

THE ROLE OF FRUIT GROWING IN THE DEVELOPMENT OF THE AGRI-FOOD SECTOR OF THE REPUBLIC OF MOLDOVA

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Abstract

The fruit growing occupies an important place in the national economy of the Republic of Moldova: fresh and processed products provide about 8% of the income from exports, outpacing other sectors of the economy. However, its potential is not used efficiently because of the limited absorption capacity of the internal market, low competitiveness, as well as because of the embargo on imports imposed by Russia, the main export market for Moldovan horticultural products. In this context, the role of the fruit growing sector and its contribution to the development of the agri-food sector and economic prosperity of the Republic of Moldova is very up-to-date. The evaluation of the development level is made through the analysis of official statistical data and those obtained during field studies.

Key words: agri-food sector, evolution, fruit growing, internal market

INTRODUCTION

One of the main branches of agriculture and economy of the Republic of Moldova was and still remains the fruit growing sector. Fruit growing is a branch of the agri-food sector, which provides people with fresh products and the manufacturing industry with raw materials. The importance of the fruit growing branch for the food industry and its multiplier role in country's economy, by generating demand and stimulating the creation of added value in other branches of the national economy, contributes to its ranking among the main and strategic branches of the national economy.[4]

Fruit growing represents the essential source of income for most of country's population, being the core business of the majority of the 323,000 people employed in agriculture, while the fresh and processed fruit growing products provide about 8.4% of revenue from exports (2013). Substantial increases have been recorded in fruit exports, which in 2013 compared to 2009 constituted 62.6% and compared to 2012 - only 0.8%.[8]

However, the potential of this sector is used ineffectively because of the limited absorption capacity of the local market, low competitiveness of products on the sale

markets and because of the Russian Federation's embargo on the imports of horticultural products.

In this context, it is worth to pay special attention to the development of this sector in order to increase the competitiveness of domestic fruit products, which will have a positive impact on increasing its marketing degree and facilitating the efficient use of their potential.

MATERIALS AND METHODS

In this article it was undertaken an assessment of the evolution level and prospects of the fruit growing development in the Republic of Moldova by official internal and external statistical data analysis, of the Republic of Moldova.

The analysis period undertaken in this study is 5 years (2009-2013) and the following research methods have been used: monographic method, method of relative value, comparison, economic analysis and synthesis.

RESULTS AND DISCUSSIONS

On average, the share of agriculture, hunting and forestry in the gross domestic product of

the Republic of Moldova in the period 2009-2013 is about 12%. [10]

The analysis of agricultural products evolution in terms of value in the period 2009-2013 (Figure 1) shows an increase of 79.1% in 2013 compared to 2009 and of 19.5% compared to 2012, which can be considered as a positive moment for the development of the agri-food sector of the Republic of Moldova, which is traditionally an agricultural country.

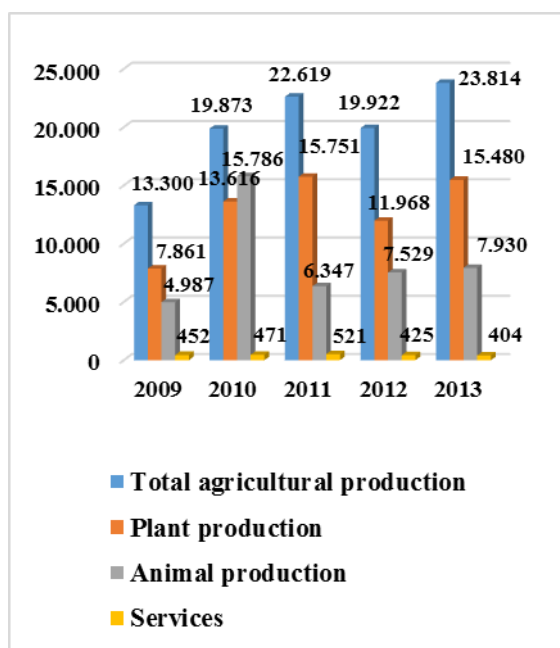


Fig. 1. The evolution of agricultural production in all types of farms, million MDL, current prices
Source: Adapted by the authors based on the electronic data of the NBS of the Republic of Moldova.

