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Improvement of the economic efficiency of vegetable production in the agrarian sector

Improvement in the efficiency of vegetable production and marketing and the economic justification behind it is a topic of scientific and practical interest in the agricultural sector. This article examines the economic nature and problems of the increase in efficiency of vegetable production in the Atyrau region, Kazakhstan that remains insufficiently researched from the economical point of view. The study showed that whilst the demand for vegetable products increases significantly every year, the share of the Atyrau region in the gross collection of vegetable produce in the country is about 2 %. As a result, vegetables mostly are being imported from the southern regions of the country and the neighboring countries. Transportation and other associated with import expenses affect the increase in the cost and price of vegetables. In order to address the growing demand and high prices of vegetables, there is a need to increase the economic efficiency of vegetable production in the Atyrau region. Market conditions influence the efficiency of vegetable production both in the Republic and in the region. The increase in the volume of vegetable production in the Atyrau region depends on agricultural state support. The purpose of this research paper to explain approaches to the development of issues of improving the economic efficiency of vegetable production. Methodological parts of the research paper consists of several methods such as comparison of socio — economic data. The result (value) of this work is to identify the interdependence of efficiency and productivity in agriculture. The results of the study are based on the effect of combining efficiency in agriculture and its impact on labor productivity. The results can also be applied in determining the direction of financing agricultural, especially in improving productivity in vegetable farming farms.

Keywords: economic efficiency, production efficiency, production costs, vegetable growing, agrarian sector of the economy, farming enterprises, increase of efficiency, profitability level, cost price, complexity of vegetable production, profitability of production.

Introduction

The study examines the increase in economic efficiency of vegetable production and aims to identify the factors and conditions for efficiency improvement and the development of practical recommendations on economic analysis and forecasting. The importance and variety of aspects of the subject of discussion call for a comprehensive study of a wide range of issues, including methodological ones.

Improvement of food innervation is particularly urgent in the context of globalization and integration of Kazakhstan into the world economy. The situation in the world food market is characterized by increased agricultural requirements for products. Sustainability and quality are the main requirements in the food markets. There are a number of standards, that proposed products should conform, the most common of them are excellent quality, environmental and health sustainability, competitiveness in domestic and global markets [1].

Materials and methods

There are two approaches to address the issues of the improvement in the economic efficiency of vegetable production. The first approach is characterized by a detailed analysis of the economic system elements, indicating the extent that each of them affects the results of the vegetable production process. Example of the methods of this approach is the index method. The second approach is assessing the economic system as a whole, attracting a minimum number of indicators characterizing the development of vegetable production. With this approach, many individual elements of the production process are combined and expressed in the form of several generalized indicators. These two trends of the scientific approach reflect the actual situation: the management of vegetable farming requires knowledge of all aspects and elements of its work and continuous assessment of the operation process.

The second approach is used in the development of generalized indicators of vegetable production efficiency. The analysis of the category of economic efficiency and related ideas about the criteria and summary indicators of efficiency of vegetable production is carried out within the framework of the economic science itself using its methodological tools, rules, and categories. Problems of economic efficiency of production in

the literature are posed as the task of measuring production costs and results. Thus, the focal point in determining the quantitative indicators that measure the efficiency of vegetable production is the correct determination of costs and the corresponding results of production activities. Identification of all costs and all the effects associated with the activities of agricultural formation, as well as determining the extent to which a particular cost element includes the value of one or another of the result indicator constitutes in itself a critical challenge.

Economic efficiency of vegetable production shows the final beneficial effect of the use of production means and labor, the return of total investment. Efficiency is not only the ratio of costs and results of production but also the quality, usefulness of products to the consumer.

An assessment of specific activities in the industry is the criterion of economic efficiency. This feature is associated with the growth of use values based on increasing productivity and rational use of production resources. Accumulated use value is a useful effect only at the stage of consumption. At this stage, it is best seen how the production is performed and how it is advisable.

The main and particular criteria of economic efficiency of vegetable production are the production of consumer values per capita, average annual employee, the gross output, gross income of vegetable cooperatives. To increase the maximum growth of vegetable production, the minimum cost of production of resources-fertilizers, fuel, energy, as well as the cost of environmental protection, improving product quality are measured. The main criterion is the increase in the net value added at the lowest cost of direct and indirect labor based on rational use of land, material and labor resources.

