



Assyrtiko

By Yiannis Karakasis MW

In a nutshell

Assyrtiko is the flagship Greek variety that opened the discussion about Greek wine and found its way into top restaurants in the USA, Canada, and the UK. It probably originated from the volcanic island of Santorini, but it has now expanded to the whole of Greece and beyond; Italy, Australia, Cyprus, South Africa, and the USA are among the countries it has migrated to. There it is appreciated for its magnificent combination of vibrant acidity and high alcohol, together with its telltale salty fingerprint.

According to Wine Grapes, recent DNA profiling has suggested a possible parent-offspring relationship with the varieties of Platani and Gaidouria, although these 'parents' remain unknown. In Thira and Thirassia, which make up the Santorini PDO region, there are currently no more than 1.100 hectares of total plantings. Assyrtiko accounts for 70 to 75% of these; this amounts to approximately 800 ha, from a total of 1.900 ha of Assyrtiko plantings throughout the country. So, about 40% of all Assyrtiko is produced in Santorini, which justifiably makes the island the 'holy grail' of Assyrtiko.

Assyrtiko is a variety that is bold, without being aggressive. It has a firm structure and a powerful personality. It needs time to unfold and to reveal the layers of its complexity. It is almost monolithic in its youth, but after 2-3 years

in bottle, it will open in the glass and emerge as a beautiful swan. With stunning terroir-driven wines, Assyrtiko has already broken the chains of monotony in the wine world and keeps on flying to higher levels of acclaim.

Terroirs

There are three different styles that range from the overtly fruity to the classically mineral.

Mainland Greece: Usually fruity, except for some particular places (usually low yielding terroirs) such as the rocky parts of Attica or Macedonia. In a blind tasting three years ago, a mainland Assyrtiko was perceived as unquestionably a Santorini wine by a producer from the island. Wines of this sort open the discussion about whether Santorini typicity can be imitated, either due to a stress factor in the vineyard or the cellar. Regarding typicity I could argue that most mainland Assyrtikos show a fruitier and more approachable character in their youth compared to the wines from Santorini, Tinos and cool climate Amyndeio.

Islands: A transitional style between a textbook Assyrtiko from mainland Greece and Santorini, with fruit and minerality on a par. Broader than Santorini, with underlying minerality depending on the soils. Limestone and granitic sand, for example, account for a more mineral character. Keep an eye open for the following islands: Tinos, Crete, Patmos, Paros, Syros, and more are on the rise.

Santorini: Deserves a special mention. A distinctive taste of rocks and salt. Tight and firm in its youth with stone or tropical fruit aromas depending on the level of ripeness along with the telltale rocky saltiness. Vertical and powerful on the palate with the unique combination of high alcohol (up to 15.5% abv) and high acidity (pH can be as low as 2.80 and TA as high as 7.5 g/l)

Santorini

The place - Only in Santorini

There are many regions in the world that claim to be unique and special. Bordeaux talks about its stunning Grand Vins, Burgundy, about possessing the Holy Grail of Pinot Noir. But if there is one region on earth that exceeds expectations, this must be Santorini. One of the oldest continuously farmed vineyards of the world, planted with ancient vines of indigenous varieties, the age of which nobody really knows and which can be as 200 years old or even older. These are cultivated using a unique training system called 'basket' or 'kouloura' to protect the vines from the ferocious winds that blow on the island, which can exceed 80 kilometers per hour at times, but this kouloura training system also creates a more humid environment, which is definitely needed due to the scarce rainfall. A dry-farmed vineyard with dangerously low yields of 10hl/ha that makes Burgundy Grand Crus blush. On the slopes of one of history's most aggressive volcanoes. There men and plants know they can expect little from the climate. Often they hold on to hope. In these rare and phylloxera – safe, volcanic soils of the Santorinean 'Jurassic Park of Vines' Assyrtiko produces tiny yields of world-class wines with natural strength, tremendous freshness, and a deep mineral footprint. Once again, this proves that great wines flourish out of poverty.

