THE SUSTAINABLE DEVELOPMENT OF THE AGRO FOOD MARKET

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Abstract. *The market is the totality of the social and economic relations in the sphere of exchange through which the sale of goods is ensured. The market is a mechanism that makes buyers and sellers of goods and services meet.*

The coefficient of self-insurance with wheat attests high values, the value of wheat decreased essentially in 2011 year in comparison to 2008 and 2010 years respectively by 0, 03 and 0, 01 unit. The null values of the coefficients of import dependence of maize production and sunflower seeds denote a reduced receptivity towards the shocks of offer on the international market. The coefficient of self-insurance with beef attests increased values over the analyzed period, increasing in 2011 year compared to 2009 and 2010 years respectively by 0, 55 and 0, 35 units. The values of coefficient of beef import dependence record low values during the examined period. Moldova is sated with pork. High and relatively constant values can be seen in dairy coefficients of self-insurance.

Key words*: food security, wholesale market, retail market, electronic commerce, coefficient import dependence, the coefficient of self-insurance.*

INTRODUCTION

Stable operation of the power market must base on the economic regulation system, providing the combination of the interests of the state, good producers, consumers and the creation of activity relations between them.

The food security concept supposes the insurance of the proportionality between supply and demand by optimizing the use of the agro industrial complex potential, activating interregional goods exchange and export through the achievement of the monitoring of the food market stability and through setting development guidelines, which include the purpose (food security and the increase of the population's quality of life), the tasks (the creation of modern infrastructure and the increase of the competitiveness of production), the sustainability assessment methodology, the development forecast and the stability factors (direction of innovation, social orientation) [5, p. 131].

To substantiate the domestic market capacity of certain types of agricultural production, it is necessary to take into account the economic access to food that determines the demand and the buying capacity of the population, and the export and the necessary reserves [4, p 97].

The market is the totality of the social and economic relations in the sphere of exchange through which the sale of goods is ensured. The market is a mechanism that makes buyers and sellers of goods and services meet [3, p 347].

The aims of the stable development of the food market are: the insurance of food security and the increase of the quality of life of the population, based on stabilizing its production, using the division of labor benefits and increasing the competitiveness production of the goods producers. To obtain that, the following tasks have to be settled:

- The guaranteed insurance of the population with quality products in the quantity that meets the consumer medical rules
- The development of a civilized competitive environment by establishing the equilibrium of the economic interests of the subjects;
- The formation of a modern market development appropriate to the level of the agro-industrial complex (CAI) and external market needs;
- To enhance the competitiveness of the national production through the import substitution;
- The optimization of the interregional exchange of goods and of the sale abroad;
- The creation of the stabilization transparent instruments of the food market conjuncture;
- Prevention and insurance of the commercial risks of the subjects by planning their activity based on forecasting market stability.

The agriculture of the European Union functions in a highly competitive environment if we consider the agricultural markets from the new emerging countries, and the fact that the world economy is becoming increasingly integrated and global trade is becoming more liberalized [2, p. 182]

MATERIALS AND METHODS

Quantitative analysis is performed on numerical data, selected and processed by the author based on statistical yearbooks of Moldova.

The informative material on which this paper is based includes scientific and reference studies from the national and international literature. As methodological instruments there have been used the analysis and synthesis of conclusive information for the approached topic.

RESULTS AND DISCUSSIONS

The main food market regulation instruments are:
- The formation of the regional reserve fund to partially meet the needs of the population, creating insurance reserves in case of occurrence of the food safety hazards, to execute purchases interventions;
- To create a wholesale food markets system which acts as an upright mechanism of the goods circulation;
- To use the stock mechanisms for creating prices of food and raw materials, to organize electronic trade.