The dynamic increase of the total agricultural production is largely due to the increase of the plant production by 96.9% and 29.3% respectively in 2013 compared to 2009 and 2012. The value of animal production also recorded an increasing evolution but at lower rates, respectively by 59.0% and 5.3%, while the sector of services decreased by 10.6% and 4.9% respectively during the analyzed period. In order to reflect the share of plant production, as well as the share of fruits, walnuts and berries in the total agricultural production, we will observe and analyze the data presented in table 1.

In Moldovan agriculture, the correlation between plant and animal production in 2013 has changed dramatically, constituting 72.3%

to 27.7%.

Table 1. The structure of agricultural production by branches in all types of farms, %

Indicators	Year				
	2009	2010	2011	2012	2013
Agricultural production, total	100	100	100	100	100
Plant production, of which	68.1	66.2	67.7	59.3	72.3
-cereal crops	18.4	18.8	18.4	11.6	28.9
-sugar beet	1.0	2.3	1.5	2.0	2.4
-tobacco	0.4	0.6	0.4	0.3	0.2
-sunflower	5.9	7.3	7.7	6.9	12.7
-potatoes	4.9	4.9	5.8	3.9	2.4
-vegetables and pumpkin crops	7.6	7.4	7.8	6.3	5.5
-fruits and berries	4.0	3.9	4.8	5.5	5.4
-grapes	18.7	12.1	14.4	15.8	9.0
-fodder crops and others	7.2	8.9	6.9	7.0	5.8
Animal production	31.9	33.8	32.3	40.7	27.7

Source: Adapted by the authors based on the electronic data of the NBS of the Republic of Moldova

According to data presented in the table, we found a decrease in the share of plant production in the total agricultural production in dynamics from 68.1% in 2009 to 59.3% in 2012, while in 2013 it increased by 4.2. p.p. compared to 2009 and by 21.9 p.p. compared to 2012.

The production of fruits, walnuts and berries has a share of 5.4% in the total agricultural production in the last year of analysis, recording some unessential oscillations from year to year. Although the fruit growing share in the total agricultural production isn't at the highest level as other branches of plant production, still the fruit growing branch is the branch that generates a considerable income in the total income obtained from agriculture, fact which confirms that the fruit growing branch has always played an important role in the development of the agri-food sector and economy of the Republic of Moldova.

The fruit growing branch continues to maintain a growth potential, even if it is insufficiently valorized. [5]

Table 2. Dynamics of area and production of the fruit tree plantations in all types of farms, in the period 2009-2013

Years	Total area, thousand ha	Of which fruit-bearing plantations, thousand tonnes	Global production, thousand tonnes	Average harvest, tonnes/hectare
2009	115	96	308	3.2
2010	116	94	322	3.3
2011	119	94	378	4.0
2012	120	95	380	3.9
2013	122	90	419	4.6

Source: Elaborated by the authors based on the electronic data of the NBS Republic of Moldova.

Based on data presented in the table above, we can see, according to the dynamics of the analyzed years, an increase in the total area of fruit tree plantations, as well as of the global production and average yield per hectare. Thus, we concluded that the total area of orchards increased by 6.1% in 2013 compared to 2009, global production - by 36% and the average yield per hectare - by 43.8%. Only the area of fruit bearing plantations suffered a reduction of 6.2% or 6,000 ha, which led to the deforestation of certain areas of orchards because of their ageing.

Taking into consideration all these aspects, the fruit growing sector in the Republic of Moldova has a major impact on the whole rural economy, since the fruit growing remains the most important activity in rural areas and represents an essential source of income for the agricultural enterprises activating in this field. [3]

According to the authors, the evolution of orchard areas' distribution by varieties in all types of farms presents a special interest.

