

**Interreg**  
**Greece-Bulgaria**



**VINESOS**

European Regional Development Fund

## Legislation in Practice



# Viticulture, table and wine grape varieties





# Historic review of their use worldwide

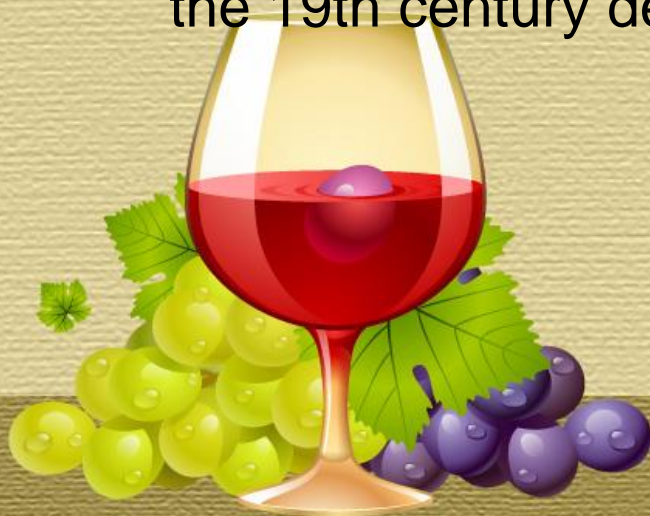
- The productions of grapes and winemaking have a distinguished place in world history. It is believed that the cultivation of grapevines originated in Transcaucasia between the Black Sea and the Caspian Sea in what is now Georgia and Armenia about one million years ago. Of all species of grapes the most suitable for making wine is *Vitis vinifera*. By 4000 BC, viticulture extended from Transcaucasia to Asia Minor through the fertile Crescent and into the Nile Delta. By 1700 BC, King Hammurabi of Babylon established laws on wine trade and wine consumption





# The Grapevine in Europe

- In Europe, the expansion of viticulture started from the Hitties in Anatolia and was introduced into Crete, Peloponnesus and Bosphorus. Through Phoenicians and Greeks, viticulture was introduced into North Africa (Carthage), Sicily, Southern Italy, Spain and France. Roman culture helped spreading of viticulture throughout the valley of the Rhine and into Germany. In Europe, viticulture grew steadily from the 16th to the 19th century despite a series of disasters.





## The Grapevine under Islam

By 600AD, Islamic law forbade the consumption of wine so this prohibition encouraged the cultivation of table grapes in the Middle East and North Africa.

### **Viticulture in the New World**

The earliest records of viticulture in the Americas date back to 1521 when Cortez ordered the planting of grapevines in Mexico, one year after its invasion. By the end of the century, Mexico was self sufficient in wine production. In the 1530s viticulture was introduced to Peru and within 20 years spread to Chile and Argentina. The first recorded grape crushing in the United States occurred in Jamestown, Virginia in 1609. On the West Coast, Father Juan Ugarte was the first who planted grapevines. Around 1770, the first vinifera were planted near Los Angeles.





# Viticulture in Africa and Australia

In South Africa, the first grapevines were planted by Dutch settlers in the Cape of Good Hope in 1616. In Australia viticulture began in 1788 but due to the humid climate all the attempts to grow grapes were unsuccessful. In the 1850s German Lutherans founded the now important wine industry of the Barossa Valley in South Australia.

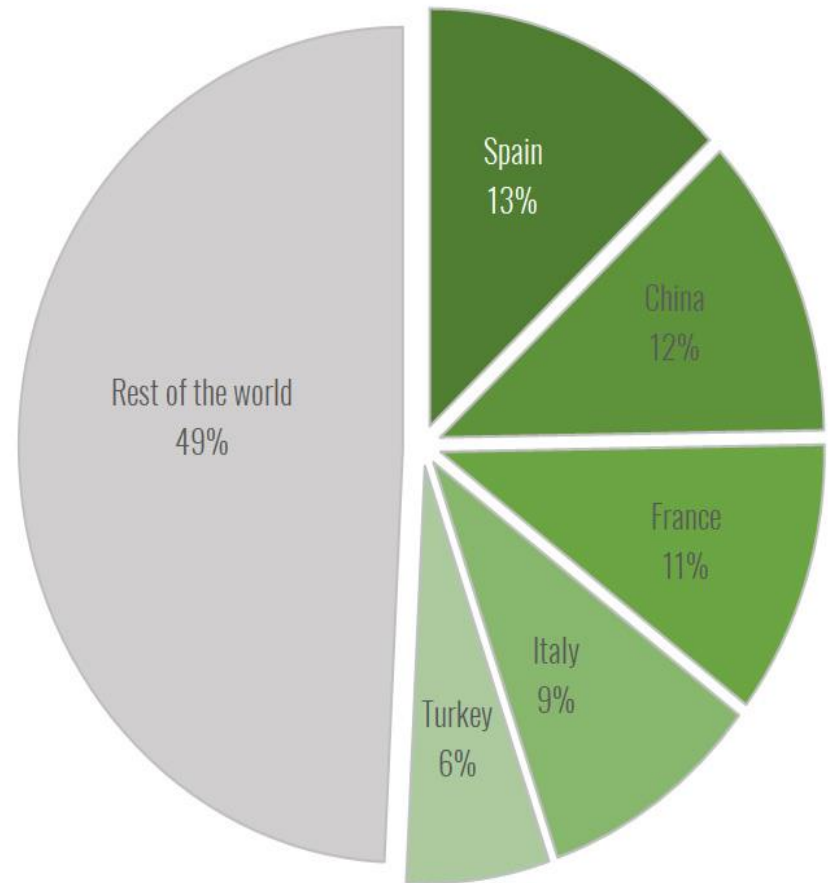




# AREA UNDER VINES

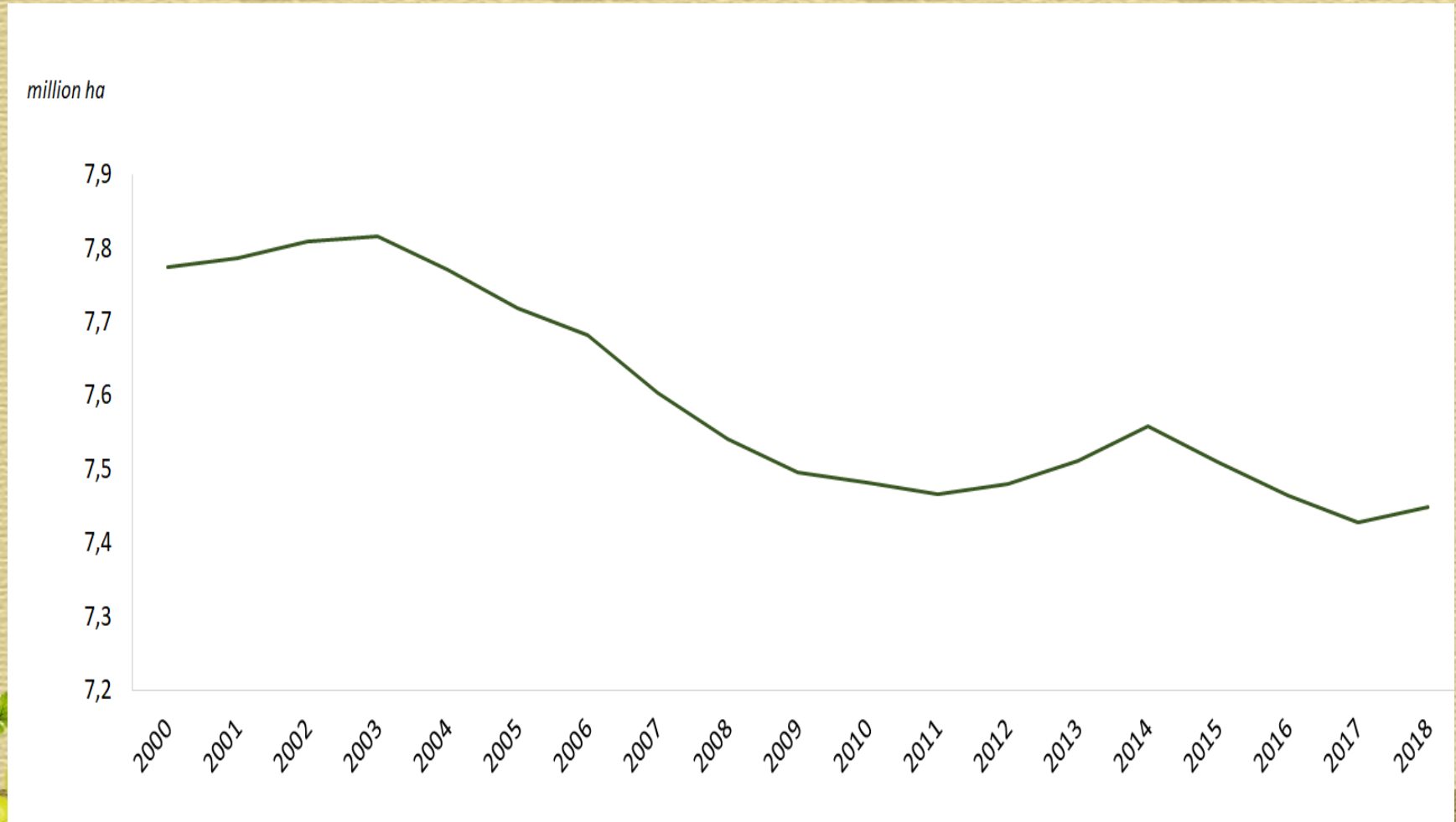
7.4 mha is the global area under vines in 2018

5 countries represent 50% of the world vineyard





# Evolution of world area under vines





# Main vineyards

Thousand ha	Year 2018
Spain	969
China	875
France	793
Italy	705
Turkey	448
USA	439
Argentina	218
Chile	212
Portugal	192
Romania	191
Iran	153
India	151
Moldova	147
Australia	146
South Africa	126
Uzbekistan	111
Greece	106
Germany	103
Afghanistan	94
Russia	92
Egypt	84
Brazil	82
Algeria	75
Hungary	69
Bulgaria	66
Georgia	55
Austria	49
Morroco	46
Syria	45
Ukraine	42



