

ACCOUNTING AND ANALITICAL ASPECTS OF CROP FARMING'S BIOLOGICAL TRANSFORMATION COSTS OF CURRENT BIOLOGICAL ASSETS**Umanska Yu.M., Kalinchuk V.V.***Zaporizhzhia National University
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The article is devoted to outlining present problems of accounting and analytical support of crop farming's current biological assets management at agricultural entities. The essence, features of accounting and control of crop farming's current biological assets at agro-industrial complex entities have been considered. A generalized definition of the concept of "biological transformation costs" has been proposed. The main objective and tasks of costs' accounting of the biological transformation of current biological assets have been determined. The peculiarities of analytical accounting and accounting policy of agricultural entities in accounting of crop farming's current biological assets have been studied. The article presents the costs for which it is expedient to keep records of expenses in crop farming. The necessity to organize analytical accounting of production costs by types and crops, by the main balancing items, by internal economic units, as well as to distinguish costs by years: costs for the crop of the current year and costs for the harvest of future years. The regulation of the accounting methods for current biological assets as documentation, stocktake, accounts, assessment, reporting has been analysed. The article deals with the key aspects of crop farming biological transformation costs analysis of current biological assets. The problematic aspects of the present accounting of the crop farming current biological assets have been revealed.

Accounting and analytical support, which should be developed and implemented as a form of managerial report that will take into account the specific features of current biological assets and provide qualitative information base for their analysis has been improved.

ОБЛІКОВО-АНАЛІТИЧНІ АСПЕКТИ ВИТРАТ НА БІОЛОГІЧНІ ПЕРЕТВОРЕННЯ ПОТОЧНИХ БІОЛОГІЧНИХ АКТИВІВ РОСЛИННИЦТВА**Уманська Ю.М., Калінчук В.В.***Запорізький національний університет
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облік у сільському господарстві, рослинництво, біологічні активи, витрати на біологічні перетворення, калькуляція.

Статтю присвячено окресленню сучасних проблем обліково-аналітичного забезпечення управління поточними біологічними активами рослинництва на аграрних підприємствах. Розглянуто сутність, особливості обліку й контролю поточних біологічних активів рослинництва на підприємствах агропромислового комплексу. Запропоновано узагальнююче визначення поняття «витрати на біологічні перетворення». Визначено основну мету та завдання обліку витрат на біологічні перетворення поточних біологічних активів. Досліджено особливості аналітичного обліку та облікової політики сільськогосподарських підприємств щодо обліку поточних біологічних активів рослинництва. Запропоновано статті витрат, за якими доцільно вести облік витрат у рослинництві. Виявлено необхідність організувати аналітичний облік виробничих витрат за видами виробництв і культурами, за основними статтями витрат, за внутрішньогосподарськими підрозділами, а також розмежовувати витрати за роками: витрати під урожай поточного року і витрати під урожай майбутніх років. Проаналізовано нормативне регулювання таких методів обліку поточних біологічних активів, як документація, інвентаризація, бухгалтерські рахунки, оцінка, звітність. Розглянуто ключові аспекти аналізу витрат на біологічні перетворення поточних біологічних активів рослинництва. Розкрито проблемні аспекти діючого обліку поточних біологічних активів рослинництва. Удосконалено обліково-аналітичне забезпечення, яке необхідно розробити та впровадити у форму управлінського звіту, яка враховуватиме специфічні особливості біологічних активів та забезпечить якісною базою.

Statement of the problem

The advent of the accounting category of biological assets in entities’ accounting causes the concept of “biological transformation costs.” The effectiveness and timeliness of management, investment decision-making regarding crop farming’s current biological assets management depends on the quality and promptitude of accounting and analytical support of plant transformation costs. Taking into account the novelty of the approach to the biological transformation costs accounting of current biological assets, it is advisable to examine the relevance of further study of accounting and analysis in order to put the research results into practice of Ukrainian agricultural entities.

