



EUROPEAN WINEMAKERS GRAPPLE WITH ENVIRONMENTAL QUESTIONS

SPECIAL REPORT | 30 SEP. - 4 OCT. 2019
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Proud of their wines, Europeans are also concerned about the industry's widespread use of pesticides, while winemakers themselves will have to adapt to rising temperatures. From Bordeaux to Riesling and Champagne, EURACTIV takes a look at changing wine-making practices.

Viticulture drives pesticide consumption upwards. Wine-growing countries such as France, Spain and Italy are major consumers, mainly because the grapes need to be sprayed with plenty of pesticides.

The sector cannot operate without spraying these plant protection products and winegrowers have not changed their practices even though EU member states called for the reduction in the use of pesticides ten years ago.

But pressure from citizens is starting to shake things up. Although it remains modest in terms of sales of hectares, organic farming is progressing, as are sustainable agriculture approaches.

Practices often change during the relocation of vineyards, which is accompanied by a more global reflection on the adaptation of wines to climate change and drier climates, particularly in the Riesling and Bordeaux regions.



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Pesticide challenge leaving French viticulture with little choice

By Aline Robert | EURACTIV.fr / Translated by Daniel Eck



Sulphite or sulphur dioxide, the main chemical residue found in wine [...] is added after the harvest to limit the spread of certain micro-organisms and oxidation. However, the molecules are still spread across nature, thus affecting fauna and flora [...] They also impact human beings by increasing the rates of endocrine disrupters and cancers.

Wine is France's national pride but it represents a significant challenge for the country. Viticulture needs plenty of pesticides, mainly because of fungicides, but the sector continues to face many difficulties in changing its practices.

It is 5:30 in August, and the sun is shining on the other side of the Saône valley. Everyone in France is on holiday but Bernard, a winegrower in the Beaujolais region, is already

driving his tractor.

Without wind, it is the ideal time to "sulphate", as the elders say. It is a question of spraying the vineyard with various so-called 'phytosanitary' or plant protection products.

This year, this will be one of the twenty 'sprayings' the winegrower undertakes for each of his plots. France's vineyards are the country's biggest consumers of plant protection products, which include the heavily-used fungicides, insecticides and herbicides.

Champagne ranked the highest as it necessitated 25.6% of the sprays in 2016, ahead of wines from Burgundy, the Gers and Beaujolais regions. This is linked to the plant's exceptional fragility and sensitivity to the development of fungi, aphids or bacteria.

Although viticulture represents 3% of France's agricultural land, the sector spreads 20% of the country's fungicides.

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However, it also represents 15% of French agricultural production in value terms, mainly due to the prices of certain wines, such as Bordeaux, Champagne and Burgundy.

Pesticide residues are rarely found in wine.

According to a study by the institute Rhodanien located in the French commune of Orange, the pesticides found in wine were significantly below the maximum authorised limits calculated for grapes.

Sulphite or sulphur dioxide, the main chemical residue found in wine suspected to cause migraines, is added after the harvest to limit the spread of certain micro-organisms and oxidation.

However, the molecules are still spread in nature, thus affecting fauna and flora, and killing insects, including bees. They also impact human beings by increasing the rates of endocrine disrupters and cancers.

This is a growing challenge for local communities, which are concerned about the consequences for the health of their inhabitants. Local communities are now calling for minimum areas of land in certain areas near their homes not to be spread with pesticides.

Often spread out around residential or even tourist villages, vineyards are particularly concerned by this issue.

Under the directive establishing a framework to achieve the sustainable use of pesticides, the wine industry has undertaken to reduce the use of plant protection products by 50%, in particular by changing its spraying methods.

A so-called high environmental value (HVE) label has also been introduced and should theoretically affect half of all French farms in 2025.

But the label, created by the French government, is still not so well-known by consumers, distributors or even producers.

The constraints are much less Draconian than those of organic farming but are of real interest in reducing inputs. For example, vine grassing makes it possible to reduce the spreading of weedkillers.

