

WAYS TO INCREASE THE EFFICIENCY OF INNOVATIVE ACTIVITIES IN THE POULTRY INDUSTRY

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Abstract

The aim of the study is to develop scientific recommendations and practical proposals for ways to improve the efficiency of innovation in the poultry industry in the context of economic modernization.

Keywords: **poultry production, efficiency of innovation, government support, food supply.**

Introduction. The development of the poultry industry plays an important role in providing food in proportion to the growth of the world's population in terms of quantity and quality. Since poultry meat occupies a special place as a source of high-quality proteins and fats in the food supply system. It is the main contributor to the world's meat production. According to the FAO, "... by 2026, the annual production of poultry meat will increase by 13 percent", this trend will continue in the future. This, of course, is due to the increase in the range of poultry products, the availability of mechanisms for effective support for the supply of environmentally friendly and natural products based on the use of productive feed.

Many different research projects have been carried out in such areas as preserving and increasing the gene pool of birds in the context of global climate change and the global pandemic, optimizing diets and feed components, and increasing competitiveness in the poultry products market. Along with this, special attention is paid to scientific research aimed at solving problems to prevent the rise in food prices through the widespread introduction of innovative technologies and developments in the poultry industry and the expansion of poultry production.

The expansion of poultry production in the country's agriculture and the strengthening of the industry's economy primarily directly depend on the state of promoting the achievements of the scientific and technological development of the industry. Increasing innovation in the poultry industry will improve product quality, production efficiency and competitiveness of poultry products. In this regard, "stimulating research and innovation activities, creating effective mechanisms for the widespread introduction of scientific and innovative achievements into practice", in the future, were identified as issues of a strategic task in the development of the poultry industry. In this context, the industry needs to develop evidence-based proposals and recommendations for improving innovation.

This dissertation research, to a certain extent, serves to implement the tasks specified in the Decree of the President of the Republic of Uzbekistan № PD-5853 dated October 23, 2019 "On approval of the Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020-2030", Resolutions of the President of the Republic of Uzbekistan № PR-4576 dated October 23, 2019 January 29, 2020 "On additional measures of state support for the livestock industry", № PR 4015 of November 13, 2018 "On additional measures for the further development of poultry farming", № PR120 of February 8, 2022 "On the development of livestock and

its industries in Republic of Uzbekistan for 2022-2026" and other legal documents related to this activity.

Literature review. The level of knowledge of the problem. On the problems of improving the efficiency of the poultry industry in the context of economic modernization, the development of innovative activities at the enterprises of the industry, scientists-economists of our country and foreign countries conducted research work in various areas.

In particular, in the studies of scientists from the CIS countries, Krylov E.I., Zhurovkova M.V., Vlasova V.M., Fatkhuddinov R.A., Khuchek M., Sandu I.S., Bautina V.M., Golubev A.V. and others were raised multi-level problems created the basis for deepening the theory and expanding the practice of innovative development. Bobileva G.A., Zhigalin M.M., Karyukina K.I., Klochkov K.N., Matykin Yu.P. and other scientific practitioners, much attention is paid to the study of various aspects of the scientific and technological development of poultry farming.

Scientific works of agricultural economists of our country such as K.A. Chorjeva, R.R. Radzhapova, R. Khusanova, T.Kh. Yuldashev, S. Abdullayeva, S. Khamrayeva, I. Rustamova and others, are mainly devoted to the problems of development and management of agriculture and improving the efficiency of the livestock industry. Therefore, the attraction of modern equipment and technologies, the creation of a new generation of feed in the poultry industry, helps to increase the innovative potential of the industry. Therefore, an in-depth research work is required to improve the efficiency of innovation in the poultry industry.

Materials and Methods. The aim of the study is to develop scientific recommendations and practical proposals for ways to improve the efficiency of innovation in the poultry industry in the context of economic modernization. The objectives of the study are: theoretical substantiation of the main directions of innovative development and evaluation of the effectiveness of the poultry industry; development of scientific and practical proposals based on the study of the experience of foreign countries to improve the efficiency of innovation for implementation in the country's industry; development of proposals for identifying and eliminating existing problems based on the current state of development and analysis of the activities of poultry enterprises.