In the following figure the sustainable development directions of the food market are presented:
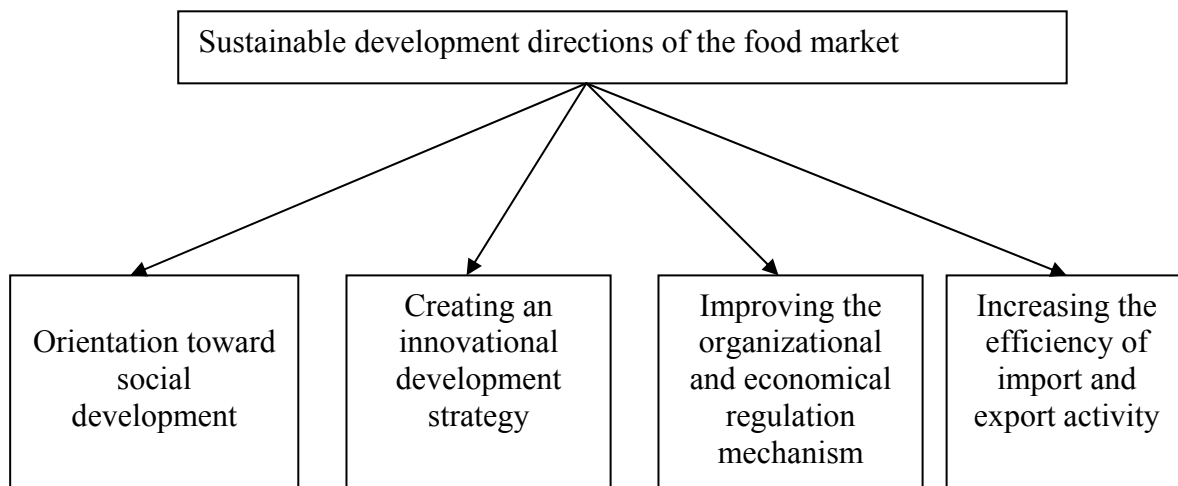
Figure 1. The sustainable development directions of the food market
Source: *prepared by author*

1. The orientation to the social development involves the increase of the quality and life level based on improving the working and living conditions, rationalizing food structure standards, improving the motivation system of the workers from agriculture, restoring and renovating the labor resources.

2. The creation of the innovative development strategy is focused on elaborating and attracting innovative technologies and equipment in food production and sales process in order to increase their competitiveness.

3. The improvement of the organizational and economic regulation mechanism provides the complex use of the productive potential, the formation of the modern market infrastructure, deeper specialization of production, the informational insurance of the subjects.

4. The increase of the efficiency of import-export activity takes place by exploiting the advantages of the inter-regional division of labor.

It is necessary to create a regulation mechanism to achieve the innovative development strategy of the internal markets, based on emphasizing preferences of the consumers and balanced functioning of the food markets. As organizational base, a two-level system of the wholesale food markets is proposed:

The first level – the regional wholesale market (the accumulator of different types of food and raw materials which correspond to the specialization of the region, in order to organize effectively the exchange and export, create the optimal structure of the circulation channels of the goods and assure the sustainable operation of market);

The second level - the wholesale and retail (the universal accumulators - the distributors of a concrete assortment of products in the concentration places of demand in order to ensure food security of cities and develop the direct relations with regional wholesale markets to improve the supply with food of population).

The purpose of creating food markets is to stimulate the development of the production spheres, the distribution and consumption of food and raw materials by restoring the durable relations between the producers of goods and consumers, the optimal organization of interregional exchange of products and use the stock mechanisms of the trade.

