

Research Article

**Dairy cattle of the Smolensk region:
Transition from stagnation to investment attractiveness
of the industry**

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ABSTRACT.

Today, for most of the Smolensk region farms, dairy cattle breeding remains a priority industry, generating main incomes. More than two hundred agricultural organizations and farms are engaged in this direction, which is 60% of all existing agricultural organizations.

Currently, dairy industry of the Smolensk region, as well as of the country in general, has found itself in difficult conditions, there is stagnation on the Russian milk market. Against this background, the main system problem of the industry, associated with low investment attractiveness, becomes acute.

The aim of the study is to find ways and opportunities that would help to break the trend of falling production volumes and fill out retiring volumes of dairy raw materials and finished dairy products for 8-10 years by increasing the productivity of "strong" agricultural organizations.

The statistical data of a unified database of federal statistical information was used for the study. The survey of respondents (producers and processors of milk) was carried out with the help of the National Union of Milk Producers, basing on their data, the raw materials development forecast was calculated.

On the basis of a comprehensive study of the dairy industry, we developed the basic ideas of the new dairy strategy of the region, which is closely tied to the general investment attractiveness of the industry, as well as to existing government support measures.

The introduction of the new development model of the region as a set of integrated development of the dairy industry basing on the attracting investment and state assistance will allow the region to take a new level of economic development, will give the necessary impulse to the development and financial well-being of the village.

Key words: food security, investment attractiveness, agricultural products, milk, dairy industry, dairy strategy.

INTRODUCTION.

Smolensk region is located in the West of the European part of Russia, on the border with Belorussia. The territory includes 49786 sqm km. The distance from the administrative center to

Moscow is 390 km. The length from North to South is 255 km, from West to East is 285 km. The population density is 19 people per 1 sqm km, the Smolensk region is inhabited by 950

thousand people. The largest settlements of the Smolensk region (more than 5 thousand inhabitants) are Smolensk, Vyazma, Roslavl, Yartsevo, Safonovo, Desnogorsk, Gagarin, Verkhnednepetrovsk, Dorogobuzh, Yelnya, Rudnya, Pochinok, Demidov, Sychevka, Velizh. It borders with Moscow, Kaluga, Bryansk, Pskov and Tver regions of Russia, as well as with Mogilyov and Vitebsk regions of Belorussia.

The climate is temperate continental. The summer is warm (the average temperature in July is 17-18 degrees Celsius), the winter is moderately cold (the average temperature in January is minus 8.5). The annual rainfall ranges from 530 to 650 mm [6].

Competitive advantages of the Smolensk region are:

- the most important transport and communication hub;
- border position;
- the proximity of the largest metropolis of the country;
- availability of qualified personnel;
- a significant network of vocational education institutions;
- developed transport communications and modern communication facilities;
- high energy supply;
- the presence of a legislative framework that ensures the reliability of investments;
- readiness of regional authorities to create favorable conditions for investors [8].

Currently, dairy industry of the Smolensk region, as well as of the country in general, has found itself in difficult conditions, there is stagnation on the Russian milk market. Against this background, the main system problem of the industry, associated with low investment attractiveness, becomes acute. To increase milk production, raise the level of quality, as well as the competitiveness of dairy products of local producers, provide residents with dairy products produced in the region, and solve food safety issues are the main task that we are facing at this stage.

Today, for most of the Smolensk region farms, dairy cattle breeding remains a priority industry, generating main incomes. More than two

hundred agricultural organizations and farms are engaged in this direction, which is 60% of all existing agricultural organizations.

At the beginning of the current year, 234 agricultural commodity producers were engaged in dairy cattle breeding in the Smolensk region, including 124 agricultural organizations, 110 peasant farms and self-employed entrepreneurs [1].

On January 1, 2017, agricultural organizations had 27.6 thousand cows, which is below the level of January 1, 2018 by 900 animals or 0.3%. In peasant farms and self-employed entrepreneurs, there were 5.5 thousand dairy cows, which is higher than in 2017 by 0.2 thousand animals or 3.4% [11].

This year, after 6 months, the reduction in the number of dairy cows occurred in 47 farms, including 34 agricultural organizations (28% of the total) and 13 peasant farms and self-employed entrepreneurs (11% of the total).

Also, as of January 1, 2018, in 51 farms, the number of milk cows decreased compared to the beginning of 2017 (by 1705 animals).

The main reasons for the reduction:

- fight against cattle leukemia (6 farms);
- purchase of land by a large investor (13 farms);
- lack of working capital (30 farms);
- pre-bankruptcy state (2 farms).

The retired livestock in the liquidated farms was actually compensated by increasing the dairy herd by 1,545 animals in the farms that received or are applying for the development grant. In addition, the implementation of measures for the grant support of family and novice farmers contributed to the increase in the number of cows in this category of farms.

