Economics and management of the agro-industrial complex

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Abstract. The agro-industrial complex is currently under intensive development. The processes occurring in the modern economic community require new solutions and approaches related to the integration processes in the agricultural sector. The analysis of statistical data shows the positive dynamics in the development of the agro-industrial complex. The establishment of sustainable economic relations provide a synergistic effect that would be generated through the rational use of available resources, the use of scientific research and the expansion of international relations.

Currently, an important factor contributing to the enhancement of reproduction in agriculture is the development of cooperation and integration in the agro-industrial sector. The international practice of ensuring global economic development and accumulated experience in Russia is the most effective means of achieving sustainable development of agro-industrial complexes in the context of globalization of commodity markets in the framework of modern economic relations. Today, these processes are in their active stage. The important point is the possibility of obtaining a synergistic effect due to the integration processes. This kind of effect can be achieved in connection with a more rational use of the resource potential, the introduction of new innovative technologies, the formation of an effective communication system, etc. Integrating the efforts of companies and branches of agricultural communities, one can focus resources on the release of the final product [2, 4].

Conducting the analysis of statistical information, we note the main directions in the dynamics of production volumes and prices of food products. So, for example, the index of agricultural production in farms of all categories in January - August 2018 to the same period last year amounted to 97.4% (in 2017 - 101.1%).

The index of food production was 104.1% (105.1% in 2017), including: processing and canning of meat and meat food products – 105.1% (106.2% in 2017), production of dairy products – 101.6 (101.5% in 2017).

Characteristics of the grain market: Prices

In the last week of September 2018, prices for grain crops (Table 1) grew in the Southern, Volga, and Siberian federal districts (FDs); in the Central and Urals FDs, they had multidirectional dynamics. In the North Caucasus and Far Eastern Federal Districts, grain prices remained mostly stable.

Table 1. Prices for grain crops (September 2018).
Export

According to the operational data of the Federal Customs Service of Russia, on September 27, 2018, 14,335 thousand tons of grain crops were exported in the current 2018/2019 agricultural year, which was 20.5% higher than the same period last season (11,894 thousand tons). The volume of wheat exports for the season amounted to 12,135 thousand tons (by 33.4% higher than the same period of the 2017/18 season), barley – 1,651 thousand tons (-13.9%), corn – 418 thousand tons (-48.4%).

Average export price of soft wheat

On September 27, 2018, according to experts, the price for Russian wheat of 4 class, protein 12.5 (FOB Novorossiysk) was 226 USD / ton (+5 USD / ton for the week). The dynamics of consumer prices are presented in Tables 2 and 3.

Table 2. Average consumer prices according to Rosstat, rub. / kg.

| On 09/25/2017 | For July | For August | On 09/24/2018 | % by last year |
|---------------|----------|------------|---------------|---------------|
| Wheat flour   | 32.54    | 31.87      | 31.87         | 32.13         | 98.7          |

Table 3. Average consumer prices according to Rosstat, rub. / kg.

| On 09/25/2017 | On 09/17/2018 | On 09/24/2018 | % to the previous week | % since the beginning of the year |
|---------------|---------------|---------------|------------------------|----------------------------------|
| Wheat flour   | 45.21         | 46.92         | 46.99                  | 100.2                            | 102.2                          |
| Bread         | 45.42         | 46.58         | 46.69                  | 100.2                            | 102.4                          |
| Rye-wheat     | 64.32         | 47.45         | 47.24                  | 99.6                             | 82.7                           |
| Bread         | 62.87         | 62.84         | 62.95                  | 100.2                            | 100.4                          |
| Polished rice |               |               |                        |                                  |                                |

Grain stocks on September 1, 2018 (Rosstat) in agricultural, procurement, and processing organizations (excluding small forms) in Russia was 45.8 million tons, i.e. 5.3 million tons (-10.4%) less than on 09/01/2017.

The volume of grain of the federal intervention fund as of September 28, 2018 is 3,447.3 thousand tons in the amount of 32,762.8 million rubles.

Meat market

In January-August 2018, the production of livestock and poultry for slaughter (live weight) in farms of all categories amounted to 9.0 million tons and increased by 3.7% compared to the same period in 2017. In agricultural organizations, livestock and poultry production (live weight) amounted
to 7,378.4 thousand tons, which was 5.2% higher than the same period in 2017, including cattle – 626.1 thousand tons (+7.3%); pigs – 2,647.6 thousand tons (+10.5%); poultry meat – 4,081.3 thousand tons (+1.8%).