Results and Discussion. The theoretical foundations of innovative development, the main directions for evaluating the effectiveness of innovative activities and foreign experience in improving the efficiency of innovative activities in the poultry industry are highlighted.

The state and prospects for the economic development of the country's poultry industry largely depend on the

level of development of innovative ways of developing poultry enterprises. Based on world practice, we can say that the competition is dominated by organizations that regularly engage in various forms of innovation.

In our opinion, innovation is an innovation that is the result of the development of science and technology, has been repeatedly tested in production, and is also ready for active participation in the innovation market. A distinctive feature of innovation as a commodity is the ability to commercialize an idea, since not all ideas become innovations.

The process of introducing innovation in a poultry enterprise includes the following steps:

1. Collection of data on introduced innovations. The Bank of Innovations is regularly replenished with specialists.

2. Analysis of novelty and its features. The capabilities of the enterprise are assessed, substantiating the expediency of the decision to introduce this innovation and its effectiveness in production.

3. Determination of the place of the poultry enterprise based on the study of an innovative project.

4. The implementation of measures to introduce novelty will allow customers to get an idea of innovation.

5. Mass introduction of innovations in poultry enterprises. At the same time, an analysis of the innovation market is carried out and, on its basis, new ideas for the modernization of production are born, and their appropriate compliance with implementation is also assessed.

The development of innovative activity requires the following conditions in the poultry industry of our country:

- state innovation policy - development and definition of mechanisms for supporting priority innovation programs and projects for the purpose of the country's innovation strategy by the state authorities of the Republic of Uzbekistan;

- investment potential - states, industries, enterprises and organizations, including material, financial, intellectual, scientific, technical and economic;

- innovative activity - areas of activity for the creation and implementation of innovative developments, including consumers and manufacturers of innovative products;

- innovative infrastructure - institutions that promote the implementation of innovative activities (innovation and technology centers, technology incubators, technology parks, consulting companies and other specialized institutions);

- innovation program - a complex of enterprises, industries, territories, states, regions, interstate innovation projects and activities that provide an effective solution to the problems of development and deployment of resources, performers and deadlines for the implementation of innovative projects and new types of products.

Technical and technological, organizational, economic, socio-psychological, natural-climatic and environmental-epidemiological factors influence the increase in the efficiency of innovative activities of poultry enterprises.

The technical and technological efficiency of innovation activity reflects the degree of intensity of resource use in the process of production, processing, transportation and storage of poultry feed products. The factors of this group include: the degree of modernization of buildings and structures, new machinery and equipment for the production and processing of poultry products; availability of capital funds, productivity and safety of birds, cross-country level; optimization of the order of

feeding, equipment with computer facilities; compliance with the requirements for the quality and safety of poultry products, etc.

Organizational efficiency reflects a complex of microeconomic factors that ensure the effective organization of the activities of poultry enterprises. It also regulates labor relations within enterprises, defines formal and informal relations related to the activities of the enterprise.

The level of organization of production determines the orderliness and correspondence of the constituent parts of the mechanism of activity of enterprises in the industry. The economic efficiency of innovation determines the efficiency of resources spent on a new product or technology (cash, material and technical, information, labor, etc.). This determines the investment attractiveness of the enterprise, the level and concentration of specialization, the proportional organization of production, the interaction of departments and the effective implementation of the pricing policy at enterprises.

Socio-psychological efficiency includes the level of desire of the staff of the poultry enterprise to introduce innovations and the conditions created for highly efficient working conditions and the production of quality products. Social efficiency will be reflected in the standard of living of the population, the system of education, health and culture, and the satisfaction of aesthetic needs. Increasing the intellectual potential of personnel, computerization of production is the determining factor in solving complex production and economic issues.

