zarechnoye offers a diverse range of oilseeds, including 200 varieties of soybeans of different maturity groups, 56 varieties of spring rape, 36 varieties of oilseed flax and 51 varieties of sunflower. These varieties have been developed in

such countries as Russia, Kazakhstan, Canada, France, Ukraine, Poland, United States of America, Belarus, Sweden, Japan, China, Czech Republic, and former Czechoslovakia. In addition, on the base of the Zarechnoye Station there are some home-bred oilseeds varieties: sunflower (Zarechniy, Sary, Rauan, Kosnur), oilseed flax (Altyn, Kustanaiskiy 11, Kazar), spring rapeseed (Gulsary) and soybeans (Ivushka, Severnoye siyaniye, Daneliya, Firefly). Soybean selection work is carried out in cooperation with the Kazakh Institute for Research of Agriculture and Plant Production (Zinchenko A.V., Lyyunik D.A., Sidorik I.V.) [14].



Note: source of the (Official statistics of Bureau...) [13]

Figure 2 - Gross collection of oilseeds of Kostanay region, tons

Diversification of crops is meant to show spearhead growth of oilseeds production. The increase in oilseeds hectares of cultivated area in the region resulted in increase of gross collection of yield. In the view of produced raw materials' section there is a growth of sunflower seeds production. It is caused not only by historical and cultural background, but also due to nutraceutical factors. In Kostanay region, planted area of grain crops is gradually scaling down, since farmers prefer more promising trends - cultivation of oilseeds, bean cultures, cereal and feed crops. According to the Agricultural Administration of Kostanay region, the agrarians grow about 5.5 million hectares of

agricultural crops. Most cultivated area is traditionally sowed by wheat and oilseeds.

The area with oilseeds has doubled over the past ten years. According to the Roadmap program, the goal has been set for the year 2028 to increase oilseeds area by 800 thousand hectares within the framework of diversification of agricultural croplands and gradual reduction of cultivated area for grain crops. Sunflower and rapeseed confidently lead among the oilseeds, grown in the Kostanay region. The seeds of these crops are adapted to grow in various climatic zones and soil conditions. While oilseeds exhaust the soil more than grain crops, rapeseed and sunflower enrich soil health, cut up the cycles of diseases

and pest contamination and promote efficient use of moisture and nutrients, reducing soil erosion (Ebrahimian E., Seyyedi S.M., Bybordi A. et al.) [15]. Rapeseed oil contains low level of saturated fat, but it is rich in healthy mono- and polyunsaturated fatty acids, as well as vitamins and minerals, including vitamin E, potassium and magnesium. Sunflower oil is valued for its high antioxidant activity, which increases its integrity and makes it one of the most popular cooking oils (Guirrou I., El Antari A., El Harak A. et al.) [10].

The shortage of working assets mainly constrain the expansion of finished-products' output in the market. Local producers solve this problem through the sale of raw oil in the foreign market. Oil production includes extraction

of the main vegetable oils (unrefined, hydrated, refined non-deodorized and refined deodorized). The production process starts with acceptance of oilseeds from suppliers. The corresponding types of vegetable oils are subjects to calculation. Let's consider the main indicators of enterprises, which produce sunflower oil in Kostanay region: the volume of sunflower oil sold, the average sales price and sales revenue. Since the financial statements of industrial enterprises represent a trade secret, the data and calculations were made, according to the data, provided in public information by the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (table 1).

Table 1 - Main indicators of enterprises, which produce sunflower oil

Description	2020	2021	2022	2023	2024
	Y1	Y2	Y3	Y4	Y5
Revenue from sales of sunflower oil, KZT thousand	7 113 700	11 017 983	15 073 313	24 026 515	22 953 672
Sunflower oil volume, tons	15 867	16 069	19 050	29 562	34 272
Sale price of 1 ton of sunflower oil, tenge	448 333	685 667	791 250	812 750	669 750

Note: compiled by the authors, on the basis of the source of the (Official statistics of Bureau...) [13]

Summary of table 1 shows the revenue growth trend due to growth of both factors throughout the observed period. For a more detailed analysis, we use standard statistical formulas (table 2). The formula for calculating the average level of the time series for the interval series of the dynamics of absolute indicators with equal time periods: average level:

$$Y = \frac{\sum y_i}{n}, \quad (1)$$

where Y = average level of dynamics of cash receipts, in ths. tenge
 y_i - row levels
 n - number of series levels.

