

## Specific Features of the Vegetable Industry and the Theoretical Basis for Increasing Economic Efficiency

**Iskandarov Sanjarbek Tursunbekovich**

### *Abstract*

*The article examines the factors influencing the efficiency of open and closed methods of cultivation in the vegetable industry. The concept of efficiency is explained in detail theoretically. It is recommended to use special indicators that assess the effectiveness of vegetable cultivation in the closed method.*

**Keywords:** *Vegetable network, efficiency, network efficiency, biological properties, planning, net profit, profitability.*

---

<sup>1</sup> Doctor of philosophy in Economic Sciences (PhD), associate professor, Vice-rector for Scientific Affairs and innovations. Andijan Institute of Agriculture and agrotechnologies

At the current stage of socio-economic development, ensuring the economic efficiency of the agricultural sector along with the growth of production on the basis of modernization of economic sectors is one of the main tasks facing the agricultural sector and its theoretical foundations. In other words, the issue of increasing the efficiency of production in agriculture is, first of all, one of the main conditions for ensuring high growth rates of the economy and raising the living standards of our people.

Due to the special socio-economic and natural characteristics of agricultural production, the problem of efficiency requires a unique scientific and practical approach to the issue of the existence of specific aspects of the type of product produced agrotechnics and the sales process.

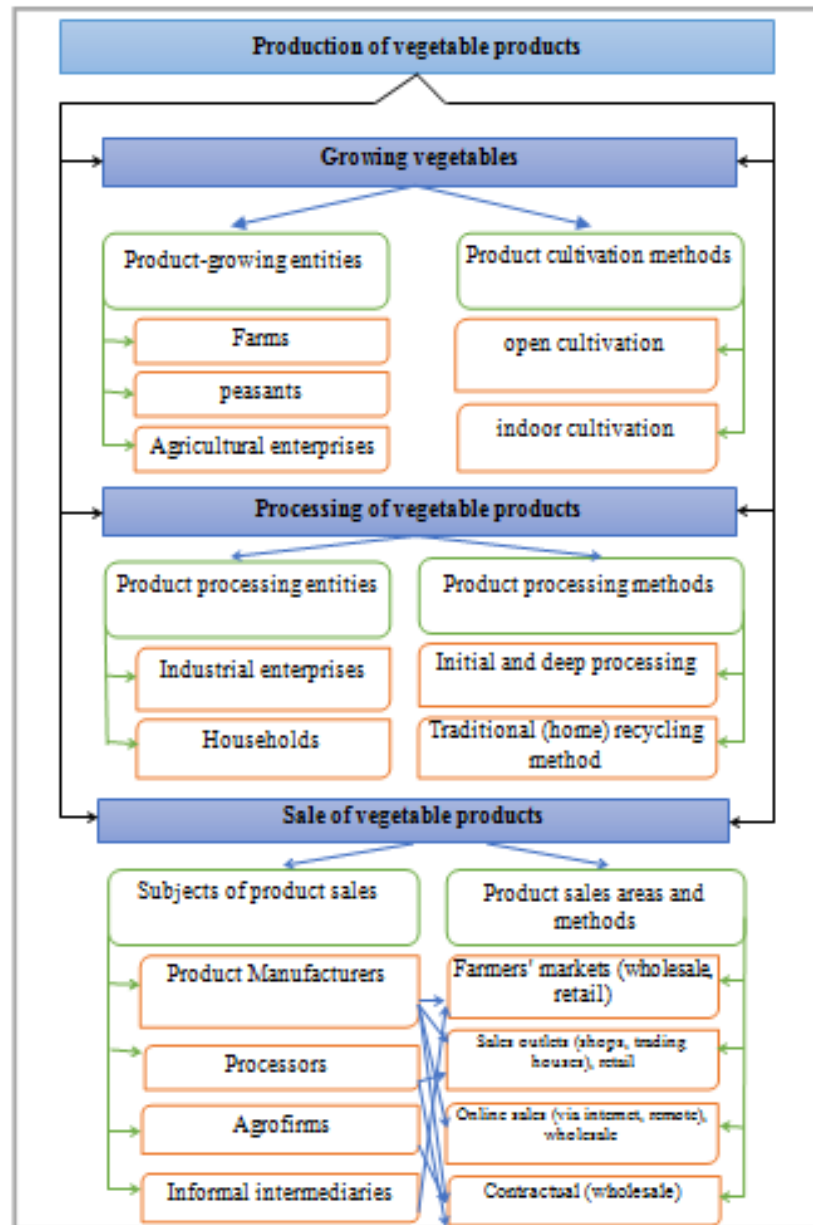
The vegetable industry also has a number of unique features, such as greater use of manual labor in the production of vegetables, sharp differences in agro-technological processes compared to other crops, the need to use small and separate types of equipment in the cultivation of vegetables. requires In addition, it can be said that the cultivation of vegetable products is carried out in two ways.