Natural and climatic efficiency factors include natural and climatic (precipitation volume, temperature level, atmospheric pressure, seasonal changes, etc.) factors that affect the bird's body on average.

Ecological and epidemiological factors provide for the maximum satisfaction of the needs of the population in environmentally friendly poultry products. To do this, it is advisable to implement the following measures: the effective use of the quality management system, the use of environmentally friendly feed in poultry diets, compliance with sanitary and veterinary requirements, the organization of waste-free production, the improvement of the system for the use of poultry manure (processing) and the preservation of the environment.

Scientific and innovative activity in world practice is supported by the state in various manifestations. In particular, direct financing of innovation activities, the provision of interest-free bank loans to inventive and innovative enterprises, the creation of innovative venture funds using tax incentives, the reduction of the state duty on patents for individual inventors, the use of accelerated depreciation, the creation of technopolis systems, technology parks, business incubators, etc.

In general, based on foreign experience, it is advisable to organize state support for the poultry industry in our country in the following areas:

- allocation of funds for long-term research of leading branches of science and technology, to improve the reputation of the government in the innovation sector (Germany);

- allocation of long-term loans by commercial banks, as well as government funding to stimulate research and development in the poultry industry (Canada);

- allocation of preferential loans and state subsidies for research centers, as well as for state organizations engaged in scientific research together with poultry enterprises;

- providing access to domestic products that can

replace imported products in the poultry market, as well as expanding export opportunities (Japan);

- reduction of the tax base, based on the cost of research equipment provided to companies, universities and non-profit organizations (USA);
- exemption of poultry enterprises from taxation of research costs (Sweden, Finland).

In our country, there is a tendency to increase the number of birds in all categories of farms. In particular, as of January 1, 2022, there are 89,734.4 thousand birds in our country, which is 2.1 percent more than in 2019. During this period, this indicator had an upward trend in all regions, except for Jizzakh, Namangan and Tashkent regions.

Due to the increase in the number of birds in the republic, the volume of egg production also increased. The analysis showed that the volume of egg production in all categories of farms in 2021 increased by 3.6% compared to 2019. That is, in our country in 2019, 7,771.2 million eggs were produced, and by 2021 it will be 8,053.1 million eggs; in 2021, 281.9 thousand more eggs were produced than in 2019. In our country, in 2019-2021, egg production increased in all regions, except for Samarkand and Tashkent regions. In terms of egg production, Tashkent and Samarkand regions are leading. These regions account for 34.7 percent of the eggs produced (2798.8 million pieces).

In accordance with the established medical standards of the Ministry of Health of the Republic of Uzbekistan, it is established that 1 person should consume an average of 208 eggs during the year. According to an analysis based on this medical norm, the volume of eggs produced per capita in the republic during 2019-2021 exceeds the norm. So, in the republic in 2019, an average of 253 pieces were produced per capita, and in 2021 - 255 pieces. This indicator in 2021 compared to 2019 increased by an average of 0.8% in the republic, in Kashkadarya, Namangan, Samarkand, Tashkent and Khorezm regions there is a decrease compared to 2019 (table 1).

Table 1.
The volume of eggs per capita in the republic, pieces

| No. | Regions | 2019 | 2021 | 2021 to 2019 |
|-----|----------------------------|------------|------------|--------------|
| 1. | Republic of Karakalpakstan | 172 | 211 | 123 |
| 2. | Andijan region | 223 | 211 | 95 |
| 3. | Bukhara region | 251 | 246 | 98 |
| 4. | Jizzakh region | 232 | 223 | 96 |
| 5. | Kashkadarya region | 157 | 168 | 107 |
| 6. | Navoi region | 341 | 432 | 127 |
| 7. | Namangan region | 217 | 230 | 106 |
| 8. | Samarkand region | 357 | 315 | 88 |
| 9. | Surkhandarya region | 200 | 203 | 102 |
| 10. | Syrdarya region | 207 | 193 | 93 |
| 11. | Tashkent region | 518 | 518 | 100 |
| 12. | Fergana region | 140 | 161 | 115 |
| 13. | Khorezm region | 261 | 342 | 131 |
| | Total: | 253 | 260 | 103 |

Developed by the author.