By the end of 2017, the Smolensk region is on the 13th place among the 18 regions of the Central Federal District in gross milk production in agricultural enterprises and only 16th in the productivity of dairy herds with an indicator of 4,600 kg of milk, despite the fact that over the past five years the region has grown milk yield by more than 1 thousand kg of milk [10].

The share of agricultural organizations accounted for 99% of the gross milk yield in the region (Table 1).

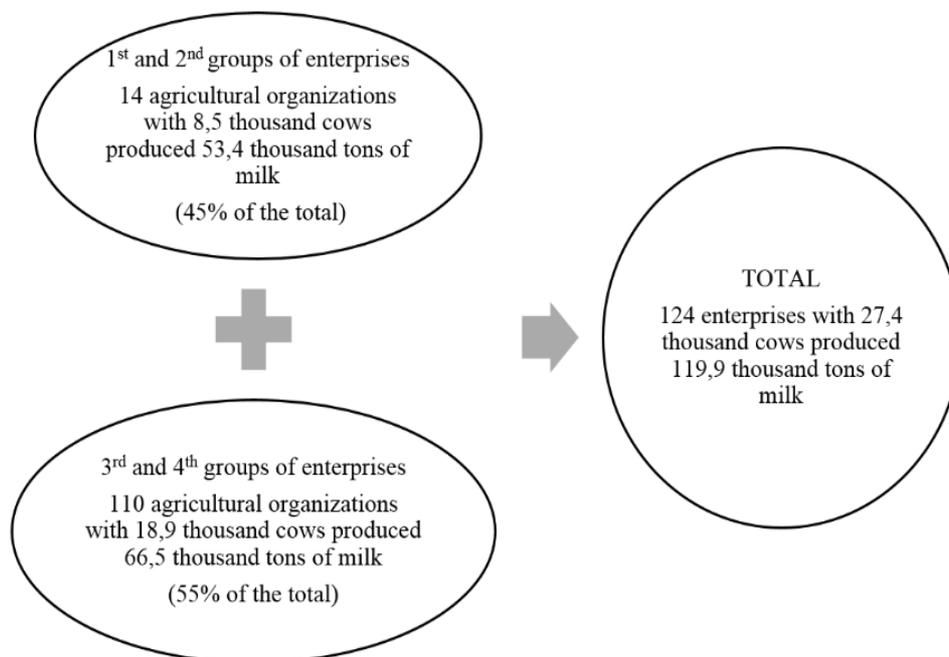
Table 1 - Gross milk production in agricultural organizations of the Smolensk region in 2017, tons

| Group | Milk yield per one dairy cow, kg | Number of agricultural organizations | Gross milk yield in total, thousand tons | Cow population (at the end of the year), animals |
|--------|----------------------------------|--------------------------------------|--|--|
| 1 | More than 7000 | 5 | 21,3 | 2 628 |
| 2 | 5000-7000 | 9 | 32,1 | 5 900 |
| 3 | 3000-5000 | 55 | 53,9 | 14 169 |
| 4 | not exceeding 3000 | 55 | 12,6 | 4 745 |
| TOTAL: | 4601 ¹ | 124 | 119,9 ² | 27 442 |

Source: calculated according to the Federal State Statistics Service, statistical reports of the Smolensk Region Agriculture and Food Department, 2018

Currently, there is a negative trend in the reduction of gross milk production in farms of all categories. So, for the first half of 2018, 94.5 thousand tons of milk were produced, which is 3.5 thousand tons or 3.6% less compared to the level of 2017.

Let's unite dairy farms in 4 groups, the main factor influencing the gradation is the yield per cow (Figure 1).

**Figure 1.** Gradation of dairy farms by productivity

The highest milk yield per cow was recorded in AO (OOO) Zolotaya Niva of the Safonovsky district (1st group) – 8,496 kilograms of milk (89% higher than the average regional index). The smallest yield was in OOO Plemennoye of the Roslavl district (4th group) – 466 kilograms of milk (18.2 times lower than the average regional index).

The main decline in gross milk production in the current year is observed in individual households. During this period the yield was 26.9 thousand tons of milk, which is 2.4 thousand tons less than last year.

The decline in gross milk yield over this period in peasant farms was 0.1 thousand tons or 1%.

In January-June, 2018, agricultural organizations produced 57.2 thousand tons of milk, which is 0.8 thousand tons less than in the same period last year.

¹ average regional index

² makes up 99% of the gross milk yield of all agricultural organizations of the region (total 121.1 thousand tons of milk)

The reduction in gross milk production in farms of all categories is due to the reduction of dairy herds. In the Smolensk region on June 1, 2018, the number of livestock of dairy cows in all categories of farms was 43.1 thousand animals, which is by 1.7 thousand animals or 4% lower than the previous index.

MATERIALS AND METHODS.

The study of the dairy herd milk production is the main indicator of the dairy industry effectiveness as a whole.