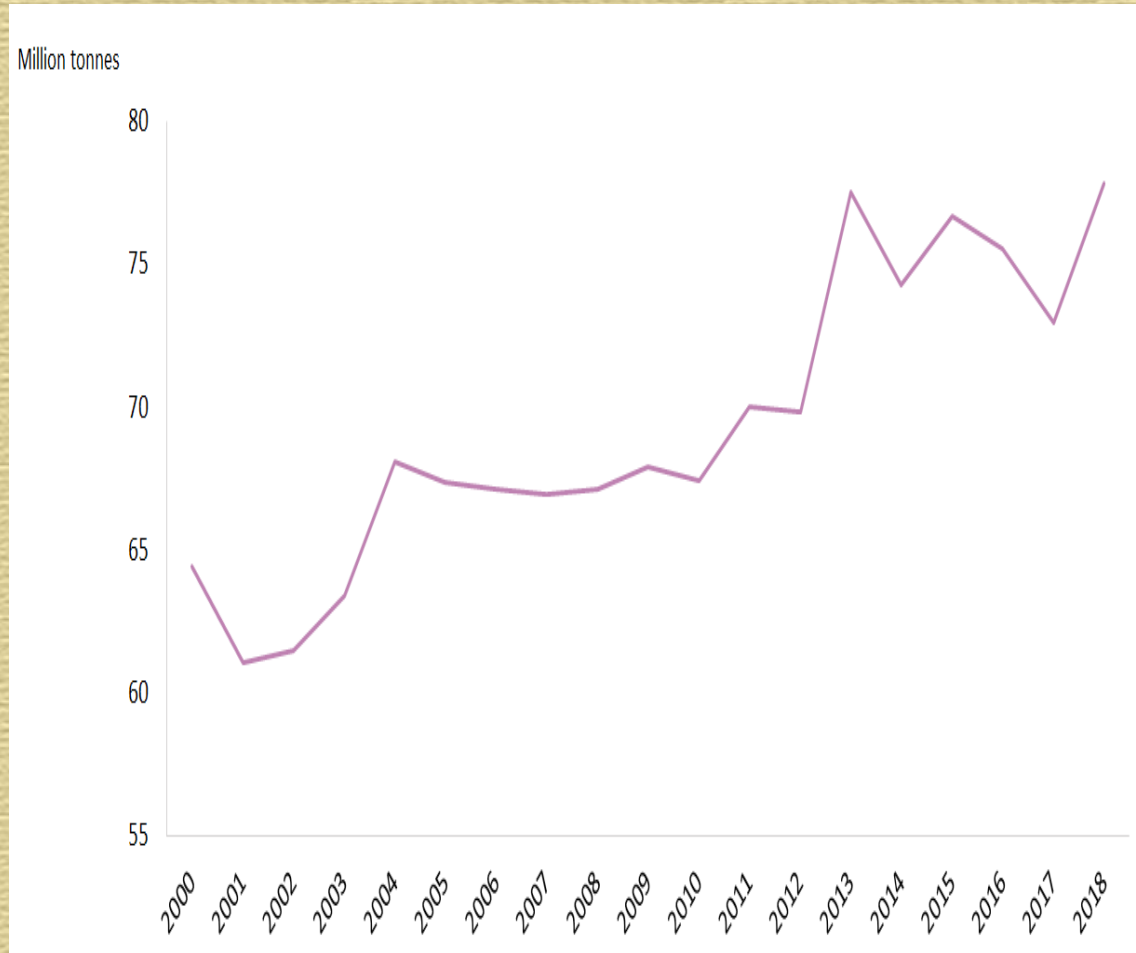
# GRAPES PRODUCTION

77.8 mt is the world production of grapes in 2018

57% of wine grape

36% of table grape

7% of dried grape

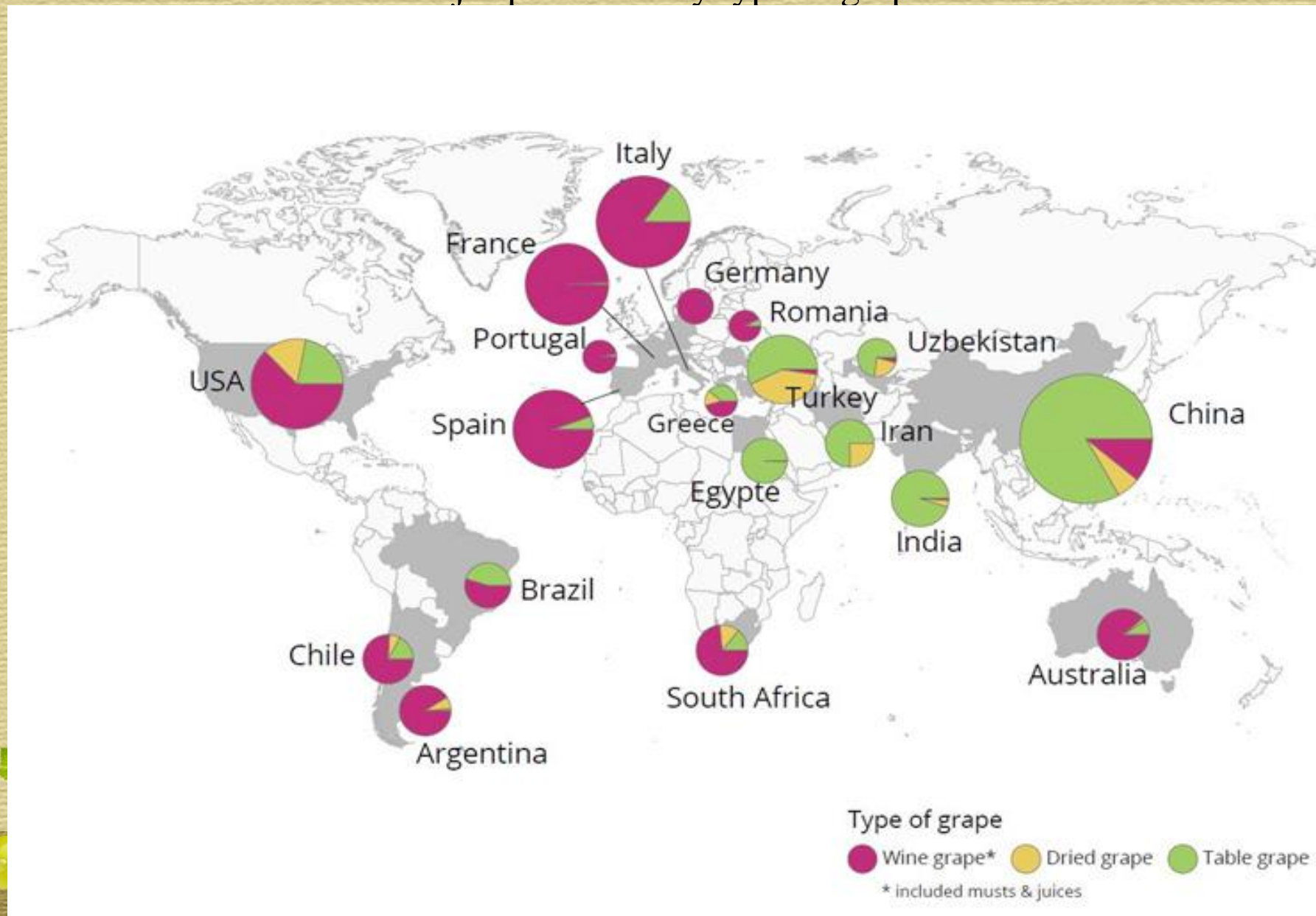




# Major grape producers

Major grape producers	Year	Production. 2018 (in %)		
million t	2018	Table grape	Dried grape	Wine grape
<b>China</b>	11.7	84.1%	5.6%	10.3%
<b>Italy</b>	8.6	13.5%	0.0%	86.5%
<b>USA</b>	6.9	16.3%	18.1%	65.6%
<b>Spain</b>	6.9	4.0%	0.0%	96.0%
<b>France</b>	6.2	0.4%	0.0%	99.6%
<b>Turkey</b>	3.9	56.1%	40.7%	3.2%
<b>India</b>	2.9	92.6%	5.9%	1.5%
<b>Argentina</b>	2.7	0.9%	5.5%	93.7%
<b>Chile</b>	2.5	26.0%	3.9%	70.2%
<b>Iran</b>	2.3	76.3%	23.7%	0.0%
<b>Australia</b>	1.9	7.1%	1.9%	90.9%
<b>South Africa</b>	1.8	15.8%	15.5%	68.7%
<b>Uzbekistan</b>	1.7	78.4%	17.8%	3.7%
<b>Egypt</b>	1.6	99.5%	0.0%	0.5%
<b>Brazil</b>	1.6	53.5%	0.0%	46.5%
<b>Germany</b>	1.4	0.4%	0.0%	99.6%
<b>Romania</b>	1.3	6.9%	0.0%	93.1%
<b>World</b>	77.8	36%	7%	57%

# Major producers by type of grape

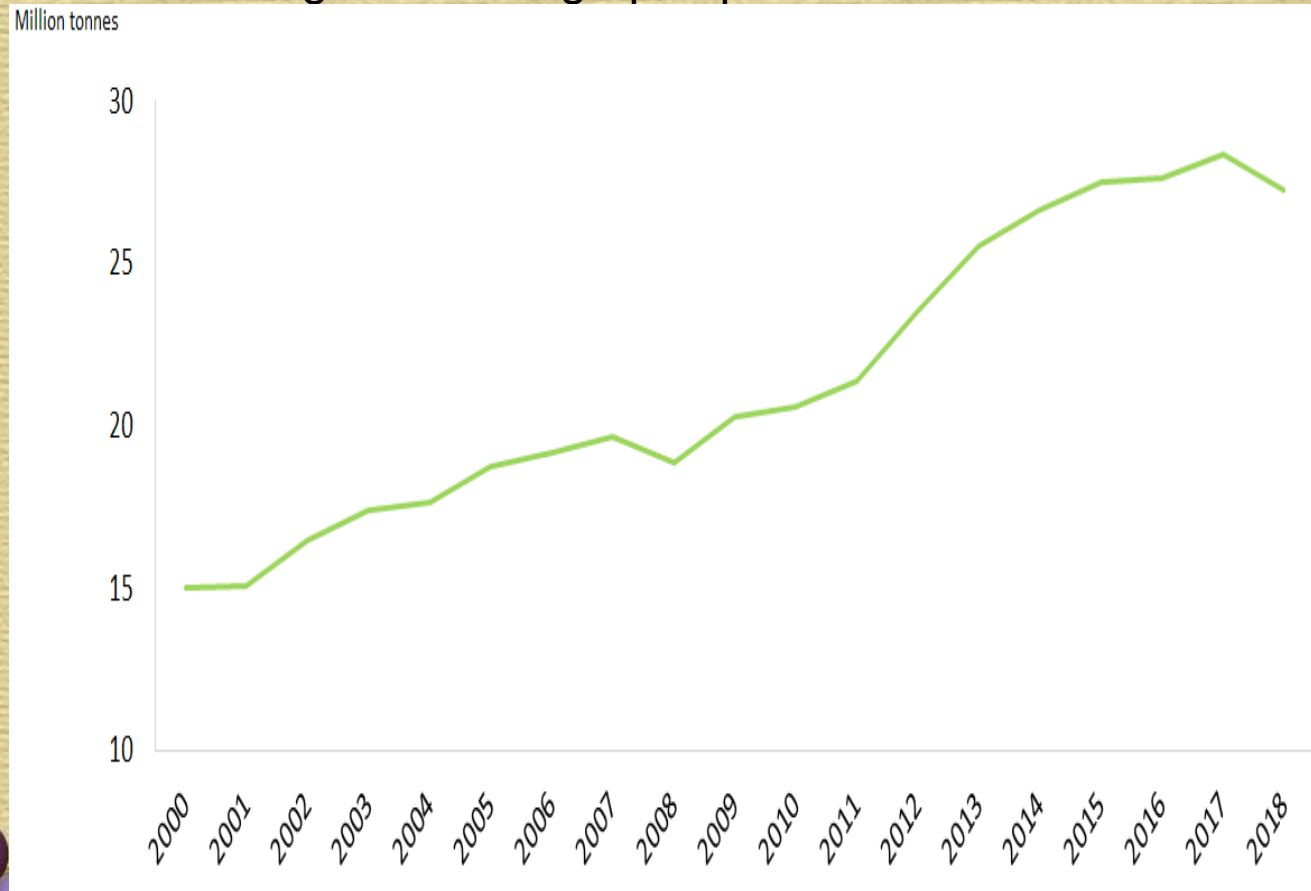




# TABLE GRAPES

27.3 mt is the world production of grapes in 2018

Evolution of global table grapes production



## Major table grapes producers

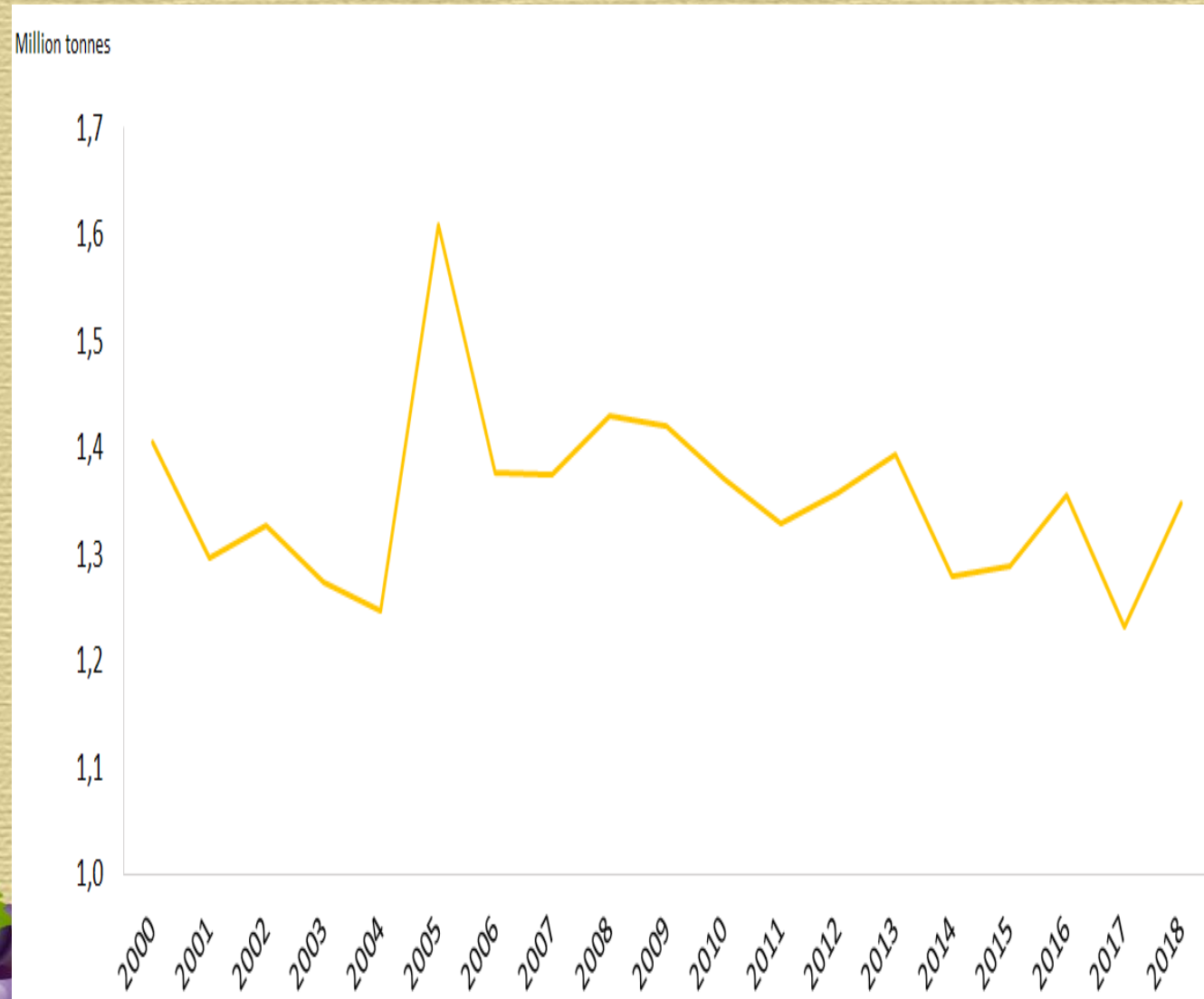
million t	2018
Chine	9.5
Turkey	1.9
India	1.9
Iran	1.7
Egypt	1.5
Uzbekistan	1.2
Italy	1.1
USA	1.0
Brazil	0.8
Chile	0.7
Peru	0.6
Mexico	0.4
South Africa	0.3
Greece	0.3
Spain	0.3
Australia	0.1
World	27



# DRIED GRAPES

## Evolution of global dried grapes production

1.3 mt is the world production of grapes in 2018



## Major dried grapes producers

thousand t	2018
Turkey	381.0
USA	263.0
China	190.0
Iran	150.0
South Africa	71.0
Uzbekistan	70.0
Afghanistan	38.0
Argentina	37.3
Chile	30.0
Greece	27.0
India	23.5
Mexico	18.0
Australia	10.3
World	1348