As follows from the table, in 2021, fewer eggs per capita were produced in the Republic of Karakalpakstan, Kashkadarya, Surkhandarya, Syrdarya and Fergana regions in accordance with medical standards. According to this indicator, the leaders are Tashkent, Navoi and Samarkand regions. In these regions, the volume of eggs produced per capita is 300 eggs and more.

Monographic studies were carried out at the enterprises for the production of eggs and poultry meat in the Uzun and Zharkurgan districts of the Surkhandarya region. In particular, the economic efficiency of egg production at the Bekzod-Zokir-Sarkor enterprise in the

Uzun district of the Surkhandarya region was analyzed. According to it, the average cost of eggs produced by the enterprise in 2018 amounted to 521 soums, and in 2020 it increased by 27.4 percent and amounted to 664 soums (table 2).

According to the table, the cost of 1 kg of feed increased by 25.4 percent over this period. The share of feed in egg production is on average 67-70 percent of total costs. There is also an increase in the average selling price for eggs. In particular, we see an increase in the average price of eggs in 2020 compared to 2018 by 24.5%. The cost of an egg in 2018 was 620 soums, in 2019 - 701 soums and in 2020 - 772 soums. Due to the sold eggs, the enterprise in 2020 received a profit in the amount of 1373.0 million soums, which is 83.5 percent more than in 2018. The profit of the enterprise is mainly observed due to the increase in the number of chickens and the number of eggs obtained from them. However, during these periods, the level of profitability of the enterprise due to the production of eggs decreased. In particular, in 2020, the level of profitability of the enterprise decreased compared to 2018 and amounted to 16.2 percent.

Therefore, in the conditions of the country's poultry enterprises, the period of use of chickens should be from 9 months to 22 months. And in some poultry farms, chickens will be operated up to 92-94 weeks. The shelf life of eggs should not exceed 12 months (from 22 weeks to 74 weeks). The values of the poultry turnover ratio vary from 0.8 to 1.4 at a rate of 1.05-1.1. Therefore, the intensity of egg supply in poultry enterprises is 73.5 percent. Thus, if the egg hardness rate is below 73.5 percent, the further preservation of these birds at the enterprise will not bring economic benefits.

The poultry farms that are members of the association "Parrandasanoat" import the main part of the food components necessary for feeding the birds.

Table 2.
Economic efficiency of egg production at the enterprise

| No. | Indicators | 2018 | 2019 | 2020 | 2020 to 2018,% |
|-----|---|--------|---------|---------|----------------|
| 1. | Laying hen (loman), day | 25000 | 3 5000 | 4 2000 | 168.0 |
| 2. | Laying time, day | 370 | 370 | 370 | - |
| 3. | Average daily feed intake of 1 head of chicken, kg | 0.094 | 0.094 | 0.094 | - |
| 4. | Feed consumption per 1 head of chicken for the entire period content, kg | 34.78 | 34.78 | 34.78 | - |
| 5. | Price for 1 kg of feed, sum | 3150 | 3550 | 3950 | 125.4 |
| 6. | The cost of feed per 1 head of chickens for the entire period content, thousand soums | 109.6 | 123.5 | 137.4 | 125.4 |
| 7. | Feed costs per day for keeping chickens, million soums | 2738.9 | 4321.4 | 5770.0 | 2.1 |
| 8. | The number of eggs from 1 chicken head, pieces for the entire period of keeping | 303 | 303 | 303 | - |
| 9. | Feed consumption per 1 egg, kg | 0.115 | 0.115 | 0.115 | - |
| 10. | consumption per 1 egg, soums | 361.6 | 407.49 | 453.40 | 125.4 |
| 11. | The number of eggs obtained from a laying hen for the entire period of keeping, thousand pieces | 7575 | 10605.0 | 12726.0 | 168.0 |
| 12. | Cost of production of one egg, sum | 521 | 601 | 664 | 127.4 |
| 13. | Total expenses, million soums | 3948 | 6378.3 | 8451.5 | 2.1 |
| 14. | Selling price of 1 egg, soums | 620 | 701 | 772 | 124.5 |
| 15. | Proceeds from the sale of eggs, million soums | 4696.5 | 7434.1 | 9824.5 | 2.1 |
| 16. | Profit from eggs, million soums | 748.4 | 1055.8 | 1373.0 | 183.5 |
| 17. | Profitability level,% | 18.9 | 16.5 | 16.2 | - |

