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## Economical Aspects of Meat Production and Processing in Kazakhstan

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### ABSTRACT

Meat product market – is one of the largest food product markets. It has strong traditions and its condition has a significant impact on other food markets. Over the years, a certain production and distribution system has formed. Meat industry is one of the most important sectors. Meat products of different product groups are part of the State strategic reserve. The paper includes evaluation of meat processing industry development trends in the Republic, and reveals main reasons constraining industry development. Directions and mechanisms of stabilization of processing industry, meat products quality improvement, and improvement of its competitiveness have been proposed.

**Keywords:** Agri-industrial complex, Kazakhstan, agricultural producer, meat processing industry, meat production, competitiveness, exports, imports, meat procurement system, vehicles, domestic and foreign markets, subsidies, Eurasian Economic Union.

### 1. INTRODUCTION

At present stage of development of the Republic of Kazakhstan the issue of formation of market relations in economy is most important in scientific and practical terms. This issue is of key importance in relation to the AIC of the Republic, especially its food complex and product sub-complexes which ensure population with vital food products, including meat and meat products [1,2]. The specific nature and direction of production of various meat products requires unification of all processes, from the beginning of meat production (as raw material) to the end of its processing as final meat products and population consumption. However, solution of this task is extremely difficult in conditions when many reserves are not yet involved and there is no possibility of increasing efficiency of meat product subcomplex. All this in complex conditioned the

necessity of exploring market relation formation and inclusion of household products into civilized market. The relevance of choosing the topic is proved by the fact that raw meat market of the country is formed by 85% by meat products of households and only 15% by agribusinesses and private farms [3]. The research aim– is to develop recommendations on improvement of functioning of meat product sub-complex which contributes to the increased meat production volumes and cost reduction. Main objectives of competitive meat production sector development in the country are to develop a system of measures on ensuring effective development of meat production and processed products and establish competitive meat market on this basis, improvement of market economy mechanism and its rapid development, which will enable meat product production and sales, development of market infrastructure, formation of effective system of market relations in meat product industry [4]. The experience of organization of processing agricultural products on the basis of integration and cooperation in terms of competition of producers in European countries and Japan was presented [5.6].

## **2. METHODOLOGY**

The research works on production and processing of meat products in Kazakhstan which provide stable incomes of agricultural producers and possibility of extended reproduction have been conducted. It has been revealed that many reserves and possibilities of increasing efficiency of meat product sub-complex haven't been yet involved.

Main factors constraining meat-processing industry development have been determined, as a result of which domestic products become less competitive compared with imported. Since there is no integrated system of procurement companies which are involved in collection and delivery of raw materials, there is a need improving meat procurement system, and its main directions have been proposed. In order to increase term of lending and reduction of interest rate on vehicles, it was recommended to provide payment of investment subsidies up to 30% of investments to equipment, which will facilitate supply of meat processing enterprises with raw materials and increase meat production volumes. Since technical condition of meat processing companies requires renovation and reconstruction, the expediency of their modernization by investing in technological production processes in the form of investment subsidies has been justified. This approach will increase productivity and profitability of meat processing plants. Recommendations on application of price regulation criteria have been done, which contribute to the decrease of consumer prices for food products on internal market and increased competitiveness of agricultural production in the country. In order to solve settled problems the monitoring of materials of printed and electronic specialized publications, statistical data and data of departmental authorities at national and regional levels, authors online researches has been done.

## **3. RESULTS**

Currently, domestic meat market in Kazakhstan is estimated at the level of 1220 thous. tons. Meat production volumes in the country except for poultry meat satisfy population needs in meat.

Capacities of meat processing facilities producing sausages are 103.2 thous. tons per year, chilled poultry 145.5 thous. tons, canned meat and meat-vegetable products - 16.8 thous. tons.

In 2015 meat processing enterprises of the republic processed 225 thous. tons of meat, which accounted for 24.2% of its total production volume. Download of meat processing facilities, producing

sausage products is 28.7%, producing chilled poultry - 29.3%, meat and vegetable canned food - 60.7%. Exports volumes of all meat and meat products in 2015 amounted to 14.0 thous. tons.

Despite availability of livestock live weight, Kazakhstan is the basic importer of Russian meat products. The share of imports in consumption of sausages was 51.2% in 2015, meat and canned meat-vegetable products - 31.3%. In the import structure of meat products the main share falls on Russia (90.7%).

