Study of European and World achievements on endangered native vine varieties

Teza Ltd.

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STUDY OF EUROPEAN AND WORLD ACHIEVEMENTS ON ENDANGERED NATIVE VINE VARIETIES

I. Overview

This study is within the project "SOS for Endangered Traditional vine varieties" funded by the Interreg V-A greece-Bulgaria 2014-2020 programme for cross-border cooperation.

The document examines in-depth European and global practices regarding the preservation of endangered indigenous varieties and their historical development.

The study provides an insight in practical terms, what opportunities are available to implementation good practices from other countries such as Italy, France, Chile, Australia, Israel. The economic benefits and the inherent value of cultivation and work with local varieties are clearly outlined. The study overwiew from the social, historical, scientific, innovative and legal point of view, the benefits of the Preservation of Vitis Vinifera, bearing gene information, which must be preserved for generations.

The study is a document, on the basis of which, can be made a more ingenious and forward-looking strategy for the development of the wine sector and in particular the cross-border region of Bulgaria-Greece.

II. OBJECTIVE OF THE STUDY OF EUROPEAN AND WORLD ACHIEVEMENTS CONCERNING ENDANGERED LOCAL VINE VARIETIES

The purpose of the study is to separate in one document the possibilities for implenation of good practices in the preservation of old local vine varieties, past test of time and proven positives, suitable for Vitis Vinifera with Protected Geographical Indication (PDO) and Protected Designation of Origin (PGI) from the cross-border region of Bulgaria – Greece. It is characterized by important natural resources, including a large number of protected natural sites. Local vine varieties are represented in the region on both sides of the border, building common ecosystems, requiring general protection and conservation measures. As part of an ecosystem, local varieties cannot be seen as a separate habitat and therefore a joint approach has been taken into consideration by the Interreg V-A Greece-Bulgaria CBC programme 2014-2020, and in particular the "SOS for Endangered traditional vine varieties" project. This study provides various cases with Vinifera and Sylvestris that deal with the history of vines, gained popularity thanks to institutional, technological, gene, social and other actions of scientific institutes, organizations, eminent persons and public authorities.

III. TASKS OF THE STUDY OF EUROPEAN AND WORLD ACHIEVEMENTS CONCERNING ENDANGERED INDIGENOUS VARIETIES OF VINEYARDS

1. Examination of types of preserved Vine varieties at European and global level, as well as the depth examination of practical measures applied and methods of different nature in specific varieties, sets a line of behaviour to serve as an example for the application of similar methodologies in the cross-border region of Bulgaria – Greece. Research in Italian, French and Chilean varieties, which are preserved successfully, will contribute to the removal of non-applicable practices in the cross-border region Bulgaria – Greece. For the most part, successful world varieties come from countries with deep roots in terms of winemaking and viticulture. It is not an occasional choice of Italy and France to derive positive practices. Their wine products are an emblem of quality, and research centres and prominent professionals in the countries concerned are proud of pioneering and, lead the line of conduct for the old and New world in the wine sector. Among the many literature and studies, it is possible to clearly distinguish an idea for the achievement and evolution of biodinamic methods for the production of wines, as well as the removal of local varieties for the regions concerned, as leading and necessary representatives of the regional ecosystem. Clearly advocates the positive opinion of specialists, in terms of local, adaptable and animals, entered into a single ecosystem, supporting their survival. The androgenic and economic activity of the people violate the habitat of numerous representatives of flora and fauna by introducing "foreign" development in the form of certified varieties and breeds. The "invasion" of the modern, but not local, representatives of foreign ecosystems in the Republic of Bulgaria are "aliens", as is the opinion of Dr. Tsvetelina Atanasova from the foundation "Information and nature conservation". Many organisations such as Wine Mosaic at Vinisud, through their scientific work, call for "habitats without invasive alien species and animals". Their activity is concentrated to wildlife conservation (Natura 2000), the implementation of nature conservation projects (Information and nature conservation, Wine Mosaic at Vinisud, Green Balkans), while taking care to solve the local people's important and livelihood problems. Good interaction with institutions and organisations at expert level in the regions concerned ensures the successful preservation of local ecosystems.

   This study is concentrated to obtain the necessary experience, knowledge and scientific evidence of the significance of the local Vitis Vinifera in the cross-border region of Bulgaria-Greece. At the moment, the need for preservation of the following varieties is clearly emerged: Tamianka, Keratsuda, Gergana, Dimyat, Misket Sandanski, Misket Red and other white indigenous varieties. In the red are distinguished Mavrud, Ruen, Wide Melnishka Vine, Pamide, Melnik Ruby, Shevka, Bouquet and others. Examples that can be learnt from Italian Nebbiolo and Garganega, from the French Carmener and Semillon, as well as the process of their preservation, can have an effective impact on the same procedures in the Bulgaria-Greece cross-border region.

1.1. Italy. The country where the wine is erected on the pedestal has 540 filed and protected variety and 20 distinct wine regions. Institutional and legal The Italians have signed some of the most effective measures for grading the varieties Vitis Vinifera, which makes their country

suitable for the production of good practices. With the law of 1994 and its working in 2006, Italy became the country that protected the most her local varieties with PGI and PDO.

Italy is one of the largest wine producers in the World and is home to some of the oldest wine regions. Its contribution is around 45-50 million hectolitres per year and represents about a quarter of world production. The Italians ranked fifth in the global list of wine consumption by volume with 42 liters per capita consumption. Grapes are cultivated in each region of the country, with more than one million hectares.

In 1963, the first official Italian system for classification of wines was launched. Since then, several amendments and additions have been made to the legislation, including a major change in 1992. The last change, which was taken in 2010, identifies four main categories of wine products that are in line with the most recent wine rules of the European Union (2008-2012). The categories, from the lowest to the highest level, are:

- Vini (Wines – informally referred to as "generic wines"): wines can be produced anywhere in THE EU, the label does not contain indications of the geographical origin of the grape varieties used or the harvest. (The label only takes into account the color of the wine.)
- Vini Varietali (Varietal wines): Generic wines, which are produced from a kind of authorised "international" grape variety, such as Cabernet Franc, Cabernet Sauvignon, Chardonnay, Merlot, Sauvignon blanc, Syrah, in whole or in the cupage, the content of which must be at least 85%. The variety or the blend, as well as the harvest can be indicated on the label. The difference is that the prohibition on the indication of geographical origin is maintained. These wines can be produced anywhere in the territory of the European Union.
- Vini IGP -wines with a protected geographical indication or IGP -typical geographical indication. These are wines produced in a specific terroir on the Territory of Italy. In the case of proceedings, a number of specific and precise regulations apply to local varieties, wine-growing and vinification practices, organoleptic, Chemical and Physical Characteristics, labelling instructions and other conditions. Currently exist 118 IGPs/IGTs.
- Vini DOP -Wines with a protected designation of origin. This category includes two subcategories: Vini DOC (controlled designation of origin) and Vini DOCG (controlled and guaranteed designation of origin). DOC must have been produced from plantations with a protected Geographical indication of at least 5 years. They are produced within a certain territory, which is a natural ecosystem for the climaticтe and geological characteristics of the Vines, of inherent quality and originality of local traditions in winemaking. In the production of Vini DOP are adhered to stricter production rules than guilt IGP. DOC wine can be raised in DOCG if it has been DOC for at least 10 years. In addition to complying with the DOC blame requirements, the DOCG wines must undergo stricter analyses prior to commercialization, including tasting by a specially appointed commission. The DOCG wines should also demonstrate higher commercial success. Currently, there are 332 DOCs and 73 DOCGs for a total of 405 DOPs.

The Italian DOC-Denominazione di Origine Controllata is a collective trademark for the classification and protection of quality wines produced in certain regions of Italy. Each doc

policy is subject to strict rules, approved by law for the Wine Production and ordinance on viticulture. The main purposes to be USED by each DOC are:

1) Identification of the Territorial Origin of the wine.
2) Earring per hectare.
3) Kontrol on the applicable wine production practices (fermentation, refining, packaging).
4) Overiting the main characteristics of the wine (aromatic profile, color, taste) according to the quality and origin of the grapes.
5) Protection of wine from counterfeiting and copying.

The positive of the legal measures applied, as regards the determination of wine products in categories in Italy are numerous. DOC play a very important role in the communication and promotion of wine as they provide the user with useful information. The user clearly begins to understand and recognize the name, variety and region in which the grapes are planted and the way it is produced. In other words, DOCs are the first basic tool for identifying and understanding the Terroir.

The applicability of the legal foundation unfolds over the years and thanks to distinguished wine experts and vine-growers, Italy creates a tidy system for planting, production, preservation of local varieties, correct labelling of the finished product and stable export. A small role for this is played by Instituto de Ciencias de la Vid y del Vino and other state and private organizations that set the framework of the existing law at the moment. Despite the problematics under the winemaking regulations in Italy is constantly being worked out, refining the order and looking for a maximum national, territorial, environmental, economic, social and marketing effect. The magnitude of these derivatives is difficult in view of the divergent and collision of the economic, national and environmental aspects of the issues raised by the business community, but it is a fact that the work on consolidation of the Italian legislative decisions has a positive effect on the promotion of local vine varieties on a European and global scale.

For negative or confusing measures of the existing legislation in Italy, the uneven territorial units that are defined may be accepted. DOCs only matter if the relationship between wine and trroir is strong and obvious. For this reason, any protected geographical indication should apply only to one wine region which shows at least three main characteristics:

1) The production area must be constant. Thus, climatic, morphological and geological conditions in the area remain the same, and local variations have no decisive impact on the nature of the wines. In accounting for small ecological-geographic features, such as different heights, changes in soil composition or the formation of a specific local orography, there is an opportunity for the definition of smaller sub-areas with DOC (PGI), within the already defined such a large area.
2) The wine-growing region must have recognised characteristics: wines produced within this homogeneous territory must clearly reflect the influence of natural elements peculiar to the territory itself. For example, if the grapes are grown near the sea, the wines must be salty in nature, if the vineyards are located in the mountains, the influence of the altitude should be obvious, etc.

3) The name must guarantee an indisputable quality. This means that the yield of the grapes must be limited to the point of guaranteeing the quality of the wine, as well as the maximum concentration of the vines in the area for which they are designated as local varieties and for them it is a natural habitat.

The choice that many manufacturers and consortia make when selecting a certain protected geographic region with DOC for their wines does not always meet these conditions. This fact is the result of too large DOC regions covering areas whose climatic, environmental and cultural conditions are not homogeneous and often diluted, rather than strengthening, the link between wine and the production area. This is one of the weaknesses of the PDO building system in Italy.

If we take a closer look at DOC Sicily (Sicilia) For example, we see that this designation allows producers to collect grapes, grown all over the island, mix them and produce wines. This production in many different places, without taking into account the specific characteristics of each production area, altitude, geological origin of soils, etc. contributes to the dilution of the organoleptic properties of wines according to the varieties supposedly produced.

With its territory of 25 711 km², Sicily is the largest island in the Mediterranean: planted with about 261 000 acres of vineyards, it is also one of the largest Italian wine regions (updated-Source: I numeri del vino, August 2017). This vast territory offers a huge variety of geographic and climatic conditions that affect wine production in Sicily.

The vineyards are planted on volcanic soils on the slopes of Mount Etna and on the smaller islands such as Salina or Pantelleria, grow on the slopes of the fortresses Nebrodi and Madonia at an altitude of almost 3 000 feet and cover most of the coastal areas of Sicily, or territories such as Marsala, Menfi and Ragusa. Temperatures, precipitation, geology and soil composition in such a vast area are extremely diverse. The wines produced in eastern and western Sicily are so different that the same grape varieties have a different adjustment to the uneven territorial conditions, and the grapes that produce these vines differ in their organoleptic terms.

The distance between Trapani and Noto is 162 miles, so is the distance between Barolo and Valpoliselella or from Valtelina to Friuli. However, The conditions for production, pruning, training and historical development of the viticulture between the two coasts of Sicily are extremely diverse. The wines Nero d'avola from Trapani and Syracuse are so different that it can hardly be said that they are made from the same variety of grapes, but by consuming Aglianico del Vulture and Taurasi di Avellino, the user accepts its qualities for the whole region. Therefore, it must be assumed that wines produced from the same variety of grapes, coming from the same wine regions must have different PGI on the labels, thereby helping the consumer to understand why the two wines are so different, albeit from one variety. Microregioning is a necessity, which is currently being worked on and the Ministry of Agriculture in the face of the expert Prof. Fortunato Campanella, will soon come up with a proposal.

According to recent surveys, the big names clearly pose a big problem to the consumer: for example, reading the label 'Nero d'avola ' Sicilia, does not provide much information. It is impossible to know exactly where the grapes are harvested, near the sea or in the mountains, in the hot plains or in the center of Sicily. It is also impossible to know whether these grapes have been harvested in the same wine zone or if they have been harvested from different regions and then mixed, which varieties have been selected. It is not possible to understand whether the characteristics of this wine derive from the local varieties in it and its link with the terroir or are the result only of a characteristic ' wine-making style '. Whether or not they reflect the specific character of the grape variety, or derive from the adaptation of many vines with different production areas. Briefly, the reading of Nero D'avola-Sicilia does not provide any information about the terroir and therefore the origin of the wine .

The decision to which the Italians arrived in Sicily was the creation not only of the name DOC Sicilia: 23, but also smaller SICILIAN DOC, which focus on areas that are more homogeneous, both geographically and culturally. Insivisimo, whether the areas are almost unknown and not used by many of the winemakers in Sicily, these designations are the real starting point for discussing the terroir.

The Italian system generally favours the work of PGI from small territorial units with little known name. Manufacturers have to solve not a few technological problems, but difficult marketing has been assisted by the State for at least the first three years. DOC Menfi is an example of PGI and PDO, which is difficult to promote and can be compared to the Bulgarian region on the territory of South Sakar, where Tamynka, Pamid and Dimyat have found their natural habitats and have been adapting and developing for centuries. Menfi Actually, is a very small village, lost on the map of the largest island in the Mediterranean and practically no one has ever heard of it. In the beginning it is difficult to explain why Menfi is different from Noto or Trapani, from Valledolmo or Caltanicheta, which are nearby. The same we can say for the region of South Sakar, which is located in a single distribution, territorial unit at the moment with Yambol, but the characteristic of the geographic and climatic characteristics of Harmanli and the region south of Plovdiv, create different in quality and character grapes of identical varieties.

Menfi becomes popular thanks to micro PGI-IGT Sicilia. The division of the broader name of DOC covering the entire territory of the island. This is a measure that creates conditions for working with specific terars. As an example of success can take the fact that, for the harvest 2017, the authorized yields for Nero D'avola and Grillo DOC Sicilia are elevated to 140 tons per hectare, which raises the attention to DOC Sicilia and the area. Active government regulation leads to positive results.

In Italy there are twelve wine regions, which correspond to the 12 administrative units, and there are sub-regions. The history, terroir and characteristics of each region are carried through the marketing unity of history and winemaking on the respective local grape variety and create a single picture for taste in the consumer. As is expressed Michel Rolland – Enologist

and Wine Technologist –... "A complete fairy tale from the paver through the food to His Majesty the Wine".

In Italy are registered 73 DOCG. Most are Concentrated in Piedmont, Lombardy, Veneto and Tuscany. There you can find the famous Barolo, Barbaresco, Prosecco, the eternal Chianti and Soave in Lombardy. From central Italy emanate Primitivo and Sagrantino, Venice is proud of her Pinot Grigio. There is a tendency in the regionations that took place from the northwest to the southeast from a historical point of view.

Pic. 1 regionalization in Italy, DOC.

1.1.1 Vitis Vinifera Nebbiolo. The variety is a representative of northern Italy, the Piedmont region. VIVC number 8417. First dating of the variety was made in 1268. Almost lost, the red variety, in the 19th century as a result of the Philoxera epidemic, today it represents 3% of the European plantations and is a protected local variety with PDO from 1994, with the addition of its branches since 2004. The Italian variety and the history of its preservation and popularization are interesting and can be taken as a practical basis for work on creating PDO of Bulgarian varieties such as Mavrud and Wide Melnishka Vine.

Nebbiolo or Nebieul (Piedmontese) is an Italian red wine variety, predominantly linked to the local Piedmont region, where it produces wines with Denominazione di origine controllata e garantita (DOCG) from Barolo , Barbaresco , Roero , Gattinara and Ghemme. It is believed that Nebbiolo derives its name from the Italian word Nebbia which means " fog ". During harvesting, which is usually held at the end of the OOctober, the region of Lange establishes a deep, intense fog, where many vineyards are located nebbiolo. Alternative explanations refer to the milky veil, similar to a mist, which is formed on the grains when they reach maturity, or that perhaps the name derives from the Italian word nobile , which means noble. From nebbiolo is producedt lightly colored red wines, which can reach high tannin

values, with aromas of tar and roses. During ageing , the wines Nebiolo acquire a characteristic color-an orange tint-and ripen to reveal other aromas,such as violets , tar, wild herbs , cherries, raspberries, truffles, tobacco and prunes. Nebbiolo wines often require years of ageing and camp in the cellar to balance tannins with other characteristics and to form a homogeneous whole.

According to Ampelographs, Nebbiolo is indigenous to the Piedmont region, although some DNA evidence suggests that it may have originated in the eastern parts of Lombardy. During the I-st century b.ch. Pliniy notes the exceptional quality of wine produced in the Polenco region, located to the northwest of the current Barolo Docg area. While the author does not explicitly indicate the grapes responsible for the wineѕта of the Polenco, descriptionто of the wine product bears similarities, with the later descriptions of wines on the basis of Nebbiolo, which makes this process potentially the primary designation of wine produced by Nebbiolo in the Piedmont region. The first explicit mention of the Nebbiolo dates back to 1268, in which a wine known as ' Nibiol ' was produced in Rivoli near Torino. The later discovered expense account of a wine maker in the Roero area, where the variety is described as a barrel "Nebiolo", carries additional information on the territory of the variety. In the treatise 1304 liber Ruralium Commodoru, Italian lawyer Pietro Crescenci, describes the wine from "Nubiola" as excellent in quality. In the XV-th century the joints in the region of la Mora (in the current Barolo area) show the high respect that the Vine Nebbiolo has in the area. According to the laws, the penalties for the felling of vine plantations "Nebbiolo" started with a heavy fine and reached with right hand cutting.

