

INVESTMENTS AS A GROWTH FACTOR OF ECONOMIC EFFICIENCY IN THE PRODUCTION OF GRAPES IN THE REPUBLIC OF MOLDOVA

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Abstract

Viticulture occupies an important place in the agriculture of the Republic of Moldova. Vine is grown in all development areas of the country and is characterized by various economic efficiency. In this article there are considered the indicators of economic efficiency of grapes and there are determined the ways as to improve the situation in viticulture. As a result, viticulture needs investments and first of all in order to increase the productivity of vine. This would allow reducing the cost to product unit and the growth efficiency of production of grapes. In recent years, winemakers have invested money in planting young vineyards and in particular grape of mass varieties.

Key words: economic efficiency, investments, viticulture

INTRODUCTION

Republic of Moldova is associated with the grape production and winemaking. Wine sector is fairly considered to be strategic for national economy, occupying about 25% of the agricultural exports. Wine sector needs support in its development in order to meet the international market requirements. Wine sector can be divided into the following links:

- Grape production (technical varieties and varieties of table grapes);

- Grape processing (gross wines, ordinary wines, high quality wines, sparkling wines, strong wines, cognac and grape juice making). First link presented by the national viticulture is extremely important, as it provides income for farmers and supplies the grapes processing companies with raw material. Selling of wine products and fresh grapes on international markets brings revenue in the state budget.

This article examines the development and production efficiency of grapes in the Republic of Moldova in terms of goods-producers categories and also on the basis of the developing regions. The made analysis was carried out for the period 2000-2011, specifying the period until the wine sector's crisis, during the crisis and the post-crisis period.

MATERIALS AND METHODS

In order to examine the evolution of viticulture in the period 2000-2011 there were analyzed the surface of vineyards, including by their sort and on groups of species; indicators of economic efficiency of grapes production. The analysis was made by the type of producers-goods of grapes, by development regions and regarding the Republic of Moldova as a whole. The analysis included four periods, each of them having three years. Averages were calculated for the period before the crisis (I period - 2000-2002; II period - 2003-2005,) the third period of crisis (2006-2008) and fourth post-crisis period (2009-2011). Data from the National Bureau of Statistics of the Republic of Moldova were compiled. Methods of average values, comparison, monographic study, economic analysis and synthesis were applied.

RESULTS AND DISCUSSIONS

In recent years national viticulture has faced some problems that hinder the development of the branch. One of the most important is the lack of a national strategy of the state program on the restoration and development of

viticulture and winemaking. The program adopted for the period 2002-2020 is not already actual, because conditions have substantially changed. The mentioned program was directed to the Russian traditional market of wines selling, which now has become one unstable. In this connection, the directing of sales to other markets occurs. Furthermore, in the country, at the moment there is no administrative body of the wine branch. Subsidizing the planting of new vineyards was made freely, at the request of economic agents, but without taking into account the strategic objectives of sector's development.

This article will present the analysis of viticulture's development during the period 2000-2011. The reviewed period is divided into four periods.

Table 1. The place of agriculture in the structure of agricultural lands in households of all categories from the Republic of Moldova

Indicators	Average for the period			
	2000-2002	2003-2005	2006-2008	2009-2011
1.Surface of agricultural land – total, thousand ha	2538,7	2522,7	2507,4	2499,1
2.Surface of perennial plantations, thousand ha	313,8	298,3	302,5	299,5
3.Surface of vineyards, thousand ha	156,2	155,3	157,3	150,1
4.Share of vineyards in agricultural lands,%	6,2	6,2	6,3	6,0
5.Share of vineyards perennial plantations, %	49,8	52,1	52,0	50,1

Source: Calculations made by the author [2]

Data from Table 1 show us that in those 11 examined years, all three indicators of surface decreased: of agricultural lands with 1.6%, of perennial plantations with 4.6%, of vineyards with 3.2%. The share of vineyards in the structure of agricultural land remains practically constant but slightly decreasing.

