

## Current State and Prospects of Development of Sheep and Goat Breeding in the Russian Federation

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The low level of production quality lamb in the formation of a cold balance of the country puts the Russian Federation in the dependence on foreign countries with highly-developed meat specialization. The problem of the survival of the sheep industry, especially in areas of intensive agricultural production, can be solved by increasing precocity, fattening and meat qualities of young, improving fertility ewes that will be possible when creating sheep beef productivity. The situation in industry is due, on the one hand, the lack of a clear government policy in respect of sheep and insufficient use of accumulated scientific potential and existing natural resources of our country. The strategy for the development of sheep breeding should aim at the realization of the tasks set in the branch target program directly related to socio-economic development of the country, ensuring its food security and domestic lamb to the external market.

**Key words:** Sheep, Goat, Agriculture, Agriculture, Wool, Livestock, Milk, Meat.

The basic document determining the development of sub-sector 01.22.1 Breeding sheep and goats, is the branch target program "Development of sheep and goat breeding in the Russian Federation for 2012-2014 and for the period till 2020", under which defines the following target indicators and indicators: - increase the number of sheep from 21.8 to 28.0 million heads., including dams from 13.3 million to 16.8 million heads.; - the increase in the number of sheep in areas of productivity: fine-woolled sheep from 16.1 to 19.2 million heads.; half fine-woolled sheep - from 2.7 to 4.0 million heads.

half rough-woolled sheep from 0.4 to 0.8 million heads.; rough-woolled sheep from 2.9 to

4.0 million heads.; - the increased production of high quality products: wool in bulk from 54.7 to 84.0 thousand tons; wool scoured from 30.0 to 54.9 thousand tons; the sheep to the slaughter weight from 183 to 336 thousand tons; lambskins from 4.9 to 8.0 million.

- increase the number of goats from 2.2 to 2.6 million heads. - increase the number of goats in the areas of productivity: -down from 0.09 to 0.1 million heads.; -milk from 0.9 to 1.4 million heads.; -meat from 0.0 to 0.1 million heads.; - the increased production of high quality products goat: goat milk, just from 235 to 420 thousand tons; goats for slaughter slaughter weight from 18.1 to 19.5 thousand tons. (Branch target program, 2011)

Implementation of measures of state support for the sheep industry, aimed at solving problems involves:

Providing differentiated subsidies on

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production and sales of high quality products according to national standards and negotiated prices with customers pre-order processors;

The maintenance of breeding stock in breeding, the purchase of breeding animals, embryos and seed rams, and goats;

Selection on a competitive basis of regional programs for the development of sheep and goat, supporting their implementation of the Federal budget in the form of subsidies for the production of lamb, wool, sheepskins, milk.

Amount and sources of funding:

- a) Funds of agricultural producers - 12320,1 million rubles.
- b) Federal funds - 9569,6 million rubles.
- c) funds regional budgets - 2875,4 million rubles.

### **Method**

The object of the study was agricultural enterprises, farms, farms engaged in the production of sheep and kozovodcheskoe production, scientific research institutes and design bureaus, exhibitions of innovations for production of sheep and goat. The subject of the study was the main directions of development of production of sheep and goat, to improve its effectiveness in the current economic environment. Theoretical, methodological and methodical basis of the study was the work of domestic and foreign scientists and economists on the development of the agrarian sector of the economy, scientific and technological progress and innovation, the results of the research VNIIESKH, VIZH, SSAU and other research institutions.

The main methodological approaches in the study was a systematic approach and system analysis to ensure a comprehensive study of the impact of major factors on the rational use of natural, human and logistical resources, and the impact of complex innovations with the aim of obtaining the projected volumes of raw materials and food products with desired properties and cost. In the framework of the studies used a range of methods: abstract logic, Economics and statistics, monographic, the graphic-analytical, correlation and regression analysis, expert, calculation, design and other. The main sources of information support of the study was statistical data of Federal service of state statistics, ministries of agriculture of the Russian Federation, normative and legal

documents of the Government of the Russian Federation, annual reports of agricultural enterprises and sheep planobjective, regulatory legal acts and regulatory documents, the existing rules and regulations, reports, development organizations, doctoral dissertations on study and similar problems, scientific publications, reports, practical work of the author in the design office on the feasibility study and creation of innovations for sheep and others.

### **RESULTS**

Expected results of Program implementation and indicators of social and economic efficiency : increase in the number of sheep from 21.8 million in 2010 to 28.0 million heads in 2020; an increase in the number of goats from 2.2 million in 2010 to 2.6 million in 2020. The increase in wool production to 84.0 thousand tons; the sheep to the slaughter slaughter weight to 336,0 thousand tons; lambskins to 8.0 million; the increase in milk production of up to 420 thousand tons, goats for slaughter slaughter weight to 19.5 thousand tons.

#### **Sheep breeding.**

In accordance with OTCP, the implementation of domestic genetic potential and targeted imports of breeding stock. It is estimated subject to the planned activities should focus on the following target indicators and indicators of program.

#### **In sheep breeding:**

Increase the number of sheep from 21.8 to 28.0 million heads., including dams from 13.3 million to 16.8 million heads.;- the increase in the number of sheep in areas of productivity: fine-woolled sheep from 16.1 to 19.2 million heads.; half fine-woolled sheep - from 2.7 to 4.0 million heads.