Results and discussions

The high economic and social importance of vegetable production has led to the accelerated development of vegetable production worldwide. The transformation of vegetable growing into one of the main or the basic branch of agriculture, based on the developed material and technical base, the active use of science and technology, which is the subject of special care of the state, is a characteristic feature of each economically developed country with a high standard of living. For example, in Japan, about 11 % of arable land is allocated for vegetable crops. In terms of acreage and gross output, vegetable production in this country ranks second after rice growing. Vegetable growing is highly developed in the USA, Holland, France, Italy, Spain, England and many other countries. The full provision of the population with vegetable products is considered in countries with developed economies as a necessary condition for improving the welfare of society.

Economic justification of the problems of increasing the efficiency of production and sale of vegetable products is of scientific and practical interest. Vegetable growing in the Atyrau region remains insufficiently covered by the agricultural sector in economic terms.

Improving the efficiency of agricultural production is one of the most important economic problems. Its success affects the acceleration of agricultural production and the rapid creation of an abundance of agricultural products in the country. Industries that form the agribusiness industry, including vegetable growing face large challenges in the field of improving the efficiency of production and implementation.

Table shows, the production of vegetables for 5 years in the country increased by 24 %, in the region by 39 %. The share of the Atyrau region in the structure of the gross harvest of vegetable products in the country is about 2 %, although the demand for vegetable products increases significantly every year. As a result, to meet the growing demand, vegetables are imported from both the southern regions of the Republic and neighboring countries. As a result, transportation and other costs are increased, which affect the growth of the cost and price of imported vegetable products. Therefore, it is urgent to increase the production of vegetables in the Atyrau region at a lower cost.

Table

Production of vegetable products in the Republic of Kazakhstan and Atyrau region for 2012–2017 yy., thousand tons

Years	Republic of Kazakhstan	Atyrau region	Share of the region in the Republic, %
1	2	3	4
2012	3 061.5	51.4	1.7
2013	3 241.5	51.6	1.6
2014	3469.9	61.8	1.8

1	2	3	4
2015	3564.9	71.1	2
2016	3795.2	71.7	1.9
2017	3 791.1	71.5	1.8
Absolute change 2017 — 2012, %	729.6	20.1	-
Relative change in 2017- 2012, %	124	139	-

The successful development of vegetable production depends on the availability of labor, transport routes near the markets. This implies concentration and specialization of production in the suburban areas of large cities and in the raw material areas of the processing industry. As there are higher prices for the sale of products, it is possible to use a thermal waste industry for heating greenhouses and hotbeds. In the nearest farms to the city, the profitability of vegetables is higher than in the remote ones. Suburban farms sell products in large quantities through direct links and have specialized production. Growing of vegetables in raw material areas are arranged taking into account the requirements of the processing industry: the presence of specialized farms, a high concentration of crops near vegetable-canning plants. For the canning industry, it is important to have a uniform supply of products for processing. The cost of canned food depends on the cost of vegetables produced in the area, i.e. they occupy a large share (up to 75 %) in the system. The allocation of acreage for special crops, the implementation of inter-farm specialization contributes to reducing the cost of vegetables.

Regarding the diversification of crop production, natural and economic factors, as well as economic risks and the attitude of producers to them, have practical value for producers. Effective economic structuring, according to scientists, is based on the competent use of such phenomenon as the covariance of the results of the production of different types of products [2].

According to Professor Michael P. Todaro, economic efficiency is the production of a product with the maximum possible value with the use of resource-saving technologies and taking into account the availability of solvent demand.

Efficiency, according to N. Wall, J. Marcuse, D. Line, is an efficient use of resources and can be calculated in many ways, among which the following [3] are most widely used:

- labor efficiency: productivity (output per worker);
- production efficiency: production losses (percentage of waste in production);
- financial efficiency: turnover of assets (sales volume provided by the company's assets).

According to economists, the efficiency of social production is an economic category that characterizes the effectiveness of production in comparison with production resources and social needs, and efficiency is the relative effect, the effectiveness of the process, operations, project, defined as the ratio of the effect, result in the costs spent on its production. Production efficiency is its effectiveness, the ratio of the results of production activities and labor and material resources spent on their achievement. The essence of the process of production efficiency is to increase the economic results for each unit of cost. Efficiency is the ability to bring effect, to act. Production efficiency is a situation when at the existing level of knowledge and a given amount of productive resources a certain amount of other goods cannot be produced.

In his work, Professor A.S. Pelikh points out: The main criterion of economic efficiency is the maximum increase in the efficiency of social work due to the rational use of material, labor, financial resources in the process of production and delivery of products to the consumer. In the framework of the methodical relation, this criterion is most fully expressed in the indicator of the comparative economic efficiency—the minimum of the given expenses [4].