Vines occupy a half of the surface in the structure of perennial plantations. Here it can be noted that if during 2000-2005 there had been shown an increase in the share of vineyards in the structure of perennial plantations vines with 2.3%, in relation with the stable development of the wine sector, in the period 2006-2011, a contrary situation takes place - vineyards share is decreasing with 1.9%, which is the consequence of the crisis from the wine sector in 2006-2008. Farmers, in this way, reacted to sharp restrictions for the export of alcohol (made from grapes) in the Russian Federation. It is interesting to examine the position of viticulture in agricultural production.

Table 2. The place of crop production in the agricultural production in households of all categories in the Republic of Moldova (comparable prices), %

	Average for the period			
	2000-2002	2003-2005	2006-2008	2009-2011
Agricultural production – total	100,0	100,0	100,0	100,0
Crop production	69,7	69,1	67,3	67,3
Of which:	29,8	25,6	18,2	18,5
cereals				
sugar beat	3,0	2,2	2,6	1,6
sun flower	4,6	6,0	6,2	7,0
potatoes	7,7	6,5	5,3	5,2
Vegetables and melon cultures	5,7	5,8	7,6	7,6
Fruits and berries	3,7	6,0	4,0	4,3
grapes	10,0	11,6	15,2	15,0
other cultures	5,2	5,4	8,2	8,1

Source: Calculations made by the author [2]

The results presented in Table 2 show that although the share of crop production in agricultural production decreased in the period 2009-2011 by 2.4 pp in comparison with the period 2000-2002, it still occupies 2/3. Grape production increased by 5.0 pp in the fourth period in comparison to the first and ranks the second place in the vegetable production structure, giving way to cereals. Considering that viticulture's potential is even greater, in the future it will be realized in case of strategic development of the wine sector.

Analysis of the current state of viticulture requires the examining of the surfaces occupied by vineyards, global production and production per hectare.

Table 3. Indicators of viticulture development in the Republic of Moldova (all categories of households)

	Average for the period			
	2000-2002	2003-2005	2006-2008	2009-2011
1.Surface of vineyards, thousand ha	156,2	155,3	157,3	150,1
2.Of which with harvest	146,7	140,3	136,0	132,5
3.Share of vineyards with harvest, %	93,9	90,3	86,5	88,3
4.Global production of grapes, thousand tonnes	616,7	627,1	566,5	587,2
5.Production of vineyards with harvest, %	42,1	44,4	39,1	42,9

Source: Calculations made by the author [2]

Surface of vineyards in the Republic of Moldova decreased in recent years with 6,1 thousand ha, or by 3.9%. Share of vineyards with harvest was also reduced. But this decrease has a more substantial value and constituted 14,200 ha, or by 9.7%. This change took place after scrapping old vines and planting young vines during the period 2002-2010. According to the Ministry of Agriculture and Food Industry during 2002-2010 there were reversed about 18 thousand hectares and planted about 30 thousand hectares [4. p 21]. We mention the low efficiency of the vineyards area. Level of harvest per hectare is small enough for the soil and climate conditions of the country. Database provided by the National Bureau of Statistics gives us the following information on the grape yield per 1 hectare: in the years 1980-1995 grape production per hectare consisted in averaged 69.4 quintals. In 1982, from this period, the highest yield per republic was recorded - 95 quintals, in 1984 - 1975 quintals. Average yield per hectare in the years 1985-1989 constituted 59.8 quintals, but here, because of severe frosts (1985) the average yield per hectare was recorded - 39 quintals. In the remaining years of the period 1985-1989 production per hectare has decreased below the level of 60 quintals. But since 1990 the average yield in the country is recorded below the level of 55 quintals per hectare, regardless of weather conditions. Failure to comply the grape production technology due to insufficient funds to new owners of vine surfaces caused substantial reduction of vineyards efficiency.

Continuing the analysis of Table 3, we can mention that the decrease in total vineyard surface, and especially with harvest and the low level of yield of grapes per hectare caused a decrease in the global grape production by 29.5 thousand tons, or by 4.8 % in the period 2009-2011 related to the period 2000-2002.

