

Focus OIV 2017

Distribution of the world's grapevine varieties



International Organisation
of Vine and Wine
Intergovernmental Organisation

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Content

This focus report on global vine diversity has been produced by the International Organisation of Vine and Wine (OIV). It provides an overview of the distribution of the world's grapevine varieties and examines current trends in this respect.

This document focuses on all varieties, regardless of how the grapes are used (wine, table, drying or otherwise).

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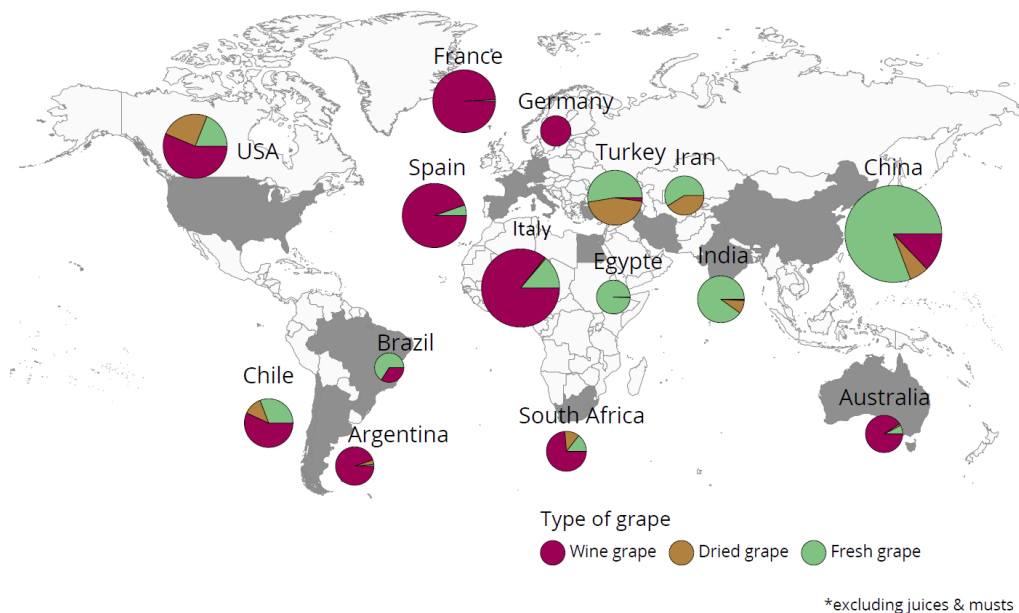
Summary

This focus report on the distribution of the world's grapevine varieties has been produced by the International Organisation of Vine and Wine (OIV). It provides an overview of the distribution of the world's grapevine varieties and examines current changes in trends. This document focuses on all varieties, regardless of how the grapes are used (wine, table, drying or otherwise), encompassing 75% of the world's area under vines. It examines the data available on 44 countries since 2000, and focuses on those with a vineyard area above 65 000 ha and their 10 main varieties¹. Note that the study is more representative of wine grapes than of other varieties given the nature of the data held by the OIV.

While some can be dual purpose, table grape and dried grape varieties tend to differ from wine grape varieties. It is for this reason that the distribution of vine varieties in countries that primarily produce table grapes and dried grapes is very different from that of predominantly wine-producing countries.

Of the world's 10 000 known grapevine varieties, 13 cover more than one-third of the world's vineyard area and 33 varieties cover 50%.

Some grapevine varieties are planted in numerous countries and thus are called "international varieties". The most obvious example is Cabernet Sauvignon, which is now one of the most cultivated varieties in the world (5% of the total world area under vines). Conversely, other varieties may be widely cultivated but only in a small number of countries, such as Kyoho, which is mainly grown in China.



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Figure 1. Vine-growing areas and destinations of grape production

¹Turkey, Iran and Uzbekistan are not included in this study due to the absence of data on the distribution of grapevine varieties. Country tables providing detailed data not covered in this report are available on the OIV website (www.oiv.int).

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Abbreviations and symbols

Abbreviations

ha : hectares
t : tonnes
ha : tonnes per hectare
NA : data not available

Symbols

Trend development between 2000 and 2015 ²		
Symbol	Average Annual Change	Description
↓	< -3%	Significantly decreased
↘	Between -3% and -1%	Decreased
→	Between -1% and +1%	Stable
↗	Between +1% and +3%	Increased
↑	> +3%	Significantly increased

Introduction

The world's vine stock has undergone considerable changes over the last 15 years owing to the grubbing-up of vineyards and restructuring activities. Indeed, some traditionally high-production varieties no longer correspond to the tastes of consumers or the market, and have seen a significant decline in their surface area.

Changes in the world's area under vines over the last 10 years are primarily due to the grubbing up and restructuring of the European Union's vineyards³, combined with the overall net growth of vineyards on other continents.

The world's vineyard area has experienced a slight decline over the last 10 years (-3% since 2010). However, this downward trend is not uniform across the world. Some countries have recorded significant declines; for example, Spain and some other European countries have reduced their vineyard area by more than 10% in 10 years. In other countries, the opposite has occurred; for example, China has seen an increase of 177% in its area under vines since 2000.

²The trend is calculated using the average annual change in vineyard area during the 2000-2015 period; for some varieties the time period analysed may be shorter depending on the availability of data.

³Council regulation (EC) No. 479/2008 of 29 April 2008 on the common organisation of the market in wine: a Community programme regulating vine production potential, during which the European Union (EU) has introduced premiums for the permanent abandonment of vineyard activities.

Methodology

The data presented in this document came from several different sources, which are described below and ranked in order of priority:

Official data provided to the OIV

This data is obtained by the OIV through different questionnaires sent to Member States.

Data available in official reports

This data is obtained via official reports published by governmental and intergovernmental agencies and bodies.

Data available in informal reports

Data is sometimes published by non-governmental bodies representing the vine sector (including wine grape and table grape activities). This is not regarded as official data as it is not published by a government entity. Nonetheless these reports can sometimes provide reliable data.

NB: where appropriate, the data collected is subject to correction by the OIV; for example, where information on the area in production only is available, the figure is adjusted to give an approximate estimate of the total area, i.e. the sum of the cultivated vine area and the area not yet in production (which takes into account areas planted with young vines).

Data from other sources and estimates

This data comes from various sources; the OIV aims to summarise this information, which is then generally reviewed by experts.

Distribution of the world's grapevines

Diversity of varieties

The *Vitis* genus (80 species identified⁴) is composed of two sub-genera: *Muscadinia* and *Euvitis*.

The *Muscadinia* sub-genus comprises three species⁵, including *M. rotundifolia*. Grown in the south-east of North America, this species is remarkably resistant to the main cryptogamic diseases to which most *Vitis vinifera* varieties are prone⁶.

Most cultivated grapevines belong to the *Euvitis* sub-genus. These fall under three groups⁷:

- The American group is made up of more than 20 species⁸, including *V. berlandieri*, *V. riparia* and *V. rupestris*, which were used as rootstock to address the phylloxera crisis.
- The East Asia group consists of around 55 species⁹, which are currently considered to be of limited importance to viticulture.
- The Eurasian group is made of one single species, *Vitis vinifera* L., which accounts for most of the world's *Vitis*¹⁰ varieties. There are two sub-species of *Vitis vinifera*: *sylvestris*, which corresponds to the wild form of the vine, and *vinifera*, referring to the cultivated form.

Over the years the cultivation of grapevines has led to a significant increase in genetic diversity via sexual reproduction.

The preservation and transport of vine seeds by people, which was likely a common practice in the past, has contributed to the creation of new varieties. The interspecific (i.e. between species) hybridisation of *Vitis* which took place from the end of 19th century until the mid-20th century to address the phylloxera crisis, resulted in the creation of direct producer hybrids (DPH) and rootstock, ultimately contributing to an increase in the diversity of plant material. Finally, diversity has also increased as a result of natural genetic mutations, which are common in grapevines and further assisted by ongoing vegetative propagation.

With its several thousand varieties, the *Vitis* genus is today characterised by high levels of genetic diversity. au travers de plusieurs milliers de variétés. The *Vitis* international variety catalogue identifies 21 045 names of varieties – including 12 250 for *V. vinifera*, but this includes a considerable number of synonyms and homonyms¹¹. The actual number of vine varieties for the *V. vinifera* species in the world is estimated at 6 000¹².

⁴ www.vivc.de

⁵ Wen et coll., 2007.

⁶ Olmo, 1986.

⁷ Galet, 1988.

⁸ Comeaux, 2012.

⁹ Ren & Jun, 2007.

¹⁰ *V. vinifera* encompasses half the varieties identified (www.vivc.de, accessed 7/9/2015).

¹¹ Maul & Topfer, 2015.

¹² Lacombe, 2012.

Distribution of varieties and key trends

Variety ¹³	Colour	Destination	Area (ha)	Trend ¹⁴
Kyoho	Black	Table	365 000	↑*
Cabernet Sauvignon	Black	Wine	341 000	↗
Sultanina	White	Table, drying and wine	273 000	↘*
Merlot	Black	Wine	266 000	→
Tempranillo	Black	Wine	231 000	↑
Airen	White	Wine, Brandy	218 000	↓
Chardonnay	White	Wine	210 000	↗
Syrah	Black	Wine	190 000	↑
Red Globe	Black	Table	159 000	↗*
Garnacha Tinta / Grenache Noir	Black	Wine	163 000	↘
Sauvignon Blanc	White	Wine	123 000	↑
Pinot Noir / Blauer Burgunder	Black	Wine	112 000	↑
Trebbiano Toscano / Ugni Blanc	White	Wine, Brandy	111 000	↘

* OIV estimates

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¹³Varieties with a total surface area above 100 000 ha.

¹⁴The trend is calculated using the average annual change in vineyard area during the 2000-2015 period; for some varieties the time period analysed may be shorter depending on the availability of data.

Kyoho

Kyoho, together with Neo Muscat and Muscat Bailey A, is one of the main products of Japan's initial efforts in grapevine selection, which took place before World War II. This grape variety is the result of crossing tetraploid *vinifera* (Ishiharawase) and *labruscana* (Centennial), cultivars, which have been grown extensively in Japan since around 1950¹⁵. Kyoho was first produced by a private breeder named Y. Ohinoue in 1945 in an effort to create a cultivar with large berries as a result of its tetraploid nature.