As we can see in figure 2, the highest level, in total areas of fruit tree plantations, is recorded by the seedy fruit orchards throughout the whole period of analysis. Also, we observed a constant level of the seedy fruit orchards' area (66-67 thousand hectares) in dynamics, which represents, on average, a share of 56% of the total area of fruit tree plantations.

The second place is occupied by the stone fruits holding an area of 40,000 ha on average in 2009-2013, and recording a share of approx. 34%.

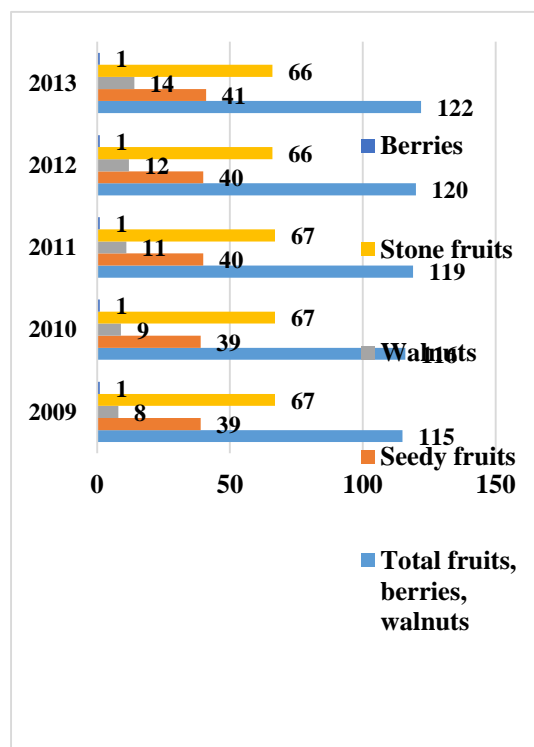


Fig. 2. The evolution of fruit tree plantations' area by species, in all types of farms, in the Republic of Moldova, in the period 2009-2013, thousand ha

Source: Elaborated by the authors based on the electronic data of the NBS of the Republic of Moldova.

The area of stone fruit plantations, in dynamics, increased slightly from 39,000 ha (in 2009) to 41,000 ha (in 2013), or 5.1% in relative value. A significant trend of growth in dynamics is observed in the case of walnut plantations area, from 8,000 ha in 2009 to 14,000 ha in 2013, or by 75%.

The average share of walnuts in the total area, during the analyzed period, constitutes about 9.1%. Thus, we conclude that one of the priorities of Moldovan fruit growing sector, designed to contribute significantly to the growth of the national income and equilibrate the balance of payments by increasing exports of high added value products, is to extend and enhance the production of walnut plantations, which are highly demanded throughout the world, especially in Europe, in increasing proportions and at reasonable prices. Nutritional value, and especially, the calorific value of this fruit tree species, creates a keen interest for the consumption of fresh fruits, with the purpose of restoring the biological potential of the population, but also as raw material for further development of the food

industry.

As for to the area of berry plantations, we noted, that it occupies an insignificant surface in the total area of fruit tree plantations, throughout the analyzed period (1 thousand ha), or an average share of 0.84%.

Generally, the national patrimony of the fruit growing sector in the Republic of Moldova is traditionally mostly formed by the seedy and

stone fruit tree species, with increasing trends in walnuts growing, all these fruit tree species being important due to the nutritional and taste, therapeutic and prophylactic value of these fruits, but particularly due to the high economic value.[1]

The use of Moldovan fruit growing production can be analyzed based on data and indicators presented in the following table:

Table 3. Dynamics of the fruit growing production use in the Republic of Moldova in the period 2009-2013

Year	Fruit production (including walnuts and berries), thousand tonnes	Import, thousand tonnes	Export, thousand tonnes	Personal consumption of the population, thousand tonnes	Personal consumption per capita, kg/year	The level of self-supply, %
2009	308	54	317	109	30.5	213.9
2009/2008, %	83.01	101.9	144.7	83.2	83.1	-8.3 p.p.
2010	322	66	316	122	34.3	207.7
2010/2009, %	104.5	120	99.7	11.9	112.5	- 6.2 p.p.
2011	378	71	345	123	34.6	237.7
2011/2010, %	117.4	117.8	109.2	100.8	100.9	+30 p.p.
2012	380	62	271	122	34.3	245.2
2012/2011, %	100.5	87.3	78.6	99.2	99.2	+7.5 p.p.
2013	419	61.4	376	124.8	35.1	264.2
2013/2012, %	110.3	99.0	138.7	102.3	102.3	+19 p.p.
2013/ 2009, %	136.0	113.7	118.6	114.5	115.1	+50.3 p.p.

