***ASSOCIAÇÃO DE POLITÉCNICOS DO NORTE* (APNOR)**

INSTITUTO POLITÉCNICO DE BRAGANÇA

Planning and implementation of innovation and investment projects in the Agro-industrial complex on the UOH Kuban

Alina Zotkina Palhau

Final Dissertation submitted to *Instituto Politécnico de Bragança*

To obtain the Master Degree in Management, Specialisation in Business Management

Supervisors:

Ana Paula Monte

Sokolova Alla

***Bragança*, December, 2021**

Abstract

Innovation and investment projects in the agro-industrial complex play a crucial role for the development of enterprises and increasing the competitiveness of their products. Planning and evaluation of such projects should take into account all factors of the internal and external environment of the organization, analysis of the proposed industry and market, and existing risks. When developing an investment project, you can really ensure the long-term stability of the enterprise in the market, since it helps to determine the strategy and tactics of behavior, to mobilize resources with the greatest clarity, to analyze the situation in the industry, the competitive environment, to assess risks and prospects, thereby achieving the maximum return on the proposed project. When evaluating the effectiveness of individual investment projects and investment activities of agricultural organizations as a whole, it is necessary to take into account that the ultimate goal of investment, in General, is not only to make a profit, but also to develop production activities that allow solving the strategic task of ensuring food security for both a particular region and the entire country. Unfortunately, at this stage of economic development in Russia, an extremely small number of enterprises are engaged in implementing innovations in their production facilities. If the current situation persists, which is expressed in innovative passivity, it will be difficult for the domestic agro-industrial complex to reach the level of development of foreign agriculture.

The study will examine the current state and features of investment activities of agribusiness enterprises in Russia, as well as methods for evaluating the effectiveness of investments. It will also determine the impact of internal and external factors of the enterprise on the effectiveness of its investment activities, and study positive and negative trends. As a result, measures will be proposed to improve the efficiency of investment activities of agribusiness enterprises.

Keywords: investment, investment activity in the agro-industrial complex, innovation, efficiency, risk assessment, Russia.

Resumo

Projetos de inovação e investimento num complexo agroindustrial desempenham um papel fundamental para o desenvolvimento das empresas e aumento da competitividade de seus produtos. Convém que o planeamento e a avaliação de tais projetos levem em consideração todos os fatores do ambiente interno e externo da organização, a análise da indústria e do mercado propostos e os riscos existentes. Ao desenvolver um projeto de investimento, pode-se realmente garantir a estabilidade de longo prazo da empresa no mercado, pois ajuda a definir a estratégia e táticas de comportamento, a mobilizar recursos com a maior clareza, a analisar a situação do setor, o ambiente competitivo, para avaliar riscos e perspectivas, alcançando assim o máximo retorno do projeto proposto. Ao avaliar a eficácia dos projetos individuais de investimento e das atividades de investimento das organizações agrícolas como um todo, é necessário levar em consideração que o objetivo final do investimento, em geral, não é apenas obter lucro, mas também desenvolver atividades produtivas que permitem resolver a tarefa estratégica de garantir a segurança alimentar para uma determinada região e para todo o país. Infelizmente, neste estágio de desenvolvimento econômico da Rússia, um número extremamente pequeno de empresas está empenhado na implementação de inovações em suas instalações de produção. Se persistir a situação atual, que se expressa na passividade inovadora, dificilmente o complexo agroindustrial nacional poderá atingir o nível de desenvolvimento da agricultura estrangeira.

O estudo examinará o estado atual e as características das atividades de investimento das empresas do agronegócio na Rússia, bem como métodos para avaliar a eficácia dos investimentos. Também determinará o impacto de fatores internos e externos da empresa sobre a eficácia de suas atividades de investimento e estudará tendências positivas e negativas. Como resultado, serão propostas medidas para melhorar a eficiência das atividades de investimento das empresas do agronegócio.

Palavras-chave: investimento, atividade de investimento no complexo agroindustrial, inovação, eficiência, avaliação de risco, Rússia.

Резюме

Инновационные и инвестиционные проекты в агропромышленном комплексе играют решающую роль в развитии предприятий и повышении конкурентоспособности их продукции. Планирование и оценка таких проектов должны учитывать все факторы внутренней и внешней среды организации, анализ предлагаемой отрасли и рынка, а также существующие риски. Разрабатывая инвестиционный проект, вы действительно можете обеспечить долгосрочную стабильность предприятия на рынке, поскольку это помогает определить стратегию и тактику поведения, максимально четко мобилизовать ресурсы, проанализировать ситуацию в отрасли, конкурентную среду, чтобы оценить риски и перспективы, тем самым достигнув максимальной отдачи от предлагаемого проекта. При оценке эффективности отдельных инвестиционных проектов и инвестиционной деятельности сельскохозяйственных организаций в целом необходимо учитывать, что конечной целью инвестирования в целом является не только получение прибыли, но и развитие производственной деятельности, которая позволяют решить стратегическую задачу обеспечения продовольственной безопасности как отдельного региона, так и страны в целом. К сожалению, на данном этапе экономического развития в России крайне небольшое количество предприятий занимается внедрением инноваций на своих производственных объектах. Если сложившаяся ситуация сохранится, что выражается в инновационной пассивности, отечественному АПК будет сложно выйти на уровень развития зарубежного сельского хозяйства.

В исследовании будет рассмотрено современное состояние и особенности инвестиционной деятельности предприятий агробизнеса в России, а также методы оценки эффективности вложений. Также будет определено влияние внутренних и внешних факторов предприятия на эффективность его инвестиционной деятельности, изучены положительные и отрицательные тенденции. В результате будут предложены меры по повышению эффективности инвестиционной деятельности предприятий АПК.

Ключевые слова: инвестиции, инвестиционная деятельность в агропромышленном комплексе, инновации, эффективность, оценка рисков, Россия.

Table of Contents

List of Figures

List of Tables

Introduction

In the context of the active development of the Russian market economy, a characteristic feature of which is an increased risk, a high level of competition, rapid technological changes, business entities consider investment activity as a necessary condition for business development. Financing the development of new areas of activity allows us to overcome the turbulence of the market, strengthen the market position, form new communications and partnerships.

The instrument of investment activity that determines the efficiency of enterprise management is business planning. Any business entity must clearly understand the prospective need for resources necessary for the implementation of an investment project: financial, material, labor and intellectual. It is necessary to study alternative sources of their receipt, evaluate the effectiveness of the use of resources in the process of implementing a business idea.

Mastering the technique of business planning is becoming an urgent task for organizing effective investment activity. In the practice of business planning, various areas of activity of a company implementing an investment project are interconnected: macroeconomics, management, marketing, planning, systems analysis, financial and economic analysis, high technologies, social and personal psychology, etc.

The use of knowledge in the field of business planning allows you to expand an existing business and successfully organize a new one, form the goals of the enterprise, ways to achieve them, and minimize business risks.

In economic theory, there are various definitions of a business plan. The most relevant from the point of view of the significance of a business plan as a document for sustainable business development is the following: “A business plan is a document that allows you to comprehensively state, substantiate and evaluate the possibility of implementing a business idea in order to create a new business or expand the activities of a functioning enterprises " (Sokolova, 2016, p.127) .

It should be understood that there are other goals for developing a business plan: attracting investors to finance an investment idea; attracting the interest of partners; assessment of the level of reality of achieving the desired results; convincing the company's management of the expediency of achieving the goals.

The business plan allows to solve the strategic and tactical tasks of the enterprise development, to substantiate the economic feasibility of the investment idea within the framework of the enterprise strategy; assess the resources required to achieve the goals of the enterprise, and determine their sources; choose the most appropriate project investment option among the alternative options; to form a team of employees to implement the investment idea.

A business plan is a clearly structured system of data on the goals and results of the project, organizational and financial support of the program for the implementation of the planned work,

measures to reduce the possible risks of implementing a business idea. The volume of the business plan, its composition and structure, the degree of detail depends on the specifics of the business idea; the size of the holding entity; the goals of the investment idea; general development strategy of the enterprise; growth prospects; the size of the estimated sales market; the state of competition in the market.

The purpose of the current work is to develop a business plan for an investment project based on the use of modern methods and technologies in order to increase the efficiency of the enterprise's production activities.

To achieve this goal, the following tasks were identified:

- study the theoretical and methodological aspects of business planning;
- to analyze the production and economic activities of the enterprise and the strategy of its development;
- to reveal the investment potential of the enterprise;
- analyze alternative directions of enterprise development, taking into account the state of the external environment;
- develop an investment project for the development of an enterprise and determine the level of its economic efficiency;
- determine the level of risk of an investment project and determine the directions of its reduction.

To carry out the practical part of this study, the following methods were used: statistical, analytical, economic and mathematical modeling, forecasting, computational and constructive, graphical, evaluative, balance sheet, monographic, discounting method, method of personal observation.

The subject of the research is production processes occurring in agricultural enterprises, modern technologies that make it possible to increase the efficiency of economic activity, environmental factors that affect the level of sustainability of the agricultural business. Based on the research carried out, it is necessary to determine the most relevant areas of enterprise development, sources of investment, methods of managing investment processes and business as a whole.

The object of the study of the present work was the agrarian enterprises of the Krasnodar Territory, and, in particular, UOH "Kuban".

The information base for the research was the official data of the Federal State Statistics Service of the Russian Federation and Krasnodarstat, the Ministry of Agriculture of the Russian Federation, the Ministry of Agriculture and Processing Industry of the Krasnodar Territory. We used the reporting materials of the educational and experimental farm "Kuban", information presented by speakers at scientific conferences, industry periodicals, the Internet information network, data obtained in the course of author's research.

This work includes 56 pages, 10 figures, 18 tables and 36 sources.

The purpose of the work is to develop a business plan for an investment project based on the use of modern methods and technologies in order to improve the efficiency of the enterprise's production activities. The object of the research is FSBEI Kuban GAU UOH "Kuban".

The following methods were used in the work: statistical, analytical, economic and mathematical modeling, forecasting, computational and constructive, graphical, evaluative, balance sheet, monographic, discounting method, method of personal observations.

The most significant results of the work: analysis of the situation on the market for poultry meat and meat products, analysis of the financial condition and investment policy of the Kuban GAU UOH "Kuban", development of an investment business plan for the production and sale of turkey meat at the enterprise and determination of the management process for its implementation.

The scope of the developed project is agricultural enterprises of the Krasnodar Territory.

The studies and recommendations presented in the work can be introduced into the practice of the enterprise and will allow the management of the Kuban GAU UOH "Kuban" to maximize profits.

1. Literature Review

A feature of the modern period of development of all branches and spheres of agro-industrial production is the need to accelerate scientific and technological progress based on innovative processes that allow for a continuous renewal of production based on the development of the achievements of science, technology and advanced experience. World experience shows that innovation processes, as a rule, are not only encouraged, but also regulated by the state through the formation of an appropriate policy and systematic organization of innovation.

The need to intensify innovation in all spheres of the national economy is envisaged in the decisions of various government and interstate bodies adopted in recent years on this problem. In particular, the following projects were developed: Federal Law “On Innovation Activity and State Innovation Policy”, “Concept of the State Innovation Policy of the Russian Federation for 2001-2005”, “Concept of Development of Innovative Processes in the Agro-Industrial Complex of Russia”. These documents emphasized that innovation policy is a powerful lever with which it is necessary to overcome the recession in the economy, ensure its structural restructuring, move from stabilization to the stage of scientific and technological development and fully meet the country's needs for a variety of competitive products. In these regulatory documents, the main provisions on the formation and principles of implementation of the state innovation policy are of a general nature. In practice, the aforementioned provisions and principles for the development of innovative processes are implemented in specific sectors and spheres of the country's national economy, taking into account their organizational, economic, technical, technological and other features. Only under these conditions, the development and implementation of innovation policy will achieve the desired result and have a positive impact on the development of the country's economy.

The experience of the developed countries of the world in recent years convincingly shows that the increase in the efficiency of agro-industrial production is achieved mainly due to the intensification of innovative activities, that is, the successful functioning of the scientific and technical sphere of the industry. The end result of innovation is the creation of innovations and their development directly in production, which will contribute to the systematic and increasingly progressive organizational, economic, technical and technological renewal of agro-industrial production and increase its efficiency.

Unfortunately, the successful development of these processes in the Russian agro-industrial complex has not yet been observed. In the agricultural sector, an unfavorable macroeconomic situation persists, including in the scientific and technical sphere of the industry, which, combined with the extremely low investment opportunities of agricultural producers, significantly limits the conditions for enhancing innovation in the agro-industrial complex. Advanced production experience and scientific research indicate that the further development of innovation processes in the agro-

industrial complex is impossible without a deep and comprehensive analysis of the current state of innovation in the industry, which would make it possible to assess and develop a real innovation policy, the active implementation of which will ensure scientific and technological progress in agro-industrial production.

Baldin (2017), told that the organization of scientific research in this direction requires a clear understanding of the essence and significance of innovative processes and the organizational and economic activities of their implementation in agro-industrial production. At the same time, it is necessary, first of all, to highlight the main directions of the formation of the methodology for researching innovation in the agro-industrial complex, which include: clarification and further development of the theory of innovation in the agricultural sector of the economy; development of the organizational and economic foundations of innovation; development of a methodology for assessing innovation; issues of forecasting innovative activities; formation of the market for innovative products. Within these areas, a clear delineation of specific problems and questions for their practical solution in the process of innovation is of certain importance. In particular, the development of the theoretical foundations of innovation provides for clarification of the essence of the innovation process, the concept of innovation, their goals and objectives in relation to agro-industrial production, identification of types of innovation in the agro-industrial complex in market conditions, clarification of the essence and classification of innovation as an economic category in relation to various branches and spheres of agro-industrial production, defining the life cycle of innovation and forecasting its timing.