Before considering the issues of improving the economic efficiency of agricultural enterprises, it is necessary to define the concept of economic efficiency. In economic literature, this concept is interpreted in different ways. For example, some scientists believe that economic efficiency is a relative measure of the effect obtained in relation to the costs or resources used to achieve this effect.

V. Garfinkel and V. Shvander indicate that the concept of production efficiency includes social efficiency (reducing the share of manual labor, the improvement of working conditions). In addition, the authors note, for a complete idea of the overall cost-effectiveness we need generalized characteristic value and physical indicators. The general and comparative economic efficiency of costs in planning and designing is used. The general economic efficiency is defined as the ratio of effect to capital investments, and comparative one — as the ratio of the difference of current costs to the difference of capital investments per options. At the

same time, general and comparative economic efficiency complement each other. Profitability ratios are used for generalized performance characteristics. Others point out that economic efficiency is measured by comparing the results of production (effect) with the costs or resources used [5].

M.N. Timokhin said that efficiency is a complex category reflecting the performance of all objective relations and processes. The complexity of efficiency reflects the increasing consumption of society in search of its new opportunities in accelerating the rise of the productive force of collective labor [6].

Each definition has its positive and negative sides. In our opinion, the economic efficiency of agricultural enterprises should characterize the interests not only of agricultural producers, but also the interests of entrepreneurs (suppliers, agents, etc.) in the functioning, development, and growth of agricultural enterprises. As the agricultural enterprise, investing the capital for the acquisition of resources (seeds, fertilizers, agricultural machines, etc.) and paying expenses (compensation, leasing payments of taxes, etc.) produces vegetables and after their sale, funds are received and the capital is circulated. Therefore, the faster the capital turnover, the more effect the agricultural enterprise will get.

The most important factor in achieving efficiency in the production of vegetables is to increase the technological and technical level of vegetable production. In the world of vegetable production is a rapid process of modernization, aimed at the introduction of high-performance, energy-saving technologies sharply increased requirements for the quality of products supplied for processing and consumption.

Thus, having studied the different opinions of the authors-economists, we believe that economic efficiency is the ratio of effect and cost, which ensures the payback of the latter.

Vegetable growing is a labor-intensive industry. To cultivate 1ha of vegetable crops 600 to 800 people an hour are spent that 35 to 45 times are higher compared to grain production. Labor costs for cultivation and harvesting are calculated according to flow process charts. Tomatoes, carrots, cucumbers are especially labor-intensive crops, labor costs for their production are 3–4 times higher than the cultivation of cabbage. Due to the high labor intensity and low yield, the cost of vegetables remains high. Prices for vegetables are determined on a contractual basis. Fresh vegetables, delivered mainly to the points of sale, are paid for at retail prices minus the trade discount. The collective farms sell rare vegetables (squash, spinach, turnip) to procurement organizations at retail prices with a 20 % discount.

A large amount of money is spent on the storage of vegetable products due to the large losses as vegetable stores with open ventilation are necessary, the construction of which is expensive, but they are worthwhile.

While studying problems of increase of economic efficiency of vegetable production, the main purpose is the identification of factors and conditions of growth of vegetable production efficiency and development of practical recommendations on the economic analysis and forecasting. The importance and diversity of aspects of the problems of increasing the vegetable production economic efficiency require an integrated study of a wide range of issues, including methodological.

Conclusions

Economic efficiency of agricultural enterprises includes many elements, such as sustainable growth and development of agricultural enterprises, improving the competitiveness of vegetable products. The growth of agricultural enterprises is mainly an increase in its size and the expansion of production (production of vegetables, sales, number of employees, etc.). Development means a qualitative change and renewal of the economic system, increasing the efficiency of its functioning on the basis of improving technology, technique and organization of labor in all units and improving the quality of vegetable products.