Half rough-woolled sheep from 0.4 to 0.8 million heads.; rough-woolled sheep from 2.9 to 4.0 million heads.;- the increased production of high quality products: wool in bulk from 54.7 to 84.0 thousand tons; wool scoured from 30.0 to 54.9 thousand tons; the sheep to the slaughter weight from 183 to 336 thousand tons; lambskins from 4.9 to 8.0 million. The implementation of the program will allow:- to improve the efficiency and competitiveness of the industry;- to increase the number of sheep in all categories of farms of the

Russian Federation up to 28.0 million heads;- to maintain and improve the gene pool of sheep wool, and local meat production;- to create highly productive herds of animals bred in the country breeds of sheep and goats; to provide for the whole country, the average scoured wool clipped on 1 head - 1,96 kg and mutton - 12 kg; - increase business output lambs per 100 ewes up to 95%;- reduce the cost of production and increase profitability of the industry to 29.2 %. (14. Strategy of development of cattle breeding in the Russian Federation, 2011)

Sheep farming is an integral part of the national economy of Russia. Sheep breeding in some cases the only source of such products as wool, lamb, milk, sheepskins, hides, lard, lanolin. Analyzing the changes in the industry over recent years, it should be noted that in the first place, stopped in the country, the decline in the number of sheep and goats. In 10 years, a critical minimum of 14.8 million head, which was celebrated in the country in 1999, managed to increase the number of sheep and goats in all categories of farms of more than 7 million head. To date, the total number of sheep and goats in all categories of farms of more than 22 million head. By 2020, it should be 27 million sheep and lamb production in slaughter weight - 220 thousand tons. (The national Union of sheep breeding, 2015). The low level of production quality lamb in the formation of a cold balance of the country puts the Russian Federation in the dependence on foreign countries with highly-developed meat specialization. (Aboneyev *et al.*, 2011) The largest sheep population in the world are bred in China - 138,9 million, India is 74.5 million Australia - 73.1 million and Sudan - 39.3 million In Russia at that period there were 19.8 million heads.

China produces lamb more than Australia, New Zealand, UK, India and Turkey combined. Its share in world production of mutton is 24.9%. Together all of the aforementioned countries, including the Sudan (2,6%) and Russia (2,1%) produce more than half of world production of mutton 52,3%. There are several countries that produce more than 100 tons of mutton per year. Syria, Nigeria, Pakistan, Turkmenistan, Kazakhstan, Uzbekistan, France and Iran, their total share in the world production of lamb is 1094,7 thousand tons or 13.3%.

Indicators of the Russian Federation for

the production of lamb carcass weight are good (the 8th largest in the world), unless you consider the country and species composition of sheep for slaughter. So, in 2011, the production of mutton and goat meat amounted to 170.9 million tonnes, up 52.6% lower than in 1991.

The largest number of breeding farms are concentrated in the Stavropol region: 25 breeding farms, including 16 of stud farms and 9 of the pedigree. In breeding farms region contained 175,2 thousand breeding sheep (7.8% of their total population in the province and 30.6% of their livestock on the farms).

In the Republic of Kalmykia there are 21 breeding farm with the number of sheep - 339,9 thousands of heads. (15.5% of all the sheep of the Republic and of 64.0% of their population on the farms). In the Republic there are 7 stud farms (184,4 thousand sheep). In the Republic of Dagestan has 16 breeding farms (including 2 breeding farm with livestock breeding sheep 109,7 thousands of heads. (2.5 to 8.9 %). (Sheep and goats of the Russian Federation in numbers. 2013)

12 breeding farms of the Karachay-Cherkess Republic is concentrated 113,3 thousand sheep (9.2% of all sheep in the region and 42.8% of the sheep on the farms, 5 stud farms in Karachai breed of sheep has 81,8 thousand breeding animals. In the Rostov region 14 breeding farms had the 61.8 thousand breeding sheep (6.8% of all livestock in the area and 53.5% of the population in agricultural enterprises). 8 example, the number of breeding sheep amounted to 47.7 thousand heads.

In Zabaykalsk territory in the 19th breeding farms contained 139,4 thousand sheep (the proportion of breeding animals - 29.5 52.5 per cent respectively), including those in example 8 were 68.8 thousand sheep.

The share of production of meat of all kinds in relation to the rational normal in 2011. was 68 kg or 82,9%. The share of imported meat in the diet of Russians reach more than 35%.

The share of sheep and goat meat in total meat production in Russia totaled by year: 1960. of 12.3 %; 1975. of 7.0 %; 1985. - 4,1 %; 1991. at 3.7 %; 2008 - 2,9 %; 2012. of 2.3% which implies that there has been a steady decline.