Grapes for the first time attracted attention outside Piedmont in the XVII century, when the british searched for alternative sources of wine due to protracted political conflicts with the French. The lack of easy transport from Piedmont to London preserves the Piedmont wine, despite the willingness of the British to export it. In terms of time, the plantations of Nebbiolo continue to grow in the IX-th century, to епидемията the philoxera epidemic. With huge stretches of vineyards devastated by the lice, some owners decide to plant their lands with different varieties, such as Barbera for example. Today Nebbiolo covers less than 6% of vineyards in Piedmont, and for this reason its planting and cultivation is supported by the State in the form of various grant schemes, announced within a 5-year period, starting from 2000 onwards. One of the measures is the provision of propagating material of built experimental fields with Nebbiolo directly in the region of Piedmont. The marketing, which takes place on grapes, is based on the historical characteristics of the variety and its deep roots, which makes it a unique local variety with inexhaustible qualities.

In 2004, thanks to the joint research of the University of California – Davis and the Agrrio di San Michele Institute, it was found that Nebbiolo was connected to Piedmont, through two aromatic grape varieties – FIIs from Piedmont and the French variety of Rhone Viognier. This study questioned the origin and the relationship between Nebbiolo and several Italian varieties, which, according to these data, actually derivesfrom it. Such are: Freisa, Bubbierasco , Nebbiolo Rosé and Vespolina from the Piedmont region, as well as the grapes Lombardy Negrara and Rossola nera. Additional DNA analysis shows that the relationship between Nebbiolo and the listed varieties above is both between parents and offspring. This

fact proves how important the historical demonstration of indigenous varieties is to be linked to scientific evidence. The protection of local varieties in the cross-border region of Bulgaria-Greece at European and world level must be established as the territorial traditions and historical descriptions of both varieties AND DNA analysis, which will jointly demonstrate, in a indisputable way the terroir dependence and genetic evolution of the studied vines.

This research is linked with the elaboration of an integrated strategy for management and protection of local bio diversity of local vine varieties in the cross-border region of Bulgaria and Greece. This allows the preservation of the variety Wide Melnshka vine and Melnik Ruby on the example of Nebbiolo. DNA analysis and demonstration in undeniable way of the qualities of the grapes from the Blagoevgrad region, as well as its deep historical roots will lead to its popularization as a local variety.

According to Ivo Dvorak, Oenologist, Blagoevgrad region brings historical information far ahead of the famous old Europe for the Italian and French varieties. The problem is that there are no studies done after 2000 year, when the technique allows to extract far more information and draw the appropriate conclusions. It is possible that the Wide Melnishka Vine actually holds a link to some of the oldest vine varieties in Europe, such as Gouais Blanc, which is already extinct and Pinot Noir.

More and more prominence is gaining and the open by Prof. Ovcharov Ancient Vine at the foot of the Tracian sanctuary "Tatul" near Kardzhali. The analyses of the three institutes, in which were sent cuttings for research – the Wine Institute California, Agrobioinstitute to Agricultural Academy and the Institute of Vine and Wine in Pleven, are unanimous that the vine is an Aboriginal cultural variety. The seeds of grapes found were dated from around 3000 years. The name of the variety is "The Tears of Orpheus" and the research on the fetus, they say, a combination of taste qualities of Mavrud and Cabernet Sauvignon, in sugar of 26%, which is considered high.

The connection of the vine with the region of Kardzhali and the Thracian cult center "Tatul" should undoubtedly be used to promote European and global scale. In 2014 in the Belogradnec were planted 5 decares, with the ancient vine and at the moment they are fruitful. On the market, however, there is still no wine bearing the vine name, it is not presrvated, there is no PGI or PDO and in general there is no production or marketing to promote the discovery.

Compared to the annual growth cycle of other grape varieties Piedmontese, Nebbiolo is one of the first varieties to be harvested from mid to late October. To support maturation, growers often plant Nebbiolo in the most favoured places on the southern and south-western slopes, which provide higher intensity of sunshine. For the most favorable altitude for the Nebbiolo is considered between 150 and 300 meters, at the windward side of the slopes. Vine is very susceptible to mildew, especially if there is wet weather during bloom or flowering . While the rains during this period can affect the yield and the amount of positive, rainfall that occurs after the retention period can have a detrimental effect on quality. The most highly rated bottles of Piedmont, with Nebbiolo usually come from harvests, which are characterized by dry weather in September and October. Nebbiolo needs enough heat to develop the sugar

and fruity aromas needed to balancing the natural high acidity and tannins of the grapes. In cooler climatic zones, such as the sub alpians areas of Karma, Valtellina and Donnaz , grapes produce medium dense, wines with fortified acidity and tannins, which need high intensity of sunshine.

This characteristic in the examination of Nebbiolo resembles the requirements of Wide melnishka vine and Mavrud. When properly separation and regionalization of the territories to be planted with the respective varieties, the quality of the final wine product is expected to be very high in the DOC standard.

Nebbiolo does not adapt particularly well to different types of vine soils, preferring soils with a high concentration of Limestone Marglsuch as those located on the right bank of the river Tanaro around Alba, where Barolo and Barbaresco are produced. Grapes can flourish in sandy soils, such as those on the left bank of Tanaro around the Roero region, but the wines of this type of soils are usually not so aromatic- particulary the classical aromas of tar, the slightly acidic ph of sandy soils near Roero and their solicitation to produce early ripe wines are lacking. The fine wines of the variety come from the acidic porphyry soils in the hills between Novara and Vercelli. In the Valley of the lower part of the Aosta, soil there have high concentration of granite, while the soils in the region of Lomberdia are primarily based on slate. In general, the quality of wine from Nebbiolo influences the soil type, the drainage capacity and the concentration of magnesium and potassium.

A brief description of Wide Melnishka Vine would make the Nebbiolo's parallel more clear.

The variety does not claim to the substrate, but requires a total temperature sum of over 4000 ° C to mature. It's not cold-resistant, and it's pretty late ripening. The grape harvest starts in the first half of October, but sometimes later. In order to develop properly, the variety requires a high temperature sum during the vegetation period of spring, hot summers, long, warm, dry autumn and relatively mild and warm winter. It is not particularly resistant to gray rot and other economically important diseases. If the climate is suitable and the grapes ripen well, it achieves good sugars between 20 and 24 ° and sufficient titratable acidity-6-8 g/Cub. Dm. In general, it is very difficult to reach good ripening. That is why most of the winemakers who know him believe that it is better to develop his early cross Melnik 55.

The wine from a Wide Melnik vine has a specific character and aromas, and is distinguished from the wines of other varieties. It feels a combination of strawberries, white cherries, pitted, which according to the location, the degree of ripening and the ways of vinification and ageing can be supplemented or dominated by tobacco, dry mint and black pepper. Contrary to legends, the color of the typical wine from a wide melnik vine is not ink black, but rather a transparent ruby to dark crimson.

The wide Melnik vine is an old local variety, in the area of the town of Melnik, hence its name. It is endemic-botanical species, distributed only on the territory of southwestern Bulgaria and more precisely around Sandanski, Melnik, Petrich and the Villages Hursovo, Marikostinovo, Kapatovo, Vinogradi, etc. It is probably also spread throughout northern Greece and Macedonia, but this has not been proven for sure. His attempts to be carried and cultivated

in the other regions of Bulgaria are not yet successful. Wide Melnik Vine is a late high-quality red variety. It is well developed on sloped light soils facing south. Gives regular yields on long pruning, the grape is medium large, semi-concise to concise, conical, sometimes winged. The grain is medium-sized and the skin is dark blue. It offers high-quality wines.

The physiological description of the peculiarity of the cultivation of Nebbiolo is strictly specific. Not the same, but equally specific are those of the Blagoevgrad region and the valley of the Struma River. Differences are mighty, but the dynamics and nature of the varieties clearly suggest that the methods of cultivation can be borrowed or supplemented with the aim of perfectionism. The typical for the late harvest specificities in Piedmont is also seen in Blagoevgrad region. The mineral composition of the soil is different, but in general the traditional farming methods are identical.

In 2012, after France made adjustments to its AOL, Italy started a project with CNR's agro-food department; Enocontrol; Enosis, which is held in the laboratories of Gemforlab.

A so-called Integrated Technology Platform is created to support the quality and identity of the typical Piedmontese wines. The aim of the project is to provide an integrated technology platform to support the production of typical Piedmont wines in terms of quality and identity, there by achieving organoleptic constancy according to the terroir characteristics of the wines. For this purpose Gemforlab do the analysis of proteins, nucleic acids, viruses, and fungi located in the territory of Piedmont. The methodology consists of an analysis of three registered branches of Nebbiolo reared in different health status: healthy against viruses and under different environmental conditions clay against sand and slope relative to the plane. The analysis of the effect of various environments and viral infection on the phenological stages, brings out interesting results. At the vegetative stage, the behavior of the vines is registered. The samples of the ripe grape are collected during harvesting to determine the composition of juices in the grapes as Soluble solids, Ph, tartaric and malic acids. The evaluation focuses on the skin of the grains and polyphenols from the seeds, such as anthocyanins, flavonols, catechins, stilbenes, and aromatic precursors-norisopoids. In the same samples of protean analysis was performed and the 2d protein cards of the grapes were compared. The sampling of the soil and the roots of the vines was carried out in order to assess the mycosing activity of the roots of healthy and contaminated plants Grown in both environments, as well as Arbucular myocorises (AM) fungi present in vines planted next to Nebbiolo.

The clones are characterized by morphological and molecular techniques. The phytosanitary status of the vineyards under supervision is observed, with particular emphasis on viruses and yellow phytoplasmas. The wines are analysed, taking into account the type and quantity of phenols, after which they are graded by sensory evaluations-color, bouquet and taste. Nebbiolo's specific protein markers are characterised by performing protein screening and identification through 2DE AND LC-MS/MS. Thus, the survey system covers wine, grapes and soils.

The reported results, thanks to the attached integrated approach involving the use of genomic and proteomic techniques, allows to identify the links between:

1) The viral infection in the vineyards and the quality of grapes and wine from Nebbiolo;
2) The different environments (slope, soil and climate) and the growth of vine, the yield and quality of wine from Nebbiolo.
3) The sanitary status of the clonal vines, the different crops grown in the immediate vicinity and the way they enter the ecosystem. All grapeseed and Wine proteins are considered, with particular attention to the identification of markers for typing in grapes and allergen proteins in wine.
4) Composition of the mushrooms in the soil arbucular mycorrhiza (AM) and the productivity of the clonal vines in different growing environments.
5) The sanitary status of the vineyards and the quality of the grapes and wines in relation to their protein content and the soil fungal composition.

Advantage of the methodology: the integrated approach allows for a better study of some of the factors that may influence the quality and varietal identity of DOC AND DOCG Wines produced by Nebbiolo (i.e. Barolo, Barbaresco, Roero, Gattinara, etc.), characterized by the areas of production, culture and the finished product.

The study was helped by wine organizations such as SAFAN – Bioinformatics, Fondazione per le Biotecnologie and Vignaioli Piemontesi.

The result of the pomegranate study is the drawing of techniques for planting, cultivation and landscape processing and the preparation of the Piedmont region. The tracked data show an increase in the qualitative characteristics of the grapes, the preservation of the relatively constant amount of crop and the recognition of the terroir characteristics of the wines. These criteria are exactly those that consumers are looking for. The examination and introduction of the said methods has an extremely positive influence not only on the quality of the wine, but also on the final customer, which increases the demand for wine product and bears a positive rating on its popularity.

Such a study would lead to exceptional results in the Mavrud, Pamid, Rubin and Gamza varieties.

The examples mentioned above, for solving problems of the preservation of Nebbiolo, as a local, Italian variety with PGI and PDO, from historical, scientific, economic and political point of view, can serve as an example when starting the same process for varieties from the CBC region Bulgaria-Greece.

1.1.2 Vitis Vinifera Garganega. This is a white variety from the Veneto region of Italy, whose history may be an example of a positive outcome of institutional efforts. Garganega is taken as a variety of white Italian varieties, which are grown mainly in the provinces of Verona and Vicenza in northeastern Italy. The variety is the third most widely planted white species in the country. It is the basis of the Venetian white wine Soave, and is also a major part of the mixture used for the production of Gambelara. DNA Typing Studies in 2003 and 2008. ,confirm that the Grecanico Dorato (grecanico) grapes from Sicily is identical to the Garganega, as well as three more branches, which makes the mother variety of a number of

modern vines, as well as one of the oldest indigenous varieties on the territory of Italy. The study contained thorough research and data gathered during the research of varieties in Italy and their preservation.

"Sangiovese" and "Garganega" are two main varieties of the vine, thanks to its evolution in terms of assortment. The two varieties have been proven thanks to two of 11 SSR markers: "Garganega" and "Grecanico do-Rato", "Catarratto Bianco Comune", "Catarato Bianco" "Lucido" and "Catarratto Bianco extra Lucido". Molecular data from a total of 36 extracted DNA pairs show that "Sangiovese" and "Gar-Ganega" represent two key varieties in the evolution of the pellometric assortment, as both have a first-degree relationship with numerous vine varieties on the territory of Italy.

"Sangiovese" shows this link with ten varieties: "Foglia Tonda", "Frappato", "Gaglioppo", "Mantonicone", "More-Llino del Casentino", "Morellino del Valdarno", "Nerello Mascalese", "Susumaniello", "Tuccanese di Turi" and "Vernaccia Nera del Valdarno". The result is seven varieties closely related to "Garganega": "Trebbiano Toscano" "Ugni Blanc", "Albana", "Empibotte", "Malvasia Bian-Ca di Candia a Sapore semplice", "Marzemina Bianca", "Catarratto" and "Greco del Pollino".

The problem with the challenge of the origin of "Sangiovese" leads to disagreement also with regard to the origin of "Garganega". The preparation of genealogical schemes, contributes to the clarification and resolution of the problem as early as 1999.

Research on Vine varieties in recent years with the help of micro-development markers (SSR), contributes to clarifying the development of the current ampelographic status of the vines. One of the most interesting examples is the nucleus of the origins of dozens of French varieties from a single parent, "Pinot" and " Gouais". This explains why they have lower variability compared to groups of varieties in other countries with strong wine-growing traditions and, using specific viticulture methods, they can be precisely impleated in different terroir areas.

"Sangiovese" and "Garganega" are old wine varieties, and are grown extensively on the territory of Italy. Garganega is predominantly found in the Veneto region, in the provinces of Verona and Vicenza. The "Garganega" was first mentioned in a work of S. Oderini (1590) as "Sangiogheto"; in fact, this is the most commonly cultivated red grape variety in Italy. The variety is the basis for the production of famous wines such as Chianti and Brunello di Montalcino. "Garganega" is famous and its dating is even before the "Sangiovese", as the Italian Wine Institute established.

The hypothesis that Garganega is a generative variety with generations over the years is plausible due to the research made on other varieties of the same terroir. After comparing the molecular profiles of a number of varieties, it becomes clear that "Sangiovese" and "Garganega" are the source of varieties such as Trebiano, "Ugni Blanc", "Catarratto", "Albana", "Frap-Pato", "Gaglioppo", "Nerello Mascalese" and "marzemina Bianca". Similar genotyping markers and repetitive references shown by the Centro di Ricerca per la Viticoltura and data gathered on the basis of the scientific method confirm to the world the need for the Prezervaciâ of the variety Garganega. Independent study, by increasing the molecule and by

the nuclear SSR in genotyping with 11 SSS locus, at 22 genotyping species, is only the first base of which the wall is based on the genotype, the origin and the dating of Garganega. The second step that the Italian specialists take is to recognize the origin of the variety from an even older, already extinct variety "grecanico Dorato" Whose molecular profile is identical to that of Garganega.

In order to find possible etymological links with regard to the origin of the variety name and to avoid the dispute over the Greek origin, the molecular profile of Garganega has been compared with the entire database of *Vitis* of the Centro di ricerca per la Viticoltura of Conegliano (Italy), University of California, Davis (USA) and the University of Crete. As with genotypes from various references in the literature "Garganega"/"Grecanico Dorato" is different from all other varieties.

The struggle to prove the primitive and territorial modality of Garganega lasted from 1992 to 2000. This struggle reminds of the allegations of winemakers and Vintsmen from South Sakar, who insist Tamyanka to be protected as a native Bulgarian variety.

Tamyanka is a medium-early wine variety. Grapes ripen in the first half of September. It has average growth, good cropping and average yield. It is sensitive to decay and cold. Grapes are suitable for the preparation of high quality dessert wines, which are distinguished by dark golden color, density and fine misket taste.

The origin of Tamyanka is considered to be the lands of the Middle East – Syria, Iraq, Egypt, Iran and others. The largest areas occupied in France, Italy, Portugal, Spain, Hungary, the countries of former Yugoslavia, Bulgaria, Romania, Ukraine, USA. The variety is distributed under different names in almost all wine-growing countries. In Bulgaria it is regionated and has large areas it is known by the names: Pansy (Vratsa), Muscat de Frontignan, Muskat Blanc, Petit Grains, Muskat roze a Petits Grains (France), Muscato di Canelli (Italy), Tamaioasa (Romania), Tamminika (Serbia), Muscat Whitly (the countries of the former Rusian Federation).

Tamyanka is a white variety, with exceptional qualities in the otnošene of aromas, has circumferences, freshness and intense slightly yellowish color. It is often confused with the French Petits Grains, but it is actually an old local variety for the southern Sakar region.

Features that distinguish from Muscat de Frontignan, Muskat blanc, Petit grains, Muskat roze and Muscato di Canelli are as follows:

Medium-early wine variety, unlike Petit grains. Ripens in the first half of September. After ripening the grapes raisining and develops well on light humus-carbonate, sandy-Clay or pebbly soils in hilly airy terrains with good sunlight. The vines have average growth, good cropping and average yield. The variety is attacked by gray rot and especially strongly by the vine mite. It is poorly resistant to low winter temperatures. The average yield from Decar is about 800 – 1000 kg.

The grape is medium large (120 – 160 gr.), cylindrical to cylindrical-conical, semi-concise to concise. The berries are medium, spherical. The skin is thick, rusty, or golden yellow with a

tan, with typical small black dots. The meat is juicy, with a harmonious taste and a strong incense twist.

The grapes accumulate many sugars – 20 – 26%, with titratable acidity 6 – 8 g/CU. DM. The raising proces and accumulation of high sugar make the grapes suitable for the preparation of high quality semi-dry and sweet wines, which are distinguished by dark golden color, density and fine Misket-incense aroma.

Variations of sweet wines are made in different countries, such as Tamyanka. In Italy, this is the famous wine "Asti Spomante", in the Crimea – "Livadia", "Magarach", "Gurzuf" and "Castel".