According to statistics, on January 1, 2012 the surface of vineyards amounted to 147,300 ha, of which 128,400 ha amounted the vineyards with harvest. Most of the surface (95%) is in a private property and only 5% are in the public property. Viticulture is practiced in different categories of households.

Table 4. Distribution of vineyards surface on categories of households in the Republic of Moldova, %

Categories of households, producers of grapes	Average for the period	
	First period 2006-2009	Second period 2009-2011
1.Agricultural enterprises	26,5	21,3
2.Farms with the surface of land of 10-50 ha	6,3	7,3
3. Small producers	67,2	71,4
of which:		
3a) Farms with the surface of land up to 10 ha	40,3	42,8
3b) Households	27,0	28,5
4. Total per Republic of Moldova	100	100

Source: Calculations made by the author [2]

The information presented in Table 4 shows that about 2/3 of the vineyard areas are concentrated in the category of small producers, whose share on average for the period 2009-2011 increased by 4.2 pp to the average of the years 2006-2008.

From the category of small producers, around 60% of the vineyards belong to farm households (farms) with the land surface up to 10 hectares and 40% belong to households. Share of agricultural enterprises in average for the period 2009-2011 decreased by 5.2 pp in comparison to the average of the years 2006-2008. We believe that agricultural enterprises in this way reacted to the crisis in the wine sector in 2006-2008. Commodity market of instability of alcoholic products and beverages caused the reduction of vineyards surface by 10.6 pp in 2011 compared to 2006, which meant 18 900 ha per Republic. Category of small producers increased the vineyard

surface by 4.1 thousand hectares, of which households (farms) with the surface up to 10 hectares increased by 2.8 thousand ha, and households-with 1,3 thousand ha. Although households (farms) with the land surface of 10-50 ha increased insignificant their share in the total area of vineyards (only by 1.0 pp), we draw attention to the fact that in 2011 this share reached 12%, increasing by 4.9 pp compared to 2006, or with 6,5 thousand ha. Increase of vineyard surface in this category and in the category of small producers is explained by those that these grape producers planted new varieties of table grapes, considering that selling fresh grapes is less risky than technical variety grape production.

Table 5. Qualitative characteristic of the vineyard surface in agricultural enterprises from the Republic of Moldova

Indicators	Average for the period	
	First period 2006-2008	Second period 2009-2011
I Surface of vineyards, total, thousand ha	41,7	34,3
of which: technical varieties	36,1	29,4
table varieties	5,6	4,9
II Surface of vineyards with harvest, total, thousand ha	34,0	28,8
of which: technical varieties	29,1	25,1
table varieties	4,9	3,7
III Share in the total surface:		
of technical varieties	86,7	85,6
of table varieties	13,3	14,4
IV Share of surface with harvest – in the total	81,6	83,7
of which: technical varieties	80,7	85,2
table varieties	87,4	75,7

Source: Calculations made by the author [2]

The data from Table 5 show that during the last six years, the area of vineyards in agricultural enterprises decreased by 7.4 thousand ha, ie 17.8%. Surface of vineyards with harvest also decreased by 5.2 thousand ha, or by 15.2%, but on the other hand, the share increased by 2.1 percentage points. In the surface of vineyards from agricultural enterprises the technical varieties are predominant, although in their surface evolution there was a steady decrease. During the period 2006-2011 the area of technical varieties decreased by 10.8 thousand ha, or by

28.6%. And if in the crisis period (2006-2008) this decrease was 2,7 thousand ha (4.5%), in the second period (post-crisis) rates of reduction are more significant; 5,2 thousand ha (16.1 %). The share of technical varieties in the total area decreased by 1.1 pp.

