

# ЭКОНОМИКА

## ECONOMY

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## DEVELOPMENT OF THE ORGANIC MARKET TO ENSURE FOOD SECURITY IN KAZAKHSTAN

**Raushan  
DULAMBAYEVA**

*Doctor of Economics, professor, Academy of Public Administration under the President of the Republic of Kazakhstan, Abai Ave. 33a, 010000, Astana, Kazakhstan, [r.dulambayeva@apa.kz](mailto:r.dulambayeva@apa.kz), ORCID ID: <https://orcid.org/0000-0003-3942-8875>*

**Khalel  
KUSSAINOV**

*Doctor of Economics, professor, Aktobe Regional University named after K. Zhubanov, Aktobe, Kazakhstan, [kussainov-x@mail.ru](mailto:kussainov-x@mail.ru), ORCID ID: <https://orcid.org/0009-0003-3666-7659>*

**Larisa  
KUSSAINOVA**

*c.e.s, professor, Academy of Public Administration under the President of the Republic of Kazakhstan, Abai Ave. 33a, 010000, Astana, Kazakhstan, [l.kussainova@apa.kz](mailto:l.kussainova@apa.kz), ORCID ID: <https://orcid.org/0000-0003-4973-8703>*

**Daulet  
YESMAGAMBETOV\***

*Doctor of Public Administration, Academy of Public Administration under the President of the Republic of Kazakhstan, Abai Ave. 33a, 010000, Astana, Republic of Kazakhstan, [dyes.eco@gmail.com](mailto:dyes.eco@gmail.com), ORCID ID: <https://orcid.org/0000-0002-0271-0394>*

**Shakizada  
NIYAZBEKOVA**

*c.e.s., senior researcher, Financial University under the Government of the Russian Federation, Moscow, Russian Federation, [shakizada.niyazbekova@gmail.com](mailto:shakizada.niyazbekova@gmail.com), ORCID ID: <https://orcid.org/0000-0002-3433-9841>*

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**Abstract.** Safety and quality of food products is one of the directions of food security in the Republic of Kazakhstan. However, Kazakhstan's potential in organic production is not fully realized.

Certified fields meeting European standards and processed using organic production technologies cover an area of 200,000 hectares. According to the FiBL and IFOAM rankings, out of 123 countries, Kazakhstan ranks 9th in organic product exports, 4th among organic wheat exporting countries, and 6th in organic flaxseed exports. Kazakhstan's organic product exports amounted to 35 million US dollars in 2022. Therefore, further development of the organic market in the country will enable the production of products that interact with nature, preserving its biodiversity, and ecological sustainability, and increasing its share in exports.

Despite establishing a state management system for organic farming in the Republic of Kazakhstan, a significant problem remains the mechanisms of state support for the competitiveness of enterprises applying organic production and circulation technologies.

\* Corresponding author: D. Yesmagambetov, [dyes.eco@gmail.com](mailto:dyes.eco@gmail.com)

Traditional agriculture has significant competitive advantages. For example, over 600 types of chemical fertilizers are subsidized, whereas organic fertilizers have no subsidy options. Therefore, new approaches are needed to shape the organic market to strengthen the country's food security.

The purpose of this article is to study international experience in managing the food market and create recommendations for the development of the organic market in the context of ensuring food security in Kazakhstan.

**Keywords:** food security, organic food, organic farming, support for the production of organic products, international experience.

**Аңдатпа.** Азық-түлік өнімдерінің қауіпсіздігі мен сапасы Қазақстан Республикасының азық-түлік қауіпсіздігі бағыттарының бірі болып табылады. Бірақ Қазақстанның органикалық өнім өндірудегі әлеуеті толық көлемде іске асырылмайды.

Еуропалық стандарттар бойынша сертифицирталған және органикалық өндіріс технологиялары бойынша өңделген өрістер 200 000 гектарды құрайды. FiBL және IFOAM рейтингі бойынша 123 елдің ішінен Қазақстан органикалық өнім экспорты бойынша 9-шы, органикалық бидай экспорттаушы елдер арасында 4-ші, майлы зығырдың органикалық тұқымын экспорттау бойынша 6-шы орында. Қазақстанның органикалық өнімінің экспорты 2022 жылы 35 млн АҚШ долларын құрады. Сондықтан елдегі органикалық нарықты одан әрі дамыту табиғатпен өзара әрекеттесетін, оның биотүрлілігін, экологиялық тұрақтылығын сақтай отырып, оның экспорттағы үлесін арттыратын өнімдер шығаруға мүмкіндік береді.

Қазақстан Республикасында органикалық ауыл шаруашылығын басқарудың мемлекеттік жүйесі қалыптасқанына қарамастан, өндіріс пен өнім айналымының органикалық технологиясын қолданатын кәсіпорындардың бәсекеге қабілеттілігін мемлекеттік қолдау тетіктері маңызды мәселе болып қала береді.

Осылайша, дәстүрлі егіншіліктің айтарлықтай бәсекелестік артықшылықтары бар. Мысалы, химиялық тыңайтқыштардың саны 600-ден астам субсидияланады, ал органикалық тыңайтқыштарда субсидия алудың бірде-бір нұсқасы жоқ. Сондықтан елдің азық-түлік қауіпсіздігін күшейту үшін органикалық нарықты қалыптастырудың жаңа тәсілдері қажет.