Styles and Trends

There is just one designated appellation on the island that covers both dry and lusciously sweet Vinsantos, PDO Santorini. Styles and trends are described below:

Taut and mineral

The most popular style is the classic taut and, sometimes backward in its youth, unoaked version made from 100% Assyrtiko, which is a crystal-clear expression of Santorini's uniqueness. The PDO law permits small quantities of Athiri and Aidani to be blended with Assyrtiko (optional up to 25% for both), and if included, these varieties produce broader and softer wines.

Lees ageing ????? is a popular technique among the producers to fill the midpalate and balance Assyrtiko's mouthwatering bright acidity. If done wisely, it can add more layers of complexity, but will still retain the varietal expression. It can be kept from a few months to almost two years.

The Oak factor

Whether oak is needed or not is a big debate. However, the best-oaked examples display a lovely, creamy, toasty

complexity reminiscent of a white Burgundy. Santorini Nykteri used to be a wine immediately pressed the night after the harvest. Although the term still exists today, it can vary in its style since regulations define the minimum alcohol level (13.5% abv) and three months maturation in oak. Therefore, some producers seek a more elegant discretely oaked style, while others go for a full-bodied, oxidative style with a nutty and honeyed character. Lately, some are also experimenting with vessels such as cement eggs and clay amphoras for fermentation and maturation of the wines and are thus presenting new interpretations of the variety.

Late Releases

Late releases are a new trend on the island, with producers offering wines with considerable bottle ageing of up to two years. This serves a dual purpose; it increases the perceived value and gives the wine a chance to shine and reveal its true colours and personality.

Vinsanto

Vinsanto (Vin of Santorini) is not to be confused with Vin Santo from Tuscany (made from different varieties and using different methods). It is the island's sweet wine and is produced from sun-dried grapes, mainly Assyrtiko and Aidani (by law Assyrtiko is included in a minimum of 51%). This naturally sweet wine undergoes an oxidative ageing process and matures in old oak for years or even decades. Vinsantos are lusciously sweet, sophisticated elixirs, among the best sweet wines of the world. They are immortal with century-long aging potential.

How Santorini Assyrtiko ages

Everyone talks about the stunning personality of the wines of Santorini, with their benchmark saltiness and uncompromised combination of high acid and alcohol. They also proffer the excellent ageing potential of these wines; however, old vintages are a very rare find, as most producers have started holding back vintages only recently. At a blind tasting, I held a few months ago for [karakasis.mw](https://www.karakasis.mw) (How Santorini ages: The oxidation game) some interesting findings were revealed regarding the ageing potential of the wines.

Santorini can certainly age, though it can be inconsistent, and bottle variation can be an issue. Screwcap closures seem to be a way forward. The brilliant examples show no sign of fatigue; they exhibit pale colours and an amazing nutty, toasty character, which resembles that of a Hunter Valley Semillon. **It seems that for the moment, 5-8 years is quite a safe drinking window** for the wines, but it is sure, that with the progress already witnessed on the island, future tastings of old vintages may show even better results.

Santorini in a global context

Santorini is the driving force for the Greek industry in the demanding export markets. Wine-professionals around the world have praised Assyrtiko's virtues, and it is the first Greek grape variety that has already been planted in other countries such as Australia, South Africa, Italy, and even Lebanon by quality-minded producers. Thus, Santorini significantly raises the image of Greek wine in the international arena and has gained respect and numerous acclaims.

However, the price of Santorini wines or, more specifically, the rate of price increases in the last few vintages is a big concern. Santorini prices are now firmly in the fine wine category, comparable to those of a white Burgundy (entry-level wines at Bourgogne Blanc prices and the higher cuvées match the prices of many village and 1er Crus), serious German Riesling and other top whites around the world. Of course, the economic realities of the island mean that wine production was unsustainable at the previously low prices. Still, the speed with which these have escalated is something that worries the wine industry.