Support for the dairy industry is one of the priorities of the Smolensk region administration. However, we need to determine: how to support the industry? To help everyone in the same way, including those who receive 2.5-3 thousand kilograms of milk from a cow, and where the invested ruble in the economy not only disappears, but also causes losses? The main idea of development is that in the region, it is necessary to implement a support program linked to the production efficiency.

To solve the tasks set in the article, statistical materials of the territorial body of the Federal State Statistics Service for the Smolensk Region were used, as well as analytical notes and statistical digests of the Smolensk region Agriculture and Food Department.

An important part of the study was to consider the positive experience of creating the starting conditions for the development of the dairy industry in the Kirov, Leningrad, and Kaluga regions [3].

Analysis of statistical data on the production and sales, economic efficiency of the production and sales of milk at farms of all categories, and in particular, peasant farms gave the necessary information about the general level of production, the current situation of agriculture in the region.

For reference in Russia: according to Rosstat, in January-July 2018 gross milk yield in farms of all categories amounted to 18.8 million tons and increased compared to the level of 2017 by 1.3%, in agricultural organizations gross milk yield increased by 3.7% to 9.7 million tons. The growth of gross milk yield is provided by an increase in the productivity of dairy cattle. So, in January-July 2018 in agricultural organizations, the milk yield per cow was 3856 kg (+2.7% over the same period in 2017). According to the Rosstat, the volume of industrial production of milk, except raw milk in January-July 2018, amounted to 3153.9 thousand tons (1.3% higher than the same period in 2017), and dairy products (except cottage cheese) – 1701.4 thousand tons (1.9% less), cheeses – 276.3 thousand tons (4.1% more), cheese products – 106.0 thousand tons (0.2% less), butter – 154.0 thousand tons (4.1% less), milk and dry cream – 83.1 thousand tons (6.6% less) [11].

The result of the total statistical data analysis was a clear understanding of the situation in the further direction of the dairy industry development of the Smolensk region.

RESULTS.

Let's consider the main economic indicator of the dairy industry, the proceeds from the milk sales.

In 2017, the proceeds from the milk sales in agricultural enterprises, peasant farms and self-employed entrepreneurs amounted to 2,741 million rubles. It should be noted that in the enterprises of the 1st and 2nd groups, the proceeds from the milk sales per farm were 3 times higher than in enterprises of the 3rd group and 10 times higher than in enterprises of the 4th group (Table 2).

Table 2. Proceeds from the milk sales in 2017, mRub.

| Group | Proceeds from the milk sales, mRub | Proceeds from the milk sales on the average per 1 farm in the group, mRub | Net profit per 1 ruble of the sales proceeds, kopecks |
|--------|------------------------------------|---|---|
| 1 | 672 | 32 | 12 |
| 2 | 732 | 31 | 27 |
| 3 | 1 074 | 11 | 19 |
| 4 | 263 | 3 | less than 1 |
| TOTAL: | 2 741 | 12 | 20 |

Source: calculated according to the Federal State Statistics Service, statistical reports of the Smolensk Region Agriculture and Food Department, 2018

The average net profit per 1 ruble from the milk sales was 20 kopecks, while in the 1st group of enterprises it was 12 kopecks, which is explained by the active investment in AO Zolotaya Niva, which will allow the enterprise in 2019-2020 significantly increase the production and milk sales.

The efficiency of milk production in the 2nd group is higher than in the 3rd group and especially higher than in the 4th group of farms, where the level of the production modernization remains low.

Let's consider the economic efficiency of the milk production and sales using evidence from the breeding farms of the region (Figure 2).

SHPK Radishchevo, PSHK Novomikhailovsky, OOO Vostok, OAO Rassvet, SPK Kolosok and SPK Druzhba use modern production technologies, so, they obtained the profitability to carry out expanded reproduction.

SPK Druzhba, SPK Kolosok, PSHK Novomikhailovsky over the past five years have increased the milk sales volume 2 times, OOO Vostok – 1.5 times, SHPK Radishchevo and OAO Rassvet – 1.2 times.