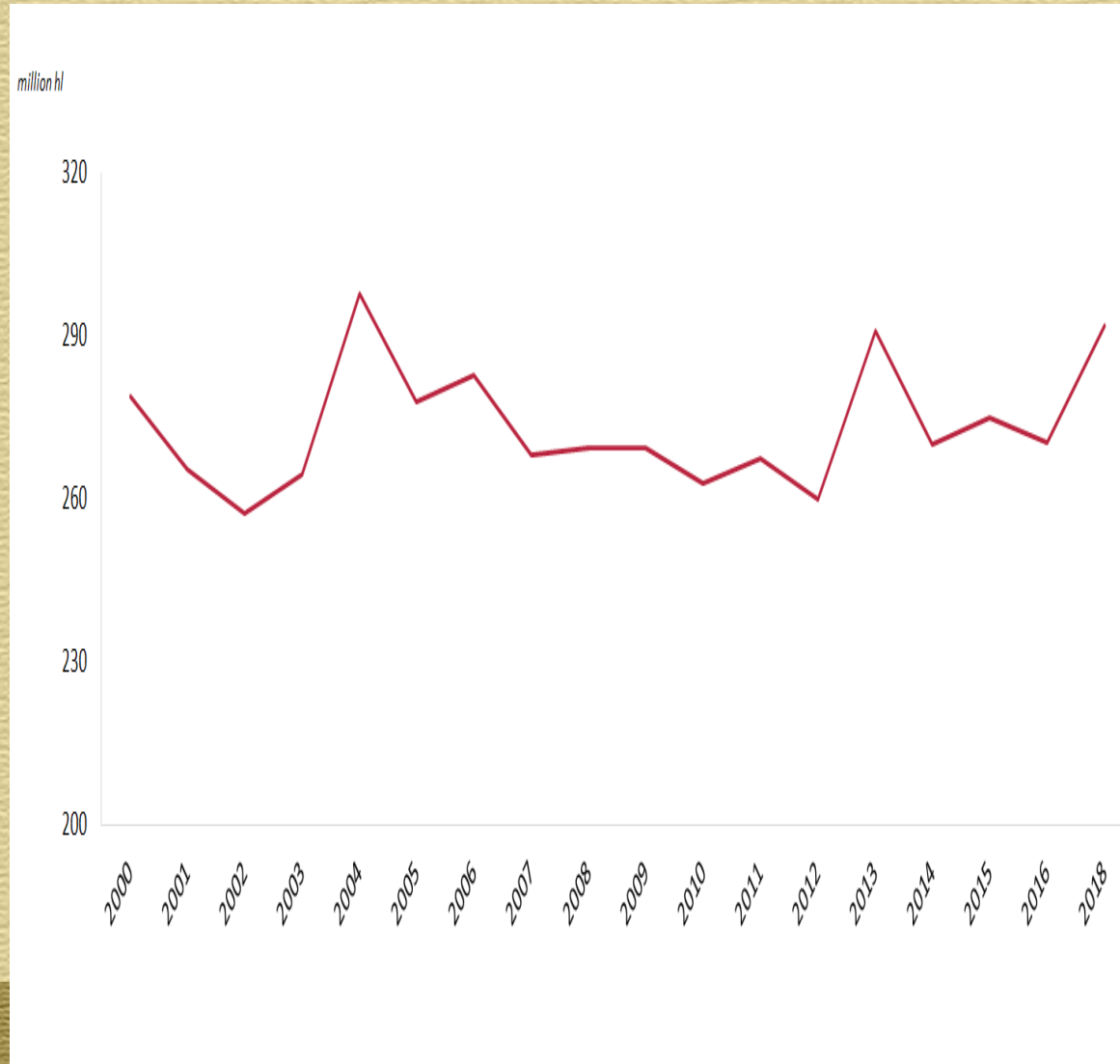


# WINE PRODUCTION

Total of wine, including sparkling and special wines, excluding juice and musts

292 mhl is the global wine production in 2018

## Evolution of world wine production



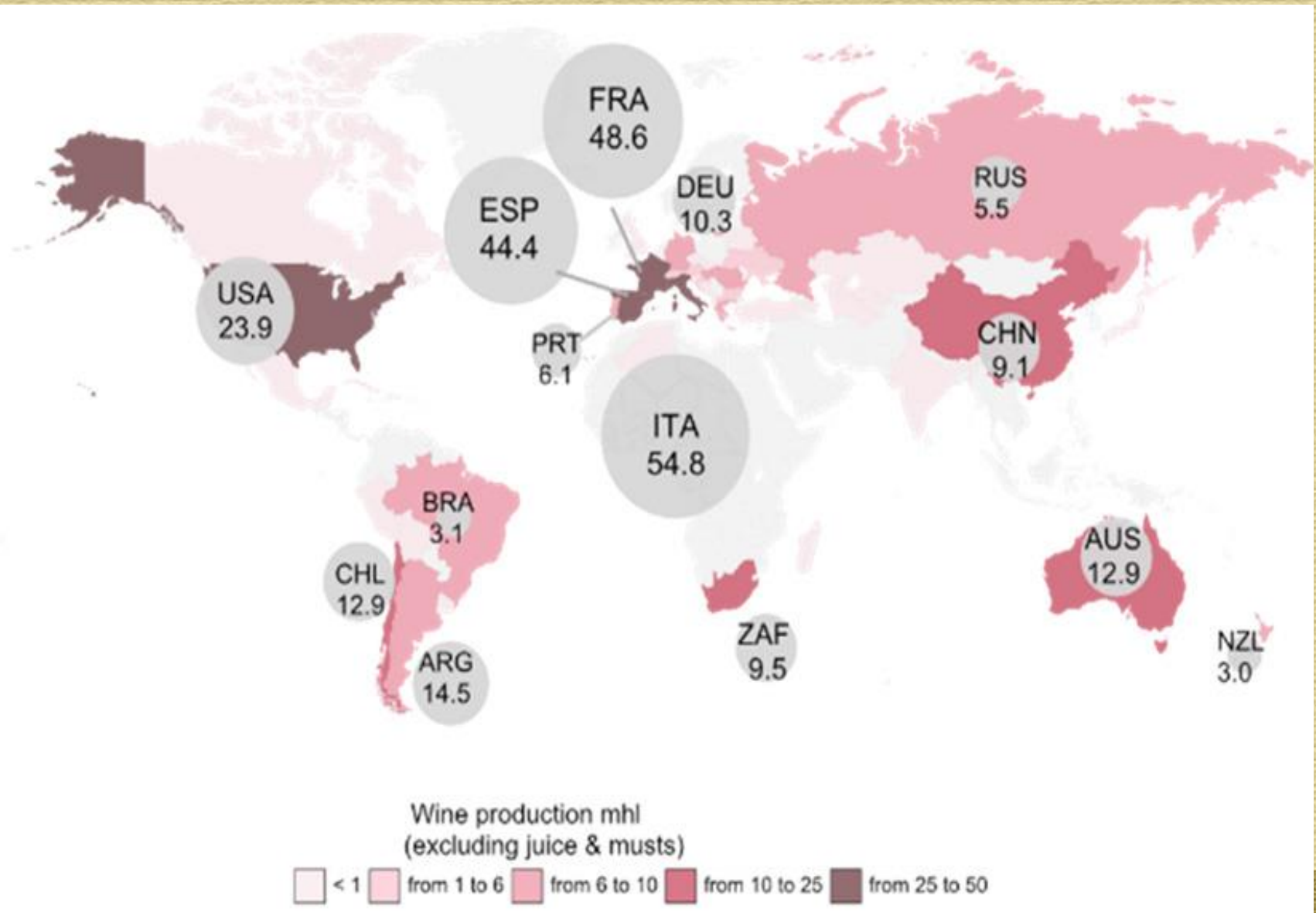
# Major wine producers

million hl	2018
Italy	54.8
France	48.6
Spain	44.4
USA*	23.9
Argentina	14.5
Chile	12.9
Australia	12.9
Germany	10.3
South Africa	9.5
China	9.1
Portugal	6.1
Russian Federation	5.5
Romania	5.1
Hungary	3.6
Brazil	3.1
New Zealand	3.0
Austria	2.8
Greece	2.2
Ukraine	2.0
Moldova	1.9
Switzerland	1.1
Bulgaria	1.0
World	292





# Wine production in 2018

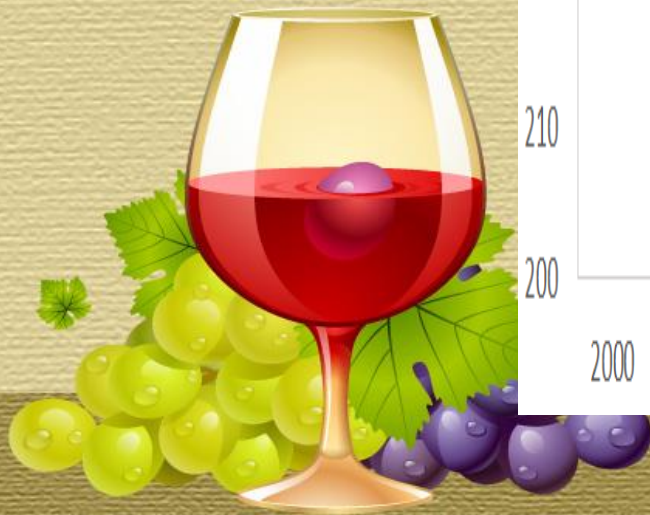
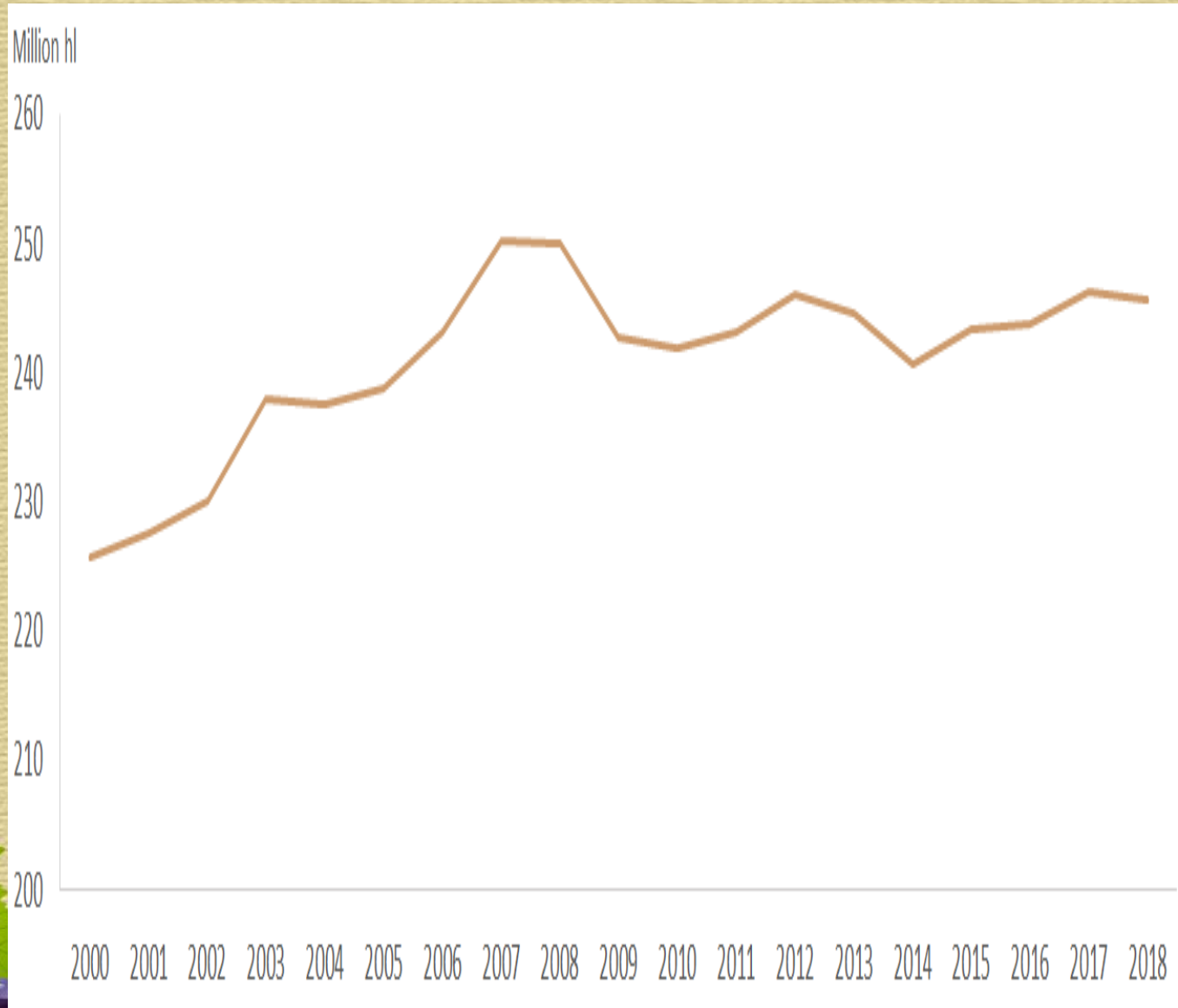