In Bulgaria private wineries from South Sakar in the area of Harmanli have plantations and produce wines such as Bratanov, Bassrea, Dzemperliev and others. Currently in Haskovo region, the data of EAVW has 580.639 decares of Tamyanka.

The present research and the inextricably linked integrated strategy for management and protection of local bio diversity in the cross-border region of Bulgaria-Greece are a convenient moment for preservation and registation the variety as Bulgarian native. The example mentioned above with the Italian variety Garganega and the use of modern scientific methods for proving the gene dependence of Vitis to a terroir can be applied to the variety of Tamyanka.

1.2 Endangered indigenous varieties in France.

France is not only the most famous winemaker country in the world, but also represents one of the oldest wine regions in the world. The ancient Romans began to grow vines in France around 125 BC. As the most plantations there was on the Rhone Valley and Bordeaux. Ancient ruins to this day are evidence of Roman ingenuity and love for wine. The existing evidence of the ways of growing vines and the methodologies of wine production impress historians and oenologists. The search for suitable terroir for the cultivation of vines is not a novelty, as early as the 1st century there is a tendency to use slopes with exfoliates drainage and high intensity of sunshine for planting vines.

Today, France is second only to wine production in Europe, Spain has made exceptional investments in the vine sector and the results are on the face – the country is the first place in 2018. Naturally China also produces wines, but it is also the largest importer. France continues its state policy on sowing vineyards and currently has 11% of the world's plantations.

Currently, there are 792 000 hectares of vines planted in France, which is 69 000 hectares less than 2009 G (10 years). According to official data of FAOSTAT currently France produces between 7 and 8 billion bottles of wine per year, which makes the country one of the leaders and the imposing "fashion" among the consumption of wine. The latest figures show that 85 of the most popular wines among consumers is produced in France. This fact makes the country's most successful marketing wine market proven by high export levels to all points of the world.

Acording to EU in numbers: Spain has 1.02 million hectares, China, 799 000 hectares, France, 792 000 hectares, Italy, 690 000 hectares, and Turkey 502 000 hectares.

If we look the produced quantities of wine in France, 70% are red and 30% white. The most important areas with PGI and PDO are: Alsace, Beaujolais, Bordeaux, Burgundy, Champagne, Corsica, Jura, Languedoc-Roussillon, Lori, Provence, Rhône, Savoy and southwestern France. Only in Bordeaux are produced more than 450 million bottles of wine per year, in 90% red wine and the remaining 10% White.

The distribution by region and terroir in France determines 60 of the most important grape varieties, from which are produced wines with PDO, representatives of emblematic varieties, extremely popular among consumers such as Cabernet Sauvignon, Pinot Noir and Chardonnay.

Table 1. Distribution of vine-growing in France by variety, by the data of the FAOSTAT.

No	Variety	Planted area/in hectares	Percentage ratio/%
1	Merlot	116 715	13.6
2	Grenache	97 171	11.3
3	Ugni Blanc	83 173	9.7
4	Syrah	69 891	8.1
5	Carignan	59 210	6.9
6	Cabernet Sauvignon	57 913	6.7
7	Chardonnay	35 252	5.1
8	Cabernet Franc	37 508	4.4
9	Gamay	31 771	3.7
10	Pinot Noir	29 576	3.4

Thanks to the French law, AOC for production measures are imposed in relation to the name of the wine product according to the terroir and the contents of the liquid. It is allowed to produce blends, but in Burgundy, for example, the Pinot noir variety must be used in the manufacture of wine with the name "Burgundy". Chardonnay is the only permissible grapes, in white wines for the same area.

In Bordeaux the majority of wines are mixtures of typical for the region vines. There are also microregions, such as St Emilion and Pomerol, which are in Bordeaux, some of the most famous producers making wine from 100% Merlot, or as a winery in the castle Pessac Leognan, which produce wine from 100% Sauvignon Blanc.

In the Sotern , 60% of the winemakers produce wine using 100% Semilion. The choice of whether or not to blend wine is dependending on the AOC law, the terroir and the wine maker's vision. In the planning of variety diversity are taken into account soils, terroir, weather conditions that affect the quality, character and style of the wine. This is precisely what is controlled by law, in order to create a framework, a picture, a face of french wines, to be recognizable worldwide by consumers. That's how the French terroir is shaping up.

Terroir is more of a concept than a specific recognizable trait. The terroir covers countless important natural conditions, including: soil, altitude, number of sunny days, temperature amplitude, average-yearly rainfall, flora, fauna, microclimate in the area of the plantations, etc.

Recent methods of planting in France focus on the logic that the planted vines must compete with each other for water and nutrients. This competition forces plant roots to penetrate deeper into soils, helping the vines to sustain their life in dry periods and produce lower yields, but with more concentrated content in bunches. The best results are observed in plantations with gravel terroir, planted 10 000 vines per hectare. This means that in each row the vines are planted at a distance of one metre. Along the right bank of the Loire River and at terroir with more clay and limestone, the planting density is smaller, with averages of 6.500 vines per hectare to 7500 vines per hectare.

There are exceptions to each rule. For example, the Chateau Ausone, where plantations are 14 000 vines per hectare and Jean Philippe Janoueix , with plantations of 20 000 vines per hectare. The record for the highest level of planting vines belongs to the Dominique leandre Chevalier in the Cotes de Blaye . They have 3 hectares of array planted with an incredible 33 000 vines per hectare. Domaine Leandre Chevalier produces several wines, blended at different intervals, such as "Tricolore" is the most famous, produced with the help of 100% Petit verdot.

The uniqueness of the terroir, in different parts of France and the desire to create a distinct wine map of the country are the reason for the creation of the AOC system-Appellation d'origine Controlee.

The most famous classification of French wine is made in 1855, the year in which the Bordeaux variety is given PDO. The clasification from 1855 reports only 61 different varieties distributed in areas, with wines sorted according to their price and quality in five different classes.

This classification is processed every 10 years. Thus the white Bordeaux of the Sotern was beautified in 1855 and St. Emilion in 1955.

In 2012 a new change was made, based on data exported for wine varieties and the status of wine exports by the expert oenologist T. Graves.

In 1935, INAO, the Institut National des Appellations d'origine, defined the strict, specific, names of the regions and varieties belonging to their terroir, which would help the user to orientate easily in the quality and origin of the wine. This enormously provokes the producers and creates a competitive environment, which in turn is the basis for innovation and striving for perfection.

The AOC system. Appellation d'origine Controlee is used not only for wine products, but also for agricultural, food, etc. The idea is that the place where the product is produced gives it qualities with a unique character and style. Today only in the Bordeaux region, 60 different names can be found.

In addition to creating the appeal system, in 1935 INAO also signed a series of French laws and created the first four main categories, or classes of French wines. Subsequently, these categories are further improved over time.

The original categories of French wines are:

- ✓ Vin de Table-wines with this name originate in the territory of France, which is indicated on the label. Wine is produced from all sorts of vine varieties. By law, the producer is not obliged to indicate the grape varieties, crops, regions, designations or production techniques on the label of that wine. There are no restrictions in respect of grapes, vineyard management or production techniques used to produce Vin
- ✓ Vins without PGI -Vsig is the new classification for wines Vin de Table. VISG wines may use the name of the country, but not the specific grape variety, year, name or region of the label although they are purely varietal. This is because of the lack of registration of the arguments or proof of the identity of the vine varieties.
- ✓ Vin de Pays-VDP-the wines using the name Vin de Pays are produced from a specific, large wine-growing region and the name of the producer and the country is indicated on the label. Vin de Pays allows more information to be placed on the label, including the area and variety in which the wine was produced. There are very few restrictions in the production of wines sold as Vin de Pays.
- ✓ Vin Delimite de Qualite Superieure-VDQS is rarely found today. Less than 1% of all French wines bear the designation VDQS on the label. Vin Delimité de Qualite Superieure is similar but less restrictive in its rules and regulations for grape varieties, terroir and manufacturing techniques. VDQS wines are considered to be produced by a recognised area which has not yet been approved as a designation by the AOC.
- ✓ The Appellation d'origine Controlee-AOC accounted for 53.4% of all wines produced in France. Today more than 450 separate and potentially different AOC are currently used in France.
    - There are a number of rules and regulations that are accompanied by the classification, such as AOC wine. This includes restrictions on the specific geological areas where the vines are grown and the wine is made, together with the type of acceptable grape variety, planted in the vineyard.
    - There are also specific, consistent production methods, minimum levels of alcohol and maximum yields, age of vines and minimum planting density. There are rules and techniques for harvesting, vinification, along with restrictions on where the cellars should be located.
    - In some cases, freedom is given to the producer in order of techniques for planting and cultivation, but this fact is related to the protection of a specific habitat in a region or the functioning of a biodynamic farm.
    - In addition to the classification of names and varieties in vineyards, according to the specific name or the CAO, vineyards with vines are also classified in France. The most famous of these classifications is the Medoc classification of 1855, as Burgundy and St. Emilion have their own system for classifying vineyards within the wineries.

- While Bordeaux is the most classified wine production area in France, Burgundy is the second largest winemaker.
- The classification of the Bourgogne Vineyards:
- The main fact, which distinguishes the classifications of Burgundy and Bordeaux, is that in Bordeaux, with the exception of St Emilion, the wineries and producers are classified, while in Burgundy is classified the terroir.

✓ Grand Cru is the highest-ranked status in Burgundy. There are not many vineyards that have the status of the Grand Cru. Only 2% of vineyards in the entire Burgundy region are classified as Grand Cru. Only the vineyards with classified conditions are listed on the label. The Grand Cru wines are produced from the lowest gains of all classified burgundy wines.

✓ Premier Cru is a lower level. Nearly 12 percent of all Burgundy vineyards are classified with premier Cru status. For Premier Cru Wines, the name of the region is first seen, then the specific vineyard and finally the cellar on the label. If the wine is produced from multiple vineyards from a winery, the consumer shall be provided with information only on the name of the variety and the wine cellar.

✓ Regional wine is the lowestlevel of classification in Burgundy. It shall indicate on the label only the name of the wine. This is because the liquid is produced from multiple vineyards. It is quite common, as many of these wines are produced by countless villages and vineyards. For wines produced by a village and a vineyard, this information is clearly placed on the label.

- Regional wines are not produced under the same rules and conditions as higher levels of classified burgundy wines.
- Chablis, also has its own grading system, though, is within Burgundy. Overall, the classification is quite close to the established. Although there are a few differences. Chablis has 4 levels of classified status: Grand Cru, Premier Cru, Village Chablis and Petit Chablis.
- Beaujolais is the next exception and has its own classification system, although they are also in Burgundy. The wines Beaujolais have the following different levels of classification: Beaujolais AOC/AOP, Beaujolais Villages and Beaujolais Cru.
- Champagne's classification system is unique. Interestingly, the classification of sparkling wine takes into account the level of quality of grapes, along with the terroir and soil. In Champagne, the best wines are classified as Grand Cru Champagne, followed by Premier Cru Champagne.
- The wines from Alsace have two levels of classification, Grand Cru and Alsace AOC/AOP.
- In 2012 a new classification system for wines from France was created to replace the previous, outdated classification. It is based on three levels instead of four, indicating more information on the label in order to user awareness. Additional labels attached to the neck of the bottle are also allowed.

The new categories, which are classified in France, are:

- Vin de France-This new classification, which replaces Vin de Table, allows the user to obtain much more information about the wine. Wines with the designation Vin de France shall have information

on the label for the type of grape variety used for the production of the wine and the specific harvest. Except for the country, information on where the grapes are from is not allowed. It is important to note that there are some wines Vin de France which have very good quality and high price.

This is because some wineries are forced to use the Vin de France classification because they have violated the law of the name. For example, if a variety which is not authorised for cultivation and vinification in the wine-producing region is included in the blended wine, or the vineyard management techniques do not comply with specific regulations of CAO.

- PGI – IGP replaces Vin de Pays. IGP Wines offer producers a lot of choices for blending, as there are no restrictions on grape varieties. The label remains the name of the wine, the producer country and the harvest.
- Appellation d'origine Protegee-AOP is intended to replace the previous important classification of CAO, Appellation d'origine controlee. In this classification nothing else has changed, except the name.
- Organic and biodynamic wines are now certified. To be a winery declared as Biodinamic with organic production, a minimum period of three years is required, during which the manufacturer is obliged to use only biological techniques.
  - Certification is carried out by one of the following accredited agencies, which are regulated by the French Ministry of Agriculture: Ecocert, Qualite France, ULSAE, Agrocert, Certipaq and ACLAVE.
  - The cellars with the right to put the word "organic" on their label have two options. Once certified as "Biologique", they can use a logo either from the EU or from the official label for organic products.
- Biodynamic certification is given to farms that have kept their vineyards for at least three years, using the techniques created by Rudolf Steiner. The same authorities that certify organic producers, certify and biodynamic Holdings: Ecocert, Qualite France, ULSAE, Agrocert, Certipaq and ACLAVE.

  There is an additional or different certification, Demeter. The name "Demeter" is given to wineries producing wine from biodynamic certified fruit produced according to the rules and regulations of the group Demeter.

  In general, from the history of France regarding the establishment and regulation of the law on winemaking and viticulture, it can be concluded that the trend of changes is dictated by the market and consumers. All amendments are aimed at the proper informing wine lovers what, from where, and with what historical value they consume. The linking of the terroir characteristics to historical areas and the creation of taste notions for French wines leads to simple answers to complex questions for the consumer, such as "What Wine to buy?", "What quality should I expect from the wine?" etc., in which its choice becomes easy against the multitude choise of items on the market.

1.2.1 Vitis Vinifera Carmener – Carmener is an old grape variety originating from Gironde, Bordeaux. DNA analysis shows that this is a cross between Cabernet Franc and Gross cabernet. Carmener is a highly refined variety and delivers a real variety of flavors. In younger wines, grassy notes are felt, tight bouquets of fresh berries. More mature bear notes of blackberry and blueberry, coffee and dark chocolate.

The Carmener variety shares a an integral and deep connection with Chile. It dates from the late 1800 when the grapes were transferred in Chile from Bordeaux. There was an error at the beginning translating the name of the variety. In chillie belives that, the wine is a complex label "Merlot" or "Merlot noir". Grapes are grown in Chile, with the wrong name for decades.

By the end of 1800, the Phyloxera destroys almost entirely carmener in Europe, as well as many other varieties. At that time, and for years afterwards, carmener was considered extinct. In 1994, frenchman Jean Michel Boursiquot saw "Merlot noir" in the chilean vineyards and recognized him as carmener. DNA analysis confirms the evaluation and the true identity of the grapes is revealed.

After that, exposing the carmener variety became the most popular grape in Chile. It was recognized by the Chilean authorities as the official variety of the country in 1998. DNA analysis confirms the evaluation and the true identity of the grapes is revealed.

Carmener and Chile is a perfect combination. The climate of Chile is warmer and drier than the native home of the variety in the southwestern part of France. Nipples ripen for a longer period of time in Chile. The longer ripening brings more pros to the wines, but not at the expense of its birth features-grassy aromas and flavors.

Carmener offers a complex fruity fragrance that suits all tastes, but especially those who do not like the dominance of the fruit in the wine. The Carmener market is preferred due to the quality-price ratio that favors the consumer.

Carmener brings an atmosphere of sophistication. The fruit in it is bold and daring, but does not stifle the taste. The variety is liked by people preferring wines with a restrained but elegant fruit, surprising complexity and rigid structure.

The fact is that Carmener is an old European variety used for vinification in Bordeaux. Originally the variety was called "Bitrica", which some historians associate with the Gironde locality in Bordeaux. Before the attack of Philoxcera The grapes were widespread, especially in the outskirts of the cemeteries parks, which bears the name Pesak Leonan.

Carmener is difficult to grow and vinification. It is vulnerable to changes in climatic factors, mold and mildew. Highly prone to philoxera. After the epidemic, wine producers from Bordeaux have not replanted the variety. They replace it with Cabernet Sauvignon, Merlot and Cabernet Franc, which is one of the prerequisites for its disappearance. Today, Chile maintains the largest plantings of carmener in the world. It takes more than 10 years for enologists and growers to determine which is actually the original Carmener Vine.

The variety adapts well to the warm climate of Chile, with a prolonged vegetation period. Carmener's largest plantations are found in the Colchaagua Valley. Due to its popularity, in

1998 the Chilean Department of Agriculture officially recognized Carmenere as a distinct local variety.

In Bordeaux, a wine of 100% Carmenere produce wineries-Chateau Le Geai Carmenere, which is classified as a Bordeaux superer and Chateau Lapeyronie Carmenere Winery from Cotes de Castillon, both selling their wine as Vin de France. In Medok, Chateau Carmenere Mansion produces 100% Carmener wine, restered as a super.

Most plantations from Carmener are located along the right bank of Bordeaux. In Saint Emilion, Jean-Luc Tunevin cultivates Carmenere in his vineyard, which is used for blending. Alain Vootere owns 5% of Carmener's arguments in the field and produces Fonbel de carmener. The Chateau Trianón in St Emilion also have the plantations of the original Carmener.

In 2000, the Enologist C. Fredes, and his team Y. Moreno, S. Ortega and E. Von Bennewitz, occupied a study of vine plantations with a carmener, in order to confirm his identity to a particular terroir, by analyzing the water balance of the vine and applying an authentic method of pruning.

Carmener is an energetic variety that requires high intensity of sunshine and at least 106 sunny days a year in maximum illumination. The achievement of optimum phenolic maturity in the fetus and the reduction of herbaceous aromas makes the determination of the time of harvesting difficult. The study was developed under the assumption that climatic conditions change their ratios, but not more than 10% average per year due to the vegetative-productive nature of the vine. To achieve a better result, a vertical method of pruning and thinning of clusters is applied. The idea to use the old method known in Gironde Bordeaux comes from the analysis of wine from the carmener dated in the early 19th century, indicating the qualities of the product, which nowadays can not be achieved. This provoked the team of the enologist C. Fredes to make a guinea pig study of arrays with Carmener, located in Gironde Bordeaux, where is the original terroir of the variety. The result is a fresh vine, without undue load on the substrate, which is fruitful at an earlier stage with 14-20 days while preserving the tame balance of sugars, acids and tannins. The method used for the analysis is graphic and the terroir definiteness is fully proven.

The vine balance implies the constancy of climatic factors in order to achieve optimum maturity and balanced yield within the period set for harvesting. According to the proposed by Hunter and Archer, the method of defining the equilibrium of the crops and vegetative period leads to the conclusion that the vine balance is the minimum area of the leaves necessary for adequate ripening of the fruit in terms of accumulation of soluble solids. Normal size of the leaf varies from 7 square cm, at 1g to 14 square cm at 1g.