The main factors constraining the development of meat processing industry are as follows [7]:

- seasonal nature of production and uneven delivery of raw meat during the year (main bulk of animals is sold by households and producers in the autumn, i.e. after feeding animals and before keeping them in stables);
- relatively high cost of raw materials, which makes the products of domestic businesses less competitive;
- high proportion of obsolete and worn-out equipment, as well as quite high cost of energy and maintenance.
- lack of working capital in processing enterprises;
- problems of meat products sales.

As a result, Kazakhstan's products become less competitive compared to imports. Actual absence of integrated system of procurement companies engaged in collection and delivery of raw materials is a big problem on raw meat market. Some of these functions are performed by meat processing companies, but their financial capacity is limited. In order to eliminate this negative factor it is necessary to improve meat procurement system. The main volumes (70%) of produced meat are at households of population.

Meat procurement system will be implemented in two ways:

- collection of live weight livestock from population and private farms (livestock carriers). Collected animals will be delivered to own slaughterhouses of large and medium-sized enterprises. The total number of meat-processing enterprises will be about 100 units in 2021, and their overall capacity, taking into account newly introduced facilities - 352.3 thous. tons of meat per year. The average capacity of one enterprise will be 3 355 tons of meat per year, 12.4 tons per day;
- Processing enterprises that don't have their own slaughterhouses will collect meat from slaughterhouses (by refrigerators).

To ensure the needs of enterprises in refrigerators by 2021, 9 units are needed per year. To improve the system of meat procurement, it is needed to create conditions for increasing investment attractiveness due to the following mechanisms: investment subsidizing of equipment and specialized transport costs (livestock carrier, refrigerator) up to 30% of total project cost; subsidizing of interest rate on loan or lease, including construction and installation works, purchase of machinery and equipment up to 7% per annum with a loan term up to 7 years. To solve the problem of providing raw meat to processing plants and increase meat production, meat-processing enterprises will be provided with necessary transport means (livestock carriers, refrigerators) by payment of investment grants up to 30% of investments to equipment.

Cost of vehicles (livestock carriers) for meat procurement is about 25 000 thous. Tenge. So, 7500 thous. Tenge (30%) will be reimbursed by payment of investment grants to the initiator or second-tier banks as a source of funds.

Currently, main part of lending institutions issue loans at 14% per annum and more for a short time. This rate, in addition to short term lending, usually has negative impact on financial condition of the borrower. In this regard, it is recommended to introduce a mechanism of subsidizing interest rates on loans and leases which assumes increased loan term and reduction of interest rate.

In subsidizing interest rate on loan and leasing of equipment in improving meat procurement system, lending will be provided for 7 years and commercial loan rates at 14% and its reduction due to subsidies up to 7% per annum aimed at creating favorable conditions for project initiators. The amount of funds for subsidizing interest rate for 7 years will be about 101 000 thous. Tenge, which will provide collection of meat for meat processing plants in the amount of 270 thous. tons by 2021.

Technical condition of the vast majority of meat processing businesses requires substantial renovation and reconstruction. Processing of meat to meat ready products and sausages requires high-tech equipment, therefore meat processing enterprises must improve their technical and technological level. Modernization assumes investing in meat production technology (handling, processing, packaging) aimed at increased labor productivity and profitability of enterprises and products competitiveness. To reduce payback period of the newly-purchased equipment and machinery, investment subsidies equal to 30% of the input investments will be paid.

By 2021 it is planned to export frozen meat in the amount of 102.7 thous. tons, and this requires construction of 10 meat plants. Meat plants will be linked with feedlots, which capacity will be 200 thous. animals. Every year, they will sale 400 thous. heads that will provide meat output of more than 80 thous. tones.

It is envisaged to involve investors in construction of meat plants, equipping them with modern equipment and technology for increased production, improvement of quality of raw materials, complex, waste less and quality meat processing.

Currently, domestic meat processing companies prefer to use imported raw materials - frozen meat. The main reason - is low price, which results in low quality of meat required from meat industry. These factors objectively contribute to lower cost of imported meat, due to savings in capital construction, facilities heating, lower feed production cost and smaller share of supporting feed in diets.