Analysis of recent studies and publications

National scholars like V.M. Zhuk [1], L.P. Suk [2], P.M. Kuzmovych [3] devoted their research to biological assets’ features in accounting. The problems of agricultural produce’s accounting at the point of crop farming were studied by T.G. Kytaichuk [4], Y.P. Ishchenko [5], A.M. Sobchenko [6]. But, at the same time, the accounting issues regarding the accounting of crop farming’s biological transformation costs of current biological assets remain unresolved. The method of this type of cost analysis taking into account natural and economic features of biological assets needs to be considered in detail.

Objectives of the article

The objective of the article is to improve accounting and analytical aspects of accounting of crop farming’s biological transformation costs of current biological assets at agricultural entities.

The main material of the research

The category of biological assets is one of the most important in the agricultural entities’ economic activity. Biological assets as an object of agricultural entities’ accounting are considered in the Statement (Standard) of Accounting 30 “Biological assets.” According to these standard biological assets capable to agricultural produce and/or additional biological assets, to generate economic benefits during a period not exceeding 12 months, as well as animals’ procreation and sagination are considered to be current assets [7].

Agricultural production consists of two relatively

separate industries – crop and livestock farming, which causes the complexity of accounting and control. The object of the article’s research is crop farming’s biological transformation costs of current biological assets. Current crop farming’s biological assets are plants that, in the process of current biological transformation, are capable of yielding agricultural produce or additional biological assets, as well as otherwise generating economic benefits for a period not exceeding 12 months [7].

Agricultural produce is the separation of products from a biological asset or the production of products by the cessation of a biological asset’s life processes. From the mentioned above, it is logical to formulate the definition of the “biological transformation costs” category as the costs of an agricultural entity to maintain qualitative and quantitative changes in biological assets. That is, the costs of agricultural produce and of additional biological assets that have been incurred since the procreation of biological assets until the cessation of the biological transformation. The categories of “agricultural produce costs” and “biological transformation costs” are often identified in the economic literature.

We do not agree with this approach, and share the opinion of Y.P. Ishchenko that production costs include not only biological transformation costs, but technological costs carried out until the biological assets are recognized (pre-plant soil improvement costs, pre-sowing fertilization, snow removal, etc.) and costs incurred after the moment of cessation of a biological transformation processes (costs for harvesting, primary processing of products (cleaning, sorting, drying, cooling, laboratory tests, etc.) [5]. Thus, the costs of agricultural produce can be roughly divided into 2 categories (Fig. 1).

Ukrainian scientists do not agree about the objective of agricultural production cost accounting. In our opinion, the main objective of biological transformation costs accounting of current biological assets is timely, complete, credible reflection of the real size and composition of costs; control over all types of production resources application in the process of biological transformation, as well as the volume of agricultural production presented by physical and monetary indices.

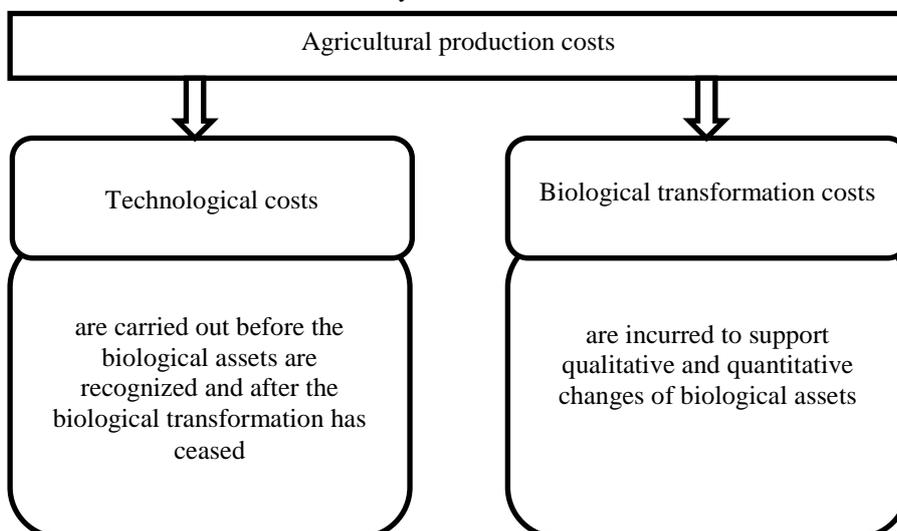


Fig. 1. Classification of agricultural production [methodized by the authors based on [5]