Kyoho grapes are large purple berries (12 to 14 grams) with edible flesh, a high sugar content (18-20 Brix) and a pronounced yet pleasant foxy flavour. The berries have a slip skin, are not prone to splitting, and detach easily from the cluster when fully ripe; they have a short shelf life. In general, the Kyoho variety demonstrates moderate resistance to disease; with gibberellic acid applications it can also produce seedless berries. The Kyoho yield¹⁶ ranges from 12 to 15 t/ha¹⁷.

Kyoho's surface area has been increasing steadily, reaching **365 000 ha in 2015. It is the world's most cultivated variety but the majority of its vines are in China (more than 90%)**. Kyoho has been the most produced variety of grape in Japan since 1994¹⁸. In South Korea, it accounts for 14.5% of the country's vineyards (3 400 ha)¹⁹. Kyoho is also very popular in China and Thailand because of its large size and very sweet pulp.

Synonyms: Kioho.

Cabernet Sauvignon

Cabernet Sauvignon is a black wine grape variety from Bordeaux derived from a crossing between Cabernet Franc and Sauvignon Blanc²⁰. This late-budding variety with a long maturity period is characterised by small berries in small cylindrical-conical-shaped clusters. It is particularly susceptible to grapevine trunk diseases (esca, eutypa, excoriosis) and to powdery mildew²¹. This variety yields between 2 and 14 t/ha depending on vine vigour²².

Wines from this grape variety are popular and recognised worldwide thanks to their typical flavours, particularly violet and bell pepper (pyrazines are present if the grapes are harvested early), their good structure and their high tannin content. Cabernet Sauvignon is often blended with other grapes because it has high tannicity and deep colour, but it is not particularly round or fat. The Bordeaux blend approach, which blends Cabernet Sauvignon with Merlot, Cabernet Franc, Malbec and/or Petit Verdot, has largely been adopted by New World winemakers. However, Cabernet Sauvignon can be successfully blended with other grape varieties. Cabernet Sauvignon also has good ageing potential; the vegetal flavours progressively fade, allowing more complex flavours to develop.

Its vines are widely distributed across the world. **Covering an area of 341 000 ha**, or 4% of the world's vineyards, Cabernet Sauvignon was the **second most-planted vine variety in 2015**. It is mainly grown in China, France, Chile, the United States, Australia, Spain, Argentina, Italy and South Africa.

Synonyms : Petit Cabernet (MAR, MKD), Cabernet (ARG, AUS, CHL, ITA, NZL), Kabernet (HRV), Burdeos Tinto (PER), Burdeos (PER), Bourdeos Tinto (ROU), Petit Vidoure (ROU), Vidure Sauvignon (BIH), Kaberne Sovinjon (MKD, BIH, BGR, RUS), Carbonet (BIH), C.S. Noir (BIH).

¹⁵ Yamada & Sato, 2016.

¹⁶ The yield parameter depends on several variables: climate conditions, soil type, irrigation, fertilisation, vine training system, size, distance between rows and between plants, orientation, etc. For this reason it is difficult to assign an accurate average yield value for each variety.

¹⁷ Morinaga, 2001.

¹⁸ Morinaga, 2001.

¹⁹ Song, 2001.

²⁰ Galet, 2015.

²¹ Boursiquot *et al.*, 2007.

²² Galet, 2015.

Sultanina

Sultanina is an ancient white grape variety that originated in Afghanistan²³. Its small oval-shaped berries make it particularly suitable for drying to produce raisins, but it is also used as a table grape, a wine grape (especially in Turkey and the USA) or it can be distilled to make a spirit (for the production of raki). Sultanina was the world's first seedless variety to be cultivated.

Sultanina is a highly vigorous variety with reduced fertility. It is susceptible to powdery and downy mildew, anthracnose, excoriosis²⁴, botrytis, millerandage and berry splitting²⁵. This variety has loose clusters and numerous secondary branches; its small, thick-skinned berries are crunchy with a fleshy pulp. It needs to be grown on trellises and pruned long²⁶. Berry size can be increased by gibberellic acid applications. The Sultanina variety yields between 20 and 80 t/ha in South Africa²⁷, between 11 and 20 t/ha in Chile²⁸, and between 24 and 47 t/ha in Australia²⁹.

Covering an area of approximately **273 000 ha**, Sultanina is the world's most commonly used variety for table grapes and dried grapes. **It is mainly grown in the Middle East** (Turkey, Iran, Iraq, Afghanistan, Pakistan) and Central Asia (Uzbekistan, Turkmenistan, Tajikistan), where it is known as Kishmish.

Synonyms : Thompson Seedless (USA, AUS, ZAF, PER, ARG, MKD, BRA), Sultanine (FRA, GRC), Kishmish (AFG), Sultana (ARG, NZL, PER, MKD), Sultanine Blanche (FRA, MAR, BIH, GRC), Kišmiš (BIH), Kesmish Blanc (BIH), Čikarda (BIH), Cekirdeski Uzum (BIH), Kis-mis Alb (ROU), Bealo Bez Seme (BGR).

Merlot

This black wine grape variety from Bordeaux was incorporated into wines from that region at the beginning of the 19th century. Merlot has benefited from the popularity of these wines, and is now widely grown across the world.

It is an early-budding and early-flowering variety with an average maturity period and a tendency to over-ripen in warm climates. Merlot has a trailing growth habit, normal vigour and is prone to a range of problems related to coulure³⁰. It is sensitive to downy and powdery mildew, botrytis, cicadellidae and drought³¹. With small berries and clusters, Merlot has good fertility and is suited to close pruning³². In Bordeaux and the Midi region of France, Merlot yields between 6 and 11 t/ha depending on vine vigour³³.

Merlot grapes produce round, structured and deeply coloured wines, and can be blended with more tannic wines to give balance.

Present in 37 countries, in 2015 Merlot covered **266 000 ha**, or 3 % of the total world area under vines.

Synonyms : Bigney Rouge (ROU), Merlot Rouge (MAR), Merlo Noir (MAR), Plant Medoc (MKD, BIH, ROU), Merlo (MKD, BIH), Merlaut Noir (BIH), Vitraillie (BIH).

²³ Galet, 2015

²⁴ Boursiquot *et al.*, 2007.

²⁵ Wagner et Truel, 1998.

²⁶ Boursiquot *et al.*, 2007.

²⁷ Mybourgh, 2003 ; Swanepoel *et al.*, 1990.

²⁸ Ibacache *et al.*, 2016.

²⁹ Clingeleffer & May, 1981.

³⁰ Galet, 1990.

³¹ Galet, 2015.

³² Boursiquot *et al.*, 2007.

³³ Galet, 2015.

Tempranillo

This black wine grape variety from Spain is the fifth most cultivated variety in the world, covering an area of **231 000 ha** in 2015. **Tempranillo is not widely grown outside of Spain; it may be present in 17 countries but 88% of its cultivated area is in Spain.**

Features of Tempranillo vines include early budburst, early ripening and a short growth cycle. An upright variety with high fertility, it is susceptible to excoiiose and powdery mildew, as well as sensitive to extreme drought and wind. Tempranillo has very high vigour and is particularly suited to southern growing conditions and short pruning³⁴. It yields between 2 and 10 t/ ha³⁵.

In warm climates, the Tempranillo grape produces deeply coloured wines, with a high alcohol content and low acidity³⁶. These characteristics become less apparent as the yield increases.

Synonyms : Aragonéz (AUS, PRT, BRA, NZL), Cencibel (ESP, ARG), Tinta de Toro (ESP), Tinta del País (ESP), Tinto Fino (ESP), Ull de Llebre (ESP), Tinta Roriz (ZAF, AUS, BRA, PRT), Roriz (AUS), Tempranilla (ARG), Valdepenas (USA).

Airen

This is a white wine grape variety from Spain (**218 000 ha** in 2015). **Accounting for 22% of Spanish vineyards, Airén is almost exclusively planted in its home country**, where it is the top vine variety in terms of surface area.

With a long growth cycle, Airén is a horizontal-growing variety characterised by both high vigour and fertility. This variety has very large clusters that produce high yields; it is generally suited to close pruning.

Airén is very resistant to a number of grapevine diseases. It produces subtly fragranced, low-acid white wines. It is frequently used in blended wines³⁷. It yields between 5 and 20 t/ ha, depending on vine vigour and irrigation.

Airén is usually grown in low densities (1 200 to 1 600 plants/ ha) in arid and hot conditions. It is mainly planted in the Castilla-La Mancha community in Spain. It is primarily used to produce white wine, but is sometimes vinified to make red wine. Airén is also distilled to make a spirit.

Synonyms : Lairén (ESP), Manchega (ESP).

Chardonnay

Chardonnay is a white wine grape variety from Burgundy. In 2015 its vineyard area was **210 000 ha** across **41 countries**. This variety is grown in France, Italy and Spain, but the United States, Australia and Chile are also among its main producers.

According to genetic research, Chardonnay is the result of crossing Gouais Blanc with Pinot³⁸. Grown extensively in vineyards across Europe, America and Oceania, it is the most international of white wine grape varieties.

Chardonnay is a high-vigour plant, and produces low-to-medium yields with close pruning. Budburst occurs late (making the plant sensitive to spring frosts) and maturity (ripening) occurs early. In addition, Chardonnay is susceptible to powdery mildew, phytoplasmas and botrytis³⁹. While its clusters and berries are small, they have the quality potential to produce superior aromatic and styled wines (for example, dry and sparkling, in addition to spirits) with interesting aromas (such as dried fruit, walnuts or butter). It also has good ageing potential⁴⁰. Chardonnay yields between 3 and 10 t/ ha⁴¹.

³⁴ Boursiquot *et al.*, 2007.

³⁵ Hidalgo, 2002.

³⁶ Sotés, 1989.

³⁷ Clingeleffer & May, 1981.

³⁸ Bowers *et al.*, 1999.