Lamb production per capita is 1.2 kg, in 1990 this figure was equal to 2.5 kg For comparison: in Australia, the average is 25.3 kg, and in New

Zealand - of 104.5 kg. Therefore, in domestic supermarkets freely sold mutton from these countries. (The technology of lamb, 2010)

For sheep farms of mountain and foothill regions of the North Caucasus, as well as the Karakul farms of great economic interest is the establishment of dairy farms, specialized, along with mutton and wool production of sheep milk. Existing technologies in dairy sheep allow you to get from each uterus for the 2.0-2.5 months of lactation 5-10 kg of cheese-cheese, whose market value is 2.5-4 times higher annual end cut wool fine and semi fine-fleeced sheep. Experience breeding of specialized dairy breeds of sheep (East Frisian) shows that, in our conditions, they are economic efficiency superior to other breeds of 60-70%. (Sheep breeding and goat breeding of the Russian Federation in figures *rnco.net.*, 2013)

Concerned about the state of the breed gene pool of the sheep and the weakening of the work for its conservation and quality improvement. The increase in the number of sheep in farms population is often accompanied by spontaneous delivery different breed of sheep and different quality livestock, a violation of the prevailing zonal rock zoning, with a reduced role for tribal parts of all sheep breeds.

The problem of the survival of the sheep industry, especially in areas of intensive agricultural production, can be solved by increasing precocity, fattening and meat qualities of young, improving fertility ewes that will be possible when creating sheep beef productivity.

To date, available from 24.2 million sheep and goats in agricultural organizations diluted only 4.6 million heads (or 19.0 percent). The rest of the livestock of sheep found in households and peasant farms 46,7 and 34,3% respectively.

Specialized meat breeds can be attributed only 24.7 thousand heads. (Lincoln, Dorset, Romney marsh, Suffolk, Texel, Tashla, South meat), representing only 0.6% of the existing stock of sheep enterprises in the country. A number of breeds of meat and wool production efficiency (ornoaltaiskii, Kuibyshev longhaired Russian, Soviet mutton-wool, sigay and others), components of 6.0% of the total population in the agricultural enterprises need to improve meat forms and increase energy growth.

The remaining livestock is sheep wool

direction (58,9%), fat-tailed and coarse-wooled sheep (31,1%), and 3.4% are not identified animals [Sheep and goats of the Russian Federation in figures, 2013].

About the number of sheep bred in the farms and the farming (except received the status of breeding) is uncertain, because certain information is not available. However, from available, it is clear that in these farms (more than 80% of the livestock in the country) are often low productive animals or hybrids of different species and productivity trends.

In such a situation to talk about the profitability of our lamb is very difficult and the reason for this is not Russia's accession to the WTO. In addition, compromised the implementation of the branch target program "Development of sheep and goat breeding in the Russian Federation for 2012-2014 and the planning period of up to 2020", according to which the end of the reporting period, you must enter the figures for the number to 28 million heads, and in the production of sheep for slaughter to 336 thousand tons. If the number of the sheep still be possible to achieve such livestock, the quantity and quality of the lamb we will simply not competitive with the EU countries. (Sergeev, 2005;)

The situation in the industry is due, on the one hand, the lack of a clear government policy in respect of sheep and insufficient use of accumulated scientific potential and existing natural resources of our country.

The strategy for the development of sheep breeding should aim at the realization of the tasks set in the branch target program directly related to socio-economic development of the country, ensuring its food security and domestic lamb to the external market.

Today the sheep in dire need in the development of the subprogram "Development of meat sheep in the Russian Federation until 2020", which assumes three stages: in the near-period (2014-2015) the development of the industry is based on the fact that the main factors that stabilize and to create the preconditions for sustainable development of the meat of sheep, remain current levels of state support and increasing domestic consumer demand for lamb.

During this period, you will need to develop a system for maintenance of sheep in each

region with regard to natural-climatic conditions and existing species composition of sheep, approval of a plan of improvement of domestic breeds, as well as schemes promising options industrial crossing. The creation of a genetic breeding centres for breeding meat sheep for their propaganda and implementation of private farms and individual farms. Bringing the number of specialized meat and meat-wool sheep to 0.5 million heads (due to the transformation of domestic breeds, imported animals, embryos and seed from meat breeds) in the medium term (years 2016-2018) meat of sheep breeding is based on the strategy for meeting the demand of the domestic market lamb, a steady growth of its production on the basis of modernization of the industry, attracting private investment in the development of meat of sheep, their innovation activity and susceptibility to the development of new technologies, to improve the genetic potential of meat productivity of sheep given the new opportunities created by breeding and genetic centers.

During this period you will need to increase the number of sheep meat to the number of 0.9 million head of cattle, and the production of high quality lamb to the slaughter weighing up to 7.5 tonnes in the long term (2019 and 2020 and beyond) meat of sheep, it is assumed with regard to the improvement of the socio-economic situation of Russia and the welfare of the population, which will lead to increased demand for consumption is more valuable in food products of animal husbandry and in particular sheep.

While sheep meat should be developed on the basis of innovation with broad involvement of the best domestic and foreign technologies and breeding achievements.

Priority must receive specialized beef sheep that do not require large capital investments, and is based on the huge opportunities of feeding and fattening of sheep at an early age do not require a significant investment of grain.

Until 2020 to increase the number of sheep beef productivity to 1.4 million head, and lamb production that meets international standards to 11.0 tons.

After 2020, there is a need to increase the population of sheep meat to 2.0 million heads and more to bring up to 40% of the total number available in the SHP. The structure of the available

livestock on the farms will look like the following: fine-wool sheep - 45%; - and cold - 40%; fat - 5% and coarse wool - 10%. Should be encouraged to follow the same patterns in farming and in private households. The growth of production of mutton would largely associated with the increased specialization of domestic sheep in the side of meat production as the mainstay of the economy of the industry. It is planned on the basis of fine - and coarse-wooled sheep breeds to form breeding base of domestic beef sheep and expand the area of cultivation of new competitive animals, both local and imported.