The intensity of light that has been investigated and the potential of the soil is taken for permanent climatic factors, according to the theory of the historical habitat of Carmener, namely in Bordeaux. For the microclimate of the Gironde region is characterized by a Meditrranean climate, sandy soils, and the plantations are in the valley with a slopes not more than 40%.

The vines are planted in a vertical position. Spacing 2 m, spread between the Vines 1 m. Harvest in the previous period 9-11 tons per hectare. The trimming is finished to 30 buds per kg of weight, and shoots with juices are removed before flowering, after partial removal of leaves at a minimum of 21 ° C. The soil is alluvial to a depth of 2 m. It is important to note that the vineyard was certified as organic in 2000 y. Three factors were analysed in six repetitions in each action.

- First – in high vines up to 65 cm, removing 50% of the leaves in combination with lateral thinning of shoots.
- Second – in medium-sized vines up to 40 cm, removing 100% of leaves in combination with lateral thinning of shoots.
- Thirdly – at low vines – 100% removal of the leaves in combination with partial lateral thinning of the cluster zone.

The crop was analysed by a dispersion analysis using SPSS® version 17, and the results were compared using the Tukey ($P < 0.05$) test.

The comparative analyses of the held experience unanimously indicate the adaptability of carmenera to change the formation, methods of pruning and picking. Such adaptability is typical only for botanical species, separated into an ecosystem for more than 100 generations. Vitis Vinifera from a branch would need a mat or additional efforts to preserve the qualities of the fetus. Thus the C. Fredes Team proves the need to register the PDO of Carmener, as a French variety with the terroir Bordeaux, Gironde.

Vitis vinifera Pamid is the most common grape variety in the past in Bulgaria. It is found all over the Balkan Peninsula under different names: "Ciri Chibuk" – in Turkey (Odrin region), Plovdiv – Republic of Macedonia and Serbia, Roshiori – Romania, Coplik and Mana Kuki – Albania.

Registering Pamid as a local variety for the cross-border region means proving that its natural habitat is right in this territory. The example with the experience of C. Fredes with Carmener would be useful due to the fact that with abrupt change in methods of processing and divergence in terms of microclimate, the vine would be intolerant.

1.2.2 Vitis Venifera semilion. The third in popularity and percentage plantations white variety in France, proved its origin and qualities, withstood all the whims of the history variety. The uniqueness of the quality indicators and the application of semilion, make the variety suitable for drawing of good practices when considering traditional local varieties in the cross-border region of Bulgaria-Greece.

Semilion, in general, is a white wine grape variety originating in the Bordeaux region of France. Except in France where there is 17500 ha is found in Chile (35000 ha), Argentina (2500 ha), Australia (3000 ha), South Africa(1000 ha),California, USA (840 ha), Italy, Uruguay, Brazil, Mexico, Slovakia, Hungary, Romania, Serbia, Slovenia, New Zealand, Vietnam and others. It is also known by the names: Sotern, Boal, Hunter Valley Riesling, Greengrape (South Africa); Madeira, Sersial and Barnavarta Pinot (Australia) and others.

Semillon is a late ripening variety. The vines are distinguished by strong growth of rich soils and medium-to weaker. Poorly resistant to low temperatures, diseases, mildew, isdium and gray rot. It is used for making high quality dry, white wines with aromas of oak, grain, honey, melon and fruits. Semillon participates in the couges for white, table wines in the Bordeaux region, together with the varieties of Sauvignon blanc and Musscadel. Susceptible to the influence of the noble mold (Botrytis cinerea), from whose affected grapes is prepared the famous dessert wines "Sotern", "Barsac" and others. Registered in the regions of Sauternes AOC and Barsac AOC. Thanks to this fact Sémillon is considered a local variety for the Bordeaux region. Istimological the name of the variety derives from the city de Saint-Émilion, as written testimonies have since 1736,

At the beginning of the IX- th century and mainly in 1820, the Semilion is actively planted in Australia and South Africa. The variety covers more than 90% of the vineyards of South Africa Territory, where it is known as wyndruif , which means wine grapes. In 1950. , the Southern Contient 's vineyards consist of over 75% semillon. Today the variety represents only 1% of the vine plantations of the South African Cape.

The French Semillon, which is relatively easy to grow, reaches from six to eight tons of grapes acre by young vines. It is quite resistant to diseases, except rot. The Vine ripens early, and in warmer climates it acquires a pink color. Since Semillon has a thin skin, there is a risk of sunburn in a hotter climate. It is suitable for areas with sunny days and cool nights.

Semillon has a heavy grape, with low acidity and almost oily texture. The Wines produced by it have the potential for ageing. Together with Sauvignon blanc and musscadel, semilion on is one of the three approved white wine varieties for the Bordeaux region. Grapes are also key to the production of sweet wines such as Sauternes. Specific for them is that, used semilion must be affected by the so-called, noble rot or Botrytis. The process is carried out thanks to a noble sponge, which dries the grapes, concentrating the sugar and aromas in it.

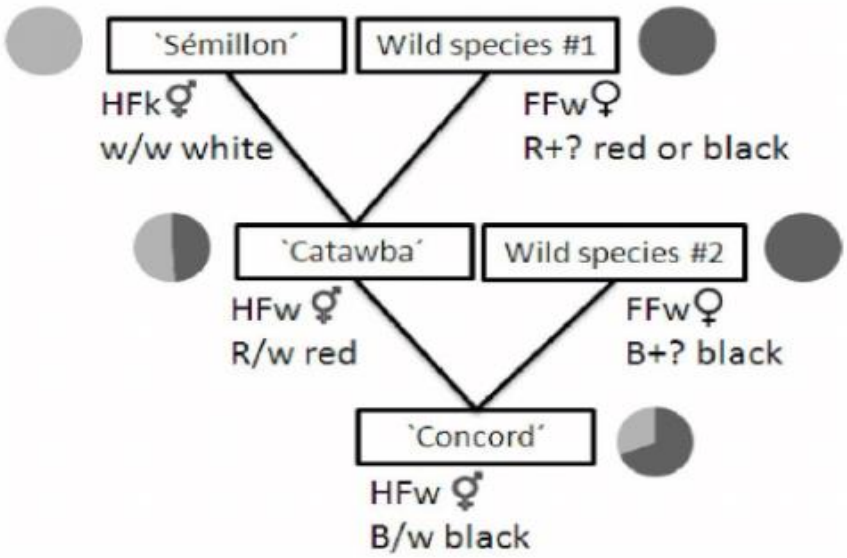
Due to the declining popularity of the variety, cuttings are grown in official nurseries, which causes the French producers to pay attention to the emerging future shortage of semillon. In 2008, 17 wine-growers from Bordeaux, including Château D'yquem , Château Olivier , Château Suduiraut and Château La Tour Blanche , formed an association for the cultivation of own clones of Semillon.

A study in the USA under the program Winegrowing Futures, by the grape and Wine Research and Development Corporation and funded at the initiative of the National Center for Wine and grape industry at Charles Stert University, prove how old are the foundations of Semillon. Prof. Steve Long, an associate editor of PCE, with the help of SAS Australia proves that the Semillon, is the ancestor of the Catauba variety, discovered in a forest near the Catauba River in North Carolina, the United States in 1801. The useful in this case is that an analysis is made of the parent – Semillon, in the territory, which is defined as his firstborn – Bordeaux France. Microsatellite analysis of the JKI Geilweilerhof genetic resources provides clear indications that the European variety "Sémillon" can be the parent of V. Vinifera Katauba.

Table 2. Genotypic markers for determining Katauba's ancestor, with a clear match at the Semillon.

Cultivar name \ GF02-55 products	Allele # 1 [bp]	Allele # 2 [bp]	Genotype	Berry color
Sémillon	215	217	white/white	White
Catawba	168	215	red/white	Red
Concord	172	215	black/white	Black

Scheme 1. Structured genotype of Catauba, with ancestor Semillon.



Mavrud is a native Bulgarian variety with extremely deep roots, which deserves to be registered with PDO. According to the example of the above-mentioned studies, it can be shown that the Bulgarian Mavrud is actually the parent of the Kativela and the Besarbean Kauchanskiy.

1.3 Chile. From this huge country, useful examples can be learned not only in the regards of strategic conservation of varieties, but also in terms of wine production. Chile gained its independence from Spain in 1818, and even then it makes clear that France is becoming the benchmark for social life, to which the citizens of the new state are striving. The first wineries are built:

- 1830-Claudio Gay-Quinta Normal – with 30 different European grape varieties.
- 1851-Silvestre Ochamavia – French varieties in Mayotte Valley;

The geography of Chile is impressive: 5000 km., the coast to the west, the high 7000 meters of Andy to the east. The Atacama Desert north and Antarctic Patagonia in the South play the role of natural isolation against diseases and pests.

The vineyards are in the Central Valley and on the slopes of the Andes. The coastal mountain ranges from the West protect them from the direct invasion of cold ocean air, but the numerous river valleys allow the regulated penetration of air masses inside the country.

The most frequently mentioned fact for Chile is the one that Philoxcera has never reached this land. The scourge that ravaged Europe in IX - C and California has recently simply never failed to pass and survive through the Andes mountains or through desert sand soils along the coast of Chile. In this way the country becomes unique in its wine production because the vines are not grafted or engrown in any way and the wine-sector practices have not been altered for years. Something incredibly rare in the modern world. In general, almost all "international" wine varieties are cultivated in Chile. Cabernet Sauvignon, Merlot, Chardonnay, Sauvignon blanc, Viognier, Gewuez traminer, etc. Chilean old native variety is Pais. There are many plantations of Pais in Chile, but unfortunately the variety has not yet found worldwide recognition, despite the efforts of some major producers like Torres, for example, who recently released sparkling rosé of the Pais variety. One of the most typical and valuable varieties for Chile are Carmener and Muskatel. For a long time Carmener was considered as a Merlot, but after several ampelographic studies and analyses mentioned above, it is clear that this is a forgotten variety of Bordeaux, France, which feels exceptionally well in Chile. Indeed the variety Carmener is very similar to the Merlot variety, as the outer gap is in the leaf of the vine, those of the Carmener are red on the reverse side. The wines made by Carmener are alive and with a fairly rich palette of aromas.

In the last few decades, many funds have been invested in the wine production in Chile. The industry is focused on a cleaner and more modern wine-making technology, unlike the old methods, where wooden barrels of a local variety of beech wood were used. Most wines in Chile are now made in stainless fermenters, and the higher grades ferment in new French or American oak. Attracted by the opportunities offered by the climate and the undeveloped wine industry, in Chile invest a lot of foreign wine magnates like Robert Mondavi, Rothschild from Chateau Lafite (Bordeaux, France), Miguel Torres and others. Apart from its own wineries on the territory of Chile, these investors also work as partners with the best Chilean wineries. The tradition in Chile, is the producers to take the raw material for the wine from the territory of the whole country, but in recent years shaped several controlled wine-producing regions. These areas are part of the quality control system of wine production.

Climate in Chile: The vineyards are located between 32 and 38 ° latitude – the climate resembles southern Spain or North Africa, but the quiet ocean and the Humboldt flow are cold – so the climate is rather between Napa Valley and Bordeaux. Mediterranean with warm, dry summers and cold, rainy winters. The climatic influences of the ocean and the Andes overlap so that the clear and warm days are followed by cold nights. Temperature amplitudes help the formation of fruit aromas, pronounced freshness in white wines and ripe tannins and sparkling, deep colors in red wines.

The soils of Chile are as diverse as the climate and topography: alluvial, nanoaxial, clay, sand, limestone, volcanic. The relatively dry climate is not a problem for the vines, as the constantly snowy Andy are a continuous source of water for irrigation. The proximity to the equator, the

Pacific Ocean and the Andes, plays a decisive role in climatic and soil terms. The diversity of climatic zones and soils is much greater than east to West than from north to south.

Irrigation from the Andes is due to an Indian channel system. Drip irrigation was introduced in the 90-20s of the twentieth century. The average yield in the country is about 70 thousand/HL, for a year. The formation of the soil is varied, the quality vines are processed in single or double order. Generally rarely used substrate, the vineyards are planted on their own roots. The common pads are mainly used for nematodes and for speed when replanting the vineyards.

Red varieties grown in Chile: Cabernet Sauvignon-38 806 ha, PAIS (mission)-15 000 ha, Merlot-9 656 ha, Carmener-8 249 ha, Syrah-5 391 ha, Pinot noir-2 598 ha, Cabernet Franc-1 226, Malbec-1 148 ha.

White varieties grown in Chile: Sauvignon Blanc-11244 ha, chardonnay-12739 ha, Alexandria Muscat-6035 Ha, Riesling-333 ha, Viognier-685 ha, Gewurz traminer-287 ha.

Sauvignon Blanc-In some cases Sauvignon vert or Sauvignonasse has nothing to do with Sauvignon blanc or Sauvignon gris. The mutation of Sauvignon blanc, farmed in Chile, has aromas of green apple, pear and pineapple, possesses an acracy body with a more moderate freshness.

The requirements for strict quarantine, on the wine imported into the country, are the result of a negative effect on the identity of certain varieties. Chile is forced to catch up in institutional terms and to come to Europe in the signing of its laws on wine-growing and winemaking.

Wine market in Chile is different from the European. The Wine producing unit in the country does not correspond to the small European family cellar producing several labels. Usually it is a serious investment project with thousands of hectares of vineyards, and often with several separate wineries with a multilevel portfolio.

Low cost of land, cheap labor, small production costs and liberal wine law. This attracts many foreign investors – Mondavi, Lafite-Rothschild, Munton-Rothschild, Torres. For their part Chileans invest in neighboring Argentina, where these prices are even lower.

In conclusion , it can be summarized that the unique natural conditions, supported by significant local and foreign investments over the last 15 years have expanded the wine spectrum so that today Chile can offer something for every taste: sparkling wines, mineral and tight whites, wines of aromatic varieties, red from cooler and warmer regions, rose and biodynamic wines.

The sector regions in Chile are coveredby asystem of geographical Origin (D. O. Denominacion de Origen), following the example of the FE, but with some differences that can be considered positive and developing the sector.

From north to south, the main wine areas and their most important areas are: Elky, Limari, Acconkagua, Kasablanca, San Antonio, Lleida Valley. The Central Valley is divided into the district of Maypo, Rapelle, Kuriko, Maule. The valley of Itata, the Bio-Bio Valley and the Mayeko Valley.

Veramonte is part of Kasablanca. "Veramonte have everything that is needed to produce world-class wines – the people the soils and the vision" – words by Caroline Gilbie, Master of wines. In Casablanca, they remind those in the prestigious valleys in California, like Carneros and the valley of the Russian River. With its 1100 hill, acres of area, the territory have perfect location for the cultivation of Sauvignon Blanc, Chardonnay and Pinot noir.

In Veramonte is grown mainly mutation of French sauvignon blanc. The valley of Casablanca is an area with cool climate and is located northwest of the coast of Chile, less than 30 kilometers from the Pacific Ocean. Aroma of fresh herbs and citrus, such as Mandarin combined with fine floral nuances. Smooth and crisp, this sauvignon blanc has a vibrant acidity and a long juicy finish.

Veramonte Carmener. The wine is with alcohol-13.5%. Ageing-12 months in neutral oak. Located between the coastal mountain range and the Pacific Ocean, the vineyard in Marchigua is located just 45 km from the coast, in one of the coldest parts of the Colchaagua Valley. Elegant collaboration of soft plum, fig and rosemary, with hints of spices are finely woven into a long finish. The Carmener of Veramonte is different and preferred in front of the French.

The Rappel valley and in the exact Colchaagua region, with its Mediterranean climate and soils rich in stones and clay, it is ideal for growing red grape varieties. The result are bold red wines with excellent structure and dominant aromas of black berries. The vivid colors and modern look of the wines are inspired by authentic Chilean tapestries. The distinctive design of the bottle stands out against the backdrop of the remains when the wines are seen by the consumer. The excellent quality, combined with the ancient history reflected in the wine vision, make the product different and interesting. Today, wine connoisseurs already have an idea of the quality of the Colchaagua wines, the terroir and the nature of the products coming from this territory.

The red blended wines, such as Merlot and Cabernet Sauvignon, Syrah, Carmener and Cabernet Franc are with exceptional qualities of 14.5% alcohol. The process of ageing in oak is almost not missed by the manufacturers. The dominant aromas of ripe figs, plums and blackberry are repilted with hints of nutmeg, vanilla and black pepper. The seductive red blends are rich wines, with a floral scent of ripe cherry, blueberries and elegant touches of spices.

The percentage of Chileans beyond the poverty line was only 11.5% in 2009. In addition, 64% of the population benefits from government social assistance programs, which include poor people and those at risk. However, the distribution of income is still far from a level playing field, as the index GIN shows from 0.503 (2016). This index has not been different able significantly over the last 10 years.

From the study of the wine sector of Chile, it becomes clear that the state maintains a steady course up in terms of its development. The new programmes for wine tourism and promotion of winemaking, despite the fact that the varieties of which are produced wines in 90% of the case are not indigenous, only proves how ambitious the goals of Chile are.

When Chili is analyzed, it isworth mentioning its variety "Moscatel". It`s name comes from Spanish phrase for Muscat. This most commonly refers to Muscat D'Alexandrie, although there

are many diverse synonyms of Moscatel used in Spain, Chile and Portugal, and some may refer to the noble assortment of grains from Muskat petis.

The Muskat wine is produced from Muscat grapes in very mature and sunny harvests. In its preparation add alcohol in freshly pressed wine, thus obtaining a natural sweet product with 15% alcohol. The result is a very fragrant sweet wine. In Spain It is typical for the territories of Chipiona, Malaga and Valencia.

Today the term Muscat wine, usually is used in the United States, to denote enriched wine made from this grapes, and not just any wine, pro-deduced Muscat. This enriched muskatel become popular in the United States when, at the end of the alcohol prohibition, uncontrolled import of low quality production under dubious conditions of the product, was sold and its image is severely lowered.

To prove the qualities of the variety, a team of enologists and scientists, commissioned by the Ministry of Agriculture in Chile, conducts a study of the evolution of the index of varietal aromatic potential (IPAv) during ripening for two consecutive harvests in four varieties of Muscatino grapes: "Moscatel de Grano Menudo", "Moscatel de Grano menudo Rosa", "Moscatel de Grano Gordo" and "Moscatel de angues". The determination of IPAv, allows to quantify the molecule of glucose GG, released from the destruction of the O-glycosidic connection. IPAv on Moscatel de Grano menudo display higher value, among other varieties assessed during the two seasons. In most cases, the values of IPAv increase after maceration. The wines were analysed by world-renowned tasters in front of a wide audience. The descriptive tasting shows significant differences only in colour. During the test, the tasters differclearly Moscatel de Grano menudo, relative to the other varieties. The wine from this Mostatel is highly appreciatedo by the jury in terms of completeness of fragrances, intensity of color, moderate acidity and taste qualities.