³⁹ Galet, 1990.

⁴⁰ Boursiquot *et al.*, 2007.

⁴¹ Galet, 2015.

It is often vinified to produce a dry white wine, and left unblended so that the label can show the varietal name Chardonnay, which is now recognised by all categories of wine consumers. In addition, using the *méthode traditionnelle*, it is frequently made into sparkling wines, either as a blend or standalone (in the latter case it is called Blanc de Blancs). It may also be vinified to produce dessert wines.

Synonyms : Šardone (MKD, BIH), Pinot Chardonnay (ARG, MKD, BIH, AUS, CAN, CHL, RUS), Chardonnay Blanc (MKD, HUN), Morillon, Feinburgunder, Chardonay, Weiss Klewner (BIH), Pinot Giallo (BIH), Pinot Blanc (MAR), Pinot Blanc a Cramant (BIH), Mâconnais (BIH), Chaudenet (BIH), Chardenet (BIH), Aubain (BIH), Arnaison Blanc (BIH), Ronci Bilé (HUN), Morillon Blanc (HUN), Kereklevelü (HUN), Pino Blanc (MAR), Gamay Blanc (MAR), Pinot Blanc Chardonnay (ROU), Gentil Blanc (ROU).

Syrah

Syrah is a black grape variety from the Rhône valley in France. Genetic research suggests that it is the result of crossing the Mondeuse Blanche (from Savoie) and Dureza (from the Ardèche) grape varieties⁴². Having been widely exported to New World vine-growing countries (Australia, Argentina, South Africa, the United States, Chile), it has earned the reputation of being one of the most international grape varieties. In 2015 its vineyard area was **190 000 ha** and it was **grown in 31 countries**.

Features of the Syrah growth cycle include: late budburst, a short ripening-maturity period and a late harvest. It is highly vigorous but has low fertility; its berries are small-to-medium in size but its clusters are large. Given its high yields, this variety is better suited to long pruning⁴³, but close pruning is sufficient to achieve a good yield and quality wines in southern regions⁴⁴. It is extremely susceptible to chlorosis, but less so to acariosis and botrytis. Syrah yields between 3 and 8 t/ha⁴⁵.

⁴² Meredith & Boursiquot, 2008.

⁴³ Galet, 1990.

⁴⁴ Boursiquot *et al.*, 2007.

⁴⁵ Galet, 2015.

⁴⁶ Wagner & Truel, 1998.

This variety produces deeply coloured wines that are high in tannins. The aromas of the wine are popular with consumers, provided that the grape yield has not been too high.

Synonyms : Shiraz (DEU, ARG, BRA, BGR, CAN, CHL, USA, FRA, HUN, ITA, NZL, PRT, ROU), Hermitage (NZL), Petit Syrah (ARG, ROU), Petit Shiraz (ARG), Balsamina (ARG), Širaz (MKD), Sirah (ARG, MKD, BIH, CHL, HRV), Sirac (BIH, HUN), Schiras (BIH), Serine (FRA), Serine Noir (HUN), Marsanne Noir (HUN), Blauer Syrah (HUN), Syrac (MAR), Marzane Noire (MAR), Candine (MAR).

Red Globe

With a surface area of **165 000 ha**, Red Globe is the world's **second most cultivated table grape variety**. A total of 91% of this variety's vineyard area is in China, but it is also grown in the United States, Spain, Portugal, Italy, Turkey, Chile, Argentina and South Africa.

This is an early-budding variety with a long (late) maturity period. Red Globe is a highly vigorous plant, with large clusters and berries; it yields between 8 and 30 t/ha. As a slip skin variety, Red Globe grapes are ideal for adding to salads⁴⁶.

Synonyms : Rosito (PER).

Garnacha Tinta (Grenache Noir)

Garnacha Tinta or Grenache Noir (**163 000 ha** in 2015) is an ancient black grape variety from Spain, thought to have been introduced to France during the Middle Ages⁴⁷. **It is predominantly grown in France and Spain** (these two countries account for 87% of its world vineyard area).

Garnacha Tinta is highly vigorous. It is an upright variety, with high fertility and large clusters producing a high-to-medium yield. It is extremely drought resistant and adapts easily to different soil types. It is susceptible to downy mildew, excoriosis, botrytis, coulure⁴⁸, and magnesium deficiencies, and is also sensitive to autumn frosts; its cold hardening capacity is impaired⁴⁹, which represents a real challenge for winegrowers. Its yield is between 2 and 8 t/ha⁵⁰.

This variety produces deeply coloured, nervous wines with a high alcohol content. It is often blended with other varieties to achieve a better balance⁵¹.

Synonyms : Garnacha (AUS, BRA, NZL), Cannonau (ITA), Tocai Rosso (ITA), Rooi Grenache (ZAF), Red Grenache (ZAF, CHL), Granaxia (AUS), Tintore di Spagna (BIH), Grenaš crn (MKD, BIH, HRV), Grenache crni (HRV), Granacha (BIH), Alicante (MAR), Garnacha negra (BIH), d'Alicante (BIH), Cannonu (BIH), Lladoner Tinto (ESP), Gironet (ESP).

Sauvignon Blanc

Sauvignon is a French white grape variety that has been cultivated in the Loire Valley and Bordeaux region for centuries. Very much **an international variety (123 000 ha in 2015), it is grown in all major wine-producing countries of the world**. It is New Zealand's most cultivated vine variety, with almost 20 500 ha of vineyards.

Sauvignon Blanc is characterised by an average budburst period, early flowering and a long (late) maturity period. It is a highly vigorous variety with low fertility, and small clusters that are prone to coulure. It is extremely susceptible to powdery mildew and black rot, and to a lesser extent downy

mildew and botrytis⁵². It is also susceptible to grapevine trunk diseases⁵³. Sauvignon Blanc yields between 5 and 10 t/ha⁵⁴.

This variety owes its success largely to the varietal aromas of thiol compounds (blackcurrant, exotic fruit, boxwood); the expression of these aromas varies depending on the terroir, vintage and growing conditions of the grapes. Thanks to its unique flavours, it is often vinified to produce dry white wines that are consumed young. Sauvignon Blanc can also be used to produce high-quality dessert wines.

Synonyms : Sauvignon (AUS, NZL), Blanc Fumé (ZAF, CHL), Muscat Sylvaner (DEU), Fumé Blanc (DEU, AUS, CAN, USA, NZL), Weisser Sauvignon (MKD, HUN), Sovinjon Bel (MKD, HUN), Sauvignon Bianco (MKD, HUN), Sovinjon Bijeli (BIH), Sovinjon (BIH), Muškatni Silvanac (BIH, HRV), Sauvignon Bijeli (HRV, HUN), Sauvignon Blanco (CHL), Fume (CHL), Muscat Sylvaner (HUN), Gros Sauvignon (RUS), Sauvignon Vert (RUS), Pinot Mestny Bely (RUS), Sauvignon Verde (ROU), Zeleni Sauvignon (SVN), Sauvignonasse (SVN).

Pinot Noir (Blauer Burgunder)

The origins of this ancient black wine grape variety can be traced back to 14th-century Burgundy. Genetic research suggests that crossings between Pinot Noir and Gouais Blanc have produced 21 grape varieties grown in France.

Pinot Noir is an early-budding variety, therefore sensitive to early spring frosts, although it is very resistant to winter frosts. It ripens quickly in warm climates⁵⁵.

Cool temperatures and sufficient levels of humidity during the flowering period can cause millerandage and coulure, making this variety unsuitable for growth on clay and humid soils⁵⁶. It is susceptible to downy mildew, botrytis and cicadellidae. Pinot Noir has low fertility, small clusters and very small berries that produce low yields (3-9 t/ha in Burgundy⁵⁷). However, its grapes are high in sugar, moderately acidic and their skin is rich in polyphenols. It produces lightly coloured wines that are popular with consumers, and has a good potential for ageing in barrels.

⁴⁷ Lavignac, 2001.

⁴⁸ Galet, 2015.

⁴⁹ Boursiquot *et al.*, 2007.

⁵⁰ Ibid.

⁵¹ Galet, 2015.

⁵² Galet, 1990.

⁵³ Lavignac, 2001.

⁵⁴ Galet, 2015.

⁵⁵ Boursiquot *et al.*, 2007.

⁵⁶ Galet, 1990.

⁵⁷ Ibid.

In temperate zones Pinot Noir produces light to moderately coloured and moderately acidic red wines that are recognised for their aromatic complexity and finesse. The quality of wines is lower in more southern regions, as the alcohol level increases and the aromas become less distinctive. Pinot Noir can also be blended with Chardonnay to make sparkling wines (particularly in the Champagne region).

Thanks to its reputation and its ability to adapt to cooler climates, this variety is widely grown in Europe (Germany, Italy, Switzerland, Romania, Hungary, Spain) but also in the vineyards of the New World (United States, New Zealand, Australia, Chile, Argentina, South Africa); it ranks as the world's **fourth most cultivated variety (112 000 ha in 2015)**.

Synonyms : Pinot Nero (AUS, NZL, ROU, HUN), Pinot (ITA, NZL), Burgundec Crn (MKD), Blauer Spätburgunder (MKD, ITA, LUX, ROU), Spätburgunder (ITA, CAN, ROU, CHE), Blauburgunder (MKD, CAN, ITA, CHE), Blauer Burgunder (HUN, ROU, CHE), Burgunder (TUR), Wroge Loonse (BEL), Pinot Noir Precoce (BEL), Pino Crni (BIH, HRV), Burgundac (BIH), Burgundac Crni (HRV), Pinot negro (ARG, CHL), Pinot Go (RUS), Chpatchok (RUS), Savagnin Noir (HUN), Rulandski Modre (HUN), Pinot Tinto (HUN), Pinot Cernii (HUN), Pino Csernűj (HUN), Pignola (HUN), Kék Rulandi (HUN), Kék Kisburgundi (HUN), Kék Burgundi (HUN), Klävner Morillon Noir (ROU), Burgunder Roter (ROU), Burgund Mic (ROU), Modri pinot (SVN), Klevner (CHE), Früburgunder (CHE), Cortaillod (CHE), Clevner (CHE).