Enhancing the role and potential of small farms in the production of high-quality lamb, the increase in the number of sheep meat breeds on the basis of the development of family farms on the basis of peasant (farmer) farms, the creation of their participation in agricultural processing cooperatives. This will largely contribute to the development of abandoned and degraded grasslands and pastures partial reduction of unemployment, improvement of demographic situation in rural areas and improve the quality of life of the rural population.

The development of meat of sheep should be considered as an urgent need for more complete and efficient use of available feed and labor resources for the production of cheap products. Currently Russia has a great potential for growth in the number of sheep meat and increase the high quality products.

The main emphasis in the development of the subprogram "Development of meat sheep in the Russian Federation until 2020" should be on breeding, feeding, technology and reproduction, which must be located in close conjunction. After all breeding sheep along with the conditions of feeding, reproduction, and breeding technology is increasingly determined by the quantity and quality of mutton, the requirements of which has increased since the entry of Russia into the world Trade Organization (WTO).

Breeding activities are planned: without knowledge of the individual development of the animal that you are breeding work, without specific knowledge of the impact of external factors on the developing organism cannot be implemented based on scientific evidence of breeding work to improve existing and develop new breeds.

In the state pedigree register on 1 January 2013 registered herd 236 organizations breeding sheep breeding various productivity trends, including 69 of breeding plants, 146 breeding reproducers 21 and genetic farm, which mainly serve the needs of farmers in livestock production. Among the available breeding farms only 3 are engaged in the breeding of sheep specialized beef productivity.

To accelerate the establishment of a specialized in manufacturing high quality lamb and lamb sheep advisable to use the best of breed global and local gene pool - Ile de France, Suffolk, Charolais, Folderset, Petit, Bleu de Maine, Dorper, Marineland, Tashla, Southern Mediterranean, the West Siberian meat, etc.

Best parent form (Russia today) to create meat sheep are animals of the North Caucasus, Soviet and Volgograd meat-wool breeds. To improve meat quality of these animals will in a short time to obtain animals with excellent meat forms well adapted to the conditions of detention in the country.

In countries with advanced sheep (England, France, Australia, New Zealand, Canada, etc.) has been widely used this technique as industrial crossbreeding sheep for the production of high quality lamb. In these countries, the developed scheme the most effective selection of rocks, corresponding to the direction of sheep, natural and economic conditions and to promote higher yield of high quality (the main part of the meat contingent of Australian lambs are derived from crosses between fine-wool ewes with rams of meat breeds mainly English breeding).

The Merino sheep breeds not include meat, but their carcasses meet the requirements of the market and one should not underestimate their role in the production of lamb. In this regard, to enhance the competitiveness of fine-fleeced sheep need to strengthen the work on the creation of fine-wool Merino ewes with high energy growth. Use the flocks of Merino sheep breed Australian meat Merino let animals get double production efficiency, combining high fattening, meat quality and extra fine Merino wool. Farms involved in the creation and Merino breeding beef must be included in the sub-program "Development of meat sheep in the Russian Federation until 2020", because the quality of their products is not inferior

mutton obtained from sheep of specialized meat breeds.

In the field of nursing: a tremendous value on the productivity of sheep has a level of feeding. Statistical analysis shows that the level of feeding their flocks and their productivity depends on 40-60% of the breed is 10-30% and other factors further to 10%. Therefore, to maximize the existence of meat productivity of sheep it is necessary to create good conditions for feeding, especially during the growth of young animals up to 8-10 months of age, when the cost of feed is minimal and the high energy growth.

Currently in matters of feeding, the sheep has many flaws. Existing feeding rations were largely aimed at raising sheep wool and wool-meat breeds. The growth in the number of highly productive meat sheep will promote the development of food processing industry and increase the number of plants for the preparation of feed for sheep. This will require the development of high domestic animal feed and additives for young specialized meat breeds, ranging from 2 weeks of age.

In the leading sheep-rearing countries, the production of lamb is specialized mainly on intensive breeding, feeding, fattening lambs and slaughter them to 8-9 months of age, which should be debugged and in our country.

In providing animal feed plays a very important role correct use of natural hayfields and pastures. In Russia they take 76.3 million ha, or 36% of the total area of agricultural land, of which hayfields 18, pastures 58.3 million hectares.

Natural hayfields, pastures mostly unproductive, and give on average a small yield of forage (6-10 kg feed. units and 30-50 kg of green mass). The main reason is the unsystematic use of weak and work on their improvement. Work on radical improvement (plowing and creating meadows) and surface (tillage, sowing of perennial and annual grasses, making local and fertilizers, clearing bushes, the elderly, etc.) allows to increase 3-4 times their productivity. In all cases, for each section must be written projects for the improvement and rational use of pastures and hayfields on the basis of their degree of soil composition, terrain, etc. Long-cultural hayfields and pastures are 6.4 million hectares (only 8.3% of hayfields and pastures), including: 3 million ha of

hayfields and 3.4 million ha of pastures. In the field of reproduction: the production of mutton greatly increases the significance of the share of females in the herd. With the increasing, of which meat production per head increased (calculations show that with an increase in herd number of dams from 60 to 80% of the production of lamb increased by 25-30%).

