Development of the agro-industrial complex based on production cooperation

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Abstract. In the conditions of market relations, the production and sale of meat, especially beef, are becoming one of the main sources of monetary income for private and collective farms in the Republic of Sakha (Yakutia). However, the technology of meat production was complicated by the limitedness of concentrated feed - previously the main productive feed, which occupied up to 20-25% in terms of nutritional value in the structure of the feed balance of cattle. Under these conditions, the traditional hay-pasture type of livestock feeding again acquires a leading role in the rearing of heavy meat young with good qualities. One of the most important issues related to the organization of industrial production is the choice of the most rational and economically sound technology arising from the specific conditions of each zone. Improving the system of planning amalgamations is one of the central issues of radical restructuring of the system of management of sectors of the national economy. One of the directions for improving planning is the development of a scientifically grounded forecast of the development of the association, and on its basis - a draft plan. Moreover, in conditions of constantly developing inter-farm relations, when due to the peculiarities of production technology, the issue of economic assessment of the efficiency of the work of not only individual links, but precisely the technological chain as a whole, is acquiring especially important national economic significance. The country's invaluable national treasure is its domestic scientific potential. The article describes the relationship between the participating farms, on the one hand, and the established inter-farm enterprises and associations, on the other, certain economic relations arise, the relationship of cooperating farms is considered, which are aimed at creating and strengthening joint interest in the development of an inter-farm enterprise or association.

1. Introduction
In the context of the accelerated introduction of scientific and technological progress into the national economy, scientific and technical information (STI) turns into one of the main resources of material and technical production - the same as materials, raw materials, energy, labor and financial resources. Most of the off-farm enterprises, especially for the production of livestock products, do not have government procurement plans. They sell products to the state (fattened cattle, etc.) on behalf of and on behalf of cooperating farms. Consequently, the main task of inter-farm enterprises is to organize the production process in such a way as to ensure the fulfillment and over fulfillment of the plans for state purchases...
of agricultural products communicated to the participating farms. The high role of small-scale farming in Yakutia's agriculture, focused on self-sufficiency and self-employment, is historically due to the small contour and low productivity of farmland, as well as the transport isolation of most of the villages of Yakutia.

2. Research methodology

A different approach has been taken to support livestock raising in 3 groups of districts. In 4 industrial regions and in Zhatay, the subvention is given at a rate of 20 thousand rubles per cow, in 13 Arctic and northern regions - at a rate of 30 thousand rubles per cow. At the same time, this group includes the Oymyakonsky ulus, and the Verkhoyansk ulus, taking into account the developed cattle breeding, is included in the group where milk procurement is financed (Table 1). To support reindeer husbandry, 4 groups of districts are used based on different agrolandscape zones, while some districts are divided into different zones, which complicates the method of distributing subventions by districts [1,2].

Table 1. Grouping of municipal districts (urban districts) of the Republic of Sakha (Yakutia) for the distribution of the volume of subventions for the development of animal husbandry.

| Group 1 (for the number of cows at a rate of 20 thousand rubles) | Group 2 (for the number of cows at a rate of 30 thousand rubles) | Group 3 (for the number of cows at a rate determined by the Government of the Republic of Sakha (Yakutia)) |
|---------------------------------------------------------------|---------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Aldansky, Lensky, Mirinskiy, Neryungri, Urban district village "Zhatay" | Abyisky, Allaikhovsky, Anabarsky, Bulunsky, Verkhnekolymsky, Zhigansky, Momsky, Nizhnekolymsky, Omyakonsky, Oleneksky, Srednekolymsky, Ust-Yansky, Eveno-Bytantaysky | Amginsky, Verkhnelyuisky, Gorny, Kobyaysky, Megino-Kangalassky, Namsky, Nyurbinsky, Olekminsky, Tattinsky, Tomponsky, Ust-Aldansky, Ust-Maisky, Khangalassky, Churapchinsky, urban district of Yakutsk |

Figure 1 shows the dynamics of the State Program of the Republic of Sakha (Yakutia) "Development of agriculture and regulation of markets for agricultural products, raw materials and food, mln. rubles". Table 2 shows the volume of the budget of the Republic of Sakha (Yakutia) and the volume of spending from local budgets to support agricultural production in municipal districts with the volume of subventions received from 50 to 100 million rubles [2,3].