Trebbiano Toscano (Ugni Blanc)

This white wine grape variety from Italy (**111 000 ha in 2015**) is predominantly grown in Italy, France and Portugal. In Italy, Trebbiano Toscano (Ugni Blanc in France) is vinified to produce dry white wines, then blended to balance out its neutral flavour. In France, it is grown to produce low-alcohol wines (7 to 9%) to then be distilled into spirits (Cognac and Armagnac). In Bulgaria, however, it is cultivated to produce table grapes.

It is a late-budding and late-flowering variety (with good tolerance of spring frosts), and has a long (late) maturity period. It produces wines with high acidity and low alcoholic strength by volume⁵⁸. It is a highly-vigorous upright variety with good fertility and large, long cylindrical clusters that produce high yields (between 5 and 20 t/ha⁵⁹). It is not, however, suited to close pruning, which reduces its vigour, yield and sugar content. In addition, it is susceptible to downy mildew, eutypiose and nematodes, but is relatively resistant to botrytis and excoriose⁶⁰.

The Trebbiano Toscano variety has large clusters with small berries that produce neutral yet varied and well-balanced wines (dry wines, liqueurs, sparkling wines, etc.). It was also used to breed the hybrid Vidal grape, one of the world's main sources for producing ice wine⁶¹.

Synonyms : Trebbiano (ZAF, ARG, CHL, USA, GRC, NZL), Saint Emilion (USA, ARG, BIH), Juni Blan (MKD, BIH), Uva Bianca (BIH), Trebbianone (BIH), Trebbianolli (BIH), Trebbiano Forte (BIH), Trebbiano Fiorentino (BIH), Blanc de Cadillac (BIH), Ugni Byal (BGR), Sent Emilion (BGR), Procanico (ITA), Rossela Blanco (MAR), Clairette Ronde (MAR).

⁵⁸ Galet, 1990.

⁵⁹ Ibid.

⁶⁰ Boursiquot *et al.*, 2007.

⁶¹ D'Agata, 2014.

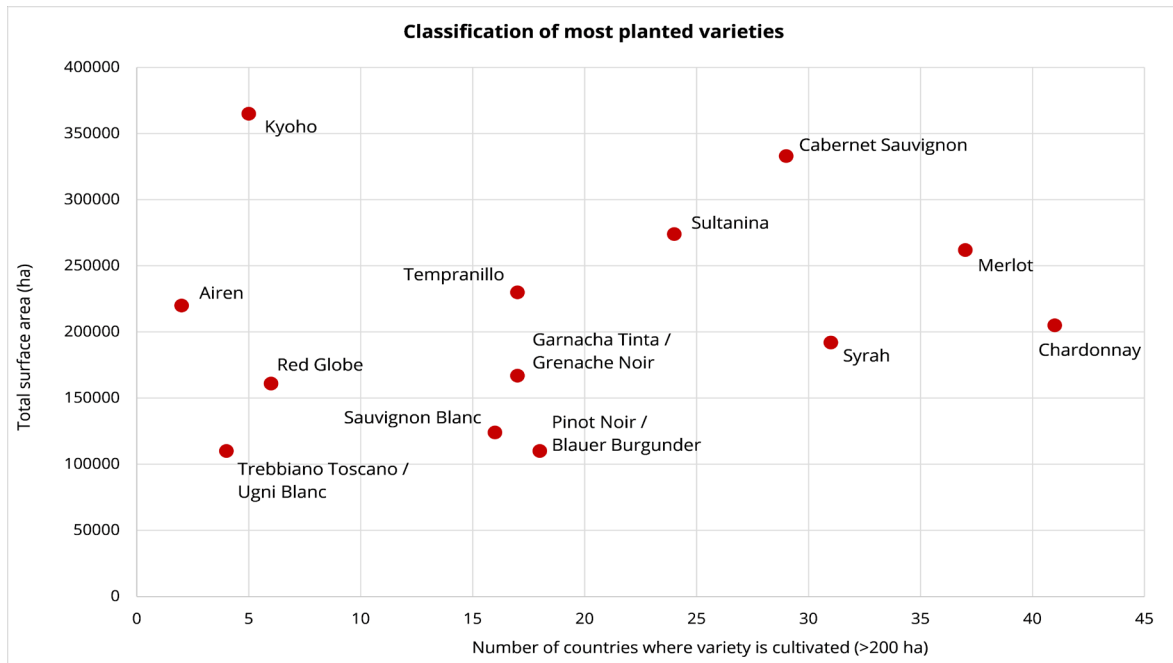
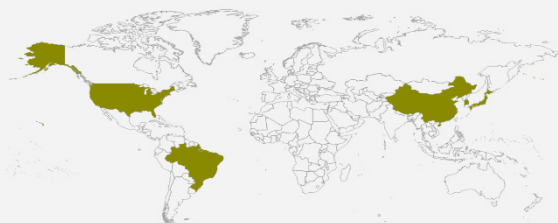


Figure 2. Classification of varieties

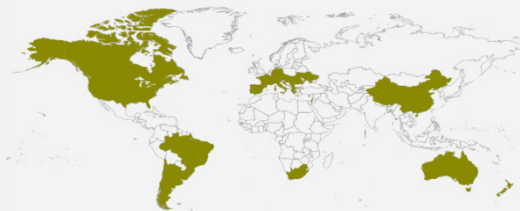
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Countries growing the 10 main grape varieties

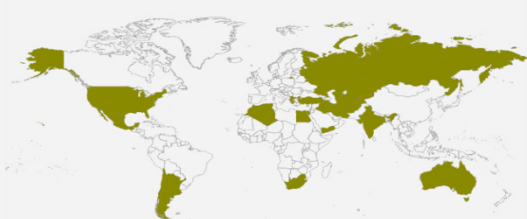
Kyoho



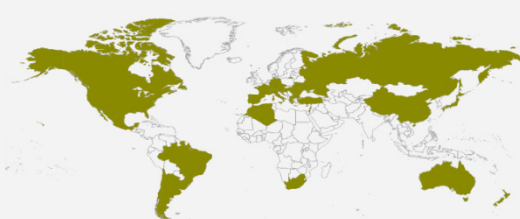
Cabernet-Sauvignon



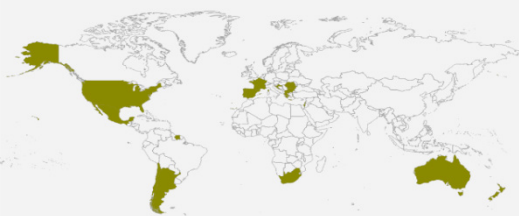
Sultanina



Merlot



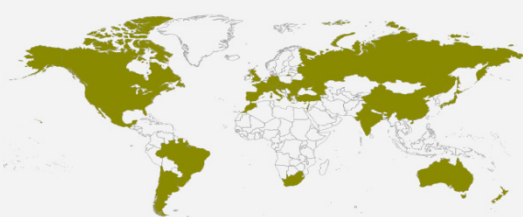
Tempranillo



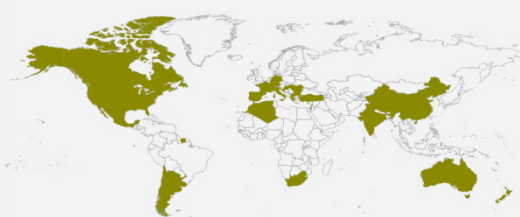
Airen



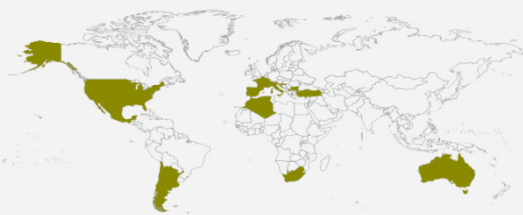
Chardonnay



Syrah



Grenache noir (Garnacha tinta)



Red Globe



Top 15 countries⁶² by vineyard area and distribution of their varieties

Spain

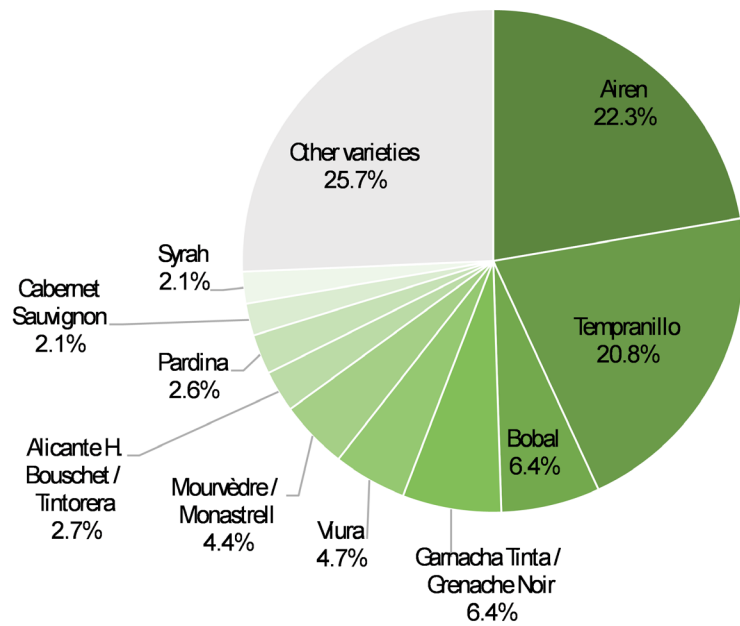
Variety	Colour	Area (ha)	% Total Vineyard Area	Trend ⁶³
Airen	White	217 000	22.3%	↘
Tempranillo	Black	203 000	20.8%	↗
Bobal	Black	62 000	6.4%	↘
Garnacha Tinta / Grenache Noir	Black	62 000	6.4%	↘
Viura	White	46 000	4.7%	↗
Mourvèdre / Monastrell	Black	43 000	4.4%	↘
Alicante H. Bouschet	Black	26 000	2.7%	↗
Pardina	White	25 000	2.6%	↓
Cabernet Sauvignon	Black	20 000	2.1%	→
Syrah	Black	20 000	2.1%	↗
Other varieties		250 000	25.7%	
Total		974 000		↘

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⁶² Top 15 countries with a vineyard area above 65,000 ha for which data is available.