Beef cost in Kazakhstan is twice higher than in Australia and the EU, and several times higher than in Brazil and Argentina. As for pork, domestic production cost exceeds 2.9 times prices in Brazil and 12% - the EU. Poultry meat cost in Kazakhstan is also in average 3 times higher than production costs in the countries - importers.

Within the framework of the Eurasian Economic Union, the need for meat on internal food market in Belarus is 0.9 million tons, in Kazakhstan - 1.2 million tons, Russia - 12 million tons, domestic production in Belarus exceeds demand by 242 thous. t., in Kazakhstan and Russia it is lower than demand by 266 thous. tons and 4.0 mln. tons, respectively.

The level of purchasing prices for beef in Russian Federation is 2 times higher than in Belarus and 1.7 times than in the Republic of Kazakhstan. Although the decline in pork prices is observed in Russia, its level remains high, 1.8 times higher than in Belarus and 1.6 times than in Kazakhstan. The lowest price level is observed in the Republic of Belarus, - by 12% lower than in Kazakhstan.

It should be noted that increased efficiency of raw meat processing provides not only increased profitability of manufactured products and increased profit of meat industry enterprises, but also increased production volumes of highly valuable domestic food products available to consumers. In turn, the increased demand for domestic products is an important incentive to increase production of required quality meat in agriculture.

*Improvement of pricing.* In order to conduct more efficient cooperation policy between producers of raw materials, processing facilities and sales organization, which provides reduction of consumer prices for food products of domestic production, based on the experience of countries with developed market economies, it is proposed to establish price mechanism. For each of the types of agricultural products, which is subject to price regulation, three different types of prices are set: target, threshold and interventional [8].

*Target prices* - are standard indicators of parity correlation of prices for industrial and agricultural products and income of agricultural producers at a level sufficient to maintain extended reproduction.

*Purchasing (guaranteed) prices* are guaranteed by the State and must be equal or as close as possible to target price level. They determine the minimum permissible limit of prices for agricultural products, that is, provide income to producers, which is necessary for extended reproduction. It is recommended to set their level at 5-10% below the target price. They are used to calculate additional payments to market prices, if the latter are below the guaranteed level. Based on them the State, within pre-set volumes (quotas), buys products from agricultural producers. Determining the value of guaranteed price is based on standard cost per output unit, i.e. cost of certain type of product and profitability level providing producers with expanded reproduction [9].

The regulatory impact of price on efficiency of agricultural production- lies in the fact that, regardless of prevailing market conditions, the State guarantees to producers, first of all, sales and minimal income, protecting them from market fluctuations. Agricultural producers are free to decide either to sell their produce to the State at a lower guaranteed prices, or - at a higher price on open market but with a certain risk. With purpose of reduction of fluctuations in prices and incomes of agricultural producers, ensuring efficient production, the State should undertake purchase and commodity interventions by intervention prices.

*Intervention prices* are mainly used by the State in the form of collateral prices in product collateral operations. Their level should be 10-20% lower than guaranteed purchase prices. Purchasing interventions are carried out in the form of purchases and collateral operations on agricultural products, raw materials and food. They are carried out in cases, when market prices fall below a minimum level, and when agricultural producers are not able to sell their products, raw materials and food products due to reduced demand for them [10].

Collateral (insurance) prices along with guaranteed prices serve as mechanism of State regulation of agricultural producers' interests. Collateral operation system using collateral prices can be applied for agricultural products, providing guaranteed sales of products of agricultural producers; possibility of

obtaining a minimum income at expiration of collateral; provision of interest free loan to rural producers by collateral holder (the State) at product collateral accepted for storage.

*Threshold (protective) prices* are set for imported products, and indirectly by affecting costs associated with importing those goods into the country. Their value is defined as a sum of target price and customs, transport, commercial and other costs associated with products delivery to sales places. The threshold price is calculated so that at the place of sale of imported products after summing with the value of specific overhead costs, it should be higher than target price.

Application of this methodology and price regulation criteria will enable more effective decision making on definition of in-kind and value volumes of purchase and commodity interventions, interaction between producers of raw materials, processors and sales organization, which in turn will contribute to reduction of consumer prices of domestically produced food products and increase competitiveness of agro-industrial production of the republic.

