Organization of registration ensuring innovative development of branch of sheep breeding

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Abstract. Possible variants of innovative development in the sheep industry depending on the investment capacity of economic entities in the sphere of agro-industrial complex are considered in the article. The proposed procedure for the organization of synthetic and analytical accounting of costs and output of innovative production, as well as the reflection in the accounting system of sheep enterprises of the costs and revenues arising during the implementation of innovative development. The recommended proposals allow the use of accounting data for the preparation and adoption of management decisions in the system of innovative management and evaluate its effectiveness. The proposed setting of accounting support for innovative development most fully reflects the technological, organizational and economic features of innovative processes in sheep breeding.

1. Introduction
Livestock products occupy a fairly significant share in the consumer basket of the population of Russia and the Volgograd region. One of the sectors providing food independence for the country and the region is sheep breeding. However, at the moment in the domestic sheep industry, a crisis situation has developed, which has led to its almost complete degradation. The main reason for the current state of the sheep industry is the widespread economic inappropriateness of traditional approaches to the technology of production of sheep and lamb's wool [1, 3, 4, 11]. This dictates the need to develop and introduce new methods and methods of producing sheep products with an innovative focus.

The analysis of the innovative attractiveness of the sheep breeding enterprises of the Volgograd region, which determines their innovative competitiveness, allows concluding that the achievement of innovative goals in terms of maintaining the technical condition, partial renewal of fixed assets, development of new technologies allow the incomes of only the leading, large enterprises of the sheep industry.

While small agricultural producers have little chance of innovative development: investment insolvency, high level of accounts payable, depreciation of fixed assets, shortage of current assets,
technological backwardness threaten sheep breeding enterprises with final decline, require immediate solution of investment and innovation problems that can provide integration opportunities and priority development of sheep breeding.

Innovative attractiveness now serves as a demonstration of the company's sustainability and competitiveness in the conditions of market relations. The presence of innovative attractiveness is the result of correct innovation policy and competent management of innovative processes of a modern agribusiness entity, which, as a rule, needs constant information support.

Relevant information about the development of innovative activities allows not only analyzing its effectiveness, but also making predictive conclusions in this direction. At the intra-economic level, the enterprise's accounting system performs the function of informational support for the management of an economic entity.

Despite the evidence of the relevance of the organization of accounting and analytical support for the innovative development of the business entity, so far in the Chart of Accounts there is no separate account for the synthetic accounting of innovation costs and the results of innovation activity.

2. Materials and methods

In order to organize the accounting support for innovation activities, it is recommended to take into account innovation costs on a separate synthetic account, for which it is possible to use any "free" account of the Accounting Book Plan. In our developments, we propose to use a synthetic account of the first order 22 "Innovative development". In relation to the balance sheet and its economic content, this account should be positioned as an active one.

In the debit of account 24 "Innovative development", the costs of innovation should be taken into account, thus, the debit balance at the end of the reporting period under this account will indicate the presence of incomplete innovations and characterize the amount of incomplete innovation production.

The credit of account 24 "Innovative development" fixes the result of innovation processes in the form of the output of the innovative product during the reporting period in the normative amount, with the subsequent proof-reading to their actual value (at the end of the reporting period).

To the account 24 "Innovative development" for the subject of agro-industrial business it is offered to open synthetic sub-accounts of the second order on branches:

24 - 1 "Innovative development of the crop sector";
24 - 2 "Innovative development of the livestock sector";
24 - 3 "Innovative development of the industrial sector".

The analytical section on the proposed account should be organized according to the types (directions) of innovative development. For organizations that practice innovative development of one particular industry, accounting can be limited to a first-order synthetic account. In this sub-account is opened to each direction of innovation. The directions of innovation development are determined by the investment opportunities of the economic entity of the agro-industrial complex.

3. Results and discussions

Based on the analysis of the availability and level of innovative attractiveness of functioning sheep breeding enterprises in the Volgograd region, four groups were identified [6]. For each of them there are actual directions of innovative development, expenses and incomes from which should be accurately and timely recorded through the reflection in the enterprise's accounting system.

Summarizing the practical experience of implementing the innovative development of sheep breeding enterprises in the Volgograd region, the following analytical sections should be proposed in the organization of innovation accounting in sheep breeding:

- increase of meat productivity of sheep;
- formation of a balanced feed base;
- mechanization of labor and automation of sheep maintenance;
- managerial innovation.
Increase of meat productivity of sheep will be ensured by the implementation of innovative measures presented in Table 1.