$$Y = \frac{7\,113\,700 + 11\,017\,983 + 15\,073\,313 + 24\,026\,515 + 22\,953\,672}{5} = \frac{80\,185\,183}{5} = 16\,037\,037 \text{ ths. tenge.}$$

During the researched period, average amount of sunflower oil has amounted to:

$$Y = \frac{15\,867 + 16\,069 + 19\,050 + 29\,562 + 34\,272}{5} = \frac{114\,820}{5} = 22\,964 \text{ tons}$$

Table 2 - Results of statistical calculations of the main indicators of enterprises, which produce sunflower oil

Description	2020	2021	2022	2023	2024
	Y1	Y2	Y3	Y4	Y5
Proceeds from sale of sunflower oil, mln tenge	7 113 700	11 017 983	15 073 313	24 026 515	22 953 672
Sunflower oil volume, tons	15 867	16 069	19 050	29 562	34 272
Sale price of 1 ton of sunflower oil, tenge	448 333	685 667	791 250	812 750	669 750

Absolute increase in cash receipts (chain), thousand tenge	-	3 904 283	4 055 329	8 953 203	-1 072 844
Absolute increase in cash receipts (basic), thousand tenge	-	3 904 283	7 959 613	16 912 816	15 839 972
Cash flow growth rate (chain), %	-	154.9	136.8	159.4	95.5
Cash receipts growth rate (basic), %	-	154.9	211.9	337.7	322.7
Cash inflow growth rate (chain), %	-	54.9	36.8	59.4	-4.5
Cash receipts growth rate (basic), %	-	75.4	139.9	282.4	265.4
Absolute increase in the volume of sold sunflower oil (along the chain), tons	-	202	2 981	10 512	4 710
Absolute increase in the volume of sold sunflower oil (basic), tons	-	1 579	4 560	15 072	19 782
Growth rate of sunflower oil sales (chain), %	-	101.3	118.6	155.2	115.9
Growth rate of sunflower oil (basic), %	-	110.9	131.5	204.0	236.5
Sunflower oil growth rate (chain), %	-	1.3	18.6	55.2	15.9
Growth rate of sunflower oil (basic), %	-	10.9	31.5	104.0	136.5
1% of absolute increase in cash proceeds	-	71 137	110 180	150 733	240 265
1% of absolute increase - amount of sunflower oil sold	-	158.67	160.69	190.5	295.62

Note: compiled by the authors on the basis of calculations

According to the table, calculated values of absolute growth in the chain and basic values are presented, and this indicator determines in absolute terms, by what number of units the studied value has decreased or increased:

$$\text{Chain growth rate} = \frac{\text{Current value}}{\text{Previous value}} \times 100\% \quad (2)$$

$$\text{Growth rate per base} = \frac{\text{Current value}}{\text{basic value}} \times 100\% \quad (3)$$

Let us now proceed to consider such summarizing indicators, as average absolute growth and average growth rate, and, according to the data obtained, we calculate the first studied indicator:

$$\Delta Y = \frac{Y_n - Y_1}{n-1}, \quad (4)$$

where ΔY = average level of cash receipts, ths. tenge

Y_n – last value of series

Y_1 - first value of the series

n - number of series levels.

$$\Delta Y = \frac{22\,953\,672 - 7\,113\,700}{5 - 1} = \frac{15\,839\,972}{4} = 3\,959\,993 \text{ ths. tenge}$$

After that we calculate the average increase rate in cash arising on sales, using the formula:

$$K = \sqrt[n-1]{\frac{Y_k}{Y_n}}, \quad (5)$$

where K — average annual growth rate

Y_k — index value over the initial year (first year of period)

Y_n — index value over the last year (last year of period)

n — number of years in the analyzed period.

$$K = \sqrt[5-1]{\frac{22\,953\,672}{7\,113\,700}} = \sqrt[4]{3.227} = 1.341 = 134\%$$

dustry of the country, which led to a high content of trans-isomers (20-38%), despite current technical regulations since 2018, limiting their content to 2% (Toshtay K., Auyezov A., Azat S. et.al.) [17].

Rapeseed and sunflower oils make up more than 87% of vegetable oils consumed in their pure form. Such high rates are stipulated not only by cultural characteristics, but also by high nutritional value of the product. These oils are rich in omega-3 and omega-6 fatty acids, as well as vitamins A, D, E and K and such minerals as zinc, calcium, magnesium, potassium, copper and iron. The best result in the extraction of vegetable oil is obtained using the mechanical compaction method (Botella-Martínez C., Pérez-Álvarez J.Á., Sayas-Barberá E.) [16]. Under globalization it becomes increasingly difficult to hold its positions in the world market, to ensure strong competitive position of manufactured products by satisfaction of domestic demand and to carry on international business.