Surfaces of table varieties vineyards in agricultural enterprises also decreased in the considered period. In total, in 2011, the surface of table grapes decreased by 1.2 thousand ha compared to 2006; in the years of crisis, the reduction was 1,3 thousand ha, but in 2009-2011 there is an increase of 0.2 thousand hectares, or by 4.2%. Share of table grapes surface decreased by 1.8 pp in 2008 compared to 2006 and increased by 2.6 pp in 2011 compared to 2009. Also, there is mentioned the decrease of vineyards with harvest of table varieties: in this post-crisis period it reduced by 11.7 pp than the average for 2006-2008. On the one hand we have an increase of the surface of table varieties vineyards, on the other hand reducing the surface of those with harvest. This phenomenon is explained that in the post-crisis period, new varieties of table grapes were planted in agricultural enterprises.

Table 6. Qualitative characteristic of vineyard surfaces in farms with the surface of land up to 10 ha in the Republic of Moldova

Indicators	Average for the period	
	First period 2006-2008	Second period 2009-2011
I.Surface of vineyards, total, thousand ha	63,4	64,3
of which: technical varieties	54,4	54,9
table varieties	9,0	9,4
II.Surface of vineyards with harvest, total, thousand ha	62,4	62,1
of which: technical varieties	53,5	53,3
table varieties	8,9	8,8
III Share in the total surface, %:		
of technical varieties	85,8	85,3
of table varieties	14,2	14,7
IV Share of surface with harvest – in the total, %	98,5	96,5
of which: technical varieties	98,5	97,1
table varieties	98,8	93,2

Source: Calculations made by the author [4]

The data from Table 6 show that farms with land surface up to 10 ha had an increase of vineyard area in average for 2009-2011 in comparison with the period 2006-2008 with 0.9 thousand hectares, or by 1.4 %, while in

2011 it recorded the lowest value throughout the considered period. Technical varieties occupy in the structure of vineyards a share as large as in agricultural enterprises and supports minor changes over the years 2006-2011. Surface of table varieties as a whole represent a non-substantial growth, with 0,3 thousand ha (or with 4.4%), increasing the share in the structure of vineyards by 0.6 pp. Share of vineyards with harvest, as a whole, is very high and is reduced in the second period related to the first by 2.0 pp. Decrease of this share in technical varieties is only 1.4 pp and 5.6 pp at table varieties.

Table 7. Qualitative characteristic of the vineyard surface in rural households from the Republic of Moldova

Indicators	Average for the period	
	First period 2006-2008	Second period 2009-2011
I Surface of vineyards, total, thousand ha	42,4	42,8
of which: technical varieties	37,6	37,9
table varieties	4,8	4,9
II Surface of vineyards with harvest, total, thousand ha	40,2	40,2
of which: technical varieties	35,9	35,9
table varieties	4,3	4,3
III Share in the total surface, %: of technical varieties	88,7	88,6
of table varieties	11,3	11,4
IV Share of surface with harvest – in the total, %	94,7	93,9
of which: technical varieties	95,2	94,6
table varieties	90,9	89,0

Source: Calculations made by the author [4]

Based on the data presented in Table 7, we can mention that the surface of vineyards in the category of small producers – rural households increased with 2.7 thousand ha or by 6.7% in 2011 compared to 2006. At vineyards of technical varieties this increase made 2,3 thousand ha (6.4) and at table varieties 0,4 thousand ha (8.9%). The structure of vineyards in the period under review has not registered substantial changes: the share of technical varieties and table grapes remains basically at the same level. All this can be said about the share of surface with harvest and the entire vineyard surface as a whole in households, and both on groups of varieties. The exception is 2006, where the share of vineyards with harvest is higher than in other years with 3.0 to 3.5%.

Generalizing the analysis from Tables 5,6,7 we conclude that the crisis from the period 2006-2008 caused the reduction of potential in the wine sector within the agricultural enterprises. Farms, as a whole, have registered an increase and households have not changed significantly.

Development trends in viticulture's potential have reflected on the grape production.