The best examples are definitely premium wines that deserve esteem internationally. Still, there is a danger that prices are moving faster than the reputation is being built, and that will make it challenging to sell the wines to competitive export markets if the situation continues. Yes, there is always tourism for Santorini, but there is still a lot of work to be done – both in terms of communicating the message of the island's unique terroir and in pushing the quality of the wines to the next level.

Food pairings

The mouth-watering, mineral Assyrtiko is a variety that deserves a place on the table not just with Greek food, but also international cuisines. With the vast array of different styles and varieties available, the wines from Santorini can be seen as the perfect partner for a variety of dishes.

Assyrtiko fermented in stainless steel with its characteristic minerality will pair beautifully with raw shellfish, sea urchins, and lemony-sharp fish tartar dishes. You can also opt for fried fish or any food that you would squeeze

lemon on and use the fantastic acidity of the wine to balance the fat. **For an oaky, full-bodied, creamy** version of Assyrtiko seek a prime-grilled fish or even white meat such as lamb fricassée. Creamy dishes based on white meat, such as chicken or pork, will also work correctly. **Nykteri**, with its enormous complexity, weight, and density, will pair nicely with roast lamb served with yogurt and herbs, or even a truffle risotto for the nuttier, fully developed, styles. Don't hesitate to enjoy these wines with mature yellow cheese that have lots of texture.

Top Greek sommelier Terry Kandylis presents two of his favourite pairings below:

Salt crusted sea bream with braised leeks and hazelnuts, with Assyrtiko. Assyrtiko from Santorini can be quite phenolic, which can give lots of structure and oiliness, without compromising its 'salty' nature on the palate. It also has sharp acidity that can mask the sometimes somewhat elevated alcohol. The leeks, which contain a volatile sulfur compound like that of other alliums (garlic, onion, chives), can match the rather sulfuric nose of gunflint and matchstick that one can find in the fiery Assyrtikos of Santorini. In contrast, the hazelnuts add texture and can work well with some aged examples that show notes of noble oxidation.

Pitta bread with grilled lamb served with honey and mustard dressing, paired with a rich Nykteri or oaked Assyrtiko. For many people, red wine goes with meat and fish is paired only with whites. A full-bodied Assyrtiko that has been barrel fermented or a late-harvested wine like Nykteri can easily show a honeyed character, with notes of sweet spices and nuts. The alcoholic strength of these wines is quite high, which gives extra richness and weight. The Maillard reactions (a chemical reaction between amino acids and reducing sugars that gives browned food its distinctive flavour), in both the grilled meat and the wine that has been treated with oak, enhance the vanillin and caramel notes.

Vinsanto

Vinsanto is the traditional dessert wine of Santorini (Vino di Santorini) produced from sun-dried grapes based on Assyrtiko. It acquires a minimum final alcohol level of 9% abv. The sun-drying process is an ancient, very traditional technique that has been recorded by Hesiod, that dehydrates the berries while increasing total acidity (which is high, to begin with since Assyrtiko is the dominant variety) and sugars. So, even though Vinsanto is extremely sweet (can reach more than 300 g/l residual sugar), it is never cloying because of the actual power of its acidity. The whole production method is complicated, and yields are so restricted that a single plant may only produce a single bottle of Vinsanto. The wines develop a super-complex aromatic flavour profile with aromas ranging from dried fruits, such as raisins and figs, to roasted nuts, walnuts, chocolate, coffee, and caramel.

Investing in Santorini

It's inspiring to see the buzz and positive reaction to the magnificent wines of Santorini. These wines truly deserve their place among the finest white wines in the world. However, according to the respected wine journalist Eric Asimov "most people, including many who consider themselves wine lovers, still regard Assyrtiko as something exotic, perhaps even alien." This statement highlights the extent to which the variety has been successful, which is remarkable, but there are limitations. Maybe soon the wines from Santorini will join the elite of wines, that are seen as investment opportunities or as collector's items. At the moment, the wines are under the radar of wine collectors; however, prices sky-rocketing every year, showing an increase in the domestic market of up to 80% over the last five years. This is mainly attributed to the rise in price of the grapes from 0.85€/kg in 2010 to 5€/kg in 2018, together with the increase in the number of producers on the island from 13 in 2010 to more than 20 in 2018.