The main tasks of biological transformation costs accounting are:

- information support for managerial decision-making;
- observation and control over the real costs level in comparison with their standards and planned sizes to identify deviations and formulate the future economic strategy;
- reliable accounting of the production output by the types, taking into account its quality;
- calculation of the cost price of current biological assets for the finished products` assessment and calculation of financial performance;
- identification and evaluation of structural units` operational performance;
- systematization of information for management accounting of operational activity for the long-term decision-making (products` rate of return, profit margin, capital investment efficiency, etc.) [4].

Since production costs in crop farming are carried out over a long period, and they get to harvest at the period of biological ripeness of plants, the accounting should clearly distinguish costs by years: current harvest costs and future harvest costs. In addition, the analytical accounting of production costs should also be organized by type of production and crops, by expenditure, as well as by internal production units.

The organization of cost accounting by economic elements is of great importance for the preparation of financial statements. The list of cost balancing items is fixed by the entity independently according to the peculiarities of technology and organization of production. The forms of calculations, financial estimates and internal recordings are based on it. All information about entity`s production costs should be reflected in the Financial Statement (Total Income Statement).

The costs and output of the crop farming are recorded in account 23 "Production" (sub account 1 – "Crop farming"). The debit of the account reflects production costs; Credit reflects the output of crop farming. Crop farming`s production costs are planned and grouped by the balancing items, which an agricultural entity determines independently and sets in the Administrative Order about Accounting Policy. Taking into consideration the needs of management accounting for crop farming production, the information of the sub account (231) is insufficient. Analytical accounting should be held by sub account 2311 "Cereals and grain legumes" and 2311 "Non-food crop," etc. Moreover, the

costs of maintaining the seed stockpile, fertilizer storage building, and plant protection agents should also be reflected in a separate analytical account. Crop farming production costs when planning and accounting are grouped according to balancing items, which an entity can determine by itself. The Administrative Order about Accounting Policy of an entity [3] should approve the structure of balancing items.

Accounting policy plays a significant role in the system of accounting and analytical management of the crop farming current biological assets. The systematic approach should be applied to its formation; the Administrative Order about Accounting Policy should approve it. We believe that taking into account characteristics of current biological assets, the Administrative Order about Accounting Policy should include mandatory the structure of costs` balancing items for biological transformation of current biological assets. Costs accounting for crop farming should be kept by the following cost balancing items: salaries expense; social charges; seeds and planting material; fuel and lubricants; fertilizers; plants protection agents; work and services; repairs and maintenance expense of non-current assets; other maintenance expense of fixed assets; other expenses; total costs.

The sources of the information base of accounting and analytical support are a set of primary documents, registers, reporting and other types of information. Let us consider the topical aspects of regulatory support for accounting methods the crop farming current biological assets (Table 1).

The study of the regulation of accounting method of current biological assets` elements shows that in most cases they do not meet the information needs of users. Accordingly, in order to improve accounting and analytical support, it is necessary to develop and implement managerial report form that will take into account the specific features of current biological assets and provide qualitative information base for their analysis.

In our opinion, the key component of the cost-benefit analysis of the crop farming current biological assets` cultivation is the analysis of biological transformation costs. The first stage of current biological assets analysis is horizontal and vertical analysis. Horizontal analysis combined with trend analysis allows examining the dynamics of current biological assets in general and their specific types over time, to determine their general trends. When conducting analysis of agricultural entities` performance it is compulsory to carry out horizontal analysis of the gross output, production cost price, acreage and crop yield [6].