Source: Elaborated by the authors based on the electronic data of the NBS of the Republic of Moldova

Thus, we observed that in 2013 compared to the basic year - 2009, the values of all indicators characterizing the use of fruit growing production are increasing. The physical level of the total fruit production increased by 36% in 2013 compared to 2009. The volume of fruit production that entered in the Republic of Moldova, also registered an increase of 13.7%, while the exported fruit tree production, during the analyzed period, underwent some fluctuations, but it is observed an overall increasing trend (18.6% in 2013 compared to 2009) of this indicator, which is very important for the efficiency and competitiveness of this sector.

The volume of fruit growing production used for consumption, according to the indicators – personal consumption of the population and personal consumption per capita, reflects dynamic changes in their value, but these changes confirm their increase in 2013 compared to 2009 by 14.5% and 15.1 % respectively. This proves that the increase in

the consumption level of country’s population for these products is of major importance. However, if we compare the consumption per capita in the Republic of Moldova (35.1 kg/year) with the European Union’s one (about 95 kg/year) [6], we conclude that the peculiarity of the local small and vulnerable market, generates low income from the fruit growing production sold within the country.

The level of self-sufficiency indicator indicates to what extent the domestic fruit growing production covers all requirements or internal consumption of fruit products. According to data presented in the table, we can see that generally, in dynamics, this indicator is growing, which means that the fruit growing branch of the Republic of Moldova has a development potential.

However, the value of this indicator, which reached 264.2% in 2013, highlights a critical problem of Moldova’s economy that requires urgent solutions, and namely the discovery of new sale markets.

Efficient development of the fruit growing sector can be assessed in the light of a series of indicators and coefficients. Such a coefficient is the import dependency ratio (IDR), which is determined by the ratio between the import and production volume plus import minus export.[7]

As a result of the calculations accomplished by the authors it was determined:

- the import dependency ratio in 2009 - 120% ;
- the import dependency ratio in 2013 – 58.8%.

Thus, the decrease of 61.2% of this coefficient in 2013 compared to 2009 can be considered as a positive one for the economy of the fruit growing branch.

The fruit growing branch is one of the strategic branches in agriculture and economy, with a considerable share in export of the Republic of Moldova.[2]

For a clearer view on the foreign trade development of the fruit growing production in the Republic of Moldova, in the analyzed period, the authors proposed the diagram 3.

According to figure 3, there are dynamic oscillatory changes both in the import and

export of the fruit growing production in natural value. But, it is worth to notice the increase of 18.6% of the fruit growing production volume exported in 2013 compared to 2009 and the decrease of 12.9% in imports.

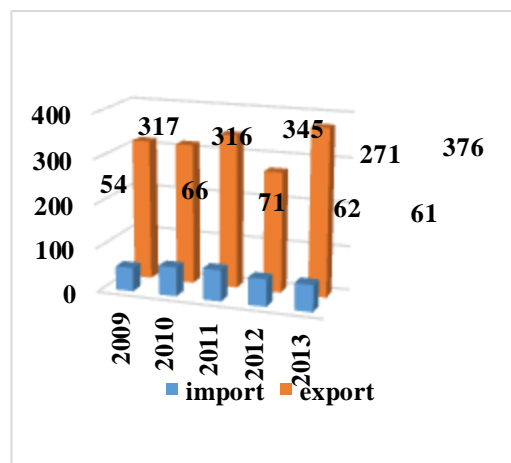


Fig. 3. Foreign trade evolution of the fruit growing production in the Republic of Moldova (in physical value), thousand tonnes, in the period 2009-2013

Source: Elaborated by the authors based on the electronic data of the NBS of the Republic of Moldova.