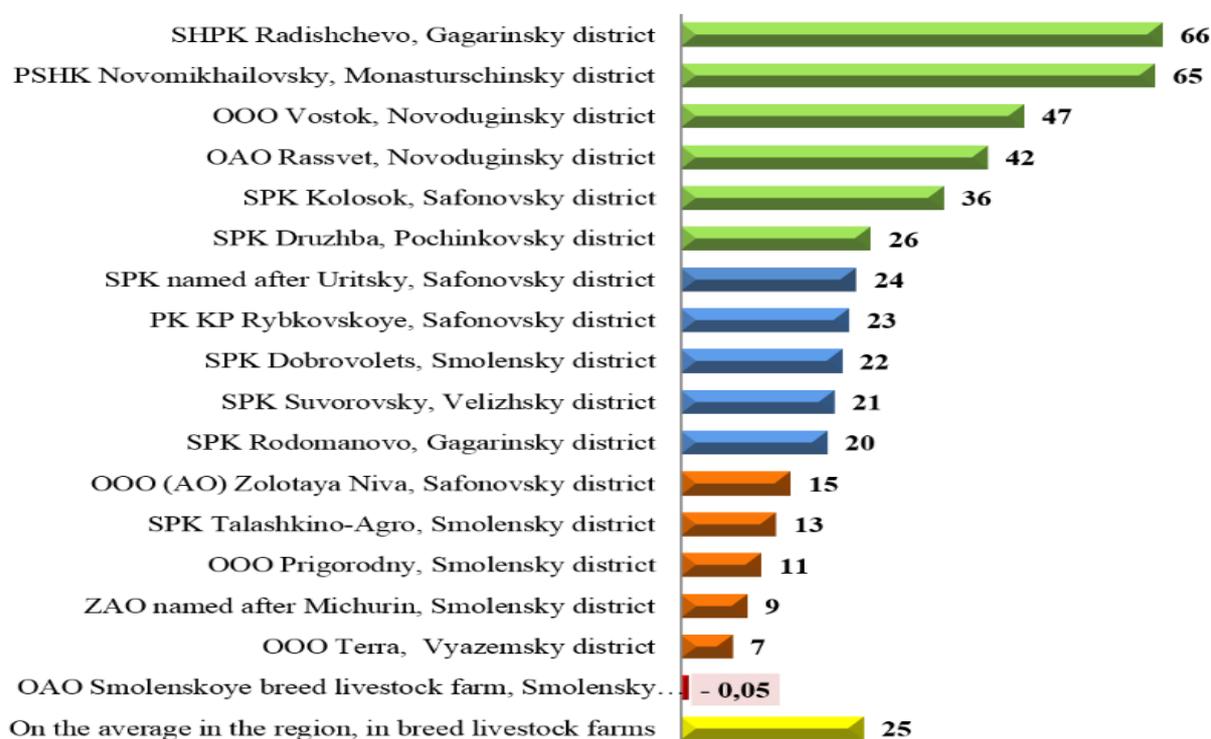


Figure 2. Profitability of milk sales in 2017, %

The low level of the production mechanization and modernization has a negative impact on the quality of products and leads to significant financial losses. Estimated losses of agricultural organizations of the 3rd and 4th groups due to poor quality of milk (sales of high-quality milk are 89.6% and 83.6%, respectively) (Table 3). On the average, 92.4% of high-quality milk is sold in the region, the average regional price of sales is 2380 rubles per center [7].

Table 3. Estimation of the agricultural organizations losses in the 3rd and 4th group due to the quality of dairy raw materials

| Group | Gross milk production in total, thousand tons | Proceeds from the milk sales, mRub (fact) | Proceeds from the milk sales, mRub (estimation)* | Exception, +,- (proceeds, fact – proceeds, estimation) |
|--------|---|---|--|--|
| 3 | 63,1 | 1 074 | 1 502 | - 428 |
| 4 | 14,9 | 263 | 355 | - 92 |
| TOTAL: | 78 | 1 337 | 1 857 | - 520 |

Source: calculated according to the Federal State Statistics Service, statistical reports of the Smolensk Region Agriculture and Food Department, 2018

Subject to the actually produced milk sales at the average regional price:

- The 3rd group of farms would receive 1502 million rubles of proceeds from the milk sales,

which is 428 million rubles or 40% more than actually received;

- The 4th group of farms would receive 355 million rubles of proceeds from the milk sales, which is 92 million rubles or 35% more than actually received.

In total, farms of the 3rd and 4th groups under-received 520 million rubles of revenue from the low-quality milk sales.

One of the factors that influenced the reduction in the number of cows is the decline in purchase prices for raw milk in the first half of 2018.

Currently, the average regional price of 1 kg of milk is 21 rubles 16 kopecks, which is 4% or 1 ruble lower than at the end of December, last year. In some cases, where small farms work, milk dealers even refuse to buy it at all.

According to the operational data of the departmental weekly monitoring of the price situation on the agrofood market, the average-weighted price for raw milk of agricultural producers in the Russian Federation on 03.09.2018 amounted to 21.29 rubles/kg (+0.03 rubles/kg for the week, - 13.9% by the end of December 2017). Since the beginning of the current year, the average consumer prices for dairy products have increased by 0.2–0.4%, depending on the type of product [11].

Nowadays, the situation on the milk market remains difficult. Due to the fact that in the Smolensk region more than 50% of raw milk is exported outside the region, it is difficult for the Administration of the region to influence the situation. As the solution to the issue with the sale price of raw milk can be the development of its own processing and integration of small farms into processing cooperatives [13].

In total, for 6 months of the current year, agricultural organizations sold milk in the amount of 1,202 million rubles. Due to the decrease in purchase prices for raw milk, agricultural producers in the region lost 110 million rubles from the milk sales during this period. The indirect reason for the sharp decline in purchase prices is the absence of long-term supply contracts for a period of 3 to 5 years with fixed prices.