From biotechnical and technological factors, first of all, you need to consider such as: increased output of the lambs on the uterus, reducing the interval between lambing, the elimination of seasonality of reproduction (and as a consequence the production of lamb over a year), early weaning of lambs from ewes and early tribal use of sheep. Thus, it is necessary to use the entire range of available techniques and methods. For example, to eliminate the seasonality of reproduction and seal lambing used: genetic methods is the selection of appropriate breeds with precocity and has no pronounced seasonal fluctuations in sexual activity, such interbreeding with local breeds of sheep; husbandry and breeding, balanced feeding, biotechnical - induction and synchronization of sexual hunting with gonadotropins and prostaglandins; technological - regulation of reproductive function by changing light modes, early weaning of lambs and their intensive cultivation.

In technology: the most Important tool to achieve these heads should become an industrial production technology of sheep production is the maximum implementation of the biological capabilities of sheep based on science and best practices at a minimum cost of feed, labor and expense. The main issues of intensification of the industry are: the creation of large specialized enterprises, suitable for production on an industrial basis, providing favorable conditions for the introduction of advanced technology, combining the latest achievements of scientific-technical progress, the biological characteristics of animals and the organization of production. Today at a very high cost of large farms, they are the busiest and not more than 1/3 of the time of year. The rest of the period the premises and equipment, or stand, or used inefficiently, resulting utilization is low and the payback period extend over many years.

Currently used technology of keeping sheep is extensive, contributes to the consolidation

of the rams and ewes pronounced sexual hunting season, of late, leads to ineffective use of the physiological capacity of sheep and as a consequence to the loss-making industry. However, even with existing technology from sheep can be received not less lamb than from cattle beef, believing that the ewe is 0.13 conditional heads of cattle. Real from 1 dam per year you can get a litter live weight up to 60 kg, while from 1 cow in the best case up to 350 kg, and with proper use of technology and biological characteristics of sheep, these figures can be greatly improved.

Grazing animals at the present stage is economically justified. However, in the long term grazing by sheep can be a local phenomenon, especially in areas with highly intensive agriculture, where not excluded pasture use only high-yielding elite animals.

Important role in the process of facilitating and expediting the work of the breeder should be given to the introduction of modern information technologies in sheep, the development and refinement of programs like "Sexex-sheep" and system of electronic identification of animals (chipping, installation R-FiD tags, boluses), which will in a short time to restore order with regard to livestock in farms of different forms of property, will greatly facilitate the work of veterinarians to prevent uncontrolled movement of cattle and as a consequence of the spread of various diseases among sheep.

In the subprogramme "Development of meat sheep in the Russian Federation until 2020" it is necessary to consider a number of issues that require urgent solutions. One of which is the disparity of standards for Ovine European Union (EU) No. 1234/2007 and the National standard of the Russian Federation GOST R 52843 - 2007. "Sheep and goats for slaughter. Mutton, lamb and goat meat in carcasses". Harmonization and maximum convergence with international standards in the production, cutting, packaging and storage of the lamb must be a priority.

Among the other reasons, affecting the quality of the mutton should be noted that production processes of preparation of meat contingent to the realization that directly slaughtering of animals and processing of products is carried out at a low technological level. Currently

in Russia, there are practically no specialized industrial slaughterhouses for sheep enterprises primary and deep processing of lamb. In a distribution network is supplied meat with private semi-artisanal slaughterhouses created around major cities. Naturally, the quality control, compliance with sanitary norms in such enterprises are not met. In these circumstances, when there is no high-quality cutting, packaging, labeling, even high quality lamb depreciates. In this respect, in Europe, more than 75 % of lamb, which comes to market, is good lamb slaughter conditions, butchered and packaged in strict accordance with the requirements of the veterinary and sanitary-epidemiological norms.

It is necessary to consider the peculiarities of cooking lamb. About the secrets of cooking, which in 1925 P. N. Kuleshov wrote: "If the mistress of our capital cities learned to cook Oriental dishes and generally could well prepare the lamb, then she'd very soon favourite meat and in the North of Russia. First of all, the lamb does not allow for secondary heating, due to the volatility Girsanov acid, but because the lamb should have immediately after removing from grill or spit, or have a cold. "It's not the lamb and her smell, but the ability to do with her in the kitchen." For this reason, it is a southern city: Tbilisi, Baku, Sevastopol, Odessa and Yalta consumed from 50 to 175 thousand lambs, with a relatively small population of these cities, and Leningrad, with its 2 million population, consumed only 15 thousand sheep a year."

The strategy of lamb production in the major sheep-rearing countries based on economic feasibility, since the young lamb, and the lamb is 2-3 times higher in comparison with the Mature sheep meat. We have the same revenue per 1 kg of sold meat-lamb meat (in live weight mainly after spacing on females) in 2008-2012 ranged on average from 43,7 to 80.3 RUB when its cost on average of 43.2 RUB (2012). The profitability of lamb production in agricultural enterprises (without subsidies and excluding the cost of production of wool) is an average of +14%. Such low rates require the adoption of measures to increase not only the quantity but also the productivity of sheep, to increase the attractiveness of the industry, not to be among the sub-sectors have no significant impact on total meat production in Russia, and to

have a specific export demand and the demand in the domestic market in terms of delicatessen products.