The quality of meat is greatly influenced by the fatness of animals, which in turn depends on the conditions of keeping and feed rations of animals. Consequently, one more area of innovative development is the rational organization of the forage base and full nutrition of sheep, sheep and lambs. It is a good feed base that makes it possible to increase meat production [2, 7].

**Table 1.** Direction of innovative development in the organization of selection work in meat sheep breeding

| Degree of innovation attractiveness | Recommendations for the development and improvement of breeding work and intensification of the reproduction of sheep |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------|
| Lack of innovative attractiveness (0 level) | Organization of artificial selection and selection of sheep for breeding to achieve the breeding effect;  
Bonitation of animals;  
Tagging and pedigree accounting |
| Low innovative attractiveness (1 level) | Selective work on crossing meat and sheep breeds of sheep, breeding a the lines and refreshing the blood;  
Organization of artificial selection and selection of sheep for breeding to achieve the breeding effect  
Bonitation of animals  
Tagging and pedigree accounting |
| Average innovative attractiveness (there is an innovative potential) | Purebreeding as the creation of a herd of purebred sheep through  
acquisition of elite sheep meat breeds in order to improve the valuable qualities of the breed, consolidate the hereditary properties of animal  
Selective work on crossing meat and sheep breeds of sheep, breeding a the lines and refreshing the blood;  
Industrial and variable cross for the production of commodity hybrids  
increase of commercial output  
Bonitation of animals  
Tagging and pedigree accounting |
| High innovation attractiveness and availability of innovative competitiveness. | |

The rations should be balanced in all indicators and meet the needs of animals in energy, protein, easily digestible carbohydrates, minerals. As it is shown by practical experiments on the dynamics of live weight of sheep on stall and pasture maintenance, lambs that are in stabling mode of feeding and feeding in comparison with pasture showed greater meat production and better development. However, considering that the pasture content is less expensive, in our opinion it is necessary to combine pasture and stabling, using pastures for reproduction and breeding stock, and stall - for fattening animals.

Stable content is the use of a limited area, so mechanization of labor-intensive processes and automation is of great importance in order to avoid pollution, facilitate the work of livestock, and increase its efficiency, which is also one of the innovative directions in the development of sheep breeding. Labor mechanization in agriculture is the most important factor in increasing the efficiency of its branches [9].

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Sheep feeding should be carried out taking into account the sex, age of animals and their physiological state. Rations include fodders that are typical for this zone and farms, taking into account the prospects for the development of the forage base, the technology of preparation and feeding of fodder, and also the cost of their yield of fodder crops. Recommended directions of innovative development in the organization of sheep feeding are presented in Table 2.
Table 2. Direction of innovative development in organizing the feeding of sheep

| Degree of innovation attractiveness | Recommendations on the rational organization of the fodder base to ensure full and balanced feeding |
|-----------------------------------|------------------------------------------------------------------------------------------------|
| Lack of innovative attractiveness | Prevalence of pasture system of feeding and keeping sheep                                      |
|                                   | Pasture reversal surface improvement of land, timely repayment of long-used agricultural land |
| Low innovative attractiveness     | Total improvement of pastures, increase of soil fertility, reduction of erosion processes, creation of cultural pastures, melioration of solonetzes |
| Average innovative attractiveness (there is an innovative potential) | Application of high-grade mixed fodders, protein, vitamin and mineral additives, premixes; creation of food shops |
| High innovation attractiveness and availability of innovative competitiveness | Optimization of the structure of crops of forage crops, intensification of their cultivation and fodder preparation. Application of advanced technologies for harvesting, harvesting and storing feeds, allowing reducing their losses and improve quality |
|                                   | The organization of storage of forages in order to preserve their nutritional value |
|                                   | Acquisition of innovative developments in the field of fodder production |

The direction of innovations in mechanization and automation of sheep content is shown in Table 3.