The tasks of the wholesale food markets are:
- Ensuring stable supply of the population with quality food, excluding seasonal supplies;
- Granting food and raw materials suppliers the opportunities to enter an organized market with an active competitive environment;
- Increasing the efficiency of food supply in big cities;
- Simplifying and speeding up the circulation of goods to the consumer, as well as clearing and payments;
- The possibility of quality control of production and standardization;
- Creating market prices and reducing the number of intermediates in the distribution chain of production;
- Ensuring market subjects with objective information about the conjuncture of the food markets.
The wholesale market functions are included in the following figure.
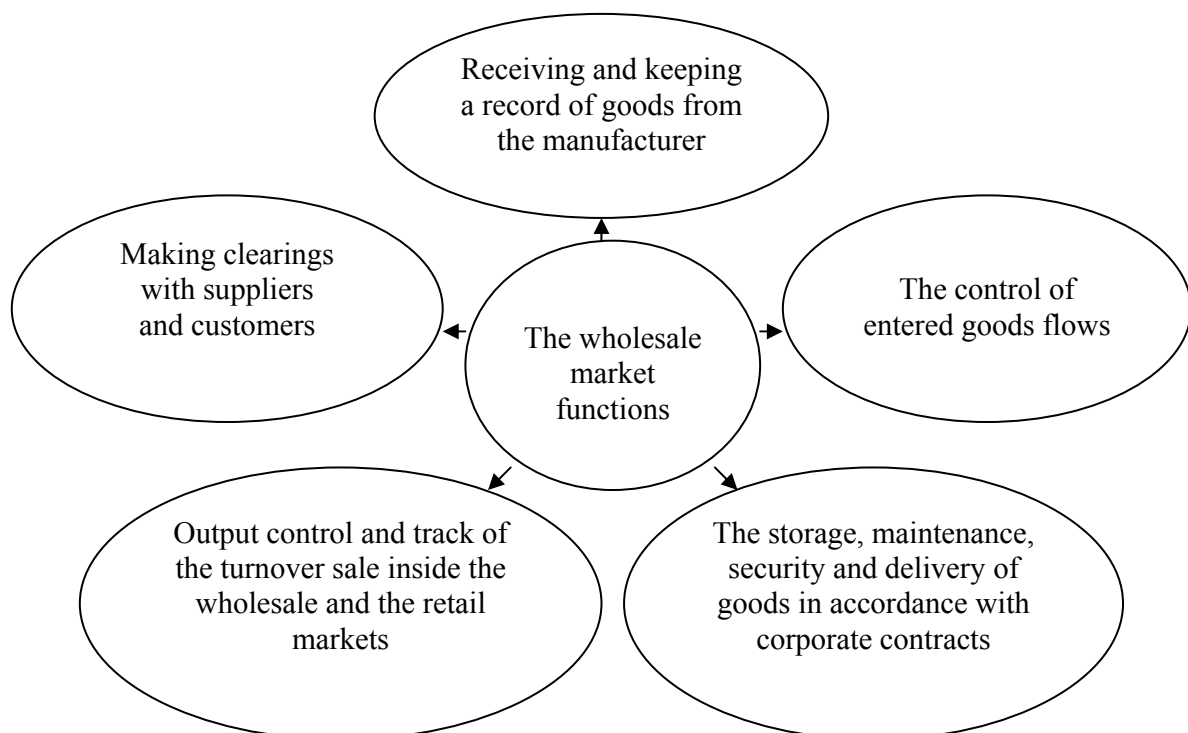
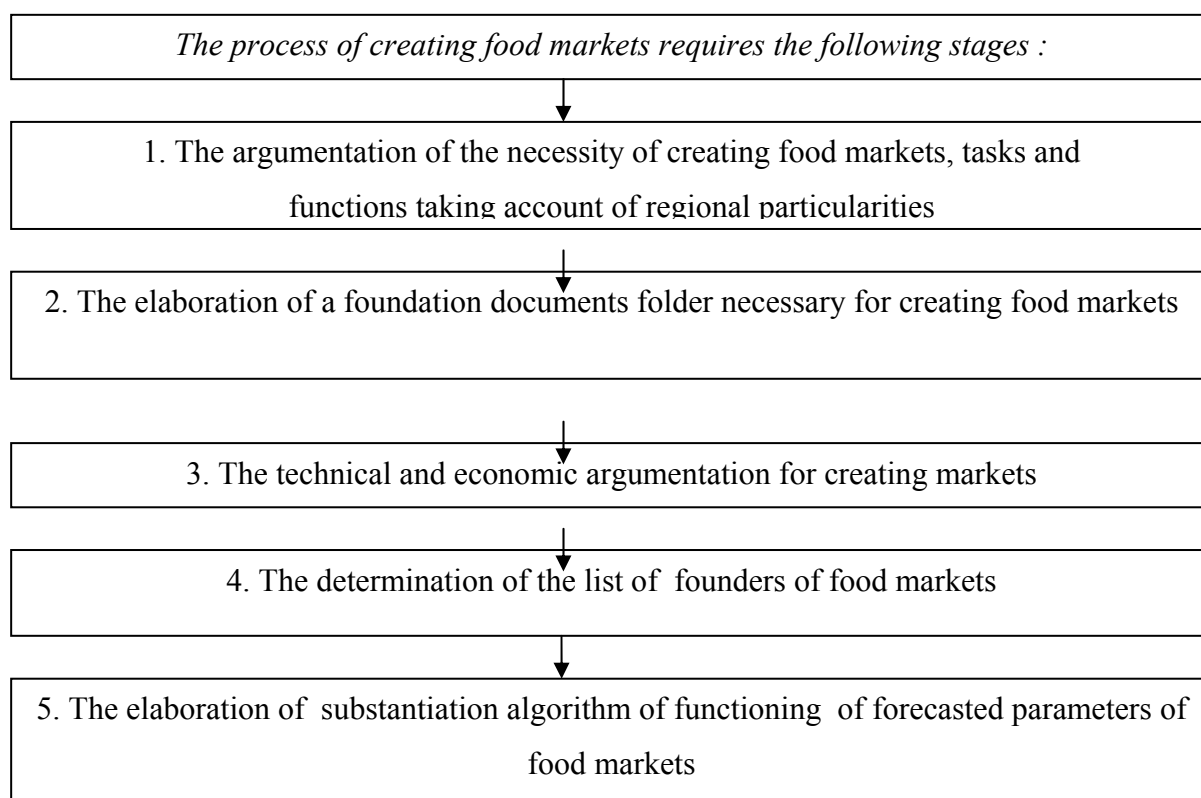**Figure 2. The wholesale market functions**
Source: prepared by author

