
VITICULTURE AND WINERY IN REPUBLIC OF NORTH MACEDONIA

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Abstract: The existence of human civilization is inextricably linked to the existence of the vine.

Evolution of vines (*Vitis vinifera*) is measured by millions of years, whereas the evolution of man, to the intelligent *Homo sapiens*, took hundreds of thousands of years.

Therefore, the fact that man has enjoyed and sweet vine fruits since primordial times is indisputable.

The creation of the oldest civilizations marked the start of vine growing, the origin of viticulture.

Today, viticulture is a whole science that studies the range and technology of viniculture. At the same time, viticulture implies a production activity - from the production of grape seedling material to grapes that as a raw material preserve life for yet another branch - winemaking.

In Republic of North Macedonia, the grapevine began to grow under the domination of the Mediterranean civilizations, and the Roman Empire had the greatest influence. In the Byzantine period (until the 7th century) and in the time of Slavic domination the tradition of vine growing continues. In Christian religious customs wine was a symbol of the blood of Christ.

During the Turkish Empire (from the 14th to the 20th century) viticulture and winemaking in Republic of North Macedonia experienced stagnation and a change in range. At this time, under the influence of Islamic religion, most varieties of tablecloth were grown. At the beginning of the 20th century, in Macedonia the grapevine is represented on an area of 30,000 ha that was completely destroyed by phylloxera until 1914. This is followed by the restoration of viticulture and the growth trend of the areas under the vine, reaching its maximum in 1981 when 38,759 ha were registered.

The success of viticulture and winemaking, above all, is conditioned by the existence of favorable agro-ecological conditions, and those in the Republic of North Macedonia are precisely such and enable the smooth and quality cultivation of many varieties, both table and wine.

Keywords: wine truism, viticulture, continental climate, wine, wine growth

1. INTRODUCTION

Occupying a comparatively small area at an average height of 800 meters above the sea level, the Republic of North Macedonia is situated in the central Balkan peninsula. The area has a very complex geographic, hydrographic and relief structure so it has three tectonic lakes, more than 30 glacial lakes, 110 artificial accumulation lakes, 15 mountain summits exceeding 2000m above the sea level, around 15 valleys and 35 small and large rivers. The area (25,713 square meters) includes 1.7 percent meadows, around 17.5 percent pastures, 34.5 percent forest, 2 percent lake water, and the rest accounts for arable land, shrubs and settlements. Because of the above natural conditions including the climate, Republic of North Macedonia is one of the rare countries in Europe characterized with great diversity. Its primary feature is the richness of the flora and fauna which abound in numerous relict and endemic species. The climate and fertile earth enable abundance in different sorts of fruits and vegetables. Locals have prepared delicious traditional meals and drink since ancient times, so the dining table is often enriched with different fish species from the lake cooked in the most different ways and soaked in a glass of wine made at home wine cellars from grapes grown under the hot sun irradiating the area.

2. AGRICULTURAL AREA

Agricultural area refers to the total area used for agricultural production (arable land and gardens, orchards, vineyards, meadows, pastures). Wine production is undertaken on all the continents of the world. From the regional perspective, Europe boasts the highest production volume of wine, accounting for more than half of the world's wine production. Italy, France and Spain are the largest wine-producing countries in Europe. Total world surface area of vineyards has stagnated in the last years (7.5 million ha) and is not at the level of 2003 (7.8 million ha) while grape production has recorded a steady increase in the last decade (77 million t, 2016), of which the EU accounts for 40% of the world's production according to the international organization of Wine Producers and Wineries (OIV). The climate type of the Republic of North Macedonia is formed under the influence of the Mediterranean, continental and local mountain climate. The high mountain ranges to the west represent a natural barrier that prevents the influence of warm currents from the Adriatic Sea despite its immediate proximity. The continental

climate is characteristic of Western and Eastern North Macedonia, while the changed Mediterranean climate begins to influence from the extreme south-Gevgelija and Strumica to central Veles, thus covering the Povardarie area.