The theoretical part of the study also includes the use of the classical heritage of leading scientific schools (including foreign ones) to develop theoretical and methodological aspects of innovation, as well as defining the role and importance of science and personnel training for the development of innovation in the agro-industrial complex, theoretical substantiation of the formation of an innovation market in the agro-industrial complex, determination of priority areas of innovation in the main sectors and spheres of agro-industrial production. In this regard, for the agro-industrial complex, as one of the most important sectors of the national economy, which has fundamental features in comparison with other sectors, it becomes necessary to generalize and evaluate domestic and foreign experience, as well as to develop priority, most effective areas of innovation and their organizational and economic foundations in the agricultural industry of the Russian Federation.

Vishnyakova (2017), think that the complex nature of innovations, their versatility and a variety of possibilities of use require the development of criteria for their classification. Classification of innovations means the distribution of innovations into a group according to certain criteria in order to achieve a set goal.

The original source of research in the field of mastering innovations is their scientifically based classification. The construction of a classification scheme of innovations begins with the definition of classification features. The classification feature is a distinctive feature of this group of

innovations, its main feature. A scientifically based classification of innovations makes it possible to clearly define the place of each innovation in their general system and the distinctive (special) characteristics of this innovation. This creates an opportunity for the effective use of certain techniques of innovation management - techniques that correspond only to this group of innovations. A scientifically based classification also allows you to rationally organize the innovation process.

The classification of innovations can be carried out according to different schemes, using different classification signs. The classification scheme of innovation includes the type and form of innovation. The type of innovation is a collection of individual innovations, brought together in a single group according to certain signs (signs), which make it possible to distinguish this group from other groups. For example, in innovations identified by the target basis, the types of innovations are crisis innovation and development innovation; in innovations distinguished by their appearance, the types of innovations are product and operation, etc.

The type of innovation includes different forms of innovation. A form of innovation is a group of innovations united by a single way of being or by a single essence of any innovation. This is a new technique, a new product, a new insurance product, a new tourist product, a new production technology, etc.

The scientific literature offers various options for classifying innovations. Among Western economists who have studied these problems, one ca (Bolodurina, 2016)n distinguish the German scientists Mishura (2016), Kazakova (2015), the English economists Fedorova (2014), Clarke and Sweet (2017). The issues of classification of innovations have also been studied quite deeply in the works of Russian scientists - Bolodurina (2016), Golovko (2016), Dzhurbina (2015), Karataeva (2018), Ivanov (2016), Maslennikov (2014), Mumladze (2016), Selyuk (2015).

The complex nature of innovations, their versatility and a variety of possibilities of use require the development of criteria for their classification. Classification of innovations means the distribution of innovations into a group according to certain criteria in order to achieve a set goal.

The original source of research in the field of mastering innovations is their scientifically based classification. The construction of a classification scheme of innovations begins with the definition of classification features. The classification feature is a distinctive feature of this group of innovations, its main feature. A scientifically based classification of innovations makes it possible to clearly define the place of each innovation in their general system and the distinctive (special) characteristics of this innovation. This creates an opportunity for the effective use of certain techniques of innovation management - techniques that correspond only to this group of innovations. A scientifically based classification also allows you to rationally organize the innovation process.

The classification of innovations can be carried out according to different schemes, using different classification signs. The classification scheme of innovation includes the type and form of innovation. The type of innovation is a collection of individual innovations, brought together in a single group according to certain signs (signs), which make it possible to distinguish this group from other groups. For example, in innovations identified by the target basis, the types of innovations are crisis innovation and development innovation; in innovations distinguished by their appearance, the types of innovations are product and operation, etc. The type of innovation includes different forms of innovation. A form of innovation is a group of innovations united by a single way of being or by a single essence of any innovation. This is a new technique, a new product, a new insurance product, a new tourist product, a new production technology, etc.

The scientific literature offers various options for classifying innovations. Among Western economists who have studied these problems, one can distinguish the German scientists Mensch (2015), Kleinknecht and Coombus (2014), the English economists Freeman (2016), Selyuk (2015). The issues of classification of innovations have also been studied quite deeply in the works of Russian scientists - Bolodurina (2016), Golovko (2016), Dzhurbina (2015), Karataeva (2018), Ivanov (2016), Maslennikov (2014), Mumladze (2016), Selyuk (2015). Deeva (2014), Sergeev (2015), Yakovlev (2016).

Selyuk (2015) proposed to divide innovation into two main classes: technical and organizational. Technical innovation refers to a new product, new technology, or new service. Technical innovations can also be classified by their knowledge intensity or by the amount of capital costs and their payback periods. Organizational innovations include new methods and forms of organizing various types of enterprise activities. So, innovations in the field of production organization include new methods of marketing and sales. The importance of financial innovation is growing. Opportunities for innovation of a structural or strategic nature expand when the competitive base, segmentation or market boundaries change. Deeva (2014) classifies innovations according to the following characteristics: By prevalence - sporadic and diffuse.

Diffusion is the spread of an innovation that has already been mastered in new conditions or at new objects of implementation. Due to diffusion, there is a transition from a single introduction of innovation to innovation on the scale of the entire economy. In place in the production cycle - raw materials, providing (connecting) and grocery. By succession - replacing, canceling, returnable, opening, reproving's. By coverage of the expected market share - local, systemic, strategic; In terms of innovative potential and degree of novelty, they are radical, combined, and perfecting.

Based on the analysis of various approaches to the classification of innovations, it is proposed to identify the main groups of innovations according to the following features: In terms of significance (in terms of the degree of radicality) - basic (radical), improving, pseudo-innovations (rationalizing, modifying). This classification is based on the schemes of Mensch (2015) and Freeman (2016), who take their economic effect as a criterion for subdividing innovations. Basic innovation refers to

fundamentally new products that create the basis for the emergence of new industries and the formation of new markets. In agriculture, such innovations include a new variety, a new breed. Improving is related to significant improvement of existing products, as well as associated with the introduction of new or significantly improved methods of organizing production. Pseudo-innovations are innovations that are implemented in mini-changes (minor improvements in products, technological processes or organization methods that do not have a significant effect on changing the basic parameters and properties of a product, process), are rather associated with improvement, modification, and not with technical progress. Such innovations can also include the development of products known on the market, but new for a given enterprise (for example, zoned varieties).

Chernyak (2015) offers a quantitative aspect of this classification. So, it is proposed to include innovations that provide a twofold increase in efficiency (200%) as basic ones. The authors classify innovations as actual ones that provide efficiency from 160% to 199%, as improving ones - from 131 to 160%, and innovations that provide an increase in efficiency up to 130% are proposed to be considered pseudo-innovations. According to the direction of influence on the production process (Mumladze, 2016, Kazakova, 2015, Baldin, 2017 and others), innovations are distinguished - replacing, rationalizing, expanding. Expanding innovation aims to penetrate deeper into the various industries and markets of existing underlying innovations. Rationalizers are essentially close to modifications. Substitutional innovations are intended to replace one (old) product or technology with another (new) one based on the performance of the same functions.

The Czech economist Vishnyakova (2017) proposed a classification according to the depth of change in the production process:

- Zero-order innovation - regenerating the original properties of the system, maintaining and updating its existing functions.
- First-order innovation is a change in the quantitative properties of a system.
- Second-order innovation is a regrouping of the constituent parts of a system in order to improve its functioning.
- Third-order innovations are adaptive changes in the elements of the production system in order to adapt to each other.
- Tier 4 innovation - a new option, the simplest qualitative change that goes beyond simple adaptive change; the initial signs of the system do not change, that is, there is some improvement in their useful properties.
- Fifth Tier Innovation - New Generation; all or most of the properties of the system change, but the basic structural concept remains.
- Sixth order innovations are a new type of qualitative change in the initial properties of the system, the initial concept without changing the functional attribute.
- Seventh order innovations are a new kind, a higher change in the functional properties of a system and its part, which changes its functional principle.

This classification repeats many of the features discussed above, but at the same time allows tracing a consistent transition from low-order innovations to higher-order innovations.

A lot of authors, including Golovko (2016), Dzhurbina (2015), Karataeva (2018), Mishura (2016), among others, classify innovations by the scale of distribution - small, medium, large, regional, transnational, transcontinental (applied in one industry and applied in all or many industries). Fedorova (2014), Startseva (2015) and others consider the classification according to the role in the production process (proposed by V. Van Deijn), where innovations are subdivided into basic and complementary ones. Major product innovations create new markets and underpin new industries, complementary product innovations expand the market in their respective industries. Major technological innovations form the basis of large technological systems, complementary technological innovations develop existing basic technologies.

Yakovlev (2016), Sokolova (2016) and Nechaev (2014) consider division according to the degree of novelty - carried out both by technological parameters and from market positions. In terms of technological parameters of the innovation are divided into:

a) grocery - the use of new materials and semi-finished products, and also components, getting fundamentally new functions (fundamentally new products);

b) process rooms - new production technology, higher level of automation, new methods of organizing production (in relation to new technologies).

By type of novelty for the market stand out: new products for the industry in the world, new products for the industry in country, new products for this enterprise (group of enterprises).

Startseva (2015), Kazakova (2015), Baldin (2017) and Golovko (2016) consider the division of innovations according to the following classification criteria:

i) by subject and area of application - innovation-product, innovation-process, innovation-service, innovation-markets;

ii) for reasons of occurrence: (1) reactive innovation - ensuring the survival of the enterprise (firm), as a reaction to new transformations carried out by competitors; (2) strategic innovation - the implementation of which is proactive character in order to obtain competitive advantages in the future;

iii) by areas of application - economic, management, organizational, social, industrial, trade, etc.;

iv) according to the degree of intensity - "boom", uniform, weak, massive;

v) by the pace of innovation - fast, slow, decaying, increasing, uniform, abrupt; in terms of effectiveness - high, low, stable;

vi) by the effectiveness of innovations - economic, social, ecological, integral.

According to the target feature - crisis (to address immediate, current task); development (strategic need to solve the problem future).

An external classification feature indicates the form of implementation innovation. According to the external classification criterion, innovations are in the form of product and operation.

According to Bolodurina (2016), Dzhurbina (2015), Tushkanov (2016), innovation in the form of a product is the result of an innovation materialized in the form of a thing (machine, product, raw material, etc.). An innovation in the form of an operation (process innovation) is the result of an innovation aimed at the implementation of a certain action and expressed by certain rules, instructions, conditions of action, etc. These innovations include production technology, public services, forms of trade, financial transactions, bank account agreements, acquisitions of other enterprises (merger), market capture operations, etc.

The structural classification feature shows for which branch of the national economic complex or for which sphere of economic relations this innovation is intended. It determines the group composition of innovations as a single sphere of economic interests of the state. According to the structural classification criterion, innovations are production and trade, socio-economic, financial, management.

Fedorova and Ermolenko (2014) adopted industry origin as the innovation unit criterion. With regard to various industries and spheres of the national economy, the essence of innovation does not have fundamental differences, while the nature and direction of the innovation process in them may differ significantly. In particular, the innovation process in the agro-industrial complex has its own specifics, due to the peculiarities of agro-industrial production, and, before all, its main component is agriculture.

When classifying innovations, the authors used the sectoral principle, that is, the distribution by industry or spheres of activity in the agro-industrial complex. The most compact and at the same time quite informative is the distribution of scientific and technical developments in five main areas of the agro-industrial complex: economics, organization and management; agriculture and plant growing; animal husbandry and veterinary medicine; mechanization, electrification and automation; storage and processing of agricultural products and raw materials (Table 1).

The above classification of innovations indicates that each industry or sphere of agro-industrial production includes a certain list of innovations, associated mainly with their functional characteristics. For example, in the field of economics, organization and management, the classification of innovations is based on such organizational and economic production relations, which correlate with the efficiency of the agrarian economic process.

Table 1. Main innovations mastered in agro-industrial production

Economics, Organization and Management	Agriculture and plant growing	Animal husbandry	Mechanization and automation	Processing industries
Implementation of agrarian policy and development strategy of the agro-industrial complex. State regulation in the agro-industrial complex. Organizational and economic mechanism of the agricultural market. New models of enterprises, corporate parties and integrated forms in the agro-industrial complex. New forms of labor organization. New methods of labor motivation in the agro-industrial complex. Rationalization of the use of production potential. New forms of maintenance and provision of resources for agro-industrial complex. Financial recovery of enterprises. New forms and systems of management in the agro-industrial complex. Formation of the labor market in the agro-industrial complex. Development of the social and labor sphere of the village. New forms of scientific and industrial integration in the agro-industrial complex. Development of innovative processes in the agro-industrial complex.	New varieties of agricultural crops. New technologies for the impact of agricultural crops. Measures to improve fertility, productivity and sustainability of agriculture. New fertilizers and their systems. Scientifically - based farming systems. New plant protection products. Plant growth regulators. Monitoring of land use. Biologization of agriculture. Greening agriculture. New seed production systems. Intensification of the use of irrigated land.	New breeds, types and crosses of highly productive animals and birds. Creation of highly advanced breeding herds. Preservation and improvement of the gene pool in animal husbandry. Biological systems for breeding animals. Mastering new advanced industrial technologies in animal husbandry. Efficient use of feed resources. Organization of intensive feed production. Mechanization, automation and computerization in livestock farms. Increasing the biological potential of animal productivity. The system for ensuring the sustainability of veterinary welfare. Environmentally friendly and technologically waste-free technologies in animal husbandry. Creation of new types of transgender animals.	Use of new and improved technologies. Use of combined machines. Environmental safety system. Ensuring safety and comfort when using technology. Application of unified units and parts. Organization of the creation of MTS. Delivery of equipment for leasing. Creation of a dealer service. Organization of repair and restoration activities. Formation of a personnel system for engineering and technological support of the agro-industrial complex.	The introduction of new methods of processing raw materials. Obtaining new food products with desired properties. New resource-saving food production technologies. Use of secondary and unconventional raw materials. Increasing the nutritional and consumer value of food products. Product quality control methods. New recipes for baby food, enriched with vitamins and microelements. New technologies for food storage.