# Evolution of world wine consumption

## WINE CONSUMPTION

Including sparkling  
and special wines

246 mhl is the world  
consumption of  
wine in 2018





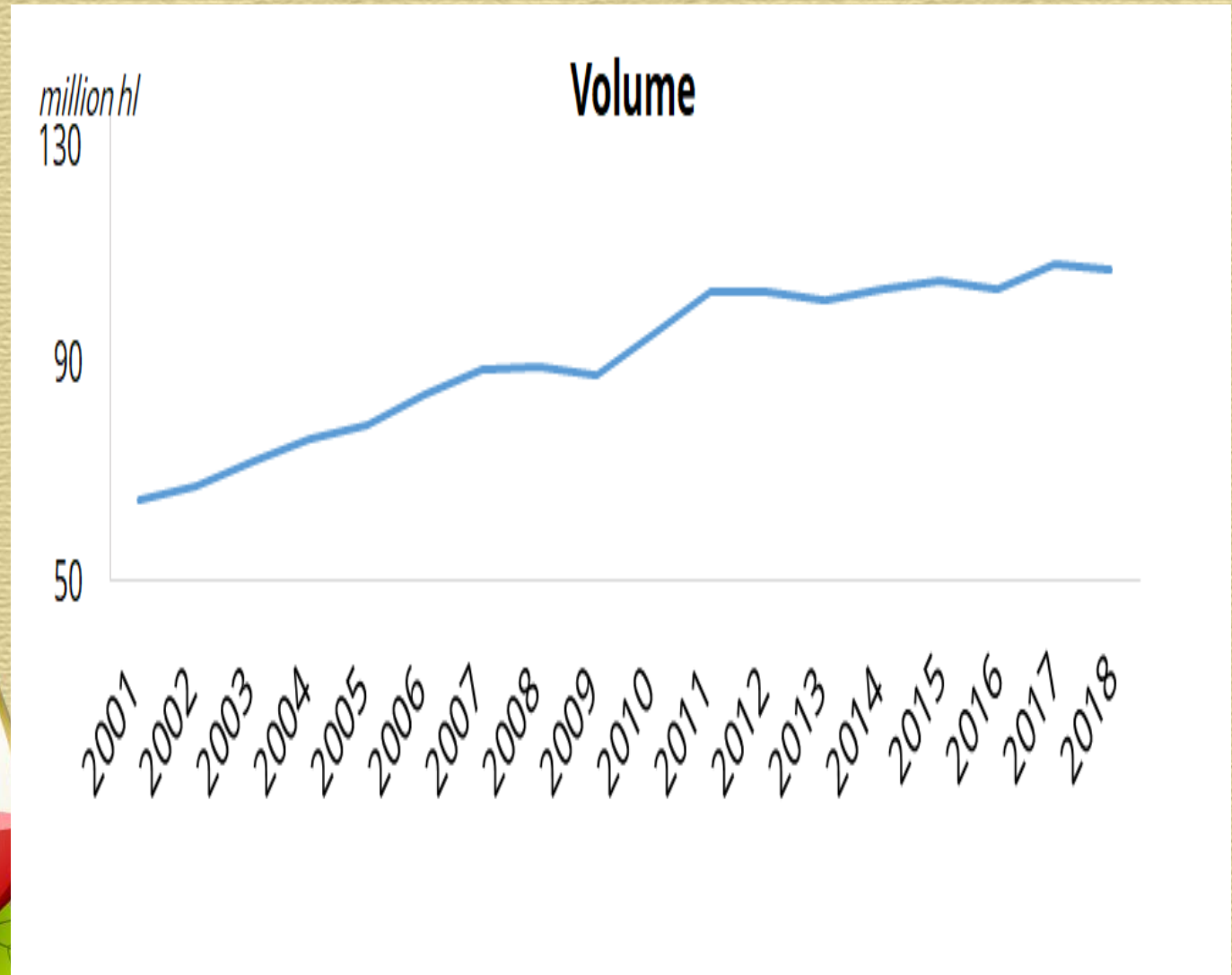
# Major wine consumers

million hl	2018
USA	33.0
France	26.8
Italy	22.4
Germany	20.0
China	17.6
United Kingdom	12.4
Russian Federation	11.9
Spain	10.5
Argentina	8.4
Australia	6.0
Portugal	5.5
Canada	4.9
Romania	4.5
South Africa	4.3
Netherlands	3.5
Japan	3.5
Brazil	3.3
Belgium	3.0
Switzerland	2.6
Hungary	2.4
Austria	2.4
Sweden	2.3
Chile	2.3
Greece	2.1
Czech Republic	1.8
Denmark	1.5
Poland	1.2
Mexico	1.2
Croatia	1.1
Serbia	1.1
Bulgaria	1.0
World	246

# Evolution of wine trade

## INTERNATIONAL WINE TRADE

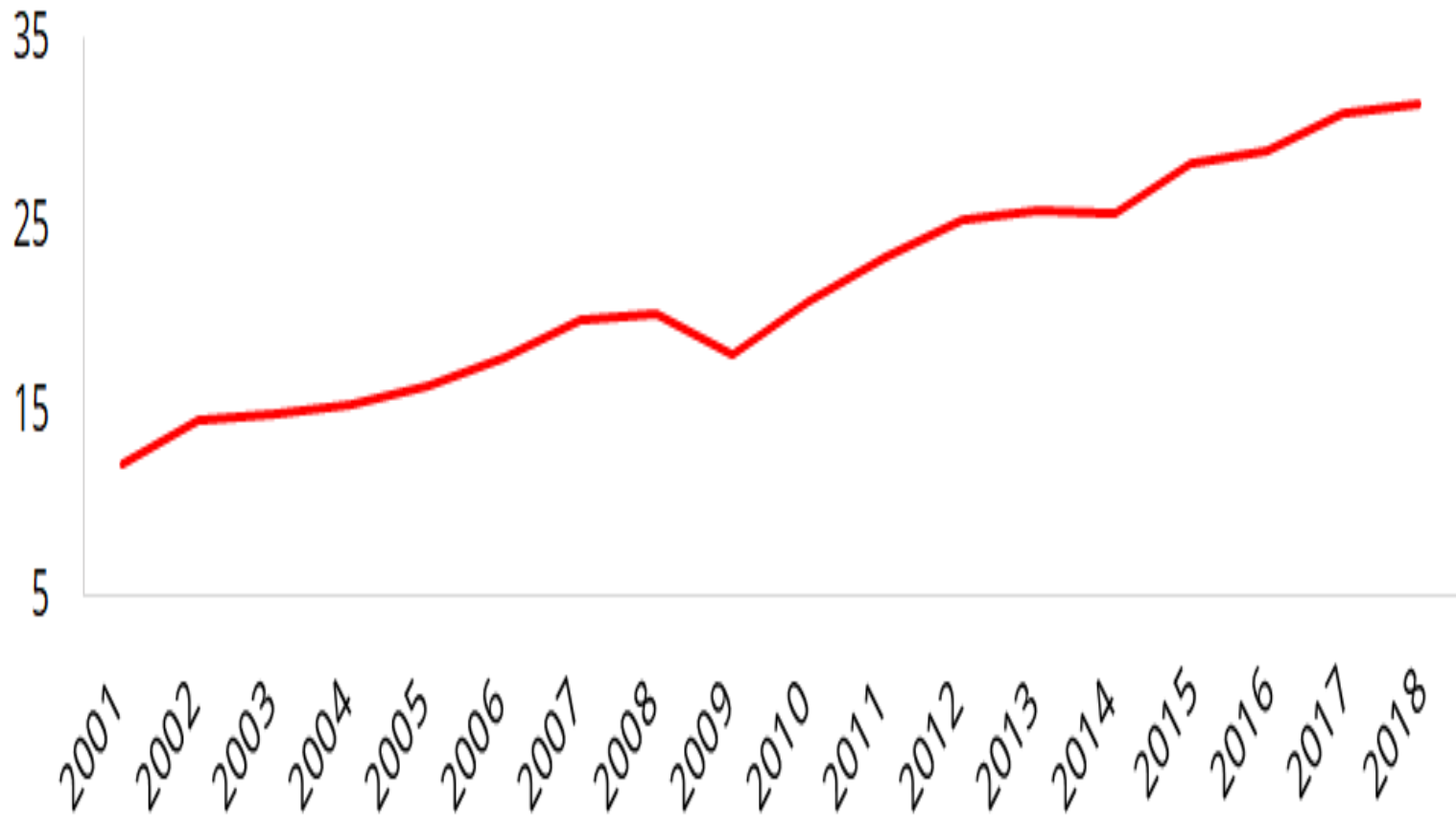
The world trade is considered here as the sum of exports from all countries





# Value

*billion EUR*



# World wine trade by type of product

Value

billion €	2018
Sparkling	6.2
Bottled	21.9
Bulk + BiB	3.3





# Volume

million hl	2018
Sparkling	9.3
Bottled	57.9
Bulk + BiB	40.3



# Main wine exporters

million hl	2018
Spain	21.1
Italy	19.7
France	14.1
Chile	9.3
Australia	8.6
South Africa	5.3
Germany	3.7
USA	3.5
Portugal	3.0
Argentina	2.8
New zealand	2.6
Moldova	1.4
World	108

billion €	2018
France	9.3
Italy	6.1
Spain	2.9
Australia	1.8
Chile	1.7
United States	1.2
Germany	1.0
New Zealand	1.0
Portugal	0.8
United Kingdom	0.7
Argentina	0.7
South Africa	0.7
World	31



## Main wine importers

million hl	2018
Germany	14.7
United Kingdom	13.2
USA	11.5
France	7.1
China	6.9
Canada	4.2
Netherlands	4.2
Russia	4.1
Belgium	3.0
Japan	2.6
Italy	2.1
Sweden	2.1
Portugal	1.9
Switzerland	1.8
World	107

billion €	2018
United States	5.3
United Kingdom	3.5
Germany	2.6
China	2.4
Canada	1.7
Japan	1.4
Hong Kong	1.3
Netherlands	1.2
Switzerland	1.0
Belgium	1.0
France	0.9
Russia	0.9
Sweden	0.7
Denmark	0.6
World	31

# Requirements for establishment





# Legislative framework of establishment vineyard

A system of appellations was implemented to assure consumers the origins of their wine purchases

## **EU WINE/VINE REGISTRATION**

The Greek law regarding the vineyard establishment and wine production is mainly based on the legal provision of the European Union.

- The latest EU reform was included in the EU Regulation No 1308/2013 of the European Parliament and of the Council intended to simplify and streamline the provisions of the latest (2013) Common Agricultural Policy (CAP)
- The reform mainly renews the measures and approaches of the 2008 reform which aimed to (i) make the EU wine producers even more competitive, (ii) simplify market-management rules and make them simpler, clearer and more effective, (iii) preserve the European wine growing traditions and promote its social impact and environmental role in rural areas.





Through the latest regulation of 2013, a common organization of the markets in agricultural products was established and certain provisions related to wine production and wine market were regulated in a consistent manner for the EU members. Certain implementation rules were expressed in more detail through the Regulations or Delegated Regulations of the European Union:

- Commission Delegated Regulation No 612/214: derived from Commission Regulation No 555/2008, deals with National Support Programs and regulates rules which relate to promotion of wines in third countries, restructure and conversion of vineyards, green harvesting, mutual funds, harvest insurance, investments, by product-distillation.
- Commission Delegated Regulation 2015/1576: amending the Commission Regulation Commission Regulation (EC) No 606/2009 which deals with the categories of grapevine products, oenological practices and applicable restrictions





- Commission Delegated Regulation 2015/1576: amending the Commission Regulation No 436/2009 which deals with vineyard register, compulsory declarations, accompanying documents and registration
- Commission Regulation (EC) No 607/2009: dealing with certain detailed rules for the implementation of Council Regulation (EC) No 479/2008 in regard to protected designation of origin and geographical indications (PDO/PGI), traditional terms, labeling and presentation of certain wine sector products.





Planting rights in the European Union are restricted and have been regulated for several decades (since the 1970s) as part of the CAP. After several consultations, the Commission decided to end the regime of planting rights by the end of December 2015.

However, during the period 2016-2030 a new system for the management of vine plantings is being implemented in order to ensure an orderly growth and expansion of vineyards in European Union.

The new scheme of Authorisations for vine plantings was planned by the High Level Group (HLG); the HLG deals with the following issues: (a) the current status of the regime of planting rights at the EU and Member State levels, (b) the possible effects of the termination of the regime of the planting rights on the wine market, (c) the outline and a suggested regulatory framework for vine plantings.

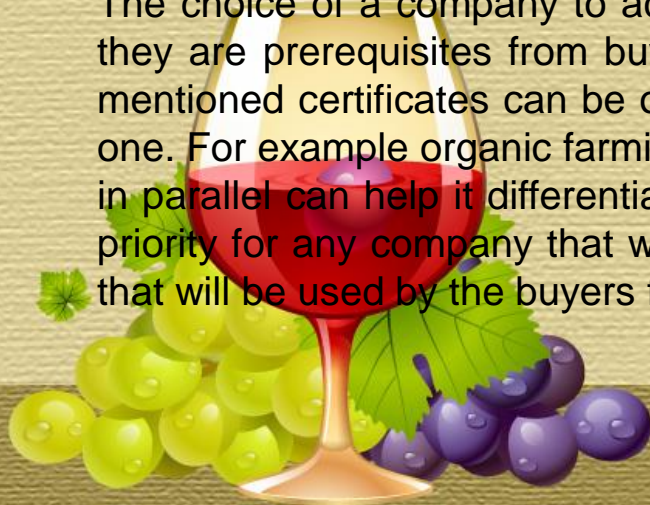




## Implementation of quality systems in agricultural production

- Today, there are numerous standards and protocols that lead to certificates. A certificate could be issued for a company proving that it applies such operational procedures to assure constant Quality (ISO 9001), or Food Health and Safety (ISO 22000, FSSC22000, SQF), or Environmental performance (ISO 14001), Social accountability (SA 8000, ISO 26000) etc.
- There are product certificates issued to declare special production methods and special features of final product such as private protocols IFS and BRC that were issued from German-French and British retailers respectively and certify increased level of food safety.
- Integrated Crop Production (GLOBAL.G.A.P. or Greek National Standards AGRO 2.1 and AGRO 2.2) certify that a product has been produced applying Good Agricultural Practice in combination with a robust internal quality control operation system. Organic Product (Reg (EC) 834/2007 and Reg (EC) 889/2008 for European Union, USDA-NOP for United States, JAS organic for Japan etc.) certify the respect to environment, biodiversity and non-use of GMOs and synthetic pesticides and fertilizers.