This study-experience, in combination with the public tasting of the finished product, convince Chillian winemakers, not to eradicate the vines. The lack of any of the exporters and the low price regards the variety Moscatel de Grano menudo, forcing the vine-growers to start process of its abolition, and planting more sought-after species. The demonstration of quality of the raw material leads to elevation of reputation of the finished product.

Such practices are interesting and could be applied to the Bulgarian Muskat. On the territory of our country there are several Vitis Vinifera L. from the family of Muskats, and their qualities are more than excellent. In the terroir of the cross-border region of Bulgaria – Greece, misket Sandanski and Misket red can be found. The varieties are almost extinct, or at least the arguments are so small that they tend to be insignificant. Data from the EAVW in Blagoevgrad region there are plantations of Sandanski Misket from 1975 y -181 401 decares. The lack of interest in these varieties by vine-growers and winemakers has a negative impact on their preservation, and the loss of their gene pool for future generations can not realistically be measured.

2. Ampelographic description of the protected foreign varieties concerned.

Vitis Vinifera Nebiolo-Nebbiolo 	**Leaf:** medium large, dark green, shiny, dense and soft, three to five partitions, smooth or slightly mesh surface, open caudal incision, with velvet mossy on the underside.
Synonyms: pikotenero	**Wine:** very dark pomegranate red with an orange tint, scent of violets and freshly cut grass, notes of earth and leather; high alcoholic and tannin content, dense body, high acidity; requires ageing in barrels and bottles.
Meaning: The most highly valued red wine variety in northern Italy; despite the relatively small volume of plantations, for centuries it has been a key factor in the prestige of the wines Barolo and Barbaresco. Recently, attempts have been made to explore the potential of Niebolo outside Piedmont, Lombardy and Valtelina.	**Grape:** Large, winged, elongated cylindrical, highly concise; the grains are of medium size, spherical, with a thin zipper, dark blue to dark purple.

Vitis Vinifera Garganega- Garganega 	**Leaf:** medium large, light green, shiny, not very dense, three to five partitions, smooth or slightly mesh surface, open-caudal incision, with velvet mossy on the underside.
Region: Italy, Vinzenica and Verona	**Wine:** Soave
Meaning: protected local variety in Italy. Basic to the origin of younger varieties. It Is used for the preparation of high quality white table and fortified wines, as well as for fresh consumption.	**Grape: Medium** -maturing variety. The vines are distinguished by average growth and high cropping. The grape is medium-coarse, cylindrical-conical or conical, often winged, medium-density. The berries are small, rounded or slightly oval, light green, often with sun tan. The meat is juicy.

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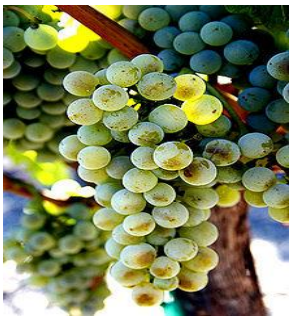
http://www.greece-bulgaria.eu/
The content of this material does not necessarily represent the official position of the European Union

	The sugar content in the wort is 19 – 20 g/100 cm^3, with titratable acids 7 – 8 g/DM^3.

Vitis Vinifera Carmener 	**Leaf:** medium large, light green, shiny, not very dense, three to five partitions, smooth or slightly mesh surface, open-caudal incision, with velvet mossy on the underside.
Region: France, Bordeaux	VIVC NUMBER 2109
Meaning: protected local variety in France	**Grape:** red, small or medium, cylindrical-conical, winged. Berries are medium in size, rounded, blue-black. The consistency is fleshy and juicy, with a grassy flavour.

Vitis Vinifera semilion 	**Leaf:** medium large, light green, shiny, not very dense, three to five partitions, smooth or slightly mesh surface, open-caudal incision, with velvet mossy on the underside.
Meaning: protected local variety in France. It Is used for making high quality dry, white wines with aromas of oak, grain, honey, melon and fruits	**Grape:** later ripening white variety. The vines are distinguished by strong growth of rich soils. Medium-to weaker in poor soils. Poorly resistant to low temperatures, diseases, mildew, odium and gray rot.

3. **Normative decisions, laws and regulations in the regions concerned, leading to positive results in the preservation of local vine varieties.**

   The study clearly outlines the postulates of the Law on protection of winemaking in Italy from 1963 year or so-called- DOC (Denominazione Di Origine Soptrollata). The subsequent

additions by the Goria Act of 1992, as well as its amendments in 2004, with which the country equfies its legal norms with those of the EU.

The legal changes of 1935, in France, as laid down by INAO- Institut National des appellations d'origine, and the strict, specific designations of origin of the wines described in detail above, clearly outline the timeline of the historical changes that the country makes, in terms of protection of its local vine varieties. The AOC-Appellation d'origine controlee system – and the appendices of 2006, its purpose and characteristics for the names in the french wine production, are aworking system, positioning France in the first place of the old wine-making continent.

The regulation of the quality of the wines produced by a system of terroir characteristics outlines the image of the respective country in front of consumers. The truth is that the large countries producing and exporting wines are struggling decades to improve their laws and regulations so as to favour wine producers and consumers and to impart a marketing image to the country. The fact that France and Italy are countries of the main EU Member States enables them to submit proposals for regulatory measures within the large European Community in the wine production and varietal recognition. Competition is fierce, and countries such as Croatia and Turkey that are outside the EU can rely solely on the quality of their wines to fight the market.

Bulgaria has a place on this colourful market. Our country can fight for its share if it uses its resources properly. The most valuable are the ancient vines and the historical connection of wine-making. The conditions for establishment biodynamic farms, which are modern and innovative for the future productions are unique. The possibilities for wine tourism, described clearly in the compendium of reports published after a national round table on 15 November, 2018. , organized by the Department of Agrarian Economics at the University of Economics – Varna, are undeniable. Dr. Tsanko Stefanov gives an opinion regarding the tourism industry in the concept of sustainable development, and the chief Dr. Vladimir Dimitrov, Assoc. Prof. Dr. Julia Jakbarova analyzed: The potential for the development of wine tourism in the districts of Haskovo and Kardzhali, defining the surveyed territory "ready to start work on a large-scale project related to wine tourism...". The terroir characteristics of Bulgaria are extremely interesting, therefore the wines have a character and specificity, which can create a single image of the country. The right legal provisions are necessary.

4. The prevalence of local vine varieties in the regions concerned clearly outlines a pattern of outlining the boundaries of designations. The organisation and regionalisation of vine plantations in France and Italy, as well as their link with PGI and PDO, dictated by identical terms, are a sufficient model. There are many examples of creating and imposing iconic names linking to a given region, leading to analogies in the consumer demand for wine.

   Regionalisation in the countries concerned, as mentioned above, has in most cases been made on the basis of territorial conditionality. France and Italy rely on the names of territorial units, castles, rivers, valleys, etc., to make them recognizable to the world and consumers. The name of the Bordeaux area is also the name of the AOC variety and Bordeaux wine.

It is of paramount importance that the interaction and conditionality of institutions and producers, example of positive practices, research has been carried out by non-profit organisations, which have been made by the country concerned, but their aim is to protect the national interest and to ensure PDO or to prove in a undeniable scientific way that the vine variety concerned is a source, local, ancient, inhabiting expected habitat for its genotype. Such organisations are: Spanish Wine Federation, INNOVI Catalan Wine Cluster, Organisation Internationale de la Vigne et du Vin, EU Project Wine Lab, etc. States in the face of National Institutes and Universityes, for example in Italy, USA – Davis, Australia, Chile, Spain, etc. in Bulgaria the University of Economics – Varna, through its department "agrarian economy" and thanks to experts in the field of viniculture and wine-producingTvo print a collection of reports , but they do not reach the winemakers and their organizations. The regulation of the legal line to move the production, marketing, social and strategic activities in the wine sector should be choked by private producers, winemakers, vine-growers and narrow specialists in the field, as well as organizations in the agriculture, environmental and other sectors.

Image 1. Map of wine regions in France

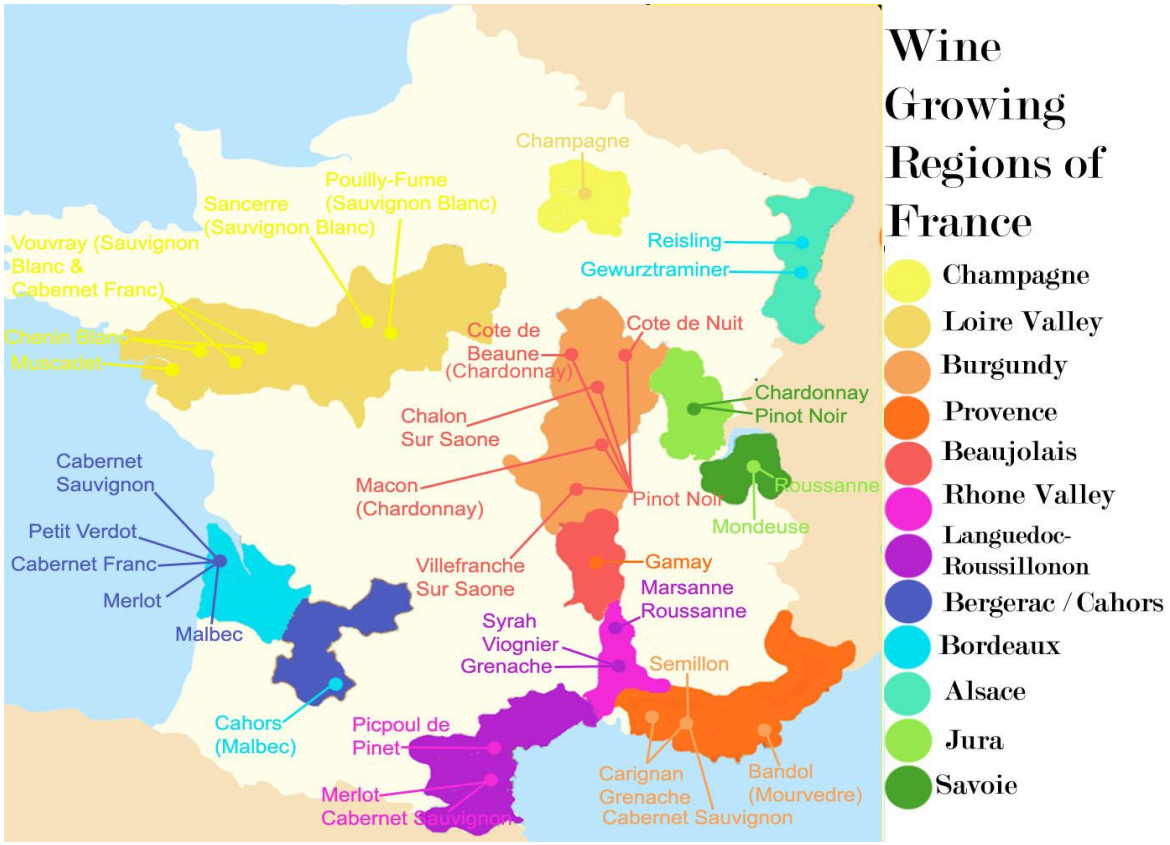


Image 2. Map of the French cellars whose name coincides with the name of a region or variety with AOC.

4.1 Scope of distribution in the geographical and supranational aspect of the varieties concerned.

International decisions and agreements to preserve local varieties between the countries of Italy, France, Chile, Spain, Portugal and the USA have historically been achieved on the basis of scientific research. Each State shall assert its claims, for possession of the name, of wine grape varieties. Thanks to the historic road that has elapsed the wine, like the drink of the gods and its widespread spread, vines have planted and carried over all by 2018, the countries with the highest number of registered varieties of PDO were Italy, France and Spain. Bulgaria, began the preservation process relatively late, due to the democratic transition that has been going on and the slow process of land development. Measures are needed and the implementation of the efforts of the institutions, winemakers, associations and private producers to be more active in this process. The need for a comprehensive framework and strategy for the development of the wine sector is evident. The development of these documents is in the process of , the pace of which is not fast enough. Table 3 shows that the production of PDO wine is steadily decreasing and the production of table wine increases. Unlike Italy, for example, the wine that builds the image of the state – DOC, increases.

Table 3. Data on the produced wine with PDO and PGI for the last 10 years in Bulgaria. In the data of the MAC, Agrostatistics department

Year	Wine PDO	Wine PGI	Table wines
2010	45 250	424 722	224 508
2011	30 480	383 959	327 212
2012	23 911	422 655	176 282
2013	22 451	381 569	195 538
2014	10 529	322 228	414 194

2015	16 862	503 720	789 570
2016	9 510	360 984	837 290
2017	7 411	375 224	697 262

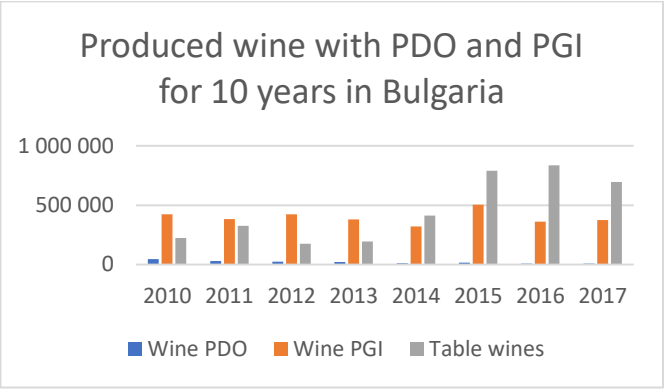


Table 4. Data on produced quantities of wine and grape must by region in 2018, in the data of IALC, department "Agrostatistics"

Region	Amount of produced wine and grape must / hectoliters								
	Wine PDO		Wine PGI		Table and other wines			Amount	
	White	red and rose	White	red and rose	White	red and rose	Must	White	red and rose
Northwest	50	1 719	2 715	3 865	4 097	10 937	49 111	6 916	16 522
North central	0	249 104	15 776	13 453	17 075	25 932	59	32 851	41 876
Northeast	1 607	5 260	33 277	8 989	22 203	16 080	630	57 087	25 121
Southeast	1 237	4 330	108 406	138 811	346 697	167 980	270	456 794	311 176
Southern	0	0	2 811	12 194	26 471	45 439	6 586	29 343	57 673
South central	0	5 375	36 380	127 043	43 384	62 553	0	79 789	195 003
Amount	**2 984**	**13 968**	**199 365**	**304 355**	**460 521**	**329 049**	**56 656**	**662 779**	**647 371**

The tendency to decline in the production of varietal wines continues as evidenced by the data in table 4.

Table 5. Displays the data for 2018-2019 year for the production of wine and grape must in Europe.

PAYS	Production Grape must 1) 2018-2019 1000 HL	Versus 2017/18	Versus AVG5	Jus de raisins Evaporation MC	Production Vinifiée Vins avec A.O.P.	Vins avec I.G.P.	Vins de cépage sans AOP/IGP	Autres Vins et moûts	Prod vinifiée
Bulgaria	1 084	-6%	-15%	43	6	412	240	382	1 041
Czech Republic	691	+7%	+10%	11	566	89	18	8	680
Germany	10 269	+38%	+20%	537	9 340	270		121	9 731
Greece	2 235	-7%	-18%	71	201	393	131	1 440	2 165
Spain	49 522	+40%	+14%	4 795	16 527	4 835	9 504	13 862	44 728
France	49 571	+38%	+14%		23 939	12 944	898	11 790	49 571
Croatia	733	+27%	-27%		546		84	102	733
Italy	55 783	+31%	+14%	1 000	22 676	13 237	734	18 137	54 783
Cyprus	109	-1%	+16%		1	26	17	65	109
Luxembourg	135	+50%	+32%		120			14	134
Hungary	3 699	+29%	+33%	54	1 274	2 138	219	14	3 645
Austria	2 753	+11%	+24%	1	2 560	44	2	147	2 753
Portugal	6 061	-10%	-6%	261	3 110	1 948	33	710	5 800
Romania	5 189	+19%	+26%	24	1 114	266	150	3 635	5 165
Slovenia	898	+43%	+19%		517	139		243	898
Slovakia	330	+10%	+0%	8	356		14	11	381
U.K.									
other MS	66								66
EU 28	189 100	31,5%	+13,2%	6 805	82 854	36 739	12 000	50 700	182 295
					119 600				
		Versus 2017-18:		29%	29,9%		54%	57,0%	32,2%

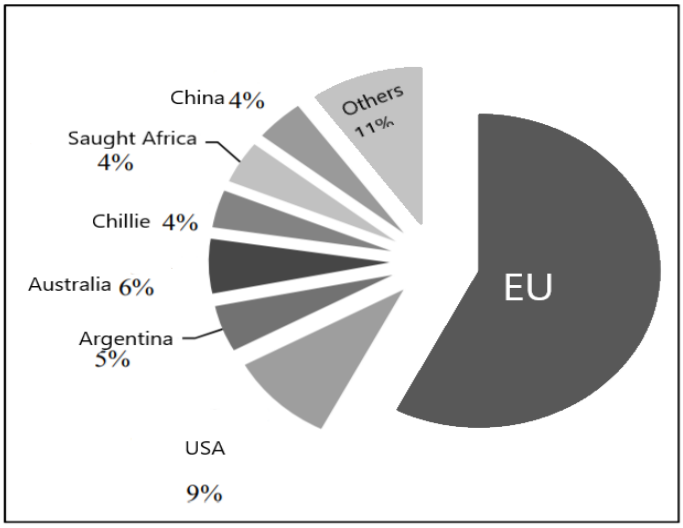
Source: Member state communication following Art. 19 §1a,b of Regulation (EU) 2009/436, elaborated by DG AGRI G2

The analysis of the data from the EC showed a decrease in the production of grape must in Bulgaria in 2018, compared to 2017y by 6%. At the moment the country is in 9th place in production in Europe, including after Romania and Greece.

In the case of bottled wines, the decrease was lower – 5.6% in 2018, compared with 2017, and the expected quantities for 2019 were 1% lower than 2018y. This fact, outlines a persistent tendency to decline in winemaking in Bulgaria in the last two years.