Source: Author's own elaboration based on Fedorova and Ermolenko (2014).

In the main sectors of agriculture, plant growing and animal husbandry, the classification scheme of innovations is primarily focused on increasing the productivity of plants and animals, as well as the constant preservation of the ecological balance in the industry. In the field of mechanization and electrification of production, the main purpose of the classification grouping of innovations advocates the creation of effective forms and methods of applying machine technologies in agro-industrial production and formation of an appropriate technical infrastructure. Innovations in the branches of processing and storage of agricultural products are combined into classification types for the purpose of both technological improvement of the production process and the creation of new types of food products. The list of innovations being mastered in various branches and spheres of the agro-industrial complex to a certain extent characterizes the existing directions of innovative development in this industry or production sphere.

A survey of agricultural enterprises that are among the most advanced enterprises in Russia shows that traditionally first place among the innovations are new or improved technologies for the production of agricultural products. The second and third places are occupied by new varieties and hybrids of agricultural crops, as well as new crosses of poultry, lines and animal breeds. Further - deep processing of products and the introduction of new technology, mechanisms and equipment.

The structure of mastered innovations in crop production is examined in more detail on the example of data obtained from 35 institutes of the Russian Agricultural Academy of crop production. New varieties and hybrids prevail here (81.7%), including the clear majority for grain crops (analysis shows that new varieties and hybrids significantly productive, more resistant to stressful situations and responsive to improved cultivation technologies, fertilizers, irrigation, etc.).

Studies have shown that the vast majority of enterprises adopting technological innovations achieve significant improvements in production and economic performance. The high level of complexity of agro-industrial production as a system and the specified features of the innovation process in it predetermine the originality of the approaches and methods of its implementation.

In particular, Chernyak (2015) in his works indicated two main ways impact on the spontaneous evolution of agriculture: first, on changes in economic conditions with the help of economic instruments state policy and, secondly, - influencing the development of agriculture through influencing the will and mind of the rural owners - producers by developing their creative research and rationalization on a scientific basis. These provisions are more relevant than ever in modern conditions when considering the essence of the innovation process and its organizational foundations.

The innovation process in agriculture is different a variety of organizational forms that have fundamental differences in the nature of financing and economic basis functioning. Significant differences in innovative formations and on the main purpose of functioning: from the development

of a technical and technological idea to its scientific study, implementation (implementation) and provision of information and consulting services.

The difference is also very significant in terms of the scale of operation. of these formations: from the international and federal level to the level of one agricultural enterprise.

Before the start of privatization processes in the economy, small forms of scientific and technical profile were structural subdivisions government organizations and enterprises. Later, in the course privatization company began to emerge private innovative enterprises. Since the second half of 1992, due to a sharp deterioration of the economic situation in the country, research and promotional activities of scientific departments of non-state forms of ownership began to noticeably curtail and be replaced by trade intermediary.

Departure from the principles of administrative management of the economy opens up prospects for development and experimentation with organizational forms, increasing the variety of alternative options for the implementation of a particular scientific and technical society. As the economy becomes more market-oriented, opportunities increase development of effective organizational forms of innovation processes. Research and development experience innovative processes allows, in relation to the agro-industrial production, highlight their main stages: the creation of innovations, their distribution and development by commodity producers.

The most important and longest stage of an innovative process is to create innovation. At this stage, at the very beginning, an idea is born (the conception of a future innovation), which is practically expressed in a deep analysis of the study of the problem not only in conditions countries, but also abroad and especially in the most developed countries. Sub-stage of fundamental and applied research and development, despite the fact that it is associated with a certain risk of obtaining unsatisfactory results, is important and necessary in the process of creating scientific and technical products and practical implementation of the conceived idea.

Development is considered complete when the plan is fully completed. Research and a certain result is obtained. Moreover, she must pass a production test. In particular, for new varieties of crops by this stage is a state variety testing, in relation to new equipment - approbation of it at machine testing stations, and to new technologies or individual technological methods - checking them in special technology centers or pilot production facilities.

Along with the production check, the design stage is underway completed developments as objects of intellectual property, with the granting of patents and licenses, which coincides with the transformation of these advances into specific innovations. At the same time, scientific development becomes innovation when it is recommended for mass introduction into production. And in this case, she must go through the stage of preparation for development, from which, often, the effectiveness of its use may depend. As a rule, responsibility for the stage of creating an innovation is fully borne

by scientific institution and the effectiveness of its functioning is usually judged by the quantity and quality of innovations and their development in production.

In contrast to the creation of innovations, the stage of their diffusion (diffusion) covers different directions and specific channels of their penetration into agro-industrial production, among which an important place is occupied by: functioning of the management bodies of the agro-industrial complex, training and retraining cadres of managers, specialists and workers of mass professions, as well as development of outreach activities. Unfortunately, in modern conditions do not pay due attention to this stage. In further, with the development and improvement of information technologies, conditions must be created so that commodity producers learned about innovation not only from the production experience of advanced enterprises, but also directly from science at the stage of their creation. So is done in all developed countries. More complete information not only about recommended for mastering innovations, but also about the prospects for their creation, as practice shows, significantly expands the opportunities for choice and allows to increase the innovative activity of commodity producers.

Successful development of innovative processes at the stage diffusion of innovations largely depends on information the security of the industry. The authorities should take responsibility for this agro-industrial complex management and scientific organizations - creators of innovations. They are straight and are directly interested in prompt informing commodity producers about created and created innovations.

At the final stage of mastering innovations, the success of this process to a large extent, and, above all, will depend on the commodity producers. In this regard, it is very important to have a sufficiently clear organizational and economic mechanism for the development of innovations in production in which the main place should be allotted to the contractual relations between the producers themselves, both with the creators of innovations, and with innovative formations, to which it is currently possible include information and consulting services (ICS). Between information and consulting service and directly by themselves there is a close relationship between commodity producers, since its activities are mainly aimed at serving them.

The assimilation of innovations by commodity producers of the agro-industrial complex is gradually creating conditions for accelerating scientific and technological progress in the industry. Moreover, in production creates a certain effect from the development of innovations, expressed in additional output per unit area, reducing costs per unit of production and obtaining additional income. Ideally, this total additional income should exceed the costs of creating and mastering innovations. In this case it is necessary take into account that the cumulative additional effect obtained directly in production from scientific and technological progress, not enough to finance the scientific and technical sphere of the industry.

Therefore, in all countries, the scientific and technical sphere is financed mainly from the state budget. And the more it stands out funds for the development of science, the higher the rate of

development of scientific and technical progress. This pattern has been stable over the last century can be seen, especially in states with a fairly high level of development of scientific and technical potential.

Allocation of the stages of the innovation process is conditional and refers to the process itself, not to its organization. If we consider this process from the point of view of its organization, then in addition to the stages, the organizational blocks of innovation should be distinguished. In organizational plan in innovation, four main blocks, interconnected (Figure 1).

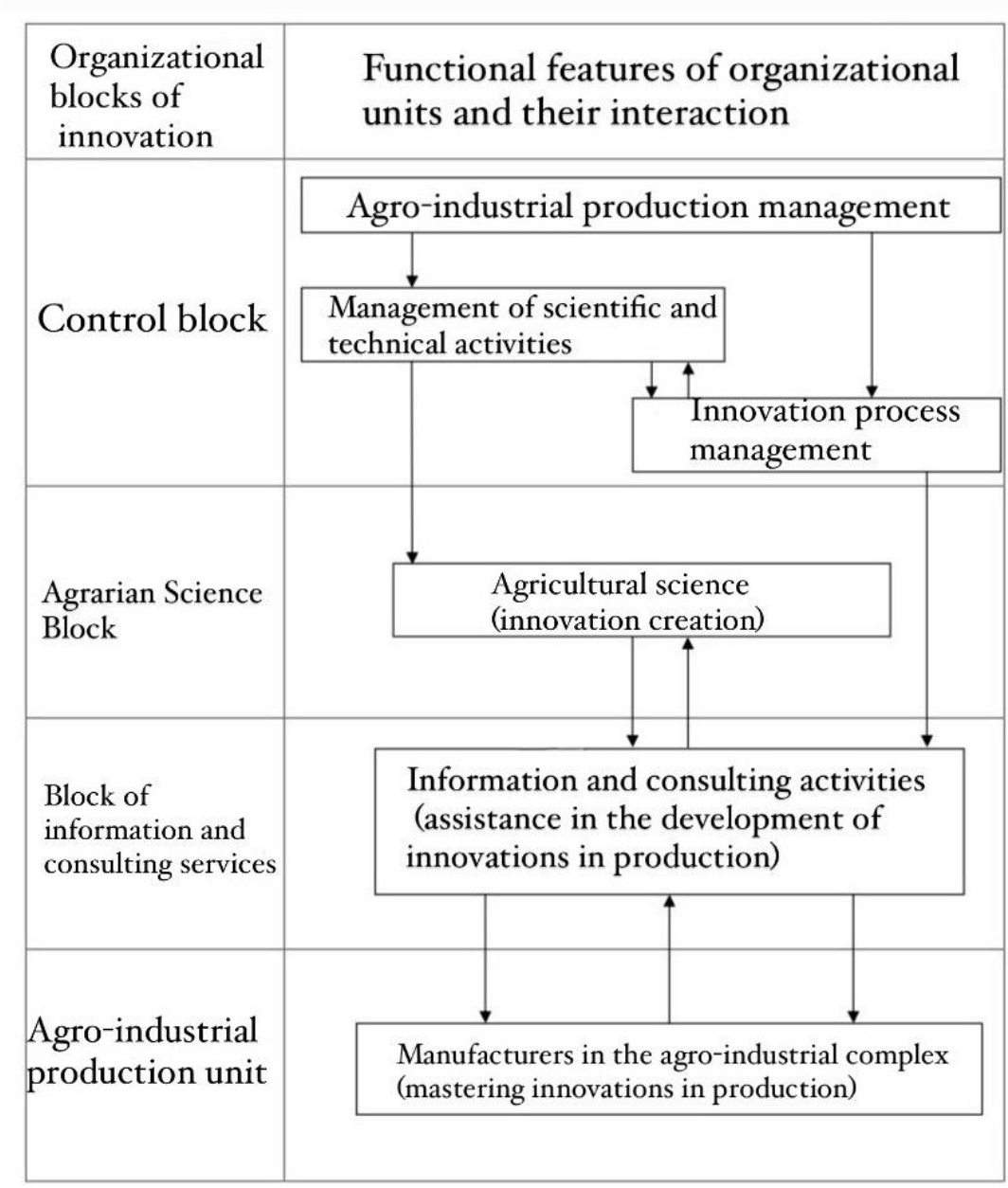

Figure 1. Schematic diagram of the organization of innovative activities in the agro-industrial complex

Source: Author's own elaboration

The general block for managing innovation in the agro-industrial complex, presented in the schematic diagram, contains a control block for agro-industrial production, a control block for scientific and technical activities and a control block for an innovative process. The control unit for agro-industrial production is represented by the Ministry of Agriculture with access to the Vice-Premier of the Government of the Russian Federation, and the control unit for scientific and technical activities is represented by the Russian Academy of Agricultural Sciences.

Experience shows that a clear performance of a function largely predetermines the effectiveness of innovation in the industry. At the same time, the basis for managing the innovation process is a clear delineation of functions and powers both at the federal and regional levels, the main of which is the timely allocation of funds for agricultural science and ensuring a constant stream of high-quality innovations for their development in production. To a certain extent, the effective activity of agrarian science in creating innovations, as well as the successful activity of the information and consulting service of the agro-industrial complex in promoting their development in agro-industrial production, will depend on the clear activities of the managing block.

Agricultural science is a special closed organizational unit of innovation, with the goal of constantly conducting fundamental and applied research, on the basis of which to create innovations, develop a complex of knowledge and recommendations for their adaptation to specific natural and economic conditions to ensure the acceleration of scientific and technological progress in agro-industrial production. Domestic agricultural science, in addition to conducting constant research and creating innovations, must interconnect with similar research in other countries and thereby maintain a high level of technical, technological, organizational, economic and other knowledge.

The organizational unit of information and consulting activities is responsible for the dissemination of innovations and assistance in their development in production. The center of this block is an information and consulting service, the function of which, along with other educational organizations, is to distribute innovations and informing producers about everything new in the organization and technology of agro-industrial production. The functions of this block also include training and retraining of personnel, propaganda through the management bodies of the agro-industrial complex of systematic information manufacturers on all topical issues of agro-industrial production, including the innovations being created. The Information and Consulting Service uses all forms of work with manufacturers, maintaining the closest relationship with scientific and educational organizations in order to facilitate the acceleration of scientific and technological progress in agro-industrial production.

The direct assimilation of innovations in production, as the final stage of the innovation process, takes place within the organizational forms of the commodity producers themselves and, to a large extent, organizationally, it will depend, first of all, on them. The innovative activity of commodity producers will largely determine the success of this stage of innovation. In this

organizational block, not only the goal, but also the results of the innovation process are visible, and its effectiveness will depend on the coordination of actions of both the information and consulting service and the commodity producers themselves, who in this case should be interested in the success of mastering the innovation in production. Between the advisory service and there is a close relationship between agricultural producers, since its activities are mainly aimed at serving them.

Considering the functional features of organizational blocks and their interconnection, it is necessary to emphasize the continuity and unity of the entire innovation process in the agro-industrial complex and the implementation of innovative activities. The successful functioning of all these blocks under a single coordinating authority of the Ministry of Agriculture can ensure the systematic development of innovative activities in the industry.

Thus, the improvement of the system of organizing innovative activities in the agro-industrial complex should be comprehensive, cover the entire range of aspects of this activity in the agri-food sector - from research and development, experimental verification of scientific results to implementation in production and evaluation of efficiency. An increase in the validity and efficiency of the adoption of measures of state influence in the field of organizing innovative activities in the agro-industrial complex could be facilitated by highlighting this problem as one of the priority areas of scientific research on agricultural problems.

