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# CONTENT

## **ECONOMIC SCIENCES**

Gudzenko N., Podolianchuk O. ACCOUNTING AND ANALYTICAL SUPPORT OF MANAGEMENT OF ORGANIC PRODUCTION 3 Dolbneva D. THE IMPORTANCE OF NON-FINANCIAL STATEMENTS FOR UKRAINIAN ENTERPRISES AT THE STAGE OF MARKET TRANSFORMATIONS 9	Pil E. WAYS FOR EASING ECONOMIC CRISES USING ANALYSE 3D FIGURES VEU AND VARIABLE X5EU 16 Chernenko O., Vdovenko I. PECULIARITIES OF MECHANISMS OF PUBLIC FINANCIAL SUPPORT OF THE AGRICULTURAL SECTOR IN UKRAINE
Astafieva O., Polovodova A.  DEVELOPMENT OF THE CENTRALIZED DATA BASE OF MEDICAL IMAGES FOR THE AUTOMATION COMPLEX IN CLINICS	CIENCES
Netyazhenko V., Bazhenova N.  STATE OF ANTICOAGULANT AND FIBRINOLYTIC  ACTIVITY OF BLOOD IN PATIENTS WITH HYPERTENSION DISEASE COMBINED WITH NON- ALCOHOLIC FATTY LIVER DISESASE	Kosharniy A.  SMALL INTESTINE CONDITION IN BAROTRAUM . 41  Pilin E., Molchanov R.,  Kosharniy V., Abdul - Ogly L.  STUDY OF LYMPHATIC OUTFLOW FROM THE  PELVIC ORGANS
ITS COOLING38  PHARMAC	FUTICS
Bratishko Yu., Posilkina O.  UNDERSTANDING OF SOCIAL RESPONSIBILITY OF PHARMACEUTICAL BUSINESS AND NECESSITY OF ITS GOVERNMENT REGULATION	

### **ECONOMIC SCIENCES**

#### ACCOUNTING AND ANALYTICAL SUPPORT OF MANAGEMENT OF ORGANIC PRODUCTION

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#### **Abstract**

The study aims to address the problems of accounting and analytical evaluation of organic production to strengthen the information support of management, aimed at preserving the resource base of the agricultural sector, optimizing management, taking into account the effects of uncertainty and risk.

It is planned to develop and implement a methodology for accounting for the production of organic products which includes a set of measures aimed at accounting and analytical support of resource support management, optimization of costs, taking into account the quality characteristics of organic products in accounting and reporting to ensure a sufficient level of profitability and competitive advantages of the manufacturer. The methodology aims at developing a fundamentally new accounting and analytical management system that will take into account the features of environmentally safe production, high product quality with an optimal combination of costs and resources; basic provisions of accounting regulations, synthesis of the existing methodology for accounting for the costs and output of organic products and the formation of proposals aimed at solving these problems.

**Keywords:** organic products, management, costs, manufacturing, accounting, uncertainty, risk, reporting.

Formulation of the problem. In modern conditions, the need to form a civilized market for agricultural land, the environmentally safe development of agricultural land use, taking into account the existing risks and uncertainties, while focusing on compliance with environmental safety requirements and the production of organic products, is especially acute. The domestic agricultural sector requires the development and implementation of a model of environmentally safe development of agricultural land use since land resources are decisive for the agricultural sector.

The study is aimed at developing a methodology for accounting for organic production to strengthen information support for the management of environmentally safe agricultural land use, which includes the development of a system of accounting regulations and methodological guidelines for the accounting, analysis, and control of organic production in conditions of uncertainty and risks, to promote the development of organic agriculture and the greening of agricultural production.

It is planned to create a fundamentally new accounting and analytical management system that allows assessing the reserve of stability and adaptability of agricultural enterprises to sudden negative fluctuations caused by global changes in the environment and economic environment, will adequately counter modern challenges and strengthen the competitive advantages of agricultural enterprises in the foreign market. Under current circumstances, there is no clear methodology for accounting for costs and calculating the cost of organic agricultural products; the method of accounting and allocation of general production costs, significantly complicates operational manage-

ment and requires a solution within the framework of the developed project.

It is planned to develop an item of cost accounting items, which will allow you to distinguish in accounting the costs allowed by law in the conditions of organic production, from the costs for which there are certain restrictions. This will improve product quality control information. Improvement of the analytical accounting system will provide information needs of management on expenses in organic production.

