Analyzing the risk factors for improving the Russian mink efficiency

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Abstract. The article analyzes those factors that affect the functioning of domestic fur farms. In order to diagnose risks at the enterprises of the fur farming industry, a scientific approach using the matrix method is applied. The benefits of using this method have been studied. Using the example of fur animals for breeding mink, the risk matrix is considered. An author’s vision of the classification of consequences, probabilities, and risk levels is proposed. Using an integrated approach that includes various methods for measuring risk is proposed. This will provide for the most complete picture of the risks inherent in a particular business entity. The most probable and dangerous consequences and factors affecting both domestic and international fur farms’ activities are analyzed. A risk analysis at domestic fur farms should be carried out in order to prevent the occurrence of critical situations at all stages of the production process.

1. Introduction

In the conditions of modern market relations, the process of functioning of any business entity is accompanied by risk management, which is usually unsystematic or unconscious, and it is carried out in the context of individual areas of economic activity. Currently, the problem of risk management is relevant. If in the recent past, the state practically took upon itself all the risks of enterprises and organizations, then in a market economy, the situation has fundamentally changed. The business entity is forced to act independently in terms of reducing the degree of influence of business and financial risks.

For enterprises in the fur-breeding industry for the cultivation of cell breeding minks, risk management is of particular importance since this industry is most affected by risk factors (competition between the European Union and China; feed supply; weather conditions; delivery of mink animals; export of mink pelts for sale at auction, etc.) [3].

When making decisions regarding the activities of fur farming (introducing new technologies, the releasing a new product, defining an enterprise strategy), possible future developments are taken into account. However, reliable information about certain enterprise’s risks is realized only in the aggregate of knowledge and skills in the field of risk management in specific business conditions. Thus, for the most efficient operation of these enterprises, methodological explanations for diagnosing risks should be developed in detail.
2. Materials and Method
At different times, the fundamental research by domestic and foreign scientists was devoted to risk management problems. Among them, we can distinguish such authors as K. Arrow, J. Keynes, J. von Neumann, B. Milner and F. Liis, K. V. Baldin, E. M. Korolkov, and others.

In addition, at the legislative level, theoretical aspects of risk management are enshrined in the national standards of the Russian Federation, in which a risk is understood as the result of the influence of uncertainty on achieving certain goals [6], [7].

To date, a fairly wide range of practical tools used in the analysis of project risks has been developed. Research will determine their capabilities, advantages, and disadvantages. However, the methods for diagnosing risks for the operating conditions of agricultural enterprises are not well understood, which reduces entrepreneurial performance and requires further research in this industry. The purpose of this article is to study the matrix diagnosis of risks and the development of methods for constructing a risk matrix for enterprises in the fur farming industry for the cultivation of minks, as well as an analysis of factors affecting their activities.

3. Results
A risk is a result of the interaction of at least two systems, at least one of which seeks to survive and has a partial effective free will. One can manage risks by acting on one of them, or even on both at once. The relationships of these systems are partially uncertain [2].

A risk analysis is carried out to determine the likelihood of a hazard and the potential consequences of individual risks or a group of risks identified at earlier stages. Such a risk assessment is carried out after risk analysis to determine which risks are more dangerous, for which additional and possibly more comprehensive studies are needed, and which can be provided with less attention. Information collection methods may include interviewing, self-completion of questionnaires, group workshops, searching for relevant information in libraries, and chronological data processing for these purposes.

Even with reliable data, it is first advisable to conduct a qualitative analysis in order to better clarify the situation regarding the likelihood and extent of exposure to risks. After this, it is advisable to conduct an appropriate quantitative risk analysis. The need for these analyses depends on the nature and quality of data characterizing a particular risk, the nature of the project being carried out, as well as potential consequences and the possibility of obtaining additional useful information [6].

Risk management is an integral part of ensuring the resulting return on business. Today, risk management is understood as a process of choosing new directions of activity, levels of risk and distribution of resources (“responses to risks”) in the activities of enterprises, it is an integral part of a single process of increasing competitiveness and profitability [1].

