The impact of modernization on the formation of the poultry meat market in the Russian Federation

M Kh Barcho

1 Kuban State Agrarian University named after I.T. Trubilin, 13 Kalinina str., Krasnodar 350044 Russia

E-mail: barcho_m@mail.ru

Abstract. Food production and meeting the needs of the population in high-quality food products are among the most important practical tasks of state importance. A significant contribution to the development of domestic agriculture makes poultry. For a short period of time (2001-2018), there was an increase in poultry meat production by 5.5 times and eggs by 27% in Russia. The main factor in increasing production in the poultry industry was the implementation of innovative processes and integrated technical and technological modernization. In order to maintain the momentum and continue the progressive development of poultry production, it is necessary to ensure that its competitiveness is increased, taking into account the existing and forecasted future challenges. In order to determine the impact of modernization processes on the formation of the poultry meat market, the article analyzed the dynamics of the number of new, modernized and reconstructed poultry facilities and estimated the volume of increase in poultry production for slaughter at these enterprises. The proposed measures of state support in terms of modernization of the industry, the implementation of which, in the author’s opinion, would contribute to the achievement of full provision of the domestic market for poultry products and the transformation of the sub-sector into an export-oriented business.

1. Introduction

The poultry farming is one of the most dynamically developing branches of the agro-industrial complex, as evidenced by high production growth rates. According to the Rosptitesoyuz, the volume of poultry meat production was 4.98 million tons in the slaughter mass in farms of all categories in 2018, which is 3.05 times (or 3.59 million tons) more than the 2006 level in which implementation began Priority National Project “Development of the Agricultural & Industrial Complex.” Later adopted, the State Program for the Development of Agriculture for 2008-2012 and the targeted program of the department for 2010-2012 and the subsequent state and departmental programs continued the course taken to modernize the industry [1].

The main factor in increasing production in the poultry industry was the implementation of innovative processes and complex technical and technological modernization, including the construction of new modern poultry farms, the updating and improvement of bird crosses, the transition to innovative technologies for their maintenance, as well as poultry meat processing.

In the modern conditions of globalization, the conditions of Russia's membership in the WTO and the deepening of its participation in the global integration processes, the risks of domestic producers of poultry products have increased. In this regard, issues of improving the competitiveness of products
based on innovative approaches to the development and continuous process of further modernization of the industry, as well as the development of state support measures are updated.

2. Methods
The following research methods were used: observation, comparison, abstract-logical, retrospective, economic, and statistical. The empirical information was obtained from official statistics, the Ministry of Agriculture, Rosptitsesouz, and Rosstat.

3. Results
More than 90% of the production in the meat poultry industry accounts for industrial enterprises, about 70% in large integrated formations that ensure the modernization of the technological process throughout the food chain (production-processing-logistics-sales) [7]. The possibilities of such formations in the work on quality and branding of products, promotion in retail chains determined their competitiveness in the domestic and, in some cases, in the external market.

Over the past 5 years (2013-2017), 74 new poultry farms were commissioned in Russia, 65 farms were modernized, more than 1,151.6 thousand tons of poultry meat were additionally produced (Table 1). During this period, the share of products manufactured using innovative technologies increased to 18.4%, which made it possible to increase its competitiveness [2].

Table 1. Increase in poultry meat production for slaughter (in live weight) on the newly built, reconstructed, and modernized farms.

| Indicators                                      | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2017 to 2008, % |
|------------------------------------------------|------|------|------|------|------|------|------|------|------|------|-----------------|
| Total number of objects                        | 85   | 61   | 61   | 40   | 26   | 31   | 30   | 26   | 20   | 32   | 37.6            |
| Including:                                     |      |      |      |      |      |      |      |      |      |      |                 |
| introduced new objects                         | 22   | 17   | 18   | 9    | 7    | 10   | 19   | 13   | 14   | 18   | 81.82           |
| reconstructed and modernized objects           | 63   | 44   | 43   | 31   | 19   | 21   | 11   | 13   | 6    | 14   | 22.22           |
| Total poultry production for slaughter (in live weight), thousand tons | 220.1 | 125.6 | 181.9 | 114.1 | 61.9 | 154.2 | 194.6 | 232  | 251.5 | 319.3 | 145.07          |
| Including:                                     |      |      |      |      |      |      |      |      |      |      |                 |
| due to the commissioning of new objects, thousand tons | 91.7 | 75.7 | 81.2 | 49.2 | 20.4 | 100.3 | 178.6 | 191  | 238.8 | 313.4 | 341.77          |
| due to reconstruction and modernization of objects, thousand tons | 128.3 | 49.9 | 100.7 | 64.9 | 41.5 | 53.9 | 16   | 41   | 12.7  | 5.9  | 4.60            |
| The share of additional production at the constructed, reconstructed, and modernized facilities in the total volume of poultry production for slaughter (in live weight), % | 7.3  | 3.6  | 4.7  | 2.6  | 1.3  | 3    | 3.5  | 3.9  | 4.1   | 4.8  | -2.50 p.p.      |
Our analysis of the largest poultry organizations clearly shows that the leading position in the ranking is occupied by those organizations that modernize their production and introduce innovations. The successful implementation of state support programs in terms of modernization and restructuring of the industry led to the fact that poultry meat production continues to be the fastest growing in the meat market in Russia. Domestic poultry farmers are ranked fourth in the ranking of the largest poultry meat producing countries in the world, behind the primacy of the United States, China and Brazil.

The total capacity of the poultry meat market in the Russian Federation was 5.02 million tons in the slaughter mass in 2018, which was 16.2% higher than in 2013, for example (Fig. 3). In 2018, the poultry meat consumption per capita reached 34.2 kg, exceeding this figure for other types of meat [2]. There was a sharp decline in imports of poultry meat to 270 thousand tons in 2015, while about 473 thousand tons (- 57%) were brought to Russia in 2014.