In the third group with subventions of less than 50 million rubles, the Mirinskiy district is the leader, where the amount of funding from the local budget is 3 times more than the received subventions. The minimum level for Zhigansky ulus is 5 kopecks per 1 ruble of subventions (Table 3).

Of particular concern is the continuing decline in livestock production by 20 percent in 2010-2017, against the background of a slight increase in crop production by 5 percent. At the same time, the share of cattle breeding, horse breeding and reindeer husbandry accounts for 88 percent of the provided subventions, which calls into question the effectiveness of this practice [4,5].
The amount of spending from local budgets to support agricultural production in municipal districts with the volume of subventions received from 50 to 100 million rubles.

| City district       | Amount of subvention from the state budget of the RS (Ya), million rubles | Amount of spending from local budgets, million rubles | Amount of spending from local budgets per 1 ruble of subvention, rubles |
|---------------------|---------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------|
|                     | 2017 | 2018 | 2019 (plan) | 2017 | 2018 | 2019 (plan) | 2017 | 2018 | 2019 (plan) |
| Aldansky            | 59.3 | 74.8 | 81.6        | 8.6 | 10.4 | 9.0        | 0.14 | 0.14 | 0.11        |
| Anabarsky           | 58.9 | 66.5 | 67.0        | 17.8 | 22.1 | 27.3        | 0.30 | 0.33 | 0.41        |
| Bulunsky            | 51.8 | 66.4 | 71.8        | 3.2 | 4.6 | 4.6        | 0.06 | 0.07 | 0.06        |
| Momsky              | 66.3 | 69.6 | 80.4        | 5.0 | 6.1 | 7.7        | 0.08 | 0.09 | 0.10        |
| Neryunginsky        | 47.6 | 58.6 | 61.7        | 8.5 | 10.0 | 8.3        | 0.18 | 0.17 | 0.13        |
| Nizhnekolymsky      | 87.7 | 82.7 | 58.4        | 1.5 | 1.2 | 1.2        | 0.02 | 0.01 | 0.02        |
| Oymyakonsky         | 69.9 | 76.0 | 82.4        | 5.7 | 3.8 | 1.2        | 0.08 | 0.05 | 0.01        |
| Tomponsky           | 90.5 | 79.4 | 90.5        | 4.6 | 2.4 | 2.8        | 0.05 | 0.03 | 0.03        |
| Eveno-Bytantaysky   | 97.0 | 92.0 | 97.0        | -   | 2.0 | 0.7        | -   | 0.02 | 1.34        |
| «Yakutsk»           | 78.9 | 71.5 | 78.9        | 132.7 | 143.8 | 105.8        | 1.85 | 2.01 | -            |

The amount of the budget of the Republic of Sakha (Yakutia) and the volume of spending from local budgets to support agricultural production in municipal districts with the volume of subventions received from 50 to 100 million rubles.

Table 2. The volume of the budget of the Republic of Sakha (Yakutia) and the volume of spending from local budgets to support agricultural production in municipal districts with the volume of subventions received from 50 to 100 million rubles.

| City district       | Amount of subvention from the state budget of the RS (Ya), million rubles | Amount of spending from local budgets, million rubles | Amount of spending from local budgets per 1 ruble of subvention, rubles |
|---------------------|---------------------------------------------------------------------------|------------------------------------------------------|---------------------------------------------------------------------|
|                     | 2017 | 2018 | 2019 (plan) | 2017 | 2018 | 2019 (plan) | 2017 | 2018 | 2019 (plan) |
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| Bulunsky            | 51.8 | 66.4 | 71.8        | 3.2 | 4.6 | 4.6        | 0.06 | 0.07 | 0.06        |
| Momsky              | 66.3 | 69.6 | 80.4        | 5.0 | 6.1 | 7.7        | 0.08 | 0.09 | 0.10        |
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| Eveno-Bytantaysky   | 97.0 | 92.0 | 97.0        | -   | 2.0 | 0.7        | -   | 0.02 | 1.34        |
| «Yakutsk»           | 78.9 | 71.5 | 78.9        | 132.7 | 143.8 | 105.8        | 1.85 | 2.01 | -            |