According to the operative data of SM PB, the weighted average price of agricultural producers in the Russian Federation on September 27, 201 for cattle (live weight) was 109.57 thousand rubles/ton (+0.8% per week), for half carcass beef – 209.25 thousand rubles / ton (+5.0% for the week, -1.7% by the end of December 2017, -0.9% by the end of December 2017, -0.9% compared to the same period of 2017), for pigs (in live weight) amounted to 107.27 thousand rubles / ton (-2.2% per week, +13.2% by the end of December 2017, +8.1% compared to the same period of 2017), 74.12 thousand rubles/ton for live poultry (+0.4% per week), 105.54 thousand rubles/ton for poultry meat (chickens) (+1.2% for the week, +9.1% by the end of December 2017, +6.4% against the same period of 2017).

According to Rosstat, the volume of industrial meat production in January-August 2018 amounted to 1,690.6 thousand tons (11.2% more than in the same period of 2017), semi-finished meat, meat-containing, chilled, frozen – 2,133.1 thousand tons (6.4% more); sausage products, including sausage products for baby food – 1,494.9 thousand tons (0.6% more); and canned meat (meat-containing), including canned food for baby food – 397.1 thousand tons (4.0% less).

Industrial producer prices in August 2018 were as follows:
- 224.60 rubles/kg for beef (+0.3% per month, +4.9% by August 2017, +4.2% by December 2017);
- 167.00 rubles/kg for pork (+8.2% per month, +10.8% by July 2017, +20.0% by December 2017);
- 101.48 rubles/kg for poultry meat (chickens) (+2.1% for the month, +12.6% by July 2017, +14.6% by December 2017).

Average consumer prices on 09/24/2018 were:
- 325.91 rubles/kg for beef (+0.2% per week, +1.3% from the beginning of 2018, +2.4% over the same period in 2017);
- 273.38 rubles/kg for pork (+0.5% per week, +5.9% from the beginning of 2018, +5.2% against the same period of 2017);
- 138.54 rubles/kg for poultry meat (chicken) (+0.5% per week, +10.4% from the beginning of 2018, +7.2% against the same period in 2017).

According to the operational data of the Federal Customs Service of Russia (excluding trade with the EAEU countries), in the current year (as of September 23, 2018), the imported beef, including offal, decreased by 7.4% in comparison to the same period in 2017 and amounted to 203.7 thousand tons, pork, including 4.1 times for offal (up to 53,4 thousand tons) and 1.5 times for poultry meat, up to 52,2 thousand tons.

As of September 23, 2018, the average contract prices are higher compared to the same date last year: by 11.5% for beef ($3,266.8/ton, or 216.4 thousand rubles/ton), by 10.9% for poultry meat ($1,781.1/ton, or 118.0 thousand rubles/ton), but it oslower by 15.1% for pork and amounted to 2 345.0 dollars / ton (or 155.4 thousand rubles/ton).

According to the operational data of the Federal Customs Service of Russia (excluding trade with the EAEU countries), in the current year (as of September 23, 2018), exports of beef, including offal, increased by 1.6 times in comparison to the same period in 2017, amounting to 4.1 thousand tons. With respect to pork (including offal), the increase was by 26.7% (up to 54.7 thousand tons), and the poultry meat demonstrated growth by 30.0%, up to 99.9 thousand tons. The main consumer countries are Ukraine, Vietnam, Hong Kong, Iran, UAE.

In foreign countries, over the last week of September, prices increased for beef (3,747.2 euro/ton), decreased for pork (1,436.0 euro / ton), and did not change for poultry meat ($ 540.2 / ton).
Consumption of meat and meat products per capita in 2017 is estimated at 74.0 kg at a rational rate of 73 kg.

**Sugar market**

As of September 27, 2018, sugar beet (factory) was dug out from an area of 467.9 thousand hectares, 16.2 million tons were harvested, with a yield of 346.0 c / ha. According to the Union of Sugar Producers of Russia, as of September 24, 2018, there are 72 sugar beet processing plants (74 in 2017). Since the end of July 2018, processed sugar beets. 10 150.0 thousand tons (12.7% lower than last year), 1,457.0 thousand tons were produced (5.7% lower than last year). In January-August 2018, production of granulated sugar decreased by 16.0% compared to the same period in 2017 and amounted to 928.8 thousand tons.

The amount of white sugar imported to Russia (according to the data of the Federal Customs Service of Russia) in January-July 2018 decreased by 2.1% and amounted to 162.0 thousand tons (in January-July 2017 – 165.4 thousand tons).

The export of white sugar from Russia (according to the data of the Federal Customs Service of Russia) increased by 5.1% in January-July 2018 and amounted to 256.8 thousand tons (244.4 thousand tons in January-July 2017). The main consumer countries are Uzbekistan, Belarus, Azerbaijan. According to the Federal Customs Service of Russia, the volume of imports of raw sugar in the current year (as of September 23, 2018) amounted to 4.2 thousand tons compared to 4.4 thousand tons in the same period of 2017.