This will give a certain impetus to enhance innovation in the industry, which will accelerate scientific and technological progress and improve the efficiency of agro-industrial production.

2. Development of a project for the production and sale of turkey meat in the educational and experimental farm "Kuban"

2.1 Project summary

Since the market for turkey meat is practically empty, it is advisable to invest in this area of activity. The purpose of the business plan is to provide convincing arguments to support the project, determine the sequence of business operations for the development and implementation of the project, build a system of arguments confirming the uniqueness and efficiency of the project for investment.

In the process of developing a project, it is necessary to solve a number of tasks:

- substantiate the uniqueness, relevance and competitiveness of products;
- to determine the dynamics of development of poultry products and, in particular, turkey meat in Russia;
- develop a marketing strategy, determine the sequence of the production process using modern methods and technologies;
- develop a trade mark;
- evaluate the effectiveness of investments;
- determine the risk of the project and develop measures to reduce it.

Turkey meat has unique taste characteristics, has a low calorie content and maximum protein content, and has no contraindications to use. In many respects, the products are superior to their counterparts on the Russian market. In the turkey meat market, competition is low, the products are produced by several large farms and households. At the same time, the market for turkey meat is growing dynamically, which is a signal for increasing investment activity.

The development of a brand, the development of an effective marketing program, the conclusion of long-term contracts with wholesale distributors, such as LLC Yugagroopt and Individual Entrepreneur Dolgarev, will allow placing products on the shelves of shops in the Krasnodar Territory and beyond and making it recognizable.

The infrastructure of the enterprise makes it possible to develop production, it is supposed to use the auto-weighing, sanitary block, disinfection block, office block, veterinary clinic and slaughterhouse available in the educational and experimental farm "Kuban". The project will be financed at the expense of the enterprise's own funds and a loan from LLC Rosselkhozbank. The enterprise will be able to finance this project from the proceeds received.

Calculations have shown that the project for the production of turkey meat is effectual. The net present value was RUB 47,090 thousand, the return on investment index was 7.08, the internal rate of return was 130.5%, and the discounted payback period was less than 1 year. In general, the

project for the production and sale of turkey meat in the training and experimental "Kuban" is an effective and attractive investment business.

2.2 Product Description

Turkey meat is one of the healthiest foods around. It has excellent taste, which distinguishes it favorably from other types of meat. Turkey meat is delicious, tender, juicy and popular. Due to its low content of insoluble fats, it is easily digestible and helps prevent many diseases. It has a beneficial effect on the condition of blood, bones, hair and nails. It is distinguished by a small amount of fat, a balanced amount of fatty acids, and a low cholesterol content.

Turkey meat is considered one of the most valuable protein products, has high dietary properties and taste. This meat is much easier to digest in comparison with other protein products, does not cause a feeling of heaviness in the stomach.

Turkey meat is rich in trace elements such as calcium, phosphorus, potassium, iodine, magnesium, iron, manganese and many others. They contribute to the normal functioning of all systems of the human body. 100 g of turkey meat contains easily digestible iron - 2.2, magnesium - 27, which is 7% of the daily value, selenium - 0.03, which is 68% of the daily value, cholesterol - 74. Phosphorus in turkey meat contains the same amount, how much in fish. It contains vitamins necessary for the human body, such as PP, B2, B6, B12. The daily norm of vitamin PP is contained in just one serving of turkey meat, while its deficiency causes a disruption in the activity of the cerebral cortex, vitamin deficiency, a general decrease in the level of intelligence, nervous and mental disorders.

Turkey meat is the only type of meat that does not cause allergies, making it ideal for baby food. It is called white because white muscle fibers predominate in the breast and wing meat. It is digested faster than other types of meat, it is more fully assimilated. The meat of the drumstick and thigh is more saturated with iron and contains more fat than white meat. Turkey by-products - stomach, liver, heart and neck - are not inferior in nutritional value to meat, in terms of the content of vitamins they even surpass it. The liver is especially rich in vitamins.

Turkey meat has significant advantages over other meats. Consumers primarily appreciate its low calorie content, which is important in the current trends towards healthy eating. 100 grams of turkey meat contains 120–180 kcal, pork - 320–350 kcal, beef - 270–330 kcal, veal - 220–250 kcal, and lamb - 320–360 kcal.

The choice of turkey breed is of great importance for obtaining high results of investment projects. Analysis of the breeds presented on the Russian market, recommendations of experts in the field of poultry farming allowed us to choose a breed that provides a high level of efficiency - Bronze broad-breasted.

Figure 2. Breed of turkeys Bronze broad-breasted

Source: https://putakputak.com/poultry/turkeys/what-is-bronze-turkey-breed-classification-behavior-and-habitat/

Bronze broad-breasted (Figure 2) are quite large representatives of their species. Males reach 10-15 kilograms, females - 7-9 kilograms. The turkey breed was bred in America, but it took root well in Russia and is actively used for industrial breeding. The breed was bred only for keeping in cages and poultry houses. Bronze broad-breasted turkeys can produce up to 120 eggs per year, which distinguishes this breed from many others. The average fertility of eggs is 80%. Conclusion of turkeys - up to 75% The breed is distinguished by its early maturity; it is possible to slaughter at the age of 20-25 weeks. At this time, males weigh 13-15 kilograms, females 7-8 kilograms.

The main area of use of turkey, according to analysts' forecasts, is meat processing. Most of the turkey meat will be sold in the form of sausages, ham, sausages. A significant part is in the form of chilled frozen semi-finished products. Raw turkey meat is perishable, so a careful approach to organizing the process of its production, storage and transportation is required. The Russian Federation has adopted GOST 31473-2012 “Turkey meat (carcasses and parts thereof). General technical conditions ". The production process will fully comply with this GOST, the adopted technological instructions for sanitary and microbiological control of production, storage and transportation of products will be used.

In addition, the regulation "On requirements for poultry meat, products of its processing, their production and circulation" will be applied. This will make it possible to produce a quality product that will be in demand by both turkey meat processing companies and end consumers. This will ensure the required level of competitiveness of the products in the Russian market, and will distinguish them from analogues on the shelves.

2.3 Turkey meat production technology

The biological characteristics of turkeys make special demands on the keeping of poultry and its breeding. They determine the choice of breed, technology, method of drinking, feeding, microclimate requirements, etc.

Since turkeys are susceptible to diseases, do not withstand hypothermia, they should be raised using modern technologies that provide for the protection of the livestock from the effects of adverse environmental factors. Poultry of different sex and age groups should be isolated, which ensures the safety of the livestock. On small farms, such conditions cannot be ensured, both due to their limited size and due to the difficulty of creating the necessary microclimate. Protection from viral diseases, veterinary control, and the necessary hygiene can only be ensured in modern large poultry farms. Success requires careful preparation for planting. Before purchasing and launching livestock, you should thoroughly wash and disinfect the premises, provide adequate heating, ventilation, access to water and feed, and the presence of living space. The enterprise plans to use two methods of poultry keeping. For adult livestock - traditional outdoor housing, for young animals - an innovative way of keeping in cage batteries.

The keeping of young animals in cage batteries has been tested in LLC "Turkeys of Stavropol" and has shown good results. The technology was developed by OJSC GSKB Pyatigorsk, LLC Stimulink, LLC Mikroel, includes cage batteries KBI-2.00.000, a microclimate system, feeding, drinking, dropping for fattening turkey pouts of domestic crosses for meat without dividing by sex. Three-tier cage batteries can significantly reduce production costs compared to lifelong outdoor poultry housing. Figure 3 shows a general view of cell batteries. The safety of turkey poults with this method reaches 96%.

Figure 3. Cellular content of young turkey

Source: https://xn--80adbjmgh5bmol.xn--p1ai/raznoe/soderzhanie-indeek-v-kletkah-kletochnoe-soderzhanie-indeek-domashnyaya-ferma.html

When cage keeping, bedding material is not used, which significantly reduces costs, improves the animal veterinarian conditions for keeping poultry, and reduces the costs of veterinary prophylaxis. The number of poultry that can be served by one worker increases, and thus labor costs are reduced. In the new generation cage batteries, the main technological processes are mechanized and automated: feeding, drinking, veterinary prophylaxis, microclimate, litter removal. An important factor is the ability to completely close the production cycle of turkey meat on Russian producers: domestic turkey breed, domestic feed, veterinary products, Russian technology of poultry keeping. This reduces the risk, since the problem of interaction with foreign suppliers is eliminated, there is always an opportunity to timely organize technological maintenance of equipment.

For heavy meat breeds, to which the Bronze Broad-breasted turkey breed belongs, the best way to keep adult poultry for fattening is the outdoor method of keeping. With this method, the bird experiences less stress, moves freely around the body. The cage keeping of an adult livestock leads to physical stress, the bird often breaks its wings, which worsens its condition and inhibits weight gain. The outdoor keeping of large poultry has a number of important features that should be taken into account in practice. The room should be well lit, heated, and have a forced air ventilation system. The housing for keeping turkeys in the floor is shown in Figure 4.

Figure 4. Housing for keeping turkeys on the floor

Source: https://fermer.blog/bok/pticevodstvo/indyuki/soderzhanie-indyukov/4609-soderzhanie-indjukov-zimoj.html

Since bedding materials are in short supply, it is possible to use metal mesh floors and polyethylene perforated floors in combination with bedding. In such premises, mechanized removal of droppings is easily used. When growing turkey poults in poultry houses on a litter, floors with a hard surface are used, most often concrete, adapted for regular washing and disinfection.

On the dry floor of the poultry house, a layer of 15 cm is laid, which serves as a shock absorber and helps to maintain the health of the bird. The litter protects turkeys from the cold floor, absorbs droppings, and should have a moisture level of no more than 25%. The bedding can be shavings, sawdust of soft wood, straw, flax and hemp fire, sunflower seed husk. There will be a complete litter change for each batch of birds.

When keeping turkeys, consider the large size of the birds and the need to create adequate feeding and drinking space. For the breed that will be kept at the enterprise, the feeding area is 4 cm per 1 head, the drinking area is 2 cm per 1 head. The best way to install adjustable drinkers and feeders is at the level of the bird's back. As the bird grows up, the drinkers are raised, which makes it easier to consume water and feed and reduces their wastage.

Turkeys are demanding on the amount of water and its quality. It must be clean and decontaminated. The biological feature of a turkey is that it consumes twice as much water as feed. It is possible to obtain high-quality meat and ensure the required level of increase in poultry live weight only if the control of the availability of water in the required volume is observed. One of the important indicators of water purity is the presence of free chlorine, which should not exceed 2-3 parts per million (ppm). However, this does not guarantee completely the purity of the water, since the pH of the water is not taken into account. Therefore, in order to improve the quality of water disinfection, it is necessary to take into account the proportions between the presence of unbound chlorine and the pH of the water. This task is made possible by measuring the redox potential (ORP) of water. This allows you to guarantee the quality of water, compliance with the requirements for its purity and suitability for drinking poultry.

Particular attention should be paid to the quality of the feed, which ensures both the quality of the product and its cost. Low-quality feed with the addition of meat flour or fat, containing fatty acids and peroxide, can destroy the vitamins added to the feed and slow down the development of the digestive tract in young birds. An excess of non-starch polysaccharides and mycotoxins in the feed, non-digestible components negatively affect the health and integrity of the digestive system, this leads to aggressive behavior of the bird.

For different periods of poultry keeping, the requirements for the amount of vitamins and microelements will differ significantly, which should be taken into account when forming the optimal structure of feeding rations (Table 2).

Compliance with the temperature regime is not important than compliance with the feeding and watering regime of the poultry. Its violation both in the direction of hypothermia and in the direction of overheating of the bird leads to massive deaths. At 5 weeks of age, the temperature may deviate by up to ± 1.7 ° C. These temperature levels are difficult to maintain in extreme cold conditions. The temperature required for feeding for birds of all ages is determined by their comfort.

Table 2. Norms of consumption of vitamins and minerals when growing turkeys

Nutrient (added via premix)	43-84 days			>84 days		
	not enough	enough	overly	not enough	enough	overly
Vitamin A (IU/kg)	<8 000	9 000-12 000	>14 000	<7 000	8 000-11 000	>12 000
Vitamin D3 (IU/kg)	<4 000	4 500-5 000	>5 500	<3 800	4 000-5 000	>5 500
Vitamin E (IU/kg)	<30	35-100	>125	<20	25-75	>100
Vitamin K3 (menadion; mg/kg)	<2,5	3-4	>5	<2	2,5-3,5	>4
Vitamin B12 (mkg/kg)	<16	20-30	>35	<12	15-25	>30
Riboflavin (mg/kg)	<5	7-12	>15	<4	5-10	>12
Niacin (mg/kg)	<54	60-100	>125	<45	50-75	>95
Pantothenic acid (mg/kg)	<14	16-20	>25	<10	12-18	>20
Pyridoxine (mg/kg)	<3	3,5-5,5	>6,5	<2	2,5-4,0	>4
Thiamine (mg/kg)	<1,8	2-4	>5	<1,3	1,5-3,0	>3,5
Folic acid (mg/kg)	<1,3	1,5-3,0	>4	<1	1,2-2,5	>3
Biotin (mg/kg)	<125	150-300	>350	<100	150-300	>350
Iodine (mg/kg)	<0,8	1-2	>3	<0,8	1-2	>2,5
Iron (mg/kg)	<40	40-80	>100	<35	40-70	>90
Manganese (mg/kg)	<90	100-130	>150	<80	90-120	>140
Zinc (mg/kg)	<90	100-130	>150	<80	90-120	>140
Copper (mg/kg)	<8	10-25	>125	<8	9-25	>125
Selenium (mg/kg)	<0,2	0,25-0,35	>0,5	>0,2	0,25-0,35	>0,5
Choline (mg/kg)	<275	450-800	>900	<250	350-500	>600

Source: Author's own elaboration

Lighting in the poultry house is an essential element for raising a healthy and productive flock. The lighting requirement for the turkey breeding room is shown in Figure 5. Lighting requirements

are a prerequisite for the birds to be active, so that they search for food and water. Periods of darkness are beneficial for turkeys, improving overall performance and reducing aggression.

