

Europe

# Italy's wine industry is being tested by the effects of climate change in its vineyards

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RAUSCEDO, Italy — Season after season, he'd been growing and harvesting the same grapes on the same land. But five years ago, Livio Salvador began to wonder whether something was changing.

When he walked through his vineyards, he would see patches of grapes that were browned and desiccated. The damage tended to appear on the outside of the bunch — the part most exposed to sunlight. Salvador talked to other growers and winemakers in the region, and they were noticing it, too.

Their grapes were getting sunburned.

“It has almost become the norm,” Salvador said this month, after a torrid growing season that saw 10 percent of his fruit wither to waste under the sun.

In a region celebrated for the prosecco and pinot grigio it ships around the world, Italy's particularly sensitive white wine grapes have become a telltale of even gradual temperature increases — a climate slipping from ideal to nearly ideal. Vintners and farmers are noticing more disease, an accelerated ripening process and, most viscerally, a surge in the number of grapes that are singed by the intensifying summer heat.

Growers say they have little choice but to try to manage. Some are experimenting with new watering systems and shade strategies.

But they debate whether the treasured aromas and flavor notes of their wines are already changing — and whether they'll one day lose out to colder-climate producers whose wines once were scoffed at.

Climate change is only beginning to reorder the global wine industry, altering the patterns of how and where grapes are produced and testing whether the world's iconic regions can find ways to adapt. Many factors influence wine and its taste. Yet because of rising temperatures, some of Europe's biggest producers are buying up land in the Pyrenees foothills, in northern China and in southern England — where the climate now resembles the French Champagne region of the 1970s.

“So what happens to the existing regions that are famous?” said Elizabeth Wolkovich, a researcher at the University of British Columbia. “If they don't make changes or they don't make them fast enough, I think there will be a reshuffling of where the great wines are made.”

If the planet's climate warms in coming decades as much as most scientists predict, there will be more pressing concerns than whether "you'll have a good Bordeaux from Bordeaux," Wolkovich said. But for growers — and for wine drinkers — the changes are nonetheless imperiling.

In this part of northeastern Italy, wine production is the abiding identity, and the vineyards stretch for miles, interrupted by villages with church bell towers and by the occasional Palladian villa. One large producer says the region has been suitable for wine-growing "since ancient Roman times."

"Right there is the river," Salvador, 64, said one sunny afternoon this month as he walked through his vineyards. "You can feel the soft wind."

Some vintners in Italy remain reluctant to talk about the changing climate because the commercial identity and value of their wines is based on an established terroir — the soil and environmental conditions that help build a grape's flavor. But Salvador is among the increasing number of growers who feel the changes are undeniable.

Hotter summers are shortening the growing seasons. The grapes are more quickly developing sugar, which ferments into alcohol. Those grapes aren't building the same acidity. Prosecco is supposed to be floral, fresh and low in alcohol. The environment is pushing that wine in the opposite direction — something vintners are trying to fight off with technological adaptations.

"We are in a climate that is becoming almost tropical," Salvador said.

His operation is smaller than many in the region. When he started 20 years ago, the vineyard was just a side job, an escape from his briefcase-and-computer office work. Now, he is ready to pass it on to his 22-year-old son, Enrico. And he wants the vineyard to be prepared for whatever comes next.

So one recent Saturday, Livio Salvador drove to the region's annual wine festival where, this year, an event had been added to the schedule: a conference on the wine industry and climate change. More than 250 people filed in, a mix of wine executives in suits and farmers in jeans who filled every seat.

One of Italy's most well-known meteorologists, Luca Mercalli, began by telling the crowd that "what we're living today is new, unheard of — it has no equal in recent millennia."

The next speaker, Diego Tomasi, was a researcher at an agricultural institute partly funded by the government. Earlier in his career, Tomasi co-wrote a book comparing 19 microclimates within a small zone of northern Italy, describing how even minute changes could alter a wine's taste. But now, at 58, he has dedicated himself to the more significant changes that are happening. He cued up a slide show that tried to capture what he has been seeing.

One chart showed the number of days when maximum temperatures topped 95 degrees Fahrenheit. In 2018, it had happened 13 times. Throughout the 1990s, such days rarely occurred more than once or

twice.

Another chart showed prolonged heat waves. The region has been seeing high-temperature stretches that were unheard of in the 1970s and 1980s. Since 1990, the median annual temperature in Treviso, a nearby city, has risen 1.5 degrees Celsius.

Then Tomasi showed the photos of the sunburns — grapes that were shriveled, darkened. Sometimes, even the leaves showed a reddish char. Tomasi said he first noticed the burns 15 years ago. Now, they are commonplace. He said the burns were “certainly” climate-change related.

“We must adapt,” he told the crowd. “We need to come up with vineyards that are conceived for the specific climate conditions we’re now facing.”

Some wine experts say regions might eventually have to consider using different grape varieties — something that would force companies to alter their identities. But for now, growers have been more interested in pushing for ways to maintain the health of what they’ve been using for decades.

At least one major northern Italian winemaker, Tomasi said, has moved its vineyard into a higher elevation. Another, Villa Sandi in Crocetta del Montello, has been performing experiments to find a more water-efficient rootstock, the company’s enologist, Stefano Gava, said. And at Pitars, a family-owned vineyard in San Martino al Tagliamento, workers have installed hundreds of miles of plastic irrigation piping beneath the soil — meaning water is released underground, closer to the roots and in cooler temperatures, and less is lost to evaporation.

But one of the most common issues has been preventing the burns, which leave the grapes without moisture — and useless for wine.

Some growers are trying to keep their vineyards leafy as a way to provide as much shade as possible. Others, like Pitars, have opted for a more counterintuitive strategy — cutting away leaves early in the season. This step, they say, helps the young grapes grow accustomed to the heat and develop a thicker skin.

“We’ll try this new method in 2019,” Livio Salvador said.

He doesn’t make wine. Instead, at harvest time, he sells his grapes to Pitars because, he said, owner Paolo Pittaro “is better at this than us.” He also consults with Pitars on when to harvest.

Pittaro, 54, said that when he was a boy, the grapes ripened in October. When he was in his 20s, the grapes ripened in September. Now, harvest season approaches in late August.

“This is connected to climate change and also changes in technology,” he said. “But it is surely true there are more sunny hours. It’s a mathematical fact.”

This year, Salvador took a sample of pinot grapes to Pitars at the first moment he suspected they were ripe. He can sense a grape's readiness for the harvest by its taste and color, but he dropped off a few kilos at the Pitars lab and waited for the results. Soon, Pittaro's nephew, Nicola, told Salvador that the work could begin.

It was Aug. 22. For Salvador, it was the earliest the harvest had ever kicked off.



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