The inventory system of the food market formed on the principles of logistics allows to:
- broaden the spectrum of the stabilization factors of the food market;
- specialize the production areas and make the food adaptable to the needs of national and global markets;
- achieve the innovative development strategy of the market aimed to form competitive production advantages..

The operation principles of food markets are:
a) The complexity of the rendered services;
b) The record of food market formation particularities and of food quality with different social groups of consumers;
c) Meeting rational organization criteria of the turnover sales, the efficiency of technical and material base of wholesale trade.

The process of creating food markets requires the following stages :

⬇

1. The argumentation of the necessity of creating food markets, tasks and functions taking account of regional particularities

⬇

2. The elaboration of a foundation documents folder necessary for creating food markets

⬇

3. The technical and economic argumentation for creating markets

⬇

4. The determination of the list of founders of food markets

⬇

5. The elaboration of substantiation algorithm of functioning of forecasted parameters of food markets

Figure 3. The stages of creating food markets
Source: *prepared by author*

Technical and economic argumentation for creating markets requires:
- determining the location of local markets;
- the evaluation of the innovative attraction of the region, market sustainability, productive potential of goods producers, the possibility to use the present infrastructure, economic and social efficiency of creating markets;
- forecasting balance of food markets, discovery of potential risks of market stability and taking measures to prevent them.

The algorithm of the forecasted operating parameters of food markets must take into account the peculiarities of the formation of consumer demand, the potential of local goods producers that assure the balance of local food markets through rational organization of interregional exchange and import-export delivery.

The volatility of prices causes instability on agricultural markets and affects the food security of the population which is the most important objective of the common agricultural policy. Recent incidents caused by climatic excesses during the 2007-2008 years and even 2010 have emphasized the instability and

brought created uncertainties in the EU's ability to ensure food security of the population in European countries, and on its ability to contribute to global food security .

The volatility of prices is generated by many factors including climate variability which plays the main role. To this adds variability of prices of other inputs: energy, fuel, fodder, interest rate and conjuncture of regional and global market.

The economic theory emphasizes that the transparency on markets and the free flow of information is an essential condition for the functioning of competitive markets. "A informational marketing system is an instrument that involves regular collection of information concerning prices, quantities of widely commercialized agricultural products on rural markets, the wholesale and retail markets, and disseminating this information in good time and constantly through various means of information to farmers, traders, governors, stakeholders and others, including consumers" [1, p. 59].

The electronic commerce allows assuring the unit of information technology on food markets, to control the flows of goods in these markets, to form the informational, economic, financial and regulatory transparency in the sphere of acquisitions for the requirements of the state, to integrate in the global food system, to enhance the country's economic and information level of security.

The electronic commerce on food markets should include the following elements:
- creating and ensuring the subjects with information about the conjuncture of market in electronic form;
- doing business in electronic stock trading system;
- establishing contractual relationships between participants and control of meeting obligations.

The adoption and diffusion of ICT is essential in rural areas for diversification, local development and insurance of local services. The economy of scale can be achieved through village's ICT initiatives, combining IT equipment with training in the domain of computer abilities. Such initiatives can greatly facilitate the adoption of IT by rural firms and the adoption of electronic business and electronic commerce.