Table 3. The amount of the budget of the RS (Ya) and the amount of spending from local budgets to support agricultural production in municipal districts with a volume of less than 50 million rubles.
3. The main part

The decrease from 1.5 to 9 percent was allowed by 10 municipal districts – these are almost all the remaining large agricultural districts, as well as Aldan and Tomponsky districts. The decline in production from 10 to 30 percent was allowed in 8 districts of the republic, including in the Mirinsky district, despite the presence of the largest food market in Western Yakutia.

Figure 2 shows the dynamics of the index of the physical volume of crop and livestock production in the RS (Ya) for 2004-2018, in % to 2003, including Suntarsky ulus-by 17 percent, Tattinsky – by 15 percent (figure 3). Finally, a large group of 10 districts of the republic shows the maximum decline in production after a significant increase in 2003-2012. If we do not talk about the growth of marketable products of reindeer husbandry, but at least about the dynamics of the number of deer in 2012-2018, then still a depressing picture is emerging. Of the 11 ulus with a deer population of more than 6 thousand heads, only 2 ulus were able to increase the number of deer - these are Ust-Yansky and Anabar ulus. It is also worth noting the practical elimination of reindeer husbandry in Allaikhovsky ulus, which calls into question the feasibility of maintaining the department of agriculture there. The provision of subventions for the development of herd horse breeding can be called relatively effective – in 2012-2018, the number of horses increased almost all large horse-breeding ulus, except Suntarsky and Verkhoyansky [6,7,8].

![Figure 2](image_url)

**Figure 2.** Dynamics of the index of the physical volume of crop and livestock production in the RS (Ya) for 2004-2018, in % to 2003.
Figure 5 shows the leaders in the growth of the index of physical volume of production for 2012-2017.

![Figure 3. Analysis of the increase in the index of physical volume of production for 2012-2017.](image)

![Figure 4. Leaders in the growth of the index of physical volume of production for 2012-2017.](image)
The provision of subventions for the number of cows in the 2nd group of districts should be considered ineffective due to a significant decrease in the number of cows, despite the rate of 30 thousand rubles. Of the 18 municipalities where subventions are provided at the rate of raw milk, only 13 managed to increase the volume of milk production and only 5 districts were able to increase the gross milk yield according to official statistics [5,7,8].

Another indicator taken into account in the distribution of the subvention is the acreage of potatoes and vegetables. Of the 19 municipalities with a potato crop area of more than 100 hectares, only 7 have expanded their potato crops. In 8 districts, the ratio of agricultural output to the gross municipal product exceeds 20 percent, including in 3 districts – more than 30 percent. These are Churapchinsky, Tattinsky and Amginskyuluses (figure 6).

Kobyai and Gornyuluses were unable to maintain a share of more than 20 percent, and for example, Zhatai, increased this figure from 5 to 11 percent. The Nizhnekolymsk and Ust-Yanskyuluses, as well as the city of Yakutsk, also showed a slight, but still growing share of agriculture in the municipal economy. If this situation is clear in the industrially developed regions, then a significant decrease in this indicator in the Bulun and Allaikhovsky ulus raises big questions [9, 10].

Figure 5. Analysis of the development of herd horse breeding in municipal districts with a herd of horses of more than 5,000 heads.
4. Conclusion
Thus, we should take into account the approaches to improving the mechanisms for providing subsidies when developing a new version of the state program for the development of agriculture for the period up to 2024. We must complete the development of the program by July 01 of this year, but on the instructions of the Prime Minister of the Republic, we must submit the draft for consideration in May. Consider the distribution of all types of support for current and investment, while from 2021, the current ones will be allocated to municipalities in the form of a single subvention according to a certain method, and the investment ones will be left to the Ministry of Agriculture of the republic.

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