Therefore, buying a mixed case, or two, of Santorini wines for cellaring, may end up as a very wise decision. It will certainly payback in terms of enjoyment and possibly of investment. Nowadays, more and more producers are releasing special bottlings, in tiny quantities, that usually don't find their way to the shelves. Keep an eye out for them!

Vintage information for Santorini

2019 (the vintage of the tiny yields) approximately 1000 tons of grapes.

Predictions from all producers speak of a pocket harvest; less than 1000 tons of grapes, in total, when in ideal conditions, this is 3000 tons. Due to fierce winds that exceeded 10 Beaufort during flowering and the prolonged drought of the previous years, yields were unbelievably low close to 4.5 hl/ha; the standard yield would have been about 17 hl/ha. It seems that this vintage will be a critical one for the island of Santorini. Many questions have arisen concerning prices, quantities, protection of the product, better communication between the producers, and many more; no answers can be given for the moment.

2018 (earlier than ever) approximately 1600 tons

This was a very challenging harvest because of the minimal rainfall approx. 90 mm for the whole season. It has been dry since February. It was also a very early ripening, which brought everything forward by ten days. The harvest started in late July, almost ten days in advance. The yields were irregular; some vines were loaded with bunches of grapes, while others barely had a bunch.

2017 (hotter than hell) 2600 tons

"Up to the heat waves of late June everything looked very bright for the upcoming vintage in Santorini" said George Gavalas of Gavalas Estate. "From what I have witnessed so far in my numerous harvests, this was the best spring of the last decade" he continued. But then catastrophe knocked the door as Yiannis Paraskevopoulos, of Gaia Wines, admitted. "The scorching weather conditions in June caused many problems with sunburn -damage affecting approximately 40-60% of the entire crop," he reports, adding that he expected yields to be decreased by 20-30%.

2016 (early ripening vintage)

A productive vintage with higher yields. Some sunburns created concerns, especially in the lowlands.

The Islands

As described above In Thira and Thirassia, which make up the Santorini PDO region, there are currently no more than 1.100 hectares of total plantings. Assyrtiko accounts for 70 to 75% of these; this amounts to approximately 800 ha, from a total of 1.900 ha of Assyrtiko plantings throughout the country. So, about 40% of all Assyrtiko is produced in Santorini, which justifiably makes the island the 'holy grail' of Assyrtiko.

However, in recent years, the increase in price of the grape from 0.85€/kg in 2010 (data from the South Aegean Region) to the astronomical 5€/kg in 2018, together with the rise in the number of producers on the island from 13 in 2010 to more than 20 in 2018, have thrust the prices of Santorini wines to dangerous heights. Of course, Santorini is a high-flyer, but what is happening at present somewhat resembles "the flight of Icarus," which means that soaring higher will burn the wings, and flying lower is impossible. For these heights to be retained, producers will have to deliver a more explicit message regarding both quality and aging potential. For the time being, this does not exist. How many aged Santorinis have we tried from before the year 2000?

At the same time, there is an emergence of Assyrtiko wines from other islands, which have formed a separate category that lies between Santorini and mainland Assyrtiko wines; these are impressive with their character. They display the tension, energy, and complexity of great terroirs, in addition to the main Assyrtiko characteristics, which are defined by high acidity, full-body, and a mineral character. One might ask how this is possible. A brief answer could be that on poor soils, like limestone, rock, and other stony soils, where yields rarely exceed 35 hl/ha, Assyrtiko displays a Santorini-like character, despite being outside its natural home. There is probably slightly lower acidity, but the aromatic and structural elements are preserved. This is purely a tasting observation, but maybe an interesting point to be proved scientifically.