The main functions of stock trade on food markets are shown in the following figure.
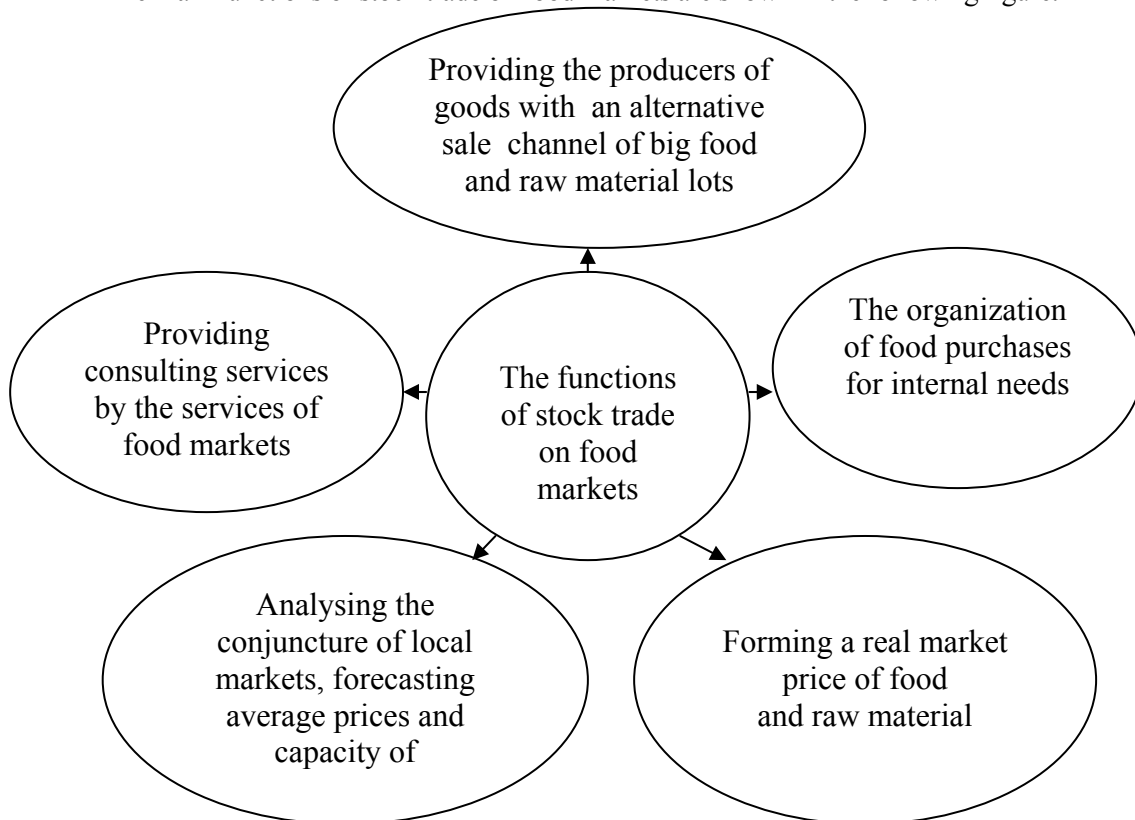
Figure 4. The functions of stock trade on food markets
Source: prepared by author

The stabilization mechanism of the food market relies on using state regulatory instruments, namely:
- formation of a food reserve fund for partial meeting the needs of the city's population;

- establishment of insurance reserves in case of a menace to safety;
- enforcement of goods and acquisitions' interventions;
- use of stock trading mechanisms which allow to forecast the conjuncture of market conditions and the insurance of the commercial risks of subjects through contracts in term.

The state is the interventionist regulatory mechanism of food market which participates on the food market as a trade agent and in case of exceeding the market price over the guaranteed price, it sells a part of the resources from the reserve fund in order to increase the offer, to reduce the market price and to protect the local producers of goods. If the market price is lower than the acceptable level, the state makes acquisitions in the reserve fund, defending domestic producers of goods.

The following table will show a more detailed analysis of the situation of self-insurance with vegetable products and import dependence for the Republic of Moldova.

Table 1.