Table 8. Evolution of grape production in the Republic of Moldova and the structure of production under the aspect of categories of producers

Indicators	Average for the period	
	First period 2006-2008	Second period 2009-2011
Global production of grapes, thousand tonnes	566,5	587,2
Share in the global production, %:		
a) agricultural enterprises	20,8	19,3
b) farms with the surface between 10-50 ha	0,9	06
c) Small producers: farms with the surface up to 10 ha	43,8	37,2
d) rural households	34,5	42,8

Source: Calculations made by the author [4 and 2]

From data of Table 8 there is observed that global production of grapes in the post-crisis period (2009-2011) increased by 3.7%. Examining the structure of grape production, it can be noted that rural households produce about a fifth of the country's total grape production. In the first period, the share of agricultural enterprises records a steady increase, in the second period, it decreases sharply in 2010 and 2011 and returns to the level from 2008.

Small producers provide 78.3% in the first period and 80% in the second period of grape production in the country. Farms with the surface up to 10 hectares of land had a higher weight in 2006-2008 than the rural households. But in 2009-2011, the share of households shrines stable and in this period, the leading position in the global production of grapes is occupied by the rural household category, which gradually increased from 35% in 2006 to 43.8% in 2011.

There is interesting the efficiency of grapes production that will be examined on the types

of producers just according to the indicator yield per ha, in quintals.

Table 9. Dynamics of average yield of grapes per hectare in terms of categories of producers, quintals

	Average for the period	
	First period 2006-2008	Second period 2009-2011
Total in the Republic of Moldova	39,1	42,9
Agricultural enterprises	30,8	35,2
farms with the surface between 10-50 ha	30,3	25,6
Small producers: farms with the surface up to 10 ha	39,8	35,2
rural households	48,6	62,6

Source: Calculations made by the author [4 și 2]

Data from Table 9 show that the economic efficiency of the surface of vineyards in the second period increased overall in the Republic of Moldova, including in agricultural enterprises and households. Average harvest of grapes per hectare increased in the country with almost 10%, in agricultural enterprises with 11.40% and in rural households with 29%. Also farms with the surface of lands up to 10 hectares experienced a decrease in average yield per hectare almost with 12%, and farms with 10-50 hectares of land decreased their efficiency by 16%.

The best results on average harvest per hectare are obtained by households. This category of small producers in each of the years from the examined period registered the maximum yield. The average yield in households is greater than in the whole country with 24% in the first period, and with 46% in the second period. In dynamics, the yields of grapes per hectare increased in the rural households by 56% in 2011 compared to 2006.

Grape production efficiency is characterized not only by the average yield per hectare. Production obtained is to be marketed and to provide the manufacturer with a certain profit and expected return.

Due to the lack of objective information on costs and sales income per category of households (farms) and rural households is not possible to examine such indicators as unit

cost, unit profit, production cost, the unit price at these types of producers. Indicators of economic efficiency of production and marketing of grapes will be considered under the category of agricultural enterprises.

Table 10. Indicators of economic efficiency of grapes in agricultural enterprises from the Republic of Moldova

Indicators	Average for the period			
	2000- 2002	2003- 2005	2006- 2008	2009- 2011
Yield per ha, quintals	37,64	39,39	30,78	35,15
Cost of 1 quintal of sold grapes, MDL	118,38	180,76	225,73	221,25
Average price for sale of 1 quintal, MDL	169,97	271,90	260,77	260,92
Calculated profit, MDL: a) 1 quintal of sold grapes	51,59	91,14	35,04	39,67
b) 1ha from which grapes were sold	1941,64	3590,17	1078,67	1394,28
Level of profitability, %	43,57	50,42	15,52	17,93

Source: calculated by the author on the basis of „Specialized forms on the activity of agricultural enterprises for the period 2000-2011”

Economic efficiency of grapes production in agricultural enterprises was growing up during the crisis of wine in the Republic of Moldova. Although the cost of one quintal of grape sold in 2003-2005 increased by 52.7% from 2000 to 2002, the average selling price increased by 60%, which resulted in obtaining a profit per quintal with 76.7% higher and the increase of profitability by 6.85 pp. During the crisis period (2006-2008) a substantial decrease in all grape production efficiency indicators has taken place: productivity of surface with harvest decreased compared to the previous period by 22% and the cost of a grape quintal increased by 24.9 %. These negative changes caused a decrease in profit per quintal 2.6 times and decreased the profitability by 34.9 pp. In the post-crisis period (2009-2011) harvest per hectare increased by 14.2% in comparison with the average from 2006-2008, the cost per 1 quintal of grapes fell slightly (2%) and the average selling price remained at the level of the previous period. These non-essential

changes have led to the growth of profit per 1 quintal with 13.2% and of profitability by 2.41 pp. However, in 2009-2011 economic efficiency indicators of grape production remains at a low level compared to the years before the crisis.