The modern system of organic production management requires the inclusion of relevant information in financial, management and statistical reporting, provides the possibility of identifying risks and threats, allows timely identification, forecasting of the impact of micro- and macro-environment on the activities of agricultural enterprises, taking into account their economic interests, tasks and specifics of organic production.

The introduction of the proposed methodological techniques into the accounting practice of organic production operators will allow to organize separate accounting of costs for the production of organic crop products and differentiate in accounting the costs allowed by law in terms of organic production, from the costs of which there are certain restrictions. This will improve the information support of the product quality control function.

Analysis of recent research and publications. Formation and development of organic technologies, analysis of organic agriculture and research of its influence on components of agricultural production were considered by V. Artysh, N. Berlach, O. Gladkikh, O. Dudar, M. Kobets, T. Ratoshnyuk, O. Rudnytska, V. Tkachuk, M. Fedorov, O. Khodakivska, O.

Shkuratov, M. Yaremova, P. Bazoche, P. Combris, E. Giraud-Héraud, ASPinto, F. Bunte, M. Jaime, J. Coria, X. Liu . Accounting aspects of accounting for the production of organic products are considered in the works of J. Ishchenko, J. Melnychuk, Y. Moroz, O. Podolyanchuk, O. Tomashevska, Y. Tsal-Tsalka.

Formation of research goals. Development of an integrated system of accounting and analytical support for the management of organic production in the framework of the implementation of the Strategy for Sustainable Development of Ukraine focused on organic production; rational use, reproduction and improvement of soil fertility; the formation of socially oriented land relations and the development of rural infrastructure; assessment of the negative impact of risks and uncertainties on business activity and stability of agricultural enterprises.

#### Presenting main material.

Organic farming has become one of the global trends of the XXI century. The development of agrarian entrepreneurship is connected with the possibility of forming the main factors that are based on obtaining the economic, social, and environmental advantages underlying the sustainable development.

The ability of an agribusiness entity to maintain competitive advantages for a long time is directly dependent on the level of uncertainty of its internal and external environment. Uncertainty creates risks for agrarian land use, especially when oriented towards environmental safety.

Ukraine occupies the leading positions in the world in the production of agricultural products, but it occupies only the 63rd place in the ranking of food safety. An analysis of the reasons for this situation indicates the existence of objective and subjective factors, including corruption, political instability, and limited state spending on supporting organic production. All this levels the availability of food, its sufficient quantity, and high quality.

With the development of organic production in Ukraine, there was a problem of insufficient information that would satisfy the needs and requests of stakeholders about the state of development of organic production, the cost of producing organic products its cost, the lack of regulation of accounting support for the management of such products, the lack of methodological developments in accounting for costs and output of products that took into account the organizational and technological characteristics of organic agricultural production.

The production of organic crop products which is one of the ways to realize the concept of sustainable agricultural development requires effective management at both the micro and macro levels, which is impossible without full and systematic information support. The basis of such information is accounting, financial, and statistical reporting data.

Despite the increase in the number of organic production operators, the growing demand for their products, and insufficient information support for both management and other interested persons, the problem of organizing accounting for the costs of organic agricultural production is currently relevant and requires a comprehensive study. The purpose of the study is to summarize the existing methodology for accounting for the costs and output of organic products and the formation of proposals aimed at solving these problems.

The methodological basis of the research is the general scientific and philosophical methods of cognition, dialectical and systemic approaches to the study of the problems of information support for accounting for the production of organic products in the context of growing requests for accounting information, the action of risk and uncertainty.

The combination of dialectical and systemic approaches to the knowledge of phenomena and processes made it possible to indicate trends in the development of accounting and analytical support for the production of organic products, to determine the main parameters of accounting for the economy of sustainable development.

A general dialectical approach is crucial to the methodology of organic production research. Its application allows you to consider organic production in dynamics, subject to the influence of a changing environment, and highlight user information requests about the possibility of systematizing accounting data for effective management, summarize and critically evaluate the scientific achievements of the agrarian component of sustainable development and justify the content and essence of the main categories of accounting for organic production.

According to the Law of Ukraine «On Basic Principles and Requirements for Organic Production, Circulation and Labeling of Organic Products» 2496-VIII as amended on 03.07.2019 [1], the operator of organic production is a legal entity or a natural personentrepreneur engaged in production and / or circulation of products in accordance with the requirements of the legislation in the field of organic production, circulation and labeling of organic products. According to statistics, during 2020 the number of operators of organic production in Ukraine increased by 17% and as of the end of November 2020 amounted to 722 (Fig. 1).