“The Terra Vitis certification will include the HVE approach from 2020, which will add several farms. The problem is that these certifications rely on studies and are expensive. This means that they are not suitable for small farms,” explained French MEP Irène Tolleret of the Renew group. Tolleret is also a Pic-Saint-Loup winegrower.

The objective of including half of the 840,000 hectares of French vines in the label within six years, therefore, seems ambitious. For the moment, organic vines only represent 61,000 hectares, and Terra Vitis certification 11,000, which amounts to less than 10% of French vineyards.

In addition to organic farming, new environmental initiatives are emerging, particularly in Bordeaux and Champagne, France’s largest wine regions. And particularly in light of climate change, which requires grape varieties and water management to be adapted to rising temperatures.

Organic wine gradually leaving its mark in the French wine industry

By Cécile Barbière | EURACTIV.fr / Translated by Daniel Eck



For 41% of French people, the organic conditions in which wine was made is reason enough to purchase a bottle. More importantly, the price that consumers are willing to pay for a bottle of organic wine is €8.70, which is almost €2 more than for wine bottle produced by conventional agricultural means. [Lukasz Szwa/Shutterstock]

While the French people are consuming less wine, they are drinking more organic wine. However, the expense of going 'bio' proves to be an important risk for winegrowers.

In France, wine consumption has recently slowed down, with a 4% decrease each year. This is according to France's farm office Franceagrimer, and the French are consuming less.

On the other hand, the organic wine market is doing well, since the consumption of wines with an organic label is showing steady growth. According to a study by the British institute IWSR, sales of organic wines are expected to grow by at least 14% each year until 2022.

This dynamic consumption appears to be relying on the growing mistrust of the French towards synthetic pesticides, which are

prohibited by the requirements of organic farming.

In France, more and more winegrowers are deciding to convert to organic farming. In 2018, organic vineyards spread across 94,000 hectares in France, which represents a 12% increase in surface area. The sector's turnover is worth €1 billion, according to Agence Bio and the

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national inter-professional association of organic wines, France Vin Bio.

And the trend is expected to continue, as the public debate in France is increasingly centred on the issue of pesticide use. For several months, parts of the French population have raised concerns regarding the so-called 'pesticide-free zones', and the government has recently launched a consultation on the issue.

"There is societal pressure to reduce the use of pesticides, particularly when municipalities want to impose a 150-metre perimeter without pesticides," explained Vincent Mercier, an organic winegrower in Côte de Bourg and a member of the France Vin Bio office.

LOW PROFILE VINEYARDS

Organic vineyards, particularly with less prestigious appellations, are seeing progress, while the more established ones are living on their laurels.

The wine industry in the Auvergne region, for example, has made an accelerated transition to organic wine. In the Côtes d'Auvergne, which spans over a surface of 800 hectares, half of the independent winegrowers are into organic farming.

On the other hand, the transition to organic winegrowing for the very famous Champagne region remains at a very low 5% rate.

For 41% of French people, the organic conditions in which wine was made is reason enough to purchase a bottle. More importantly, the price that consumers are willing to pay for a bottle of organic wine is €8.70, which is almost €2 more than for a wine bottle produced by conventional agricultural means.

"But be careful to distinguish between purchasing intentions and acts. These do not always reconcile, given that increasing the purchasing power of the French does not appear to

be happening anytime soon," Vincent Mercier cautioned.

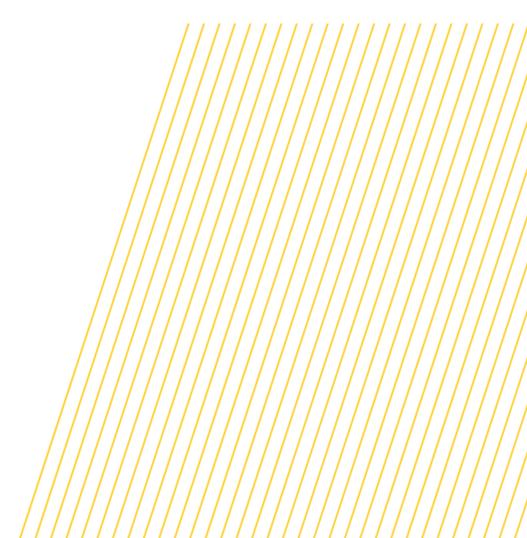
However, the conversion to organic farming does not appeal to everyone. Requirements to qualify as organic farming do not take into account all the criteria for preserving the environment. Carbon emissions, for instance, are not taken into account.