The choice of a company to acquire one or more of these certificates is voluntary but usually they are prerequisites from buyers especially when they are big retailers. Each of the above mentioned certificates can be obtained alone or a company may choose to acquire more than one. For example organic farming certification can help a product get a place on the shelves and in parallel can help it differentiate and access more markets such as artisanal markets. It is of priority for any company that wants to enter a new market what are the necessary certificates that will be used by the buyers for its evaluation as potential supplier.





## Planting rights

- According to the Greek law, which relates to the execution and supplementation of the European regulations, there is a ban on planting new vineyards. The terms and the rules for granting planting rights in Greece for 2015 are published in the Official Government Gazette (ΦΕΚ Β´/432/24.03.2015) in accordance with the decisions 1123/26427 of the Ministry of Development and Food. According to this decision, planting rights for wine grapes can be granted free of charge as follows:



Table 10 Available planting rights for wine grapes (hectares) for each Regional Units

A/A	Regional Units	Available Area hectares
1	EVROS	6.15
2	RODOPI	2.5
3	KAVALA	3.5
4	DRAMA	4
5	SERRES	2.5
6	THESSALONIKI	6
7	HALKIDIKI	6.4
8	KILKIS	0.77
9	PELLA	2.67
10	PIERIA	1
11	HMATHIA	0.3
12	KASTORIA	0.77
13	FLORINA	4.22
14	KOZANI	0.5
15	GREVENA	1
16	THESPROTIA	2
17	IOANNINA	0.5
18	PREVESA	1.8
19	LARISA	4.95
20	MADNISIA	4.7
21	KEFALONIA	3.19
22	LEFKADA	1
23	AHAIA	8.95
24	ILIA	1.5
25	AITOLOAKARNANIA	0.5
26	VIOTIA	3
27	EVIA	4.22
28	FHTIOTIDA	2
29	ARGOLIDA	2.06
30	KORINTHIA	3.34
31	LAKONIA	0.2
32	MESINIA	4.48
33	EAST ATTIKI	1.58
34	WEST ATTIKI	3
35	LESVOS	8.48
36	HIOS	1.5
37	SAMOS	0.4
38	NORTH AIGAIO	10.38
39	SYROS	5.3
40	RODOS	2.35
41	SOUTH AIGAIO	7.65



According to the Greek legislation (decision article 13 of ministerial decree 3323/99634/01-08-2014) and the number of available planting rights at the national reserve the allocation for 2015 is made as follows:

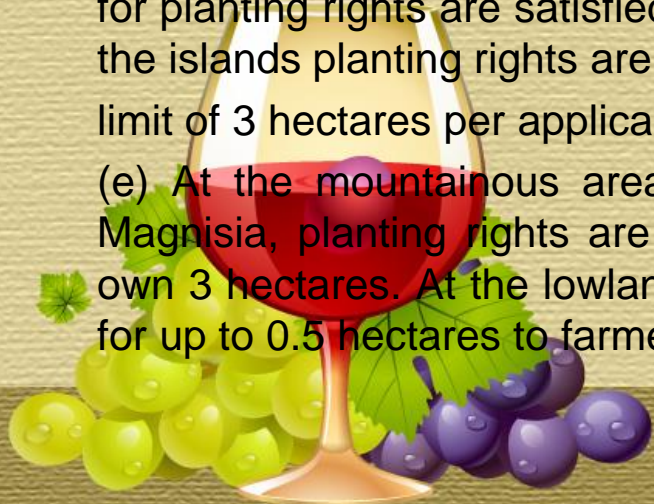
(a) All the applications of young people (below 40 years old) will be satisfied up to the limit of 0.5 hectares, provided that the applicant is designated for the first time as the leader of the farm, has the required knowledge, skills and professionalism for the production of Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) wines.

(b) All the applications of young farmers will be satisfied up to the limit of 0.5 hectares for the production of wines (except for PDO and PGI wines), at the Regional Units of Thesprotia, Preveza and Aitolokarnania.

(c) Because of the high demand of planting rights at the regions of Hraklion, Halkidikis, Larisas, Achaïas and the small number of planting rights at national reserve, in those regions they are distributed up to the 0.4 hectares to new farmers.

(d) In the small islands (below 3.000 habitants) of Ionian and Aegean all the applications for planting rights are satisfied and there is no limit on the requested area. For the rest of the islands planting rights are satisfied up to the limit of 3 hectares per applicant.

(e) At the mountainous areas of the Regional Units of Evia, Trifilia, East Attica and Magnisia, planting rights are distributed for up to 0.5 hectares to farmers who already own 3 hectares. At the lowland of the same Regional Units planting rights are distributed for up to 0.5 hectares to farmers who already own 5 hectares.





A significant portion of legislative measures, laws, controls, etc. determine the approval of the distribution of planting rights. Moreover, several preconditions are involved for using the indications of regional wines (PGI) and recognized designations of origin (PDO wines). Greece is placed in the 17th position among the biggest wine-producing countries, with annual wine production estimated at 2.9 million hl and 180.000 wine-grape producers. The vineyards are distributed throughout the country. Out of the of the total established vineyards, 14.4% is located in Northern Greece (Thrace, Macedonia, Epirus, Thessaly), 17.7% in Central Greece and Attica, 45.1% in Peloponese, Western Greece and Ionian islands and 17.7% in Crete.

From January 1, 2016 Greece will follow the New Scheme of Authorisations for vine plantings which will be applied at Union level, according to the EU regulations (as mentioned in the section above). According to the latest Regulation (EU) No 1308/2013 of the European Parliament and of the Council of 17 December 2013, the new system for authorisations for vine plantings will be applied under the following rules:





- Authorisations for vine plantings may be granted without a cost being charged to producers, and should expire after three years if they are not used. This would contribute to the swift and direct use of the authorisations by the wine producers to whom they are granted, thereby avoiding speculation. The growth of new vine plantings should be framed by a safeguard mechanism at Union level based on the obligation for Member States, on an annual basis, to make available authorisations for new plantings representing 1 % of the planted vine areas, while allowing for certain flexibility in order to respond to the specific circumstances of each Member State. Member States should be able to decide whether to make available smaller areas at national or regional levels, including at the level of areas eligible for specific protected designations of origin and protected geographical indications, on the basis of objective and non discriminatory reasons, while ensuring the limitations imposed are above 0% and are not overrestrictive in relation to the objectives pursued.





- In order to guarantee that authorisations are granted in a non-discriminatory manner, certain criteria should be laid down, and in particular where the total number of hectares made available by the authorisations offered by Member States is exceeded by the total number of hectares requested in the applications submitted by producers.
- The granting of authorisations to producers grubbing up an existing vine area should be automatic upon submission of an application and independently of the safeguard mechanism for new plantings, since it does not contribute to the overall increase of vine areas. In specific areas eligible for the production of wines with a protected designation of origin or a protected geographical indication, Member States should have the possibility of restricting the granting of such authorisations for replantings on the basis of recommendations of recognised and representative professional organisations.
- This new scheme of authorisations for vine plantings should not apply to Member States not applying the Union transitional planting rights regime and should be optional for those Member States where, although the planting rights apply, the vine planting area is below a certain threshold.





Application for registration in the nationally vineyard registry Legislative framework for vineyard Establishment

## Wine grape varieties

### 1.1 Legal planting (only for wine varieties)

To install a vineyard planting rights are required under the laws of the European Union.

### 1.2 The rights may be acquired a producer in three ways:

- a) a request to the competent Directorate of Agricultural Economy and Veterinary Medicine.
- b) Maintaining old planting rights from a vineyard which was eradicated
- c) Transferring of rights from another farmer who uprooted his vineyards





## 2. Code of vineyard parcel

- i) After receiving planting rights for a certain parcel, the grower should conduct field sampling and send samples for soil analysis before planting, In the case of replanting a vineyard, testing for nematodes is recommended.
  
- ii) The grower submits the soil analyses to the competent Directorate of Agricultural Economy and Veterinary Medicine, which then provides a License for Purchasing Propagating Material for planting vineyards.
  
- iii) The grower after purchasing the plants from an approved nursery and planting, at the request of the Directorate of Agricultural Economy and Veterinary Medicine, should include the vine in the vineyard register, and become registered in the Greek Payment Authority of Common Agricultural Policy (OPEKEPE).





### 3. Allowed varieties

- i) The choice of the variety should be in accordance with the Ministerial Decision 886/15441 / 02.06.2013 "Recommended or authorized varieties by region»
  
- ii) For zones of Protected Designation of Origin (PDO) and Protected Geographical Indication (PGI) the varieties should be in accordance with the relevant legislation of the zone.





## Table grape varieties

To establish a vineyard for table grapes, the situation is much simpler than for wine grapes. First of all, the new grower has to take a soil sample from the field for a soil analysis and testing for nematodes if replanting vineyards. Based on the soil analysis he can decide on the rootstock he can choose.

The grower after planting, should go to the Directorate of Agricultural Economy and Veterinary Medicine, to include his vine in the vineyard register, and become registered in the Greek Payment Authority of Common Agricultural Policy (OPEKEPE).





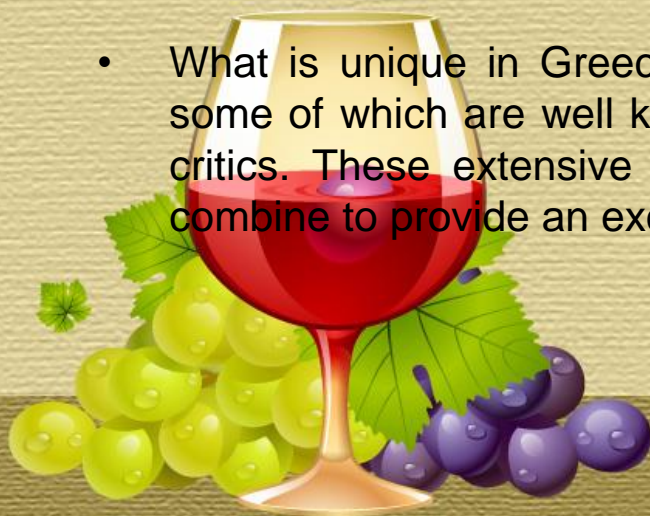
# Viticulture, table and wine grape varieties in Greece





## Historic review of their use in Greece

- Wine has been an important part of Greek culture for over 4000 years. The cultivation of the vine is not known from where they began. Some said they came from Crete, from which it spread to Naxos, Chios and then across the country. Others give priority to Etolia and others in Thrace, from where the Greeks supplied wine during the siege of Troy. In Thrace also manufactured the famous wine Ismaros, with which Odysseus drunk Polyphemus and Vyvlinos for which Hesiod speaks.
- The ancient Greeks knew well the nutritional value of wine as it became an inseparable part of their daily regime. They loved to organize intellectual gatherings called "symposia" where they would eat and talk about philosophical subjects while drinking wine. Our ancestors also realized the important influence of the local ecosystem on the characteristics of wine. They traded their wines throughout the ancient world inside sealed amphorae and even created their own Appellations of Origin.
- What is unique in Greece is that there are more than 400 Greek grape varieties, some of which are well known worldwide and have received best reviews from wine critics. These extensive varieties of grapes together with the ideal Greek climate combine to provide an excellent environment for the production of high quality wines.





## Viticulture description

### Select Parameters Planting

- In viticulture, the effect of the physical environment on vine development, such as grape ripening and wine sensory attributes, are termed the “terroir effect”. This influence of the physical environment is very complex and difficult to study, as it depends on many factors, such as geomorphology, soil, climate and vine physiology. Terroir is considered as an important factor in wine quality and character, especially in European vineyards.
- *Definition of terroir:*

A terroir is a unique and delimited geographic area for which there is a collective knowledge of the interaction between the physical and biological environment and applied viticultural practices. The interaction provides unique characteristics and creates a recognition for goods originating from that area. Terroir includes specific landscape characteristics and territory values.





## Natural environment

- The natural environment plays a key role in the development of the vine. On wine varieties reflected the quality of the wine produced by the effects of the natural environment. Specifically various aspects of the natural environment, including soil, the parent material, exposure, topography, temperature, humidity, sunshine, rainfall, etc., decisively influence the quality and allow more or less in a range to express the quality characteristics of the finished product. Also significantly affected a vineyard and accepts different effect when it is established in the side of a mountain or in a valley or beside the sea.

## Soil

- The vine thrives in a wide range of soil types, which affect the product quality. The physicochemical properties of the soil affect different parameters (e.g., water holding capacity, temperature, etc.) and which in turn affects various physiological functions and contribute to product quality.





- The soil properties which have a strongly influence in growing wine grapes, are: soil depth, soil structure and water supply, soil strength, soil chemistry and nutrient supply, soil organisms.
- Grapevines must have 16 of the 118 known elements to grow normally, flower, and produce fruit (N, P, K, Ca, Mg, S, Fe, Zn, Mn, B, Cu).





# Soil suitability for cultivation vineyard in Greece





## Climate

- Initially, before the installation of the crop, there should be a collection of reliable climate data of the area from a nearby meteorological station.
- Climatic data should be used mainly for the variance of temperature, precipitation and sunshine.
- Conditions that allow sufficient accumulation of sugars in the berries together with mild temperatures during curing, contribute to the production of high quality products.





