

Viticulture and Wine-Making Performances Increase within the Moldavian Republic

Rina Țurcan

Technical University of Moldova, Ștefan cel Mare Blvd. 168, Chișinău, MD2004, Republic of Moldova
e-mail: cnaa@mail.utm.md

Abstract

This paper presents the evolution of viticulture branch in Moldavia Republic, which between 1975 and 2003 declined. To incise the performances and continuous development of the wine-making sector, the vertical integration strategy must be promoted. This strategy has advantages for all interest factors: for companies (by reducing the production cost), consumers (quality improvement and diversification of product types), and for the state (increasing budget state revenues).

Key words: *viticulture, performance, vertical integration strategy, continuous development*

For centuries wine-making has been the traditional branch of agriculture in Moldavia. Wine has been produced here since the Antique Rome. Moldavia disposes of favorable climate for vine as well as of experienced powerful human. However, the viticulture state is not so flourishing.

If we compare the Moldavian Republic with the 35 European countries where viticulture and wine-making were highly developed, then in the period comprised between 1981-1985 our country used to occupy the 6th place regarding the vine surface, the global crop and the wine-making products, ceasing only to Spain, Italy, France, Portugal and Romania.

The climax of the Moldavian republic development was attained in 1975, when the total vine surface covered 289 billion hectares, which were 3,5 more than during 1950. During 2003 the vine surfaces was in value of 149 billion hectares, decreasing towards 1975 by around 48,4%, while the fruitful vine surfaces decreased by 21,0.

Table 1. Viticulture evolution within the Moldavian Republic during 1970-2003

Years	Vines surfaces in billion of hectares		Surfaces in billion of hectares		Total production in billions of tones	The average fruitfulness at 1 hectare
	Total	Out of which fruitful	Planted	Grubbed		
1970	251,0	178,0	3,60	3,10	700,1	38,5
1975	289,0	181,0	5,14	4,50	1263,4	67,1
1980	256,0	200,0	3,25	2,95	1201,2	59,2
1985	220,2	170,0	2,10	3,20	654,4	37,5
1990	201,3	170,9	1,38	2,90	939,7	53,8

Table 1. (cont.)

1995	185,8	172,3	0,70	4,20	852,2	49,2
1996	179,0	169,3	0,10	14,0	767,3	45,2
1997	173,9	165,4	0,60	10,70	300,8	18,2
1998	160,0	157,5	0,70	8,60	342,7	21,6
1999	154,3	147,4	0,50	12,20	464,9	31,4
2000	149,1	141,5	0,74	8,60	703,8	49,5
2001	154,5	149,7	0,46	-	505,0	33,5
2002	151,8	148,0	0,53	4,50	641,2	43,3
2003	149,0	143,0	1,40	4,20	677,2	47,4

Source: Statistics and Sociology Department of Moldavian Republic 1999, 2004

The diminution of vine surfaces was triggered by a series of factors out of which the most important are:

- one of the basic factors is the vine plantations structure modification in the favor of the European types: the hybrid vines surfaces grubbing which is performed at a higher level than the European vine type;
- the fight against alcoholism which comprised the years 1985-1989 contributed to the essential diminution of different types of vine;
- the decline was sustained by certain negative aspects of the transitory period to the market economy. As a result of the land reform when the land distribution took place, the majority of the population becoming vine owners did not have enough financial resources in order to keep the existent vine plantations.

Of great importance is the vine surfaces dynamics, taking into account the planted and grubbed surfaces. During 1991-2002, 7.33 billion hectares of vine were planted and 76,2 billion were grubbed. Therefore, grubbed surfaces are almost 10 times higher than the planted ones. Analyzing the data supplied by table 1, it can be noticed that the highest grapes quantity was obtained in 1975 when the vine surfaces attained 289 billion hectares. After 1975 within the Moldavian Republic, a decreasing tendency of the grapes production was to be noticed which was to continue up to 1997, when the total grapes production was 4.2 times lesser than during 1975.

In 2003 the situation was improved, attaining the production from 1985, when it was 26.4% higher than the reference year. The vine plantations production was very low, the planted vine types was 2-2.5 times higher than the obtained production. On the basis of the performed analysis, we may notice that the viticulture state was catastrophic. The Moldavian Republic was, is and will be an agricultural country, where the first place is occupied by the wine-making industry.

Possessing large vine surfaces corresponding to the vine cultures, having a favorable climate, detaining a highly qualified manpower and rich traditions accumulated along centuries, we consider that destroying this branch is a real crime.