Renouncing the use of any synthetic treatment also poses a significant risk to winegrowers.

"Taking the risk in organic farming is to abandon conventional treatment completely, which could lead to completely losing the harvest. It is understandable to keep the possibility of such a treatment," Mercier admitted.

And the inputs allowed in organic agriculture, such as copper and sulphur, are also subject to environmental criticism.

Other more environmentally-friendly approaches may also appeal to winegrowers. However, labelling wines as biodynamic or natural comes with even stricter requirements.



Riesling will have a very different taste in the future

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By Florence Schulz | EURACTIV.de / Translated by Daniel Eck



Winegrowers have no choice but to wait for natural mutations in the vine that make it more weather-resistant or allow it to mature later. But these processes are very slow. It takes at least 20 years until enough clones of a mutated Riesling plant are available for it to be ready for the market.

The year 2018 was an excellent vintage for German wine, despite the drought. However, with the climate getting warmer, Riesling, Germany's most famous wine, could start tasting differently.

With the taste varying between dry and sweet, its acidity still gives it a pleasantly fresh note. These are the qualities of Riesling, Germany's most popular wine.

However, the future of the so-called

'golden grape' remains uncertain.

"Climate change has reached us. During the Riesling's vegetation period, which runs between April and October, the average temperature has risen by more than one degree. And this changes the wine's character," explained Ernst Büscher, wine connoisseur and spokesperson for the German Wine Institute.

Riesling enjoys the cool weather because it takes a long time to mature and develop aromas. Since 1988,

however, German wine growers in Rheingau and other wine-growing regions have gradually been experiencing warmer summers.

Besides, extreme precipitation and hailstorms, which can destroy entire harvests, have become more commonplace.

Nevertheless, 2018 was a great year and winegrowers were, of course, pleased. This is despite the hot

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summer, during which the vineyards only benefited from 54% of the usual rainfall. Grapevines are usually not artificially irrigated, as this would require enormous amounts of water.

This time, however, it had worked without the usual rainfall, given that “Riesling is relatively insensitive to drought due to its roots reaching so deep into the soil. Last year, winegrowers were sometimes surprised to see where the vines got their water from despite the drought,” Büscher said.

WINE GRAPES WITH SUNBURN

For the production of high-quality sweet Riesling wines, such as the so-called ‘beeren- or Trockenbeereauslesen’, the heat would even have a positive effect, the wine expert explained.

But this does not necessarily apply to Riesling. Although the heat drives its growth faster, the Riesling is nevertheless sensitive to extreme sunlight and just like human beings, these can also get sunburnt.

Besides, the grapes would also ripen too early, before they develop the fresh taste typical of Riesling, and become sweeter instead.

“The sugar content of the grapes is much higher today than in the past. The values are sometimes twice as high as in the 1960s and 1970s,” said Otmar Löhnertz, a professor of soil science and plant nutrition at the Geisenheim University of Applied Sciences, which specialises in viticulture.

More sugar in the grapes means higher alcohol levels in the wine, which is not necessarily a good thing.

“Alcohol carries flavours. If a wine’s alcohol content amounts to 13% or 14% rather than 11%, the taste, fermentation process and ageing behaviour change. That is when we speak of a different style of wine,”

Löhnertz explained.

The researcher said that global warming will change Riesling-type wines.

“In the future, Riesling will taste completely different,” he added.

NO LONGER RIESLING

However, this is still not the case because winegrowers have been using targeted cultivation measures to counteract these issues to ensure their Rieslings mature for as long as possible.

By removing the leaves, for example, sugar production can be curbed, and a different orientation of the vines on the vineyard can also protect the plants from too much sunlight. Theoretically, the plant could also be genetically modified, but the wine produced could then no longer be labelled a Riesling.