## Main cultivars of grape varieties

### *Red table grape variety*

#### CARDINAL

It is an early variety. Cultivated mainly in Thessaloniki, Chalkidiki, Corinth, Iliia, Messina and Crete. It is vigorous of high performance and long shelf life.

#### MUSCAT DE HAMBURG

Wine grapes and table variety. Cultivated mainly in the prefecture of Thessaly and in Thessaloniki. The variety adjusts well in different territorial and climatic conditions.

#### ITHAKI

Is a hybrid which was created by the Aristotle University of Thessaloniki. It is cultivated mainly in Macedonia. It is vigorous and highly productive.

#### FRAOULA

A greek variety which is recommended mainly for cultivation in Peloponnese and Sterea Greece. It is highly productive but has short shelf life and it is not particularly resistant to transportation treatments.





## CRIMSON SEEDLESS

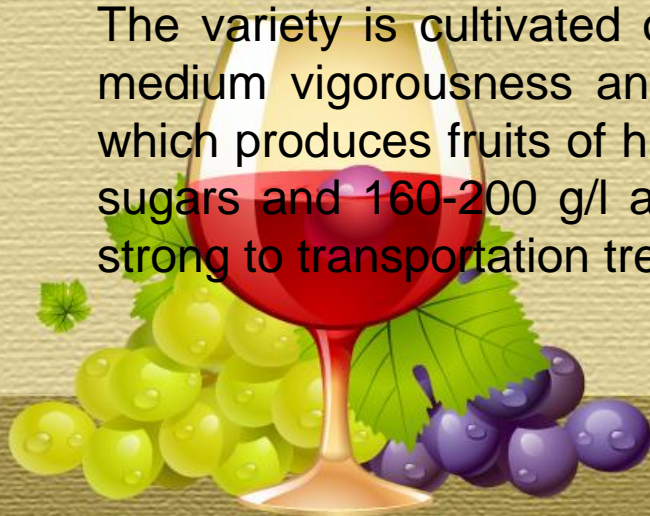
Red and seedless, late maturing, highly productive variety. It is recommended for cultivation in Peloponnese, Thessaly, Macedonia, Thrace, Dodecanese and Crete, highly productive.

## RIBIER

Grown mainly in the countries of the Mediterranean. In Greece it is cultivated in Thessaly, Macedonia and Central Greece vigorous variety, highly productive(over 300 kilos per stremma). Needs deep, fertile, cool soil with sunlight exposure. The variety is sensitive to winter freezes. The grape berries are large and uniform in color.

## ATTICA SEEDLESS

The variety is cultivated only in the region of Attica. It is a red, seedless, of medium vigor and highly productive. A variety of early development which produces fruits of high sugar content (the grape juice contains 5-8 g/l sugars and 160-200 g/l acids expressed as tartaric acid). The variety is also strong to transportation treatments.





## White table grape variety

### PERLETTE

A white variety cultivated in the region of Macedonia. Used mainly for the production of canned fruits. The variety is vigorous and productive and when it is irrigated can produce 2500 kg/1000m<sup>2</sup>.

### VICTORIA

The variety is cultivated in Halkidiki, Kavala, Larissa, Achaia and Corinth. It is of medium vigorousness and highly productive w. It is an early variety which withstand transportation handlings.

### SUPERIOR SEEDLESS

A variety which is grown in Peloponnese, Central Greece, Cyclades and the Dodecanese. A white, seedless, early variety, of medium - high productivity and very vigorous.





## RAZAKI

White variety, widely spread around the world. Cultivated almost all over the Greek territory. Grape variety is very vigorous and highly productive. The variety is well adapted to different soil and climate conditions. Has long shelf life when stores in cold conditions and is resists transport treatments.

## ITALIA

Cultivated almost all over the Greek territory. The variety is vigorous and very productive. It is an excellent variety with a slight Muscat flavor.

## OPSIMOS SOUFLIOU

Cultivated in Macedonia and Thrace. It is white vigorous and very productive variety.

## OPSIMOS EDESSIS

Cultivated mainly in Macedonia. It is a white variety. It is vigorous and very productive variety, persists the transportation treatments and has long shelf life.. Reserved for the Greek market.

## SIDERITIS

A Greek variety which matures slowly, vigorous and productive. The variety is used in order to produce sparkling wines.





## Red wine grape variety

### AGIORGITIKO

Greek red variety. It is grown mainly in Corinth. Vigorous and very productive variety. Depending on the altitude it produces different types of products.

### VERJAMI BLACK

Grown in Lefkada, Preveza, Agrinio and Patra. A vigorous variety, very productive and resistant to diseases. Wines of high alcohol percentage and good acidity are produced by this variety.

### KOTSIFALI

Cretan red variety.. The variety is vigorous, robust, fertile, productive, of moderate resistance to drought and diseases. The variety produces high-grade, aromatic, low acidity with unstable color wine.

### KRASSATO

Thessalian red variety. The plant is vigorous, robust, fertile, productive, relatively resistant to diseases. The variety produces high-grade, moderate acidity, moderate color wine.





## LIMNIO

Greek red variety of Limnos. Grown in Limnos, Halkidiki, Evros, Rodopi, Xanthi, Kavala, Serres and Larissa. The plant is of medium vigorosness, fruitful, productive, very resistant to diseases and drought. The variety produces high-grade, medium acidity, with a medium color, light aroma wine.

## LIATIKO

Dry red variety of Crete. The variety is vigorous, robust, fertile, highly productive, aromatic, moderately resistant to diseases and drought.

## MANDILARIA

Cultivated in Cyclades, Rhodes, Crete, Peloponnese, Attica, Viotia, Thessaly, Evia and Macedonia. The variety is vigorous, very robust, productive, drought resistant. The wine produced out of this variety is of medium to low alcohol, medium acidity, rich in color.

## MAVRODAPHNE

Red variety cultivated in the prefectures of Achaia, Iliia, Kefallinia, Lefkada. The plant is of medium vigorosness and robustness, fertile, productive, and sensitive to drought. The wine can be dry and sweet, high-grade, medium acidity, with good color.





## MESENIKOLA BLACK

Red variety cultivated in Mesenikola Karditsa. The variety is of medium vigorousness and robustness fertile, productive. Wine is moderate, moderate acidity, moderate color.

## MUSCAT DE HAMBURG

It is a variety which is cultivated for wine s and tablegrapes . Produced mainly in Thessaly and the prefecture of Thessaloniki. The variety is successfully cultivated under very different territorial and climatic conditions.

## MOSCHOFILERO

The variety grown in the Peloponnese, Lefkada, Zakyntho, Preveza and Florina. The plant is vigorous, robust, productive and relatively resistant in drought. The wine can be of high to moderate alcoholic strength, good to high acidity, with differences in its aromatic potential.

## NEGOSKA

Red variety of Goumenissa. The variety is vigorous, robust, fertile, productive and resistant to most diseases. The wine is high grade, medium acidity with good color.





## XINOMAVRO

Red variety of northern Greece. The variety is vigorous, robust, fertile, productive and sensitive to drought. In higher altitudes it produces dry wine, of high alcoholic grade, good acidity, good flavor and color.

## RODITIS

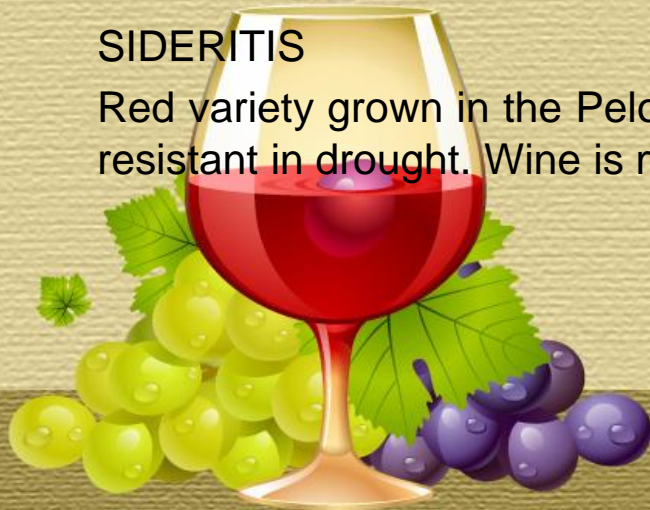
The variety is vigorous, robust, fertile, productive and relatively resistant in drought. In mountainous regions it produces dry wine with a good balance between alcohol and acidity, with good flavor.

## SEFKA

A red variety of Bulgarian origin, grown in Macedonia and Thrace. The variety is very vigorous, fruitful, productive, resistant in drought. Wine is moderate in alcoholic strength, of moderate to low acidity and poor in color.

## SIDERITIS

Red variety grown in the Peloponnese. The variety is vigorous, robust, fertile, productive, resistant in drought. Wine is moderate in the alcoholic content, of high acidity.





## STAVROTO

Red variety grown in Larissa. The variety is vigorous, robust, fertile, productive. Wine is moderate in alcohol content, of medium acidity, moderate in color.

## CABERNET SAUVIGNON

International variety originates from France. Grown all over Greece. The plant is vigorous, fertile, moderately productive and very sensitive to drought. The wine shows good balance between alcohol and acidity, has intense aromas.

## CARIGNAN

Spanish red variety. Grown in Crete, the Peloponnese, Sterea Greece, Epirus and Thrace. The plant is vigorous, very fertile, productive and very resistant to drought. The wine is high in alcohol degrees, of moderate acidity, with good color and nice body.

## CINSAULT

Red Mediterranean variety. Grown in the Dodecanese, Thessaly and Crete. The plant is of medium vigor, fruitful, very productive and resistant to drought. The wine is rich in sugars, moderate acidity, with good color and body.





## MERLOT

Red variety of French origin. Grown in Epirus, Thessaly, Macedonia and Peloponnese. The plant is vigorous, fertile, of medium productivity and sensitive to drought. The wine is high in alcoholic content, of good acidity, characteristic aroma, with good body.

## SYRAH

Red variety. Grown in 16 prefectures in Greece. The plant is vigorous, fertile, of moderate productivity, sensitive to winds and drought. The wine varies in the alcoholic degrees, usually of moderate acidity, with an intense flavor and color.

## GEWURZTRAMINER

Variety of Italian origin. Grown in Arcadia, Imathia and Florina. The variety is vigorous, moderately fertile, of low to medium productivity. Wine is high in alcohol content, low to moderate acidity, very aromatic.





## White wine grape variety

### VILANA

White variety of Crete. It is vigorous, robust and very productive. Wine is moderate to high alcohol, with good acidity, moderately aromatic.

### ATHIRI

It is an old variety of the central and southern Aegean. It is very vigorous, fertile, productive and resistant to diseases. The wine is of average alcoholic strength, light aromatic, low acidity.

### MUSCAT OF ALEXANDRIA OR MUSCAT WHITE

White variety cultivated in Limnos, Ionian, Thessaly, Macedonia, Rhodes. The plant is vigorous, fertile, productive and resistant to drought. The wine is, dry, of good acidity, delicate and Muscat aromas.

### MUSCAT OF SAMOS

The variety is grown almost all over Greece. The variety is of medium vigorousness, fruitful, productive. Wines are is, dry and sweet, of moderate acidity and intense aromas.





## AIDANI

It is grown mainly in the Cyclades. The variety is of medium fertility and production, sensitive to diseases. The wine has moderate alcoholic strength, moderate acidity and pleasant aromas.

## SAVATIANO

White variety, grown mainly in Attica, Evia, Viotia, the Cyclades, western Crete, Peloponnese and Macedonia. The plant is moderately vigorous, fruitful, productive and resistant in drought. When cultivated in high altitudes wines with good balance in alcohol and acidity.

## ASSYRTIKO

Cultivated all over Greece. Characterized by high alcohol title, high acidity, pleasant aroma.

## ROBOLA

White variety grown in the Ionian Islands. The variety is vigorous, robust, fertile, productive and sensitive to drought. The wine is of high alcoholic-grade, moderate to good acidity and distinctive aroma.





## MONEMVASIA

White variety cultivated in the Cyclades and in several islands of the Aegean. The variety is vigorous and robust, resistant to diseases and drought, fruitful and productive. The wine is of high alcoholic grade, medium acidity, with characteristic aromas.

## MALAGOUZIA

White variety grown in Etoloakarnania, Macedonia, the Peloponnese and scattered in Sterea Greece. The variety is vigorous, robust, fertile, productive and drought resistant. The wine has high alcoholic degrees, moderate acidity and very aromatic.

## ZOUMIATIKO

It is a white grape variety grown in the Balkans. In Greece it is grown in Macedonia and Thrace. Variety is vigorous, robust, fertile, productive and resistant to diseases. The variety produces wines of moderate alcoholic strength, moderate to low acidity, with light aromas.

## DEBINA

White variety of Epirus. The plant is vigorous, robust, fertile, productive and sensitive to drought. The wine is dry, moderate to good acidity with special aromas. Out of this variety produces sparkling wine are also produced.





## GRENACHE

Red Mediterranean variety of Spanish origin. Cultivated in many locations. The plant is vigorous, fruitful, very productive and resistant to drought. The wine has nice color, medium-bodied, high alcohol content and moderate acidity.

## CHARDONNAY

Cosmopolitan white variety. Cultivated in several regions all over Greece. The plant is vigorous, fertile, productive and moderately sensitive to drought. The wine shows balance between alcohol and acidity, oily, rich body, aromatic.

## SAUVIGNON

White variety of French origin. Grown throughout Greece. The plant is vigorous, fertile, medium productive. The wine is dry, balanced in sugars and acidity, aromatic, with nice body.