Бұл мақаланың мақсаты азық-түлік нарығын басқарудың халықаралық тәжірибесін зерделеу және Қазақстанда органикалық нарықты дамыту бойынша ұсынымдар әзірлеу болып табылады.

**Түйін сөздер:** азық-түлік қауіпсіздігі, органикалық азық-түлік, органикалық егіншілік, органикалық өндірісті қолдау, халықаралық тәжірибе.

**Аннотация.** Безопасность и качество продуктов питания является одним из направлений продовольственной безопасности Республики Казахстан. Но потенциал Казахстана в производстве органической продукции реализуется не в полной мере.

Так, сертифицированные по европейским стандартам и обработанные по технологиям органического производства поля составляют 200 000 гектар. По рейтингу FiBL и IFOAM, из 123 стран Казахстан занимает 9-е место по экспорту органической продукции, 4-е место среди стран-экспортеров органической пшеницы, 6-е место по экспорту органических семян масличного льна. Экспорт органической продукции Казахстана в 2022 году составил 35 млн долларов США. Поэтому дальнейшее развитие органического рынка в стране позволит производить продукты, которые взаимодействуют с природой, сохраняя ее биоразнообразие, экологическую устойчивость и повышают его долю в экспорте.

Несмотря на то, что в РК сформированы государственная система управления органического сельского хозяйства, остается существенной проблемой механизмы государственной поддержки конкурентоспособности предприятий, применяющие органическую технологию производства и оборота продукции.

Так, традиционное земледелие имеет существенные конкурентные преимущества. Например, количество химических удобрений субсидируется свыше 600 наименований, тогда, как органические удобрения не имеют ни одного варианта получения субсидий. Поэтому необходимы новые подходы к формированию органического рынка для усиления продовольственной безопасности страны.

Целью данной статьи является изучение международного опыта управления продовольственным рынком и выработка рекомендаций по развитию органического рынка в Казахстане.

**Ключевые слова:** продовольственная безопасность, органические продукты питания, органическое земледелие, поддержка производства органических продуктов, международный опыт.

## Introduction

In 1987, the United Nations Brundtland Commission defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. The agricultural literature has widely shown that organic farming can lead agricultural enterprises to achievements based on sustainable development [1].

Organic farming is based on practices that minimize the use of agrochemicals and

promote environmental conservation and sustainable development. This could improve organic carbon sequestration [2], increase biodiversity [3, 4], maintain soil fertility and health [5], and prevent plant resistance to insecticides and pesticides [6]. It was also found that this category of agriculture is more resistant to climate change compared to traditional agriculture [7].

From an economic point of view, IT increases farmers' profits because consumers are willing to pay more for

organic products [8].

These characteristics of organic farming make it a solution to existing ineffective agricultural strategies and a step towards sustainable food production.

The positive impacts of organic production not only occur on the production side of the supply chain, but also have significant implications for consumer health [9, 10].

Although health and safety are the most important factors for consuming organic products according to consumer surveys [11, 13], there are also other specific characteristics of organic products, such as taste, nutritional value, freshness [14, 15], and perceived higher levels of environmental friendliness. compared to conventional products [16, 18]. These characteristics serve as an incentive for consumers to pay more to consume organic food.

In terms of the area of agricultural land suitable for growing organic products, Kazakhstan is in 26th place in the world and third in Asia after India and China. The Republic is one of the ten countries with high land growth in this category. In terms of the area allocated for organic oilseeds, the state took 10th place in the world ranking at the end of 2019 [19].

The production of nutritious, high-quality food is achieved through organic agriculture, which, as IFOAM notes, is based on the principles of health, ecology, equity, and care.

The business process of the organic market involves, firstly, raw materials, which are also the result of the production of organic products. Secondly, environmentally friendly technologies are used, but when measuring the economic efficiency of this process, it can lead to a conflict between costs and results in the organic production chain. To reduce and prevent possible risks, openness and complete clarity are required when making management decisions on the production and circulation of organic products.

The production and circulation of organic products refer to the processes of production and sale of organic products, including the import (import) and export (export) of organic products, as well as the associated processes of production, packaging, packaging, labeling, storage,

and transportation. At the same time, the production of organic products is a form of agriculture and food industry that can significantly increase the profitability of production and ensure guaranteed sales of manufactured products, since the world is experiencing a constant increase in demand for safe and high-quality products.

The global organic market covers 191 countries [FiBL IEOAM]. In 2022, 74 countries have fully implemented organic agriculture regulations. The world's largest markets for organic products, such as the EU and the USA, have agreed on safety and quality standards for organic products for more than twenty years. However, there is no single international document or standard for organic production in the world.

In 21 countries, regulations on organic agriculture have not been fully introduced, and in 15 countries legislation is being developed. Regions that experienced significant changes were the European Union, North America, and the Pacific [20].