In order to increase the investment attractiveness of the industry and create economic conditions to increase the production of livestock products should be envisaged in the State program of development of agriculture and regulation of markets of agricultural products, raw materials and food for 2013-2020 government support in the following areas:

- a) Subsidizing of interest rates on investment loans for the construction and reconstruction of enterprises for processing of mutton;
- b) Subsidizing of interest rates on investment and short-term loans for the modernization of farms (complexes), production and fodder;
- c) Leasing of machinery and equipment for sheep;
- d) Support for sheep breeding beef productivity; - support of regional programs for the development of meat sheep.

Thus, the development of the subprogram "Development of meat sheep of the Russian Federation until 2020" (including a detailed system of the meat of sheep), as well as harmonized with international requirements and the market of Ovine will allow the sheepmen of the country for a short period to regroup and produce high quality lamb that meets the highest international standards.

#### **Goat breeding**

In Russia, the share in gross volume of milk production, the proportion of goat not comparable, small with a share of a cow, so it did not show enough interest. Despite this, people in the goat was always popular, since the days of tsarist Russia, but did it only in private farms.

On an industrial scale dairy goat actively do Spain, France, Greece, Holland, Denmark and Germany. All this led to the fact that breeding base of the industry is very weak and is represented today by three breeding farms for the breeding of goats producing Saanen breed: LLC "Lucas" (Mari El), CJSC "Neva" (Leningrad region), KFH "Russia-1" (Stavropol region) and one genetic agriculture wildebeest SNIIEC (Stavropol) with the total number of not more than 3 thousand.

A large potential source of expansion of



the tribal base of the country are large industrial farm. Every year they create more and more. It can be noted SHP "Red field", CJSC PH "Krasnoozernoe", NGO "Achitsky", LLC "Tavla", LLC "Putylivky" and others Besides producing Saanen breed grows a considerable number of small and medium-sized farms that do not have the status of breeding (there are many in Belgorod, Tver, Kirov and Moscow regions). Despite this industry dairy goat breeding there is an acute shortage of breeding animals. For this reason, to engage in the sale of pedigree cattle sufficiently profitable: 3-4 month old goat breeding is not less than 20 thousand rubles.

According to all-Russian agricultural census of 2006, there were 2.8 million heads of goats, including 2.5 million, or more than 86% of the households.

In Russia more bred dairy goats - 36%, the proportion of downy goats is 33%, wool - 20% and local coarse-haired goats - 11%. The most widespread are the following breeds of goats:

#### **Dairy**

Producing Saanen and type in producing Saanen breed (Gorky, Russian white, etc.);

#### **Down**

gornoaltaiskii down, Orenburg, don, Dagestan down, Tuvan down; wool directions - Daghestanian wool, Soviet wool. Meat goat breeding is well developed in most countries of the world. The bedrock in this area is Boer meat. As the prevalence of the breed is the second in the world after producing Saanen dairy.

Russia remains one of the few countries in the world where there is no meat breed goats. At the same time, according to FAO statistics, in Russia there are about 1.0 million heads of goats, bred to obtain the goat. It is basically a purebred animals are classified according to the classification adopted in our country to coarse-haired goats. These animals can be the basis for creation in our country meat goat breeding. It seems to us that the meat goat breeding in Russia will develop. And the reason for this is that the greatest threat to the breeding of Russia is fast spreading across the country for African swine fever (ASF). For the protection of industrial pig production the majority of the experts suggests limitations including absolute prohibition of keeping pigs in K(f)X and LHN most at risk of infection with ASFV. In the

draft of the state program of agriculture development for 2013-2020 for these purposes will be allocated considerable funds. Given the technological aspects of keeping and feeding, meat goats are more suitable for cultivation in private households as an alternative to the pig.

#### **The main centers of breeding goats**

In the southern Federal district the largest number of goats are raised in the Republic of Dagestan and 12.4% of the total herd of goats bred in the Russian Federation. Also significant livestock goats is located in the Volgograd region is 6.8%, the Rostov region is 3.8%, the Republic of Kalmykia - 3,7%, Astrakhan region is 3.3%. In the Volga Federal district the largest number of goats is located in the Republic of Bashkortostan - 3.1% and the Orenburg region of 2.3%.

In the Siberian Federal district, most goats are bred in the Republics of Tyva - 14.0% and the Altai - 6.1% and the Chita region of 2.5%. These are traditional areas of breeding goats. The main objective of breeding in goat farming is the preservation of the country's existing parent breeding flocks and the creation of new breeding farms, and farms. In downy wool and goat farming is necessary to manufacture large quantities of high-quality down and Moger different assortments to create consignments of raw materials and market development of down and wool. A significant role in enhancing the effectiveness of goat breeding can play an increased production of goat meat and leather and fur raw materials.

A promising direction of selection in a down goat breeding is the creation of new types of Kashmiri goats type (fineness down to 19 ¼m), based on the export of raw materials. For the development of the internal market need to increase production to goats don type (coarse) down fields above 19 ¼m).

