

Factors and features of creating an effective management system in dairy cattle breeding

Vera Konkina^{1*} and Alexey Martynushkin¹

¹Ryazan State Agrotechnological University Named after P.A. Kostychev, Ryazan, Russia

Abstract. The dairy cattle industry is the most important sector of the economy involved in ensuring the country's food security in a tense geopolitical situation. Modern business conditions in agriculture in general and dairy farming are associated with a high level of uncertainty, so agricultural economic entities require effective management tools. The article presents an algorithm for creating a control system at modern enterprises in the dairy cattle breeding industry. The information base for a comprehensive assessment included the data of Rosstat and the accounting financial statements of agricultural producers. An effective management system should include the already existing positive experience of management in agriculture and modern management tools. The current cost management system should ensure the implementation of basic functions - accounting, analysis, control. To do this, the article identifies factors having a direct impact on the management system. According to the authors, these are the organizational and legal forms of an economic entity, the specialization of an economic entity (type of products produced, its nomenclature and assortment), the scale of the activity of an economic entity (production volumes as a whole for the enterprise and in the context of the product range), types of market where the agricultural enterprise carries out supply and marketing activities, the selected technology for agricultural production, internal and external information flows, the resource potential of an economic entity. By influencing these factors, it is possible to ensure the generation of value in the economic activities of agricultural producers. The conclusions made in the article can be used to develop and justify management systems at agricultural enterprises of the Russian Federation.

1 Introduction

In the context of a tense geopolitical situation and the unprecedented pressure of sanctions, ensuring food security is the basis of the state's economic policy. In this regard, it is necessary to ensure a balanced growth and development of all sectors of the agro-industrial complex, including dairy cattle breeding. However, at the moment it is not possible to solve the problem of food security and import substitution, since the current volumes of milk production do not ensure the consumption of the minimum established medical standards

* Corresponding author: konkina_v@mail.ru

by the population. To ensure qualitative and quantitative development, agricultural enterprises must know the effectiveness of each decision made in milk production in terms of the composition and structure of costs and their payback, efficiency and feasibility. This requires an effective cost management system that takes into account the totality of organizational, economic, political and other factors that shape the internal and external environment of an agricultural organization. However, the impact of these factors may change due to changes in market conditions. With the help of the cost management system, a strategy and tactics for the development of an agricultural enterprise should be developed, including the rationale for planned management decisions, monitoring their implementation, as well as identifying possible reserves for improving the efficiency of milk production. [1, 2, 3]

2 Methods

A modern management system should ensure the efficient economic activity of agricultural producers. Creating an effective management system for business entities is a long, laborious and complex process. After all, any management decision requires economic justification and is based on a serious information base.

The information base for achieving the stated goals is wide: accounting financial and management reporting of business entities, official data from the Federal State Statistics Service, the Federal Customs Service, the National Union of Milk Producers (Soyuzmoloko), regulations and legislative acts.

3 Results and discussion

In our opinion, the business process in the studied subject area can be structurally represented in the form of Fig. 1.

