CENTRAL ASIAN JOURNAL OF INNOVATIONS ON TOURISM MANAGEMENT AND FINANCE

https://cajitmf.centralasianstudies.org/index.php/CAJITMF

Volume: 05 Issue: 08 | December 2024 ISSN: 2660-454X

Article

Economic Indicators Of Kiwi Cultivation In A Thermos-Type Greenhouse In A Farm In The Karshi District Of The Kashkadarya Region

Qurbonov Shovqi Djurayevich

Researcher at Tashkent State University of Economics, Tashkent, Uzbekistan

* Correspondence: kurbonov-sh@internet.ru

Abstract: This study evaluates the economic feasibility of kiwi cultivation in thermos-type greenhouses in the Karshi district of Uzbekistan, focusing on improving agricultural efficiency amidst climate challenges. The objective is to analyze the economic indicators and profitability of this innovative method compared to traditional practices. The research employs a case-study approach, examining financial data from farms using thermos technology, complemented by surveys conducted with 50 citrus fruit producers to identify challenges and opportunities in the sector. The findings demonstrate the economic viability of kiwi cultivation, with profitability rates reaching 404% and 369% in 2022 and 2023, respectively. The study underscores the advantages of thermos-type greenhouses in enhancing yield and reducing costs, despite infrastructure challenges. It also highlights the need for localized financial support systems to encourage wider adoption. This research contributes to sustainable agricultural practices by providing a model for efficient citrus and kiwi farming under climate-resilient conditions.

Keywords: Acres, Pharmaceuticals, Consumption, Profitability, Agricultural Technology, Monograph, Thermos Type.

Citation: Qurbonov Shovqi Djurayevich. Economic Indicators Of Kiwi Cultivation In A Thermos-Type Greenhouse In A Farm In The Karshi District Of The Kashkadarya Region. Central Asian Journal of Innovations on Tourism Management and Finance 2024, 5(2), 583-587.

Received: 10th Sep 2024
Revised: 11th Oct 2024
Accepted: 24th Nov 2024
Published: 27th Dec 2024

1. Introduction

As the world's population continues to grow, reforms to ensure food security, and to expand the scale of fruit and vegetable production, which can help strengthen the human immune system in times of pandemics, and related research are on the rise. The main focus is on increasing the area and productivity of vitamin-rich citrus fruits, improving agrotechnologies of cultivation using innovative technologies, and expanding from the subtropical region to other regions. According to the data of the World Bank, the funds directed by international research centers for these purposes have increased by 30% in the last 4 years and are expected to increase by 2.5 times by 2040. [1]

Under the influence of global natural and climate change and environmental crises, the scope of research aimed at ensuring the food security of the population is expanding. As a way to achieve these goals, special emphasis is placed on non-traditional agriculture, including the cultivation of products in protected areas that serve to mitigate the negative effects of land degradation and climate change. According to FAO experts, citrus fruits are grown in more than 140 countries today, and their number will increase to 25% in the next 30 years due to protected areas. Therefore, in developed and developing countries,

research is being conducted to meet the demand for citrus fruits by creating new productive and climate-adaptable varieties.[13]

Furthermore, as a result of mastering the agrotechnology of kiwi cultivation from citrus fruits, which has become fashionable in our country in recent years, the supply of local kiwi products in our farmers' markets is increasing. This business is becoming popular not only as an exotic but also as a profitable business. In particular, if we pay attention to the economic indicators of kiwi cultivation in a thermos-type greenhouse in the Ibrohim Berdiyev dehkan farm, which operates in the Karshi district of the Kashkadarya region, where monographic research was conducted, in 2021, the farm organized the cultivation of kiwi on a total area of 1 square meter, 9.6 million soums were spent on the construction of the greenhouse, 900,000 soums on the purchase of kiwi seedlings, 500,000 soums on medicines, and 700,000 soums on other expenses. Since 2022, kiwi has yielded an average of 22 kg of yield per plant with the first yields. This year, a total of 462 kg of kiwi were harvested, resulting in a profit of 5,544 thousand soums, and a profitability of 404 percent with a profit of 4,444 thousand soums.

Literature review

Scientific-methodical and practical issues of increasing the economic efficiency of growing fruit and vegetable crops have been conducted by foreign and national scientists. In particular, such as Y.A. Yegorov [2], I.M. Kulikov[3], A.V. Glotko[4], I.P. Shalyapina[5], N.S. Khushmatov[6], O.T. Jumayev[7], O. Dilmurodov, M.U. Achilov[8], Sh. Murodov, O. Sattarov, as well as S.Iskandarov [10], Dilmurodov O.G.[9], A.Durmanov[11], R.Imomov's [12] studies and the scientific results obtained through them are remarkable.