Once with the viticulture development as the main agricultural branch within the Moldavian Republic, the wine-making industry started to take place. The most part of grapes primary processing enterprises was founded in 1970, when the plantation surfaces had an increased level. During the same period a considerable production capacity increase took place (during 1960-1965, the production capacity was doubled).

In 2003, 130 enterprises acted being represented as follows:

- 72 grapes primary processing enterprises;

- 8 divine processing enterprises;
- 10 foaming wines processing enterprises;
- 13 sparkling wines processing enterprises;
- one tip Jeres type (Ialoveni) processing enterprise, one Madejra type (Orhei) processing enterprise and one Marsala type (Cărpineni) processing enterprise;
- 3 wine-cellars for high quality wines keeping and maturation (Cricova, Mileștii Mici și Brănești) with a capacity of 10 billion deciliters.

Most of wine enterprises are situated in the central and south part of Moldavia. Only one enterprise is situated in the north of the republic - "Barza Albă" from Balti. This emplacement is directly conditioned by the raw materials areas location. It is important for us to follow up the dynamics of alcoholic drinks production processed in the country (table 2).

Table 2. Dynamics of wine-making industry

Years	Bottled Grapes wine		Sparkling wines		Divine		Brandy, vodka and other strong drinks	
	Billion of decaliters	% towards the previous year	Billion of decaliters	% towards the previous years	Billion of decaliters	% towards the previous year	Billion of decaliters	% towards the previous year
1980	21,7	-	414	-	635	-	1483	-
1985	12,8	59,0	864	208,7	828	130,4	1481	99,9
1990	16,3	127,3	804	93,1	1394	168,4	559	37,7
1995	9,3	57,1	948	122,4	589	42,3	2691	481,4
1999	6,7	72,0	909	95,9	301	51,1	1284	47,7
2000	7,4	110,4	521	57,3	416	138,2	1125	87,6
2001	11,9	160,8	646	124,0	559	134,4	963	85,6
2002	13,9	116,8	747	115,6	677	121,1	1286	133,5
2003	18,2	130,9	902	120,7	660	97,5	2106	163,8

Source: Adapted from "Moldova-Vin" Agro-Industrial Department

Generally, during the last years the dynamics of the production quantity within the viticulture enterprises may be appreciated as positive. During 1999-2003 the quantities of all types of alcoholic drinks have an increasing tendency, except the foaming and sparkling wines dynamics.

In the Moldavian Republic, the foaming wines production is accomplished on the basis of 2 methods: the classic method which ensures a production at a high level with a 1-3 years cycle and the traditional method used by all enterprises which process these types of products.

Because of the cycling means shortage and the high costs, the sparkling wine production percentage obtained by means of the classic method considerably decreased from 30% during 1980 up to approximately 6% during 2003. Up to 1995, an increase of the foaming wines processing is to be noticed. During 2000-2003, an increase of the sparkling wines with 73% is to be noticed.

During 1980-1990, the divines production has doubled, increasing from 635 billion decaliters up to 1394 billion decaliters. During the next years, the divine wine tendency is to be totally changed attaining 190 billion decaliters in 1996 which is 73 times lesser than the production during 1990. During the years, the divine production registered a continuous increasing tendency. Following up the production capacity within the wine-making industry, we may notice that at the time being it varies within the 22-29% limits so that the processing reserves are still high. Therefore, we have the possibility of increasing the wine-making products optimizing it in such a way that the economic efficiency of the wine-making industry register the maximum level.

Seeing that the wine-making represents the main branch of the Moldavian industry, we consider necessary to take measures that should contribute to the sector development and reestablishment.

One of the most efficient strategies which could ensure the performances increase and the continuous development of the wine-making sector is the vertical integration strategy. The necessity of promoting the vertical integration strategy type is firstly based on the non uniform distribution of the economic efficiency between the participants.

The table 3 presents the supplies information regarding the integral economic efficiency of the wine-making complex and its distribution on participants (the calculation was made for 4 types of wine).