I will start from the south and the largest island of Greece, **Crete**. The very active Wines of Crete network estimates that the total plantings of Assyrtiko cover an area of 40 ha, and there is an upward trend in the past two years. Two of the most exciting bottlings so far are 'Voila' by Lyrarakis and the sui generis Assyrtiko by Economou. The first wine is made from old dry-farmed bush vines in Sitia, at an altitude of almost 600 meters and yields of 50 hl/ha. A wine which, despite its origin from one of the hottest mesoclimates, stands out for its high natural acidity and its mineral character. The latter, from the 2013 vintage, is already at the plateau of its maturity showing intense, seductive aromas of roasted hazelnuts and a combination of ripe and fresh fruit. The palate elevates the experience by adding cherry flavors — a sumptuous wine. Promising efforts include the Assyrtiko of Manoussakis, Douloufakis, and of Paterianakis while there are more coming up from Strataridaki, Miliaraki, Digenaki, Toplou, Karavitakis, and others.

I have a very detailed report on the island of **Tinos**, in my article Ode to terroir: Tinos revealed. Approximately 10-12 ha of Assyrtiko and a total of 6 producers are making their presence visible by offering elegant wines from granitic soils, which have lower alcohol levels than those of Santorini but display fruit purity and precision. A typical example is the iconic Clos Stegasta from the Toinos winery; promising wines are the Assyrtiko X-BOURGO,

Volacus, and the white blend, based on Assyrtiko, from the Vaptistis Winery.

Paros island has recently impressed me with an Assyrtiko single vineyard called Sarakiniko from the Moraitis winery. The soil? Take a guess. It is poor limestone with a 35hl/ha yield. In total, the Moraitis winery cultivates Assyrtiko in 3 of its vineyards. An area of about 3 ha in the regions of Hysterni, Sarakiniko, and Aspries. In nearby **Syros**, the Syros winery also does a remarkable job with its Assyrtiko "San ta Maratha"; this comes at a lower price range, which makes it an appealing option for the daily lunch or dinner table. There is already 1 ha of land that is cultivated with Assyrtiko on the island, but another three are in the making within the next three years. The soils? Poor sandy soils with yields of 50 hl/ha, which give the wine an islandic character, with alcohol that does not exceed 13%.

On the island of **Patmos**, in the Dodecanese, an Assyrtiko wine is produced with "soft natural interventions," which presents with a full and rather unique character from the Patoinos winery. The winery produces two versions of Assyrtiko that seriously flirt with what we call "Natural Wine." The Assyrtiko of Patoinos is fat, with a rich body that is balanced by acidity and saltiness, while Orange is a more esoteric wine that needs patience before it unfolds its virtues.

Many don't consider **Evia** as an island, which it is, of course. It would be an omission not to mention it, when, for many years, it has given us one of the best Assyrtiko wines outside Santorini. The Assyrtiko Sur Lies from the Vrinioti Winery. 2017 was released relatively recently from a total of 1.7 ha. Production is quite limited and depends on the whims of the weather - in 2017, only 3,500 bottles were produced - but the wine was one of the fascinating examples of the variety. It ages beautifully acquiring a Riesling character. The soils are sandy-clay with quite a bit of stone.

The quantities of Assyrtiko from the islands may be small for the moment. But, the quality is very high, and this is the basis for any discussion. Especially, when our efforts of communicating Assyrtiko have concentrated around the fact that it can give fine wines, rather than Albarino type wines. Santorini may not be alone, but what mainly seems to hold is that Assyrtiko is a variety.

Notable Producers

From Santorini: Argyros, Avantis, Canava Chrissou & Tselepos, Gaia, Gavalas, Hatzidakis, Karamolegos, Mikra Thira, Santo, Sigalas, Vassaltis, Venetsanos, VSV

Other islands: T-Oinos, Oikonomou, Lyrarakis, Patoinos, Moraitis, Syrou winery, Vriniotis

Mainland Greece: Alpha, Mylonas, Biblia Chora, Pavlidis, Wine Art, Kechris and Gikas (Retsina)

What to Try

For all wine reviews on Assyrtiko click [here](#)

Videos on my YouTube channel

For more on Assyrtiko you can watch my four - videos series on You Tube.