However, in this research work, researches aimed at increasing the production efficiency of the fruit and vegetable industry were conducted, directly related to the economic efficiency of citrus fruit cultivation, especially the economic aspects of the non-traditional citrus fruit cultivation for our country based on intensive, resource-efficient technologies. The scientific-practical basis of it has not been studied. Therefore, the need to develop a scientific proposal and practical recommendations regarding the cultivation of citrus fruits in our country and the improvement of the efficiency of the sector became the basis for the selection of the topic of the article.

2. Materials and Methods

Overall, despite the fact that research on the cost structure and economic efficiency of growing citrus fruits, particularly lemons, has been insufficiently conducted in peasant farms, some economists estimate that the profitability of furrow-type greenhouses is relatively high.[14]

It is known that the use of various lemon cultivation technologies depends on the climatic conditions of the region, and based on research, it has been established that the profitability level after covering all costs is 65.8 percent due to the low cost of the widely used Chinese technology (row). That is, the lemon can cover all costs in one year when it has fully grown. Using a simple lightweight two-layer film (thermos) method, the profitability level was 19.3%, and the results obtained from a modern glass greenhouse were able to cover 16% of the total costs incurred (Table 2.13). That is, the lemon can cover all costs in one year when it has fully grown. In the two-layer film (thermos) method with a simple lightweight design, the profitability level was 19.3%, but the results obtained from a modern glass greenhouse were able to cover 16% of the total costs incurred.

3. Results

By 2023, the farm had planted an additional 2 acres of new seedlings. He spent 1.6 million soums on the purchase of these seedlings. In 2023, up to 45 kg of yield was obtained from one bush of kiwi. The total income of the farm was 14.2 million soums, the total profit was 11.1 million soums, and the profitability level was 369%. However, it should be noted

that in peasant farms, wages are not calculated due to the fact that they are based on the work of family members.[15]

Table 1.

Economic indicators of kiwi cultivation in a thermos-type greenhouse in the farm of Ibrohim Berdiyev, operating in the Karshi district of the Kashkadarya region

Indicators		Years		
		2021	2022	2023
Total land area of the farm, ga		0.2	0.2	0.2
Including kiwi area, ga		0.01	0.01	0.03
Yielded kiwi area, ga		-	-	0.01
Total expenses incurred, thousand sums		9600	1100	3025
h e n c e	Costs for the construction and current repair of a greenhouse, thousand soums	7500	500	500
	Kiwi seedling purchase costs, thousand sums	900	0	1600
	Disease and pest control costs, thousand soums	500	300	600
	Other expenses, thousand soums	700	300	325
Kiwi yield per bush		0	22	45
Gross harvest		0	462	945
Gross revenue, thousand sums		0	5 544	14 175
Profit, thousand sums		0	4 444	11 150
Profitability, %		-	404	369

In addition, the costs of irrigation and organic fertilizers are not taken into account. Therefore, growing citrus fruits in peasant farms is recognized as an economically efficient activity.

The analysis shows that in the context of our country, based on natural and climatic conditions, it is advisable to differentiate the system of financial support for the organization of greenhouses, taking into account the high costs associated with the construction of greenhouses in some regions, that is, there is no other option than choosing an expensive design, and to develop special incentive levers for these regions. The adoption of local programs is becoming particularly relevant for regions such as Syrdarya and the Republic of Karakalpakstan, where groundwater is close and the lemon industry is poorly developed.[16]

Table 2.

The effectiveness of lemon cultivation using a two-layer film technology with a trench and simple lightweight construction

Indicators	Unit of measurement	Greenhouse types		
		Trench	Two-layer film (thermos)	Glass greenhouse
Cultivated area	sotix	1	1	1
Number of lemon trees	piece	10	10	10
Gross harvest	kg	475	950	950
Gross revenue	thousand rubles	9500	19000	19000
Total expenses	thousand rubles	5730	15913	118680

Indicators	Unit of measurement	Greenhouse types		
		Trench	Two-layer film (thermos)	Glass greenhouse
Greenhouse construction costs	thousand rubles	4760	10893	114460
Polyethylene film (0.08 mm)	thousand rubles	250	1000	-
Seedling consumption	thousand rubles	300	300	300
Fertilizer consumption	thousand rubles	170	170	170
Chemical Combat Costs	thousand rubles	50	50	50
Agrotechnical activities		200	200	200
Heating costs		-	3500	3500
Profit	thousand rubles	3770	3087	-99680
Yield per lemon		47,5	95	95
Purchase price for 1 kg of lemon	kg	20	20	20
Cost per 1 kg of lemon	thousand rubles	1,41	5,17	4,12
Profit from 1 lemon	thousand rubles	377	308	-
Profitability rate	thousand rubles	65,8	19.3	-

This is also evidenced by social surveys conducted among producers during the research. That is, in the course of the research, a total of 50 citrus fruit farms in the Kashkadarya region were surveyed in 2022-2023, with the aim of identifying existing problems in the industry and collecting proposals and recommendations.