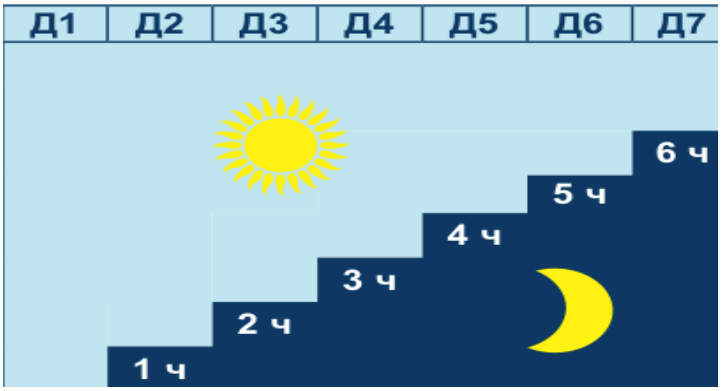

Figure 5. Requirement for lighting a room for growing turkeys

Source: Author's own elaboration

A prerequisite for excluding epidemics is compliance with biosecurity factors. This involves taking a planned approach to maintaining a safe and infection-free environment at production sites. Biosecurity involves the use of a wide range of measures that reduce the likelihood of the introduction and spread of pathogens: bird isolation, structural interventions, sanitization, regular procedures. All staff are involved in caring for the health of birds and maintaining safety on the farm. It is planned to use the following biosecurity factors:

- maintaining the health of the turkeys is the direct responsibility of the company management of the farm workers;
- every person entering the turkey poultry must comply with the requirements for clothing and footwear;
- before visiting a turkey house, it is necessary to disinfect shoes using a disinfector located at the entrance to each room;
- in order to avoid the transmission of infection, workers can only be involved in work in the turkey house, that is, they should be isolated from caring for another bird;
- Visitors should not be allowed into the turkey houses without the permission of the farm management;
- dead birds must be removed from the farm in a timely manner;
- pets, such as dogs and cats, must not be allowed into work areas and entry areas and turkey pens;
- the doors of the turkey house must always be locked;

- turkey droppings should be kept closed, containers for storing droppings should be at a distance of at least 40 m from the premises for keeping poultry.

Only persons who have studied the technology of growing poultry and the requirements for the use of equipment will be allowed to work on the farm. It is planned to comply with the following environmental quality requirements:

- requirements for air purification in premises for keeping poultry;
- requirements for storage and use of turkey droppings and wastewater;
- requirements for the control of vectors of infectious diseases and parasitic insects, with poultry diseases;
- requirements for the organization of preventive measures in the sanitary protection zones of the poultry farm.

Compliance with these requirements will minimize the risks associated with keeping turkey and efficient business conduct.

2.4 Production plan

The investment project provides for the cultivation of broad-breasted Bronze meat turkey. The site for the construction of a turkey farm must be located at a distance of at least 300 m from residential buildings and livestock farms, at a distance of at least 1500 m from industrial complexes. In terms of the degree of reliability of power supply, closed-type poultry farms belong to category II consumers. In this regard, they must be located on the territory adjacent to the central estate of the economy, which will allow the use of general utility communications: water supply, sewerage, heat supply, power supply, etc.

When building a turkey farm, the following conditions must be taken into account:

- availability of a land plot that meets the necessary sanitary and hygienic and technological requirements for the placement of main and auxiliary structures and buildings;
- availability of access roads;
- uninterrupted supply of poultry with feed in accordance with the established norms;
- availability of a feed shop;
- possibility of uninterrupted supply of drinking water;
- disposal of manure without environmental pollution and the possibility of its use;
- provision of the necessary labor force and sources of funding.

The construction of a farm for growing turkeys will be carried out on the territory located next to the Elizavetinskaya village, not far from the poultry house belonging to the educational and experimental farm "Kuban" of the KGAU. Figure 6 shows the location of the farm in relation to the city of Krasnodar, where 1 – future farm and 2 – Kuban GAU, Krasnodar city.

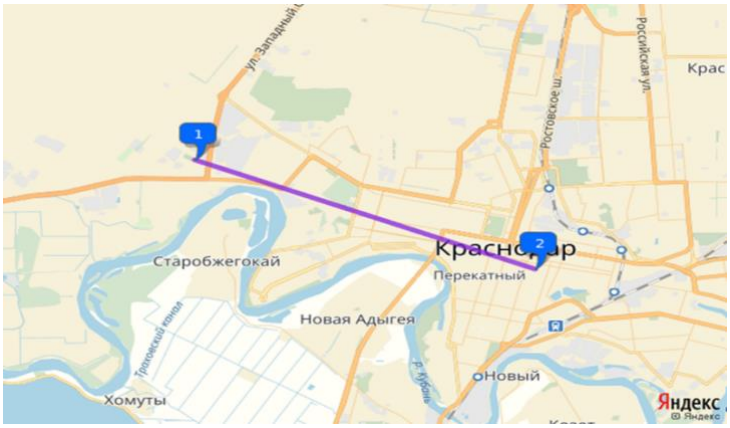

Figure 6. Location of the farm relative to the city of Krasnodar

Source: yandex map

Since the farm will be located next to the operated agricultural building, a significant part of the necessary buildings are already in place: a disinfection barrier, a sanitary block, a veterinary clinic, a disinfection block, a block of service premises, and a car weight. It is necessary to build production facilities, expand the feed shop, equip a manure storage facility, and reinforce a transformer substation. It is planned to carry out all construction work within six months. Bainduroff, which has been operating on the Russian market for a long time, will be involved in the construction work. It is planned to use the technology of intensive cultivation of turkeys. A high level of mechanization of processes, a controlled microclimate, high requirements for the quality of feed and water are envisaged. Birds will be kept indoors all year round to meet environmental quality requirements. Table 3 shows the total investment required to implement the project.

Table 3. Amount of investments for the project, thousand rubles

Investment asset name	Investment amount, thousand rubles
Construction of a turkey house, economic sectors	1590
Equipment of buildings (drinkers, feeders, nests)	2800
Communication lines (water supply, electricity)	250
Crematorium	160
Sanitary checkpoint	250
Initial working capital	1300
Future spending	1400
Total	7750

Source: Author's own elaboration

Turkeys gain weight very quickly; in the first 20 days of feeding, it increases by 25-40%. Therefore, it is important to comply with the requirements for good nutrition. Table 4 shows the need for feed and their daily cost for poultry of different sex and age groups is given.

Table 4. The need for feed and their daily cost for poultry of different sex and age groups

Age, days	Male			Female		
	daily gain, g	need for 1 head per day, g	cost of feed per day, rub.	daily gain, g	need for 1 head per day, g	cost of feed, rub.
35	101,7	156,6	3,6	81,2	141,5	3,3
49	142,9	246,2	5,7	118,2	223,7	5,2
63	177,4	330,0	7,6	137,4	284,7	6,6
77	194,9	412,1	9,5	133,6	327,9	7,5
91	208,8	490,6	11,3	125,2	350,2	8,1
105	200,3	575,7	13,2	98,0	363,8	8,4
119	191,1	672,7	15,5	77,8	381,5	8,8
133	166,5	719,8	16,6	63,4	400,2	9,2
140	170,0	749,4	17,2	54,7	414,3	9,5
154	153,4	782,5	18,0	-	-	-

Source: Author's own elaboration

The planned livestock of poultry, taking into account mortality, will be 40,500 heads, taking into account this, 420 thousand rubles will be spent on feed. It should be borne in mind that in poultry farming, the main cost item is the cost of feed. Taking into account the technology used for keeping the turkey, we have calculated the costs per 1 kilogram of carcass (Table 5).

Table 5. Costs per 1 kg of turkey carcasses at the age of 5 months, rub.

Cost type	Costs per kg, rub.
Young turkeys	3,8
Feed	51,1
Salary	7,6
Veterinary drugs	6,0
Electricity	2,0
Water supply	1,7
Gas	0,7
Total	72,9

Source: Author's own elaboration

There are 15 employees for turkey cultivation. When determining the number of personnel, data on the number of poultry livestock and production rates were used to perform various production operations. When determining the official salaries, the complexity and importance of the operations performed, the requirements for the level of qualifications of personnel were taken into account. Calculations have shown that the total amount of labor costs will amount to 384,300 thousand rubles (see Table 6). The Table 6 shows the number of workers in the poultry industry, their salaries and labor costs.

Table 6. Number of personnel, labor costs

Position	Number	Average salary per month, rub.	Salary costs per month, rub.	Tax, %	Labor costs per month, including taxes, rub.
Main production personnel					
Workers	6	20 000	120 000	31 200	131 200
Supporting production personnel					
Technologist	2	22 000	44 000	11 440	55 440
Mechanical engineer	1	24 000	24 000	6240	30 240
Veterinarian	1	25 000	25 000	6500	31 500
Total production personnel	4	*	93 000	24 180	117 180
Administrative and management personnel					
Manager	1	26 000	26 000	6760	32 760
Accountant	1	20 000	20 000	5200	25 200
Procurement and Sales Specialist	1	18 000	18 000	4680	22 680
Poultry farmer	1	20 000	20 000	5200	25 200
Cleaning woman	1	8 000	8 000	2080	10 080
Total administrative and management personnel	5	*	92 000	23 920	115 920
Total	15	*	305 000	79 300	384 300

Source: Author's own elaboration

2.5 Organizational plan

To organize the timely execution of all the work used by the business plan, the method "Tree of work for the construction of a turkey farm" is used, which allows you to determine all the operations included in the production process and divide them into separate blocks. Based on the results of the Work Tree, a matrix of interconnection of works included in the project for the construction of a turkey farm was built. Figure 7 shows the “Work tree for the construction of a turkey farm”.

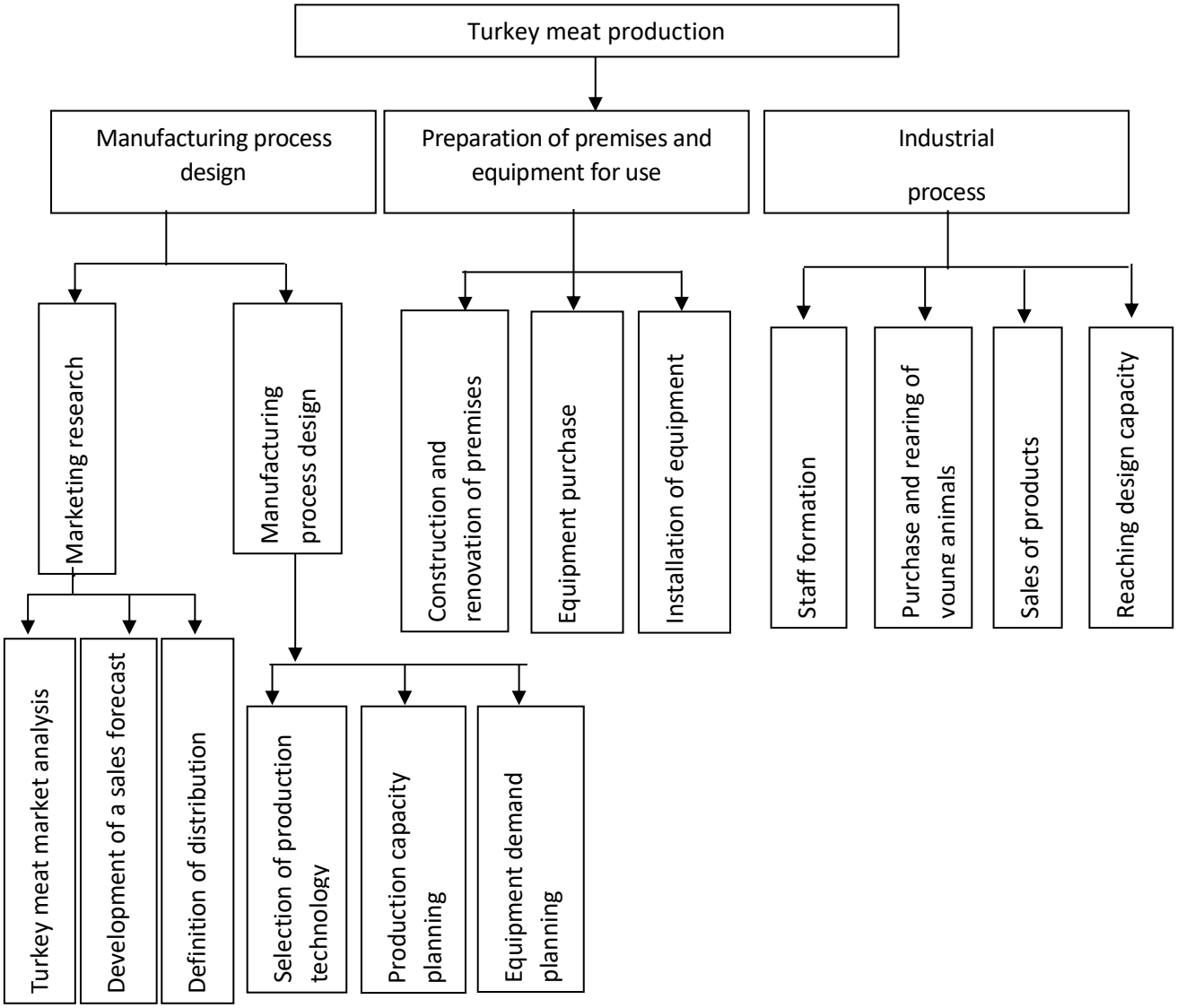

Figure 7. Work tree of the project for the construction of a turkey farm

Source: Author's own elaboration

Table 7 presents a matrix of interconnection of project activities, developed on the basis of the Work Tree. It allows you to determine the relationship between the work, to determine the order of their implementation, which will make it possible to find out the need for resources to perform each of the work.