In general, we can conceive of a vegetable network in terms of growing methods conditionally divided into two major divisions.

The process of growing open and closed vegetable products is directly related to each other and they are complementary processes. Therefore, the direct joint development of this process allows to ensure the continuity of the demand for labor and the production process. In other words, the natural and climatic conditions of the republic do not allow to get enough harvest from vegetables during the year. [1] Under such conditions, growing seedlings of vegetable crops in greenhouses and transplanting them to open fields will ensure early ripening of vegetable products.

In this regard, the development of greenhouse vegetables is one of the most important issues, and it is important to take into account the following features in increasing its production and economic efficiency: Including:

- Land is not crucial in greenhouse vegetable growing, the cultivation of vegetables in greenhouses can be carried out in artificially created soil mixtures or in a nutrient medium;
- The technology of production organization is more complex than in the open field and requires qualified specialists with special knowledge and a high level of farming culture;
- Year-round production in one area consists of different vegetable crops;



**Figure 1. The general structure of the vegetable industry in the country<sup>1</sup>.**

- In the cultivation of crops, individual plants are the object of labor;
- During the year, there are technological breaks in the use of greenhouse areas for soil preparation, disinfection and crop rotation;
- Vegetation period varies depending on the biological characteristics of vegetable crops and calendar periods of cultivation;
- labor costs and capacity for different crops differ greatly depending on the stages of development of plants and growing periods;

<sup>1</sup> Developed by the author.

- Variations in the selling price of cultivated vegetable products and the cost of the product varies, etc.

These features need to be taken into account in the assessment of the efficiency of the sector, in particular, in the development of indicators and criteria for determining the effectiveness of the vegetable sector.

In general, according to the analysis of theoretical sources, in recent years there have been various opinions and comments by economists on the indicators and criteria for agricultural efficiency, and in some cases, leading to a positive debate. [2] For example, scientists have identified indicators such as the value of gross agricultural output, the cost of production of agricultural and livestock products, net profit, income, profitability, labor productivity as indicators of economic efficiency and its evaluation criteria. It is noteworthy that in most cases, each scientist was able to justify the level of effectiveness based on his or her own research goal and point of view. Therefore, it is necessary to analyze and improve the theoretical aspects of production efficiency indicators to analyze the activities of agricultural enterprises, as well as to develop prospects for the development of agricultural sectors, including the vegetable sector.

Theoretically, the concept of "efficiency" itself means to perform, act, achieve a result in any field, and is understood in a narrow and broad sense. In a broad sense, this concept is used to describe the existing system of social relations in the mode of production, which, in addition to material production, also includes social aspects of activities such as raising the standard of material and cultural life, development of science and culture. In the narrow sense, when we talk about production, we understand the consequences of the use of material and labor. [3]

The formation of economic relations in the country's economy, including in the agricultural sector, based on the laws and principles of a market economy, to develop a number of ideas and approaches indicates the need.

Agrarian economists who have conducted research in these areas have approached the problem differently and in their own way. One such approach is a regional approach to problem solving, implemented by J. Hecker and S. Mazurin. Due to the division of regions into different climates and economic conditions of the country, there is a big difference in their activities, and this problem creates some difficulties in determining production and economic efficiency.