Although the territory of the Republic of Moldova is not so great, however, soil and climate conditions for growing grapes differ in developing regions: North, Chisinau, Central, South, Gagauzia. Respectively, the economic efficiency of grape production will be specific for each region of development.

Table 11. Economic efficiency of grapes in the Republic of Moldova in terms of development regions

Indicators of development regions	Average for the period			
	2000-2002	2003-2005	2006-2008	2009-2011
1. Productivity of vineyards with harvest, quintal per ha, Chisinau	56,02	63,22	53,89	58,47
North	19,58	23,74	21,28	19,67
Centre	36,40	38,64	29,52	32,18
South	39,16	39,18	31,97	33,98
Gagauzia	36,24	39,01	24,02	25,42
2. Cost of 1 quintal of sold grapes, MDL, Chisinau	102,0	150,42	206,63	202,30
North	122,41	158,11	242,28	250,50
Centre	111,30	178,70	219,32	226,99
South	123,24	185,13	226,86	228,53
Gagauzia	117,86	181,19	242,14	218,63
3. Average price of sale of 1 quintal of grapes, MDL Chisinau	164,53	202,89	223,18	228,41
North	127,98	200,22	216,60	280,64
Centre	151,91	242,21	235,03	230,67
South	179,87	289,29	285,73	295,80
Gagauzia	170,55	282,49	254,02	234,80
4. Profit per 1 quintal of sold grapes, MDL Chisinau	62,53	52,47	16,55	26,11
North	5,97	42,11	25,68	30,14
Centre	40,61	63,51	15,71	3,68
South	56,63	104,16	58,87	67,27
Gagauzia	52,69	101,30	11,80	16,17
Level of profitability, % Chisinau	61,30	34,88	8,01	12,91
North	4,55	26,63	10,60	12,03
Centre	36,49	35,54	7,16	1,62
South	45,95	56,26	25,95	29,44
Gagauzia	44,71	55,91	4,91	7,40

Source: calculated by the author on the basis of „Specialized forms on the activity of agricultural enterprises for the period 2000-2011”

Comparative analysis of grape production efficiency in developing regions allows us to make the following conclusions:

- The lowest economic efficiency of grapes is present within the companies from the Northern development region. During 2000-2008 all indicators of economic efficiency of grapes record low values. In average for the period 2006-2008, the grape production in this region was unprofitable.

- Chisinau region is a leader in productivity of vineyards with harvest. Here are obtained per hectare from 2.5 to 3.5 more production than in the North, with 1.5 to 2.3 times more than in the Centre, South and Gagauzia. Respectively in Chisinau there is the lowest level recorded at cost per quintal. But the average selling price gives up to this indicator from Central region, South and Gagauzia. Calculated profit on a quintal of grapes was the greatest in the period 2000-2002 and in subsequent periods decreased sharply, continuing a lower value in 2009-2011 almost 2.5 times compared to 2000-2002. The same trend is observed in the evolution of profitability. Here the difference between the average of the years 2009-2010 and 2000-2002 being 48.39 pp.