There are private, voluntary regional, supranational and national standards for organic products. The main documents that are considered when developing organic standards are the provisions of the "Guidelines for the Production, Processing, Labeling and Marketing of Organic Food Products" approved by the Codex Alimentarius Commission and IFOAM standards. The Codex Alimentarius Guidelines and IFOAM Standards are the most authoritative legal sources for organic production worldwide.

Simply regulating organic production does not support it. An effective government support policy is needed. There are various ways to support organic agriculture.

It is obvious that in order to develop the market for organic products, it is necessary to build policies that increase trust in the state. Reliability, continuity, and consistency (including a careful transition from one support program to another) of government support give a positive signal to domestic producers and investors.

## Materials and methods

The object of the study is the organic market to ensure food security in Kazakhstan. The subject of the study is the regulation of the organic market.

Using the method of content analysis

and comparative analysis, the experience of foreign countries such as the USA, China, as well as countries belonging to the European Union and the CIS was studied. For the analysis, strategic documents of these countries on the development of the organic market and data from international organizations leading relevant policies around the world were used.

**Results**

International experience in the development of organic products was studied using the example of developed countries, as well as countries belonging to the same geographical region as Kazakhstan.

Thus, regulation and state support in the field of production and circulation of organic products, based on the example of the experience of the European Union, looks like this.

**Table 1 - Key indicators of the development of the organic products market of the European Union (2021)**

Name of indicator	Meaning	Share in the world indicator for 2021
share of organic lands from the total share of agricultural lands, %	9.6	
area of organic land, thousand hectares	2,777	3.6 %
number of manufacturers, subjects	58 413	1.6 %
number of processors, entities	19 311	16.2 %
retail trade volume, \$ million	15,558	10.1 %
export volume, million \$	1,090	7.8 %
import volume, million \$	3,478	30.9 %

*Compiled on basis source [20]*

The EU is constantly improving the safety and quality of organic market products. The analysis of current legislative documents has the following three directions:

1. Production and labeling of organic products;
2. Sales of organic products (trade);
3. Control of production and turnover of organic products.

Support for the organic market began in Europe in the late 1980s.

Since 1991, there has been unification and legislative consolidation on issues of standardization of organic production, which generally determine administrative processes: rules for maintaining a register of organic producers; rules for organizing and maintaining state control, etc. in the EU [21].

In 1994, the EU began paying for the conversion and processing of organic areas. Already in 2001, financial support for the organic market in the EU in 2001 amounted to 520 million euros. [21]

In the EU countries, the agricultural

food market is currently managed and regulated using the biodynamic method [20].

This management system allows EU countries to plan for organic production for 2030 in the following three areas, which will be financed through eco-schemes:

- stimulating demand and ensuring consumer confidence;
- stimulating conversion and strengthening the entire value chain;
- organic farming - an example to follow: increasing the contribution of organic farming to environmental sustainability.

As a result, the following tasks are set:

- achieve an increase in shares of organic land up to 25% of all agricultural land by 2030. In 2021 they were only 9.6%.
- introduce a unified system for guaranteeing the organic origin of products in the EU in the form of a standard and measure control, which is regulated by law " Bio ", "Eco", "Organic";
- introduce common labeling of organic products and free trade of organic products in the EU, if there is 1 certificate;

- create equivalence from 2025 with the organic markets of the USA and Canada in the form of trade agreements.

Issues of state support for the creation and activities of producer groups, investments in the processing and marketing of high-quality agricultural products, and cooperation in the form of cooperation are becoming relevant.

In recent years, in the CIS member states and the EAEU member states, there has been a noticeable increase in interest in the development of organic agriculture, which contributes to the creation of high-margin agricultural production and improving the quality of economic growth in the agro-industrial complex. This direction is considered complementary to traditional agricultural production. Its promotion is in line with the global trend for healthy food production. In addition, the development of organic production allows the CIS and EAEU countries to expand the export of agricultural products, create conditions for the formation of diversified and sustainable agricultural systems, increase the profitability of small businesses, and reduce the dependence of agricultural producers on expensive resources and intensive practices.

Currently, there is a valid road map of the EAEU countries on the development of general market organic products [20]. One of the key provisions there is a unification of requirements for the production and labeling organic products member states for the purpose of mutual confessions certification products on in general EAEU market. The current geopolitical crisis intensifies integration processes in the region.

All EAEU member states and most CIS member states have special laws (with different names) dedicated to organic production, in particular in Moldova, Georgia, Armenia, Ukraine, Azerbaijan, and Tajikistan. In 2018 - in Russia and the Republic of Belarus, in 2019 - in the Republic of Kyrgyzstan, in 2023 in Uzbekistan.

In Kazakhstan, to create a legal and institutional framework for organic production, the Law "On Production Organic Products" dated November 27, 2015, was accepted [22]. The Law was designed with internationally recognized rules and standards, including "Manual by production,

processing, labeling and marketing organic food products" approved by the Codex Alimentarius Commission and IFOAM.

In order to implement the law of the Republic of Kazakhstan "On Production Organic Products» Kazakhstan accepted subordinate regulations aimed at conducting registry manufacturers organic products; on determination of evaluation criteria degrees risk in the area of production of organic products; to determine the rules production and turnover organic products; on introduction list permitted means used at production organic products; on formation National standards By technical requirements and order marking organic products, according to confirmation compliance production organic products and organic products, to process production, according to terms and definition organic products.

