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POTENTIAL OF ORGANIC AGRICULTURE DEVELOPMENT IN KOSTANAY REGION

Abstract

The article presents comparative results of introduction of organic agriculture in the world and the Republic of Kazakhstan on the example of Kostanay region.

Organic agriculture aims to build production systems that improve and maintain soils that focus on improving human health, preserving ecosystems, while using innovation and scientific advances to benefit the environment. The introduction of organic agriculture will involve all actors in rural areas and not only, but the organic system is based on environmental processes that have no adverse effects and take into account local climatic conditions. Organic farming, as a factor of sustainable development, will result in the creation of ecological products (bio-products, organic products), a category of goods that are produced according to all necessary standards and are oriented to the human and environment.

In the world, 172 countries are engaged in and developing organic farming, ensuring the sustainable development of their territories and economies, and investing in organic production, these countries are developing human potential. In Kostanay region large enterprises engaged in production of organic products are mainly farms from Fedorovsky district: LLP «Zharkol 007», LLP «Galant», LLP «Quarta», LLP «Bekseites», LLP «Metelica», LLP «Kovrizhny» are engaged in the production and processing industries.

***Keywords**: organic agriculture, sustainable development, environmental products.*

Introduction. The Development Strategy of the Republic of Kazakhstan till 2050 and the concept of green economy for 2013-2020 provide opportunities for our country to develop and create national, competitive brands of environmentally safe products. The task was set for Kazakhstan producers to become global and promising players in the field of production of environmentally safe agricultural products and to ensure sustainable development of our country [1]

The development of organic agriculture, in comparison with traditional technologies, is less negative and has a positive effect on the environment, natural and human resources, and is the basis for the Republic of Kazakhstan in the transition to a green economy as a factor of sustainable development of the territories [2].

According to the International Federation of Organic Agriculture Movements (IFOAM), more than 2 million producers have been certified for environmental production worldwide, and the area under organic production is continuously growing to more than 40 million hectares. India 's largest number of certified environmental producers is 650,000, Uganda 190,000, Mexico 170,000 and the Philippines 166,000 environmentally friendly producers. The average annual growth of the world market of organic products is 15% annually, in the future, according to foreign experts, this figure will reach 50% annually. The average annual growth of the world market of organic products is 15% annually, in the future, according to the forecasts of foreign experts will reach 50% annually. In economic terms, the growth of gross turnover of organic agriculture is constantly increasing, in 2012 amounted to 44 billion dollars, at that time in the European Union - 19.6 billion, in the USA - 20.2 billion, at this stage the world market of organic products is more than 100 billion dollars, the growth of gross turnover in the last six years has increased more than 2 times, and the price of environmental

products exceeds the price of conventional products more than twice or three times. Consumer demand for environmental products is developing thanks to the desire of consumers to consume quality and healthy food, the demand and desire of people for clean environment, preservation of soil fertility, thus providing future generations with an opportunity for progressive development.

According to statistics, the largest quantity of organic products is sold in industrial countries of the world, more than 70% of the total consumption of organic products is in Western Europe, in which Germany and France have the largest markets of organic products, as well as the US is among the leaders in consumption. Among the countries of Europe, Switzerland has the highest expenditure on organic products, with an average of 221 euros per year per resident, the second place for Denmark, the second place for one citizen is 162 euros, the third place for Luxembourg, in which every citizen, on average, spends 164 euros per year on the purchase of environmental products. With regard to the sale of organic products, many countries are oriented towards the external market, the leaders in the export of organic products are the United States (2,409 million euros), Italy (1420 million euros), Netherlands (928 million euros), Spain (590 million Euro) [3].

Organic agriculture is developing everywhere, in the world the creation of environmentally sound products is occupied by North America 3.0 million hectares under organic production, in Latin America - 6.5 million hectares, African countries possess 1.2 million hectares of organic land, in Asia - 3.4 million hectares, The United States - 2.2 million hectares in terms of the number of areas allocated for organic agriculture lead the countries of Europe, Australia and Oceania at them 11.5 million hectares and 17.3 million hectares respectively. The top 10 countries have a total of 32 million hectares of land under organic agriculture, representing more than 70 per cent of the world total [4].

Results and discussion. Developing organic farming, the countries of Europe are dominated by cereals, which have 16% of the total area of organic agricultural land almost 1.1 million hectares, and forage crops also occupy 1.1 million hectares. Among the crops that are cultivated according to the method of organic farming it is worth separating from cereals - wheat, under which more than 400 thousand hectares are employed (Great Britain, France, Italy, Germany), the second place is taken by oats, under which more than 100 thousand hectares are employed, located in the territory of countries - Germany, Italy, Finland, as well as organic barley, which together occupies 44 thousand hectares of land (Sweden, Germany, Italy). The development of organic farming in the countries of Asia is gaining momentum, at this stage of development the beginners of Asian countries possess 8% of the world quantity of organic agricultural land, which is more than 3.5 million hectares, every year the interest of producers in creating ecological products is increasing. The number of producers engaged in the creation of environmental products in Asia is 1 million, of which most (650,000) are located in India. In structure of organic farmlands in the Asian countries of 1.6 million hectares or 45% of total number, the arable land borrows, pastures make 27 thousand hectares or 1%, a share of long-term plantings 15% or 541 thousand hectares are equal. Mainly, grain crops are cultivated on arable land, which together occupy 755 thousand hectares, as well as oilseeds - 443.9 thousand hectares. Leaders in organic production among Asian countries are: China, in which 1.9 million hectares are occupied under organic production, on the second place India - 700 thousand hectares, the third place is taken by Kazakhstan - 300 thousand hectares, which are mainly concentrated in Kostanay and Almaty regions [5].