#### **4. DISCUSSION OF THE RESULTS**

International experience shows [11,12] that increase of technical level of meat processing industry and product quality is closely linked with development of competitiveness. Western economists believe that competitive market enhances production. Price regulation – is the main function of economical structures of all developed countries. In Japan, for example, the Department on prices regulates prices of dozens kinds of products, including meat and meat products. Import tariffs taking into account the need to raise or reduce prices are used. In meat industry in Austria, Sweden and Switzerland, beef, veal and pork prices – are fixed prices. Annually the approximate price of live animals is determined within the EU. Impressive progress has been achieved in AIC development in the Netherlands, where the level of food sufficiency is very high. For many products, especially of livestock origin, production is 2.5-3.5 times higher than domestic consumption. The Netherlands – is a major exporter, especially of meat. Approximately 75% of export falls on the EU member countries, primarily to Germany [13]. There are publications of many Russian agricultural economists devoted to the improvement of market relations in agri-industrial sector, including meat market. Scientists of Kazakhstan such as Kaliev G.A., Kuvatov R.Y., Omarova S.K., Satubaldin A.A., Tursynov S.T. and others have also contributed to the development of this issue. However, many issues of market-relations formation which emerged in specific regions, particularly applicable to meat food sub-complex, require further exploration and development of proposals on improvement of market mechanism. Such areas as meat market formation, improvement of meat production efficiency based on the use of economic tools, production co-operation and integration and involvement of households, processing of raw meat, improvement of meat market State regulation system of have been insufficiently justified.

In the course of the research it has been determined that meat processing companies have faced a number of problems related to livestock development under conditions of extreme shortage of domestic raw materials, unnecessary use of artificial additives in livestock production, irrational use of secondary resources, the need to reduce losses during intensive freezing technologies, insufficient development of new innovative and resource-saving technologies.

To increase investment attractiveness of meat processing sector and accelerated development of meat industry, it is needed to address a number of economic issues related to coordination of inter-branch

relations which are technologically related to production industries; attracting significant investment resources; guaranteed protection, targeted use aimed at renewal of fixed capital. [14]

It is needed to coordinate efforts of the State and business so that economy of meat processing industry should meet civilized market rules, and sustainable economic growth and improvement of living standards should become the norm for Kazakhstan.

Specific areas of activities of meat industry companies should include reduction of production costs, increase of specific development of final produce from a ton (unit) of processed raw material and reduction of its production costs, renewal of assortment, increased output of packed products, increased production volumes of competitive products [15,16].

## 5. CONCLUSION

For effective use of production capacities of the industry, the volume of meat procurement should be increased by improving procurement mechanism, optimal coverage of raw material zones.

**For the development** of the industry, competitiveness of production should be increased through modernization of existing facilities and building of new meat processing plants.

**To ensure** efficient functioning of meat sub-complex and eliminate contradictions of its development, favorable economic relations between production and processing branches should be established.

**The most suitable** areas of development of interaction between agricultural producers and meat processing companies of Kazakhstan are as follows: improvement of pricing, development of contractual relations, State support of producers of meat products, establishment of various market infrastructures which provide technical, technological, organizational-administrative and economic unity and continuity of production turnover stages and bringing it to the consumer.

**A special role** in establishing mutually beneficial relations is formation of free market raw meat prices based on their differentiation depending on their consumer qualities and biological value of the product. It is proposed to use the following system of indices aimed to determine purchase price: meat coefficient, fatness category, meat color, character of damage during transportation, product ecological safety.

**Price gradation** using quality index which represents ratio between qualitative indicator of product actual consumer value and its basic value is needed. System of discounts and premiums to purchase price is intended to raise interest of producers in improving raw meat characteristics, increased livestock productivity, development of beef cattle production.

**In the system of measures** aimed at transformation of economic interactions in production and processing of meat products, leading place belongs to further deepening of cooperation processes, which enables the increase of the interest of partners in sub-complex and displace intermediaries from food and raw meat market. Agricultural producers who have joined into consumer marketing and processing cooperatives have all prerequisites for solution of the settled objective.

**In solving the problem** of meat products quality improvement and increase of its competitiveness, establishing consumer processing cooperatives based on mini-workshops is economically justified. Concentration of funds for such co-operation provides possibility to producers to use resource-saving

technologies of production of meat products which lies in increased deep meat processing, rational use of secondary raw materials.

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