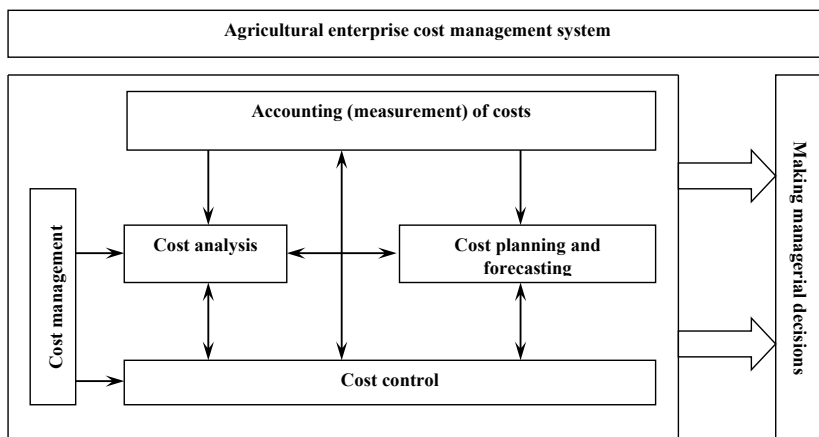


Fig. 1. Business process of cost management in an agricultural enterprise

The cost management business process is based on accounting (measuring) costs, which should be understood as the process of collecting information directly about costs and factors that affect their size and dynamics. The collection process should be carried out in accordance with two modes:

- real value, that is, the information base should not be accidentally and / or deliberately distorted;

- al time, that is, they should be used in the process of making managerial decisions after their direct actual occurrence.

The information base formed in this way is the basis for the operation of the next block of the cost organization business process - management. It is designed to perform the basic functions of management: planning, analysis, control, etc.

Cost management should begin with its analysis in order to identify limiting factors that impede the improvement of the efficiency of the agricultural enterprise.

The completeness of the solution of this problem will depend on how existing conditions and restrictions are taken into account - the availability of resource provision, their availability, cost, price forecast, potential effective demand for agricultural products, etc. [4, 5]

A qualitatively conducted analysis, in turn, will provide the necessary information for improving economic activity and its planning for the future.

Justification of current and prospective planned management decisions can be carried out using two main approaches (Table 1) [6, 7, 8]:

- "from what has been achieved";
- "from production".

As a rule, the first method is used in agricultural production. In order not to increase labor costs, the decision maker takes the achieved development indicators of an economic entity as a basis and adjusts them for an upward or downward trend, depending on the dynamics of the scale of production in retrospect.

However, in our opinion, this is a rudiment of management that does not reflect the modern needs of the development of agricultural production in the conditions of instability of the micro- and macroenvironment. Therefore, the "from production" method is most appropriate in conditions of high uncertainty and risk. This approach is labor-intensive, since it first requires an assessment of the production and resource potential of an economic entity. However, a set of economic and mathematical models allows to find the best option for the development of an agricultural enterprise with a balanced resource supply. Accounting for the achieved level of development and unused reserves will be determined, respectively, with the help of accounting financial and management reporting. However, an effective cost management system for an agricultural enterprise cannot be impersonal. It should be clearly linked to the production structure in order to link the activities of each structural unit with the responsibility of specific decision makers and evaluate the results of their management decisions. [9, 10]

Table 1. Characteristics of planning methods used in agricultural enterprises [11, 12]

Name of the method	Characteristics of the method	Advantages of the method	Disadvantages of the method	Information base for planning
"From what has been achieved" method	The costs of the previous period are used as the planning base, which are adjusted for the next planning period.	- does not require large labor costs; - simple methods for calculating planned indicators.	- low information content; - does not take into account available reserves;	- technological maps, statements of herd turnover, consumption of feed, seeds, etc.; - sectoral regulations on planning and cost accounting; - foreign and domestic works on controlling, etc.

"From production" method	When calculating planned indicators, the production and resource potential of the enterprise, the available reserves are assessed and this is based on complex economic and mathematical methods	- high information content of intermediate and final planned indicators; - based on real production volumes, required volumes of resources in physical terms.	- high labor costs in the calculation of planned indicators; - complex mathematical calculations.	Annual (quarterly) accounting financial statements
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The organizational structure, as a block diagram of the organization of business processes in the structural divisions of agricultural enterprises, appeared in the 90s of the XX century and is still successfully used. Such a tool of interaction between decision makers makes it possible to provide an effective management system for an economic entity, since it conglomerates a set of factors (Fig. 2).