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Экономиканың аграрлық секторындағы көкөніс өнімдерін өндірудің экономикалық тиімділігін арттыру

Мақалада экономиканың аграрлық секторындағы көкөніс өнімдерінің экономикалық тиімділігін арттырудың экономикалық маңызы мен мәселелері қарастырылды. Өсімдік өнімдерін өндірудің және сатудың тиімділігін жоғарылату мәселелерін экономикалық негіздеу ғылыми және тәжірибелік қызығушылық тудырады. Атырау облысында көкөніс шаруашылығы әлі де аграрлық сектормен экономикалық тұрғыдан жеткіліксіз болып келеді. Республикада көкөніс өнімдерінің жалпы өнімінің құрылымында Атырау облысының үлесі шамамен 2 %-ды құрайды, дегенмен, жыл сайын көкөніс өнімдеріне деген сұраныс артып келеді. Нәтижесінде өсіп келе жатқан сұранысты қанағаттандыру үшін көкөністер республиканың оңтүстік өңірінен де, жақын шетелдерден де импортталады. Сонымен қатар көлік және басқа да шығындар өсіп келеді, бұл өндіріс шығындарының артуына және импортталатын көкөніс өнімдерінің бағасына әсер етеді. Сондықтан Атырау облысындағы көкөніс өнімдерінің экономикалық тиімділігін арттырудың өзектілігі пісіп-жетілді. Нарық конъюктурасы республика және аймақ көлемінде де көкөніс өнімдерін өндіру тиімділігіне ықпал етеді. Атырау облысында көкөніс өнімдерінің көлемі артып келеді, ал тұрақты өсім ауыл шаруашылығын мемлекеттік қолдаудың нәтижесі болып табылады. Берілген мақаланың мақсаты — көкөніс өндірісінің экономикалық тиімділігін жоғарылату мәселелерін қарастыруда ұстанымдарды түсіндіру. Мақаланың әдістемелік жағы экономиканың осы секторының әлеуметтік-экономикалық көрсеткіштерін салыстырмалы талдаудан тұрады. Берілген жұмыстың құндылығы — ауыл шаруашылығындағы тиімділік пен өнімділіктің өзара байланысын анықтау. Зерттеу нәтижелері ауыл шаруашылығындағы тиімділік әсерінің үйлесуі мен оның еңбек өнімділігіне ықпалына негізделген, ауыл шаруашылығында қаржыландыру бағыттарын анықтауда, әсіресе шаруа қожалықтарының көкөніс шаруашылығында өнімділікті жақсартуда қолдануға болады.

Кілт сөздер: экономикалық тиімділік, өндіріс тиімділігі, өндірістік шығындар, көкөніс шаруашылығы, экономиканың аграрлық секторы, агроөнеркәсіптік кешен, тиімділікті арттыру, рентабельділік деңгейі, көкөніс өндірісінің еңбек қарқындылығы, өндірістің пайдалылығы.

К.М. Утепкалиева, Р.К. Сабирава, М.Д. Дингазиева, А.Р. Тажиденова

Повышение экономической эффективности производства овощной продукции в аграрном секторе экономики

В статье рассмотрены экономическая сущность и проблемы повышения экономической эффективности производства овощной продукции в аграрном секторе экономики. Экономическое обоснование проблем повышения эффективности производства и реализации овощной продукции представляет научный и практический интерес. Овощеводство Атырауской области до сих пор остается недостаточно освещенной отраслью сельского хозяйства в экономическом отношении. Доля Атырауской области в структуре валового сбора овощной продукции по республике составляет около 2 %, хотя спрос на овощную продукцию с каждым годом значительно возрастает. В результате для удовлетворения возрастающего спроса овощи импортируют как из южных регионов республики, так и из стран ближнего зарубежья. Вследствие этого повышаются транспортные и другие затраты, которые влияют на рост себестоимости и цены привозной овощной продукции. Поэтому назрела насущность повышения экономической эффективности производства овощей в Атырауской области. Конъюнктура рынка влияет на эффективность производства овощной продукции как в масштабах республики, так и региона. Объем производства овощей по Атырауской области повышается, причем стабильный рост является результатом государственной поддержки сельского хозяйства. Целью данной исследовательской статьи является объяснение подхода в разработке вопросов повышения экономической эффективности овощного производства. Методологическая часть статьи состоит из сравнительного анализа социально-экономических показателей данного сектора экономики. Ценностью данной работы является выявление взаимозависимости эффективности и производительности в сельском хозяйстве. Результаты исследования основаны на сочетании эффективности в сельском хозяйстве и его влиянии на производительность труда. Результаты могут быть применены в определении направления финансирования в сельском хозяйстве, особенно улучшений производительности в овощеводстве крестьянских хозяйств.

Ключевые слова: экономическая эффективность, эффективность производства, затраты производства, овощеводство, аграрный сектор экономики, агроформирования, повышение эффективности, уровень рентабельности, трудоемкость производства овощей, прибыльность производства.

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