Of the respondents who participated in the survey, 35% were women and 65% were men. If 90% of them grow lemons, then 10% of them grow other citrus fruits. Of the participating farms, 85 were dehkan and subsidiary farms, 5 percent were farms, and 10 percent were agricultural enterprises.

4. Discussion

When studying the views of participants in social surveys on the problems observed in practice in the cultivation and sale of citrus fruits, 39 percent of them say that there is no reliable service for providing seedlings when growing citrus fruits, 24 percent say that there is a shortage of service providers related to teaching the agricultural technology of cultivation, 18 percent say that there is a shortage of enterprises for storing and processing the grown product, 26 percent say that it is impossible to predict the price in advance as a result of a sharp drop in the price. At the macro level, in today's conditions, where the negative impact of climate change is increasing, resource scarcity is felt, and the frequency of energy crises is increasing, when it comes to the effectiveness of citrus fruits grown in greenhouses (protected land areas), there is a need to comprehensively assess various aspects, from energy consumption to crop performance. This can help to conduct direct analytical analyses not only for specific cases, but also for the correct choice of the country's agricultural policy and development programs.

5. Conclusion

As can be seen, despite the high interest in growing citrus fruits in the Kashkadarya region, there is a shortage of structures serving it. This is due to the fact that peasant farms rely on traditional methods of growing products and rely on long-term experience. This hinders the full utilization of existing potential, resulting in varying yields, harvesting

dates, and diseases in different farms. Based on research conducted in this area, indicators such as energy efficiency, water efficiency, carbohydrate yield, and heat efficiency can be used as indicators for evaluating the effectiveness of citrus fruit cultivation in protected areas.

REFERENCES

[1] Citrus Market Trends. https://worldcitrusorganisation.org/facts-and-figures.

[2] Egorov E.A. Organization of reproduction in industrial fruit growing. Krasnodar, 2009. 267 p. https://cyberleninka.ru/article/n/teoreticheskie-osnovy-ekonomiki-i-organizatsii-vosproizvodstvennyh-protsessov-v-plodovodstve.

[3] Kulikov I.M. Scientific and innovative investment strategy for the development of the fruit and berry complex of the agro-industrial complex, as the most important reserve in the formation of a healthy human body in the 21st century // Collection of articles. M. 2006. - 157 p.

[4] Glotko A.V. Increasing the economic efficiency of regional horticulture: monograph. - Barnaul: Publishing house of Altyn. University, 2006. - 295 p.

[5] Shalyapina I.P. Organizational and economic aspects of the gardening system in the context of the development of integration processes: monograph // Michurinsk State Agrarian University, 2008. – 238 p.

[6] Khushmatov N.S., Rustamova I.B. The main directions of establishing innovative activities in agriculture. Scientific electronic magazine "Economy and innovative technologies". No. 3, May-June, 2019, page 185.

[7] Jumaev. Organizational and economic basis of development of cooperation in the fruit and vegetable complex in the conditions of a multi-unit economy: diss. ... i.f.n., T.: 2004. – 135 p.

[8] M.U. Achilov. Improvement of the organizational and economic basis of modernization of the fruit and vegetable network: author. ... diss. i.f.n.. – T.: 2022.

[9] Dilmurodov O.G. Improvement of the logistics chain of product sales in the fruit and vegetable complex under the conditions of economic liberalization: diss. ... i.f.n.. - T.: 2010. - 152 p.

[10] S.T. Iskandarov. Improving the economic basis for the development of protected land vegetable farming. author ... diss. i.f.n. - T. 2018 – 52 p.

[11] R. Imomov. "Opportunities to develop lemon farming in Uzbekistan and increase the efficiency of the industry" author. ... diss. i.f.n.. – T.: 2023.

[12] Markets and Trade. Citrus. https://www.fao.org/markets-and-trade/commodities/citrus.

[13] Kurbanov Sh. Citrus fruit cultivation as an additional income // International Conference on "Ways to Create a Value-Added Chain in the Industry Based on the Development of Agricultural Cooperation Relations" 15.12.2023y. p. 123.

[14] Kurbanov Sh. Analysis of the level of use of intensive technologies in the cultivation of citrus fruits. "Conference of Natural and Applied Sciences in Scientific Innovative Research." September 2024. - C. 68-73.

[15] Kurbanov Sh. The role of citrus fruits in the economy of Uzbekistan: an analysis using the example of mandarins. Scientific and Practical Conference of Young Scientists. pp. 110-113.

[16] Sh. Durmanov. Organizational and economic mechanisms of improving the activity of greenhouses. author ... diss. i.f.n. 2022.