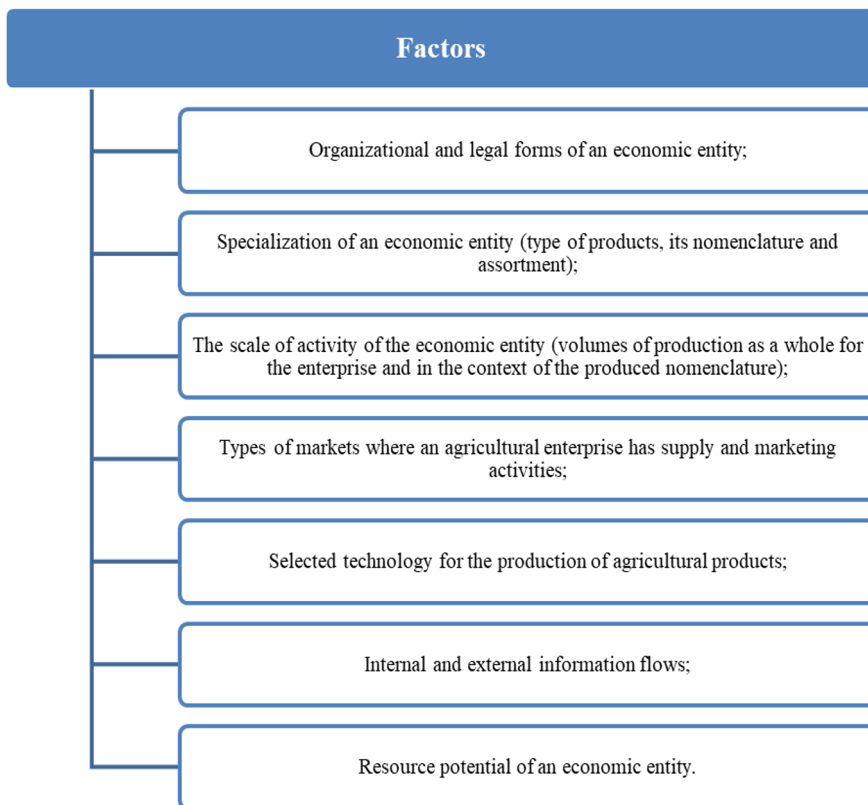


Fig. 2. Factors that determine the organizational structure of an economic entity

If we evaluate the organizational structure of most agricultural enterprises, then it belongs to the brigade type (Fig. 3), in which almost the entire functional apparatus is at the general economic level. [13, 14]

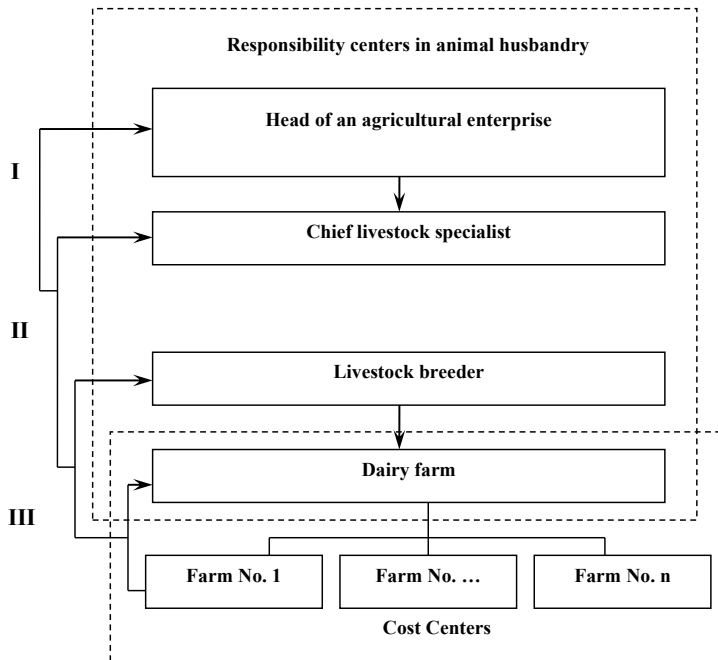


Fig. 3. Organization of cost accounting by cost centers and responsibility centers in the dairy industry