The countries occupying the first places in Europe for winemaking are Italy, France and Spain. In all three countries there is persistence in supporting wine sector by public authorities, direct investments in viticulture and participation of scientific organizations in the creation of innovative methods of work, demonstration of historical events or qualities of the raw material – grapes.

Scheme 2. Shows distribution of wine production worldwide for 2018y. Data from https://ec.europa.eu/agriculture

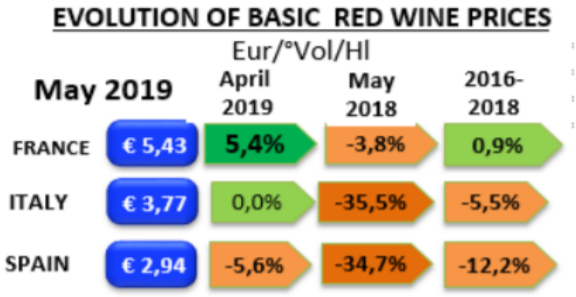


The role of the EU and the abolition of inter -state borders have both a positive influence on the wine sector and negatively. The measures prescribed by Regulation (EC) No 251/2014 of the European Parliament and of the Council of 26.02.2014 (d) on the definition, description, labelling and protection of geographical indications for wine-sector products, Repeals Council Regulation (EC) No 1601/91 and thus the Bulgarian law on wine and spirits with its last update of the 16.09.2012 y remains a step backwards. At the moment, Bulgarian private winemakers have no motivation to produce wines from PGI and PDO and maintain high not competitive prices compared to other EU Member States, including neighbouring countries such

The restrictions for the Bulgarian producers come in terms of proving the quality and origin of the wines. Private farms often do not register their lands as intended, as well as the vine varieties sown. In a large part of the vine plantation are present varieties, which are of unknown origin but are registered as original branches.

Market freedom is a positive aspect of the abolition of the interstate borders. The Bulgarian producers have the opportunity to export their products all over Europe. The qualities of the Bulgarian wines are constantly proven at various international wine forums, but the question remains with the lack of a competativeness capacity caused by the high prices.

Table 6. Prices and analysis of export values in euro for red wines, for the first three exporting countries within the EU.



€/°VoL/HL	May 2019	avr-19		mai-18		3 year avg	
France	€ 5,43	€ 5,15	5,4%	€ 5,64	-3,8%	€ 5,38	0,9%
Italy	€ 3,77	€ 3,77	0,0%	€ 5,84	-35,5%	€ 3,99	-5,5%
Spain	€ 2,94	€ 3,11	-5,6%	€ 4,50	-34,7%	€ 3,35	-12,2%

Source: Price calculations elaborated by DG AGRI G.2 based on FranceAgrimer, La semana vitivinícola, Il corriere vinicolo publications

The pursuit of a single legal system within the EU has a positive impact on the preservation of genotypes and conservation of existing ecosystems in Europe as a whole. In order for Bulgaria to benefit from the possibilities of the European legal framework, it is necessary to align its legislative measures with those of the large family. The synchronization of the Bulgarian Wine and Spirits Act and the initiation of PDO procedures on the list of old local Vitis Vinifera L. of the EAVW is a necessity.

4.2 Economic benefits of preserving endangered local vine varieties. The countries concerned in this study have focused precisely on their traditional local varieties. Italy, France, Chile, Spain, Australia, etc., export their stars to the collection of varietal diversity, having previously defended their name. Thus, the economic benefits of exports and the promotion of traditional wine varieties lead to the generation of secondary economic benefits, such as wine tourism, production of wine-based cosmetic products, promotion of traditional local cuisine, which is combined with distinguished wines, etc.

Table 7. Export of wine by country in sum/Millin. European. Data from EUROSTAT.

2018 CN2204 Wine Trade results : EU-28 EXPORTS in VALUE

in Mio EURO	Extra-EU28	United States of America	Switzerland	China	Canada	Japan	Hong Kong	Russia	Singapore	Norway	Australia	Brazil	Mexico	Other
EU28	11 567	3 763	1 002	960	899	831	818	541	411	333	238	138	147	1 485
France	5 436	1 704	376	604	378	518	481	34	353	34	153	31	40	728
Italy	3 058	1 463	377	127	334	161	29	109	16	94	62	35	36	215
Spain	1 173	299	117	147	102	78	15	33	5	26	10	19	68	256
Fr Germany	379	94	50	24	19	18	22	7	4	74	5	1	2	60
Utd. Kingdom	396	67	7	7	2	10	231		29	9	2			32
Portugal	346	81	30	22	47	7	2	4	1	10	4	51	1	86
Latvia	205							193						12
Lithuania	156							147						9
Netherlands	182	7	9	13		31	21		1	72				28
Austria	54	15	24	2	2	1		1		5	1			3
Belgium	40	9	1	2	2	2	7		1					15
Greece	23	12	1	1	5	1					1			1
Denmark	35	5	7				10	1		1				11
Hungary	14	2	1	5	3	1		1		1				1
Bulgaria	7	1		1		1		2						1
Poland	18							4						14
Sweden	7					1				5				
Croatia	10	1												7
Romania	5	1		3	1	1								1
Slovenia	6	2		2										2
Finland	5							2		2				
Luxembourg	4		1		3									
Czech Republic	2		1											
Estonia	3							3						
Slovakia	1			1										
Cyprus	2			1										
Ireland														
Malta														

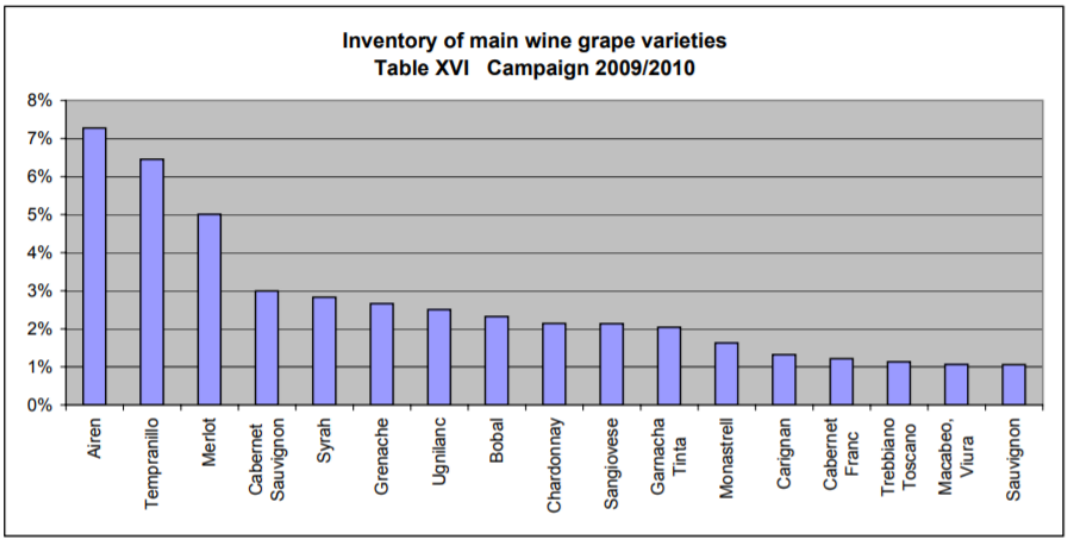
Source: EC-EUROSTAT COMEXT external trade DataBases

2018 Wine trade situation Pag. 6 / 22

To determine the economic effect for future periods of work with local varieties with PGI and PDO in the Bulgaria-Greece cross-border region, the data at EU level, by variety and by country, will be examined.

Table 8. Percentage of sales of wines by variety to the EU by https://ec.europa.eu/agriculture/sites/agriculture/files/wine data

Airen	7%
Tempranill	6%
Merlot	5%
Cabernet S	3%
Syrah	3%
Grenache	3%
Ugnilanc	3%
Bobal	2%
Chardonna	2%
Sangioves	2%
Garnacha	2%
Monastrell	2%
Carignan	1%
Cabernet F	1%
Trebbiano	1%
Macabeo,	1%
Sauvignon	1%



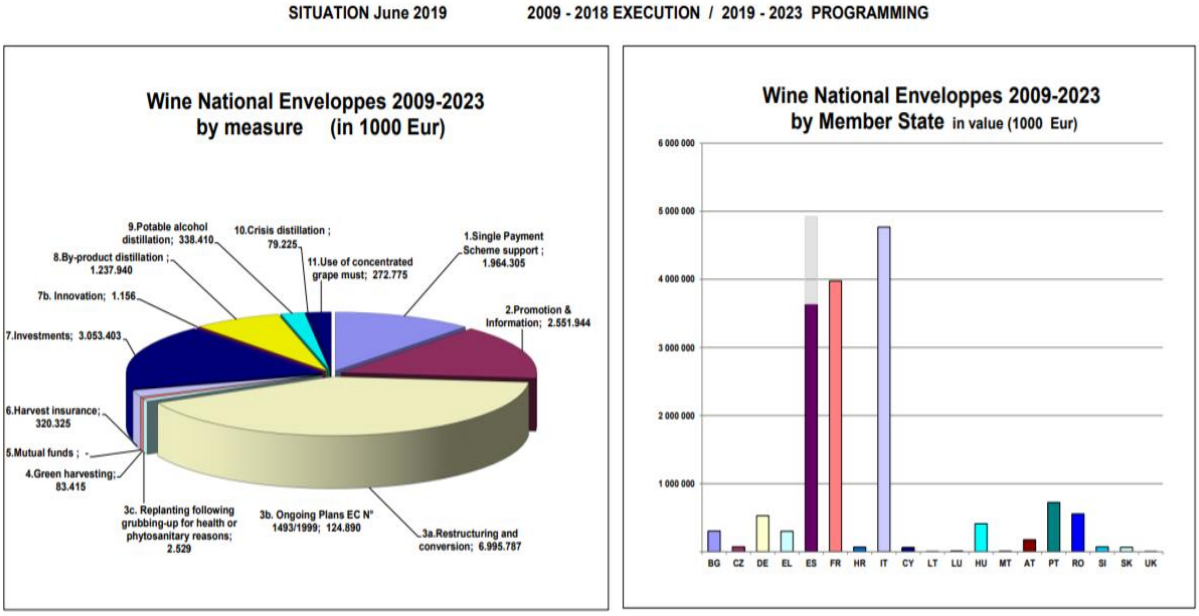
The figures show that the varieties with the highest rates of production and export are local, preserved with registered PDO vine varieties. Vitis Vinifera without PDO or PG Iare not present in table 8.

In order to establish the level of investment in the wine sector of the EU countries found to have the highest share of exports and sales of wines with PGI and PDO, official data are applied to analyse the relationship between inputs and reported results.

In Chart 1, it is evident that the countries with the largest investments in the EU are Italy, France and Estonia, which corresponds to the sales data of the countries mentioned above in table 7 and table 8. From the analysis carried out by the author of the research data of the Commission, Agrarian Department, It is evident that the investments made by Italy, for example, which has the highest share of sales, accounted for a return of 11.5% of the investment in the period 5 y., at country level, this title represents an exceptionally high profit.

With continuously increasing volumes of production and work with specific local varieties, Europe's leaders illustrate a positive picture, which can serve as an example when deciding to register local Bulgarian varieties in the cross-border region of Bulgaria – Greece and in general for the country. The statistics shown are intended to illustrate in figures the results of the measures applied.

Diagram 1. Ivnestments in the wine sector through EU-country programmes sub-data of https://ec.europa.eu/agriculture



4.3 Social protection of endangered local vine varieties in the regions concerned.

Speaking of social posals from growing indigenous varieties, the reasons why they are threatened with extinction should be stated. The androgenic and migratory processes in a national and supranational aspect within the big European family have led to depopulation of rural areas and lack of manpower. Low incomes in the extreme frontier regions, determine the desire of a large part of the young population to immigrate or seek employment in large cities. On the data of the NSI, the urbanization process in Bulgaria has been merged over the last 10 years at a high rate. The population is concentrated in the 5 largest cities, with mountainous and frontier areas deserted. The emigration process also marks high levels, with the percentage of young specialists in different scientific fields remaining in Bulgaria being very small. The factoring of the urbanisation process, low levels of availability with labour resources. The fact is that the private wineries and plantations in the border areas in Sakar, Sandanski, Vidin, Silistra and others, work with minimum levels of economic profit. Data from

the report of the University of Economics – Varna, printed 2018y Ing. Todor Tonev makes an analysis of wine cellars with almost zero economic benefit (profit).

In the monitoring of developing economies and speed of turnover of goods, in the context of the labour intensity of specific varieties and the examination of exemplary practices in the regions described, it is clear that the rate of satisfaction of consumer demand, the imposition of trends and innovative approaches in vinification is a starting point for success. The time for which manufacturers react to the demand of the wine market and plan their production, according to the models, is a unit for determining economic benefit. Further in this study, successful wine practices will be explored, in terms of investment and profitability, based on innovative methods, creative technologies and bio diversification.

4.4 Benefits of preserving biodiversity as a result of conservation of local vine varieties in the regions concerned.

In order to have a complete and overall effect, the current study on European and world achievements on Endangered Local vine varieties will address specific cases, from different regions in Europe and the world, who are bearers of good practices and can successfully be impleated in the cross-border region Bulgaria-Greece. The analysis of realized good practices in Australia related to the conservation of ecosystems in areas with specific topography will show an opportunity to work with organizations such as Natura 2000, Green Balkans, Information and nature conservation, etc., working on projects for the protection of natural resources.

To beginwith, it is necessary to define organic farming, which is laid down in Regulation (EC) No 834/2007, on organic production and provides: "Organic production is an aggregate system for the management of agriculture and food production, which combines best environmental practices, maintains a high level of biodiversity, protects natural resources and applies high standards of humane treatment“. "

The documents in the organic farming section of the European Commission underline that the: "Organic farming is characterised by the responsible use of energy and natural resources, the maintenance of biodiversity and the local ecological balance, the preservation and improvement of soil fertility, animal welfare and attention to their specific behavioural needs, to the methods of production applied, tailored to the preferences of some consumers to products produced using natural substances and processes".

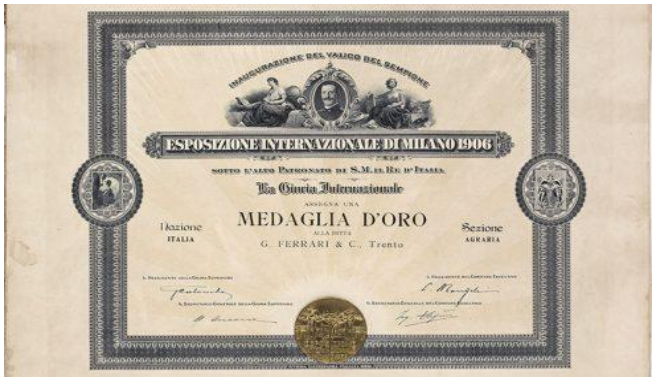
The conscious introduction and displacement of non-native species and subspecies has the greatest negative effects on biodiversity. The unique genetic resources of Bulgaria-Indigenous varieties of plants, wild relatives of cultural plants and indigenous primitive breeds of domestic animals-are reduced in number and quantity as a result of changes in land use patterns and in general in the agricultural economy. The loss of indigenous varieties Vitis vinifera and technical crops begins with the introduction of intensive farming and the cultivation of new varieties, the process is accelerated by the consolidation of the land and the collectivization of agricultural production. The wider dispersion and the greater productivity of foreign forms, leads to further pressure on local varieties. The same factors in animal husbandry , for example, have resulted in the loss or decline of indigenous breeds of animals. At present, 37

typical for Bulgaria breeds of domestic animals, which are endangered to a greater or lesser extent- 6 of them are already extinct, 12 are disappearing, 16 are threatened, and 3 are potentially threatened with extinction. They also reduce potentially important genetic resources, wild plants and wild animals, including rare species and Bulgarian endinites. The main factors for this reduction are the loss and destruction of habitats, illegal picking and lobe, hybridization between wild and domestic species, and lack of incentives and other measures to ensure their reproduction and preservation.

One of the measures that can be applied is protection of territories with specific species. Currently, the need for protection is 7.5% of the total area of the country, which would help to protect only a small share of national biodiversity. The fate of the protected areas and the biological diversity they hold is largely influenced by their geographic context-the wider landscape in which they exist. Preserving and restoring biodiversity is also important for the sustainable management of farmland, pastures, economic forests, vineyards and other land that are mainly used for business purposes, as well as aquatic ecosystems and fisheries, which they sustain. Land where biological diversity has been reduced, exhausted or displaced is a value for conservation purposes, including restoration of habitats, protection of watersheds and management of buffer zones.

4.4.1 Italy. The case that we are going to look at is the progrecive vision for development of sustainable biodiversity in the mountain vine growing represented by Ferrari Trento 1902.

The merits of Giulio Ferrari, founder of Ferrari Trento 1902, for modern ways and innovations in biodynamic winemaking are invaluable. His maxim is: "If you really want to be able to leave a trail, appreciate what you inherited from your ancestors."



The legend of Ferrari begins with Giulio Ferrari, whose dream is to create wine in Trentino, capable of competing with the best French champagne.

He is a pioneer in the popularization of unknown indigenous varieties. E. Ferrari was the first to realize the values of his area, and made significant chardonnay plantations, which is a local variety of known genetic origin. Devoting its attention to selected harvests, it achieves exceptional quality in the production of champagne.

Ferrari has no heirs to inherit his winery, so he chose Bruno Lunelli, owner of a wine shop in Trento to keep his case. Thanks to his passion and entrepreneurial talent, Bruno Lunelli manages to increase production without compromising quality.

Bruno Lunelli conveys his passion for the wine of his sons Franco, Gino and Mauro, who turn the Ferrari Trento winery into a market leader in Italy, and later in Europe.

The wines that remain in the story founder D. Ferrari are Ferrari Pink Brut, Ferrari Perle and Giulio Ferrari Riserva del Fondatore.

The third generation of the Lunelli family keeps Ferrari's dream alive. Marcello, Mateo, Camilla and Alessandro, lead the company with the aim of combining innovations and traditions, proving that Ferrari is an ambassador of Italian wine.

The Ferrari Trento Winery is a fully biodynamic farm. The methods of processing are passed down from generations to generations, with new technologies being implemented, without compromising the quality and purity of the production process.

The Trentino region is characterized by mountainous topography and climate, so sustainable agricultural methods are used. Climatographic conditions are a prerequisite for the favorable development of Chardonnay and thanks to the intuition of E. Ferrari, today the Trentino region is with the largest vineyards of the variety.