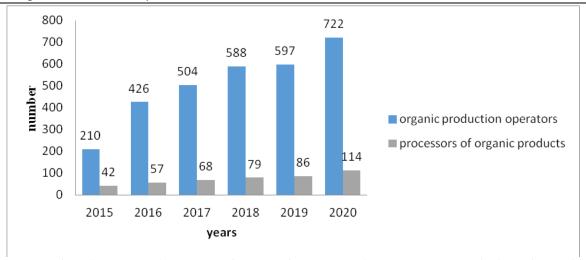


Fig. 1. Number of operators of organic production and processors of organic raw materials (formed according to the Federation of Organic Movement of Ukraine)

The vast majority of operators of the organic market are producers of organic raw materials, whose share is 84%, although over the past 2 years the number of processors of organic products has increased by 33% (out of 722 operators 114 certified organic processing as an activity, of which 64 operators package products). as organic for the retail network). Last year, the number of producers who received a labeled organic product in the offer for the final consumer increased by 7%. The leaders in production in terms of regions are Kyiv region - 83 producers (over 60 thousand hectares of land); Kherson region - 54 producers (84.5 thousand hectares of land); Odessa region - 40 producers (over 50 thousand hectares of land).

Given the growing capacity of the organic market, the growth of exports of domestic organic products becomes urgent need for in-depth study and systematization of legal, economic and accounting interpretation of the categories that characterize organic production.

Legal substantiation of organic agricultural production is an integral part of sustainable development of rural areas and becomes especially relevant in the context of decentralization, as it forms the legal basis for the process of production and sale of organic products. Organic production combines economic efficiency (sufficient level of product competitiveness, optimization of production costs), environmental orientation (restoration of soil quality, reduction of water and air pollution), social aspect (providing consumers with quality food, development of rural communities through additional investments and jobs). The legal principles of organic production play a paramount role, as they can be considered as enshrined in law and ethical principles that are binding. They represent a system of requirements that must be met by the practice of public relations for the production, storage, transportation and sale of organic products (raw materials).

In world and domestic practice, the concepts of Organic Farming, Biological Farming, Ecologica lFarming are often identified, as the unified interpretation of organic agriculture is relatively new. If in foreign practice the above concepts are almost identical,

in the domestic market due to lack of effective control, some producers distorted consumers' perceptions of organic products, using the labeling of «organic products», «bioorganic» and so on.

With the adoption of the Law of Ukraine «On Basic Principles and Requirements for Organic Production, Circulation and Labeling of Organic Products» 2496-VIII of 03.07.2019 [1], penalties are provided for the use by producers of such labels as «bio», «eco», «organic», etc., and the affiliation of goods (raw materials) to organic products must be confirmed by a certificate. In October 2020, by approving the Procedure for Certification of Organic Production and / or Circulation of Organic Products [2], which was developed taking into account the requirements of EU legislation, Ukraine took another important step towards streamlining the legislative regulation of organic production. The document defines the rules of certification of organic production and / or circulation of organic products, the procedure for issuing the certificate, its duplicate and form. Prior to the adoption of this act, the production of all organic products was and in fact remained outside the legal field, the lack of effective legislation in this area created a favorable environment for opportunities to violate consumer rights and develop unfair competition among producers and counterfeit organic products. The adopted resolution approves the Procedure for certification of organic production and / or circulation of organic products, which is intended to determine: requirements for certification of organic production and / or circulation of organic products; the procedure for issuing the certificate, its duplicate and form.

At present, there are 18 internationally accredited certification bodies for organic production in Ukraine. They provide certification services for organic production and / or circulation of organic products to more than 700 operators engaged in the production of organic products.

Legal regulation of relations on organic agricultural production allows to distinguish their features, structure, classification, characteristics, as they combine a set of interrelated property, labor, land, organizational, legal and other relations on the production of

organic products (raw materials). Legislation clearly defines the subjects of legal relations regarding organic production, their rights and responsibilities; objects of organic production, responsibility for violation of legal principles of organic production.

The development of organic farming is a complex organizational mechanism, which, in addition to proper legislation, requires significant work at the previous stage of implementation. The production of organic products is not just a rejection of the use of mineral fertilizers and chemical plant protection products, but a set of norms and requirements that must be ensured in the organization of agricultural production. Organic production operators must ensure a sufficient level of economic efficiency of organic production, transportation and storage, because in modern conditions, organic production is also high technology, but of a biological nature, not of chemical origin. The cultivation of organic crops requires significant costs of renewable and non-renewable resources, so it can not replace traditional agriculture and must develop in parallel with it.