⁶³ The trend is calculated using the average annual change in vineyard area during the 2000-2015 period; for some varieties the time period analysed may be shorter depending on the availability of data.

Of the 10 main varieties grown in Spain, the two most common (Airen and Tempranillo) account for almost half of the national vineyard area (43.2%). Since the early 2000s, there has been significant growth in Tempranillo vineyards (+41.5%), although the national vineyard area has decreased by approximately 15%.



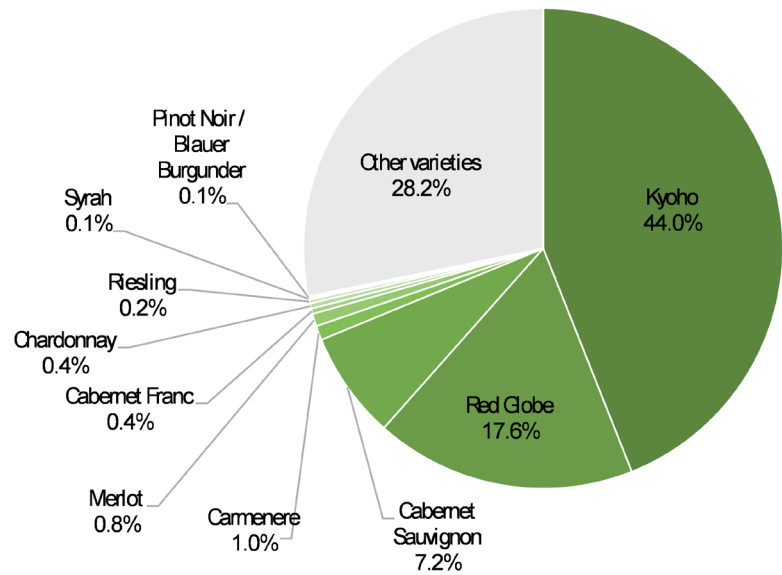
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China

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Kyoho	Black	365 000	44.0%	NA
Red Globe	Black	146 000	17.6%	NA
Cabernet Sauvignon	Black	60 000	7.2%	↑
Carmenere	Black	8 000	1.0%	↑
Merlot	Black	7 000	0.8%	↑
Cabernet Franc	Black	3 000	0.4%	↑
Chardonnay	White	3 000	0.3%	↑
Riesling	White	2 000	0.3%	↑
Syrah	Black	1 000	0.2%	↑
Pinot Noir / Blauer Burgunder	Black	1 000	0.1%	↑
Other varieties		233 000	28.1%	
Total		830 000		↑

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Almost two-thirds of China's vineyard area is used for growing table grape varieties, such as Kyoho (44%) and Red Globe (18%). That said, in recent years there has been a relatively rapid rise in planted areas devoted to wine grape varieties, such as Cabernet Sauvignon (60 000 ha).



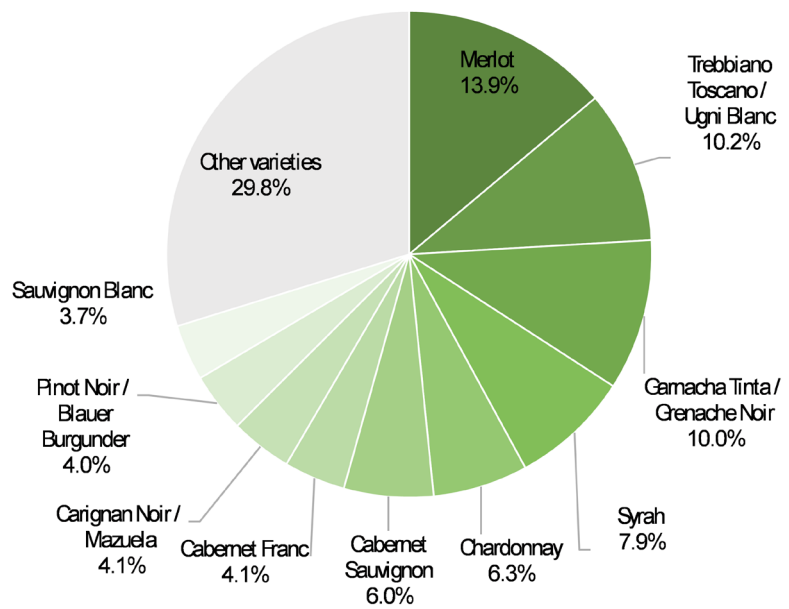
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France

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Merlot	Black	112 000	13.9%	→
Trebbiano Toscano / Ugni Blanc	White	82 000	10.2%	→
Garnacha Tinta / Grenache Noir	Black	81 000	10.0%	↘
Syrah	Black	64 000	7.9%	↗
Chardonnay	White	51 000	6.3%	↗
Cabernet Sauvignon	Black	48 000	6.0%	→
Cabernet Franc	Black	33 000	4.1%	→
Carignan Noir / Mazuela	Black	33 000	4.1%	↓
Pinot Noir / Blauer Burgunder	Black	32 000	4.0%	↑
Sauvignon Blanc	White	30 000	3.7%	↗
Other varieties		240 000	29.8%	
Total		806 000		→

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Three varieties account for one-third of France's vineyard area: Merlot (the only variety to exceed 100 000 ha), Ugni Blanc and Grenache Noir. The varieties that have experienced the most growth over recent years are Pinot Noir, Sauvignon Blanc, Chardonnay and Syrah.



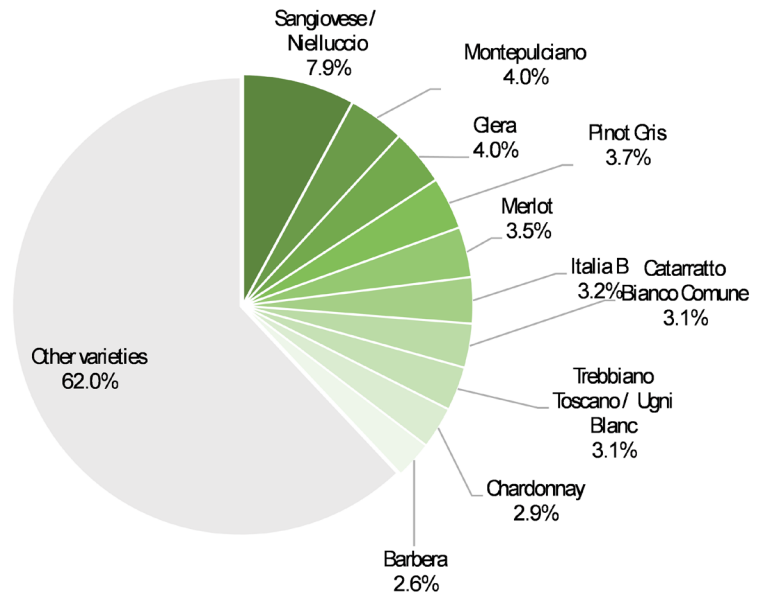
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Italy

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Sangiovese / Nielluccio	Black	54 000	7.9%	↓
Montepulciano	Black	27 000	4.0%	↘
Glera	White	27 000	4.0%	↑
Pinot Gris	White	25 000	3.7%	↑
Merlot	Black	24 000	3.5%	→
Italia	White	22 000	3.2%	NA
Catarratto Bianco Comune	White	21 000	3.1%	↓
Trebbiano Toscano / Ugni Blanc	White	21 000	3.1%	↓
Chardonnay	White	20 000	2.9%	↘
Barbera	Black	18 000	2.6%	↘
Other varieties		379 000	62.0%	
Total		682 000		↘

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Italy's 10 most planted varieties occupy only 38% of the country's national vineyard area. The top variety – the only one to exceed 50 000 ha – is Sangiovese. As with other traditional grape-growing countries in Europe, the total vineyard area has declined by roughly 20% over the last 15 years. In this context, the only varieties to have increased their area are Glera (+24%) and Pinot Gris (+34%).



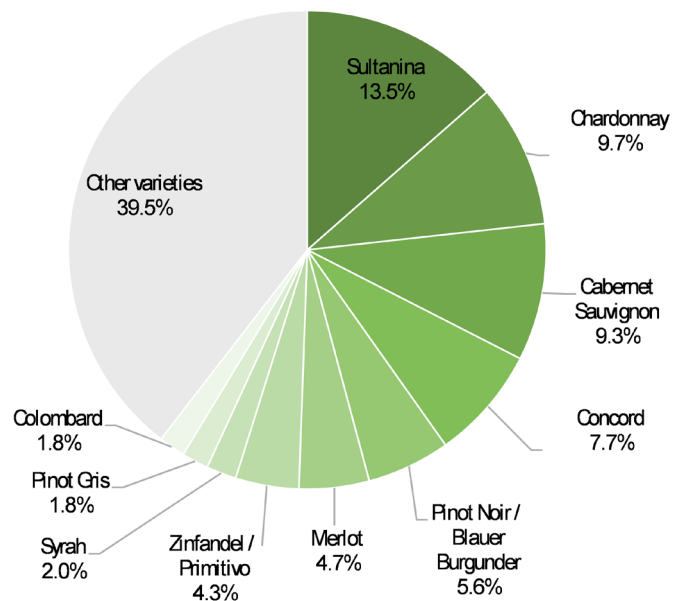
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United States

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Sultanina	White	60 000	13.5%	NA
Chardonnay	White	43 000	9.7%	↓
Cabernet Sauvignon	Black	41 000	9.3%	↑
Concord	Black	34 000	7.7%	NA
Pinot Noir / Blauer Burgunder	Black	25 000	5.6%	↑
Merlot	Black	21 000	4.7%	→
Zinfandel / Primitivo	Black	19 000	4.3%	NA
Syrah	Black	9 000	2.0%	↗
Pinot Gris	White	8 000	1.8%	↑
Colombard	White	8 000	1.8%	NA
Other varieties		174 320	39.5%	
Total		443 000		→

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In the United States, Sultanina is the most cultivated variety, occupying 60 000 ha, or 14%, of the country's vineyard area. However, varieties like Cabernet Sauvignon, Pinot Noir or Pinot Gris have experienced significant growth. Conversely, Chardonnay, the country's second most cultivated grape, has seen its area decline over the last 10 years.



