Improvement of budgeting subsystem in agriculture of the "AdeptIS: Agrocomplex" configuration

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Abstract. Agriculture differs from other sectors of the economy by the presence of various forms of ownership, as well as the discrepancy between the calendar year and the production year. Therefore, for organizations specializing in the production and processing of products in agriculture, it is very difficult to choose programs for automating cost, operational and tax accounting. But, at the present stage, automation is necessary to maintain the competitiveness of the enterprise. In a market economy, planning is one of the most important management functions. The volume and quality of information provided by the accounting service is of great importance for proper and prompt financial planning. From this point of view, in our opinion, the system for organizing production, accounting, control and budgeting is relevant. Automation of budgeting in agro-industrial organizations will ensure production efficiency, increase productivity and labor efficiency, as well as competitive products manufacturing. The article describes the features of the introduction and application of information technologies, taking into account the specifics of agricultural industries. The theoretical and methodological possibilities of the automated budgeting system for the enterprises of the agro-industrial complex are also considered and analyzed. In summary, the main conclusions on improving automated cost accounting and budgeting are formulated.

1 Introduction

Currently, the range of software products in the Russian information technology market is expanding. Both quantitative and qualitative indicators of software innovations are improving. The management of enterprises is aware of the need to automate most production processes.

Modern information technologies are characterized by such features as: constant updating of informatization field with technological solutions, use of modern means of telecommunications, use of various tools and sources for obtaining and processing data and information [1-4].

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The key indicators of effective production are the following: professional management; ability to organize effective work of employees; successful design, implementation and improvement of production processes [5, 6].

2 Materials and methods

To increase the efficiency of the production processes functioning, it is necessary to introduce and improve information systems at enterprises; for this purpose it is necessary to form a strategy for information technologies development. The development of the information technology development strategy is aimed at minimizing costs and production risks with the support of the main production of the enterprise. At the same time, it is very important to take into account the relationship between scientific research and the application of the acquired knowledge in production [7-9].

The main purpose of the study was to analyze the use of information technologies in agricultural enterprises, as well as to improve the software solution in terms of automated planning in the production and processing of agricultural products. The methodological and theoretical basis of the research was the fundamental provisions in the field of information technologies in the agro-industrial complex and management, as well as scientific works on the budgeting system automation.

Effective enterprise management implies the rational use of the resource potential of this enterprise [10-12]. The financial well-being of the enterprise as a whole, as well as its owners and employees, depends on the efficiency of transforming production resources into fixed and working capital, as well as means of labor force stimulation [13, 14]. Planning is associated with the choice of the optimal solution from several alternatives that provide for a particular course of action, so it performs one of the most important management functions at all levels, and also plays an important role in the organization, motivation and control functions [15-17].

One of the unique management tools is ERP-systems, which are actively implemented by enterprises of various fields of activity in Russia and abroad. The ERP system (Enterprise Resource Planning) is the integration of all departments and processes of the organization, namely: financial, personnel and customer profile departments, production facilities, etc. The use of the ERP system helps to optimize the operation of the main production and auxiliary facilities, as well as to effectively control and plan almost all the main business processes in the enterprise. As a result, an optimal and rational distribution of various resources within the enterprise is achieved [18-20].

3 Results

Systems for budgeting automatization began to appear on the market of software products relatively recently. All these systems are equipped with different functions and are focused on different sectors of the economy [21-23].

For example, using the subsystem "Budgeting in agriculture and industrial processing" of the configuration "AdeptIS: Agrocomplex", you can create a budget for the company's activities for the year, consistently performing the following actions: calculation of technological maps of the main production; formation of inventory and cash flows at the enterprise; calculation of the need for additional financing. The subsystem also has the ability to plan the need for loans and credits, to form different types of enterprise budgets for the subsequent selection of the optimal direction of this enterprise development [24].

Directly in the configuration in the section "Operational accounting in animal husbandry", you can keep operational records of the movement of animal commodity

groups at all stages of their cultivation in the context of batches. Also, with the help of the program, data on the consumption of feed and veterinary drugs are tracked for each group and batch of animals.