Should Mark Kazakhstan be involved in the harmonization process of organic legislation within the EAEU?

Currently, the Draft Law of the Republic of Kazakhstan "On the production and circulation of organic products" has been adopted and sent to the Senate of the Parliament of the Republic of Kazakhstan by Resolution of the Mazhilis of the Parliament of the Republic of Kazakhstan dated March 27, 2024 No. 348-VIII.

Compared to current legislation, the bill covers not only issues of the production of organic products, it also regulates issues of circulation of organic products.

The proposed bill introduces the following new aspects:

- conditions for the transition to the production of organic products; requirements for the production, circulation, and labeling of organic products; a system for accounting and traceability of organic products is being introduced; creation and maintenance of registers of producers of organic products, seeds of agricultural plants and animals used for the production of organic products; issuance, suspension and revocation of a certificate of conformity; application of the national mark of conformity of organic products, etc.

- several approaches are provided to enable the transition from traditional to organic agriculture. In the first case, small farmers can unite in a system of joint guarantees. In which their products are



labeled using the “PGS Member” designation, informing the public that these producers are collectively responsible for the quality of their products and are prepared for the conditions of organic production. Another form of association of producers of organic products is the joint completion of the procedure for confirming the conformity of production, aimed at reducing certification costs. In the future, these producers will not be able to use the certificate of conformity for the production of organic products independently of each other.

The bill also introduces control over the sale of organic products, which will contribute to:

- protection of consumer rights and public health;
- suppression of the circulation of products sold under the guise of “organic”;
- protecting domestic producers of organic products from unfair competition from importers who mislead our citizens due to false labeling.

The accompanying bill provides for state support for manufacturers in two areas:

- subsidizing 50% of the cost of the certificate of conformity;
- subsidizing organic fertilizers (effective from 01/01/2028).

The draft law excludes liability for violation of legislation in the field of production of organic products in connection with the exclusion of relevant control functions from local executive bodies.

Thus, the adoption of laws will have a positive impact on the development of the industry, will serve as the basis for the development of the local market for organic products and will increase the competitiveness of export-oriented enterprises in foreign markets.

In 2022, the conformity assessment body QAZAQ BIO CONTROL LLP was accredited (with a certificate validity period from 2022 to 2027) [23].

Currently, 4 subjects of Agro-industrial complexes have received the status of a

transitional period of organic production and are at the stage of confirmation [24].

In Kazakhstan today there are 38 farms certified for the production of organic products. Kazakhstan’s main organic exports are wheat, flax seeds, and soybeans. According to the FiBL and IFOAM ratings, out of 123 countries, Kazakhstan ranks 9th in exports of organic products, 4th among countries exporting organic wheat, and 6th in exports of organic flaxseeds to the EU. [25].

Next, it is planned:

- Conduct an office inspection, which includes an “Analysis and Inspection Decision.”

- Issue a permit - the decision to assign the status and the certificate of conformity itself, if the production status is “Organic”.

- Assigned additional, unscheduled, or main, depending on the degree of risk (the degree of risk is compiled by inspectors during an on-site inspection, as well as during an inspection in the office) [26].

In case of violation of the requirements, different penalties are applied, depending on the seriousness of the violation. This may be a warning, suspension of the certificate during an investigation of violations, change in the status of manufactured products, change in the status of the farm, and revocation of the certificate of conformity.

Certificates issued by accredited certified companies of Kazakhstan are currently times are valid only on the territory of the republic.

Kazakhstani exporters are certified in the certification organs of foreign countries. For 2023 50 Kazakhstani organic products manufacturers are certified [27].

Out of 50 certified enterprises, the majority of certificates received from authorities by certification countries European Union - 37 certificates (including in Latvia and Lithuania - 28). Also, Kazakh enterprises are certified by authorities by certification: Ukraine – 9; Turkey – 2; Switzerland – 1; Armenia – 1 [20].

**Table 2 - Certification bodies for certified Kazakhstani producers of organic products, 2023**

Certification bodies	Number of certified entities
SIA “ Sertifikācijas un testēšanas centrs ” ( Latvia )	20

Organic Standard (Ukraine)	9
Ekoagros (Lithuania)	8
A CERT European Organization for Certification SA ( Greece )	7
CERES Certification of Environmental Standards GmbH ( Germany )	2
ORSER (Türkiye)	2
Bio.inspecta AG (Switzerland)	1
Ecoglobe (Armenia)	1

Compiled on basis source [28]

Despite this, the area of land in Kazakhstan certified according to international organic standards from 2017 to 2021 did not exceed 1.5% of the total adjusted sown area of agricultural crops.

Overall, there is no stability in the dynamics of this indicator over the specified period. By the end of 2021, the share of certified land was only 0.5% of the total sown area.