The coefficient of import dependence and self-insurance with vegetable products

Indicators	Years								
	2003	2004	2005	2006	2007	2008	2009	2010	2011
Wheat									
Production (wheat), thousand tons	102	861	1056,7	691,4	406,5	1286,3	736,7	744,2	794,8
Export (flour), thousand tons	4,5	0	1	0,5	0	0,1	0,1	0,2	7,9
Export (flour transformed into wheat), thousand tons	6,4	0	1,4	0,7	0	0,1	0,1	0,3	11,3
Import(flour), thousand tons	44,5	57,7	21,2	22,2	65,6	56,4	58,0	43,0	61,7
Import (flour transformed into wheat), thousand tons	63,6	82,4	30,3	31,7	93,7	80,6	82,9	61,4	88,1
Coefficient of import dependence	0,40	0,09	0,03	0,04	0,19	0,06	0,10	0,08	0,10
Coefficient of self-insurance	0,64	0,91	0,97	0,96	0,81	0,94	0,90	0,92	0,91
Maize									
Production, thousand tons	1414	1795	1492	1322	362,7	1478,6	1141,1	1419,8	1468,3
Export, thousand tons	85,7	85,2	196,2	77,7	25,7	25,4	60,2	50,6	131,1
Import, thousand tons	0,4	2,5	0,3	0,1	21,2	25,1	0,6	0,7	0,9
The coefficient of import dependence	0	0	0	0	0,06	0,02	0	0	0
The coefficient of self-insurance	1,06	1,05	1,15	1,06	1,01	1,00	1,06	1,04	1,10
Sunflower Seeds									
Production, thousand tons	390	335	331,1	379,9	155,5	371,9	284,2	382,3	427,4
Export, thousand tons	54,9	76,6	61,0	51,9	91,2	52,3	113,0	108,9	218,9
Import, thousand tons	0,5	0,5	0,6	0,6	7,7	2,0	0,7	4,3	1,1
The coefficient of import dependence	0	0	0	0	0,11	0,01	0	0,02	0,01
The coefficient of self-insurance	1,16	1,29	1,22	1,16	2,16	1,16	1,65	1,38	2,04
Potatos									
Production, thousand tons	303	318	378,2	376,9	199,4	271,0	260,9	279,6	350,8
Export, thousand tons	0	0	0,5	0,7	0,1	0	0	16,3	24,8
Import, thousand tons	57,6	27,3	11,5	13,2	19,5	26,2	36,3	38,4	16,9
Coefficient of import dependence	0,16	0,08	0,03	0,03	0,09	0,09	0,12	0,13	0,05
Coefficient of self-insurance	0,84	0,92	0,97	0,97	0,91	0,91	0,88	0,93	1,02

Source: *prepared by the author*

The coefficient of wheat production import dependence records low values during the analyzed period, this increasing in 2011 compared to 2008 and 2009 respectively by 0,04 and 0,02 units. The coefficient of self-

insurance with wheat attests high values, the value of which decreased essentially in 2011 towards 2008 and 2010 respectively by 0,03 and 0,01 unit. Moldova is self-insured with maize, the values of coefficients being above unit during the analyzed period. Also our country is self-insured with sunflower seeds, the coefficient of self-insurance increasing in 2011 compared to 2009 and 2010 respectively by 0,39 and 0,66 units. The null values of the coefficients of import dependence of maize production and sunflower seeds denote a reduced receptivity towards the shocks of offer on the international market. A high level of the self-insurance coefficients are recorded at the potato production, the coefficient of self-insurance increasing in 2011 compared to 2008 and 2009 respectively by 0,14 and 0,09 units.

Table 2.

The coefficient of import dependence and self-insurance with products of animal origin

Indicators	2003	2004	2005	2006	2007	2008	2009	2010	2011
Beef									
Production, thousand tons	16,3	16,1	15,6	15	15,2	10,6	11,1	10,2	9,7
Export, thousand tons	11,3	4,1	0,7	0,6	1,2	0,1	0	1,6	3,5
Import, thousand tons	0,2	0,5	2,9	3,5	0	0,1	0,4	0,1	0,2
Coefficient of import dependence	0,04	0,04	0,16	0,20	0	0,01	0,03	0,01	0,03
Coefficient of self-insurance	3,13	1,29	0,88	0,84	1,09	1,00	0,97	1,17	1,52
Pork									
Production, thousand tons	43,2	41,3	39,7	48	58,9	35,1	42,2	56,9	63,9
Export, thousand tons	0,4	0,1	0	0	0	0	0	0	0
Import, thousand tons	1,3	3,1	5,5	9,4	0,7	2,1	4,9	3,4	3,4
Coefficient of import dependence	0,03	0,07	0,12	0,16	0,01	0,06	0,10	0,06	0,05
Coefficient of self-insurance	0,98	0,93	0,88	0,84	0,99	0,94	0,90	0,94	0,95
Mutton									
Production, thousand tons	2,6	2,6	2,4	2,3	2,3	2,2	2,2	2,1	2,1
Export, thousand tons	1,1	0,8	0,3	0	0,6	0,3	0,5	1,3	1,6
Import, thousand tons	0	0	0	0	3,6	11,3	0	0	0
Coefficient of import dependence	0	0	0	0	0,68	0,86	0	0	0
Coefficient of self-insurance	1,73	1,44	1,14	1,00	0,43	0,17	1,29	2,63	4,20
Buttermilk, curd, butter, kefir, yogurt and other varieties of fermented milk and cream									
Production, thousand tons	16,7	17,3	21,0	21,4	23,9	23,9	24,5	25,6	27,3
Export, thousand tons	0	0	0	0	0	0	0	0	0
Import, thousand tons	1,6	2,1	2,3	2,5	2,5	3,0	3,1	3,4	3,5
Coefficient of import dependence	0,09	0,11	0,10	0,10	0,09	0,11	0,11	0,12	0,11
Coefficient of self-insurance	0,91	0,89	0,90	0,90	0,91	0,89	0,89	0,88	0,89