The transition to organic production involves the implementation of new rules and methods in the field of safety and quality at all stages of interconnected production and processing, including packaging and labeling (in order for products made from organic raw materials to be classified as organic, promotion and sales were certified as organic). From an economic point of view, it is necessary to distinguish between organic crop production and organic livestock. The yield of organic farming is usually lower than that of standard intensive farming, so it requires higher operating costs. Therefore, organic products are sold at retail at higher prices. In order to equalize prices and increase the volume of the domestic market of organic products, state support for producers of organic products is necessary. This is especially true for livestock: meat and dairy products are much more expensive in organic farming, as their production requires more labor to meet organic requirements. Thus, organic production of agricultural products is considered unprofitable (inefficient), especially at the initial stage of replacing the traditional system of agriculture with organic production (processing). When clarifying the issue of the high cost of organic products, it will be useful to understand its structure in terms of accounting. The domestic market of organic products is characterized by unformed demand for organic products, underdeveloped market of organic products, lack of direct subsidies and a clear program of state support.

A promising direction from an economic point of view is organic seed production and nursery, processing of organic raw materials (95% of exported organic products - raw materials [3]). Seeds and planting material propagated in accordance with the requirements of the legislation in the field of organic production, circulation and labeling of organic products are considered organic. A certificate confirming the organic origin of seeds and planting material shall be issued to the organic market operator for 15 months from the date of issue.

To ensure the full development of organic production approved by the Cabinet of Ministers of Ukraine dated October 23, 2019 №970 "Procedure (detailed rules) of organic production and circulation of organic products" [4], which defines the rules of crop rotation, application of organic fertilizers, use of organic seeds and planting material during the production of products that will be subsequently certified as organic. According to these Rules [4], in order to obtain organic seeds and planting material, the mother plant must be propagated in accordance with the requirements of legislation in the field of organic production, circulation and labeling of organic products for at least one generation, and for perennial crops for at least one generation and two vegetation periods.

The organization of organic production provides for the possibility of freedom of choice of technologies that will take into account the conditions of a particular field. It is characterized by the lack of clear instructions inherent in conventional agriculture. Only the principles, rules and requirements have been developed, the implementation of which is entrusted to the producers themselves: each producer independently determines the technology of restoring soil fertility, makes crop rotation, etc.

The technology of organic production and its economic features affect the organization of accounting and further reflection of the process of production and processing of organic products.

A full-fledged operator of the organic market is a business entity that has passed certification, fulfilling all the requirements to bring the production process to organic production. The transition process is time consuming, so it requires proper accounting support. An organic market operator does not necessarily grow only organic products, combining organic and traditional production. Management in such structures is carried out in the areas of organic and traditional production, so the list of objects of accounting is significantly expanded, because there is a need to differentiate in cost accounting and output of organic and traditional production from documentation determination of financial results.

The cost of organic products in the structure of costs and their share will differ due to the lack of chemical and mineral fertilizers, seed treatment, but the inevitable increase in manual labor costs, the use of biological protection and organic fertilizers. Detailing the costs of organic production is necessary for the formation of pricing policy and further analysis of production efficiency.

The introduction of organic production requires a qualitatively new approach to the organization of accounting and the formation of accounting policies, which will actually be implemented in the transition period. The accounting policy of the organic production operator first of all outlines the list of objects of accounting by directions of production (crop production, animal husbandry, processing), in the context of which cost data will be formed. The components of the accounting policy for the production of organic products (methodological, technical and organizational) also require some clarification. The least dependent

is the methodological component, which requires consideration of legislation in terms of organization and implementation of organic production, and organizational. Most changes and clarifications require a technical component, which will depend on the specifics of organic production and its industry characteristics.

From the moment of the decision on transition to organic production at the level of the organization of accounting process it is necessary to be defined with the list of accounts on which objects of organic production will be reflected, to provide possibility of allocation in primary documents of operations carried out in the process of organic production. costing and budgeting.

Given the results of the research, we consider it appropriate to allocate costs and products obtained during the conversion period preceding organic production. It can last up to three years, during which the company will incur significant costs for inspection and certification; carrying out a set of agrochemical and reclamation measures aimed at eliminating the negative consequences of traditional land use and improving or stabilizing the quality of soils; introduction of growing niche crops (spelled, mustard, chickpeas, rye, beans, garlic, etc.). The need to separate data on the costs of the transition period is due to the need to comply with the requirement of reliable determination of financial results in terms of products, finding sources of funding for organic production, forecasting risks and threats caused by organic food production.