Although in the Central development region conditions for growing vines practically do not differ from the Chisinau area, there is an very weak economic efficiency in the production of grapes. Productivity of vineyards with harvest and the cost of 1 quintal of grapes is 6.1 to 18.8% higher than in Chisinau area. Trading price of 1 quintal of grapes is also above its level in the years 2003-2011 in the Chisinau area, but the growth rate of selling price is much lower than the growth rate of cost per 1 quintal. This situation has caused a low level of profit per 1 quintal of sold grapes, especially during the period 2009-2011. Grape production profitability during the crisis and post-crisis period is very low. Grape production efficiency in the Central development region is very small in the last two examined periods. In development regions South and Gagauzia situation is diverse, although both are in the southern part of the country. Economic efficiency indicators of production of grapes have evolved diverse. Thus, the average yield per hectare of vineyard with harvest ranks the

second place, being lower than the Chisinau region. The cost of 1 quintal is also greater than in the central areas and increased in the fourth period in comparison with the first with 85.4%. But the sales price of grapes in the South area is more expensive than in Chisinau and Centre with 30-40%. South region is on the first place according to the amount of profit on 1 quintal of sold grapes and also according to the profitability of grapes. Also, we note that the values of grapes profitability in the period between 2006-2011 are 1.5 to 2.1 times lower than in 2000-2005.

In the Gagauzia region, economic efficiency of grapes in 2000-2005 was close to its level in the South area. But in the period 2006-2011 there has been a substantial decrease in productivity of vines with harvest, it decreased in comparison to 2000-2005 with almost 30%. Cost of 1 quintal increased in average by 54% and although the average selling price increased by 8%, profit on a quintal of sold grapes decreased 4 times in comparison with the period 2000-2002 and 6-7 times from the period 2003 - 2005, accounting for one of the lowest values in agricultural enterprises from the Republic of Moldova.

Table 12. Production of grape vine cuttings in agricultural enterprises from the Republic of Moldova, thousand pieces.

Indicators	Average for the period			
	I 2000- 2002	II 2003- 2005	III 2006- 2008	IV 2009- 2011
Total in the Republic of Moldova	2303	5440	6358	3918
Regions of development: Chisinau	434	1857	3125	961
North	60	24	-	117
Centre	686	1613	1387	2174
South	975	1777	1716	636
Gagauzia	148	169	130	30

Source: calculated by the author on the basis of „Specialized forms on the activity of agricultural enterprises for the period 2000-2011”

All these factors have resulted in an exceptional low level of the level of profitability of production and marketing of grapes in the development region of Gagauzia.

Viticulture's development depends to a large extent on the situation from the wine sector.

Vine cuttings production was increasing during the period 2000-2008. During the third period, vine cutting were produced 2.7 times more than in the first period in the Republic of Moldova, but the crisis has caused the decrease in wine production in 2009-2011 to 1.6 times compared to period 2006-2008. Vine cuttings production structure in terms of development regions in recent years shows that in the last period 55% are produced in the Central region, 24% in Chisinau and 16% in the South, while in the first and third periods, South occupies the leading position, followed by Centre, Chisinau and Gagauzia.

Overall, vine cuttings were produced in all categories of agricultural enterprises from the Republic of Moldova: in 2007 - 7100 thousand pieces; in 2008 - 3600 thousand pieces; in 2009 - 6900 thousand pieces; in 2010 - 3400 thousand pieces; in 2011 - 4900 thousand pieces. Moldovan viticulture aims at planting seedling vineyards with no viruses. The share of seedlings without viruses in 2006-2009 made up 81-91%, in 2010 - 66%, in 2011 - 41% (at technical varieties). Decrease of this share is explained by the fact that the state does not provide sufficient financial resources to clean the planting material.

Currently, there are over 60 agricultural enterprises in the breeding ground licensed to produce seedlings, of which only about 30 are still operating. The total area of rootstock vineyards amounted to 740 hectares, including only 40 hectares from the "basic" category. Rootstock vineyard area accounts for about 930 hectares, 20 hectares from the "basic" category. In order to produce qualitative seedlings, it is necessary to increase these surfaces.

The state subsidizes the vine plantations as follows:

- a) table grape varieties – 30 thousand MDL per hectare.
- b) wine grape varieties - 25 thousand MDL per hectare.

c) Plantations - stock and rootstock mother, biological category "basic" - 50 thousand MDL per hectare [5]

However, given the high potential of viticulture farms have planted new vineyards, making more investment in the renewal of the surface.