The question of the supplied raw milk quality is of equal importance. During the period of the

raw materials shortage in 2016-2017, dairy processing enterprises did not pay attention to its quality and offered a high price to ensure the necessary supply volumes. Today, such indicators as bacterial number, the presence of somatic cells, the absence of antibiotics in milk are of primary importance, forming its purchase price [21].

According to a preliminary forecast, agricultural organizations specializing in dairy cattle breeding will lose 269.2 million rubles in 2018, including:

- 9.5 million as a result of growth in tariffs for electricity payments;

- 104 million rubles as a result of rising prices for fuel and lubricants;

- 155.7 million rubles as a result of lower purchase prices for milk.

The decrease in the number of livestock in the peasant farms, in addition to demographic factors, is due to the lack of an organized system for the purchase of the produced milk. From the existing 299 rural and urban settlements in the region, the purchase of milk is organized only in 99 settlements, which is 33%.

Milk purchases are well organized in the Velizhsky, Dukhovschinsky, Rudnyansky, Khislavichsky districts, where all the settlements have their own milk harvesters. In 10 districts of the region, milk is not collected from the private farms of the population for the needs of milk processing enterprises, which deprives the peasant of additional income and incentives for keeping cows.

DISCUSSION.

At present, according to experts, in the Smolensk region, a favorable investment climate has been created to attract investors to the dairy industry, there are formed investment sites, as well as land resources in sufficient quantity. We would like to note, that from next year for investment projects that will involve over 1 thousand hectares of arable land in circulation, we will provide a subsidy for the implementation of cultivation and technical works on these lands [2].

Village support is one of the priorities for the work of the Smolensk region Governor A.V.

Ostrovsky. Every year from the consolidated budget funds for the development of the dairy industry of the Smolensk region more than 300 million rubles or more than 40% are allocated.

In general, out of 13 activities in the field of agriculture, which are implemented only at the expense of the regional budget, 6 are aimed at the development of dairy farming. In developing these measures and to assess the effectiveness of state support measures, the experience of other regions was studied (Kirov, Leningrad, Kaluga regions, etc.), which in recent years have demonstrated a significant increase in milk production.

In many regions of Russia, various measures of state support for the dairy industry have been taken. Smolensk region is not an exception. To support agricultural producers this year, state support for 1 liter of the sold milk was promptly accomplished in March. As part of the implementation of the regional state program "Development of agriculture and regulation of agricultural products, raw materials and food in the Smolensk region" for 2014-2020, agricultural producers will receive 82674.0 thousand rubles for increasing productivity in dairy cattle breeding (which is 10241.6 thousand rubles or 14% more than in 2017), including 71926.3 thousand rubles at the expense of the federal budget, 10747.7 thousand rubles at the expense of the regional budget. We should note, that for the stimulation of production during the last years, the Smolensk Department of Agriculture and Food has paid a subsidy for the sold milk for 4–1 quarters.

In 2018, 53 agricultural organizations and peasant farms became recipients of the subsidy. The minimum rate of the provided subsidies was 755.08 rubles and the maximum was 4908 rubles.

It should be noted that the work analysis of 53 farms, that received state support in 2018, shows an increase in milk production in the 1st quarter of this year in the amount of 2.4 thousand tons or 11%.

In addition, increasing attention is paid to the quality of milk produced by agricultural producers, and its compliance with the requirements of technical regulations. Currently,

in order to enter the large federal networks, it is necessary to ensure product quality. All major networks conduct their own independent audit of product manufacturers.

A comparative assessment of the agricultural organizations losses and the volume of state support (without support for the development of rural areas) for 2018 showed that farm losses constitute 48% of the state support volume allocated for the development of agricultural production.

According to the forecast data and the results of the agricultural production for 2018 in comparison with 2017, we should expect a deterioration in the financial and economic performance indicators of agricultural organizations in the region, including dairy producers.

In this regard, in 2018, along with milk subsidies, the conditions were provided for using budget funds more efficiently, directing them to agricultural producers, who ensured the safety of the cow livestock in the reporting fiscal year in relation to the level of the previous year, as well as ensured the average productivity of cows not less than 3500 kilograms of milk, the average marketability of milk not less than 60% in 2017, and also sold milk that meets the requirements of technical regulations.

To stabilize the current situation in dairy farming, the Administration of the Smolensk region takes the following measures:

1. In order to preserve the number of the cow livestock and increase the production of milk by agricultural producers, it is planned to provide state support in the form of subsidies for the first half of 2018 in the amount of 7 million rubles for increasing the number of dairy cows within the regional state program "Development of agriculture and regulation of agricultural products, raw materials and food in the Smolensk region" for 2014-2020. To date, 10 farms of the region are planning to use this measure of support, in which the increase in livestock amounted to 370 animals of dairy cattle for the first half of the year.