As of September 25, 2018, the wholesale price for sugar in the Southern Federal District did not change over the week (+22.0% from the same period last year, +28.7% from the beginning of the current year) and amounted to 32.16 ruble/kg.

According to the operational data of SM PB, the weighted average price of industrial producers as of 09/27/2018 amounted to white beet sugar at 31.13 rubles/kg excluding VAT (+4.3% per week, +21.8% by December 2017).

As of September 24, 2018, the consumer price was at the level of 41.13 rubles/kg and increased by 0.4% over the week (+13.8% from the beginning of 2018, -1.6% compared to the same period of 2017).

At the New York Commodity Exchange, there was a decrease in stock quotes for raw sugar. As of September 26, 2018, quotations were at the level of 218 $/t (-8.0% over the week, -32.1% by December 2017, and -24.3% in comparison to the same period of 2017).

Sugar consumption per capita in 2017 is estimated at 39.3 kg at a rational rate of 24 kg.

**Milk market**

According to the operational data of SM PB, the weighted average price of agricultural producers in the Russian Federation on 09/27/2018 for raw milk was 21.71 rubles / kg (+0.11 rubles/kg for the week, -3.02 rubles/kg by the end of December 2017; -2.08 rubles/kg compared to the same period of 2017).

According to Rosstat, agricultural producers’ prices for raw milk in August 2018 amounted to 21.43 rub./kg and did not change over the month (-12.9% by December 2017, -8.5% if compared to the same period of 2017).

According to the operational data of SM PB, the weighted average price of industrial producers in the Russian Federation on 09/27/2018 for pasteurized milk was 41.56 rubles/kg (+0.4% per week, -0.4% by December 2017, +0.5% to the same period of 2017). In turn, it was 421.57 rub./kg for butter (-0.1% per week, -1.2% to December 2017, + 0.7% to the same period of 2017), 354.09 rubles/kg for hard cheese (0.0% per week, +3.7% compared to December 2017, +3.5% compared to the same period of 2017).

Average consumer prices on 09/24/2018 were:
− 52.54 rubles/kg for pasteurized milk (+0.2% per week, -0.9% from the beginning of 2018, +0.1% over the same period in 2017);
− 536.55 rubles/kg for butter (+0.1% per week, +0.7% from the beginning of 2018, +3.1% compared to the same period of 2017);
− 487.45 rubles/kg for cheeses (+0.3% per week, +1.8% from the beginning of 2018, +3.0% compared to the same period of 2017).

In January-August 2018, the gross milk yield in farms of all categories amounted to 21.9 million tons and increased by 1.3% compared to the level of 2017, in agricultural organizations the gross milk yield increased by 3.7% to 11.1 million tons.

According to Rosstat, the volume of industrial production of milk, except raw milk in January-August 2018 amounted to 3,611.7 thousand tons (2.1% higher than the same period in 2017); dairy products (except cottage cheese) – 1,935.7 thousand tons (2.1% less); cheese – 320.1 thousand tons (4.2% more); cheese products – 122.8 thousand tons (1.2% more), butter – 177, 8 thousand tons (by 3.6% less), milk and dry cream – 96.8 thousand tons (by 6.3% less).

The volume of imports of basic types of dairy products to Russia in terms of milk (according to the data of the Federal Customs Service of Russia) in January-July 2018 decreased by 22.0% and amounted to 3,265.4 thousand tons (4,186.6 thousand tons in January-July 2017).

According to the operational data of the Federal Customs Service of Russia (excluding trade with EAEU countries) in the current year (as of September 23, 2018) in comparison to the same period in 2017, imports of cheese increased by 29.0%, supplies decreased 2.2 times for butter and 4.1 times for milk powder (supplier countries: Switzerland, New Zealand, Uruguay).

The consumption of milk and dairy products per capita in 2017 is estimated at 233.4 kg, while the rational norm is 325 kg.

The main trends occurring today in the market of agricultural products indicate the need for the development of integration processes in this complex sector of the national economy. The gradual equalization of the situation after the sanctions imposed by the West once again underlines the importance of such issues. In our opinion, industrial agricultural integration is a complex process of regulating economic development, which is based on integration processes that most effectively combine the economic interests of the state with the entity producing agricultural products, which leads to the inevitable development of productive forces, the deepening of the social division of labor, specialization in order to increase the economic efficiency of the subject and the solution of social problems. When solving problems related to integration processes, serious attention must be paid to developing and using the scientific potential in the agro-industrial sector [3]. For more effective implementation of investment projects in rural areas, it is important to form research departments capable of carrying out applied research, as well as create centers in which the fundamental sciences could develop. These processes cannot be implemented without developing completely new provisions of the agro-industrial policy. Moreover, the appropriate state support is fundamental for the prospective development of the country’s agriculture.

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