The winery is the first certified Bio producer in Italy, due to the use of live animals for the cultivation of vineyards, the non-use of chemical-based preparations and the creation of nesting conditions for 13 species of birds indigenous to the region.

Ferrari Trento is the first DOC Cellar in Italy. E. Ferrari defends the Classico method, producing sparkling wines AND naming it the Trento Doc. Today there are 40 manufacturers and more than 100 different wines bearing the brand Trento DOC.

The tradition of growing and vinification in the cellar has been observed for generations. At the end of the summer, when the grapes of Chardonnay and Pinot noir achieve full maturity, they are picked by hand, pressed manually and follow the primary fermentation, from which aromas are extracted, characteristic of the origin of the variety. After the creation of the cuvée, the base wine is bottled and enriched with sugars and selected yeasts. After that, the second ferment startstheone that creates the bubbles. The fermentation mixture remains in the bottle almost unchanged from two to ten years, depending on the wine. In the silence of the cellar, a daily ritual of turning the bottles is performed to preserve the quality of the cork. The precipitate should be removed by dekorling.

More than 100 years after winning the gold medal at the International Wine Exhibition of Milan in 1906. Seized Ferrari returned to the expo with the same desire for excellence and love for the Earth as its founder. These traditional values today discover new meanings to ensure the protection of the environment and the natural productivity of the Earth.

All vineyards owned by the Lunelli family, including those of the Ferrari wine cellar and the tent Lunelli, are cultivated according to the principles of organic farming, withsome vineyards already certified as organic, while others are in the process of transformation. 500 families of vine growers supplying grapes to Ferrari adhere to the organic principles outlined in the "E. Ferrari" standards. This rigorous protocol is certified by CSQA and aims at the creation and dissemination of a new culture of agricultural practices in the vineyard based on natural elements and sustainable methods that re-establish traditional customs, as manure and completely eliminate the use of pesticides and chemical fertilizers, thereby improving the natural fertility of the soil.

This in-depth commitment, conducted with the scientific support of the Edmund Max Foundation, provides a high quality ofgrape production, with a preservation effect on thetouring ecosystem, and generates beneficial effects on biodiversity.

4.4.2 France. The oldest organic winery – Domaine villet – Jura. A source of practical knowledge for improvement in the world of bioproduction.

The handbook for bioproduction of the French Ministry of Agriculture has had a huge impact in the last five years. The French Ministry of Agriculture developed as early as 2001. , an environmental farming system or a hve, with three differentiated levels that encourage farms and cellars, to focus on growing biodiversity, reducing the negative impact on the environment in their phytosanitary zones (i.e. plant disease control measures, reduction of pesticide use and fungicides), management of their raw materials for fertilizers and improving water management. Once a farm or cellar reaches the third and most rigorous level of the certification process, it is considered worthy of the title of "High Ecological Value" ("Haute valeur". An official label shall also be established by which producers with that status inform consumers of the value of their product.

- Level 1 is a prerequisite for access to the process obtained by carrying out self-assessment by the farmer, endorsed by an accredited auditor. Action plans are being created.
- Level 2 is the implementation of 16 "best practices" tied in 4 topics: biodiversity, pesticide use, fertilizers, water management. At this level the vineyard can receive the label for environmental certification, it is confirmed by an external audit.
- Level 3 is the highest level and provides certification HVE (high environmental value) for the entire farm operation. It shall include performance requirements measured either by composite indicators or by global indicators corresponding to the four second-tier themes. This level is also confirmed by external audit after 3 years of operation at level 2.

The logo may be affixed to finished products (including wine bottles) containing at least 95% of the raw materials from high-environmental value (HVE) farms.

In 2014, in its approach to support all types of production, to implement the principles of Agroecology, the French Ministry of Agriculture published a new handbook specific to the wine-growing industry. It clearly states that Agri-environment refers to an ecological approach to agricultural production and the promotion of sustainable agricultural practices. This guide responds to an important ambition of the industry, offering the opportunity to adopt a

progressive approach, while highlighting the best environmental practices. In an increasingly open world where we have a tendency to lost our starting point, "teroirr" and "province" remain the places where all the participants in the process gather. Relying on these two concepts, as basic, guideit, helps producers of wine, in a voluntary manner, to meet both the requirements of the public interms of reducing environmental damage. This is achieved by the loss of the world's Cellars of sustainable agricultural practices. Thus, large chain stores have the opportunity to offer wines to consumers coming from wineries of ecological value, and protect biodiversity. Through the handbook, the French Ministry of Agriculture supports the implementation of the measureand biocontrol, ensuring better water management and the use of chemical materials in a way that is bestadapted to agri-environment issues.

A similar document, like the French handbook, will be generated by the current program "Vine SOS", thanks to the overall commitment to the problem of protection of local vine varieties. A strategic document will be prepared, DNA analysis of the preservated local varieties for the cross-border region of Bulgaria-Greece, and realized joint trainings of winemakers, vintars and experts involved with the problem.

Domain Villet is a certified winery, the territory of France, Jura.

The vineyard of Jura is one of the oldest vineyards in France. The work of archaeologists has established that the presence of the vines dates back about 5000 y. Since 80 c.h, the wines of Jura have been quote by Plinii the Younger and are described in the historical documents in Aroba in the X century.

Today, the main lines of development of the Vineyard are established on the basis of quality. From 20 000 hectares of different qualities in the late 19th century, the Jura vineyards are concentrated on the current area of 2000 hectares of the highest quality.

The appeal Arbois is the first French AOC to date (decree of May 15, 1936). Today it is also the first of the Jura in production volume, in the range of 45 000 hectolitres per year. The vineyard stretches for 843 hectares. The five grape varieties permitted in Jura are eligible for AOC Arbois. Red varieties dominate due to soil quality. In uneven terrain with callotes the, soil consists of very deep iridiscent merchangels and clay-silicon components.

Character and typing, richness and diversity are typical qualifications that perfectly determine the wines of the Jura. The five varieties cultivated in Jura, assembled and vinified in different ways, allow the development of a wide range of wines. The red wines, which make up the cellar Domain villet are: Poulsard, Pinot, Trousseau, Blend, white wines are: Chardonnay, Savagnin, Blend and vin Jaune. The sparkling wines are vinified Crémant Blanc and Rosé. The sweet wine is Straw wine and Macvin du Jura.

Specificity of cultivation: On a first place, the vine is sitting throughout the winter. Then come mechanically grinding and ploughing to limit the spread of grasses. The grass cover has a positive effect as it prevents the appearance of culverts in the soil, on the slopes during the frequent thunderstorms in the region. This grass cover in conventional vine culture tends to feed the impoverished land and to help its food riches.

At the end of winter, the vines aretrimmedt to prepare for the upcoming harvest. Depending on the strength, The base of the vine is preserved one or two sticks to provide fruit buds. Then these sticks are tied in the shape of an arch to facilitate future growth. This is the region-specific tying method.

With the appearing of leaves and first buds, followed by primary clusters, the vineyard is raised and trimmed. The process consists of the removal of at least 50% of the leaf material.

Only healthy grapes are used in vinification. If this condition is met, it will be sufficient not to add any yeast other than those that have naturally evolved over the grape skin. The advantage of the own yeast formed is that the standardization of the taste of wine is avoided. Wild yeasts allow terror to fully express all of its specificities.

The new specifications on the vinification of organic wines include the use of sulfur dioxide (SO2), a stabiliser which prevents the oxidation of wine. Sulfur dioxide should be used sparingly, because it is difficult to eliminate from the human body and very often causes an eyelashin the course of wine consumption. In Domain villet , homeopathic doses of SO2 are used, which are 5 times lower than currently authorised. Domain Villet Use the following bio diversification methods:

- Conservation and development of biodiversity: e.g. planting of hedges and strips of lawns, reduction or elimination of the use of herbicides, development of agroforestry, etc.
- Mastering and reducing fertilization: limiting the use of nitrogen fertilizer, introducing practices of using Impulse crop and compost fertilizers.
- Limiting the use of phytopharmaceuticals by improving the efficiency of the products used, by using an effective pulverizing material that restricts air displacement and thus carries out biocontrol.
- Promoting better management of water on the holding by: Use of stormwater and of course naturally drained wells. The overplanting of the plots is avoided, surrounded by hedges of branches, the areas in which, there are natural habitats of wasps and coses.
- Use of plant species which are more adapted to agro-ecology, which are naturally genetically adapted to the characteristics of the area and are more resistant to drought and diseases.

The study proves that perseverance brings results. Domain Villet is an example of a mountain terroir which is comparable to regions in Bulgaria, around the Vratsa mountain, Sakar Mountain, in front of the mountain fields, Struma River valley, etc.

4.4.3 The Bio Di Vine Project – the only international practice in the field of bio diversification. An idea of France, Portugal and Spain, which includes research and management of the biological equilibrium in six areas of the above mentioned countries in the field of viticulture and winemaking. The conclusions of the study can be used to introduce similar practices in the cross-border region of Bulgaria – Greece.

The Bio Di VineProject, includes research and management of biodiversity in wine-growing regions Sainte-Emilion, Limbu and Kocoster de Nimes in France, Douro in Portugal, as well as Rioja and Penedès in Spain. This project is part of the European Life + 2009/2014 initiative, aiming to determine the interest of the arrangements in the wine-sector regions and the

adaptation of crop management on biodiversity, the landscape and the overall environment. The study period was 2010-2015y.

The objectives of this project stem from three complementary areas: environment, agronomy and landscape. Specific actions are implemented in each area to conserve and create semi-natural complementary areas in vineyards. In parallel with the arrangements, It is planned to develop alternative protection of vineyards. Mapping analyses were carried out at the end of the project to assess the scope of biodiversity conservation and enhancement activities through appropriate protocols for the various specialties in the field of biodiversity.

The Bio Di Vine Project includes the study and management of biodiversity in vine-growing landscapes on the territory of France, Spain and Portugal. The initiative supports the innovative activities in the field of nature conservation and biodiversity, contributing to the achievement of EU objective of preservation loss of biodiversity. The subject of research are local vine varieties and the wines produced by them.

Research on funonal biodiversity and terroir connectivity shows that new opportunities arise when ecosystem management is complete.

The vineyards, located in the valley of Loire (France), have already been subject to a biodiversity programme for several years, as well as Saint-Emilion, Limu and Kocoster de Nimes in France, Douro in Portugal, as well as the Rioja and Penedès in Spain.

Project partners from French side, responsible for coordination and monitoring are IFV (the French Institute of Vine and wine) and the ARD-VD (Association for Research and Development in the field of sustainable viticulture) The Spanish partners are ICVV (Institute Cervantes) and DIDB (Diputacio de Barcelona), which carry out the technical activities. Portugal is responsible for the demonstration methodologies, administrative and logistical management.

Activities carried out under the project Bio Di Vine:

- ✓ Planting local vines on 175 hectares of lawns and 245 hectares reseeding on old. The agreement between the States excludes duplication of varieties. France planted Sauvignon blanc, Spain Tempranillo, and Portugal Touriga Nacional.
- ✓ Construction of various types of hedges for the preservation of flora and fauna in the studied areas-70 km total.
- ✓ Modernization or restoration of existing stone walls, further afforestation with local wood species, etc.

The activities aim to improve the overall biosphere, the terroir structure, but also to contribute to the control of pests and diseases, to reduce soil erosion and elation, as well as to reduce the pollution of water with pesticides. Appropriate landscaping, applied topically, would be an element of environmental response in the absence of androgenic or economic activity. This allows for interaction of the environment with the reflection and improves the landscape.

In parallel with environmental protectionactivities, the project plans to strengthen the implementation of the integrated protection of vines, especially through the use of a predictive model for diseases, by a method of destroying the mating of pheromones, and the optimisation of spraying with natural preparations.

Monitoring is carried out by the RBA Method-Rapid evaluation of biodiversity, microbiology of soils, botanical plants, birds and small mammals. The "RBA" method, developed in Australia by specialists of arthropods, led by the Prof. Oliver assesses biodiversity by trapping arthropod systems. The unit of measurement is "morphthe".

For several years M. VAN Helden has developed this method in various French wine regions, both in landscapes and in the area of the plot. This process, provides an opportunity to create an environment in all the monitored observed, controlled by the ARD-VD.

In addition, each object is made cartographic analysis, through aerial photographs and field studies.

There are places for monthly, organizing "open doors" of experimental sites and training workshops on the project.

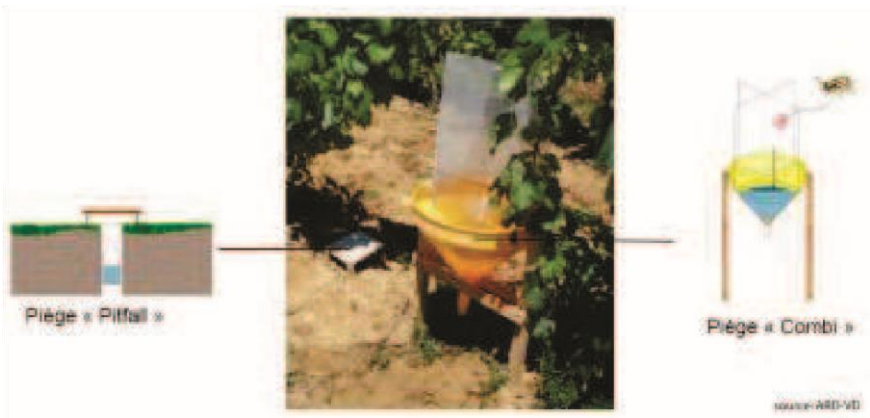


Figure 4. RBA-capture system for capturing arthropod insects and flying insects.

The conclusions are that an environmental assessment in the scope of all specific actions helps the restoration of wild flora and fauna according to the different European bio types-Atlantic, Mediterranean and continental. The assessment of the team agronomists, takes into account the positive effect of biodiversity and mainly the presence of arthropods that limit the fungus on the vine.

The dynamics of soils restoration for closeing them to the terroir of the studied regions is high. The habitats of the various representatives of flora and fauna were restored to 70% over a period of 3 years.

The project has successfully demonstrated that the introduction of environmental plans and measures in economic effectively support the work of wine producers while respecting biodiversity.

4.4.4 Australia – Successful practice for realization of self-sustaining bio system of closed type and production of wines. Pence Vineyards & Winery.

"Cool Sunlight" – Caroline Gilby – defines the unique nature of Pence Winery after visiting the famous lady, master of Wines.

The biodinamic Pence Cellar, located in the Pence Valey, offers a different perspective. Land of 670 ha. as the vines are processed manually. Olive trees are grown, from which olive oil is made. Almond trees, whose nuts are used as a natural stabilizer for the wines. Grown vegetables for the own needs of the restaurant in the property and actively sold in high class restaurants.

Part of the vineyards already existed when Stefan, Blair and Daniel Garebay decided to sow the earth with more grapes. They are attracted by the terroir and natural conditions for growing vines. On the territory of the winery there are natural wells and a river in which the water is of exceptional purity and serve as a watering. In order to beaware of the exact varieties, and exactly where to plant, the young owners use a radar hydrological and geological survey, which gives a precise idea of which species are best suited for the terroir and which pads to be used in their sowing.

The team was joined by S. Moran, one of the most famous wine specialists in Australia. Stefan has intolerance to "specialists with diplomas, who are entangled in their own high-steam words, and can not see the most precious – the earth". The decision that the farm and the cellar will not use chemical agents, but will rely on sensory instruments related to vinification, such as smell, touch and vision is irrevocable. Stefan and Blair believe that wine and food must be a dream.

Pence produces more elegant, restrained, european-style wines. The winery is already 10 years old, and the staff has not been replaced. They all live in a self-supporting ranch.

Climatic conditions tend to be constant, free from storms and hail, with the typical northern parts of Australia This helps the grapes, which thrives in the vicinity of crops such as strawberries, avocado, cauliflower, and broccoli. Horse riding conditions, attract young and prospective owners to increase their farm with horses and cows.

Besides fulfilling all the conditions for self-supporting the owner, Pence manage to impose their various products in the best restaurants, thanks to marketing, which as is expressed Blair is a "hand in hand". The quality of the products is the first thing that begins, but the wine pulls the nuts, nuts pull olive oil, olive oil vegetables, wine meat and etc.

Biodynamic holding Pence, used the techniques of Bill Molson and David Holmgren, developed in the early 60-20s of the twentieth century for permaculturure, as a systematic approach. Pence have set a goal to create a sustainable, productive farm to satisfied the needs of the farm and to harmoniously integrate the people and the land. In their plan the owners have takeninto accountthe ecological processes of plants and living, their nutritional cycles and climatic factors. Inhabitants ' needs from food, energy, shelter and infrastructure are met by tried-and-tested technologies. All humans, animals and other species live together with their interactions, with the products of one element being a resource for another. In a typical permaculture system the work is minimized, waste is converted into resources, productivity and yields are increased and the environment is restored, and the farm generates economic profit.

The Australian Cellars, managed with ease to adapt to the bio diversification methodologies for cultivation, stewardship of vines and creation of farms. They are favoured by the fact that there are no local varieties to be imposed on them, as they look at the overall picture of the construction of a complete self-sustaining business unit that exists in harmony with its surroundings.

In Bulgaria there are areas where there are no obligatory varieties for cultivation, which can achieve success precisely by creating self-supporting farms that will fulfil the conditions for organic products produced in natural environment. Such areas are Veliko Tarnovo region, Yambol region, Kardzhali region, part of the Danube plain in the region of Montana, etc. When the conditions set by law for PDO are too stringent with manufacturers, and they do not tend to work on their norms, the creation of a self-sustaining farm with a marketing plan, has a guaranteed success.

5. Analysis of the data obtained from the study of European and world practices while preserving local varieties and working with them.

5.1. Applicability of the cases examined with the similar in the cross-border region Bulgaria-Greece.

The basis of the present study is to find positive solutions, in terms of preservation and biodynamic production, which will share the local vine varieties in the cross-border region of Bulgaria-Greece and to make the need for their protection. Only, the successful implenating of the varieties, both economically and in institutional terms, can give the necessary impetus to protect the gene Vine fund in the region.

The findings of the described cases show that, despite the importance of the terroir, natural and climatic fators, any system of balanced interaction with the surrounding environment can be effective as long as it adapts to the specific conditions. Biodiversification, Biodinamic Cellars, Permacultural farms and all measures affecting the conservation of the habitats of existing species in an ecosystem are applicable. The only desire to achieve success remains.