Table 3. Direction of innovations of mechanization and automation of sheep keeping

| Degree of innovation attractiveness | Recommendations for improving the implementation of integrated mechanization and automation |
|-----------------------------------|-----------------------------------------------------------------------------------------|
| Lack of innovative attractiveness | The predominance of the pasture system of feeding and keeping sheep: the use of mobile autopilots and feeders - drums |
| Low innovative attractiveness     | - Mechanization of water supply;                                                       |
|                                   |   - Mechanization of manure transportation                                               |
| Average innovative attractiveness (there is an innovative potential) | - Mechanization of water supply and watering (drinking bowls); |
|                                   |   - Mechanization of preparation of feed mixtures, loading and transportation of feeds and their distribution; |
|                                   |   - Mechanized harvesting of manure, fodder and old litter; |
|                                   |   - Mechanization of slaughter of animals;                                               |
|                                   |   - Use of low-cost and energy-saving innovative technologies;                          |
| High innovation attractiveness and availability of innovative competitiveness | - Mechanization of water supply and watering (drinking bowls); |
|                                   |   - Mechanization of preparation of feed mixtures, loading and transportation of feeds and their distribution; |
|                                   |   - The use of different feeders depending on the characteristics of the feed           |
|                                   |   - Creation of a microclimate in premises;                                             |
|                                   |   - Mechanization of swimming of sheep                                                  |
|                                   |   - Mechanization of individual operations: bonitation, insemination, veterinary operations, labeling, weighing |
|                                   |   - Use of low-cost and energy-saving innovative technologies;                          |
|                                   |   - Mechanization of slaughter of animals;                                               |
|                                   |   - Use of refrigeration equipment;                                                     |
|                                   |   - Mechanized sorting and processing of slaughter products;                           |
|                                   |   - Automation of tribal accounting and control                                          |
The most important factor in increasing the efficiency of using the innovation potential of an enterprise is ensuring the competitiveness of the quality of managerial decisions, which involves the use of innovations not only in the production process, but also in the production process control system. Recommendations for innovative development in this area are also determined by the innovative capabilities of a particular enterprise. They are listed in Table 4.

Table 4. Direction of innovative development of the management system

| Degree of innovation attractiveness | Recommendations for improving the implementation of integrated mechanization and automation |
|------------------------------------|------------------------------------------------------------------------------------------|
| Lack of innovative attractiveness  | - Improvement of the system of registration and control of animals and production resources; |
| Low innovative attractiveness      | - Motivation of the person (interest in the results of work);                            |
| Average innovative attractiveness  | - Use of rental relationships                                                             |
| (there is an innovative potential) |                                                                                         |
| Average innovative attractiveness  | - Implementation and improvement of lease relations;                                      |
| (there is an innovative potential) | - Implementation of the budgeting system;                                                 |
| High innovation attractiveness and | - Staff development;                                                                     |
| availability of innovative         | - Improvement of forms of labor remuneration (collective contract)                        |
| competitiveness                    |                                                                                         |
| High innovation attractiveness     | - Implementation and improvement of lease relations;                                      |
| and availability of innovative     | - Introduction of progressive accounting and analytical systems of management of innovative development of the enterprise; |
| competitiveness                    | - Application of progressive methods of accounting and calculation of innovation development costs; |
|                                   | - Introduction of the budgeting system of expenses and incomes of innovative activity; |
|                                   | - Staff development;                                                                     |
|                                   | - Improvement of forms of labor remuneration (collective contract)                        |
|                                   | - Introduction and development of innovative management                                   |

The implementation of these innovative activities provides for the existence of a certain composition of costs [5, 8, 10]. This composition of innovation costs should be taken into account in the debit of account 24-2 "Innovative development of the livestock sector" detailing them by economic elements (in order to summarize innovation costs) and calculation items in order to create the cost of innovative sheep products.

For this, it is recommended to use a standard nomenclature of calculation items and economic elements of the livestock sector. The proposed composition and procedure for accounting for innovative expenditures using account 24 "Innovative development of the livestock sector" is given in Table 5.

The result of innovative development - innovative products - is also subject to careful accounting and control. The main commercial products of the sheep industry are represented by the following species: litters (lambs), growth of live weight, wool.

If it is obtained with the use of innovative approaches, in the synthetic accounting system it is necessary to use the accounts provided by the work plan of the company's accounts, opening either a separate sub-account or an analytical account to them - the proposed correspondence using the sheep production classification is given in Table 6.