In the working plan of accounts of the conversion period it is necessary to provide expenses for restoration of the earths, including capital character. The specificity of such costs is that they cannot be immediately attributed to the cost, and the amount of such costs is significant. In most cases, producers use leased land, it is necessary to legislate operations to improve the quality of soil on leased land. Capital expenditures include the need to purchase equipment that will be used exclusively in organic production. All capital expenditures for preparation for organic farming should be reflected in the financial statements with a detailed explanation. Information on capital investments in the production of organic products is useful for interested investors, as the demand for organic products is growing, and its production on certified land (ready for use) is an attractive investment destination.

Special attention is paid to the documentation of transitional operations, as the correctness of their design, the reliability of the displayed information is taken into account in the certification process, confirms or denies compliance with the technology and standards of environmental production. Organic standards recommend that such documentation be kept for at least five years [1].

Figure 2 summarizes the procedure for organizing accounting and subsequent accounting reflection of the production process of products of organic origin.

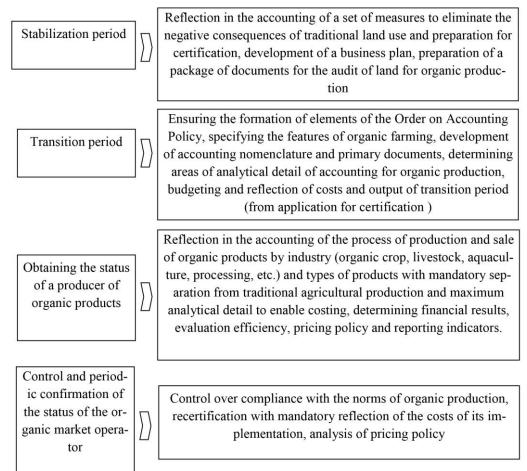


Fig. 2. Stages of organization of organic production and their accounting support

The volume of accounting nomenclatures that will regulate the method of accounting for the production of organic products will depend on the specialization of the enterprise, the range and quantity of products grown by him. Given the above features of growing organic products in small sizes is not appropriate, as it requires significant capital costs with a high level of business risk.

In the process of production of organic products it is necessary to provide for the costs of confirming the status of the operator of the organic market, which is carried out in the process of recertification. In case of non-compliance of the product with the requirements of the standards, it may be revoked. Therefore, in the Order on accounting policy it is necessary to provide the ability to reflect the recalled products, which loses the status of organic.

The organic agriculture segment is not shown at all by the state statistical system. The secluded presentation of organic production in the reporting will ensure the possibility of generating statistics for the further provision of organic production with direct financial support, the creation of a system of indirect support through the provision of benefits and preferences, the development of an insurance mechanism and the optimization of taxation of organic producers, the development of organic farming [8].

At the local level, the implementation results will allow potential producers of organic products to compare yields and costs in conventional technology and in organic production, evaluate the feasibility and payback of such production, and predict additional costs.

Conclusions. Systematized legal, economic and accounting interpretation of categories related to organic production, in order to eliminate existing differences, further improve the insurance of organic production; the classification of organic products has been clarified, the objects of accounting for its categories, the peculiarities of the organization of the accounting process for organic production have been identified; Recommendations to improve accounting for the management of organic production costs, taking into account the uncertainties and risks involved in achieving optimal performance; developed a methodology for accounting for the production of organic products, which will include: internal regulatory accounting regulations; primary documents and accounting registers, detailed methodology for accounting for direct and indirect production costs, output of organic products and calculating its cost by categories; developed a system of reporting indicators related to each other, which will provide an opportunity to assess the feasibility and efficiency of organic production, will be used to form a unified information system on organic production facilities; main aspects of improvement of the system of control of production of organic products have been formed.

The introduction of organic production operators of the proposed methodological methods into the accounting practice will allow organizing separate accounting of costs for the production of organic crop production and distinguishing in accounting the costs allowed by law in the conditions of organic production, from the costs for which there are certain restrictions. Such itemization of expenses will allow determining the real financial result, assessing the feasibility and efficiency of organic production in a selected direction of detail. This, in turn, will improve the information support of the product quality control function.

The use of the developed method of accounting for organic production will contribute to the competitiveness of organic products by the possibility of managing the costs of their production and storage; simplification of certification procedure by separate reporting of organic and inorganic production processes, the possibility of documenting operations taking into account quality characteristics of organic production; increased capacity to export certified organic products; optimization of taxation of organic production.

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