**Table 3 - Dynamics of the area of land certified according to international organic standards in Kazakhstan**

Indicators	2017	2018	2019	2020	2021
The total adjusted sown area of agricultural crops, thousand hectares	21 839.9	21 899.4	22 135.8	22 582.3	22 925.7
Area of land certified according to international organic standards, thousand hectares	277.1	192.1	294.3	114.9	113.2
Share of certified land, %	1.3	0.9	1.3	0.5	0.5

Based on sources [29, 30]

Kazakhstan participated in the development of the “Agreement on the procedure for recognition of organic products within the EAEU ”, which was signed at the end of 2023.

Mutual recognition of such certificates ensures the free sale of organic products on the market of the countries of the Eurasian Economic Union.

Despite the fact that the republic currently does not have a unilateral or mutual agreement on the recognition of certification standards with other countries, organic products from foreign producers are imported into Kazakhstan, including, for example, from the Russian Federation and European countries.

According to the head of QAZAQ BIO CONTROL LLP (OPS), this practice of free trade in organic products in Kazakhstan, certified by foreign certification bodies, is currently rather a plus for the national market of organic products. Our producers are just beginning certification procedures, and the domestic market does not yet have enough nationally certified organics to satisfy demand, which has a negative impact on stimulating demand for organic products. popularization. In addition, very high prices for foreign organic products

create a “favorable background” for the development of domestic producers.

Few agreements on organic equivalence standards between countries certainly remain one of the most important problems hindering the development of free foreign trade.

By condition in 2023 there are about 100 private organic standards and more than 700 certification bodies in the world [28].

The most numerous group countries with mutual recognition standards certification by organics is group countries European Union - Switzerland - USA - Canada - Japan.

Along with the conclusion of equivalence agreements, in world practice, there are cases of termination of recognition of the equivalence of organic control systems of another country.

The organic integrity of the product must be independently verified to ensure customer satisfaction. Local markets and small farmers are not exempt from this need for assurance. It is for this reason that IFOAM - Organics International, the international body promoting organic agriculture worldwide, has recognized the need for quality assurance systems suitable

for smallholder agriculture and local markets. They articulated the core elements and key features of existing smallholder farmer organizations around the world that operated in a participatory manner with consumers and local markets and classified these delivery systems as Professional Geo Solutions (PGS).

What makes PGS special is more than just a quality assurance system that takes into account the interests of local stakeholders. The PGS system involves interaction between the state, business, and the population on issues of stimulating the market for organic products. Thus, an important part of the PGS system is the implementation of the principle of collective responsibility in communication between producers, consumers, and government agencies to ensure the supply chain of organic food products.

Therefore, in global practice, such supply chain traceability is recognized as a tool for ensuring food safety by both the industry and regulatory authorities.

A well-developed traceability system allows food businesses to have access to absolute product transparency, providing essential information at every stage of the supply chain. Traceability is widely used as a risk management tool to stop unsafe food in the supply chain, allowing manufacturers as well as regulators to remove or recall food products.

The Codex document on General Principles of Food Hygiene has added traceability information to the lot information section. This makes it easier for regulators to track and trace products through their globally recognized set of traceability principles. In addition to Codex, the International Plant Protection Convention and the World Organization for Animal Health should also be taken into account where appropriate. Traceability in the feed and food chain is ensured by the ISO 22005:2007 standard. This is the standard for "General principles and basic requirements for system design and implementation." The standard requires not only the creation of a traceability system but also verification of the effectiveness of the developed system through simulation exercises. EU general food laws require the establishment of a Rapid Alert System for food and feed, emergency management,

and crisis management.

Consumers who purchase organic food have certain expectations regarding its quality and rely on certifying organizations to verify this quality, as well as to provide information about the origin of organic products. However, the traceability of organic food has several problems: first, problems with the labeling of organic products; second, certification fraud; third, concerns about the transparency of food information.

Information about food origin is especially important in the organic food supply chain as it can highlight the use of pesticides, genetically modified organisms, fair payment, and environmental or carbon footprint. Pesticides can be toxic to humans and have acute and chronic health effects. According to the WHO, these health effects and the impact of pesticides on the environment are an ongoing concern. If it turns out that an organic product is not organic, the consequences for supply chain partners can be severe.

In organic production, the control system checks the entire production cycle, so the history of the product's origin is completely transparent to the consumer. It is believed that ideally the entire production cycle, including the sale of organic products, should be within a radius of 300 km [28].

The International GS1 Association has succeeded in creating a global commercial agreement on standard requirements and finding a common way to describe the traceability process. From an information process management perspective, the implementation of supply chain traceability systems requires all trading partners involved to systematically integrate the physical flow of materials, semi-finished products, and finished products.

Regulations of the European Parliament and the Council regulate the rules for traceability of organic products. Regulation (EU) 2021/279 lays down some additional rules to the general industrial rules for operators laid down in Chapter III of Regulation (EU) 2018/848, including precautions to avoid the presence of unauthorized products and substances, as well as measures to be taken in case of presence of unauthorized products or substances [20].

In the US, food manufacturers have



developed enormous capabilities to track the flow of food. Electronic coding systems, from simple bar code systems to advanced technologies such as radio frequency identification systems, are helping to streamline the U.S. food supply system.