[Tweet](#) [1] !function(d,s,id){var js,fjs=d.getElementsByTagName(s)[0],p=/^http:/.test(d.location)?'http':'https';if(!d.getElementById(id)){js=d.createElement(s);js.id=id;js.src=p+'://platform.twitter.com/widgets.js';fjs.parentNode.insertBefore(js,fjs);}}(document, 'script', 'twitter-wjs');
lang: en_US

```
(function() { var po = document.createElement('script'); po.type = 'text/javascript'; po.async = true; po.src =
'https://apis.google.com/js/platform.js'; var s = document.getElementsByTagName('script')[0];
s.parentNode.insertBefore(po, s); })();
[2]
[3]
```

Enjoyed the read? Don't miss our next article!

* indicates required

Email Address *

Select language *

I accept [terms of use](#) [4]

```
(function($) {window.fnames = new Array(); window.ftypes = new Array();fnames[0]='EMAIL';ftypes[0]='email';fnames[1]='FNAME';ftypes[1]='text';fnames[2]='LNAME';ftypes[2]='text';fnames[5]='MMERGE5';ftypes[5]='dropdown';})(jQuery);var $mcj = jQuery.noConflict(true);
Post your comment
Your name
Comment *
```

[More information about text formats](#) [5]

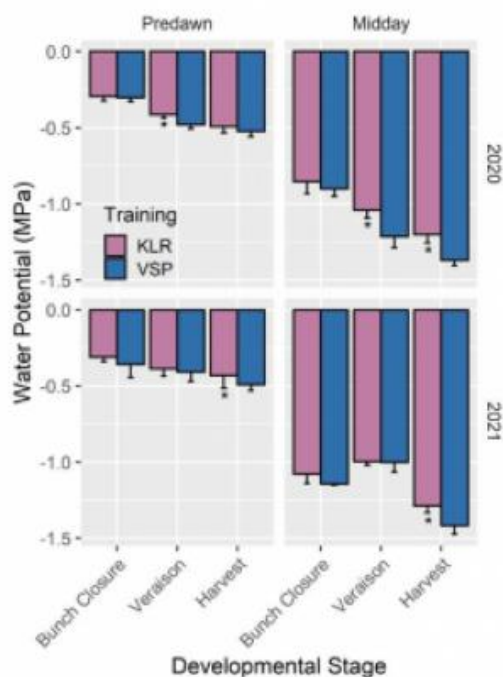
Plain text

- No HTML tags allowed.
- Web page addresses and e-mail addresses turn into links automatically.
- Lines and paragraphs break automatically.

CAPTCHAThis question is for testing whether or not you are a human visitor and to prevent automated spam submissions.

Leave this field blank

Figure 2. Water potential: Ψ_{predawn} and Ψ_{leaf} (MPa) at three growth stages (bunch closure, veraison and harvest) of KLR and VSP training systems for 2020 and 2021. The values are averages \pm SD. Averages followed by * are different $p < 0.05$, Tukey's HSD, $n = 5$.



There were significant differences in vine water status between the two training systems depending on the developmental

[6]