Table 5. Articles and elements of innovation costs (debit account 24 "Innovative development of the livestock sector")
| Element of innovation costs | Calculation Article | Correspondence of innovation expenditure accounts |
|-----------------------------|---------------------|-------------------------------------------------|
| 1. Material costs           | The raw material factor (fuel, fodder, animal protection, goods, etc.) | 24 - 2                                         |
| Works and services          | 23, 29, 60, 76       |
| (transport, electricity, repair of fixed assets and others) | 24 - 2 | 10, 41, 43 |
| 2. Salary                   | Compensation of labor with deductions for social security (basic remuneration of labor, bonuses and allowances, other payments provided by the enterprise payroll fund) | 24 - 2                                         |
| 3. Social security contributions | 70, 69               |
| 4. Depreciation             | Depreciation of fixed assets used in the implementation of innovative measures (active and passive composition of property) | 24 - 2                                         |
| Depreciation of intangible assets | 02                  |
| 5. Other costs              | Compulsory property insurance, taxes and fees and other expenses not included in the previous | 24 - 2                                         |
|                             | 68                  |

Table 6. Credit operations 24 "Innovative development of the livestock sector"

| Direction of productivity | Kind of innovative product                  | Correspondence of accounts of the account of innovative production |
|---------------------------|---------------------------------------------|--------------------------------------------------------------------|
|                           |                                             | Debit | Credit |
| 1. The main herd          | Litter (lambs)                             | 11    | 24-2   |
|                           | Wool                                       | 43    | 24-2   |
|                           | By-products (moult, skins of fallen animals, manure) | 10    | 24-2   |
| 2. Animals on rearing and fattening | Growth of live weight                 | 11    | 24-2   |
|                           | Wool                                       | 43    | 24-2   |
|                           | By-products (moult, skins of fallen animals, manure) | 10    | 24-2   |

In order to organize the accounting support for innovation, it should be recommended to take into account innovative revenues and expenditures on a separate synthetic account, for which it is possible to use any "free" account of the Accounting Accounts Plan. In our developments we propose to use a synthetic account of the first order 92 "Innovative incomes and expenses". In relation to the balance sheet and its economic content, this account should be positioned as an active - passive.

In the debit of account 92 "Innovative incomes and expenses" it is necessary to take into account the expenses of innovation activity, expressed in the form of the production cost of the innovative product, thus, the debit balance at the end of the reporting period under this account will indicate the loss of innovation or the amount of incomplete innovation production. The credit of account 88 "Innovative incomes and expenses" fixes the result of innovative processes in the form of proceeds from the sale of an innovative product and possible innovative income.
To account 92 "Innovative incomes and expenses" it is offered to open synthetic subaccounts of the second order:

- 92 - 1 "Innovative incomes";
- 92 - 2 "Innovation costs";
- 92 - 3 "Balance of Innovative Income and Expenses".

The proposed account is effective; the procedure for using it for accounting for innovative revenues and expenses is presented in Table 7.

Table 7. Correspondence of accounts using the proposed account 92 "Innovative incomes and expenses"

| Innovative incomes and expenses | Fact of economic life | Correspondence of accounts | Debit | Credit |
|---------------------------------|-----------------------|----------------------------|-------|--------|
| 88 – 1 «Innovative incomes»     | Accrued revenue for the sale of innovative products | 62 | 92-1 |
|                                 | Other innovative revenues are accrued | 76 | 92-1 |
|                                 | Accounting for innovative income | 92-1 | 92-3 |
| 88 – 1« Innovative expenses»    | The production cost of the innovative product is written off | 92-2 | 43, 11, 10 |
|                                 | The costing difference is reflected in the cost of the innovative product | 92-2 | 24-2 |
|                                 | The marketing expenses for servicing the process of sales of innovative products are reflected | 92-2 | 70,69,10,60,76 |
|                                 | The costs of innovation are taken into account | 92-3 | 92-2 |
| 92 - 3 «Balance of innovative incomes and expenses» | The income (profit) of innovative activity is reflected | 92-3 | 99 |
|                                 | The expense (loss) of innovative activity is reflected | 99 | 92-3 |

Following the proposed methodology for organizing the accounting of incomes and expenditures of innovation activity, as a result, the innovative profit (loss) will enter the overall financial result of the economic activity of the sheep farm (account 99 "Profits and losses").

Conclusion

The formation of relevant information support for innovative management in the sheep industry is a sufficiently significant component of the system of actions that makes it possible to realize the innovative potential and ensures the development of innovative activity of the economic entity.

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Conflict of Interest

The authors have no conflict of interest to declare.
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