Due to the influence of these climatic conditions, viticulture in the Republic of North Macedonia is divided into three vineyards: Pchino-Osogovo, Povardarski and Pelagonija-Polog. Each peon is further subdivided into smaller wine-growing units. All of the three areas are characterized,with specific climate and soil conditions,the preconditions for the selection of sorts when new wine nurseries are planted.Generally,the climate and soil conditions in the Povardarie are advantageous for table sorts and red wine sorts of grapes,whereas the Pcinja-Osogovo and Pelagonija areas are favourable for white wine production sorts.The total area under wines in the world is 7,700,000ha (2000figures) whereas the total production of grapes in 2000 was 64,029,000t.Wines in Republic of North Macedonia are cultivated in an area of 28,000ha (1999figures) 70 percent of which are wine sorts and 30 percent table sorts.Around 45 percent of the wine sorts account for red wine production sorts,and 55 percent for white wines..A prominent place in the red group is given to Vranec,Prokupec,Gamay,whereas the other sorts in this group such as Cabernet Sauvignon,Merlot,and Pinot Noir increasingly gained importance in the past year and their cultivation has been spread more intensively.

The most represented sorts in the white group are Smederevka, Zilavka, Grenashe White, and lately,high quality sorts such as Riesling, Riesling Italice, Chardonnay, Sauvignon and others have been spread. Amongst the table sorts ,above all in the Povardarie area, the most represented are Afus Ali, Cardinal, White Winter, Muscat Hamburg, Ribier, and Muscat Italy, whereas the other sorts such as Shasselas, July Muscat, and the Queen of the Vineyards are represented to a less extent.

In the period between 1990 and 1997 Macedonia averagely produced 214,903t grapes per year; 140,894t were wine grapes and 74,009t table grapes, 290,000g. grapes per year in 2018.

Viticulture and wine producing are of great importance for Republic of North Macedonia. The economic importance of wine growing rests on the high intensiveness of wine production and the ability of this plant to survive in soils that cannot successfully bear fruits in other forms of agriculture.

Wine, the main product of grapes, is not an ordinary alcoholic beverage. It is a complex matter with high nutrition values. Wine is an important export oriented product in Republic of North Macedonia.

3. AREAS UNDER ORGANIC FARMING

Organic farming is a production system where the application and the intake of synthetic chemicals like synthetic chemical fertilizers, pesticides, hormones and growth regulators, as well as the use of genetically modified organism, are reduced and eliminated, while the use of good practices in the management of agricultural ecosystems for farming and livestock breeding is promoted. Organic agriculture is also distinct from the conventional one by the application of rules in production, Labelling schemes and certificates under the law on organic farming and bylaws harmonized with the European regulations. Agriculture account for 20% of the GDP,it is especially impressing that 90% of the macedonian wine processing is export-oriented wines are produced in 16 wine cellars with the capacity of 220m. Dollars.

4. WINE TOURISM AS A WODERN TREND OF GASTRONOMIC TOURISM

Gastronomic tourism presents such a form of tourism in which the main motive of traveling is to envoy eating and drinking. The markets are interesting for those destinations that offer authentic and specific products to tourist. The cultivation of grapes dates back to the Roman era, and in the wine regions - Povardarie, very high quality white, red and black wines are produced in traditional manner. Each region has something to be authentic and specific, so wine tourism occupyes an ever increasing share in the entire gastronomic offer of Republic of North Macedonia. Wines can be consumed directly in wine cellars, but also in many farm, house, restaurants, ethno houses and events.

5. CONCLUSION

According to experience of many countries and our own knowledge and experience, organizing and introducing of the integrated production of grape and wine in the RSM is required, which is the way to preserve the environment and to produce biology valuable products in order with the environmental regulations.

To realize this goal it is necessary to strengthen directions and to prepare regulation about conditions for integrated production of grape and wine, in the viticulture the main elements are: selection of location, footstock, variety, system of breeding, ampelotechnic measures, composting, usage of phytosanitary compounds, and in wine making modification of technologies using enological agents and methods, clarification, disinfection, regulation of waste products, control and supervision.

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