Incomplete workload of processing facilities indicates untapped potential. Without increasing the workload of the enterprise, further development of the industry by introducing advanced technologies and attracting investments remains impossible (Toshtay K., Auyezov A., Azat S. et.al.) [17]. Drawing upon the international experience, it was fixed, that by limiting the export of raw materials and semi-finished products, it is possible to promote domestic processing of seeds. According to this assumption, in Kazakhstan since February 04, 2023 on the export of sunflower seeds a customs duty was introduced in the amount of 20%, but not less than 100 euros per ton.

Investment in science, technology and innovation are considered as drivers for improvement of products of agricultural sector. Precisely because of these effects, it is possible to reduce production costs. There are a whole range of economic theories, which explain competitive advantages of exports: theory of comparative advantage, resourcing theory and international trade theory. The rapidly growing population of the planet, as well as the promotion of Green Farming policies, was aimed at reducing negative impact on the environment and made food products provision a real challenge for agriculture. In practice, oil and fat products, produced in Kazakhstan, do not always meet international and national standards. So, up to 2021, the technology of hydrogenation of vegetable oils through the use of nickel catalysts was widely used in the food in-

Analysis of the dynamics of prices for vegetable oil, based on the results of the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, show that in retail the final products in Kostanay region are generally in line with average prices in the republic. Price per 1 liter of vegetable oil in the context in the context of the republic and the region showed a lower trend growth in the world market. The reduction of the supply of vegetable oil in the world market is primarily caused by reduction of the production volumes of raw materials. Palm oil production, which occupies a leading position in the consumption of vegetable oils, took a se-

cond place in the main exporting countries - Indonesia and Malaysia - due to the growth in demand for biodiesel. Indicated consumer deficit may be shortened through the use of sunflower oil. The situation will open up new trade opportunities for Kazakhstan.

In the context of a difficult geopolitical situation between the main exporters of vegetable oil - Russia and Ukraine, the import of Kazakhstan products is becoming more and more attractive for foreign partners, most obvious is China. Today, a great weight of linseed oil exports corresponds to the Chinese market. Another advantage of this activity is the solution of problems with railway holdups on the border with the People's Republic of China, as well as planning for the construction of new connection lines.

The transition to more calorific and processed foods relative is possible due to price changes, income growth, urbanization, investment and technological shifts in food production, processing, transport and retail, changes in the labor market and lifestyle, public and private food standards and regulations, advertising, agricultural support policy and trade liberalization. In countries with limited agroecological opportunities for growing a wide range of fruits and vegetables, or at high costs for their production, both economically and environmentally, trade becomes key to providing the population with healthier food at an affordable cost.

Conclusion

1. The development of oil and fat industry in Kostanay region requires an integrative approach, which will include both development of agro-industrial complex to increase the volume of raw materials, for introduction of new technologies and for modernization of production lines.

2. The domestic market of Kazakhstan has a high demand for vegetable oils. Demographic growth comes with the necessity not only just to use vegetable oils on its own, but also to include them as part of ingredients in other food products. Satisfying this demand through domestic production and entering of the international market must become the fundamental tasks for the fat and oil industry in Kostanay region.

3. The recent research illustrates, that economic indicators in the production of sunflower oils generally perform sustainable and strong performance of the most indicators over the analyzed period, which indicates the development and commercial strengthening of the oilseed processing sub-industry, despite market prices' fluctuations in 2024.

4. Complex multi-level supply chains due to globalization of world trade usually require remote management, which creates risks for partners as a result of weakening of direct connection between suppliers and buyers. Imperfection of logistics routes leads to insufficient workload of production. Late deliveries, limited storage of manufactured products, as well as their transportation remain unresolved for manufacturing enterprises, but solution to the problem can significantly increase the volume of manufactured products.

5. Food security assurance in Kazakhstan is one of the strategic tasks, for which state support shall be ensured. Food security is not only fundament for provision of independence of the state, but also plays a large role in reducing chronic diseases and physical weakening, especially among vulnerable communities. By developing its own production of oil and fat products and improving its quality, the import dependence in Kazakhstan will be reduced. Kazakhstan is already an exporter of vegetable oils from neighboring countries. However, increasing the presence in these markets requires rationalization of production.

Conflict of interests: author declares that this paper does not contain any conflict of interest.

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