The main components of the bird feed balance - wheat, corn, soybean meal, sunflower meal, vegetable oil and salt, soda, fodder lime are supplied by local enterprises. In particular, annual demand is generally met by components produced by domestic enterprises: grain - 66 percent, corn - 30 percent, soybean meal - 7 percent, sunflower meal - 6 percent and vegetable oil - 5 percent. Only components such as salt, soda, fodder lime are 100 percent provided by domestic enterprises. The remaining components are 100

percent satisfied through imports.

Based on the high cost of feed in the production of eggs, it is advisable to use innovative feed at poultry enterprises. "Natresorb" is a feed additive. To assess the effectiveness of the use of "Natresorb" in the feed of birds, an experiment was carried out at "PARRANDA KOMPLEKS SAVDO LLC". The duration of this experiment was 60 days, 1.5 kg of Natresorb feed was added to the diet of birds aged 8-9 months and the number of 34270 heads of the Loman cross. Its economic efficiency due to the addition of "Natresorb" to the poultry feed was carried out at the expense of the produced eggs. According to him, the feed consumption per egg for an experimental chicken was 99.1 percent compared to the control base, 449.3 soums were spent on feed.

According to the table, the average cost of one egg on the experimental base is 660 soums, which is 99.4 percent compared to the control base. On the experimental base, income from eggs amounted to 4935.8 million soums, which is one percent more than in the control base. The level of profitability also amounted to 16.3 and 17.0 percent, respectively. As a result of the application of "Natresorb" in "Parranda kompleks savdo" LLC, one can see an increase in the total number of birds by 0.7 percent, and poultry productivity - by 1.1 percent. Therefore, the use of this feed additive in other poultry farms helps to increase the economic efficiency of enterprises.

It is also advisable that the stages of development of innovative activity will be implemented through the emergence of ideas, innovative marketing, evaluation of the implementation of an innovative project, research and development work, development of innovations, production of innovative products and consumers.

In the course of the study, using the results of the application of the Natresorb feed additive and historical trend data until 2021, the volumes of growing poultry products in our country for the future were calculated.

Conclusion. Innovation is an innovation that has become the result of the achievements of scientific and technological development and has been repeatedly tested in production, ready for mass use and active participation in the innovation market. A distinctive feature of innovation as a commodity is the ability to commercialize an idea, since not all ideas become innovations.

Innovative activity should be studied as a system

of measures in relation to poultry enterprises aimed at improving the quality indicators of poultry products for the future, creating, implementing, mastering and commercializing inventions aimed at expanding volumes and economic indicators.

The process of introducing innovation into a poultry enterprise is the stage of obtaining information about the novelty being introduced, analyzing the novelty and its features, determining the place of the poultry enterprise in market competition during the implementation of an innovative project, implementing measures to introduce the novelty and mass introduction of innovations at poultry enterprises.

The effectiveness of innovative activities at poultry enterprises should be assessed in the technical, technological, organizational, economic, socio-psychological, natural-climatic and environmental-epidemiological directions. The effectiveness of the innovative development of a poultry enterprise is assessed through technical, economic, social, resource and environmental efficiency.

Evaluation of the efficiency of poultry enterprises in such areas as production resources, economic and financial condition of the enterprise, market and marketing activities, social and environmental.

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