In particular, according to J. Gecker, "as part of the solution to the problem of increasing the efficiency of agricultural production is to consider them at the level of administrative structures; because it is at this point that the link between economic demand and the real capacity of farms emerges. Many issues of socio-economic development in rural areas will be addressed through the full manifestation of the processes of inter-farm cooperation at the level of administrative structures. It is noted that the solution to this problem should be implemented mainly in suburban areas, with the implementation of suburban areas and vegetable farms through narrow specialization will give good results. [4] From a scientific and practical point of view, the above ideas are well-founded and important. However, the development of market economies and relations today requires the development of multi-functional farms in the vegetable sector as well. In our opinion, the issue of developing cooperation is also Ya. According to Gecker, it is more effective to organize farms and vegetable processing enterprises, ie "market entities", rather than on the basis of administrative territories and territorial structures.

It should be noted that the research work carried out by economist S. Mazurin on the

development of vegetable growing is similar in content and essence to the research of J. Haecker, and is devoted to the development of vegetable growing systems in suburban areas. According to him, the solution to the problems of increasing the volume of agricultural production is based on the comprehensive strengthening of the material and technical base of agriculture, through the comprehensive mechanization of agriculture and animal husbandry, the acceleration of general reclamation. It is necessary to deepen the specialization and on its basis to ensure the distribution of activities, increase the concentration of production, rational use of land, machinery and labor resources. [5]

In our opinion, there are significant resources and opportunities for scientific and practical analysis of the theory and practice of deepening the specialization and concentration of production and increasing the economic efficiency of agriculture, organizational forms of management of these processes, trends in their development, key areas of cooperation and integration. . However, a thorough solution of these issues requires a scientific description of the specialization of small agro-industrial structures in production, their size and organizational structure, taking into account local natural and economic conditions, direction of specialization and integration of this or that industry. That is, the approach to these issues only within the framework of administrative structures is considered as a one-sided approach to problem solving. In addition, the content of this problem is related to the social distribution of labor, which has a socio-economic and material-natural basis.

One of the important directions in the vegetable industry is the reduction of production costs associated with resources that directly affect economic efficiency and the analysis of theoretical and practical aspects of the formation of prices for vegetables and the system of factors influencing it. [6] The research in this area was carried out by economist D. Gafurova. In doing so, he examines the costs of growing vegetables in terms of fixed, variable, total and marginal costs, depending on the production process, and therefore emphasizes the importance of determining the "total cost" and this indicator is an optimal approach to determining production costs.

The results of the study show that the main requirement for pricing in a market economy is to reflect the actual costs incurred for the production of goods and services. It should be borne in mind that the price acts as a link between direct production and the consumer. In this regard, the primary effect on the efficiency of vegetable production is primarily the existing price.

In determining the market prices for vegetable products, as its integral principle, is the equivalent exchange based on price equality. In economic theory, equivalent exchange is understood as the desire of each participant in the production process to recoup the value of his contribution to the gross national product through fixed prices in accordance with his socially necessary labor and capital expenditures. Hence, cost, as an economic category, because it is objectively reflected in economic practice, its level is determined by the existing factors of social production, the continuous development of productive forces and the improvement of the system of economic relations.

In order to reduce the cost of production, which directly affects the level of efficiency in the vegetable sector, including specialized farms, one of the main conditions is the rational implementation of cost calculation and control by each producer.

The fact that the composition of arable land and production volumes on farms in the vegetable sector is determined independently by all farms on the basis of contracts with procurement

agencies and processing enterprises, as well as in accordance with supply and demand for products means that prices for vegetables are freely (negotiated). Normative justification prices are set by the state body that ordered the manufacturer based on specific rules and norms. Hence, the organization and planning of production are also required to be based on certain norms.

In the context of the development of market relations in agriculture, the above-mentioned circumstances do not seem to be important at first glance. However, the results of the analysis show that today it is not objective to ensure the economic efficiency of production entities through effective and realistic regulation of internal organizational and technological issues, focusing on income, profitability, increasing profitability. Indeed, the international and national practice of creating an effective production management system in agricultural enterprises is always based on the classic "planning-accounting-control" chain, which proves that in market conditions it is seen as the key to managing internal economic (firm) planning.

As a result, today not enough attention is paid to planning in all sectors of agriculture, including vegetable growing. However, many economic sources and literature have written many scientific works on the normative methods of planning and management and their improvement, and special research has been conducted by economists. [8]

One of such researches was carried out by economist R.Dustmurodov, in which the issues of organization of management and planning of farms in the conditions of transition to a market economy, development of normative and methodological support of these processes are theoretically and practically based. According to the scientist, "The principles of scientific substantiation of production management are based on compliance with the requirements of economic laws and achieving an optimal balance between the financial resources available and the volume of managed production at the level of each enterprise and division. Norms and standards play the role of material and value proportions in ensuring that production costs meet socially necessary levels."