2. Recommendations were given to agricultural producers to conduct technological audits of animal housing and food supply on farms. This

event is aimed at identifying by employees of consulting companies the factors affecting the decline in animal productivity and milk quality, and will also help agricultural producers to modernize their production and switch to modern highly efficient technologies [22].

3. Proposals were sent to the Ministry of Agriculture of the Russian Federation to allocate additional funds from the federal budget as part of state support per 1 kg of the sold milk, to compensate the losses of agricultural producers in the amount of 150 million rubles.

4. Consideration is being given to introducing changes to the procedures for granting state support in terms of establishing conditions for the existence of long-term contracts concluded between agricultural producers and processing enterprises with a fixed price for the supply of raw milk.

5. In 2018, within the framework of the grant support for novice farmers, it is planned to select at least 6 novice farmers and family farms for the implementation of projects in the field of dairy farming. 23 million rubles were allocated for these purposes. The heads of the local self-government executive and administrative bodies of the Smolensk region municipal districts are recommended to intensify work with members of agricultural production cooperatives in order to clarify the inefficiency of this type of business and transfer to other forms of ownership, which will allow farms to use grant support, helping to create a peasant farm.

6. For the development of its own dairy processing and the organization of milk purchases from the population in the region, grant support for agricultural consumer marketing cooperatives is being implemented. In 2017, a grant "The Smolensk Producer" was granted to a dairy enterprise for processing 10 tons of milk per day. In 2018, it is planned to allocate 56 million rubles, which will make it possible to implement at least two projects of consumer marketing cooperatives.

7. Work is underway to harmonize the dairy departments of livestock buildings in accordance with the existing rules and regulations, in order to improve the quality of the produced milk. All agricultural producers engaged in milk

production were examined and prescriptions were given to eliminate the revealed violations by July 1.

Understanding that these issues can only be solved with a systematic approach, as decided by the Governor of the Smolensk Region A.V. Ostrovsky, the Smolensk region began working together with the National Union of Milk Producers to create a strategy for the development of the dairy industry in the region.

At the same time, the developed support measures within the framework of the strategy will be linked to the efficiency of production.

This strategy should ensure long-term development and increase the profitability and efficiency of the dairy industry in the region. Its key positions will be improving the genetics of animals, the quality and marketability of products, as well as the development of marketing and production cooperation [16].

During the creation of the strategy for the development of the dairy industry in the region, representatives of National Union of Milk Producers, together with the Department of Agriculture and Food, repeatedly consulted with leading agricultural producers and processing enterprises in the region to discuss the stages of its implementation.

The main factors that will contribute to attracting investors to the dairy industry of the region will be the presence of formed lands, as well as the presence of a long-term strategy with an approved set of government support measures.

In addition to supporting new investment projects, the work will be continued with existing agricultural producers in terms of transforming the "weak" enterprises by connecting them to the "strong" ones or by establishing cooperation among them. The main support measures will be aimed at the technical and technological re-equipment of these enterprises, the replacement of low-productive livestock, as well as the organization of service infrastructure, which should ensure the outsourcing of all high-tech services and non-core activities.

In addition to the development of the commodity sector, measures of state support for

the creation of new milk processing enterprises and the modernization of existing ones are already being laid. First of all, such measures will be the compensation of a part of the costs for the acquisition of technological equipment, technological connection to networks and others.

It is worth to consider in more detail the prerequisites for the formation of a new dairy strategy for the region [25].

It is based on 4 basic points:

1. Sales potential of dairy products

Milk products:

- The domestic market of the Smolensk region is occupied by imported products (import – 233 thousand tons);
- Competition with products from Belorussia and Moscow;
- Large, but highly competitive market in Moscow and neighboring regions.

Milk raw materials:

- A large shortage of milk in neighboring regions;
- The presence in the neighboring regions of large processors who are ready to work on long-term contracts.

2. Processing development:

- The lack of strong processing in the region does not provide incentives for the development of the raw materials production;
- Export of 50% of milk to neighboring regions significantly influences on milk prices.

3. Development of the commodity sector:

- Reduction in the production of marketable milk due to the rapid retirement of livestock in “weak” agricultural organizations;
- The small size of agricultural organizations limits their development;
- Low quality milk results in the situation, when largest processors of the Smolensk region buy milk in other regions.

4. Budget capabilities:

- With a budget deficit it is not possible to multiply the volume of the state support;
- Dependence on federal co-financing.
- The volume of the region funds limits the possible set of mechanisms for state support

These prerequisites form a sustainable program for the further development of the industry in 4 stages [18]:

- Creation of processing in the region sets the development vector of the commodity sector;
- Cooperation (consolidation) of small agricultural producers and rehabilitation of “weak” ones is the most important task for the preservation of the dairy sector;
- The balance of the new industrial complexes construction and the development of the existing agricultural producers will replenish the retiring volumes;
- Focus on the profitability of agricultural producers and value added price for the region, rather than the growth of volumes (milk quality, productivity, herd reproduction).