Source: *prepared by the author*

The coefficient of self-insurance with beef attests increased values over the analyzed period, increasing in 2011 compared to 2009 and 2010 respectively by 0,55 and 0,35 units. The values of coefficient of beef import dependence record low values during the examined period. Moldova is sated with pork, the coefficient of self-insurance increasing insignificantly in 2011 compared to 2009 and 2010, respectively by 0,05 and 0,01 units. Our country is over provided with mutton, except for t2007 and 2008, when the coefficients of import dependence have high values, namely 0,68 and 0,86 units. The coefficients of self-insurance with mutton register a decreasing trend in the period 2003-2008 and a positive trend in the last three years, increasing respectively by 2,91 and 1,57 units in 2011 year compared to 2009 and 2010. High and relatively constant values can be seen at the coefficients of self-insurance with dairy products.

Determining the priority of the agricultural strategy, it is necessary to draw attention to the main food, agricultural, agro-industrial and commercial aspects and innovational development directions. The degree of innovation of agro industrial complex is determined by the scientific sphere, whose potential assure the whole food complex, including the agricultural economy, selection system, seed culture, breeding activity, mechanization and other directions.

The innovations can have many practical forms of achievement (basic and applied research results, patents, licenses, trademarks, documenting new technologies, innovative projects, national, regional and sector

innovative programs, scientific and practical recommendations), which contribute to the increase of the competitiveness of production.

The perspective orientations on the food market are:
- the enhancement of quality and ecological safety of food products in accordance with national traditions and modern trends;
- attracting informational food security insurance systems of monitoring and sustainability of food markets;
- development of the market infrastructure that corresponds to the development level of the productive potential of AIC and the needs of the global market;
- increasing the efficiency of external sale of national competitive products through a modern promoting system of production;
- ensuring the stability of agricultural production based on attracting adaptable agricultural systems, selection and breed researches, organized technologies.
- stability and optimization of food supply of rural areas based on using logistic method and attracting modern, managerial, financial and productive technologies.

CONCLUSIONS

1. The market is a totality of the social and economic relations in the sphere of the exchange through which it ensures the sale of goods, the market is a mechanism that makes the buyers and the sellers of the goods and services meet.

2. The aims of the stable development of the food market are: the insurance of food security and the increase of the quality of life of the population based on stabilizing its production, using the benefits of the division of labor and increasing the competitiveness of the production of the goods producers.

3. The main food market regulation instruments are the formation of the regional reserve fund, creation of a wholesale food market system, using the stock mechanisms for creating prices of food and raw materials, the organization of the electronic trade.

4. The state is the interventionist regulatory mechanism of the food market; it effects acquisitions in the reserve fund if the market price is lower than the acceptable level, defending thus the local producers of goods.

5. The coefficient of self-insurance with wheat attests high values, the value of which decreased essentially in 2011 towards 2008 and 2010 respectively by 0,03 and 0,01 units. Moldova is self-insured with maize, the values of coefficients being above unit during the analyzed period. Also our country is self-insured with sunflower seeds, the coefficient of self-insurance increasing in 2011 compared to 2009 and 2010 respectively by 0, 39 and 0, 66 units. The null values of the coefficients of import dependence of maize production and sunflower seeds denote a reduced receptivity towards the shocks of offer on the international market.

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