In Kostanay region large enterprises engaged in production of organic products are farms of Fedorovsky district: LLP «Zharkol 007», LLP «Galant», LPP «Quarta», LPP «Bekseitov», LPP «Metelica», LPP «Kovriny», which are engaged in processing and crop production (table 1).

These enterprises of the Fedorovsky district of Kostanay region at the stage of their formation as an organic producer send more than 2 thousand tons of ecological linseed oil for export to European countries and China, thanks to the fact that these products were produced with the help of organic agriculture technologies all sold products were sold twice higher than products created by traditional technology.

Developing organic agriculture, local farmers have already used 60,000 hectares for the cultivation of organic oilseeds and these indicators are growing annually. Facilities that have abandoned chemicals have received international certification to enable organic production, and these

standards are regularly confirmed by a special inspection that monitors production and fields under organic agriculture. The growing area of oilseeds and the further issue of processing contributed to the prospect of building a new high-tech oil plant, with a capacity of more than 300 thousand tons of seeds per year in Fedorov district.

Table 1 - Organic producers certified in Kostanay region

№	Producer	Land area, in hectares	Region
1	LPP «Kuzovy»	1445	Fedorovsky
2	LPP «Uspenovskoye»	1925	Fedorovsky
3	LPP «Quart»	1615	Fedorovsky
4	LPP «Sana-agro»	17137	Karabulaksky
5	LPP «Kostanau-Agro 2008»	8551	Karabulaksky
6	LPP «Kuybushevskoye-Agro»	11811	Uzunkolsky
7	LPP «Timofeevka-Agro»	26774	Auliyekolsky
8	LPP «Pavlovsky»	5344	Kostanay
9	LPP «Dmitriyevka»	4693	Fedorovsky
10	LPP «Aktas»	12346	Taranovsky
11	LPP «Adlet-T»	10583	Taranovsky
12	LPP «Zhiger»	1989	Taranovsky
13	LPP «Shapagat»	1424	Taranovsky
14	LPP «Gallant»	7401	Fedorovsky
15	LPP «Kovrizhnykh»	2775	Fedorovsky
16	LPP «Bekseitov»	6327	Fedorovsky
17	LPP «Metelica»	629	Fedorovsky
18	LPP «Bezbabny»	3801	Fedorovsky
19	LPP «Pchenichnoe»	10308	Fedorovsky
20	LPP «Korn-Astyk»	111000	Fedorovsky
21	LPP «Agromin»	32000	Kostanay

The certified Kazakh products are represented by grain crops (161,427 tons), oilseeds (84,872 tons), legumes (47,845 tons), fodder crops (8,700 tons), medicinal herbs: licorice roots, dried leaves of wild-growing nettle, raspberries, wort (300 tons). Export of certified organic products from Kazakhstan is more than 10 million US dollars. Kazakhstan eco-products are in great demand in the countries of the European Union, the main ones are Germany, Italy, Great Britain and others, in these countries the demand is growing for Kazakhstan grain, as well as oilseeds: rapes and soybeans.

Kazakhstan has a significant advantage in the form of a ban on the use of genetically modified seeds, as a result of which Kazakh producers open new markets for eco-soybeans and eco-rapeseed, using this ban as a good marketing move, and due to climatic conditions in northern Europe, such crops are grown in a small amount [6].

The creation of ecological products on the territory of the Republic of Kazakhstan will give our state a number of advantages, the most important of which are economic, environmental and social advantages.

Conclusion. In introducing organic agriculture, Kazakh producers benefit from the following economic aspects: there are savings in money as a result of non-mineralization of the use and purchase

of synthetic pesticides and fertilizers; Open international markets and sell their own certified goods on the organic market at a higher price; When processing organic products, producers get an opportunity for added value. The creation of a reliable legal framework will enable small and medium-sized businesses to promote domestic goods to world markets, thereby stimulating more entrepreneurs to practice and introduce the production of environmental products, thereby increasing the efficiency of production.

Organic agriculture has a favourable effect on soil fertility and the environment in general, with the introduction of green agriculture, negative intensification trends will be corrected, as emissions of carbon dioxide, nitrous oxide and methane will decrease, negatively affecting climate warming, the elimination of pesticides reduces pollution of water and land resources with toxic substances. Methods of creating ecological products improve the condition of soils and their fertility, organic agriculture introduces crop rotation, use of locally adapted seeds, conservation of biodiversity, thus contributing to the strengthening of ecological balance [7].