Based on the foregoing, risk management is a component of the enterprise management process, and more precisely, all its constituent elements, such as processes, resources, technologies, etc. This management takes place by minimizing the undesirable consequences of possible events, which, if being completed, may cause the deviation of the actual results of an enterprise from planned.

We will consider the most common method for diagnosing risks, namely the matrix one. A risk matrix is a risk classification and presentation tool by ranking the consequences and likelihood of probability. Schematically, the risk matrix is a graphical and textual description of the risks of a business entity, which are located in a rectangular table.

Risk matrices allow one to determine the level of each identified risk for a subsequent decision to reduce the level of risk. Matrices include risk assessment criteria, namely, the level of damage from the implementation of the risk and the likelihood of a risk event occurring over a period of time. Each criterion is ranked from a minimum value to a maximum value. The final risk level is determined at the intersection of two criteria. For example, catastrophic risks should include those risks that are most likely and cause the maximum possible damage to the business entity during its implementation [4].

We will consider the risk matrix using the example of fur-bearing animal husbandry for growing cell breeding minks (Table 1). In the course of the analysis, the main risk factors that may arise during the implementation of the activity of fur farming, were identified. Risks were entered into the matrix by the
degree of their influence and frequency of exposure, using ranking and assessment of factors. The identified factors have a significant impact on the fur farming industry and are more typical of fur animals for raising minks not only in the Russian Federation, but also internationally. The factors indicated in the matrix are manifested not only in a decrease in sales volumes of mink skins, but also in sharp jumps in prices for mink skins, which has a negative effect not only on producers, but also on end consumers.

Table 1. Risk matrix for fur mink farming.

| Risk probability | Minor | Medium | Significant |
|------------------|-------|--------|-------------|
| High probability | Adverse currency change | Decrease in consumer confidence index among consumers | Advertising campaigns for the protection of animals and the refusal to purchase clothing made from natural fur |
| Probably         | Lack of full reporting on mink sales | Lack of advertising / own brand of domestic mink as a product of international trade | Weather conditions, namely positive temperatures, global warming |
| Possibly         | New competitors entering the market | Raw material price increase | Implementation of mink skins below cost |

Source: Developed by the author.

In the presented risk matrix (Table 1), the following classification of consequences, probabilities and risk levels is proposed:

1. The consequences:
   - **Minor** (low financial losses), namely: a decrease in sales, pressure to lower prices and margins of products sold. Measures to reduce risk, such as: developing policies to promote products on the market, including pricing; search for alternative sales channels, access to Asian markets;
   - **Medium** (high financial losses), namely: lack of demand for products, decrease in sales, the need to attract additional financing to maintain the functioning of the animal husbandry, decrease in motivation among buyers - manufacturers of ready-made clothes and end-users, the departure of key employees, such as livestock specialists, veterinarians, feeding services, from fur farming. Measures to reduce risk are the following: improving product quality, conducting market research, developing policies to promote products on the market, including pricing, attraction of an administrative resource to stimulate demand, constant search and training of personnel changes (profile order in institutions of secondary and higher professional education);
   - **Significant** (large financial losses), namely: large losses, liquidity gaps, litigation with banks, the need to attract additional financing to maintain the functioning of the company, the elimination of fur farming. Measures to reduce risk are as follows: analysis of import substitution (search for alternative suppliers / markets for the sale of mink skins), conducting information campaigns on the need to maintain the fur farming industry, placing free cash on deposits in foreign currency, attracting investors, replacing obsolete equipment with energy-saving and knowledge-intensive.

2. Probability:
   - **Possibly** means that the event has occurred no more than three times in the last ten years;
   - **Probably** means that the event happens every year;
   - **High probability** means that the event occurs once every six months.

3. Risk levels:
   - A potentially moderate level of risk is when periodic monitoring of the level of risk is recommended;
• In case of potentially high risk, in case of economic feasibility, it is recommended that a decision is made on the development of measures to minimize risks, as well as periodic monitoring of the level of risk;
• Potentially very high risk is when immediate actions are recommended as those being necessary to reduce the risk of the target level by developing measures to minimize risks.