The mechanism of dairy strategy has 2 alternatives for the development of the dairy industry:

- formation of individual processing based on existing agricultural producers and capitalization of value added price in the region or the raw material model;
- construction of industrial dairy farms and the milk sales in neighboring regions.

The “business as usual” scenario for the implementation of changes implies a reduction of production by 14%:

- through the livestock retiring of “weak” agricultural producers and the reduction in milk production by 60 thousand tons for 8 years;
- “strong” agricultural producers increase their productivity by 1-2% per year without increasing their livestock, which will somewhat compensate the retiring volume of “weak” ones, so the result will be +30 thousand tons.

The commodity model of the industry will also undergo changes [20]. The growth of the industry will be ensured by building new industrial complexes for 65 thousand tons, as well as:

- existing agricultural producers, without changes in the mechanisms of support, develop along with the “business as usual” scenario;
- construction of 6 x 1200 dairy farms will allow to increase the volume by 65 thousand tons;
- milk will be sold in neighboring regions under long-term contracts.

The biggest "headache" of the region is the development of milk processing. Here the situation will go according to a special scenario – the development of existing agricultural commodity producers without the new construction of industrial dairy farms, namely:

- the development of processing will generate demand for local raw materials and increase the profitability of agricultural producers;
- the intensive development of existing agricultural producers will increase the production by 90 thousand tons of milk;
- the closing of "weak" agricultural producers will provide an increase of 27%.

It is possible to combine the dairy industry development models [24], which will give:

- development of processing based on the intensive development of existing agricultural producers;
- construction of industrial dairy farms as an option to attract strategic investors to the region.

resources make it possible to additionally realize 5-6 projects of industrial dairy farms for 65 thousand tons of milk with additional budget.

The plan includes:

1. New industrial complexes:

- construction of 6 industrial dairy farms with 1 200 animals each by new large external investors;
- milk sales to neighboring regions under long-term contracts.

2. Development of "strong" agricultural organizations:

- improving the quality of milk and profitability of agricultural producers;
- introduction of more efficient technologies for feeding and keeping livestock, increasing milk yields from 4.8 to 7 thousand kilograms per animal (by 3% per year);
- reconstruction and modernization of farms.

3. Cooperation and rehabilitation of "weak" agricultural producers:

- consolidation of "strong" agricultural

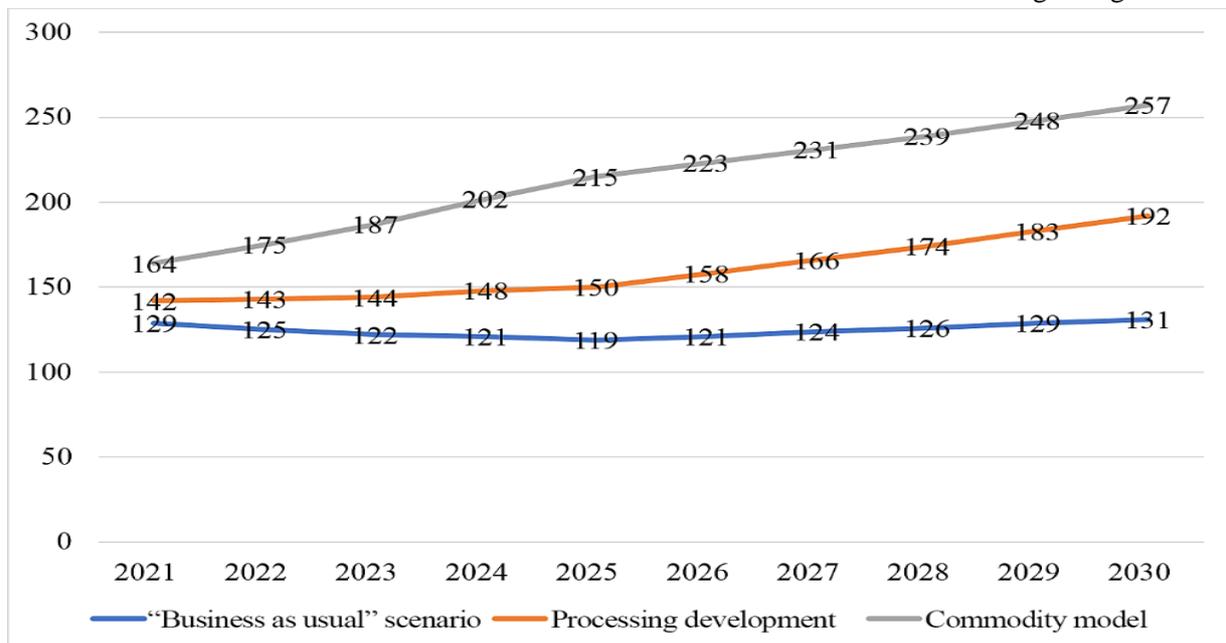


Figure 3. Scenarios for the production of marketable milk (thousand tons)

We would also like to mention the logic and mechanisms of the development strategy for the production of milk and dairy products.