Of course, in recent years, in order to positively address issues such as accounting for domestic costs in agriculture, the effective implementation of agro-technical measures, scientists of the Research Institute of Agricultural Economics have been developing and implementing regulations. [9] However, the application and application of these standards by agricultural producers has not yet been reflected in practice. Similarly, the norms of natural loss in the storage, processing and sale of perishable fruits and vegetables are required to be processed in accordance with today's requirements.

Based on the preliminary results of the research and the tasks set, it should be noted that the above-mentioned current standards are designed for farms operating in the open method of vegetable growing, taking into account the division of the vegetable industry in the country from the organizational and production point of view. no such standards have been developed for cultivating farms and enterprises. [10] As a result, farms and market entities growing vegetables in a closed way face many difficulties and problems in their activities. This situation has been noted in the research work on the development of the closed method of vegetable growing.

In particular, in the research work by D. Umarov on increasing the efficiency of indoor vegetable growing, the scientist noted that "... the development of the industry on an industrial basis, increasing productivity and intensive factors" as the main condition for increasing efficiency. It is noteworthy that in the research work of D. Umarov, the lack of accurate calculations in the cultivation of vegetable products makes it difficult to determine the cost of production and, in

turn, to draw appropriate conclusions. However, in the context of this situation, the need to plan the production process, while providing the necessary regulatory framework to clearly identify each type of cost, has been overlooked by the economist. [11]

In addition, during the years of independence, economist Z.Sagdillaeva conducted research on this issue, which noted that the indicators of the effectiveness of indoor vegetable growing are reflected in natural and value terms, which reflect the level of use of land, labor and material resources. It is noted that the primary indicator is "productivity", and for a comprehensive assessment of economic efficiency is reflected in such indicators as product cost, quality, labor productivity and resource utilization, the level of net profit and profitability as a general indicator of efficiency. relevant conclusions are given.

Opinions and conclusions on the indicators of efficiency of the vegetable industry and the criteria that characterize it are more substantiated in the conclusions given by S. Sagdillaeva. However, given the development of market relations and the requirements of modernization of the economy, in our opinion, it would be appropriate to take a more broad approach to the definition of indicators and criteria that represent the indicators and criteria of economic efficiency of the vegetable industry. [12]

As a result of increasing the economic efficiency of greenhouse vegetables, social efficiency will also increase. That is, the high income obtained allows to satisfy labor and use its potential effectively.

In addition to these general indicators, it is advisable to use the following specific indicators that assess the effectiveness of indoor vegetable growing:

- gross yield of vegetables (by type);
- The amount of vegetable yield per 1 m<sup>2</sup> of greenhouse area;
- unit of product grown at the expense of labor costs;
- by composition and types of costs (heating, lighting, seeds, etc.); unit cost of grown products;
- average selling price per unit of product;
- The amount of heating, electricity, fertilizers, chemicals and water in terms of quantity and value per 1 quintal of product;
- The amount of heating, electricity, fertilizers, chemicals and water in terms of quantity and value per 1 m<sup>2</sup> of greenhouse area;
- Profit from 1 m<sup>2</sup> of equipment and 1 quintal of product types;
- The level of profitability of vegetable production and general production activities.

In general, the main indicators for determining the cost-effectiveness of vegetable production in greenhouses are: 1 sq.m. labor and material costs of harvesting from the field; 1 sq.m. the amount and value of the product to be accounted for by the area; The amount of profit received at the expense of 1 quintal of product; 1 The amount and value of the product received at the expense of the employee must be mentioned.