In this example, all situations with a high and potentially very high risk will be unacceptable and require the immediate development of measures to minimize risks. Situations with a potentially moderate risk level are acceptable; however, these situations require an increased attention of the fur management. The information presented in the risk matrix can be used to identify risk and make decision by the management of fur animals to minimize expected losses or maximize profitability.

4. Discussion
The considered risk factors are confirmed by the data of the Russian statistics service. We will analyze the factors that have the greatest impact on the activities of fur farms. According to the results of the I quarter of 2019, more than 284 thousand fur products were sold in Russia, which was 29.9 thousand less than the volume of goods sold in the I quarter of 2018 (-9.5%) [8]. The drop in comparable indicators may be due to a combination of factors. Firstly, fur coat sales are directly related to weather conditions. Warm January and February inevitably lead to lower sales. Secondly, at the beginning of 2019, a decrease in the consumer confidence index was recorded. During 2019, the population does not expect income growth; therefore, expensive purchases are delayed until “better times.”

In addition, advertising campaigns to protect animal rights and refuse to purchase clothing made from natural fur are an important factor that has a significant impact. The target category of consumers from 20 to 40 years old falls under this influence, which is subject to the influence of the post-modern culture that came from the West. This is expressed not only in the refusal to wear clothes made of natural fur, but also a complete rejection of food of animal origin, namely veganism, raw food diets, etc.

The legislative prerequisites for protecting the rights of fur animals in the European livestock farms were adopted by the European Union. According to the recommendations of the European Council for the Cultivation of Fur Animals (published in 1999), it is undesirable to grow for tailoring those animals that were born in the wild and also those belonging to the species that are not able to adapt to captive life. Recommendations for the cultivation of fur animals, published in 2001 by the Scientific Committee of the European Commission on Animal Health and Well-Being, stipulate that all types of fur animals must be provided with housing that will meet all their needs on farms. In 2009, the Directive on the Protection of Animals During Slaughter was adopted, ruling that many improvements should be introduced since January 1, 2013. For example, the killing of fur-bearing animals should be supervised by a competent, certified specialist. Certain specifications must be considered, e.g. carbon monoxide must be used to kill [5].

Recently, in Russia, as well as in the European Union, there has been criticism of the fur farming industry. Fighters for animal rights and people who consider the use of fur unethical and inhumane in relation to animals, oppose the use of fur products and for the closure of fur enterprises. There are also activists who are not opposed to the fur farming industry and the use of fur in general, but to they speak in favor of improving the conditions for keeping fur animals. Also, there are cases of attacks on farms and farms in order to steal animals for their subsequent release. The main international organizations against fur include the following:

• International Organization for People for the Ethical Treatment of Animals (PETA);
• Humane Society International;
• Respect for Animals (UK);
• Fur Free Alliance (FFA);
• Coalition to Abolish the Fur Trade (CAFT, UK);
• NP Center for the Protection of Animal Rights “VITA”, Russian public non-profit organization (Russia, Moscow).
In addition, the cost of natural fur in the world is decreasing due to the trend to refuse natural fur set by the leading fashion houses. So, during 2018, the rejection to use the natural fur in the manufacture of clothing was announced by the leading world designers, including: Armani, Calvin Klein, Gucci, Hugo Boss, Ralph Lauren, Stella McCartney, Tommy Hilfiger, Versace, Michael Kors, Vivienne Westwood.

In addition, according to the final report of the Finnish company Saga Furs for 2018 (this is one of the largest auctions for the sale of mink and fox), it can be noted that the company’s revenue fell sharply (by 20 percent) from November 1, 2017 to October 31, 2018, and their profit before tax decreased from 9.2 million euros in 2016-2017 to minus 1.7 million euros (a decrease of 10.9 million euros) [9]. This is partly explained by the many bans on fur products in fashion houses, as well as problems with the image of animals’ suffering, being kept in fur farms around the world, as well as because of the slowdown in Chinese markets. The report also states that, according to a number of experts, in comparison to the previous year, the world mink production fell by 20 percent in 2018, prices for mink and fox skins fell by 24 percent and 20 percent, respectively.