## Current situation in Greece

Table 1: Number of Holdings and Area under Vines in Production and Not yet in Production

	Number of Holdings <sup>2</sup>	Area (in stremmas)
<b>In production</b>	188,195	1,011,549
<b>Not yet in production</b>	2,698	19,272
<b>Total Vines</b>	188,873	1,030,821





Table 2. Number of holdings and area under vines by type of production

	Number of Holdings	Area (in stremmas)
<b>Total Vines (A + B)</b>	<b>188,873</b>	<b>1,030,821</b>
<b>Total vines with wine grapes (A)</b>	162,330	633,262
For the production of PDO wines	29,927	145,187
For the production of PGI wines	104,995	396,712
For the production of other wines	33,222	68,884
With dual purpose grapes	11,517	22,479
<b>Total raisins<sup>3</sup> (B)</b>	46,304	397,559



Chart 1. Percentage Distribution of area under vines with vine grapes by category

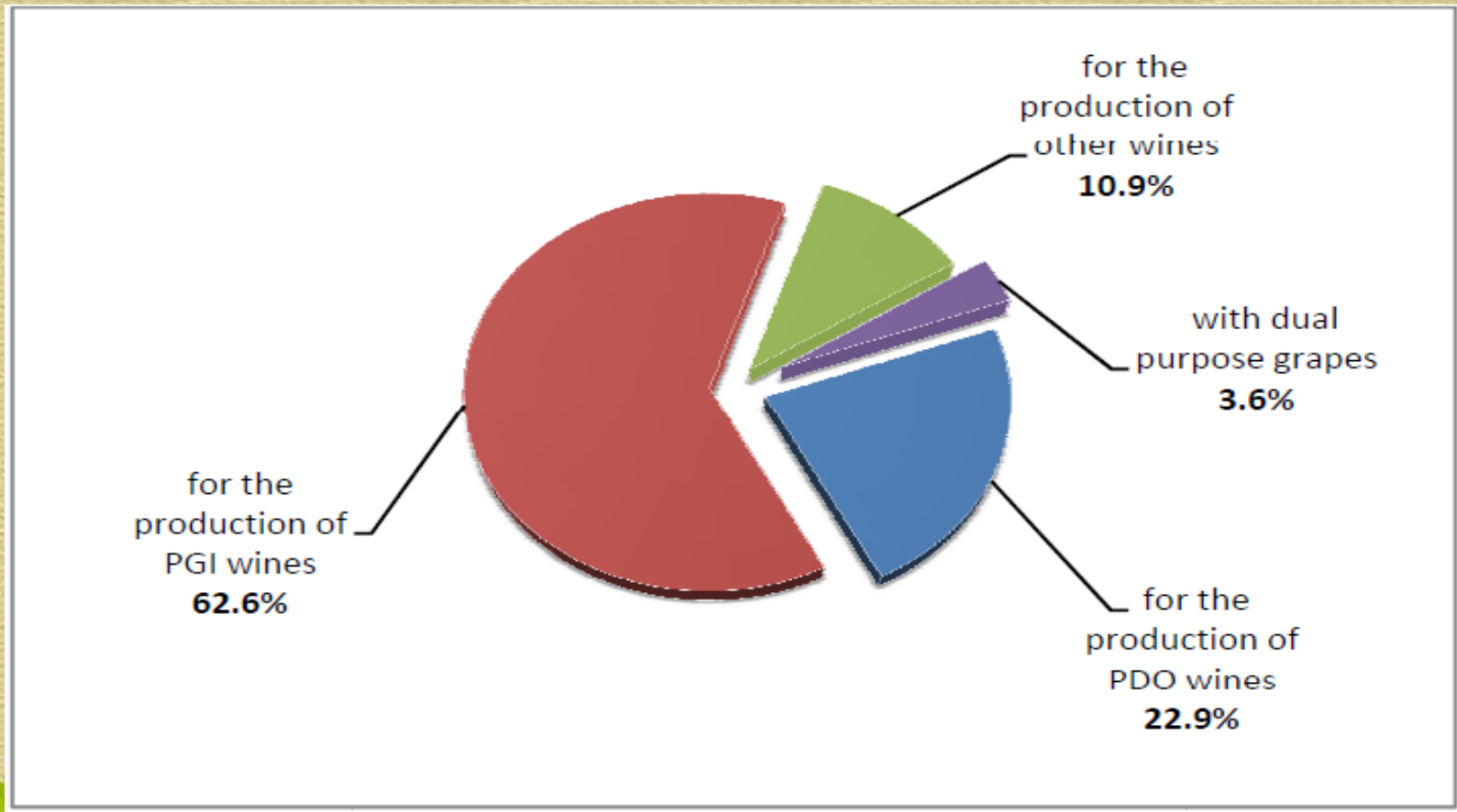




Table 3: Area under Vines with Wine Grapes and Raisins by Region

Region (NUTS II)	Total (A+B)	Wine Grapes (A)			Raisins (B)
		Total	Of which		
			For PDO wines	For PGI wines	
<b>GREECE, TOTAL</b>	<b>1,030,821</b>	<b>633,262</b>	<b>145,187</b>	<b>396,712</b>	<b>397,559</b>
Anatoliki Makedonia, Thraki	21,133	21,133		13,886	
Kentriki Makedonia	45,839	45,839	8,080	27,057	
Dytiki Makedonia	24,388	24,388	4,656	16,093	
Ipeiros	7,814	7,814	1,377	4,438	
Thessalia	41,215	41,215	3,819	26,075	
Stereia Ellada	68,023	68,023		62,023	
Ionia Nisia	47,540	30,075	3,291	21,462	17,465
Dytiki Ellada	164,446	86,617	19,022	54,321	77,829
Peloponnisos	255,537	101,317	36,031	53,780	154,220
Attiki	60,700	60,700		59,820	
Voreio Aigaio	29,065	29,065	18,651	7,584	
Notio Aigaio	39,574	39,574	23,895	7,755	
Kriti	225,548	77,503	26,366	42,418	148,045



Chart 2: Percentage Distribution of Total Area under Vines by Region

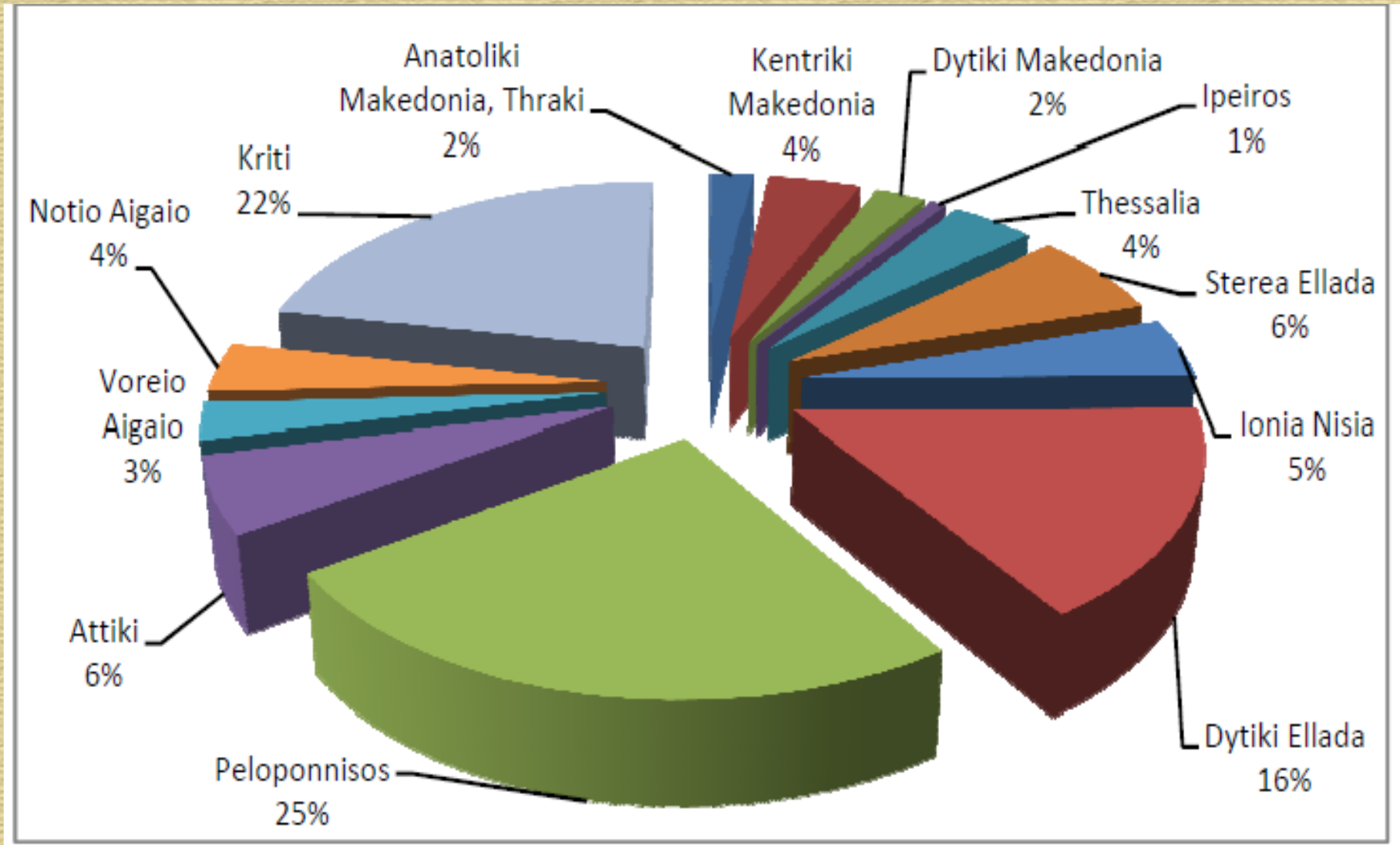




Table 4: Number of Holdings and Areas under Vines by size class of the holdings

Size class	Number of Holdings	(%)	Area (in stremmas)	(%)
< 1 stremma	33,189	17.6	17,753	1.7
1 - 4,9 stremmas	101,124	53.5	215,954	20.9
5 - 9,9 stremmas	26,477	14.0	181,742	17.6
10 – 29,9 stremmas	23,260	12.3	380,287	36.9
30 – 49,9 stremmas	3,600	1.9	134,587	13.1
50 – 99,9 stremmas	1,078	0.6	68,040	6.6
>100 stremmas	145	0.1	32,458	3.1
<b>Total</b>	<b>188,873</b>	<b>100.0</b>	<b>1,030,821</b>	<b>100.0</b>



Chart 3. Number of Holdings under Vines by size class of the holdings

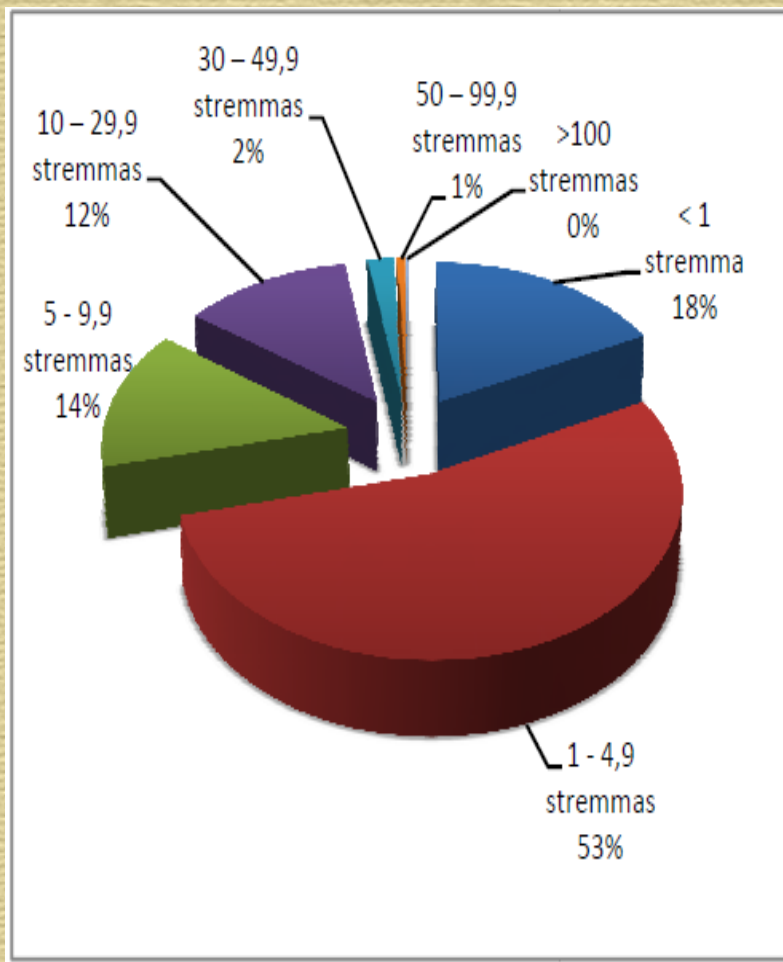
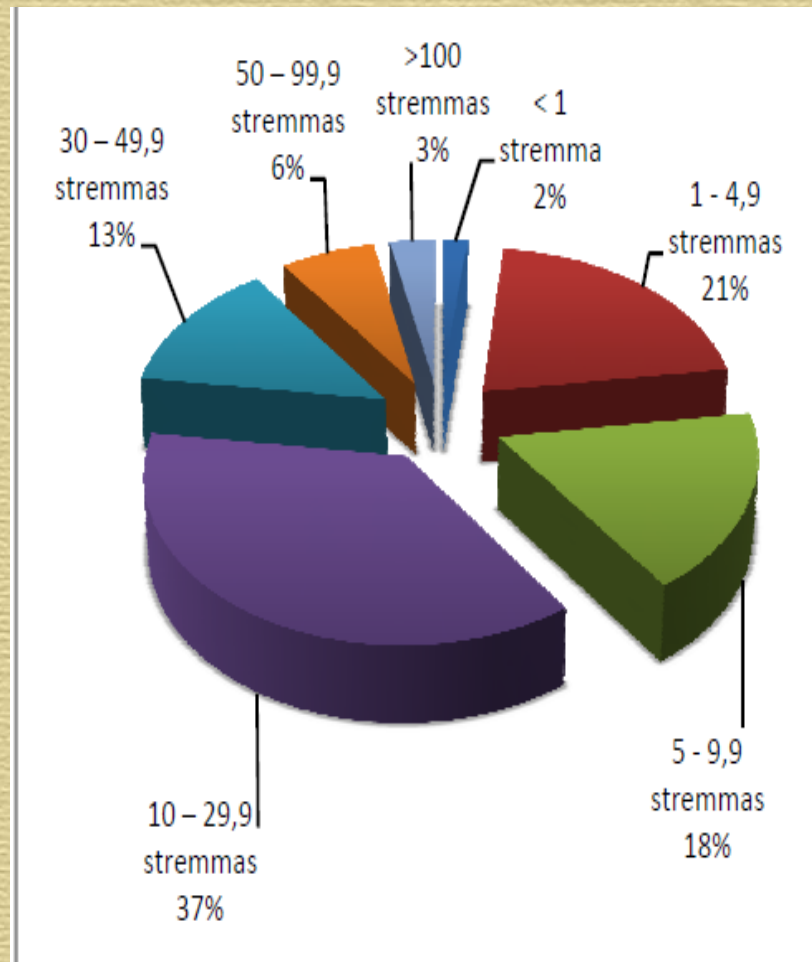