As technological innovations reduce the cost of these devices, more firms in the food supply chain are using electronic tracking systems. In some cases, buyers operate these systems to control internal supply flow. Other firms are creating systems that link suppliers and buyers, allowing them to automate reordering. Retailers such as Wal-Mart have created proprietary supply chain information systems that they require from their suppliers.

IN—China has created a national organization “China Trace ”, which develops, tests and implements “traceability” systems for food products. In November 2010, China Trace announced that it was collaborating with Trace Register " (one of the companies offering online "traceability" systems for businesses) to organize seafood traceability in China and provide a one-stop service for companies seeking to verify the origin, processing history and sources of seafood. China Trace clients provide safety, quality, organic, and other information to their customers in Europe, Japan, and North America.

In India, the website (<https://pgsindia-ncof.gov.in/consumer-verification>) has been developed to ensure online traceability of organic products. Certification can be verified by local manufacturer group number or certificate number.

In countries EAEU basic concepts and, as a consequence, approaches to the development of organic production vary significantly; the presence of multiple certification systems confuses the consumer and complicates the traceability of organic products. This creates obstacles to the circulation of organic products on the internal market of the EAEU. It should be noted that none of the EAEU countries has yet built a system for monitoring the reliability of accounting and traceability of organic products, which does not guarantee the protection of producers and consumers from counterfeiting and counterfeiting. An important condition for the effective functioning of the market is the use of digital

technologies to optimize production processes and control the quality of organic products. The use of digital technologies has several benefits, including production control and traceability of organic products. However, in the EAEU countries, measures for the digitalization of agriculture are still at the initial stage of implementation.

In Armenia, work was carried out to develop a specialized website. In particular, the Government of Armenia and FAO created the national web platform AGRO.AM Network for networking, information, and data exchange between the nation's leading research and education organizations and agricultural experts. However, this site is limited to providing outdated and irrelevant information to key stakeholders - farmers, processors, logistics providers, etc.

In the Kyrgyz Republic, the Ministry of Agriculture, Land Reclamation and Food Industry is considering the creation of a state institution “Digital Agriculture”, designed to gradually and comprehensively introduce digital technologies, including in organic agricultural production.

In Russia, digital technologies in organic agricultural production are used only by large companies. Thus, the Siberian Organic Products company has provided its production with a satellite monitoring system for all vehicles and units. This allows specialists to monitor the correct execution of necessary operations in the fields. However, with the advent of new developments, no matter of Russian or foreign origin, many problems arise during their implementation, associated with a lack of experience and qualified personnel.

In Kazakhstan, there is currently no complete control over the turnover of organic products, there is no accounting system, and there is no traceability of the turnover of organic products. Manufacturers of organic products are not protected from unfair competition, and potential consumers are not provided with a guarantee for organically produced goods. Products labeled with the word “organic” do not have a certificate of conformity confirming the labeling, the same applies to imported products. Some imported products have a European Organic certificate, the rest uses the words “eco”, “ bio ” and “organic”, without supporting documents. There is no

control over the import of such products. There is also no information on the volumes of imported organic products, which does not provide a full assessment of the market volume and the level of demand for these products.

### Discussion

Formulation of conclusions, assumptions about the obtained facts, comparison of our own results with the results of other authors, the main directions of further research and recommendations in this area are determined.

1) Despite some inaccuracies and incomplete data for some indicators and countries, based on the calculations carried out, it can be argued that the market for organic products is developing dynamically.

Thus, according to the reports of FiBL and IFOAM, in 2021 the number of countries involved in organic farming was 191 countries. It should be noted that the number of IFOAM branches is constantly growing: as of 2022, 791 branches are registered.

Over 10 years, from 2012 to 2021 inclusive, changes in global volumes of key indicators of this market were:

- Increase in the area of organic land - 2.1 times (from 36.8 million to 76.4 million hectares);

- Increase in the number of producers of organic products – 1.9 times (from 1,907 thousand to 3,670 thousand entities);

- Increase in the number of processors of organic products – 2.3 times (from 52.7 thousand to 118.9 thousand);

- Increase in external trade turnover of organic products – 2.5 times (from \$10.26 billion to \$25.25 billion);

- Increase in retail trade volumes of organic products by 2.4 times (from \$63.9 billion to 153.4 billion) [20].

At the same time, the share of organic market indicators in the volume of indicators of the entire market (traditional and organic) remains relatively low.

For example, in 2021, the world's average annual consumption per capita was \$19.3 per person. The global share of organic agricultural land in total area is 1.6% [20].

Thus, the dynamic development of global production, trade, and consumption

of organic products but at the same time the still low share of its indicators in the volume of the global market indicates that this is a promising direction of economic development.

2) In the context of globalization, with traditional agricultural production, least developed countries can usually achieve competitiveness only if they attract large investments to ensure sufficient design capacity. An initial and ongoing purchase is required: expensive machinery, equipment, and consumables (including mineral fertilizers, pesticides, vaccines, antibiotics). This remains an insurmountable barrier to the global market for many in the least developed countries.

Organic production, in this case, is a good alternative for business in countries and regions that are poorly involved in globalization processes and, in general, for the development of small (including family) businesses.