So, for example, planning of production capacity, planning the need for equipment, the formation of a staff of personnel can be carried out in the same period, but only after the market has been analyzed and the production capacity of the equipment has been determined. The assessment of technologies presented in the industry and the purchase of equipment are made

after conducting marketing research and understanding to what extent consumer demand is formed and whether there is an opportunity for its development. Construction and repair of existing premises and the purchase of equipment are carried out after assessing the production premises available at the enterprise and determining the need for additional construction. The purchase of young animals and the beginning of the production process is carried out after the installation of equipment, training of personnel and the acquisition of the necessary working resources. The final operation of the project is to reach full capacity. The development of a work interconnection matrix allows you to understand exactly what work should be done and how they are related to each other.

Table 7. Matrix of interconnection of works of the project of construction of a turkey farm

Project work	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1.Turkey meat market analysis														
2. Development of a sales forecast	●													
3. Definition of distribution channels	●													
4. Selection of production technologies		●												
5. Production capacity planning				●										
6. Equipment demand planning					●									
7. Forage planning						●								
8. Construction and renovation of premises				●										
9. Purchase and installation of technological equipment								●						
10. Staff formation									●					
11. Purchase and placement of young turkey							●			●				
12. Conducting veterinary activities											●			
13. Sales of products			●											
14. Project reaching full capacity												●	●	

Source: Author's own elaboration

2.6 Industry Analysis

The task of Russian poultry farmers is to meet the needs of Russians for high-quality and cheap poultry meat. Nowadays this task has been practically solved. The Russian poultry meat market is almost completely filled with products from Russian manufacturers. Nowadays, the main task is to improve the quality of products, increase their variety while reducing the market price.

Thanks to the established consumer habits, the availability of poultry meat, and a wide presence on the market, chicken products are traditionally the leader. At the same time, meat of other birds, including turkey meat, is gaining popularity. It is considered the most useful and high-quality type of dietary meat, which has tangible advantages compared to analogues on the market. Russian entrepreneurs, understanding the attention of consumers to turkey meat, are stepping up their activities in this sector of the economy. Investors are more and more interested in projects in the field of meat production of nutria, rabbits, duck, geese, turkeys. The most significant reasons for choosing Russian entrepreneurs are the low level of initial investment compared to investing in the development of livestock and pig breeding and a fairly short payback period.

The structure of meat consumption in the Russian Federation is shown in Figure 7. Over 10 years, that is, for the period from 2010 to 2020, it has changed significantly. The share of beef decreased significantly - from 29% to 20%, which was primarily due to an increase in the selling price. The share of pork also decreased - from 34% to 33%. At the same time, the consumption of chicken meat increased - from 34% to 43% due, first of all, to the more affordable prices for products in comparison with analogues. The share of turkey meat remains low, but it has grown significantly, and this trend continues. First column – 2010 year, second – 2020 year.

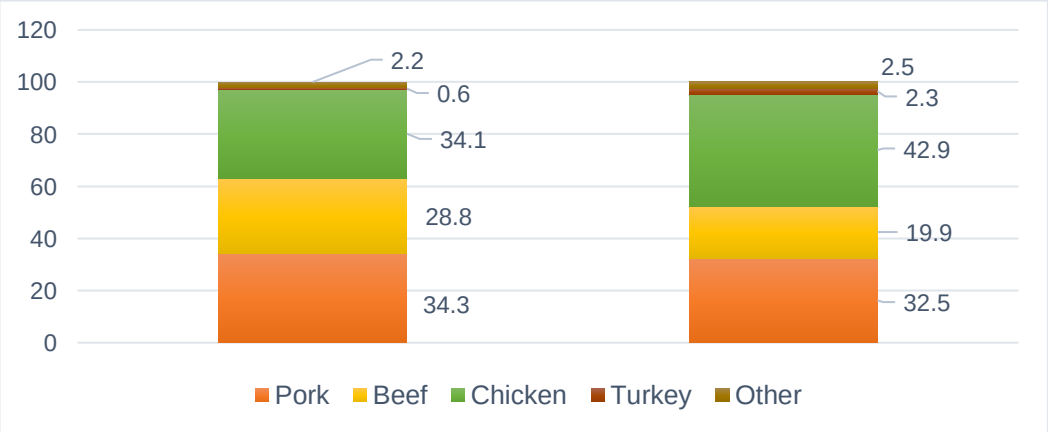

Figure 8. The structure of consumption of various types of meat in the Russian Federation, in % of the total amount of consumed meat

Source: Rosstat, Meat Council of the Common Economic Space 2020

Turkey meat remains attractive for the following reasons:

- high demand for products due to their taste and dietary properties;
- relatively small initial capital requirements for business development;
- the absence of barriers to entry into the industry associated with the low level of its regulation;
- availability of modern technologies that allow obtaining high-quality products with low operating costs;
- short payback period of investments, high rates of investment efficiency.

At the same time, there are factors hindering the development of the industry. First of all, they are associated with limited financial capabilities of consumers of products. The meat itself is not exotic, consumers are usually familiar with it, but the significantly higher price compared to other types of meat is an obstacle to purchasing it in the desired quantity. At the same time, it should be borne in mind that an increasingly significant part of Russians cares about their health, the quality of food, and tries to adhere to a healthy lifestyle. For them, turkey meat is perceived as an exceptionally healthy product, combining the minimum amount of calories and the maximum value for the body. Therefore, Russians are increasingly giving preference to this product, which is useful in all respects.

A significant obstacle to the development of turkey meat production is the frequent outbreaks of influenza, which lead to the destruction of livestock in many enterprises, to the limitation of the turnover of products.

About half of the world's turkey meat is produced by the United States, Russia ranks seventh in terms of its production. Over the past decade, Russia has increased its turkey meat production by 25% annually, making it one of the fastest growing turkey producers in the world. Spain, Chile and Poland also increased production. Traditional market leaders such as the USA (60% of the world market), Brazil (8%), Italy (6%), France (5%), Great Britain (5%), Germany (3%), or reduced meat production of turkeys, or stopped developing it. The pace of development of the industry makes it possible to count on the sixth place in the ranking of countries producing turkey meat soon enough.

The attitude of citizens to the product is confirmed by the high dynamics of the industry's development. From 2019 to 2022, the production of turkey meat in Russia increased by 1.3 times:

from 2005.1 to 259.2 thousand tons. The largest enterprises producing turkey meat in the Russian Federation are presented in Table 8.

In 2020, in the rating of the largest Russian turkey producers, the Damate group retained the first place, and its gap from competitors became even more significant. Compared to last year, it increased production by 42%, to 88.3 thousand tons. The company's market share increased to 34%. LLC "Eurodon" reduced production by 6%, its market share decreased by 2% and amounted to 17%. By reducing the position of this company, LLC Tambovskaya Turkey strengthened its position, increasing production to 37.65 thousand tons, that is, by 21%, as a result its market share was 15%.

Table 8. Production of turkey meat in the Russian Federation by the largest producers, thousand tons

Company name	2017	2018	2019	2020	2020 % to 2017
Group of companies "Damate", Penza region	45,6	60,3	62,2	88,3	193,6
LLC "Eurodon", Rostov region	43,7	59,9	48,7	45,8	104,8
LLC "Tambovskaya turkey", Tambov region	22,4	26,7	31,2	37,7	168,3
CJSC "Krasnobor", Tula region	16,0	22,0	23,0	24,6	153,8
LLC "Ruskom-agro", Omsk region	3,8	4,3	4,5	9,1	239,5
LLC "Absolyut Agro", Tyumen region	4,6	5,4	8,2	8,8	191,3
Total for Russian federation	200,1	226,7	231	259,2	129,5

Source: Author's own elaboration based on Federal State Statistics Service (2020) Access mode: http://krsdstat.gks.ru

The historical leader (based on The official Internet portal of the Federal State Statistics Service) in the field of turkey meat is CJSC "Krasnobor", it increased production volumes to 24.6 thousand tons, that is, increased compared to last year by 7%, its market shares as a result reached 9%. In fifth place is LLC Ruskom-Agro, which has practically doubled its production to 9.1 thousand tons, which is 4% of the market. Slightly behind LLC Ruskom-Agro LLC Absolut Agro, which produced 8.8 thousand tons of turkey meat.

In 2018, these producers jointly produced 82% of turkeys in Russia. The remaining 18% were accounted for by 17 regional players and about 30 large peasant farms. The share of private household plots and peasant farms in the total production of turkey meat is decreasing; in 2018, these enterprises produced about 3 thousand tons of turkey, which is 60% less than in previous

years. The main reason for this dynamics is a decrease in the supply of hatching eggs, which is associated with an increase in its imports.

As a rule, market leaders are large companies that use modern technologies for the production of turkey meat. The group of companies "Damate" is an agrarian holding that implements large projects for the cultivation and processing of turkeys. Its complexes are vertically integrated structures with a full production cycle: an incubator, rearing and feeding grounds, a slaughterhouse and processing plant, and feed production. LLC "Eurodon" is a pioneer of domestic production of turkey on an industrial scale. In addition to the production of high quality chilled meat, the company provides the consumer market with deeply processed products: sausages, ham, and gourmet products.

The Eurodon company's advantage is the use of world technologies for the cultivation and processing of turkey meat, a cluster approach to the organization of production, a developed feed base, the creation of its own parent herd. In 2017, an outbreak of influenza resulted in large product losses. The enterprise, hoping to reach 110-120 thousand tons of meat products, produced only about 45 thousand tons of turkey. The level of meat consumption remains low, in 2018 it amounted to about 1.5 kg per person, which is almost 3 times less than the European level. Low consumption is undoubtedly a constraining factor in the development of the industry. Therefore, producers should not only increase the production of turkey meat, but also take into account the peculiarities of consumer preferences.

The demand for turkey meat is constrained by the high price, which exceeds the price of chicken meat, which is more familiar to Russians. In 2019, the average wholesale price for turkey meat was 195.3 rubles / kg; over four years, it increased by 4%. At the same time, it should be borne in mind that such an increase is below the inflation rate and does not exceed the rise in prices for other types of meat. As studies have shown, due to its significant advantages, turkey meat is becoming more and more in demand on the world market. Russian manufacturers have new opportunities to sell their products. Turkey meat is supplied to Ukraine (60% of exports), Vietnam (25%), Belarus (11%), Kazakhstan (10%), Kyrgyzstan (4%), Benin (3%), Azerbaijan (1%).

As a result of the activation of Russian entrepreneurs, the structure of consumption of turkey meat by source of production has changed significantly. Russians are increasingly consuming Russian turkey, preferring it primarily because of its higher quality and lower price (Figure 9).

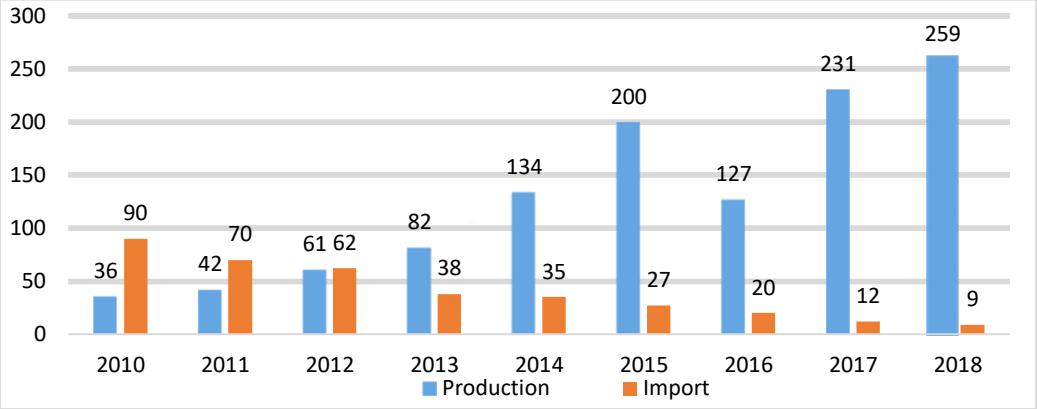

Figure 9. Production and import of turkey meat in the Russian Federation, thousand tons

Source: Meat Council of the Common Economic Space, 2020

3. State of the Russian turkey meat market

In the Russian Federation, during the period from 2012 to 2020, the consumption of turkey meat increased significantly - from 0.8 kg to 1.55 kg per person per year. It differs significantly in different regions. In large cities, such as Moscow and St. Petersburg, turkey is consumed much more often than in small towns and rural settlements, where traditional types of meat are preferred. At the same time, the consumption of turkey products per person in the USA is 9 kg per year, in Israel - 15 kg per year, in the UK - 7 kg per year, in Europe - 4-6 kg per year.

The expansion of the assortment of turkey products in retail chains is indicative of the Russian turkey market. Until recently, only whole carcasses and cutting were presented, today on the shelves there is a wide range of deeply processed products. According to forecasts of many researchers, this trend will continue, a third of the meat will be consumed in a thermally processed form, a quarter in the form of chilled and frozen semi-finished products. Therefore, the activation of Russian poultry farmers will largely depend on the readiness of adjacent market sectors to increase their production capacity. Today, only 6% of Russians consume turkey meat products, which is undoubtedly a low figure.

We have conducted research and identified the frequency of purchases of turkey meat and consumer preferences of Russians. Most often people with middle and high incomes buy turkey, most often they are women. More than half of citizens buy turkey meat no more than once a month, a quarter - twice a month. Only 8% of Russians can purchase turkey meat weekly (Table 9).