Winegrowers have no choice but to wait for natural mutations in the vine that make it more weather-resistant or allow it to mature later. But these processes are very slow. It takes at least 20 years until enough clones of a mutated Riesling plant are available for it to be ready for the market.

“At the institute, we try to come to grips with the issue of how we can adapt cultivation systems so that we can also produce fresh-tasting wines like Riesling under warmer conditions,” the viticulture researcher Löhnertz said.

Since vines have a 30-year-lifespan, adapting the permanent crop to weather conditions appears to be quite the challenge.

“One could also say goodbye to Riesling and breed new wine varieties accordingly. But the future consumer also wants to have his Riesling from the Rheingau in the future. Wine consumers are quite emotionally attached to the product,” Löhnertz added.

Riesling, which has been cultivated for more than 500 years, is the most

popular German wine. Almost a quarter of the country’s vineyard area is devoted to Riesling, which accounts for around half of global production.

In other words, Riesling is not just part of European drinking culture but also an economic factor.

WINEGROWING IN SCHLESWIG-HOLSTEIN?

A new wine market emerging in the north is appearing to be a new challenge for winegrowers in Southern Germany.

In Schleswig-Holstein, Mecklenburg-Vorpommern and even Lower Saxony, new wine-growing areas have emerged since 2016. But they have only appeared in small numbers, as Germany only permits a 0.3% growth of the wine-growing regions each year due to current EU restrictions intended to prevent the oversupply of wine.

Büscher of the German Wine Institute believes that winegrowing in the northern part of the country is inevitable in the future. But entry into the hard-fought wine business is not easy.

“Winegrowing is special, it requires a lot of specialist knowledge, but also technology, and it is associated with immense acquisition costs,” Büscher added. However, the traditional winegrowing regions are still confident that they will continue producing Riesling in the near future.

Löhnertz also sees opportunities for the German wine market.

“In a way, the German winegrowing industry is a ‘climate winner’. But we don’t know how the weather will change in the coming decades. The question is how long this will last,” Löhnertz added.

New generation of Champagne winegrowers pushing for 'greener' practices

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By *Cécile Barbière* | EURACTIV.fr / Translated by *Daniel Eck*



"Today, we were able to work without any weedkillers or insecticides," Paul Gosset said. "The contents of this canister have not changed in the past three years," the young winegrower laughed when pointing to an old can of Round-up, Monsanto's criticised weedkiller.

Since the 16th century, the Gosset family has been passing on vineyards from generation to generation in the Champagne region. Today, the incoming generation is starting to implement more environmentally friendly practices.

On the slopes of Aÿ in the Champagne region, the harvest has just ended, and vineyards in the mountains of Reims are still

flourishing under the September sun.

While walking through his various plots of Pinot Noir, Chardonnay and Pinot Meunier, the three main grape varieties of the Champagne appellation, the young winegrower Paul Gosset described the changes he made to the different plots since 2016, the year in which he began working alongside his father.

"Here, I planted oats between the Pinot Meunier vines to decompress

the soil. This makes it possible to mulch without competing with the vines," he explained. Another fallow plot will next year welcome new vines, the first to be selected by Paul Gosset himself.

Even if the vineyard does not produce wine made with certified organic or biodynamic grapes, Paul Gosset does adopt a few good

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practices. And he is compelled to take into account certain factors that are not required to be bio-certified, such as greenhouse gas emissions.

“The most polluting part of our job is the transport of wine, but also the corks and labels,” explained the winegrower.

“So we buy cotton labels, which are less polluting, as well as aluminium-free caps. These details are important. I will also try to sell mainly in France,” he added.

Paul Gosset’s first own-name vintage will be ready by 2020, and the young man’s produce is gradually gaining ground across the estate.

“Today, we were able to work without any weedkillers or insecticides,” Paul Gosset said. “The contents of this canister have not changed in the past three years,” the young winegrower laughed when pointing to an old can of Round-up, Monsanto’s criticised weedkiller.