This type of organizational structure has advantages in terms of management. On the one hand, functional areas are supervised by specialized specialists, and on the other hand, there are significant shortcomings that reduce the efficiency and quality of management decisions:

- the actual functional load on the manager exceeds the rational;
- unbalancing the channels of circulation of administrative and directive documentation that accompanies the process of developing and making managerial decisions;
- deformation of the hierarchy of subordination;
- irrational distribution of functional responsibilities in the absence of the required amount of labor and technical resources. There is a transformation from task management to consulting;
- low circulation of information within the structural units and its transfer to the outside and, as a result, a decrease in the effectiveness of management decisions. [15, 16, 17]

At the same time, the brigade organizational structure makes it possible to single out cost centers and centers of responsibility for their management.

For the dairy industry, such a place is a dairy farm, where the consumption of resources is localized and the output of products is carried out.

The validity of management decisions will be determined in the context of the overall performance of the economic entity, the dynamics of costs and production costs. These business processes cover the analytical block (Fig. 3).

However, in order for management decisions to be justified, the cost management system must not only determine the real costs, but also explain the reasons for their occurrence, as well as generate preventive measures. To do this, the cost management system must effectively implement the feedback function (control). Comparison of actual indicators with potential ones will reveal limiting factors, by influencing which it is possible to improve significantly the financial condition of an agricultural enterprise in the

short and medium term. And in the long term, the result of management will be the creation of value and its strategic forecasting. [18, 19]

In the context of a tense geopolitical situation and high inflationary pressure, price becomes the leading element of the “price-value-costs” triad. The price “mirrors” the value of agricultural products on the part of the buyer. Since it is largely determined by external factors (set from outside), therefore, the profit of agricultural producers will depend on the costs at which value is created.

When developing a cost management model, including a strategic one from the point of view of the validity of management decisions, it is necessary to link a set of value factors: the level of competition, suppliers and buyers, product quality, production costs, the depth of processing of agricultural products, the availability of logistics, solvent demand, etc. In our opinion, a strategic approach to cost management involves the implementation of a set of four interrelated and complementary blocks (Fig. 4). [20, 21]

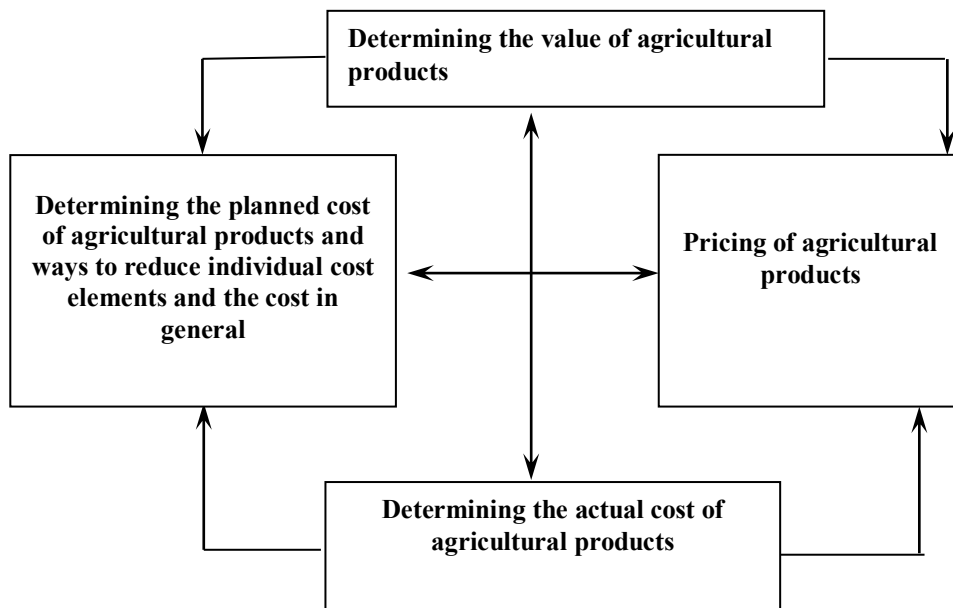


Fig. 4. The scheme for determining the value of agricultural products in the context of a cost management system