Table 9. The results of the survey on the frequency of purchases of turkey meat, % of the number of respondents

Shopping frequency	Share, %
once a month or less	56
2 times a month	24
3-4 times a month	12
5 or more times a month	8

Source: Author's own elaboration

For 40% of Russians, turkey meat is considered practically inaccessible product, except for the need to purchase it for children and sick relatives. However, 30% of respondents who have incomes exceeding 20,000 rubles. per person per month, turkey meat and turkey products are attractive. Thus, a significant part of the population is ready to buy turkey meat products. In addition, it should be borne in mind that the resort business is developing on the territory of the Krasnodar Territory, every year an increasing number of Russians give preference to rest on the Kuban coast. The restaurant business is expanding, so the number of those wishing to consume tasty and healthy food is becoming more and more and will only increase in the future. Russians differ in their preferences (Table 10).

Table 10. Results of a survey on the popularity of turkey meat among Russians, % of the number of respondents

Product	Share, %
Shins	25
Hips	20
Turkey breast fillet	18
Liver	10
Wings	8
Stomachs	8
Heart	4
Turkey carcass	4
Neck	3

Source: Author's own elaboration

The most popular are drumsticks, thighs and breast fillets. By-products are also in demand, but they are much lower. The demand for turkey carcasses was unexpectedly low - 4%. Obviously, this is due to the high cost and inconvenience of cutting and storing a whole poultry carcass. Cooking a whole carcass, as is customary in other countries, has not become a tradition of Russian cuisine. Preferences should be taken into account when forming the optimal assortment and product range.

Various factors influence the choice of turkey meat products. Table 11 presents the criteria that influence the choice of turkey meat.

Table 11. Results of the survey according to the criteria that determine the choice of the consumer, % of the number of respondents

Selection criterion	Share, %
Turkey price	36
Taste qualities	20
Nutritional qualities and properties of the product	15
Brand awareness	10
Freshness of the product	11
Packing quality	8

Source: Author's own elaboration

As the survey has shown, the most significant criterion for purchasing turkey meat is its price - for 36% of respondents, the second place is taken by taste - 20%. Also significant qualities are nutritional quality of the product, brand awareness, freshness of the product, quality of packaging.

3.1 Marketing plan

Since the educational and experimental farm "Kuban" does not have its own retail outlets and it is quite expensive to develop a distribution network, the sale of products to end consumers is not planned. The services of intermediaries will be used, including those with whom the company now maintains stable relations. They will use the following partnership formation schemes.

Scheme No. 1. Communication with permanent partners:

1. Receipt of applications for products.
2. Receipt of an advance payment of up to 40% of the order amount.
3. Supply of turkey.
4. Receipt of the remaining amount of the order.

Scheme No. 2. Communication with new partners:

1. Receipt of applications for products.

2. Receipt of an advance payment of up to 60% of the order value.

3. Turkey delivery and final settlement.

The marketing program is being developed with the aim of forming stable mutually beneficial partnerships between the educational and experimental farm "Kuban" and the partners of the enterprise. In order to have a stable competitive position, the proposals of the products of competing companies, such as the price of products, assortment, terms of delivery, will be taken into account. The following operations in the field of marketing formation are planned:

- conduct constant monitoring of the business environment, that is, the influence of the most significant factors on the conditions for doing business, such as economic, legal, social factors,
- analyze the state and development trends of the industry and the market,
- assess the level of market conditions,
- analyze the activities of the company's competitors;
- study trends in the development of new techniques and technologies,
- develop the infrastructure of the enterprise;
- research and develop the sales system.

In the educational and experimental farm "Kuban" there is no marketing department, the functions of market research and product promotion are performed by the chief economist of the enterprise. He will perform the same functions in the marketing of turkey meat: analyze and forecast the main conjuncture-forming factors of the product market, collect data on the state of the market, systematize information and make forecasts for business development.

It is planned to use advertising, personal sale, and public relations as ways to promote products to the market. The company will be registered on specialized agricultural portals:

- AgroYug - advertising and news - www.agroyug.ru,
- Agroserver - catalog of goods and services - www.agroserver.ru,
- Barn - information portal for farmers www.ambar.narod.ru,
- site for specialists of the meat market www.meatinfo.ru.

The creation of UOH Kuban website will also contribute to the promotion of products. In addition to offering products and describing their high quality and the possibility of using them for different groups of consumers, information will be provided on the possibility of developing production, which will expand the circle of business partners.

3.2 Sales plan

The project implementation schedule is presented in Table 12. It is developed on the basis of the project coordination matrix.

Table 12. Project implementation schedule

Event	01.05.22	01.06.22	01.07.22	01.08.22	01.09.22	01.10.22	01.11.22	01.12.22	01.01.23	01.02.23	01.03.23
1.Turkey meat market analysis											
2. Development of a sales forecast											
3.Defining distribution channels											
4.Selection of production technologies											
5.Production capacity planning											
6. Planning hardware requirements											
7.Planning the food supply											
8.Construction and renovation of premises											
9.Purchase and installation of technological equipment											
10. Staff formation											
11.Purchase and placement of young turkey											
12.Conducting zooveterinary measures											
13.Product sales											
14. Project reaching full capacity											

Source: Author's own elaboration

The whole process begins in May 2022, an analysis of the turkey meat market is carried out, a sales forecast is developed, and sales channels are determined. Then, based on the analysis of proposals, a production technology is selected, the most profitable production capacity is determined, taking into account the state of the market and the level of competition, and the necessary equipment is selected. From 01.08.2020, the state of the turkey meat market is being analyzed, the construction and repair of premises is being carried out within 2 months. After

completion of the construction and repair of buildings, installation of equipment, training of staff, the first batch of poultry is purchased - 13.5 thousand heads of young animals at the age of 35 days to fill 3 production buildings. The total number of livestock with a one-time planting of livestock is 14,000 heads. 3 poultry turnover with a total number of 42,000 heads will be carried out per year. The turkey will be sold at 135-150 days old. The weight of the full carcass will be about 12 kg; the total weight of the sold products will be 550 tons. It is planned to sell the products in live weight.

When planning the price of products, the following factors were taken into account:

- turkey meat market capacity and market development trends,
- forecasts for the development of the turkey breeding industry,
- peculiarities of preferences of consumers of products,
- the prevailing price dynamics,
- production costs.

When planning the price, the quality of turkey meat, its compliance with GOST and other standards, and competitors' prices were taken into account. The sales plan is shown in Table 13.

Table 13. Product sales plan

Indicator	2023г.				2024 г.		2025 г.
	1 quarter	2 quarter	3 quarter	4 quarter	1 half a year	2 half a year	
Poultry sales in live weight, t	126	126	126	126	252	252	504
Selling price for 1 kg of poultry, rub.	120	120	120	120	120	120	120
Sales proceeds including VAT, thousand rub.	15 120	15 120	15 120	15 120	30 240	30 240	60 480
Sales proceeds without VAT, thousand rub	12 600	12 600	12 600	12 600	25 200	25 200	50 400

Source: Author's own elaboration

The proceeds from the sale of products will amount to 60 480 thousand rubles annually.

3.3 Financial plan

The development of the financial plan of the investment project was carried out using the Alt-Invest Prim software product. When calculating the project, inflation was not taken into account;

to bring all cash flows to a single time period, the discount rate was used, taking into account the level of inflation, the possibility of investing money in other projects, and the average return on investments of the enterprise.

The project is planned to be financed from two sources: the company's income from business activities (5250 thousand rubles) and a loan from Rosselkhozbank LLC (2500 thousand rubles). The loan for the project will be received in July 2020. The project financing structure is presented in Table 14.

Table 14. Financing of the turkey meat production project

Sources of financing	Amount, thousand rub.	Specific weight,%
Own funds	5250	67,7
Bank loan	2500	32,3
Total	7750	100,0

Source: Author's own elaboration

Forecasts show that the profits from the economic activities of the educational and experimental farm "Kuban" will be sufficient to finance the project.

The loan is planned to be taken for 10 years, since a shorter term will be burdensome for the project. When calculating the loan, an interest rate of 12% per annum was taken into account. The debt will be repaid in equal installments. Interest for obtaining a loan, their amount will be determined by the amount of the remaining debt.

Table 15 presents the Profit and Loss Plan for the project. Calculations have shown that the profit will be received in the first year of project implementation and will continue to grow. The total amount of profit received over 10 years of project implementation will amount to 98,479 thousand rubles. The level of annual profitability will be about 24%, which is significantly higher than the level of profit achieved in the training and experimental farm "Kuban" over the past two years.

Table 15. Profit and loss plan for the turkey meat production project, thousand rub.

Indicator	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Revenue	50 400	50 400	50 400	50 400	50 400	50 400	50 400	50 400	50 400	50 400
Total direct costs	39 705	39 705	39 705	39 705	39 705	39 705	39 705	39 705	39 705	39 705
Gross profit	10 695	10 695	10 695	10 695	10 695	10 695	10 695	10 695	10 695	10 695
Profit (loss) from sales	10 695	10 695	10 695	10 695	10 695	10 695	10 695	10 695	10 695	10 695
Taxes attributable to the financial result	103	92	81	70	59	48	37	26	15	4
Interest payable	300	270	240	210	180	150	120	90	60	30
Profit before tax	10 292	10 333	10 374	10 415	10 456	10 497	10 538	10 579	10 620	10 661
Income tax	618	620	622	625	627	630	632	635	637	640
Net profit	9674	9713	9752	9790	9829	9867	9906	9944	9983	10 021

Source: Author's own elaboration

The cash flow plan from the implementation of the project for the production of turkey meat is presented in Table 16. Calculations have shown that the project allows obtaining positive financial flows during the entire period of its implementation.

On the basis of the cash flow plan, project efficiency indicators were calculated (Table 17). Calculations have shown that the project for the production of turkey meat is effectual. Cash flows provide net discounted income in the amount of 47,090 thousand rubles. The return on investment index was 7.08, which is a high indicator for projects in the field of agriculture. The internal rate of return of the project is 130.5%, which significantly exceeds the discount rate and indicates a low level of project risk. The discounted payback period is less than 1 year, which also confirms the low level of risk and low dependence of the project on the influence of environmental factors. Thus, the project can be accepted for implementation in the educational and experimental farm "Kuban".

Table 16. Cash flow plan of the turkey meat production project, thousand rub.

Indicator	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
Sales proceeds	0	60 480	60 480	60 480	60 480	60 480	60 480	60 480	60 480	60 480	60 480
Materials and components	0	-37 570	-37 570	-37 570	-37 570	-37 570	-37 570	-37 570	-37 570	-37 570	-37 570
Salary	0	-4612	-4612	-4612	-4612	-4612	-4612	-4612	-4612	-4612	-4612
Total costs	0	-6000	-6000	-6000	-6000	-6000	-6000	-6000	-6000	-6000	-6000
Tax	0	-2721	-2712	-2701	-2695	-2686	-2678	-2669	-2661	-2652	-2644
Payment of interest on loans	0	-300	-270	-240	-210	-180	-150	-120	-90	-60	-30
Cash flows from operating activities	**0**	**9277**	**9316**	**9357**	**9393**	**9432**	**9470**	**9509**	**9547**	**9586**	**9624**
Investments in buildings and structures	-1590	0	0	0	0	0	0	0	0	0	0
Investments in equipment and other assets	-4760	0	0	0	0	0	0	0	0	0	0
Payment of prepaid expenses	-1400	0	0	0	0	0	0	0	0	0	0
Working capital investment	0	295	245	-5	-2	-2	-2	-2	-2	-2	-2
Cash flows from investing activities	**-7750**	**295**	**245**	**-5**	**-2**	**-2**	**-2**	**-2**	**-2**	**-2**	**-2**
Special-purpose financing	5250	0	0	0	0	0	0	0	0	0	0
Loan receipts	2500	0	0	0	0	0	0	0	0	0	0
Repayment of credits	0	-250	-250	-250	-250	-250	-250	-250	-250	-250	-250
Cash flows from financing activities	**7750**	**-250**	**-250**	**-250**	**-250**	**-250**	**-250**	**-250**	**-250**	**-250**	**-250**
Total cash flow for the period	**0**	9322	9311	9102	9141	9180	9218	9257	9295	9334	9372
Cash at the end of the period	0	9322	18 633	27 735	36 876	46 056	55 274	64 531	73 826	83 160	92 532

Source: Author's own elaboration

Table 17. Assessment of the economic efficiency of the project for the production of turkey meat

Indicator	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Cash flows from operating activities, thousand rub.	0	9277	9316	9357	9393	9432	9470	9509	9547	9586	9624
Payment of interest on loans, thousand rub.	0	300	270	240	210	180	150	120	90	60	30
Cash flows from investment activities, thousand rub.	-7750	295	245	-5	-2	-2	-2	-2	-2	-2	-2
Net cash flow, thousand rub.	-7750	9872	9831	9592	9601	9610	9618	9627	9635	9644	9652
Discounted net cash flow (r = 12%), thousand rub.	-7750	8814	7865	6851	6115	5460	4882	4356	3901	3482	3114
The same cumulative total, thousand rub.	-7750	1064	8929	15780	21895	27355	32237	36593	40494	43976	47090
Net present value, thousand rub.											47 090
Return on investment index											7,08
Internal rate of return,%											130,5
Discounted payback period, thousand rub.											0,88

Source: Author's own elaboration

3.4 Project risks

The most significant risks of a turkey meat production project are:

- decrease in demand for products,
- the appearance on the market of an alternative product,
- actions of competitors,
- decrease in the solvency of consumers,
- price reduction,
- increase in taxes on products.

Analysis of the most significant project risks allows us to draw the following conclusions:

1. The demand for turkey meat is growing, as evidenced by the current dynamics of demand. The turkey market is actively developing, an increasing number of consumers realize the importance of quality nutrition and consider turkey meat one of the most useful products. The development of demand is hampered by the prevailing eating habits when other types of meat are the source of animal protein. Demand will be activated by a marketing program, which includes a series of actions to inform potential consumers about the usefulness of the product. In addition, the lower price compared to turkey meat on the market today will help motivate buyers.

2. The turkey has significant advantages over other meat forks, so they do not compete with it. At the same time, there are turkey meat processed products on the market in a fairly wide range, which are more attractive and convenient for many consumers. In this regard, in the future, it is planned to organize the production of packaged products, semi-finished products from turkey, canned turkey and other products of its processing, which will increase the level of competitiveness of the company's products.