Within 8-10 years, by increasing productivity in "strong" agricultural organizations, it is possible to break the downward trend in production volumes and fill out retiring milk volumes. Land

producers to an effective scale of more than 400 animals through cooperation;

- updating of livestock to more productive one;
- the creation of specialized farms: forage and feed centers, young stockraising centers, calves feeding centers;

4. Infrastructure:

- identification and accounting system of livestock and analysis of the agricultural producers' work (100% coverage);

- independent laboratories for feed and milk;
- artificial insemination (100% coverage of agricultural commodity producers);
- center of agricultural consulting and standard technologies.

In the next 5 years the general strategy for the development of the dairy industry of the Smolensk region should completely change the entire dairy industry of the region, transforming it into a new innovative model for the development of an agricultural region.

CONCLUSION.

The measures taken by the Administration of the region to support the industry allowed last year to reduce the rate of the dairy cows retirement to 2% per year versus 6% in 2014.

Over 300 million rubles are allocated every year from the funds of the consolidated budget for the development of the dairy industry of the Smolensk region.

In general, out of 13 activities in the field of agriculture, which are implemented only at the expense of the regional budget, 6 are aimed at the development of dairy farming. In developing these measures and to assess the effectiveness of state support measures, the experience of other regions was studied (Kirov, Leningrad, Kaluga regions, etc.), which in recent years have demonstrated a significant increase in milk production.

An increase in livestock numbers in the region is supported at the expense of the regional budget. In 2017, about 19 million rubles were allocated for these purposes. The increase in livestock amounted to more than 1.5 thousand animals. In 2018, at least 20 million rubles will be allocated for these purposes.

In parallel with this action, an active campaign is being carried out to treat the herd from leukemia virus. At the moment, the proportion of sick cattle is 2.5% (for comparison, in 2017 it was 6.3%). This year, 20 million rubles were allocated from the regional budget to combat leukemia virus. The implementation of this support measure allows us to expect that by 2020 this disease of livestock in the region will be completely eliminated.

In addition, measures are being implemented to provide state support for the development of small forms of economic activity, motivating citizens to transfer family farms into the farm enterprises. In 2018, applications were submitted for grants from 20 novice farmers and 14 family livestock farms.

Currently, the Smolensk region has created a favorable investment climate for attracting investors to the dairy industry, there are investment sites that have been formed, as well as land resources in sufficient quantities. We would like to note that from next year for the investment projects that will involve in circulation more than 1 thousand hectares of arable land, the region provides a grant for carrying out cultivation and technical works on these lands.

And the adoption of a common dairy strategy in the region will give the necessary impetus to the development of the dairy industry and the region in general.

All of these structural changes should ultimately allow the achievement of two fundamental goals. Firstly, the socio-economic development of rural territories. It is important that the implementation of measures provides workers of the agro-industrial complex with a stable, decent income and comfortable living conditions in the countryside. This can be achieved if the dairy industry of the region reaches at least 30% of the profitability, increasing it by 2 times from the current 14%. Secondly, the effectiveness of state support. Each invested ruble of the budget funds must attract at least 3 rubles of investment in the industry.

However, despite the measures taken at the regional level in the current conditions, reciprocal steps are needed from the Government of the Russian Federation and the Ministry of Agriculture to take a number of specific measures at the federal level:

1. Introduce strict regulation of the dairy products supply from the Republic of Belorussia. So in fact, the market of the Smolensk region is captured by the Belarusian producers, who do not allow the dairy-processing enterprises of the region to develop.

Currently, more than 50% of raw milk is exported for processing outside the region.

2. Establish exact durations of the program for reimbursing part of the costs for creating capital construction projects in the dairy farming industry (CAPEX). The guaranteed support measures, laid down in the State Program for the Development of Agriculture, are necessary for investors.

3. Take measures to stimulate demand for dairy products from the population. To ban anti-advertising of dairy products on television. Every year, consumption of dairy products is reduced on average by 1.5% per year. According to preliminary data, the average consumption of milk and dairy products last year was reduced to 233 kg per person, while the Ministry of Health standard is 325 kg. In 2016, according to Rosstat, consumption was at the level of 236 kg. Over the past six years, the level of consumption in the category of dairy products has decreased by 16 kg. At the same time, the level of consumption of sugar, bread and meat exceeds the volumes recommended by the Ministry of Health, which indicates the absence of the culture of healthy nutrition among the population. After all, the more dairy products consumed, the higher is the population's standard of living.

4. Upgrading of penalties (multiple increase in fines) for violation of the EAEU technical regulations in terms of labeling dairy products, in particular, for the lack of information on the label on the presence of non-dairy origin fats and sale of milk-containing products under the guise of dairy.

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