The transmission from one generation to the next is often an opportunity to accelerate the implementation of more environmentally friendly practices, mainly when the family’s reputation is at stake.

A GRADUAL REDUCTION IN INPUTS

However, the transition could not be achieved within a day.

“This is a step forward that I implemented quickly because my father had already done a majority of the work. You can’t move to a crop without weeding on an unprepared vineyard,” the young man explained.

“I took over the vineyard in 1981, at a time when the activity was in deficit because of the oil crisis and several poor harvests,” explained Paul’s father, Michel Gosset. Gradually, the family business developed and became profitable, under the leadership

of Michel Gosset and his brother Christian.

“In the 1980s, we were offered plant protection products that we used without really knowing that they were harmful to us and the environment,” Michel recalled.

Although these products have been banned progressively, Michel decided in the early 2000s to start “ploughing two-thirds of the vineyards without using weedkillers”.

“I had seen my parents exhaust themselves when ploughing the land, so it was not something that came back intuitively. At the time, I was most likely alone in making such a choice,” Michel recalled.

As a result, the use of inputs has gradually decreased across the vineyards, with the ‘so-called’ frequency treatment indicator (FTI) falling to 5.6, compared to the index reaching an average of 16 for vineyards across the Champagne region.

“Sometimes I didn’t treat and took a risk, while the majority of winegrowers will treat to protect themselves against the risk of loss,” he continued. For Champagne winegrowers, the risk of loss can be very damaging because a kilo of grapes sells for a globally unequalled sum of €7.

For Michel Gosset, reducing the amount of plant protection products was primarily motivated by a search for quality. “We have never highlighted our environmental practices, but rather the quality of our tillage,” he explained.

A DOUBLE-EDGED REPUTATION

For the renowned Champagne vineyard, reducing the use of plant protection products is a challenge.

Across the 30,000 hectares of the prestigious Champagne vineyard, independent winegrowers must resist the pressure of the major wine dealers. Independent winemakers are also facing hikes in land prices, which are

reaching new heights.

This land price is one of the reasons making it more challenging to reduce the use of plant protection products, also called ‘phytosanitary products’. Especially when it comes to small vineyards that are more financially exposed to the risk of a poor harvest and fear that they will be brought out by large companies. LVMH, for instance, already has a 22% share of global champagne sales.

Amid a national debate on untreated areas or so-called ‘pesticides-free zones’, the general union of Champagne winegrowers mobilised against the introduction of a 10-metre-wide pesticides-free zone near residential areas.

According to the union, this measure would threaten 1,000 hectares of vines in the Champagne vineyard, where the cost of land has risen exponentially to around €1.1 million per hectare.

“There are solutions that exist such as confined sprayers or grape varieties resistant to vine diseases, but they are expensive and take time to implement,” Paul Gosset explained.

Among the grape varieties resistant to mildew and powdery mildew, the two most dangerous parasitic fungi, Voltis for example, could be planted in vineyard plots near residential areas.

Such a solution, however, would have to be accepted by the stringent specifications of the Champagne appellation.

Bordeaux winegrowers want to leave chemicals behind to save the environment

By Aline Robert | EURACTIV.fr / Translated by Daniel Eck



The quest for a wine that best expresses the terroirs is a constant concern in the region, where the roots of the vine are pruned underground to force them to draw nutrients and water from the deepest depths.

Fewer chemical inputs tend to make the vine more robust and also ensure the terroir is better expressed in the wine's aroma, according to experts. France's vineyard sector is also interested in new grape varieties that are resistant to heat and disease.

"It's true that chemistry used to be our friend. But this is over," said the president of the Bordeaux Wine

Council, Bernard Farges.

For Farges, adapting winemaking to a changing environment, whether in response to climate change or the increased mistrust towards pesticides, has become his mission.

And he is not alone. Although they are not vocal, an increasing number of winegrowers from excellent vintages, such as wines from the Entre-Deux-Mers region, are changing their practices. They want to obtain organic

and biodynamic labels, as well as so-called 'high environmental value' certifications.