Table 3. Commercializing the wine within the Moldavian Republic during 2003

Economic sectors	Indicators	Simple “Aligote” wine type	“Aligote” wine type	Curt “Cabernet” wine	“Cabernet”
Agricultural enterprises	Expenses, in lei	2064,80	2064,80	3700,40	3700,40
	sales, in lei	2598,40	2378,00	4709,60	4709,60
	Profit, in lei	481,11	265,93	912,48	912,48
	Efficiency in %	23,45	12,88	24,66	24,66
Primary wine-making enterprises	Expenses, in lei	2964,06	2744,07	5071,93	5071,93
	sales, in lei	3663,87	3418,59	6001,70	6001,70
	Profit, in lei	275,94	262,91	349,52	349,52
	Efficiency in %	9,30	9,58	6,89	6,89
Secondary wine-making enterprises	Expenses, in lei	8730,00	8560,00	13200,00	14400,00
	sales, in lei	11600,00	11350,00	17100,00	18750,00
	Profit, in lei	1130,00	1070,00	1840,00	2150,00
	Efficiency in %	12,94	12,50	13,94	14,93
Commercial enterprises	Expenses, in lei	12280,00	12030,00	17780,00	19430,00
	sales, in lei	16400,00	16200,00	22800,00	24800,00
	Profit, in lei	3230,00	3270,00	3950,00	4230,00
	Efficiency in %	26,30	27,18	22,22	21,77
State budget	Transfers in lei including:	2976,36	3073,08	3806,95	4016,95
	- VTA in lei	2034,73	2131,45	2865,32	3075,32
	- excise duties in lei	941,63	941,63	941,63	941,63
National economy	Integral economic effect in lei	8103,41	7941,92	10733,09	11658,95
	Economic efficiency in %	30,40	31,27	27,00	27,37

The main shortages of this distribution are the following:

- efficiency of the agricultural enterprises involved in the vine culture represents 25% only during the last years, meanwhile the period comprised between 1994-1998 was extremely low, even negative. This state conditioned the crises situation which the wine-making enterprises were confronted with. At the time being the viticulture situation is improved meanwhile the primary wine-making enterprises is at a very low level, their efficiency constituting 7-10%. The extremely low projects do not allow the investments which are to be found in the production quality and prices. The secondary wine-making enterprises pass through the same situation. This is confronting with the raw materials shortages and do not dispose of the means for certain necessary investments.
- the most favorable is the commercial enterprises situation (the efficiency is increasing from 30%) which proves the entrepreneurs' tendency for this kind of activity.

Another motivation for the vertical integration type promotion consists in the wine-making enterprises difficulties in their relations with the raw materials suppliers, caused by the impossibility of satisfying the participants' economic interests.

In order for the Moldavian wine-making production to be competitive on the world market, it must become itself a modern branch, a performant one having a high economic efficiency.

According to the independency degree, the enterprises vertically integrated may be classified as follows:

- associations having an entire juridical independency and organizations within their compenence;
- associations where the members' independency is limited;
- associations where the component organizations and enterprises are not independent, functioning as an unique organization.

Within the world practice, especially for the countries with a developed economy, the associations with vertical integration type are highly extended. This kind of strategy is promoted by the industrial enterprises within different branches of economy (food and drinks industry). Within the countries with a developed and advanced economy market, the manufacturing industry belongs to the raw materials manufacturers. For example, in Italy a co-operative society includes approximately 1300 members, detaining a total of 1800 hectares of vines, so that each members detains its own share. The most famous French wines processing is performed in the vertically integrated enterprise.

It is to be mentioned that the Moldavian Republic already has a rich experience of vertical integration strategy within the agricultural and wine-making industry, accumulated during the past years. During the Soviet Union the sovhoz -factory existence was mentioned, where the vines culture and grapes processing was performed.

Then, the gross wine was delivered to the secondary viniculture enterprises. Once with the URSS dissolution the agricultural and wine-making integration structures disappeared and all was submitted to the privatization process.

At the time being, the Moldavian Republic viniculture industry contains certain elements of the vertical integration strategy. Being confronted with certain difficulties related to the raw materials procurement, the most part of the wine-making enterprises proceeded to the upstream integration. In case of this type of integration, the enterprises meet the activities which have been separately accomplished by other primary viniculture and agricultural enterprises.

We shall mention several viniculture enterprises which were the first in recurring to the upstream vertical integration:

1. ÎM "Lion-Gri" SRL – which in 2003 was the leader in wine production. At the time being, this enterprise detains almost 600 hectares of vine plantations. It also detains a primary wine-making factory in Talmază and shares at the following wine-making factories: "Vierul-Vin" SRL, "Botritis" SA, "Vinar" SA, "Tomai-Vin" SA, where a considerable part of the collected raw materials is processed.