The fall in profits at global auctions clearly shows that the fur industry has been hit hard by the leading global designers who have implemented a fur-free policy; and the trade in fur skins was clearly shaken by this blow after falling prices. One of the key problems is the “problem with the positioning of the fur trade in the western market.” No seller wants to spoil his/her brand with the image of a tortured animal that was kept in unsuitable conditions (tiny and cramped cages) before being gassed or electrocuted. Table 2 provides an overview of those countries that have introduced a complete ban on the keeping of fur farms, as well as restrictive regimes on the breeding of fur animals and trade in fur and fur products.

| Complete prohibition of cage fur farming | Breeding of fur animals is partially prohibited or strict conditions for their keeping are legalized | Bans on selling fur and fur products |
|----------------------------------------|-------------------------------------------------------------------------------------------------|--------------------------------------|
| Austria (since 1998)                   | Switzerland (no animal farms due to strict rules for keeping animals)                           | West Hollywood (USA) Dublin and its district (Ireland) San Francisco (USA) New Zealand (ban on the import of mink fur) |
| United Kingdom (since 2000)            |                                                                                                                                               |                                      |
| Croatia (since 2007)                   |                                                                                                                                               |                                      |
| Bosnia and Herzegovina (since 2009)    | Denmark (in 2009, only a ban on fox breeding was adopted, mink breeding is allowed)          | Italy (strict animal welfare)        |
| Norway (more than 300 fur farms will close by 2025) |                                                                                                                                               |                                      |
| Czech Republic (since 2019)            |                                                                                                                                               |                                      |
| Netherlands (since 2012, final decision made in 2015) |                                                                                                                                               |                                      |
| Slovenia (since 2013)                  |                                                                                                                                               |                                      |
| Germany (since 2017, the remaining fur farms have a transition period) |                                                                                                                                               |                                      |
| Luxembourg (since 2018)                |                                                                                                                                               |                                      |
| Serbia (since 2019)                    |                                                                                                                                               |                                      |
| Japan (since 2016)                     |                                                                                                                                               |                                      |
| Source: Based on materials from the Fur Free Alliance, FFA, 2017 [10].                                                                         |

Despite the fact that Denmark, Finland, Canada, the USA, and Russia are still one of the largest producers and exporters of mink fur, the public there is fighting for animal rights [3]. The main message of environmental activists is that furs are the “luxury goods without necessity.”

It should be noted that many actions in defense of animal rights are aimed at destroying the reputation of the fur trade and the destruction of this industry. For many years, false accusations spread about the fur industry, claiming that animals kept in fur farms were skinned alive to supply the fur industry with fur skins. In particular, PETA, an international organization of animal rights activists, used a video depicting live hiding of mink skin in an attempt to denigrate the fur industry and force lawmakers to
prohibit the breeding of fur animals in fur farms around the world. But in 2019, the International Fur Federation (IFF) conducted an investigation in which the actions of animal rights activists were exposed. They ordered and paid for a 2009 video showing torture over a fur-bearing animal [11]. The IFF released documentary refuting activist accusations and exposing perpetrators of major international conspiracy to destroy the fur trade reputation.

In addition to the factors arranged by animal rights activists, it is necessary to consider those factors speaking in favor of the production of clothing made of natural fur. Despite its friendly attitude to the animal world, most of the faux fur is made from modacrylic fibers, synthetic polymers. This means that, like many other products created on the basis of petroleum products, these products pollute the environment both during the production and during washing, as well as they are not biodegradable.

5. Conclusion

Studies have shown that in a market economy, the process of a business entity’s functioning is accompanied by risks that affect the profitability of the fur farming industry. The analysis of risk factors affecting fur farming was carried out using a scientific approach to diagnosing risks using the matrix method. This method does not guarantee the adoption of effective decisions in managing the activities of fur farming, although it could help to identify the severity of the consequences of risky events and a possible assessment of the likelihood of their occurrence. When analyzing risks in enterprises, an integrated approach must be used that includes various methods for measuring risk, which would allow one to get the most complete picture of risks in each case relative to the enterprise. According to the results of the study, a matrix with a classification of consequences, probabilities, and risk levels was proposed. This will allow enterprises to predict risks and make informed management decisions, preventing the emergence of critical situations at all stages of the production process.

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