According to the holistic approach of the value theory of marketing by F. Kotler and K. Keller, an agricultural organization creates value in the following cases:

1. the existing specialization provides an opportunity for the economic entity to receive profit;
2. the existing specialization of the economic entity is promptly adjusted to factors of the external environment.

If at least one condition is not met, then from the standpoint of the classical postulates of economic theory, the limited resources of society are spent inefficiently and consumers are forced to replace the resulting deficit with their own funds.

To ensure the fulfillment of the two conditions described above, agricultural enterprises can use the concept of M. Porter's value chain to analyze their own economic activities. This is due to the fact that the market for agricultural products is stable in relation to consumer preferences and the range of products. At the same time, the existing specialization of an economic entity may not create value due to a mismatch between the

available resource provision, consumer preferences, logistics costs, and so on. Therefore, each agricultural producer must determine which area of activity generates value for him and exclude from his economic activity those that do not meet this criterion.

Let's try to determine which business processes will generate value and, accordingly, allow to compensate the costs incurred, and which business processes should be minimized in business activities and / or, if possible, completely eliminated [22].

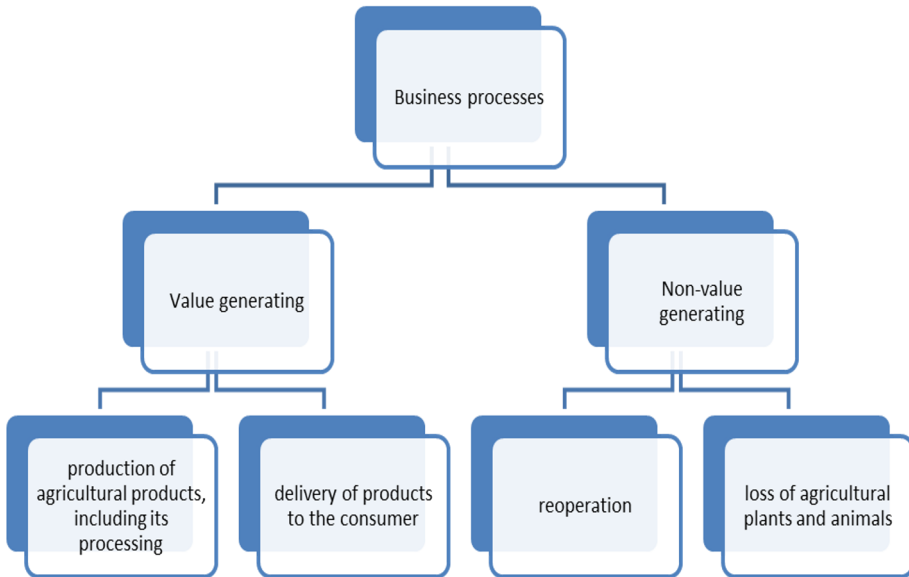


Fig. 5. Classification of business processes that generate and do not generate value in agriculture

The data presented in Fig. 5 demonstrate that the production of agricultural products and processing to a state suitable for final consumption, as well as its prompt delivery, if the products are perishable, potentially generates value. For agricultural producers, these business processes are financially beneficial, since they allow to compensate the costs incurred and therefore should be a priority for growth and development.

Reoperation and violations in the technology of agricultural production do not generate value for both stakeholders and the economic entity itself. There will be no reimbursement for this business process. On the contrary, it increases overhead costs and reduces the final financial result. Unfortunately, human, climatic, physiological, industry, intra-organizational and other factors do not completely eliminate these business processes, but their negative impact should be minimized. In addition, their operational analysis and relief are the information base for the development and justification of measures to improve the economic activity.