The main reason for the decline in poultry meat imports was the devaluation of the ruble, which made imported products uncompetitive. The share of imports fell to 4.5% in 2018. However, the
devaluation of the ruble did not stimulate the export of poultry meat (Fig. 3). Nevertheless, in comparison with 2017, export volumes increased slightly in 2018, reaching 184.1 thousand tons. It should be noted that at present, imports of poultry meat significantly exceed export volumes, although the industry has a significant potential for export growth.

Figure 3. Dynamics of the share of exports and imports of poultry meat in the market, %.

The intensification of modernization processes affected the state of alternative types of poultry farming, such as the production meat of turkey, duck, and others, although their share in the total volume of the poultry meat market is about 6-8%. However, in recent years, the turkey farming sector has been growing rapidly, where the successful implementation of several large projects has reached a production level of 233.0 thousand tons in the slaughter mass in 2018, which is 68.7% more than in 2013. According to forecasts of BusinesStat, the production of turkey meat in Russia will grow by 11.6-18.1% per year in 2018-2022 [3]. Growth up to 471.4 thousand tons in slaughter weight is projected at 2022, which would exceed 2 times the value of 2017. The market will grow both due to technical and technological modernization and, accordingly, to increase production at existing enterprises, and due to the emergence of new enterprises.

Also, the first large project for the production of duck meat is actively developing (“Donstar” in the Rostov region), and other large enterprises in this industry appear, for example, “Chicken-Dak” in the Altai Region, and “Utinye fermy” in the Chelyabinsk Region [4].

4. Discussion

As practice shows, the increase in poultry meat production is closely connected with the modernization of the industry along the entire technological chain, as a result of which poultry crosses are updated, new technologies of feeding and housing of poultry are introduced, and its productivity is increased.

The analysis showed that the distinctive feature of the present stage of development is the saturation of the poultry production market and the danger of an overproduction crisis. The consumption of food (poultry meat, egg) meets the standards, the level of the Food Safety Doctrine for these types of products reached back in 2011. Moreover, according to the Rosptitsesoyuz, the forecast for the development of the industry envisages bringing the volume of poultry meat production to 5.2 million tons, as well as reducing imports to 230 thousand tons in 2024.

It should be noted that the purchasing power of the population in poultry products is growing, but its growth rates are lower than the growth rates of poultry meat production, which does not allow for an increase in consumption.
5. Conclusions
In the future, the Russian poultry meat market will face serious intra-industry competition. In this regard, manufacturers are interested in the development of exports. The way out is as follows:

- Expansion (diversification) of exports of poultry products, namely poultry meat in the form of halal products, to the EEU countries (by-product are exported to China);
- Expanding the range of poultry products;
- Expanding the range of poultry products of deep processing.

Modernization of the agrarian sector of the economy requires a multiple increase in the share of expenditures for these purposes in the budgets of all levels. However, the actual size of state support is much lower than in developed countries and does not meet the task of modernizing the economy.

For state support of the poultry industry, the following is necessary:

- Prolong subsidization of interest rates on loans attracted for the construction, reconstruction, and modernization of poultry facilities;
- To carry out the selection of investment projects for the construction, reconstruction, and modernization of poultry facilities, in regions where the production of poultry meat per capita is below the average Russian level;
- Provide priority support to projects for the development of breeding reproducers, the development of non-traditional types of poultry meat – turkey breeding, goose breeding, duck breeding, (a 10% growth in the share is planned for 2020);
- To stimulate measures to ensure environmental safety, processing and disposal of poultry waste;
- Support for the development, creation, and reconstruction of breeding and genetic centers for poultry farming;
- Income support for agricultural producers in the poultry industry [2].

References
[1] Government of the Russian Federation 2012 Decree “On the State Program for the Development of Agriculture and Regulation of Agricultural Products, Raw Materials and Food Markets for 2008-2012” (July 14, 2007 No. 446) Available at: http://www.consultant.ru/document (Accessed 02 04 2019)
[2] Ministry of Agriculture of the Russian Federation 2017 National report “On the progress and results of the implementation in 2017 of the state program for the development of agriculture and the regulation of the markets for agricultural products, raw materials and food for 2013-2020” Available at: http://mcx.ru (Accessed 02 04 2019)
[3] Completed Market Reviews “Busines Stat” n.d. Analysis of turkey meat market in Russia in 2014-2018, forecast for 2019-2023 Available at: https://businessstat.ru/catalog/id44760/ (Accessed 02 04 2019)
[4] Institute for Agricultural Market Studies 2019 Results of the year 2018: meat industry Available at: http://ikar.ru/lenta/676.html (Accessed 02 04 2019)
[5] Official site of the Federal State Statistics Service of the Russian Federation n.d. Available at: http://www.gks.ru (Accessed 02 04 2019)
[6] Institute for Agricultural Market Studies n.d. Poultry market Available at: www.ikar.ru/poultry/profile.html (Accessed 02 04 2019)
[7] Sokolov N A, and Kuzmitskaya A A 2016 Innovative and technological development of meat poultry farming in terms of import substitution Vestnik of the Bryansk State Agricultural Academy 5 pp 50-58
[8] Rosinformagrotech 2016 Technological processes and equipment used in intensive breeding of poultry (Moscow, Russia: “Rosinformagrotech” Federal State Scientific Institution)
[9] Fisimn V I, Egorov I A, Buyarov V S, and Buyarov A V 2014 Innovative and technological development of the poultry industry Vestnik of OrelSAU 5(50) pp 50-58