A considerable quantity of the processed grapes is collected from its plantations but the agricultural land continues, therefore "Lion-Gri" SRL tends to ensure entirely the own raw materials basis.

2. CV "Cricova" SA – is a mixed wine-making factory within the state property. The company detains a raw material basis situated in the central part (Cricova city) – 98 hectares and in the south part (Cahul – Lucești village) – 60 hectares. Starting with 2001 several investments were made for the new vines planting. Therefore, 16 hectares were planted with Pinot Noir type and

another 14 hectares with Sauvignon type. Starting with the spring of 2005 260 hectares were to be planted with vine.

3. ÎM “Ungheni-Vin” S. A – is an agricultural – industrial enterprise which produces grapes. It comprises 5 other factories of primary grapes processing, but their crop is not sufficient and they recur to the gross wine processing from other zones of the republic, especially from the south zone.

4. “Vinimpex” S. A – is a modern factory, specialized in divines production. During 2003 55 hectares of white vine were planted which were used as raw material for the white wine processing, raw material meant for the distillation which shall ensure a high quality production.

During 2004, many viniculture enterprises planted vines, for example: “Asconi” SA – 330 hectares; “Salcuța” SRL – 144 Hectares; “Sauron” SRL – 86 hectares; CVSM ÎM “Vismos” SA – 84 hectares; “Valea Viilor” SRL – 57 hectares, etc.

A very important role in the viniculture industry development was represented by the foundation of the “Viniculture Found” elaborated by the “Moldavian Wine” department. According to these regulations, the Moldavian Republic Government allotted in 2004 to the viticulture participants discounts in value of 25.000 lei (almost 2.000 USD) for one hectare, provided that the plantation surface had not less than 5 hectares. The financing source should have been the incomes obtained as a result of the using the 72 brands within the state property.

As a result 116 economic enterprises applied for the discounts but the accumulated sources from the respective fund were not enough. In order to allot discounts to the enterprises, it was decided to be paid in 3 installments: 40%, 30% and 30%. The regulations significantly sustained the wine-making complex reestablishment, as the expenses for creating 1 hectare of vine plantations was in value of almost 120 – 130.000 lei (approximately 10 thousands USD).

Generally, the program was not useful for the agricultures (who did not dispose of the sufficient financial sources for planting 5 hectares), but for the wine-making enterprises which followed up the raw materials basis development.

This type of wine-making enterprises integration which has as a result the raw materials procurement is called downstream integration.

There is also another type of vertical integration – the downstream integration. In case of this type of integration, the enterprises accomplish the functions previously accomplished by their clients.

As it is already known, the final stage is represented by the wines commercialization. Evaluating the economic efficiency of each participant (table 3), we acknowledged that the commercial enterprises efficiency constitutes 22-28%, even more. Therefore, the wine-making enterprises integration shall constitute a favorable element for the economic development. It is very clear that the wine-making enterprises dispose of a small amount of brand stores (CV “Cricova” SA – 2 stores, CVSM ÎM “Vismos” SA – 1 store, “Aroma” SA – 1 store), the cause being the maintenance expenses which sometimes are not to be recovered. Therefore, the development by each enterprise of a large amount of brand stores is not efficient and is not real. And if we take into account that the best profits are obtained at the production commercializing stage, we find necessary to integrate these activities in such a way that the profits after the commercialization enter the wine-making enterprises budget not in the distributors’ “pocket”.

The maintenance expenses shall be bared by all enterprises participating in the project towards its sales quota. The production prices within these stores shall be smaller than through the other distributors’ network where more intermediaries are participating. In the same way, the consumer is interested in buying the production in these shops’ network, because he has the following advantages:

- price advantage towards other commercial sectors;
- production quality safety;
- a grate amount of the wine-making industry so that each client may be satisfied.

Therefore, the obtained profits as a result of the production commercialization shall replace the enterprise budget. But during a period of 10-15 years (as long as it shall be necessary) a certain small percentage from the profits volume shall be accumulated by the Moldavian Wine Agricultural-Industrial Department with the main aim of reimbursing the performed investments in order to build up a shop holding.

The main advantage that the wine-making enterprises shall obtain is the profits increase and respectively the economic efficiency, which allows them to increase their performances, becoming competitive on the autochthonous and world market.