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ТҮЙІН

Келтірілген бапта органикалық әлемдегі салыстырмалы нәтижелерін енгізу және Қазақстан Республикасында ауыл шаруашылығы мысалында Қостанай облысы.

Топырақтың жай-күйін жақсартатын экожүйелерді сақтау жүйелерін қалыптастыруға бағытталған, ол органикалық ауыл шаруашылығы өндірісін арттыру және оларды қолдайды бағдарланған адам денсаулығы, қоршаған орта үшін пайдалана отырып ғылыми жетістіктері, бұл ретте инновация және езіне пайдалы. Бұл процеске негізге алады, бұл ғана емес барлық субъектілері қатыстырылған ауылдық жерде және органикалық енгізу кезінде ауыл шаруашылығы болады, олар экологиялық процестер зардаптарын жергілікті климаттық жағдай қатерлі органикалық жүйесі болмайды және ескеріп отырады. Органикалық нәтижесі егіншілік, тұрақты даму факторларының бірі ретінде құру болады, олар экологиялық өнімдерді (биопродукты, органикалық өнім), адам мен қоршаған ортаға арналған барлық қажетті нормалар мен Тауарлардың санаты ескере отырып жүргізіледі.

Елдің орнықты дамуын қамтамасыз ете отырып, өздерінің аумақтарын мен экономика, өндіріс құралдары деректер органикалық әлемдегі айналысады және дамытады 172 органикалық егін шаруашылығы елдің сөзін адамдық әлеуетімізді дамытады. Қостанай облысында ірі кәсіпорындары негізінен органикалық өнімін өндірумен айналысатын шаруашылығы Федоров ауданының бірі болып табылады: ЖШС «Жарколь 007», ЖШС «Галант», ЖШС «Кварта», ЖШС «Бексеитов», ЖШС «Боран», ЖШС «Коврижных» саласында жұмыс істейді, олар астық және майлы өсімдік шаруашылығы саласын қайта өңдеу және өңдеуге ұзақ мерзімді айналысады.

РЕЗЮМЕ

В статье приведены сравнительные результаты внедрения органического сельского хозяйства в мире и Республике Казахстан на примере Костанайской области.

Органическое сельское хозяйство направлено на формирование систем производства, которое улучшает и поддерживает состояние почв, ориентированное на повышение здоровья людей, сохранение экосистем, при этом используя инновации и научные достижения с пользой для окружающей среды. При внедрении органического сельского хозяйства в этот процесс будут вовлечены все субъекты сельской местности и не только, данная органическая система берет за основу экологические процессы, которые не имеют пагубных последствий и учитывают местные климатические условия. Результатом органического земледелия, как одного из факторов устойчивого развития, будет создание экологических продуктов (биопродукты, органическая продукция), категория товаров, которые производятся с учетом всех необходимых норм и ориентированы на человека и окружающую среду.

В мире 172 страны занимаются и развивают органическое земледелие, обеспечивая устойчивое развитие своих территорий и экономики, вкладывая средства в органическое производство данные страны развивают человеческий потенциал. В Костанайской области крупными предприятиями занимающиеся производством органической продукции являются в основном хозяйства из Федоровского района: ТОО «Жарколь 007», ТОО «Галант», КХ «Кварта», КХ «Бексеитов», КХ «Метелица», КХ «Коврижных», которые заняты в перерабатывающей и растениеводческой отрасли, занимаются возделыванием зерновых и масличных культур.

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NEW VARIETIES OF MILLET UNDER IRRIGATION IN AKTOBE REGION, KAZAKHSTAN

Abstract

The article presents the results of studies on responsiveness to additional irrigation of samples and varieties of millet of different ripeness groups compared with the zoned variety - Start. The tasks of the region are reflected, the need to study forms of millet at irrigation at the present stage, since changes in temperature and soil conditions are noticeable now, various economic entities have been formed, which makes scientists look for new ways to increase productivity, quality indicators of crops, in particular millet, which is the leading cereal crop in the Aktobe region. The varieties of millet bred and transferred to the State Agricultural Institute have many advantages, but they should also be flexible under various changes in cultivation conditions, including irrigation. In this regard, we consider the study of the above question relevant and timely. The experiments showed a positive effect of irrigation in arid conditions. A noticeable increase in all indicators (weight of 1000 grains, the number of grains in a panicle, and also the yield of all studied varieties and forms by ripeness and by comparison with the standard and by year. Highly responsive numbers were identified and conclusions were drawn. The results of the study will be used to develop recommendations for technologies for cultivation of millet for irrigation in arid conditions of Aktobe region.

Keywords: *irrigation, period, grain, soil, variety, millet, forms.*

Introduction. At the present stage, the urgent task is to provide the ever-growing needs of the population with food, especially crop production. In solving this problem, a significant role is played by an increase in crop yields. It is known that irrigation contributes to high yields.