Wool goat, stabilized on relatively small livestock and wool - Moguer will be used to meet the needs of a certain part of the population in accordance with local traditions.

In Russia, a sufficient number of highly productive animals specialized dairy breeds of domestic equipment for maintenance and milking animals, facilities for the processing of small quantities of goat's milk and weak cooperation in the marketing of raw materials.

Now important question is about the creation of the domestic breeds of dairy goats with high productive performance (1000 kg milk per lactation and above) that are adapted to breeding in different regions of Russia. One of the areas of breeding work in goat farming is the transformation of local goats in milk by absorption-crossed with high-yielding breeding animals.

To improve the efficiency of industry scientists wildebeest SNIEC Russian Academy of agricultural Sciences, head of the Institute for goat, developed GOST "Goats dairy breeds. Zootechnical requirements for the appraisal (evaluation) of animals". Developed industrial maintenance technology dairy goats that received several gold medals in international and Russian innovation competitions and exhibitions.

### DISCUSSION

An innovative component of the economic growth of sheep

Adaptation of sheep to market relations occurs in a challenging economic environment. Production sheep production for producers unprofitable because of organizational-economic, technological and technical backlog. The production of wool in pure fiber per capita of the Russian Federation is less than 20 percent, scientifically based, minimum requirements, and the production of lamb has only 1.3 kg For the country's current situation does not meet the national interests. (Shutkov & Dyachenko 2011; Shutkov & Shutkov 2008 ; Surov and Serdyukov,2014; Ulyanov et al., 2014; Venediktov et al.,1988; rtemova ,2008; JSC "KazAgroMarketing", 2009; Smith C, 2010; Technology of production of lamb, 2010).

Food and commodity security of the country is possible only on the basis of science, accelerated transfer of innovations to interested producers and implementing them in a production environment.

Sheep farming as an economic activity has a number of features, is the most extensive group of economic activities, compared with other groups of animal and requires the development towards further intensification of production. The most efficient way of intensification of production is an innovative development as the main means of competition in the market. For this purpose, it is

necessary to generate purposeful system for the creation and development of innovations in the production of sheep production, the implementation of which will improve its economic, technical and social efficiency.

The solution to the problem of increasing the profitability of the industry is to organize the production of innovative type with the maximum development of entrepreneurship in sheep. To the fore in modern conditions leaves the value of innovation in the broad sense of the term. Approved by the decree of the RF Government dated 6 July 2006 No. 997-R Concept of the Federal target program "Research and development on priority directions of development of scientific-technological complex of Russia for 2007-2012" defines "innovation" as the execution of works and (or) rendering of services aimed at:

- a) Creation and organization of production of fundamentally new or improved consumer properties of products (goods, works, services);
- b) Creation and application of new or upgraded existing methods (technologies) of production, distribution and use;
- c) Using of structural, financial, personnel, information and other innovations (innovations) in the issuance and sale of products (goods, works, services), providing cost savings or creating conditions for such savings.

These and various other tasks should be implemented on a fundamentally new basis, taking into account its development path of the industry on the basis of modern scientific and technological progress, using the experience of developed countries, but it should be used only with regard to local political, socio-economic, natural, environmental and other characteristics of rural areas.

Many scientific developments of our scientists superior to their foreign counterparts, however, the pace of new products and processes in sheep is very low compared to the potential. Abroad on a single developer in science have ten managers, which is why many scientific developments there entered the market and are realized while we have it backwards. In our country practically no specialists know the specifics of work with a new product, able to transform research and

development in high-tech competitive products. (The Economic aspects of innovative development of animal husbandry; Bilchev *et al.*, 2009; Bondarenko, S. P., 2003; Vasilyev & Tselutin, 1979; Kryukova *et al.*, 2014) The decisive factor for sustainable growth of the economy, as international experience shows, is the successful development of science, technology, effective use of innovative achievements in practice. It is they, and not the increase of capital and population, provide the main growth of production and productivity.

Innovative activity in the US is 50%, in the Netherlands, -62, Austria - 67, Germany - 69, Denmark - 71, Ireland - 74%, i.e. 10-15 times higher than in Russia. The share of high technology products in the Russian agricultural sector does not exceed 0.3% of the total. In developed countries, it takes at least 20 %.

According to independent experts, Russia has one of the best scientific and technical capacities in the world, to a large extent this also applies to the development in sheep. Scientists from academia, industry and University research in sheep created of high-tech, high-efficient, environmentally friendly and resource-saving technologies. Methodological and methodical recommendations on the creation of new types and breeds of sheep, systems of care and feeding sheep, biotechnological approaches to control production, selection and evaluation using computer programs, methods of cryopreservation of sperm of rare and endangered breeds of sheep and goats, mobile chipping, machinery and equipment, etc.

For the purpose of implementing the Concept of the Federal target program on priority directions of development of scientific-technological complex of sheep Russia was the works of Russian scientists in the field of scientific and technical progress and innovation, the results of scientific research SNIEC, Institute of cattle breeding, Moscow state veterinary Academy, RSAU-MTAA named after K. A. Timiryazev and other research institutions. In recent years scientists have created 14 new types and breeds of sheep with higher rates of productivity and consumer properties of products:

- southern meat breed;
- breed of Bouba;
- Aga breed;

- Buryat breed;
- Kulunda breed;
- Tashla breed;
- type of solar (tsigay breed);
- the type of mining (Tuvan korotkozernisty breed);
- type of steppe (Tuvan korotkozernisty breed);
- sending-type (Soviet mutton-wool breed);
- type of Udmurt (Soviet mutton-wool breed);
- type logoysky (TRANS-Baikal breed);
- the type of the Argun (TRANS-Baikal breed);
- type pristanski (gornoaltaiskii breed).