Table 1 – Topical aspects of the present accounting of crop farming's current biological assets*

Elements of the accounting method	Regulation	Topical aspects
Documentation	Orders: The Ministry of Statistics “On the approval of standard forms of primary accounting”; Ministry of Agrarian Policy “On the approval of Methodological recommendations for the application of specialized forms of primary documents for the accounting of long-term and current biological assets.”	There are no specialized forms for accounting of the quality and crop yield of current biological assets, insufficient number of indicators to reveal the features of current biological assets in the accounting system.
Stocktake	Methodical recommendations for the stocktake of fixed assets, intangible assets, inventory records, cash, settlements and work in progress of agricultural entities; Regulations on Assets and Liabilities stocktake	Descriptions of current biological assets reflect information only in real indices, but there is lack of information about their quality and monetary value.
Accounting balancing items	The Chart of accounts for accounting of assets, capital, liabilities and business operations of entities and its Protocol; Statement (Standard) of Accounting 30	Determine the general approach to accounting of crop farming's current biological assets without taking into account the classification by the purpose, quality, origin
Assessment	Statement (Standard) of Accounting 1 “General requirements for financial statements”; Statement (Standard) of Accounting 30	The need to improve present methodical approaches to the assessment of current biological assets.
Reporting	Forms: financial statements and notes thereto, approved by the Ministry of Finance of Ukraine; statistical report No. 50-AC “Main Economic Indicators of Agricultural Entities”.	Only agricultural indicators, but no information about current biological assets.

*conducted by the authors

General and specific indicators are used to characterize the efficiency of crop farming's current biological assets' application. The main stage in the analysis of crop farming's current biological assets' efficiency is the analysis of crop yields and the effectiveness of agricultural methods. It is advisable to carry out a comprehensive analysis of the efficiency of fixed assets, material and labour resources application in the process of biological transformation. Generic indicators of the efficiency of material resources use are material productivity, input-output ratio, the ratio of material costs in cost price. It is also necessary to analyse the use of working time and entity's productivity. Common indicators that are important in the process of biological asset analysis include the profit margin of biological transformation costs and agricultural produce's gross output growth to the biological transformation costs ratio. Within the framework of operational management of the biological transformation, changes in qualitative (genetic characteristics, density, maturity, fat or protein quantity, etc.) or quantitative indicators (yield of livestock, weight, etc.) that occur as a result of biological transformation are being assessed and controlled.

Conclusions

Thus, the accounting and analytical process of current biological assets provided by agricultural entities has

some specific features due to their biological nature. Particular attention should be paid to biological transformation costs, since it is their rational use that determines the efficiency of agricultural entity's management.

The article generalizes the concept of “biological transformation costs,” which does not include the technological costs before and after recognition of current biological assets. Biological transformation costs' rank in the structure of agricultural production costs as those that occur only if biological asset physical exists has been determined. That is, the concept of “agricultural production costs” is broader than the concept of “biological transformation costs.”

It has been identified that the main accounting objective of biological transformation costs of current biological assets is timely, complete, reliable reflection of the real size and composition of costs, control over all types of production resources application in the process of biological transformation, as well as of agricultural product's gross output presented in physical and monetary indices. The main accounting tasks of biological transformation costs of current biological assets have been formed on the basis of the stated objective.

The necessity to organize analytical accounting of

production costs by types and crops, by main cost items and internal economic units, as well as to distinguish costs by years: costs for the crop of the current year and costs for the harvest of future years have been revealed. The peculiarities of analytical accounting and accounting policy of agricultural entities concerning accounting of current biological assets have been studied.

Balancing items to keep records of crop farming's costs have been proposed. The regulation of the next accounting methods for current biological assets, such as documentation, stocktake, accounts, assessment, reporting has been analysed. The analysis has made it

possible to identify the problematic issues, since some specific features of current biological assets are not taken into account.

Key aspects of biological transformation costs analysis have been summarized. Stages of current biological assets analysis are horizontal and vertical analysis of the gross output, production cost price, acreage and crop yield, comprehensive analysis of fixed assets' application efficiency, material and labour resources in the process of biological transformation. Crop yields and agricultural procedures' efficiency analysis has been stated as the main stage.

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