The quest for a wine that best expresses the terroir is a constant concern in the region, where the roots of the vine are pruned underground to force them to draw nutrients and water from the deepest depths. This technique is also a response to global

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warming, which has brought the average harvest date forward by about ten days since the 1980s.

BETTER WINES, AT LEAST FOR THE MOMENT

“The rise in temperatures affects our work. My grandfather and father made a great effort to increase the wine’s alcohol content by having vines with fewer grapes and bringing them closer to the ground. But I do exactly the opposite,” said the Saint-Emilion winegrower Philippe Bardet, who acknowledges that his wines have changed, but for the better.

And this is the paradox of the phenomenon. In the Bordeaux region, one additional degree and a little less water is good news, at least for the moment. This means that the heatwaves and limited rainfall of 2019 are posing a problem of quantity. For some vineyards, winegrowers noticed that by the end of the harvest, the grapes had developed a thick skin but little juice.

“The problem of global warming in many regions is the lack of water. But in Bordeaux, there is no shortage of it,” said François-Thomas Bon, an organic winegrower, who noted that the region does not need irrigation.

Besides, this year’s moderate humidity ensured limited attacks of mildew, a fungus that devastates the vine and requires multiple treatments when it appears, including in organic farming with copper sulphate.

Although the winegrower’s Château La Grace Fonrazade is certified organic, François-Thomas Bon does not boast about this. For him, the Saint-Emilion appellation appears to be sufficient.

However, he is committed to adopting a global approach to ensure his winegrowing operation is less harmful to the environment. So far, he has recycled cardboard and

wood from pallets, implemented a boiler that operates with vine shoots and measured the fuel and water consumption of his fields.

Nothing escapes the winegrower’s vigilance.

Now he is even trying to find solutions to recycle the wood from the essential oak wine barrels, the lifespan of which does not exceed six or seven years.

“We are trying to develop straight barrels rather than rounded ones, to be able to recycle the boards... But it’s causing waterproofing problems at the moment!” the winegrower acknowledged.

ORGANIC WINES: MORE HEAT-RESISTANT AND FULL OF AROMA

In the longer term, vine professionals agree that Bordeaux wine would suffer from an increase of climatic hazards, which have helped mobilise the profession. With hail, frost, torrential rain and drought, the harvests are exposed to many risks.

“We appear to have far more frost in the spring,” said Philippe Bardet, adding that he is nevertheless “optimistic about the small climate change” observed over the past twenty years.

Bardet’s solution is to reduce the amount of chemical inputs so that his vines can be more resistant. The Bordelais winegrower was one of the first to campaign for the grassing of vines, which makes it possible to retain water and nitrogen in the soil better. Most of the vineyard is now covered with grass, which allows the grapes to resist heat better and prosper with fewer fertilisers.

The agroecology approach is progressing, even if with 10% of the vines being organic, the Bordeaux region is getting closer to the national average.

“In 2018, we had three times more water than in Burgundy. It is

much more complicated to limit treatments in our region,” according to Pierre Lurton, who manages the Yquem estate in Sauternes. The estate produces a grand cru, which will be the first of its kind to be organically certified.

The estate, bought by the LVMH group in 2004, after four centuries in the hands of the Lur Saluces family, already had half of its vines growing organically, mainly for oenological purposes.

“Maybe for organic, or even biodynamic wines, we’ll have even purer flavours,” the expert hopes.

The sector also anticipates global warming by testing new grape varieties. Since Bordeaux is already a blend, adding plants used in Portugal such as Touriga Nacional or Marsellan could ensure the preservation of wines that taste the same within 20 years.

“If we continue to plant Merlot in 2050, we will have less typicity,” warned Kees van Leeuwen, a researcher at the Institute of Vine and Wine Sciences.

The centre is also exploring other avenues: vines resulting from crossbreeding between strains resistant to the primary vine diseases and more classic varieties, such as Cabernet Franc and Petit Verdeau, the most resistant to climate change.

These hybrids would offer a response to both rising temperatures and societal pressure against pesticides.

However, patience is critical since their potential commercialisation is set to take place by 2030, at the earliest.



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