Table 13. Investments of agricultural enterprises in planting of vineyards in the Republic of Moldova

Indicators	Average for the periods			
	I 2000- 2002	II 2003- 2005	III 2006- 2008	IV 2009- 2011
1.Surface of planted vineyards, ha Total in the Republic of Moldova	1356	2232	5175	4199
Regions of development: Chisinau	165	482	1386	672
North	10	59	40	66
Centre	289	390	1076	1058
South	725	993	2163	1843
Gagauzia	167	313	510	560
2.Expenditures for planting vineyards, thousand MDL Total in the Republic of Moldova	9163	33417	86128	64225
Regions of development: Chisinau	2206	10454	26425	16602
North	31	231	647	747
Centre	2159	4885	20167	19560
South	4000	14200	31823	21988
Gagauzia	767	3647	7066	5328
3. Expenditures for planting vineyards per 1 ha, MDL Total in the Republic of Moldova	6757	14972	16643	15295
Regions of development: Chisinau	13369	21689	19066	24705
North	3100	4278	16175	11318
Centre	7470	12526	18743	18487
South	5517	14300	14712	11930
Gagauzia	4593	11652	13854	9514

Source: calculated by the author on the basis of „Specialized forms on the activity of agricultural enterprises for the period 2000-2011”

Analyzing data on planting new vineyards, we can mention that during 2000-2011, 38886 ha were planted within the agricultural enterprises.

The data from table show that the annual average area of planted vineyards is the maximum in the third period (of crisis) and is followed by the fourth period (post-crisis). According to the Agency for Payments and Intervention in Agriculture data, table varieties are the overwhelming part of the plantings. The largest share of new vineyards plantations is hold by the agricultural

enterprises from the South development region (in the first period - 53.5%; in the second period - 44.5%; in the third period - 41.8% and in the fourth period - 43.8%). The same trend persists in the structure of investment on development regions. Draws attention the fact that there have been increased investments per hectare of planted vineyards: in total, in agricultural enterprises from the Republic of Moldova they increased 2.3 times from the fourth to the first period. On development regions this increase differs: in the North, whose share in planting vineyards is insignificant - 3.6 times; in the Centre - 1.8 times; in the South - 2.5 times and in Gagauzia - 2.1 times.

CONCLUSIONS

National strategy for Sustainable Development of the agro industrial complex of the Republic of Moldova (2008-2015) states that modernization of the agricultural sector and modernization of production capacity of the agi-food complex can be made only on the basis of substantial investments, whose total necessary updated number, in accordance with some preliminary estimates, exceeds sum of 4.0 billion EUR. In the agro-industrial complex, an important place is occupied by the wine sector, which has a high potential to solve many social and economic problems such as rational use of human resources, particularly in rural areas, increase of competitive products exports (alcoholic beverages, fresh table grapes varieties, juices, grape seed oil, etc.) assurance of revenue for people employed in the sector and for companies that grow and manufacture vine, payments to the state budget following the successful economic activities. Moldova's viticulture deserves a special attention in terms of the made investments, as the mentioned problems will be solved more successfully in case if this branch provides the necessary production quantities and of a high quality. Investment activity in the wine sector must necessarily include viticulture. However, investment activity in any other branch starts from the retrospective analysis of the object

that has to be the receiver of investment resources for development.

Viticulture from the Republic of Moldova has a good potential for development, but at the moment it is not fully realized. Economic efficiency of grapes production is quite small. A major part of the vineyards are in possession of small producers, although they are characterized with higher efficiency, yet they do not have sufficient financial resources. Viticulture needs investments as in planting of new vineyards, both in conducting various technological operations of vineyards care. And in this regard, parcelling of the vineyard area which takes place at small producers is an obstacle that hinders investment promotion. Agricultural enterprises in recent years increase the surface of planted vineyards and in particular of table grapes. Planting costs per hectare are also increasing: their value in the last six years has reached 1,000 EUR.

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