At the same time, when implementing the analytical function of management, the decision maker must formulate criteria for assessing the value of manufactured products. This task arises due to the subjectivity of this process. Due to different preferences and the author's interpretation of the results, this analysis becomes qualitative. However, for the development and justification of management decisions, quantitative indicators are needed. We propose a modification of the method of expert assessments in terms of ranking agricultural products in terms of importance (value) for the consumer. We propose to use the following scale (Table 2) [23, 24].

Table 2. Ranking the value of agricultural products for the consumer in the context of the cost management system

Criterion value	Value characteristic
10	Agricultural products that bring maximum value, because they satisfy the primary needs for food and do not require deep processing and refinement. In terms of costs, they do not require additional investments.
5	Agricultural products with high value, require little rework - cooling milk, butchering meat, sorting potatoes, etc. In terms of costs, they require little additional investment.
1	Agricultural products with minimal consumer value. They generate additional costs for their refinement, processing, bringing them to a state suitable for consumption - grain production, production of oilseed structures, etc.
0	Agricultural products are raw materials for other branches of the agro-industrial complex that satisfy consumer preferences. From the point of view of consumers, they do not create value, since they are actually service and auxiliary industries - fodder production, production of by-products of crop and livestock production - straw, grain waste, organic fertilizers, etc.

Such an assessment of agricultural products in the context of each nomenclature position will make it possible to determine the value of an economic entity as a whole and the industry of certain types of products in particular. When determining the value of products, the decision maker must determine and identify each element and cost item that form the cost of agricultural products.

The information base on the composition and structure of costs will allow determining the level of perception of manufactured products and an economic entity by consumers. This stage of the analytical function is a mandatory element of the cost management system in an agricultural enterprise.

From the point of view of an economic entity, decision makers must thus choose a specialization and organize the management process in such a way as to get as close as possible to the so-called "ideal object". These business processes are implemented as part of the planned/predictive management function [25, 26].

An "ideal object" is an economic entity that produces agricultural products having effective demand and, accordingly, the maximum value for the consumer.

When implementing the feedback (control) function of the cost management system, it is necessary to compare actual and calculated indicators. If there is a discrepancy, even a slight one, then this indicates "failures" in the system - there are excess costs that negatively affect financial results of an agricultural enterprise, its efficiency and competitiveness. In order to reverse the current trend, it is necessary to eliminate excessive and unnecessary expenses, optimize the composition and structure of costs, and, if possible, the pricing policy of an agricultural enterprise.

A reasonable pricing policy of an economic entity in the agricultural sector involves finding a compromise between the expected and actual market conditions. The circulation of agricultural products takes place in a saturated market of similar products that do not have unique consumer properties, so there are not many levers of influence on setting the "necessary" price for business entities - monitoring market demand and searching for the most profitable offers from stakeholders [27].

4 Discussion and conclusion

Thus, an effective management system, including costs, is such a state of an economic entity when profit is generated and, produced products are in a stable effective demand, that is, consumer value is created. In terms of quantitative indicators, this is the maximum range of variation between the generated value of agricultural products and the costs of its production.

To summarize, an effective cost management system allows:

1. An economic entity to produce agricultural products, as well as to carry out its completion and processing for the consumer. As a result, the maximum consumer value is formed.

2. Agricultural producers to provide low costs for the production of agricultural products. Due to which a high and stable income is formed.

The simultaneous implementation of the two conditions is a confirmation of the effectiveness of the management system as a whole of the economic entity and the cost management system in particular. If any condition is not met, then the control system occupies an intermediate position and needs to be improved. A diverse internal and external information base, as well as the accumulated experience, will allow developing and justifying a set of management decisions to adjust the price and cost of agricultural products and bring the system to an equilibrium state.

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