Developed countries also have good, often leading positions in production indicators but still, they unconditionally lead mainly in indicators that characterize the consumption of organic products: the foreign trade deficit, retail trade volumes, and per capita consumption of organic products.

As a rule, when defining the main tasks solved within the framework of organic production, various aspects are mentioned, which ultimately can be attributed to 2 main groups of tasks: preserving the environment and protecting the life and health of the population. But based on the above, we can talk about a third important group of tasks being solved as part of the development of the market for organic products - the humanization of the economy.

Thus, organic production, along with solving problems related to the environment and protecting the life and health of the population, makes its contribution to the humanization of the economy in the context of globalization.

3) The development of any market requires ensuring fair competition at all stages of production and circulation of organic products. Therefore, one of the challenges that needs to be addressed is to ensure an effective traceability system.

Often organic products taste no different from traditional products. Thus, an

effective traceability system is sometimes the only tool available to provide the consumer with assurance that the product is truly organic. By increasing compliance guarantees, we ensure demand for these products.

On the other hand, traceability protects honest producers and suppliers of organic products from unscrupulous competitors.

A review of international experience shows that in the world there is no common approach to developing a Traceability System. There is no uniform format for its maintenance, and there is no single international document or standard for organic production.

4) According to the Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan, in the republic mineral fertilizers are applied to 16.6%, organic fertilizers - 0.4% of the total sown area of agricultural land, treatment with chemical pesticides is only 0.8 kg /ha [31].

Consequently, for Kazakhstan, which has vast ecologically clean arable land and pastures, this is a huge prospect that needs to be taken advantage of by creating the necessary conditions for agribusiness to transition to environmentally friendly technologies and promote domestic organic products to foreign markets.

5) In the absolute majority, the policy of state support for organic producers is carried out against the backdrop of state support for traditional agriculture, which stimulates the intensification of agricultural production (subsidies for the purchase of mineral fertilizers, pesticides, machinery and equipment for the use of agrochemicals, etc.).

Substantial, sometimes excessive government support for traditional intensive agriculture also reduces the competitiveness of organic producers.

So, according to the UNDP (United Nations Development Program) report for 2021, global support for producers of traditional agricultural products amounted to \$540 billion per year [32].

It must be taken into account that the interests of producers of traditional products are often represented by large conglomerates and unions that lobby their interests in legislative bodies. This lobbying

can lead to unreasonable amounts of government support, which entails harm to people and the environment.

Therefore, rational regulation is necessary in the context of the coexistence of two areas of agricultural production.

6) Despite the general ban on the use of chemical products, their use in organic production is still allowed in limited quantities, when there are no alternative products and only on condition that these substances are approved for use by the authorized body (clause 21 of the National Standard ST RK 3111–2017 "Organic products. Requirements for the production process").

The list of permitted products used in the production of organic products was approved by the order of the Minister of Agriculture of the Republic of Kazakhstan dated May 23, 2016 No. 231 [33]. It should be noted that the substances and methods of production of organic products allowed in international trade are constantly updated. Some substances are excluded due to the emergence of more environmentally acceptable means, others, on the contrary, are allowed for the production of organic matter.

Therefore, it would be advisable to provide the procedure, criteria, and frequency of changes to the list of permitted substances in legislation. This would allow for timely reflection of changing conditions and scientific advances and would provide equal opportunities for Kazakhstani producers with producers in other countries.

7) Currently, the production of organic products in Kazakhstan is carried out for export. Consumer demand for these products, as in other EAEU countries, is unstable.

The concept of organic production is relatively new and the population is not sufficiently informed about production criteria, the benefits of organic products, and the rules for their labeling. In this regard, there are certain risks. For example, sales of products labeled as "eco-friendly" or similar designations without proper justification, the so-called "greenwashing" (green laundering). Most consumers do not know how they can directly or indirectly contribute to the development of organic production. This can be done, for example, by giving preference to local and seasonal

vegetables and fruits.

Thus, prices for organic products (prices are a significant factor in choosing a product for most consumers) and domestic demand are affected by the lack of a developed culture of consumption of organic products.

To activate consumer demand (including through the popularization of organic products, and a healthy lifestyle), support producers of organic products (including through the development of sales channels), develop partnerships (including with the involvement of operators of this market, authorities, industry public organizations) it would be advisable to consider the possibility of creating a fund to support the organic products market.

8) Manufacturers of organic products need protection not only from unscrupulous organic producers but also from the activities of producers of traditional products (risk of contamination with pesticides, mineral fertilizers, GMOs, production waste, etc.).

In the future, with the growth of organic production, such problems will only increase and the need for protection against such risks will intensify. It may be necessary to prescribe rules for notifying enterprises with traditional production (perhaps not only enterprises in the agro-industrial sector) that border or somehow intersect in the course of their activities with producers of organic products. After receiving such a notification, the enterprise will have to assume additional obligations and restrictions.

Of course, these obligations should not be burdensome for representatives of traditional businesses and should also take into account their interests.

Here we can add that the risks of GMO contamination are also a serious risk for the organic sector of Kazakhstan. This can lead to increased costs, loss of reputation, and loss of market for the organic supply chain.