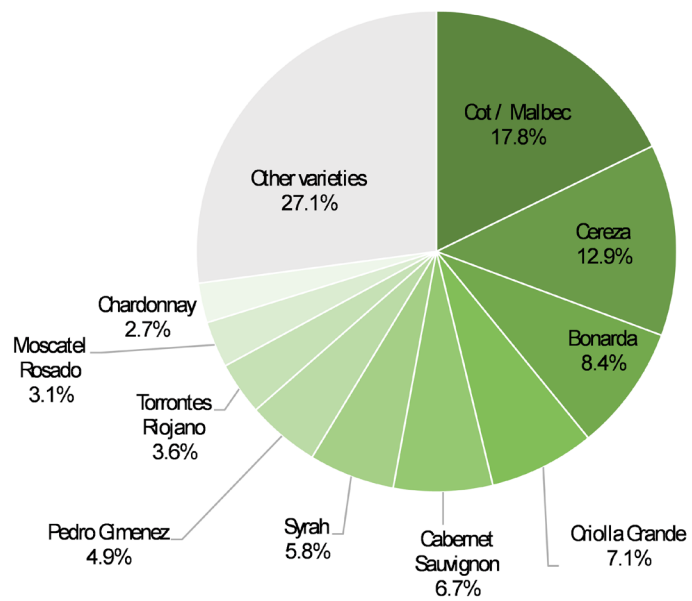
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Argentina

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Cot / Malbec	Black	40 000	17.8%	↑
Cereza	Rosé	29 000	12.9%	NA
Bonarda	Black	19 000	8.4%	→
Criolla Grande	Black	16 000	7.1%	NA
Cabernet Sauvignon	Black	15 000	6.7%	→
Syrah	Black	13 000	5.8%	↗
Pedro Ximenez	White	11 000	4.9%	↘
Torrontes Riojano	White	8 000	3.6%	→
Moscatel Rosado	Rosé	7 000	3.1%	↗
Chardonnay	White	6 000	2.7%	↗
Other varieties		61 000	27.1%	
Total		225 000		→

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Argentina has restructured its vineyards in recent years, progressively moving away from growing rosé grape varieties in favour of black grape varieties. This trend explains the significant growth in the cultivation of Syrah but especially of Malbec, which has almost doubled its area in 15 years and now represents 18% of the country's area under vines.



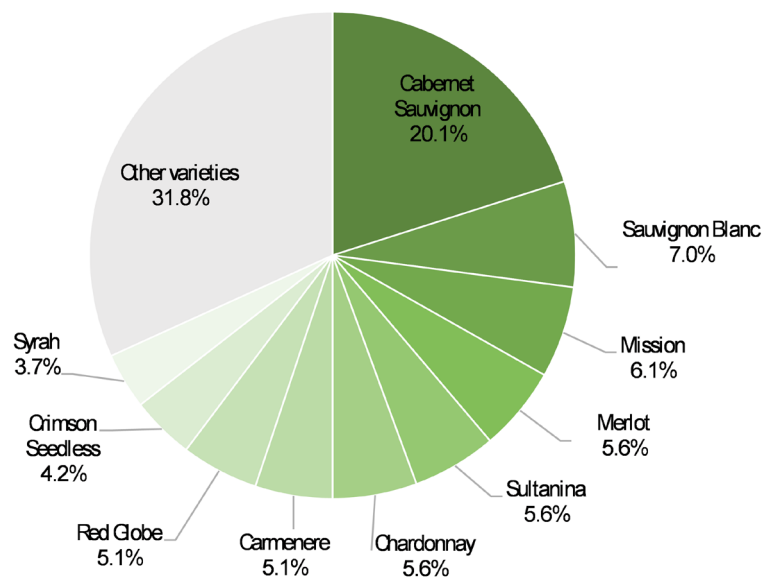
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Chile

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Cabernet Sauvignon	Black	43 000	20.1%	→
Sauvignon Blanc	White	15 000	7.0%	↑
Mission	Rosé	13 000	6.1%	↘
Merlot	Black	12 000	5.6%	→
Sultanina	White	12 000	5.6%	NA
Chardonnay	White	12 000	5.6%	↑
Carmenere	Black	11 000	5.1%	↑
Red Globe	Black	11 000	5.1%	↘
Crimson Seedless	Black	9 000	4.2%	NA
Syrah	Black	8 000	3.8%	↑
Autres cépages		86 000	40.4%	
Total		214 000		↗

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The distribution of varieties in Chile is characterised by the presence of one vine, Cabernet Sauvignon, which occupies approximately 20% of the country's vineyard area. The remaining 80% is split relatively uniformly across the other varieties, with no single variety exceeding 7% of the total area. The varieties that have experienced the most growth over the last 15 years are Syrah, Sauvignon Blanc and Carmenere. This increase is in line with the general trend of strong growth in the country's area under vines, which has risen by almost 18% in 15 years.



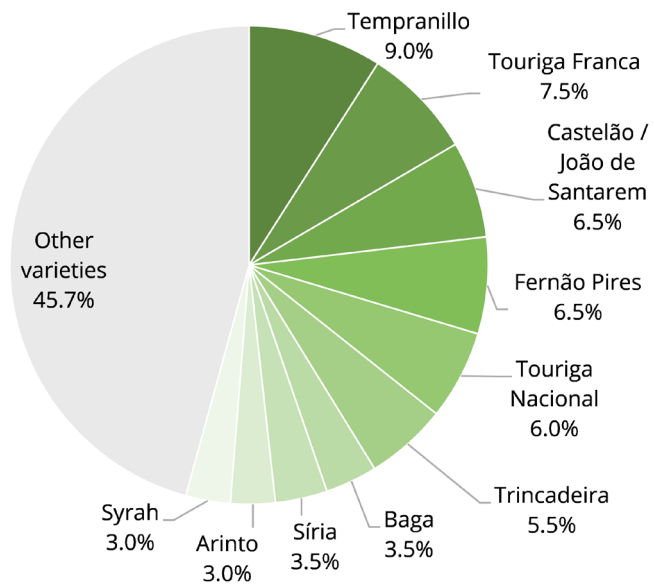
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Portugal

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Tempranillo	Black	18 000	9.0%	↗
Touriga Franca	Black	15 000	7.5%	↑
Castelão / João de Santarem	Black	13 000	6.5%	↓
Fernão Pires	White	13 000	6.5%	↘
Touriga Nacional	Black	12 000	6.0%	↑
Trincadeira	Black	11 000	5.5%	↘
Baga	Black	7 000	3.5%	↘
Síria	White	7 000	3.5%	↓
Arinto	White	6 000	3.0%	↑
Syrah	Black	6 000	3.0%	↑
Other varieties		91 000	45.7%	
Total		199 000		↘

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Portugal boasts a large number of native varieties. This helps to explain the great diversity in the composition of Portuguese vineyards. The top 10 varieties account for only 55% of the country's national vineyard area. Tempranillo is the leading variety in terms of surface area.



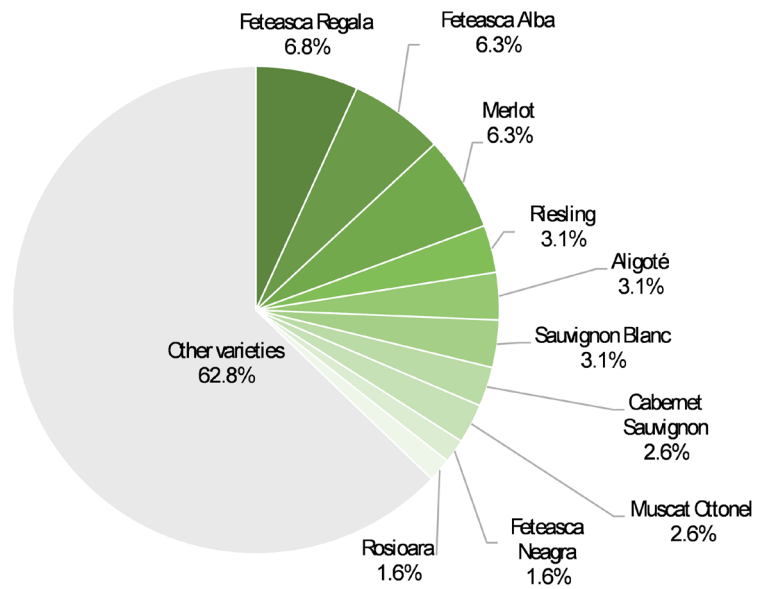
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Romania

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Feteasca Regala	White	13 000	6.8%	↘
Feteasca Alba	White	12 000	6.3%	↗
Merlot	Black	12 000	6.3%	↑
Riesling	White	6 000	3.1%	↗
Aligoté	White	6 000	3.1%	↘
Sauvignon Blanc	White	6 000	3.1%	↑
Cabernet Sauvignon	Black	5 000	2.6%	↑
Muscat Ottonel	White	5 000	2.6%	↑
Feteasca Neagra	Black	3 000	1.6%	NA
Rosioara	Rosé	3 000	1.6%	↓
Other varieties		120 000	62.8%	
Total		191 000		↘

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Romania's vine stock is highly diverse. This is because the sum of the areas occupied by Romania's top 10 varieties amounts to roughly just one-third of the total area under vines. Furthermore, not one of these top varieties accounts for more than 7% of the total surface area.