3. Analysis of competitors' activities shows that they are actively expanding production, investing in the implementation of large investment projects. The industry is actively developing, new companies are joining it. At the same time, this cannot be a significant obstacle to the implementation of the project, because a stable demand for products has already been formed, while it is growing dynamically.

4. As shown by consumer surveys, the main obstacle to the purchase of turkey meat is the low level of their ability to pay. At the same time, consumers are changing their interests, giving preference to a product that is limited in quantity, but more useful for their health. At the same time, turkey dishes are becoming a typical restaurant product, and as this market segment develops, the need for turkey meat will only grow. The use of innovative technologies will help reduce the price of the product and make it more affordable.

5. A decrease in the level of income of the population may cause a decrease in the selling price of turkey meat by competitors. At the same time, it should be borne in mind that in this market

segment, when choosing a product, the quality of the product and its variety are of decisive importance. Therefore, when choosing a production technology, first of all, the possibility of obtaining a product that best meets the wishes of consumers was taken into account. In addition, the developed marketing strategy implies the establishment of a price level corresponding to the quality of the product. Expansion of the range of products, creation of our own retail network will allow entering new markets, strengthening consumer loyalty, and withstanding competition in the field of prices.

6. Since taxes do not play a significant role in generating profits, their growth will not have a significant impact on the efficiency of the project. It should also be borne in mind that the increase in taxes will affect the functioning of all industry participants equally, and therefore will not affect the level of competitiveness of the enterprise.

To understand which of the environmental factors have the most significant impact on the results of the project, a sensitivity analysis of the project at net present value was carried out. The calculation results are shown in Table 18 and Figure 10.

Table 18. Sensitivity analysis of the turkey meat production project at net present value, thousand rubles.

Variable project parameter	NPV values when changing the variable parameter of the project						
	-30%	-20%	-10%	**0%**	10%	20%	30%
Sales prices	-24 231	1797	24 119	**47 090**	69 598	92 221	114 970
Product sales volume	21 912	31 097	38 975	**47 090**	50 084	64 079	72 992
Prices for the main production resources	87 898	74 286	60 644	**47 090**	33 455	19 836	6 269
Initial capital investment	48 826	48 243	47 652	**47 090**	46 473	45 880	45 294

Source: Author's own elaboration

To the greatest extent, the results of the project are influenced by the volume of sales of products, the selling price, the cost of resources, the financial costs of the project. Calculations have shown that the sale price has the most significant impact on the project results. Its drop by 21% leads to a negative value of the net present value. However, analysis of price dynamics shows that such a decline is unlikely.

The increase in the price of resources also has a significant impact on the feasibility of the project. An increase of 33% will keep the project results to a minimum. Therefore, you should carefully monitor the cost structure, maintain stable relationships with suppliers. In addition, the

expansion and development of production will allow us to take a stronger position in the market and form long-term partnerships.

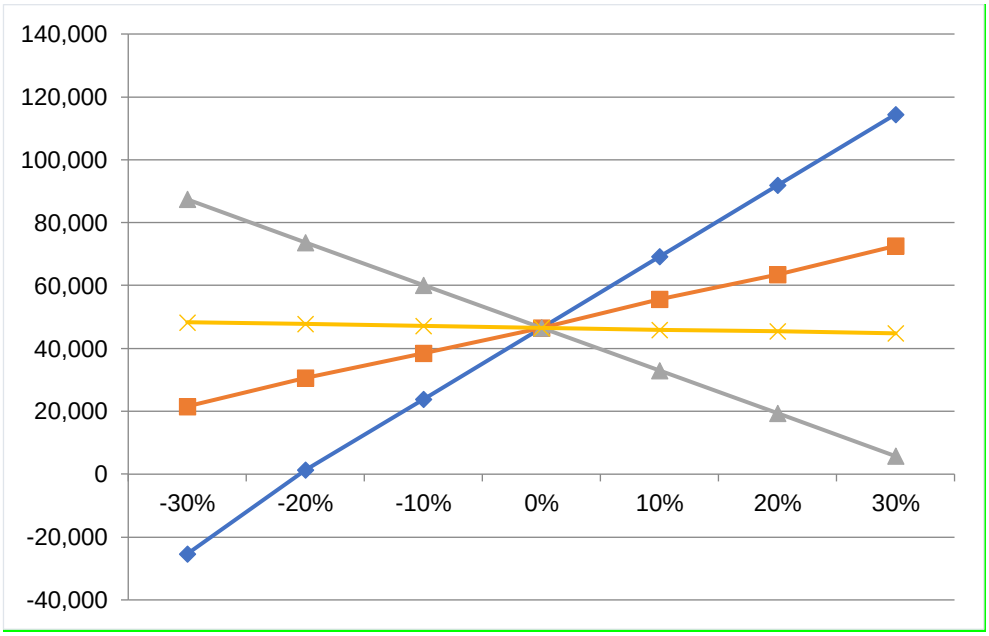

Figure 10. Graph of dependence of NPV values on changes in project parameters

Source: Author's own elaboration. The blue line is selling prices products; orange is product sales volume; grey is prices for basic production resources and yellow is the size of the original capital investments.

Thus, analysis and calculations show that the project will successfully cope with the risks. In an optimistic scenario, we managed to meet the expected budget and the project takes place within the expected operational and financial results. Running even better, we were able to reduce the cost of production by speeding up processes and machines, thus lowering the cost for final consumption, thus increasing demand. A pessimistic perspective, the project can be conditioned by the cost of increased production, costs associated with machines, people and more. With this increase, we would have to increase the cost of the final product and directly to the consumer. Following this line of reasoning of increases, the demand for final consumption may not increase due to the high cost of the final product.

conclusion

The transformations taking place in the Russian agrarian business, the turbulence of the market environment, technical and technological development along with the formation of new consumer preferences of Russians have led to a significant change in priorities. The vector of activity of agricultural enterprises is aimed at developing the activities of innovative projects that support new sub-sectors. One of them is the production of turkey meat. The developed business plan for the production and sale of turkey meat in the educational and experimental farm "Kuban" in Krasnodar confirms the feasibility and effectiveness of this line of business.

Market analysis has shown that turkey meat is in increasing demand, first of all, that Russians are aware of the high quality characteristics of teristika and its importance for maintaining a healthy diet. It is in increasing demand, despite the high selling price of turkey meat, which exceeds the price of other types of meat. Russian entrepreneurs are aware of the current trends and are increasingly funding the implementation of projects for the production of turkey meat based on the use of innovation.

The developed business plan involves the cultivation of broad-breasted Bronze turkeys. The total number of livestock with a one-time planting of livestock is 14,000 heads. 3 poultry turnover with a total number of 42,000 heads will be carried out per year. The turkey will be sold at 135-150 days old. The weight of a full carcass is about 12 kg, the total weight of the sold products is 550 tons. It is planned to sell the products in live weight.

The enterprise uses two methods of poultry keeping for adult livestock - traditional outdoor housing, for young animals - an innovative way of keeping in cage batteries. The technological process is based on the achievements of science, rational organization of work, and environmental safety. Innovative technology of keeping young poultry in cage batteries together with the company OJSC GSKB Pyatigorsk, LLC Stimul-Ink, LLC Microel, includes cage batteries KBI-2.00.000, a microclimate system, feeding, drinking, droppings for fattening turkey poults of domestic crosses for meat without dividing by sex. Three-tier cage batteries reduce the cost of production compared to lifelong outdoor poultry housing.

The implementation of the project for the construction of a complex for the production of turkey meat will help the population of the Kuban and other regions of Russia with a high-quality and useful product at an affordable price. Calculations have shown that the project for the production of turkey meat is effective. The net present value was RUB 47,090 thousand. rubles, return on investment index - 7.08, internal rate of return - 130.5%, discounted payback period - less than 1 year.

Potential risks that may arise during the implementation of the project were analyzed, their probability and sources of occurrence were determined. On this basis, measures were developed to reduce the likelihood of their occurrence and the level of losses. Thus, the project can be accepted for implementation in the educational and experimental farm "Kuban", its implementation will be the financial stability of the enterprise and strengthening its market position.

References

Baldin, K. V. (2017). *Risk management in innovation and investment activity: tutorial / K. V. Baldin, I. I. Pere-deryaev, R. S. Golov. pag.418.* Moscow: Dashkov and K,.

Chernyak, V. (2015). *Management of entrepreneurial risks in the system of economic security / VZ Chernyak, ND Eriashvili, EN Barikayev. 159 p.* Russia: UNITI-DANA.

Deeva, A. (2014). *Investments: tutorial / AI Deeva. - M. Publishing house, 436 p.* Russia: M. Publishing house .

Dzhurbina, E. M. (2015). *Investments: tutorial / E. M. Dzhurbina, S. G. Muradova., 204 p.* Russia: Stavropol: North Caucasus Federal University.

Educational portal of KubSau . (n.d.). Retrieved from KubSau: //edu.kubsau.local

Fedorova, E. A. (2014). *Financial environment of entrepreneurship and entrepreneurial risks / E. A. Fedorova, F. M. Shelopaev, A. I. Ermolenko. - M .360 p.* Russia: KNORUS.

GARANT, R. (n.d.). *Information and legal portal*. Retrieved from Access mode: http://www.garant.ru, free: http://www.garant.ru

Golovko, Y. V. (2016). *Investment opportunities in Russia: Pb. Peter, 2016 .341 p.* Russia: tutorial / Yu. V. Golovko.

Investment portal. (n.d.). Retrieved from Methodology for the commercial assessment of investment projects of IKF "ALT": http://www.altinvest.ru/library /method93/index.htm

Ivanov, I. (2016). *Financial management: Cost approach: tutorial / IV Ivanov, VV Baranov. Moscow, 504 p.* Moscow: Alpina Publisher.

Kazakova, N. (2015). *Economic analysis in business assessment and management of investment attractiveness: textbook / N. A. Kazakova. 240 p.* Russia: M:Unity-Dana.

Karataeva, O. (2018). *Organization of entrepreneurial activity: tutorial / OG Karataeva, O.S. Gavrilova. 111 p.* Russia: Saratov: IP Er Media,.

Maslennikov, V. V. (2014). *Risk management of priority investment projects / V. V. Maslennikov, V. G. Antonov, L. G. 188 p.* Russia: Skamay.

Mishura, L. (2016). *Organization, analysis and management of financial resources of the enterprise. Textbook / L. G. Mishura, T. M. Sizova. p 34.* St. Petersburg: NRU ITMO.

Mumladze, R. (2016). *Management in the agro-industrial complex: textbook / RG Mumladze, EI Semenova, MP 63 Tushkanov, etc .; ed. R.G. Mumladze. - M.: Knorus, 2016 -- 376 p.* Russia: M.: Knorus,.

Mushrooms, V. (2015). *Economy of the enterprise: a tutorial / VP Mushrooms. - M: UNITI, 2015 .-- 606 p.* Russia: M: UNITI.

Nechaev, V. (2017). *Organization of investment activity in the agro-industrial complex: textbook / V.I. Nechaev [and others] 288 p.* St. Petersburg: Lan.

Nechaev, V. (2014). *Organization of production and entrepreneurial activity in the agro-industrial complex: textbook. allowance / V. I. Nechaev, P. F. Paramonov. 428 p.* Krasnodar: KubGAU.

Official site of the Investment portal of the Krasnodar Territory. (n.d.). Retrieved from http://www.investkuban.ru

Official site of the Ministry of Economic Development and Trade of the Russian Federation . (n.d.). Retrieved from ttp://www.economy.gov.ru

Official website of the Government of the Russian Federation . (n.d.). Retrieved from http://www.government.ru

Portal about business and for business in agriculture. . (n.d.). Retrieved from http://www.fermer.ru

Selyuk, A. (2015). *Management of innovative projects: tutorial / A. V. Selyuk, A. V. Kuprina, S. A. Bardasov. - Tyu-men: 2015 .-- 132 p.* Bardasov: Tyu-men.

Sergeev, I. (2015). *Economics of the organization (enterprise): textbook. and a workshop for the butt. Bachelor's degree / I. V. Sergeev, I. I. Veretennikova. - 6th ed.,510 p.* Russia: Yurayt.

Sokolova, A. (2016). *Business planning. Development and implementation of an investment business plan: study guide. allowance / A. P. Sokolova, A. M. Shitu-khin, O. A. Sukhareva. 159 p.* Krasnodar: KubGau.

Sokolova, A. (2018). *Business planning: a tutorial / A.P. Sokolova, p175.* Russia: Krasnodarskiy TsSTI.

Startseva, T. (2015). *Economics and management of innovative development of the enterprise: methodological tools. Monograph / T. E. Startseva, T. S. Bronnikova.201 p.* Russia: Rusays,.

The official Internet portal of the Ministry of Agriculture and Processing Industry of the Krasnodar Territory [Electronic resource]. (n.d.). Retrieved from http://www.dsh.krasnodar.ru/

The official Internet portal of the Ministry of Agriculture of the Russian Federation [Electronic resource]. (n.d.). Retrieved from http://www.mcx.ru/

The official Internet portal of the Federal State Statistics Service [Electronic resource]. (n.d.). Retrieved from http://krsdstat.gks.ru

Tushkanov, M. (2016). *Organization of production and entrepreneurship in the agro-industrial complex: Textbook / MP Tushkanov, LD Cherevko, LB Vinnichek, etc .; ed. M.P. Tushkanova. , 270 p.* Russia: NITs INFRA-M.

Vishnyakova. (2017). *MN Economic evaluation of investment projects: a tutorial / MN Vishnyakova. - Moscow: FLINT, ´ .-- 114 p.* Moscow: FLINT.

Yakovlev, B. (2016). *Organization of production and entrepreneurship in the agro-industrial complex: textbook / BI Yakovlev, VB Yakovlev.480 p.* Russia: SPb: Quadro.