Table 4. Trade balance dynamics of the agri-food products trade in the Republic of Moldova, in the period 2009-2013, thousand US dollars

	YEAR						
	2009	2010	2011	2012	2013	2013 / 2009 (%)	2013 / 2012 (%)
TRADE BALANCE – total, thousand US dollars	-1,995.2	-2,313.8	-2,974.5	-3,051.3	-3,064.1	153.6	100.4
of which:							
Live animals	-7.7	4.4	2.4	1.1	-1.5	19.5	-136.4
Meat and meat preparations	-12.0	-17.3	-9.3	-20.2	-26.8	223.3	132.7
Dairy products and eggs	-16.7	-20.3	-23.7	-30.2	-35.5	212.7	117.9
Fish	-29.1	-33.3	-37.3	-41.7	-43.5	149.5	104.3
Vegetables	-20.8	-21.4	-13.6	-16.8	-19.9	95.7	118.5
Fruits	85.2	109.6	118.5	133.6	136.9	160.7	102.5
Cereals	57.0	61.3	61.9	-23.9	108.1	189.6	452.3
Milling products	-24.8	-25.7	-37.0	-40.2	-35.9	144.8	89.3
Sugar, sugar-based products, honey	20.4	16.5	-8.4	4.3	-7.1	-34.8	-165.1
Coffee, tea	-7.9	-9.1	-11.0	-10.8	-11.7	148.1	108.3
Beverages (alcoholic and non-alcoholic)	111.6	133.2	131.0	146.7	176.2	157.9	120.1
Raw and processed tobacco	-72.5	-64.3	-64.2	-48.8	-50.653	69.9	103.9

Source: Elaborated by the authors based on data presented in the Trade Map. http://www.trademap.org/Product_SelCountry_TS.as

In order to highlight the role of the fruit growing branch of the Republic of Moldova in the development of country's agri-food sector, one should consider another very

interesting research focused on the analysis of the trade balance performed by main commodity groups, according to the Standard International Trade Classification (SITC).[9]

Analyzing data presented in the table 4, we observe that the trade balance value of the Republic of Moldova, in the analyzed period, is negative. The dynamics of trade balance development for agri-food products is fluctuating, though largely having an increasing trend. Since 2009, it decreases from year to year, reaching in 2013 the value of US \$ 3,064.1 million.

This can be considered as negative. If you take into account that Moldova is an agricultural country, then the situation is extremely alarming and has a question mark: what kind of agricultural country we are? This fact tells us that the Republic of Moldova imports more agri-food products than it exports, which is not a benefit to its economy. However, the trades balance records positive values for such product categories as fruits, cereals and alcoholic beverages throughout the analyzed period.

Dynamic growth of the fruit trade balance by 60.7% and 2.5% in 2013 compared to 2009 and 2012 respectively, confirms once again the strategic importance of the fruit growing sector in the economic development of the Republic of Moldova. The lower growth rate in 2013 compared to 2012 is largely due to the changes that have occurred in the trade regime with the key-partners and insufficient adjustment of Moldovan fruit growing production to EU standards that prevent its access to this market.

CONCLUSIONS

The analysis of Moldova's fruit growing sector in the light of its current state and development prospects emphasizes the significant importance of this branch for the economic development of country's agri-food sector: increased global production volume, increased average yield per hectare, positive trade balance and trends of its growth, etc.

At present, the Republic of Moldova faces difficulties in terms of efficient use of this potential. This is a result of changes in trade relations with the key partners.

In order to valorize the opportunities offered by the European markets, local fruit growing producers have to adjust their production to

EU standards, to direct their fruit growing products offer to the long-term purpose and in the quantities needed for a sustainable export.

In order to overcome the obstacles and enhance the role and competitiveness of the fruit growing sector in the Republic of Moldova, we consider it necessary to attract investments, improve the subsidy policy, increase its efficiency, as well as to develop the fruit growing branch by improving its export performance.

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