The section "Animal Husbandry" provides for entering data into accounting documents on the basis of operational accounting documents. This possibility saves the accountant time when checking and forming cost and tax accounting documents.

In various regions of the Russian Federation, this software product has been tested and is actively used in agricultural holdings and agricultural enterprises for planning. In the configuration, several budget options are formed and analyzed, and then the profitability is calculated. Also, with the help of the program, the rationality of breeding a particular type of animal or the optimal cultivation of individual plant species can be determined, which is carried out on the basis of the formed income and expenses budgets by the type of activity.

By calculating the need for equipment and its actual availability or planned receipt, an effective scheme for technical means loading can be determined. Based on the schedules of cash inflow and outflow, it is possible to choose the optimal lending method and the most effective way of conducting current production activities and developing [25, 26]. The configuration evaluates and compares other performance indicators of the enterprise.

Using this configuration, the company can significantly improve the organization of production and management of production processes, select the most cost-effective equipment for work performance, reduce labor costs and material and monetary costs per unit of work and unit of production. In addition, the configuration allows to reduce production risks, plan and evaluate the production nomenclature from an economic point of view, and increase product competitiveness [27].

Please note that not all important indicators are reflected in the program. In some cases, there is no connection between the planning system and accounting. This happens when the initial data required to deploy budgets based on criteria is not provided in the directories or documents. For example, it is not possible to form a budget by expanding it in time so that the product can be used before the expiration date, if this information was not specified in the accounting system when entering the product into the warehouse.

We propose to create the ability to account for goods by series for the reference list Type of nomenclature. In turn, the series can be identified in the program by batch, number and expiration date. This will help to enable automatically the option of accounting by series and expiration dates in all new items of this type of item (product).

When accounting for livestock products, there may also be differences between the objects of accounting for production costs and the objects of calculation. This is due to the fact that other types of conjugated products can be obtained during the production cycle [28-31].

For example, in order to effectively implement or use an automated budgeting system in poultry farming, we suggest adding some indicators to the directories and documents in the configuration (Table 1).

Table 1. Objects of cost accounting and calculation in poultry farming.

Cost accounting object	Object for calculating production cost
Main herd	- hatching egg; - live picking down; - total feed consumption for the growing period; - feed consumption per 1 head.
Poultry raised for meat	- safety during the growing period; - total feed consumption for the growing period; - goose weight at the end of cultivation; - live weight gain of 1 head; - feed consumption per 1 kg of growth; - total body weight growth;

	<ul style="list-style-type: none">- gross increase;- average daily increase.
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For example, in order to effectively implement or use an automated budgeting system in sheep farming, we suggest to supplement additional indicators to the directories and documents in the configuration (Table 2).

Table 2. Objects of cost accounting and calculation in sheep breeding.

Cost accounting object	Object for calculating production cost
Main herd	<ul style="list-style-type: none">- yield;- wool;- total feed consumption for the growing period;- feed consumption per 1 head.
Animals raised for meat	<ul style="list-style-type: none">- safety during the growing period;- total feed consumption for the growing period;- animal weight at the end of cultivation;- live weight gain of 1 head;- feed consumption per 1 kg of growth;- total body weight growth;- gross increase;- average daily increase.

4 Discussion

The efficiency of the enterprise business activity depends on the operational and high-quality information, as well as on the correctly calculated cost price. To calculate the optimal and competitive sale price of products, you must correctly calculate the production costs. It is also of great importance to take into account the specific features of costs in a particular area of agriculture.

5 Conclusion

In this way, these activities will help to effectively make decisions related to the production planning in animal husbandry. At the same time, it will be possible to assess the economic effect of using an automated budgeting system in animal husbandry. As a result of the above measures, the determination of the cost price in the program will become more accurate.

When entering the possibility of accounting for the nomenclature by batch and expiration date into the program, it will be possible to create a budget, expanding it by time, so that the product before the expiration date in compliance with the batch can be used.

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