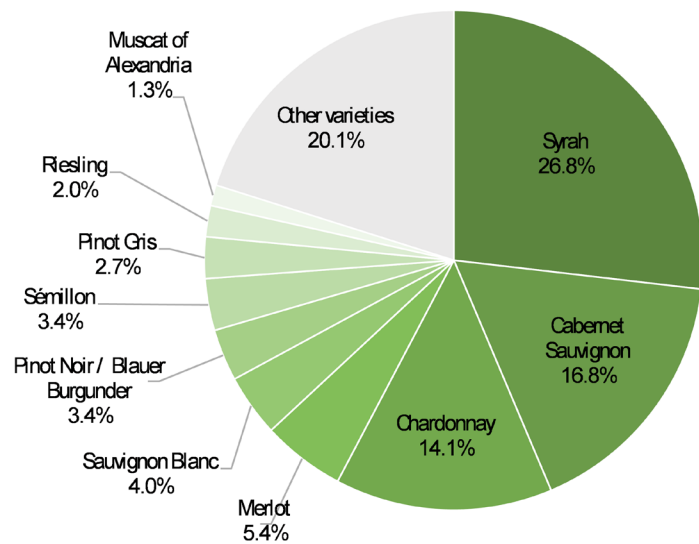
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Australia

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Syrah	Black	40 000	26.8%	→
Cabernet Sauvignon	Black	25 000	16.8%	↘
Chardonnay	White	21 000	14.1%	→
Merlot	Black	8 000	5.4%	↘
Sauvignon Blanc	White	6 000	4.0%	↑
Pinot Noir / Blauer Burgunder	Black	5 000	3.4%	→
Sémillon	White	5 000	3.4%	↘
Pinot Gris	White	4 000	2.7%	↑
Riesling	White	3 000	2.0%	↘
Muscat of Alexandria	White	2 000	1.3%	↗
Other varieties		30 000	20.1%	
Total		149 000		→

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Three varieties of vine – Syrah, Cabernet Sauvignon and Chardonnay – occupy almost 60% of Australia's vineyard area. Only 20% of the area under vines is planted with varieties outside of the Australian “top 10”. The last 15 years have been marked by strong growth in what are currently minor grape varieties, indicating that the distribution of varieties is shifting.



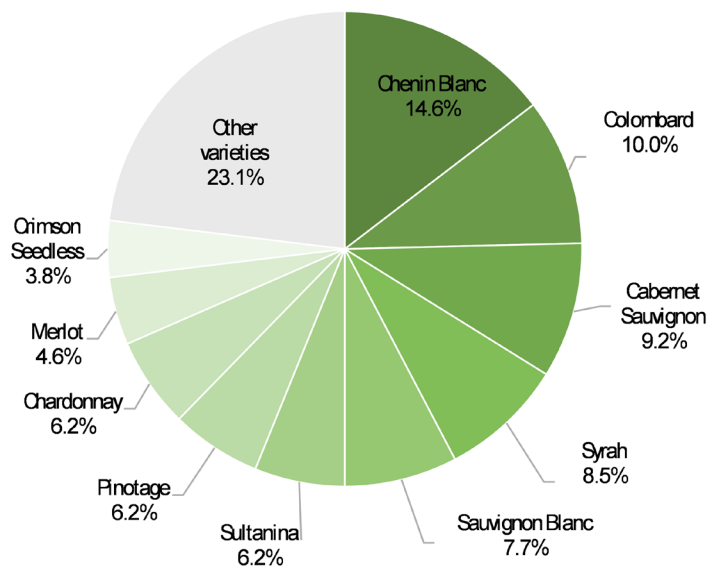
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South Africa

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Chenin Blanc	White	19 000	14.6%	↘
Colombard	White	13 000	10.0%	→
Cabernet Sauvignon	Black	12 000	9.2%	→
Syrah	Black	11 000	8.5%	↗
Sauvignon Blanc	White	10 000	7.7%	↑
Sultanina	White	8 000	6.2%	↓
Pinotage	Black	8 000	6.2%	→
Chardonnay	White	8 000	6.2%	↗
Merlot	Black	6 000	4.6%	→
Crimson Seedless	White	5 000	3.8%	NA
Other varieties		30 000	23.1%	
Total		130 000		→

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The trend in South Africa follows that of most of the New World's major wine-producing countries, with a distribution characterised by a small number of varieties accounting for a large proportion of the surface area. Note that almost three-quarters of the vineyard area is occupied by the top 10 varieties. In first place, Chenin Blanc covers 15% of the total area.



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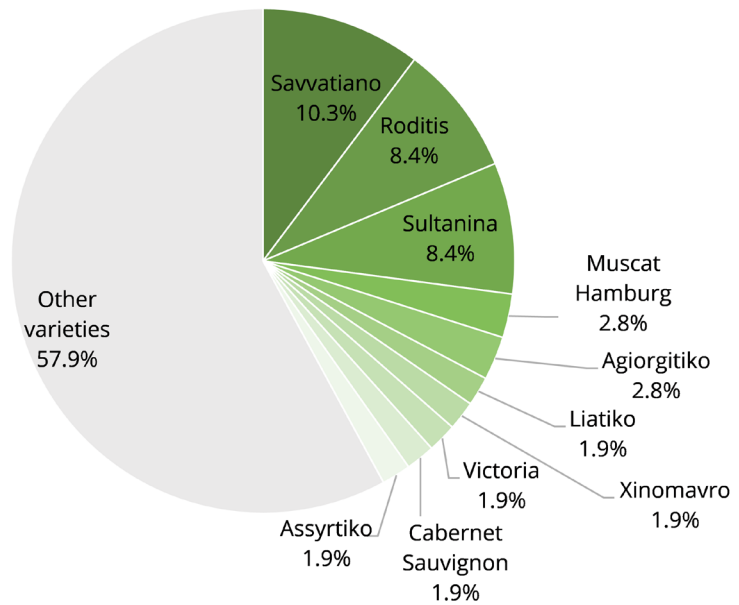
Greece

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Savvatiano	White	11 000	10.3%	↘
Roditis	Rosé	9 000	8.4%	→
Sultanina	White	9 000	8.4%	NA
Muscat de Hambourg	White	3 000	2.8%	NA
Agiorgitiko	Black	3 000	2.8%	↘
Liatiko	Black	2 000	1.9%	↗
Xinomavro	Black	2 000	1.9%	↘
Victoria	White	2 000	1.9%	NA
Cabernet Sauvignon	Black	2 000	1.9%	↘
Assyrtiko	White	2 000	1.9%	↗
Other varieties		62 000	57.9%	
Total		107 000		→

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Three varieties of vine – Savvatiato, Roditis and Sultanina – represent almost 30% of Greece's vineyard area. The rest of the area is shared between a large number of varieties (native, for the most part), none of which exceeds 3 000 ha, or 3%, of the total. In general, vineyard area growth rates for the major varieties are either negative or close to zero.

The trend is reversed for some of the less cultivated varieties, such as Liatiko or Assyrtiko, which are experiencing positive growth.



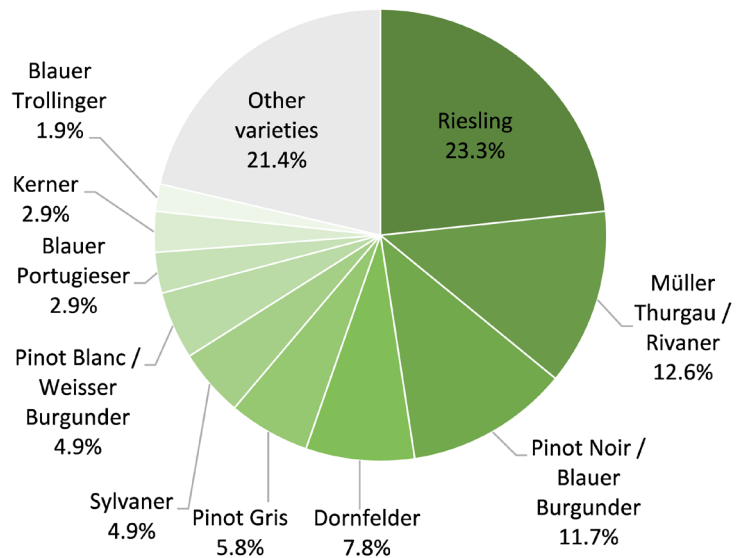
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Germany

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Riesling	White	24 000	23.3%	↗
Müller Thurgau / Rivaner	White	13 000	12.6%	→
Pinot Noir / Blauer Burgunder	Black	12 000	11.7%	→
Dornfelder	Black	8 000	7.8%	→
Pinot Gris	White	6 000	5.8%	↑
Sylvaner	White	5 000	4.9%	→
Pinot Blanc / Weisser Burgunder	White	5 000	4.9%	↑
Blauer Portugieser	Black	3 000	2.9%	NA
Kerner	White	3 000	2.9%	↓
Blauer Trollinger	Black	2 000	1.9%	NA
Other varieties		22 000	21.4%	
Total		103 000		→

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Unlike other traditional grape-growing countries in Europe, Germany's area under vines did not decrease between 2000 and 2015. Nor have there been any significant changes in the composition of its vineyards. In this context, Riesling is the most planted variety, covering 24 000 ha. The top three varieties (Riesling, Müller Thurgau and Pinot Noir) occupy almost half (47%) of Germany's vineyard area.



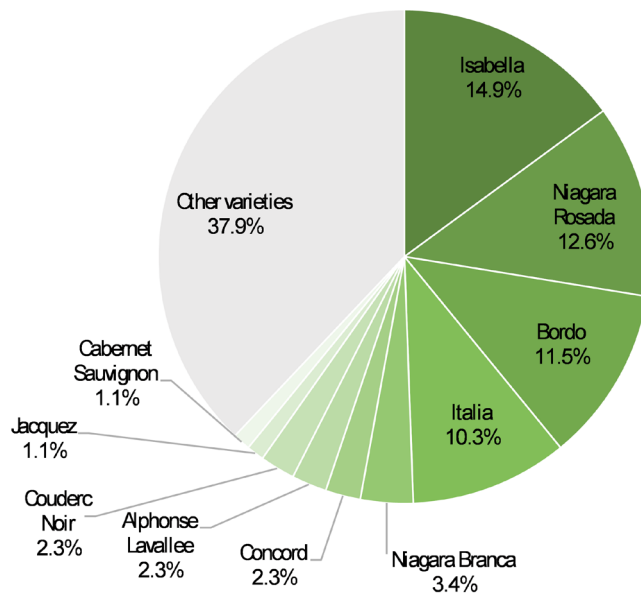
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Brazil

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Isabella	Black	13 000	14.9%	↓
Niagara Rosada	Rosé	11 000	12.6%	NA
Bordo	Black	10 000	11.5%	↗
Italia	White	9 000	10.3%	NA
Niagara Branca	White	3 000	3.4%	↓
Concord	Black	2 000	2.3%	↓
Alphonse Lavallée	Black	2 000	2.3%	NA
Couderc Noir	Black	2 000	2.3%	↓
Jacquez	Black	1 000	1.1%	↓
Cabernet Sauvignon	Black	1 000	1.1%	↓
Other varieties		33 000	37.9%	
Total		87 000		↗

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Brazil's vineyard area, currently at 87 000 ha, has been growing since 2000. The distribution of varieties is highly diverse: with the exception of the first four varieties, which occupy about 45% of Brazil's vineyard area, the remaining 55% is shared between the other varieties, none of which exceeds 4% of the total area.