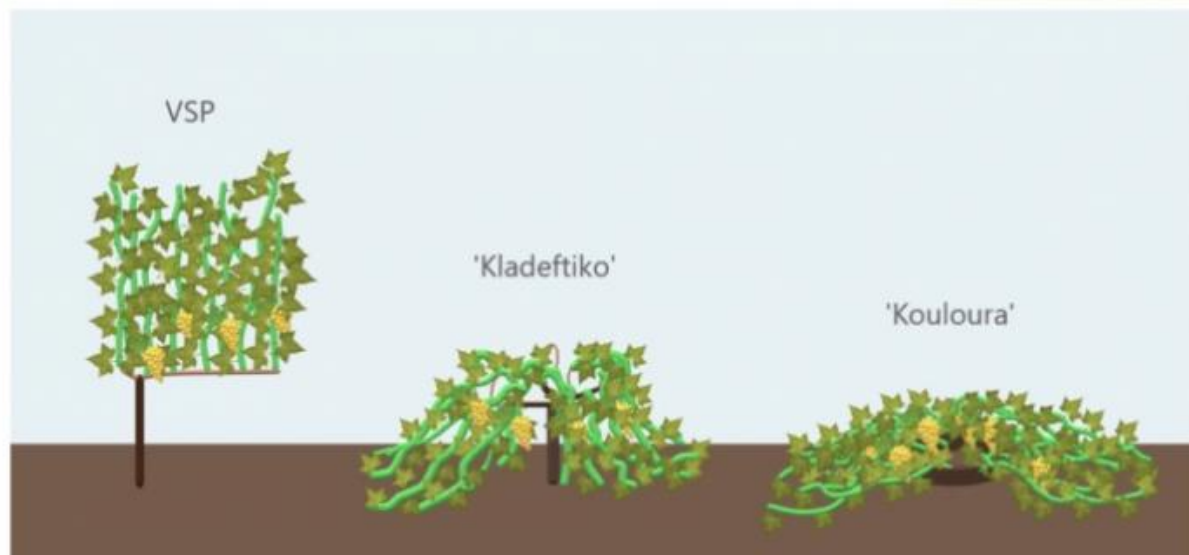
12 April 2024

[Recent study on training systems in Santorini shows that the basked trained system is the best solution to climate change](#) [6]

of 310 mm (average from 1974 through 2013) has been observed, which is even lower than in any regions of Crete (southwest Spain) and Pafos (Cyprus), where the precipitation varies from 380 to 700 mm (García-Martín *et al.*, 2022).

Own-rooted and phylloxera-free vines have been cultivated on the volcanic soil of Santorini for thousands of years. All this time, vines have been cultivated using two traditional training systems, the 'Kouloura' and the 'Kladeftiko' (Figure 1), which are well-adapted to the specific climatic conditions of the island. (Xyrafis *et al.*, 2021).

Figure 1. Illustration of the traditional training systems of Santorini ('Kladeftiko' and 'Kouloura') and the VSP.



The objective of this study was to compare the physiological and agronomic response of Assyrtiko grapevines to the traditional training systems 'Kouloura' and VSP training system over two growing seasons and to establish the factors influencing the performance of each system in the semi-arid conditions of Santorini Island as an alternative training system to adapt viticulture in other warm, dry wine regions.

[7]

07 April 2024

[H ???????? ?? ???????? ???? ???????? ?????? ??? ?????????? \[7\]](#)



[8]

16 March 2024

[? ?????? ??? ????? ????? ?????????? \[8\]](#)



[9]

09 March 2024

[Beyond Expectations: Papagiannakos Honores 2015 and Savatiano's Renaissance](#) [9]

Links

[1] <https://twitter.com/share>

[2] <mailto:?subject=Assyrtiko&body=https://www.karakasis.mw/greek-varieties/assyrtiko>

[3] <https://www.karakasis.mw/printpdf/1682>

[4] <https://www.karakasis.mw/policy>

[5] <https://www.karakasis.mw/filter/tips>

[6] <https://www.karakasis.mw/recent-study-training-systems-and-vine-density-santorini-island-shows-basked-trained-system-best>

[7] <https://www.karakasis.mw/h-koyloyra-i-apantisi-stin-klimatiki-allagi-sti-santorini>

[8] <https://www.karakasis.mw/moralis-kai-krasi>

[9] <https://www.karakasis.mw/beyond-expectations-papagiannakos-honores-2015-and-savatianos-renaissance>