**Created and developed new resource-saving technologies and modernized existing methods of production of sheep that significantly enhance the profitability of the industry**

- innovative technology for the production of broiler lamb;
- the system of feeding the young sheep under intensive rearing and fattening; • low-cost technology of pasture and stall sheep keeping;
- the evaluation system of hereditary qualities of breeding animals using genetic markers and DNA technologies;
- a number of methods for obtaining, freezing and the creation of the Cryobank indicate epididymis seed of rare and endangered species of wild sheep, bighorn sheep, ibex, sheep Edilbaevskaya, Hissar and Romanov sheep breeds;
- the evaluation method rams on the quality of offspring;
- method of assessment and prediction of meat productivity at an early age on the basis of blood groups of DNA markers sheep;
- biotechnological methods for assessing the productivity of sheep;
- methodology of forecasting the minimum level of selling prices of wool.

**Created structural, financial, personnel and information innovations that enhance the profitability of sheep:**

- created the national Union of farmers;
- programme for the development of sheep breeding in 2012-2020.;
- information-analytical system “Selex-

- sheep”;
- developed a plan of spoil placement sheep for Federal districts;
- organizational-economic normative indicators effective management of sheep;
- method of assessment of innovation for sheep based on the analysis of fixed and variable costs;
- organizational-economic evaluation of the model models a sheep from industrial farms, farms and households;
- software and database selection and genetic data;
- developed: manual on artificial insemination of sheep and goats;
- Manual on the evaluation of the fine-wool breeds of sheep;

**manual on the evaluation of the half fine-wool breeds of sheep;**

- preparation of master’s program “Intensive technologies in sheep”. Improving the organization of the innovation process involves:
  - a) developing and implementing a comprehensive scientific and technical programs of development of the industry;
  - b) improvement of organizational forms of innovation activity in sheep;
  - c) improving the manageability of the innovation process, innovation in management;
  - d) the development and implementation of programs of innovative development of the industry. Economic stimulation of innovative activity is:
  - e) in the formation and effective functioning of the market of scientific and technical products;
  - f) to strengthen the commercialization of scientific and technological developments, increased interest in research institutions and scientists;
  - g) state support of innovative activity of the state;
  - h) the provision of benefits to business entities for the implementation of innovations. To ensure the susceptibility of agricultural scientific and technological developments required:
  - i) to understand that the main sphere of

- realization of innovative activity in sheep is a farmstead;
- j) better realize the forms of management principles of cooperation and integration;
- k) to restore the tribal service at a qualitatively new level.

Thus:

1. Sheep farming is the most extensively developing the livestock industry. Modern scientific, technical and technological condition of sheep is low.
2. Effective direction of intensification of production of sheep production is an innovative development of the industry, as the main means of competition in the market. Competition in the market of goods and services encourages producers to innovate.
3. For the sheep to the fore the problems of innovation and organization of innovative enterprises. You need to dramatically increase the share of high technology products, to establish a system for the creation and implementation of innovations in the production of sheep production. The increase of innovative activity, will improve the economic, technical and social efficiency of sheep.

## CONCLUSION

On the basis of the conducted analysis it can be concluded that the sheep is best developed of comparison with the goat, so funding levels for this sub-sector are greater, but also programmed growth is also higher compared to the goat, this is many due to the low demand for the production of goat breeding (and then mainly for dairy products, which is reflected in the programmed indicators SSPP, while other areas of production are not reflected) historically in Russia ( the goat engaged mainly in small farms. However, in connection with the modern trends, the demand for products increases, which necessitates a detailed study of the development plans of the sub-sector, at the same time the sheep in comparison with other sub-sectors of livestock also inferior, share in GDP. Exploring the financial component of production, SSPP for 2010-2020, the share of own funds producers is greater share ( own funds of agricultural producers 12320,1 million rubles

against the Federal budget 9569,6 million rubles against the regional budget 2875,5 RUB million), given the high intensity and a time component, you may want to reconsider this gradation, and also should be paid to the process aspect of the inclusion of producers in SSPP as a Federal and regional level - given the specificity of activity of producers, the specificity of formation and isolation from “information” centers, documentation aspect, for many participants in the process, become not avoidable.

In order to increase the investment attractiveness of the industry and create economic conditions to increase the production of sheep and goat should be envisaged in the State program of development of agriculture and regulation of markets of agricultural products, raw materials and food state support in the following areas:

- a) Subsidizing of interest rates on investment loans for the construction and reconstruction of enterprises for processing of mutton;
- b) Subsidizing of interest rates on investment and short-term loans for the modernization of farms (complexes), production and fodder;
- c) Leasing of machinery and equipment for the sheep and goat;
- d) Support for sheep breeding beef productivity;
- e) Support of regional programs of development of beef herding practices;
- f) development of programs of breeding dairy goat breeding and down directions productivity.

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