The cross-border region of Bulgaria-Greece is specific. The successful measures of the French Ministry of Agriculture, or the typical for the Italian DOC Areas, successful measures, implemented in practice, would give a positive effect to all the directions considered – ecology, economics, social and androgenic aspect. The important thing is to implement them correctly and in harmony with the existing economic situation.

5.2. Wineries in the cross-border region, which could implate positive good practices from the studied European and world examples.

The need for practical orientation and applicability of the current research requires its relationship with real production characteristics. It is for this reason that specific examples of possible introduction of biodynamic practices with old local varieties should be indicated. This process will give, further impetus and reason for the continuation of work with the vines. The feasibility analysis, gives a clear picture of which varieties from the cross-border region can assign good practices from Ferrari Trento, Domaine villet – Jura or Pence Valley. The document specifies a specific comparison and analogy with already successful applications.

In preparing the study of European and world achievements, concerning endangered local vine varieties, information was gathered in parallel to prepare an integrated strategy for management and protection of local bio diversity in the cross-border region of Bulgaria – Greece. The activities of the Vine SOS project include collection of samples for DNA analysis from endangered local varieties in the territory concerned. The most interesting and practical activity was the visit of wine producers in the region.

The winemakers in the cross-border region are ambitious, well-built and stubborn. Voiced opinions, gave recommendations and demonstrated readiness to implement new techniques that would improve their work. The wines produced in the region have exceptional qualities thanks to the favorable terroir.

This study sets out examples of the world and European wine culture, which can be impleated in the cross-border region without a problem.

Specifically:

"Yamantievi" cellar– thanks to its unique location, can use the experience of Pence Valey and plant olive and almond trees. Terroir around Ivailovgrad, allows coexistence of cultures. At the moment the vines of the winery are grown almost organically and the registration of the cellar as a biodinamic is a matter of fighting documentation.

"Brattanov" cellar – can protect PDO Tamanka and prove its varietal independence, thanks to their old plantations. Owner H. Bratanov and his wife are a step away from creating a biodinamic cellar, and their potential is enormous in terms of competence and professionalism in viticulture and winemaking. The ancestral, own vineyards of the Brattanov family are the source of primary branches Vitis Vinifera L.

"Little Star" and "Chateau Kolarovo" cellars-have their own plantations Merlot and Mavrud, planted by Prof. Moser more than 40 years ago. This fact and the young team vinifying the wines favour the possibility of preservation the whole area, such as PGI with PDO.

Terra Tangra cellar – The innovators. The winery, which looks forward to the future and is designed to produce organic cider. It is here that self-sustaining farms could be built.

"Villa Melnik" – thanks to its old plantations wide Melnik vine, could register PDO and vinify the variety with a special mark on the label.

"Orbelus" – The winery is one step ahead in terms of bioproduction. Following the example of Pence Valey, Orbelus can expand its assortment and implement the "Hand in hand" marketing strategy.

6. European and world organizations, their activities and simple results in the field of preservation of dissapearing types of vines.

Firstly, we will look at the EU proposal for Biodiversification within the member states and how it would affect Bulgaria, in particular the trans-border region of Bulgaria-Greece.

The EC delivered a report and a proposal for the "Biodiversification" project within the EU, which aims to demonstrate the benefits that come from strengthening the landscape structures as a means of restoring and preserving the biodiversity in the vineyards. The evaluation of actions aimed at preserving biodiversity in the various European biotopes, under different programmes, has proved the usefulness of a such project.

The countries to be included in the project will provide vineyards, with protected local varieties in which to experiment with methods aimed at agronomic benefits from the use of arthropods and invertebrates, for the prevention of fungi and parasites on the vines.

This is the second of this type of project, implemented in Europe, in the specific case, the data drawn up will serve as a decision for the entry into force of a regulation prohibiting the use of chemical products throughout the EU.

Many producers are opposed, considering that such are a prerequisite for epidemics, such as philoxcera and the efforts to isolate extinct strains affecting agricultural crops that would have a detrimental influence if they reappear.

In Bulgaria, 80% of the manufacturers use chemical reagents and preparations for pest control, in the data of the MAF.

6.1. National Angences and winemakers organizations in Italy. The advantages of the system of organization and application of the Law category of 1992y. Suitable for implenate to the Bulgarian legislation criteria for Vitis Vinifera.

As discussed above, the Italian law on wine and Vines has its positive and negative sides. The implentiation of the criteria for determining variety the terroirly typing would have a positive effect on the Bulgarian law on wine and spirits.

The Italian Wine Institute works on scientific programmes financed by the EU and the state, as the subject of the development is determined by a survey by the Italian winemakers. This is a positive and easily applicable practice in Bulgaria, which synchronizes the work of the wineries and intitutions.

6.2. National agencies and wine organizations in France.

Wine Mosaic at Vinisud – is a non-profit organization whose supranational activity is determined by the discovery of unknown varieties and their description. In 2014, a team of oenologists, technologists, sommeliers, winegrowers and lecturers, assembled at random, created Wine Mosaic at Vinisud. The team aims, to also promote local varieties from the

Mediterranean, to monitor producers using innovative techniques and to provide proposals to state and European organizations that take legal decisions in the field of winemaking.

France is known for its “Institute wine and Vines”, in Bordeaux, which is a symbol of credibility and perfectionism, in terms of its research activity. It is there that is signed the handbook for biodinamical production of wine, which subsequently is the basis for the preparation of similar documents in Estonia, Chile, Argentina and others.

The role of different national and non-profit organisations and the ways in which they regulate and stimulate demand for solutions and cases in the wine sector are different from the methods of the institutions. France, for example, in every region has a union of oenologists, Union of Winemakers, Union of organic producers, etc. These organisations generate proposals for legislative changes and include in France's national strategy, topics that are relevant to the future development of the sector. The authorities shall stimulate the initiation of the issuations and their respective decisions, according to proposals from producers and harvesters. The strength of the organisations in the country at regional level is also reflected in the overall picture of wine production in France.

6.3. World wine organizations and scientific institutes conducting research on Vitis Vinifera. Most research that is conducted is in the field of preservation and the benefits of working with old indigenous varieties, on the territory of a particular area.

The Australian Wine Research Institute- Australia

- Isolation of bacteria, from acetic acids destroying fungal colonies on the leaves of the species Pseudopeziz tracheiphil.
- Study of the molecular level of tannins brettanomyces.

The University of Adelaide – Australia

- Laboratory isolation of pheromones in arthropod, affecting vineyards in their entirety.
- Development of a genotypic identification method for botanical species.

Instituto de Ciencias de la Vid y del Vino-Italy

- Study the influence of tannins, depending on their type and origin on the human organism. Connection between the genealogy of Vitis Vinifera and tannin content.

Université de Bordeaux – France

- Scholarship program for training of Oenologists.

Catena Institute of Wine – Argentina

- Scholarship program for training of Oenologists.

Stellenbosch University Stellenbosch University, Faculty of Enologie – South Africa

- Scholarship program for training of Oenologists.

Oregon Wine Institute – USA

- Scholarship program for training of Oenologists.

7. Educational institutions in Italy, France and Australia have an important role to play in achieving good results, for biodiversity in viticulture. Most universities providing training programmes, in the field of viticulture and wine and have scholarship programmes funded by the countries or international organisations concerned.

Often the business community finances training programs for specialists in the wine sphere. The Duso family in France has established a scholarship for students who want to develop new methods for achieving high yields for the vines, for example.

Targeting investments in biodynamic products is the most popular at the moment. Italy, France, Poland and the Czech Republic have established units in the Ministry of Agriculture and have set optimistic forecast deadlines for analysis of future results. Achieving results is a consequence of integrated actions by the State and educational institutions.

8. MBI programs. Over the past fifteen years, the world has been open to technological innovations in the world of winemaking. However, consumers are the ones who dictate fashion and determine demand for wine products. The experience of wine connoisseurs, increasingly leads to desire for satisfaction with the quality of wines and the producers are forced to maintain a high level of competence in production. For this reason, the MBA programs became popular and demanded by winemakers. They provide a marketing picture in an accessible language through which specialists, technologists and oenologists can enter the world of the consumer and create the wine demanded by the market.

In recent decades, world wine production has undergone fundamental changes, characterised by the emergence of new world producers and the change in consumer behaviour. The new form of competition has imposed strict rules and technical standards for wine, streamlining processes, certificates and reducing costs in order to increase international competitiveness and profitability. At the same time, the rise of organic wines, especially in France, has increased due to changes in consumer awareness and innovative projects of producers supported by State subsidies.

Countries such as Argentina, Canada, Chile, China, Germany, New Zealand and Spain have not established special programs for wine business. They focus MBA programmes in agricultural schools.

In many cases, small growers grow grapes and produce wine with experience passed on from generation to generation. Fortunately, many young producers are aware of the role of Innovation, which give additional economic value to their production and Create new jobs.

Through the MBA programs, the world of business connects to the world of wine, makes it understandable and generates success.

9. Good practices in imposing international markets on traditional local varieties. China's attempt to enter the international wine market.

As the financial crisis passed, world exports of wine reached new peaks. In 2012, it reached 22 billion euros. Vineyards in Europe are declining but are rapidly spreading in Asia. The Chinese have become the largest users of red wine and are presented as increasingly adept producers.

Over the last fifteen years the area of Chinese vine plantations has doubled. In 2013, it amounted to nearly six hundred thousand hectares. So China, has the chance to become a world giant, in the field of viticulture, while the vineyards in Europe are declining-three million and a half hectares, of which eight hundred thousand in France.

The wine raises an unprecedented interest in the country. Production is growing very fast and consumption is also growing – just over a liter per year per capita, against forty seven litres in France and thirty seven in Italy. This constantly growing market is new Eldorado for both domestic producers and foreign exporters. In 2014, Beijing was already one of the largest customers of the Bordeaux region.

Although the vine is knownin China for two millennia, winemaking and mass production date back to the 80s of the XX century. Until 1990, only Hebei provinces (around Beijing), Shandong and Xinjiang produced wine, under the control of several large state-owned enterprises, which continue to be leading in the sector. At the beginning of the XXI century, however, China has developed a new partnership with Europe and established joint ventures with remarkable success – fifty nine thousand companies accept the Western investment today and this allows, gradually to convey a number of knowledge. Partnerships with multinational companies such as Miguel Torres, "Domek", "Pernoud Ricard" and "Castel". Beijing opens its economic area, but retains some principles – farmland is an unbeable Chinese good, and access to the land goes through long-term lease contracts concluded with the state or with local partners.

Cooperation between Saint Emilion and Liaoning makes it possible to restrict imports, thanks to transferred capital and technology. The French state invests 2 million euros and creates a wine area in Habei Province. In the event that later the project is bandoned, the ruped experience gives rise to the opportunity, to tie up partnerships, to exchange the various projects of varieties and wine and to train the first Chinese specialists. So, Li Damei, becomes one of the best wine specialists, advisor to a number of major wineries in the country.

Since the beginning of the 21st century, the wine-growing is connected with the desire to develop the western part of the country and the provinces, left aside from economic growth. Sinczjian, Inner Mongolia, Nincia and Shanci become "priority investment regions". Local authorities hope that the wine industry will limit the depopulation of rural areas and create jobs. New vineyards appear, sometimes of small size, with the ambition to produce quality wine. Irrigation, especially near the Yellow River, allows to start production in these desert and cold regions. In order not to freeze the plantation, the vines are buried in winter.

For the authorities, the wine symbolizes the inclusion of the country in the process of globalization and strengthens the image that they want to affirm. China does not want its influence to be kept to cheap production and relies on goods with cultural and distinctive dimensions. Wine should be a national brand in the global Battle of "states ' brands".

Investment in wine is explained as a contribution to the Chinese collective project, not as a personal dream. However, this does not prevent young specialists of wines like Emma Gao from the Wine cellar "Silver Heights" (Nincia) or Chjan Tzzin from "Czybelan" (Nincia), to be noticed by the British magazine Decanter or the magazine French wine.

A serious barrier to the growth of viticulture is the lack of appropriate land. Companies in the industry, explore the vast Chinese territory in search of the perfect place. Well-known consultants, but as the French wine specialist Gérar Kolen explains, "The three main regions – Habei, Shandong and Cindjian, have no future. In Cindjian there is a problem, because the planting of the vines is associated with an prohibitive expense due to shortage of manpower. I'm not even talking about the irrigation and the water supply. In Habei, the growth of cities is gaining impressive proportions. Villagers prefer to abandon land and work in construction". " As for Shandong, another Frenchman – Brüno Pomar, highlights the climatic obstacles: "high humidity combined with heat causes diseases. And the chemical treatment has its limits". " The ideal place for wine production has not yet been found, and China is now the fifth largest producer in the world for 2012.

At the same time, large Chinese agricultural companies develop a strategy in order to acquire funds for production abroad. For example, the wholesale COFCO giant, now owns the Chateau de Vaud (twenty-five hectares) in the Bordeaux region. He also bought the eight hectares of thecка Bisert Winery in Chile (bound to China with a trade agreement) and sought to deploy to Australia. Chinese companies are trying, to buy foreign brands, to offer them directly in their country. This is the case of Tsuan Van, owner of Belvon-Belsie, a recognized wine-growing area in Saint Emilion. In the Bordeaux area, a dozen vine arrays were sold to Chinese people. Some of them want to invest some of their wealth in a safe place, protected from possible political changes. Although there are more than seven thousand properties in the region, these few sales have had a strong concern in France.

Chinese companies abroad, foreign companies in China-These transactions reflect the increasing transnationalization of producers and territories from which harvest is harvested. The lifting of the proceedings is intended, firstly, to satisfy domestic demand – more than 80% of the wine consumed is Chinese.

Another example of the entry of wine products on international markets is the program of Spain for wine tourism, which won to the country already more then 1 milliyard for two years. It promotes varietysuch as Rioja and Tinto Fino, using as a basis a well-told story. The idea is the association of oenologists in Spain. Their proposal was, to make a promotional clip for Spanish wine, mentioning specific varieties, from specific areas in combination with sights. A small booklet has been released to the video in 4 languages, which tells a gripping tale of the wine route in Spain. The booklet is made as a map that leads tourists, to both tourist sites and wineries, which are hotels and provide wine tastings. The resourceful hoteliers, do not miss out the possibility to combine local delicacies with the wonderful wines, emblem for the region, thus, make the experience of the tourists full and satisfy the exotic quests of people. The Reputation of the small booklet – The map is gaining popularity, including as a romantic destination and people from all over the world visit the country.

In 2005, the Australian Expert Group on industrial Research in winemaking, after extensive research comes up with brief recommendations-requirements for wine producers:

- Increase of the consumption of wine per capita of Australian wines from 18.1 liters to 22 liters to 2025y.
- Enhance the image and reputation of Australian wine.
- Using innovation as a driver of competitive advantage.
- Improve the style of wine, quality, purity, uniqueness and diversity.
- Creating global leadership in specific branded market segments.
- Target of 6.5% worldwide wine production up to 2020y.
- Exploiting market growth opportunities by expanding industry capacity.
- Expanding the scope of industry participation in additional business sectors.
- Improve profitability.
- Reduce the import of foreign wines.

At first glance, the recommendations are concise and of a wishful nature, but in order to meet the short requirements wine producers are stimulated through small subsidies, in the form of success stories, such as the awarded Medal of Wine exhibition by a producer, published an article about the winery in a world-famous edition, and others. Soon the news of the small prizes given by the then Deputy Minister of the Ministry of Agriculture Bridget Mackenzie, makes the short guidelines to be discussed among the winemakers and taken into account. The popular in political life Mackenzie, makes short speeches, on the occasion awarded winemakers in the media, which contributes further to the promotion of the idea.

Two years later, started by the Australian Expert Group on industrial Research in the field of wine-making, campaign, as a joke it turns out a "national competition" between winemakers, with a positive effect.

IV. Conclusions

1. The described possibilities for impenting the cases in question, in the cross-border region of Bulgaria-Greece, are in particular realizable. In order to take into account a positive result, this study requires cooperation with wine producers. Their readiness to introduce innovations, in the work process is on.

   Apart from the analogies already made and possibilities for realization of different good practices, the study describes some problems, whose solution would lead to the practical realization of the idea of the project "SOS for Endangered traditional vine varieties". The creation of experimental fields, on the territory of vineyards, where their natural habitat is located, planted with thealtars of meat vines. This is in the case, with the reflection of Tamyanka in Brattanov celar and 40 years old vines of Merlot in Chateau Kolarovo. Stimulating preservation of autohotonic Vitis in their ecosystem, under the care of private owners, is not

a novelty. This tradition already exists in France and is maintained for generations, by certain families, for whom this fact is pride.

2. One of the positives of the present study is that the benefits of preserving local vine varieties and traditional methods of working with them are clearly outlined from a social, scientific, innovative and legal point of view. The balance between preserving existing traditions and keeping the region up to date with european and global trends in terms of marketing, production, biodiversification, etc. is a major task of the institutions and their work with local producers.

This study, can be useful in the main priorities, in the development of the sector in Bulgaria and Greece.

Remarks concerning the impetment of laws and state policies regarding the preservation of local varieties, after a visit to the cross-border region of Bulgaria-Greece, which clearly outlines the situation and problems in the region in relation to the wine-growing activities.

- The winemakers experience difficulties with the process of certification of wine production as a BIO product.
- Winemakers find this zoning inaccurate, and from there comes the inaccurate determination of the territory of the local old varieties.
- The viticulture is separate but related to wine-making work. At the moment there is no adequate payment.
- Eradicate local old varieties and replace them with imported, mostly French.
- Lack of sufficient information about the Biosupportive productions and the intitucionalnite conditions for their introduction in Bulgaria.

3. The role of biodiversity and the trends in wine production. The study, in its depth, is an opportunity to derive a number of conclusions, on the need to target the wine sector in the direction of biodynamic production. The cross-border region does not make an exception, its specificity in terms of topography and climatic features, provides an opportunity to create an area to be promoted as a bio-ecological reserve in agricultural terms. Agriculture and breeding in the region concerned have a real chance of promoting their bio-image among European countries.

4. The role of innovation in wine production. The innovations inproduction are not always technologically conditioned. One of the most important conclusions in this study, is precisely the need for a balans between innovations in the rapid production and the news in rediscovering the old viticulture and wine methodologies, but seen through the prism of the innovative 21st century approaches.

V. Methods used

The study of European and world practices, on the conservation of endangered indigenous varieties and their historical development, uses scientific reports, conclusions from practical studies and research, consultations with eminent specialists from the countries concerned, in the field of Vine-making, enology, genetics, history and organic production. The analyses and conclusions drawn, are made on the basis of statistics, from officially recognised sources for the relevant issues.

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