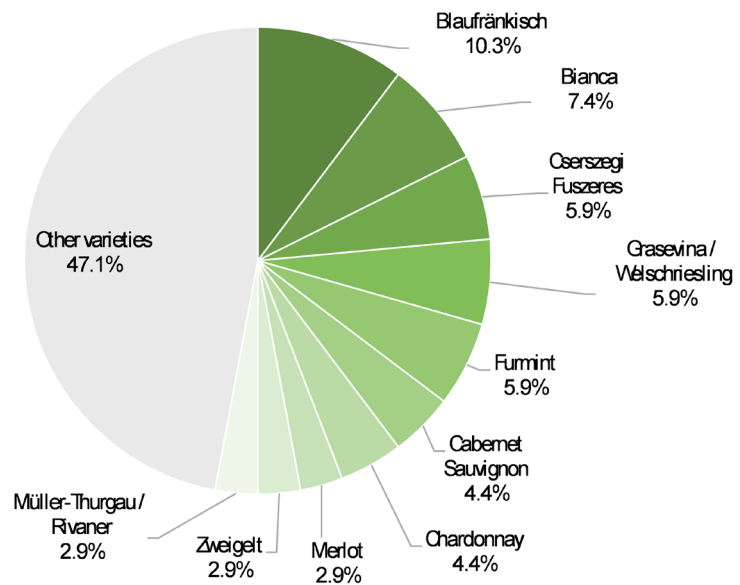
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Hungary

Variety	Colour	Area (ha)	% Total Vineyard Area	Trend
Blaufränkisch	Black	7 000	10.3%	→
Bianca	White	5 000	7.4%	↑
Cserszegi Fuszeres	White	4 000	5.9%	↑
Grasevina / Welschriesling	White	4 000	5.9%	↘
Furmint	White	4 000	5.9%	→
Cabernet Sauvignon	Black	3 000	4.4%	↗
Chardonnay	White	3 000	4.4%	↘
Merlot	Black	2 000	2.9%	↗
Zweigelt	Black	2 000	2.9%	↓
Müller Thurgau / Rivaner	White	2 000	2.9%	↓
Autres variety		32 000	47.1%	
Total		68 000		↘

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Hungarian vineyards are planted with a long list of varieties. The country's top 10 varieties occupy about half of the total area under vines. The only variety to exceed 10% is Blaufränkisch. As with most other European countries, Hungary's vineyard area has decreased by approximately 30% since 2000. However, in this context, it is worth mentioning the remarkable growth of varieties such as Bianca and Csereszgi Fuzeres.



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Developments in the vineyard area of highly diversified vine-growing countries

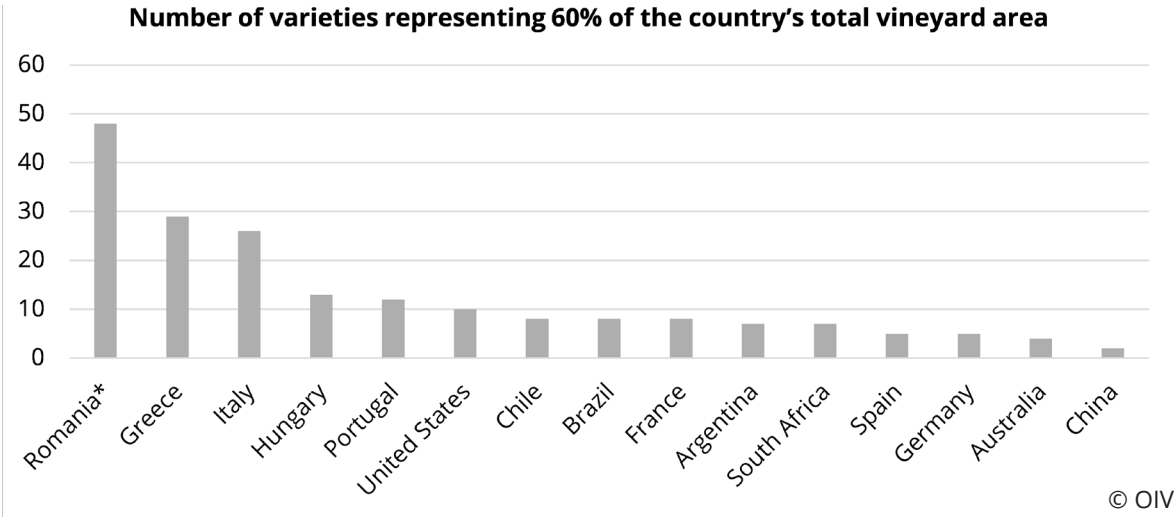


Figure 3. Variety diversity index⁶⁴

* The available figures for Romania account for only 46% of the national vineyard area, and not 60% as is the case with the other countries.

⁶⁴ Index showing the number of varieties that make up 60% of a country's vineyard area. Includes only the 15 countries with a vineyard area above 65 000 ha for which data is available.

This study found that Romania, Italy, Greece, Hungary and Portugal grew the most local varieties, most of which were specific to that particular country. The distribution pattern in each of these countries is totally unique, and none of their main grapevine varieties accounts for more than 10% of the national vineyard area.

Romania

Ranked as the 11th biggest vine-growing country by surface area, Romania has a significant proportion of native varieties, primarily wine grapes. It is estimated that the proportion of native varieties exceeds 50% of the planted area.

Following a steep decline in its total surface area planted with vines in the early 2000s, Romania's vineyard area has stabilised at around 192 000 ha since 2007. Most varieties have followed this same trend, with the exception of some "international" varieties, like Merlot and Sauvignon Blanc, which have experienced strong growth in the last 15 years.

Greece

With its long vine-growing tradition, a large proportion of Greece's vineyards are planted with native varieties.

Current trends (observed between 2011 and 2015) however indicate that the areas planted with "international" varieties are on the increase. This is particularly the case for Merlot (+34%) and Syrah (+73%), which cover 1 520 ha and 1 100 ha respectively. For white varieties, the same trend is observed for Sauvignon Blanc, which has tripled its surface area in 4 years, and Chardonnay, which has increased by 22%. Cabernet Sauvignon is the only international variety to have decreased, albeit moderately, having lost 8% of its area.

Native varieties, on the other hand, have seen their areas progressively decrease. In particular, this is the case for Savvatiano, Greece's top wine grape variety: its area under vines in 2015 was 10 500 ha, 10% less than in 2011. The trend is the same for other important Greek varieties, such as Roditis (-2%), Agiorgitiko (-7%) and Xinomavro (-6%). Assyrtiko and Liatiko however, which have increased marginally, are among the noteworthy exceptions. Overall, local varieties are still in the majority, representing more than 75% of Greece's planted areas.

Italy

Italy's vineyards are primarily planted with native varieties. This is despite the expansion over recent decades of "international" varieties, for example reds like Merlot and Cabernet Sauvignon, or whites like Chardonnay and Pinot Gris.

In recent years (2010-2015), most varieties have seen a sharp decrease in their area under vines, a trend that is in line with the general decline in Italy's vineyard area (-7.7 % between 2010 and 2015). This is particularly the case for Sangiovese (-27%), Montepulciano (-12%) and Merlot (-16%).

Conversely, the Glera variety (formerly called Prosecco) has experienced significant growth (+25% in 5 years, and tripled since 2000), now covering more than 26 500 ha. This increase is largely due to the rise of Prosecco wine, which, along with other European sparkling wines, has experienced a significant boost in sales in recent years. Another variety on the rise is Pinot Gris, which has expanded its area by 34% in 5 years. The increased popularity of white wines among Italian consumers has contributed to this increase in the plantation of white varieties.

The other varieties, whether native or non-native, are generally experiencing varying levels of decline.

Hungary

Its total vineyard area might not exceed 65 000 ha (ranking 22nd in the world), but Hungary grows a multitude of varieties. With 13 varieties occupying 60% of the total area and 31 that exceed 1%, Hungary sits in 4th position on our variety diversity index graph.

Despite the expansion of “international” varieties like Cabernet Sauvignon, Chardonnay and Merlot, Hungary has a wealth of native varieties, such as the red Blaufränkisch (the country’s top variety in terms of surface area) or the whites Csereszegi Fuzseres and Furmint (used in the production of Tokaj).

Looking at trends over recent years (2009-2015), the area for varieties such as Müller Thurgau, Zweigelt, Grasevina and Blaufränkisch has declined more than for other varieties. Bianca, Csereszegi Fuzseres and Merlot, on the other hand, have enjoyed the highest growth rates.

Portugal

Portugal's viticultural landscape is composed of a multitude of terroirs and hundreds of native varieties. Its ampelographic heritage includes both black grape varieties, such as Touriga Franca, Castelão, Touriga Nacional, Trincadeira and Baga; and white grape varieties, like Fernão Pires, Siria and Arinto.

With regard to developments in Portugal's vineyard area and planted varieties, between 2010 and 2015 there was a sharp drop in total surface area (-15%), accompanied by growth in the top 10 varieties, including the 8 native varieties mentioned above and two “international”, namely Tempranillo and Syrah. The growth rate over the 6 years ranges from 8% for Tempranillo to 72% for Baga.

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