Commercializing the production within the same store, the wine-making enterprises must not see themselves as aggressive concurrent, but loyally, taking into consideration the concurrent superiority. Only by being on the others' place, the enterprises may estimate in an objective manner their position on the market, its production image, its advantages and disadvantages of the marketing policy towards the concurrence as well as enterprising the necessary measures in order to improve the existent.

Promoting the vertical integration strategy, the wine-making enterprises within the Moldavian Republic shall obtain certain advantages, the main ones being the following:

- possibility of executing the research-developing position, which is very expensive and it is not performed by each participant;
- possibility of assuring a high production level by performing several checks;
- cost production decrease towards its concurrent on the basis of the expenses reduction regarding the procurement with raw materials.

It can be noticed that the vertical integration strategy is advantageous for all participants in the value range starting with grapes producing and ending with the finite production.

This strategy is welcomed to the consumers as on its basis a high production quality shall be ensured and the amount of products extended, being oriented towards the high quality.

As it has already been mentioned, the wine-making industry was one of the oldest and powerful branches of the national economy. Our country detains the skilled personnel with rich knowledge in the respective domain, able of developing and improving the wine-making.

References

1. Agoston, H. - *Grape Culture, Wines and Wine Making*, James D Stevenson Publisher, US, 2003
2. Avenard, J.C. - *Manuel de production intégrée en viticulture*, Féret, 2003
3. Ball, I. - *Wine Making the Natural Way*, Elliot Right Way Books, 1998
4. Crosby, E. - *The Merlot Murders: A Wine Country Mystery*, Scribner, New York, 2006.
5. Delfini, C., Formica, J.F. - *Wine Microbiology: Science and Technology*, CRC Press, 2001
6. DuBose, F., Spingarn, E. - *The Ultimate Wine Lover's Guide 2006: Over 1000 Great Wine Selections*, Sterling Publishing, 2005
7. Galet, P. - *General Viticulture*, Oenoplurimédia, 2000
8. Heintz, W.F. - *California's Napa Valley: One Hundred Sixty Years of Wine Making*, Scottwall Associates, 1999
9. Hellman, E.W. - *Oregon Viticulture*, Oregon State University Press, 2003
10. Katz, S.H., McGovern, P.E., Fleming, S.J. - *The Origins and Ancient History of Wine*, Routledge, Taylor & Francis Group, 2000

11. Kerridge, G., Gackle, A. - *Vines for Wines: A Wine Lover's Guide to the Top Wine Grape Varieties*, CSIRO Publishing, 2005
12. Lenkert, E. - *Frommer's Portable California Wine Country*, 4th Edition, Hoboken, NJ : Wiley Pub., 2004
13. Moletta, R., Álvarez, J.A. - *Sustainable Viticulture and Winery Wastes Management: Selected Proceedings of the 3rd International Specialised Conference on Sustainable Viticulture and Winery Wastes Management*, held in Barcelon, Spain, 21-26 2004, Colchester, 2005
14. Priewe, J. - *Wine: From Grape to Glass*, Abbeville Press, Incorporated, 2002
15. Proffitt, A.P.B., Proffitt, T. - *Precision Viticulture: A New Era in Vineyard Management and Wine Production*, Winetitles, 2006
16. Reynier, A. - *Manuel de viticulture: guide technique du viticulteur*, Editions Tec & Doc, 2000
17. Rowe, A. - *Successful Grape Growing for Eating and Wine-making*, Groundnut Publishing, 2006
18. Tee, E. - *Best Irrigation: Management Practices for Viticulture in the Murray Darling Basin*, Cooperative Research Centre for Viticulture (Australia), Victoria Dept. of Primary Industries, 2004
19. *** "Moldova-Vin" Agro-Industrial Department
20. *** *Anuarul Statistic al Republicii Moldova 1995, 1999, 2004*, Statistics and Sociology Department of Moldavian Republic, Chișinău

Creșterea performanțelor complexului viti-vinicol al Republicii Moldova în baza promovării strategiei de integrare pe verticală

Rezumat

Articolul prezintă evoluția sectorului viti-vinicol în Republica Moldova, care între anii 1975-2003 a prezentat o tendință de diminuare. În vederea creșterii performanțelor și dezvoltării durabile a sectorului viti-vinicol, este necesar să se promoveze strategia de integrare pe verticală. Această strategie prezintă avantaje pentru toți factorii interesați: pentru firme (contribuie la reducerea costului de producție), consumatori (creșterea calității și diversificarea sortimentului de produse) și pentru stat (sporind veniturile la bugetul de stat).