Chart 4. Area under Vines by size class of the holdings





## Table 5: Wine Grape Varieties. Number of Holdings and Area



# Map 1: Main Wine Grape Variety by Region





# Market Analysis





## Consumer habits and requirements

- People prefer to consume wine not as a part of their daily diet but for their pleasure, physiological satisfaction and cultural interest.
- According to some studies, commercial wines represent only 40% of consumption, while 60% of wine is assigned to bulk wine consumption. However, Greek climatic conditions and the existence of a broad viticulture have helped to create good conditions for differentiation.
- The average monthly consumption of table grapes is 570,12 g per family and 220,76 g per person. The consumption increases during summer and especially during July and August because of the tourists who visit Greece.
- The average monthly consumption of wine is 1444, 66 per family.





## Potential substitution of imported the imported grapes

- According to the data from the central fruit and vegetables market of Thessaloniki imports grapes in Greece marked the period from January to early July. From then, begins the domestic grape production, the demand is fully covered by domestic production and imports are eliminated. The only substitution of imports by domestic varieties could be done only the first ten days of July from some early Greek as Attica seedless, Perlette seedless, Superior seedless and perhaps Victoria.





## Potential export growth

- As the market is very competitive, to survive and excel the Greek products actions as the followings will strengthen their place in the preferences of foreign markets. Table grapes and wine grapes are usually more attractive when they derived from integrated farming or organic farming. These should be proved by certificates which will upgrade the product, give added value and make easier the introduction into foreign markets. Such certificates are the protected designation of origin wines (P.D.O.) and the protected geographical indication of wines (P.G.I.).
- The variety of traditional indigenous grapes in no way should be left unexploited. An increase of these varieties for the purpose of export, will introduce a diversified product in foreign markets, a new flavor acquaintance and an absolute advantage will be in the hands of the Greek market.





- Packaging in grapes plays an important role especially when we are talking about exporting product. It should be appealing, safe for the product and the consumer and for transportation. They should implement the safety systems such as IFS, BRC, Global G.A.P. ensuring the customers for clean, safe and healthy products of high quality. These certificates will make it easier to create agreements - contracts with possible foreign markets.





# Future Prospects





Although Greece has a long tradition in wine and table grapes, in recent years due to the economic crisis they created problems for the sector. Demand is decreasing and is appearing replacement trends with cheap imports and substitutes. The lack of funding and education and the need to modernize the sector remain key issues. Finally the investigation of consumption trend of healthy products (Currants) was a question yet to be answered. For all the above and more was created the need for research.





## SWOT analysis for wine and table grapes

### **Strengths**

Favorable Climate and soil conditions: The soil types that exist in Greece and their specific physicochemical properties combined with the variation of temperature, precipitation and sunshine have a positive impact on the quality of the produced wine.

Long tradition and experience on vine cultivation: Greece is in the 13th in the world areas under vines. The cultivation of vine has been an important part of Greek culture for over 4000 years.

Established organic and integrated farm management systems: The implementation of such quality system give added value to the final product.

Possession of specialized cultivation equipment: As viticulture in Greece passes from generation to generation and it consists a part of the family tradition almost always there is the availability of such equipment.





## **Weaknesses**

Small size and large number of fields per agricultural holdings: Restricting distribution of planting rights prevents the transition and creation of large-scale vineyards. In 2012 about the agricultural holdings of small or medium average size (5.8 hectares) were estimated at 717.000.

Lack of skills in marketing and trading: Very few producers consider important market research and marketing. Even those who so desire, lack the skills and knowledge to perform.

Aged rural population: According to statistics, the majority of farmers are aged between 40-64 years old (66,7%).

High initial cost of land, vineyard establishment and required equipment: It is a major deterrent to the creation of large-scale, modernized vineyards, equipped with the necessary agricultural machinery, especially at times of economic crisis we are experiencing.





Long period to reach full production: In nature, the vine takes 3-4 years to deliver maximum production.

Insufficient resources for viticulture education: Producers rely on their own empirical knowledge and their parents knowledge, rather than new cultivation techniques.

Limited cash flow: Capital controls imposed by the Greek Government such as transaction taxes, other limits, or outright prohibitions that regulate flows from capital markets into and out of the country's capital account restrict the availability of cash.





## ***Opportunities***

Interest by potential new farmers: Young people who want to get involved with the cultivation of wine and table grapes are: on the one hand farmers who produce other agricultural products and are disappointed by the yields or sales prices of the products and on the other hand the children of the vine grape producers.

New emerging markets for wine and table grapes (Russia, China): To achieve penetration into new emerging markets, the products need to have the necessary certificates in order to be accepted, in the phase of cultivation (integrated and organic agriculture) and then at the stages of packaging and standardization.

Decreased Euro exchange rate favors Greek exports to other non-European countries: Due to the fall in the price of wine, the Greek wines and table grapes, have become more competitive on other continents.

Increased popularity of Mediterranean cuisine: The Mediterranean diet combined with the nutritional value of wine (polyphenols) has a positive effect against cardiovascular disease and combat cholesterol. Table grapes are an integral part of the Mediterranean diet.





## ***Threats***

Climate change: Climate change such as extreme temperatures and extreme weather conditions adversely affect the biological cycle of the plant and therefore the yield and quality of the final product.

Limited access to financing: it is fact that for someone to enter the sector needs considerable amount money because of the high initial installation costs. Therefore due to the economic crisis in Greece funding through banks has become very difficult.

Registration of Greek vine varieties by other nations and importation of certified propagation material: to replace the imported, the state must create an organization to start the Greek certification of propagation material for grapes.





## ***Stakeholder Analysis***

The most significant stakeholders are: a) the consumers which are the moving power of the whole system whose demand the sector has to satisfy, b) the banks to give the capital to the farmers to establish a vineyard, c) the Wholesalers, which have from the great influence on the sector due to they set the prices, d) farmers, labor, pesticides and fertilizers supplies, machinery and equipment supplies and propagation materials supplies, collaborate in order to realize primary production, e) the certification bodies are major stakeholder since most of the crops are organically cultivated, f) Ministry of the governments, play important role are as they the legislative mechanisms that define the rules of the system (planting rights), while they supervise the implementation of the rules by all parts.

Other stakeholders with high influence especially for processed products are the processing units who, as it has already mentioned, could attempt to low price of grower in order to maximize their profit and some times that happens deliberately. In cases when the grower also processes the grapes on his own he has to comply with the health safety regulations.

The stakeholder's category equipment suppliers, packaging materials suppliers and consultants contribute to the processing of table grapes and wine, in order to have end products ready to be bought by consumers. Finally, there are some other stakeholders (hotels, restaurants, Cellars, Environmental and Agricultural authorities etc) with no or some importance, which have some or no influence and are integral part of the sector of viticulture, table and wine grapes.

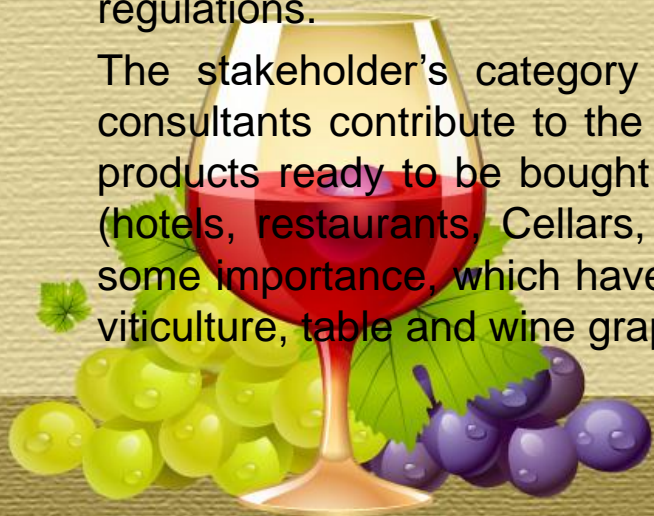


Table. Stakeholder analysis

		Importance of stakeholder			
		Unknown	Little / No importance	Some importance	Significant importance
Influence of Stakeholder	Significant influence	-	-	<ul style="list-style-type: none"> <li>• Food Safety Authorities</li> <li>• Processing units</li> <li>• Retailers</li> </ul>	<ul style="list-style-type: none"> <li>• Banking</li> <li>• Ministries</li> <li>• Consumers</li> <li>• Wholesalers</li> <li>• farmers</li> <li>• Certification bodies</li> <li>• Labor, social security etc.</li> <li>• Pesticides &amp; fertilizers suppliers</li> <li>• Machinery &amp; equipments suppliers</li> <li>• Propagation materials suppliers</li> </ul>
	Some influence	-	<ul style="list-style-type: none"> <li>• Environmental Authorities</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural authorities</li> <li>• Cellars</li> <li>• Wine festivals</li> </ul>	<ul style="list-style-type: none"> <li>• Consultants</li> <li>• Equipment suppliers</li> <li>• Packaging materials suppliers</li> </ul>
	Little / No influence	-	<ul style="list-style-type: none"> <li>• Hotels</li> <li>• Restaurants</li> <li>• Tavern</li> </ul>	<ul style="list-style-type: none"> <li>• Supply providers</li> <li>• Equipment suppliers</li> <li>• Public services</li> </ul>	



## Future Markets

Greek table and wine producing companies declare that they want to successfully export their products to good expensive market in order to create the desired profits and add value to the sector. This should be done though under a well-designed long term strategy allowing them to mature both in products specifications and experience. There is a set of factors that should be taken under account and appropriate decisions should be made so that the products will be successful in target markets.

Quality meaning is a complex one and although all people around the globe use it, it does not mean the same for all of them. However in globalized economy and common market there is an urgent needs for common language describing a commonly understood minimum set of qualifications.

The major of table producers gives the whole production to Wholesaler and does not know the country exported. The same happens with the major of wine producers, which they give their production to Wineries and does not know the country or the area exported.

The future markets for exporting are the Russia and China, but there are many problems to exported table grapes to China, due to the complicated certificates for the health safety regulations.





## **Synergies with other sectors**

The sector of viticulture, table and wine grape, will be able to have synergies with other two sectors, which are wine tourism and e-commerce.





## Agro tourism opportunities

In a number of European and global countries, efforts have been made to link organic farming to a special type of environmentally friendly agro/rural tourism. At a European level, ECEAT – the European Centre for Ecological and Agricultural Tourism, holds records of, and publicizes, a number of organic farms that offer organic accommodation and food. At a national level, Austrian Farm Holidays have for a long time produced special marketing materials for organic farm members. In a global level, in Korea and to some extent in Japan, an organization marketing organic farm holidays to the buyers of organic food is working successfully as a two-way marketing synergy.

- Agro touristic businesses can combine touristic and agricultural activities or collaborate with agricultural businesses in order to enrich their touristic product. Wine tourism has been defined as ‘visitation to vineyards, wineries, wine festivals and wine shows for which grape wine tasting and/or experiencing the attributes of a grape wine region are the prime motivating factors for visitors’



## E-commerce opportunities

E-commerce is the “new” way to trade goods and is expanding widely and globally. Using ecommerce there is a chance to sell your products in places the you could not reach otherwise.

According, a research to Greek wine companies (Perrotis College), the results of the use of e-commerce and e-shop by questionnaires, shows:

<b>E-commerce and e-shop questionnaire</b>	
1. Regarding company web site	
a. We don't have a company web site	27,27 %
b. We have a website and we use it for (you can select more than one) :	
1. Information regarding products and services	63,64 %
2. Customer feedback	45,45 %
3. Online sales options	27,27 %
c. It is optimized for mobile browsing	9,09 %
d. It is multilingual (more than three languages)	9,09 %
e. It offers options for online sales	0,00 %
2. Do you use a Smartphone or tablet?	72,73 %
3. Select the e-marketing tools you use if any (you can use more than one) :	
a. Email marketing (Newsletters)	63,64 %
b. Video marketing (YouTube promotion)	63,64 %
c. SMS marketing	0,00 %
d. Social media marketing	63,64 %
e. PPC advertising (Search engine advertising)	18,18 %
f. None of the above	36,36 %
4. Would you use a web based platform to sell products directly to the customers?	54,55 %
5. Would you use a web based platform to sell products directly to your business partners?	45,45 %
6. Would you use a web based platform for purchasing production related goods?	72,73 %