In 2015, 37 countries officially banned the cultivation of genetically modified crops

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[34].

The obvious solution to the GMO problem is a “GMO-free region or country”. But in modern realities, this may be too radical measure for Kazakhstan.

## Conclusions

Thus, public policy should take into account the need to develop rules for the coexistence of producers of organic and traditional products. It is necessary to consider the development of rules aimed at preventing contamination of GMOs. The regulations should introduce mandatory GMO labeling to ensure transparency for organic producers and consumers.

It would be advisable to compensate for financial losses from such cases at the expense of individuals and legal entities who committed violations that led the manufacturer to the loss/suspension of the certificate, or an increase in the period of the “transition period”; and/or through special funds to support organic production (for example, in Portugal, suppliers of GMO seeds pay into a special compensation fund).

It is also possible to consider insuring organic producers against such risks.

To mitigate the financial losses of the affected producer of organic products, it would also be possible to consider suspending the certificate not for all produced products, but for its “defective” part (batch). For example, only crops harvested from a field where contamination occurred due to the fault of a third party can be deprived of organic status. But this is only possible with the certification of the final product.

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## ҚАЗАҚСТАННЫҢ АЗЫҚ-ТҮЛІК ҚАУІПСІЗДІГІН ҚАМТАМАСЫЗ ЕТУ ҮШІН ОРГАНИКАЛЫҚ НАРЫҚТЫ ДАМУ

**Раушан ДУЛАМБАЕВА**, э.ғ.д., профессор, Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы, Абай даңғылы 33а, 010000, Астана, Қазақстан, [r.dulambayeva@apa.kz](mailto:r.dulambayeva@apa.kz), ORCID ID: <https://orcid.org/0000-0003-3942-8875>.

**Халел ҚҰСАЙЫНОВ**, э.ғ.д., профессор, Қ. Жұбанов атындағы Ақтөбе өңірлік университеті, Ақтөбе, Қазақстан, [kussainov-x@mail.ru](mailto:kussainov-x@mail.ru), ORCID ID: <https://orcid.org/0009-0003-3666-7659>.

**Лариса ҚҰСАЙЫНОВА**, э.ғ.к., профессор, Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы, Абай даңғылы 33а, 010000, Астана, Қазақстан, [l.kussainova@apa.kz](mailto:l.kussainova@apa.kz), ORCID ID: <https://orcid.org/0000-0003-4973-8703>.

**Дәулет ЕСМАҒАМБЕТОВ**, мемлекеттік басқару докторы, Қазақстан Республикасы Президентінің жанындағы Мемлекеттік басқару академиясы, Абай даңғылы 33а, 010000, Астана, Қазақстан, [dyes.eco@gmail.com](mailto:dyes.eco@gmail.com), ORCID ID: <https://orcid.org/0000-0002-0271-0394>.

**Шакизада НИЯЗБЕКОВА**, э.ғ.к., доцент, Ресей Федерациясының Үкіметі жанындағы қаржы Университеті, Мәскеу, Ресей Федерациясы, [shakizada.niyazbekova@gmail.com](mailto:shakizada.niyazbekova@gmail.com), ORCID ID: <https://orcid.org/0000-0002-3433-9841>.

## РАЗВИТИЕ ОРГАНИЧЕСКОГО РЫНКА ДЛЯ ОБЕСПЕЧЕНИЯ ПРОДОВОЛЬСТВЕННОЙ БЕЗОПАСНОСТИ КАЗАХСТАНА

**Раушан ДУЛАМБАЕВА**, д.э.н., профессор, Академия государственного управления при Президенте Республики Казахстан, проспект Абая 33а, 010000, Астана, Казахстан, [r.dulambayeva@apa.kz](mailto:r.dulambayeva@apa.kz), ORCID ID: <https://orcid.org/0000-0003-3942-8875>.

**Халел КУСАИНОВ**, д.э.н., профессор, Актюбинский региональный университет им. К. Жубанова, Актөбе, Казахстан, [kussainov-x@mail.ru](mailto:kussainov-x@mail.ru), ORCID ID: <https://orcid.org/0009-0003-3666-7659>.

**Лариса КУСАИНОВА**, к.э.н., профессор, Академия государственного управления при Президенте Республики Казахстан, проспект Абая 33а, 010000, Астана, Казахстан, [l.kussainova@apa.kz](mailto:l.kussainova@apa.kz), ORCID ID: <https://orcid.org/0000-0003-4973-8703>.

**Дәулет ЕСМАҒАМБЕТОВ**, доктор государственного управления, Академия государственного управления при Президенте Республики Казахстан, проспект Абая 33а, 010000, Астана,

Казахстан, [dyes.eco@gmail.com](mailto:dyes.eco@gmail.com), ORCID ID: <https://orcid.org/0000-0002-0271-0394>.

**Шакизада НИЯЗБЕКОВА**, к.э.н., доцент, Финансовый университет при Правительстве Российской Федерации, Москва, Российская Федерация, [shakizada.niyazbekova@gmail.com](mailto:shakizada.niyazbekova@gmail.com), ORCID ID: <https://orcid.org/0000-0002-3433-9841>.