Today, the main and decisive factor in increasing the volume of vegetable production and ensuring a high level of efficiency is the intensification of the greenhouse vegetable industry, ie the introduction of scientific and technological advances. This is because indoor vegetable

growing technology is an industry with a high tendency to create and develop an innovative environment. [13]

In this regard, we believe that the process of introducing innovations and intensive technologies in the greenhouse vegetable industry can be classified as follows:

- natural-climatic (natural-climatic conditions in all regions of the country are favorable for growing vegetables in the greenhouse, which in turn increases the efficiency of growing greenhouse vegetables on the basis of traditional technology);
- Technological (spiritual and physical obsolescence of greenhouses, low use of new technologies in the cultivation of vegetables limit the opportunities to improve production results. As a result, the cost of production is high and the level of profitability and profitability is low);
- Socio-economic (inability of greenhouse vegetables grown by local producers to meet the needs of the population and the entry into the domestic market of low quality imported vegetable products in terms of taste and environmental friendliness; decrease in profitability of greenhouse vegetable production as a result of constant increase in resource prices; lack of loans; poor system of material and technical supply of greenhouses);
- Innovative (problems of innovation and technological activity, which reflects the organization of production, management methods, improvement of production capacity in the field of greenhouse vegetables);
- marketing (lack of advertising and marketing research in the sale of greenhouse vegetable products, limited range, low level of management of the product sales system; limited supply of exclusive vegetable products);
- market (strengthening competition for imported products, expanding sales channels and range of products, government support for the development of greenhouse vegetables (the development of greenhouse vegetables in European countries is highly subsidized by the state)).

In general, the introduction of innovations and modernization of technological processes will allow to achieve a level of efficiency in the production of vegetables in greenhouses, which will provide an expanded process of reproduction and improve the supply of vegetables to the population and increase the export potential of the industry.

#### **List of used literature**

1. S.T.Iskandarov "Current Status Of Vegetable Production, The Role And Importance Of Greenhouse Vegetable Growth" The American Journal of Agriculture and Biomedical Engineering. 2020/10/16. P-6-11.
2. С.Т.Искандаров "Развитие в Узбекистане системы обеспечения выращивания тепличных овощных культур кредитными ресурсами" Ж. Academy. 2019г. 6 (45). Ст.35-39
3. Iskandarov Sanjarbek "Effects of greenhouse types to vegetable production in uzbekistan" International Journal of Trends in Economics Management & Technology (IJTEMT). 2015/12/31. № 6.



4. С.Т.Искандаров “Возможности и перспективы развития овощеводства в республике Узбекистан” Ж.Современные тенденции в экономике и управлении: новый взгляд 2015г. № 34.
5. Iskandarov S. T., Toshpolatov D. S. Assessment of Economic Efficiency of Vegetable Production in Greenhouses //International Journal of Progressive Sciences and Technologies. – 2020. – Т. 22. – №. 2. – С. 251-257.
6. Iskandarov S. T. THE COST-BENEFIT ANALYSIS OF VEGETABLE PRODUCTION IN GROWING HOUSES //SCIENCE AND WORLD. – 2013. – С. 53.
7. Dustmurodov, G. G., Yunusov, I. O., Ahmedov, U. K., Murodov, S. M., & Iskandarov, S. T. (2020). The mechanism for the development of public-private partnerships in agriculture (on the example of the Republic of Uzbekistan). In *E3S Web of Conferences* (Vol. 224, p. 04042). EDP Sciences.
8. Искандаров С. Т., Эгамбердиева Ш. А. Развития рынка плодоовощной продукции в Узбекистане //Эффективность применения инновационных технологий и техники в сельском и водном хозяйстве. – 2020. – С. 236-238.
9. Искандаров С. Т. Оценка экономической эффективности производства овощей в теплицах //Наука и Мир. – 2016. – Т. 2. – №. 2 (30). – С. 48.
10. Искандаров С. Т. Возможности и перспективы развития овощеводства в республике Узбекистан //Современные тенденции в экономике и управлении: новый взгляд. – 2015. – №. 34.[]
11. Искандаров С. Т. Развитие рынка плодоовощной продукции в Узбекистане //Проблемы современной экономики (Новосибирск). – 2015. – №. 26.
12. Искандаров С. Т. Развитие в Узбекистане системы обеспечения выращивания тепличных овощных культур кредитными ресурсами //Экономика и предпринимательство. – 2016. – №. 1-1. – С. 865-868.
13. Искандаров С. Т. Развитие в Узбекистане системы обеспечения выращивания тепличных овощных культур кредитными ресурсами //Academy. – 2019. – №. 6 (45). – С. 35-39.