Wines from Resistant Grape Varieties in Switzerland: Production, Consumer Perception and Presence in the Catering Sector

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https://doi.org/10.34776/afs17-73e Publication date: 5th March 2026

Red or white: resistant grape varieties are now making their way onto the tables of Swiss restaurants. Image generated by Microsoft Copilot AI – October 2025

Summary

The inclusion of resistant grape varieties in the range of Swiss wines on restaurant menus is an increasingly trending topic. Against the backdrop of climate change and greater research into sustainability in viticulture, using grape varieties that are naturally resistant to fungal diseases appears to be a promising option to achieve these objectives. Although still limited, the area planted with resistant varieties is increasing steadily, with German-speaking Switzerland possessing a significant lead at this stage. The results show that consumers rate the quality of wines from resistant grape varieties on a par with that of the traditional varieties, suggesting an encouraging potential for development. Furthermore, several establishments already offer these wines on their menus, and the distribution observed at production level is broadly reflected in the supply found in the catering sector. Across the board, a lack of information and knowledge about these wines from resistant grape varieties is documented at different levels of the sector – from distribution to consumer perception – highlighting a significant opportunity for improvement in supporting the adoption and inclusion of these grape varieties in the Swiss viticultural landscape.

Key words: wines, resistant grape varieties, catering, consumers.

Introduction

Conventional viticulture is heavily dependent on fungicides to control the main fungal diseases of grapevine: downy mildew, powdery mildew and botrytis (de Baan, 2020; de Baan *et al.*, 2015; Guimier *et al.*, 2018; Mackie *et al.*, 2013; Mackie *et al.*, 2012; Spycher & Daniel, 2013). Faced with growing consumer demand for sustainable products (Borrello *et al.*, 2021), winegrowers are increasingly encouraged to limit the use of plant protection products in terms of both frequency and quantity of application. Grape varieties that are resistant to fungal diseases, hereinafter referred to in this article as 'resistant (grape) varieties', arising from interspecific crossings (*Vitis vinifera* × wild *Vitis*), offer a promising solution for limiting treatments (Merdinoglu *et al.*, 2009; Rousseau *et al.*, 2013; Spring *et al.*, 2013). In Switzerland, federal and private breeding programmes have enabled the development of numerous resistant grape varieties such as Divona and Sauvignac (white varieties) or Divico and Cabernet Jura (red varieties) (Spring *et al.*, 2013; Spring J.-L. *et al.*, 2018). Swiss winegrowers also have access to resistant cultivars developed by European breeding institutes, French and German ones in particular.

A frequently mentioned obstacle to market penetration of these grape varieties concerns their acceptance by consumers. Nevertheless, numerous studies conducted in France, Switzerland, Germany, Italy, the UK, the US and Brazil have shown that it is entirely possible to produce quality wines from these grape varieties and that consumers are generally open to them, particularly in environmentally aware contexts (Biasoto *et al.*, 2014; Espinoza *et al.*, 2018; Kiefer & Szolnoki, 2023; Pedneault & Provost, 2016; Vecchio *et al.*, 2022). In Switzerland, however, the last study on this subject is from over ten years ago (Van Der Meer *et al.*, 2010) and focused exclusively on the analyses of experts. Since this period, new grape varieties have been introduced, and consumer awareness of the environmental stakes has grown (Hoffet *et al.*, 2021), highlighting the need to update these data. Finally, the catering sector represents a strategic channel for raising the profile of these grape varieties among the wider public. The 'Wines of the Future' project conducted by AGRIDEA between 2019 and 2021 highlighted this opportunity. One of the main recommendations directed at the Swiss Federal Office for Agriculture (FOAG) was, in fact, to strengthen the link between winegrowers and professionals in the restaurant and catering sector to ensure that these wines reach a higher profile on Swiss restaurant menus.

Within this context, our study targets three complementary objectives:

1. To evaluate the current situation regarding the planting of these resistant grape varieties in Switzerland, based on the latest FOAG data;
2. To synthesise the latest consumer studies focusing on these grape varieties;
3. To analyse the extent to which these grape varieties feature on the menus of Swiss restaurants and catering establishments.

Materials and Methods

FOAG data

The FOAG's 2024 data were used to take stock of the area planted with resistant grape varieties.

Consumer study

Recently, we carried out a study in Switzerland to measure the acceptance of certain resistant grape varieties among consumers. These tasting tests were conducted at three locations: Changins (Canton of Vaud), Liebefeld (Canton of Bern) and Wädenswil (Canton of Zurich). The results of this study were published recently (Blackford *et al.*, 2025). Over the course of these tests, we asked the tasters if the wines made from resistant grape varieties were suitable for different consumption situations. These data, which do not feature in the published article, are analysed here. Consumers were asked to respond to the question "In your opinion, are wines from resistant grape varieties suitable for the following situations?". The situations were inspired by those suggested in the article by Schutz and Ortega (1974), and included the place of consumption: in the bar and in the restaurant. We analysed the responses given based on consumer profile (gender, age, language, where the tasting took place, and prior knowledge of the resistant grape varieties) using Kruskall-Wallis statistical tests performed with the software tool R (version 4.3.3).

Taking Stock of Swiss restaurant menus

Two samples of restaurant wine menus were analysed for 2024. The first consisted of 350 Swiss Wine Gourmet (SWG)-certified restaurants, i.e. over 35,800 wine references extracted from their menus. To be awarded certification, a restaurant must offer a minimum of two Swiss wines by the glass, available year-round, and at least five Swiss wines on their wine list. The establishments were

selected at random, according to the geographic distribution of the restaurants in Switzerland. The second sample encompassed 102 non-SWG (NSWG)-certified restaurants, selected via the TripAdvisor platform, for a total of 10,281 references from their wine menus. The regional distribution of the restaurants is comparable in the two samples, with a majority being located in German-speaking Switzerland (61 % SWG – 62 % NSWG), followed by French-speaking Switzerland (31 % SWG – 32 % NSWG) and Italian-speaking Switzerland (7 % for both samples). Only restaurants that had a wine list were analysed. The two databases were merged for the analysis and the resultant database was named 'Restaurant menus'.

Questionnaire for restaurateurs

A survey was sent by email via an internal database and distributed via the SWG newsletter to restaurateurs throughout Switzerland to obtain information on their positioning regarding resistant grape varieties. A total of 134 people managing the menus of the establishments responded. Slightly over half of the restaurants (53 %) are located in French-speaking Switzerland, 2 % in Italian-speaking Switzerland and 45 % in German-speaking Switzerland. Since the contacts were obtained by means of a study conducted in partnership with the SWG, SWG-certified establishments are over-represented in the study.

Results and Discussion

Resistant grape varieties in Switzerland – updated data

Switzerland has a winegrowing area of 14,484 ha, split 55 %/45 % between red and white grape varieties, respectively. This area is gradually shrinking, mainly due to the decrease in area planted with red grape varieties. As for the proportion of resistant grape varieties, it is on the rise, with a total area of 540 ha and greater growth for the white grape varieties (Figure 1-A). The main resistant red grape varieties planted in Switzerland are listed in Figure 1-B. In terms of area, Divico is the no. 1 resistant grape variety planted, with 104 ha in 2024, followed by Cabernet Jura (41 ha). Interestingly, the area planted with Regent is gradually decreasing. The adaptation of downy mildew populations has led to a reduction in the potential efficacy of the resistance of this grape variety, making it less attractive than new lines with more robust resistance. In terms of white grape varieties, the predominant variety is Souvignier Gris (56 ha), followed by

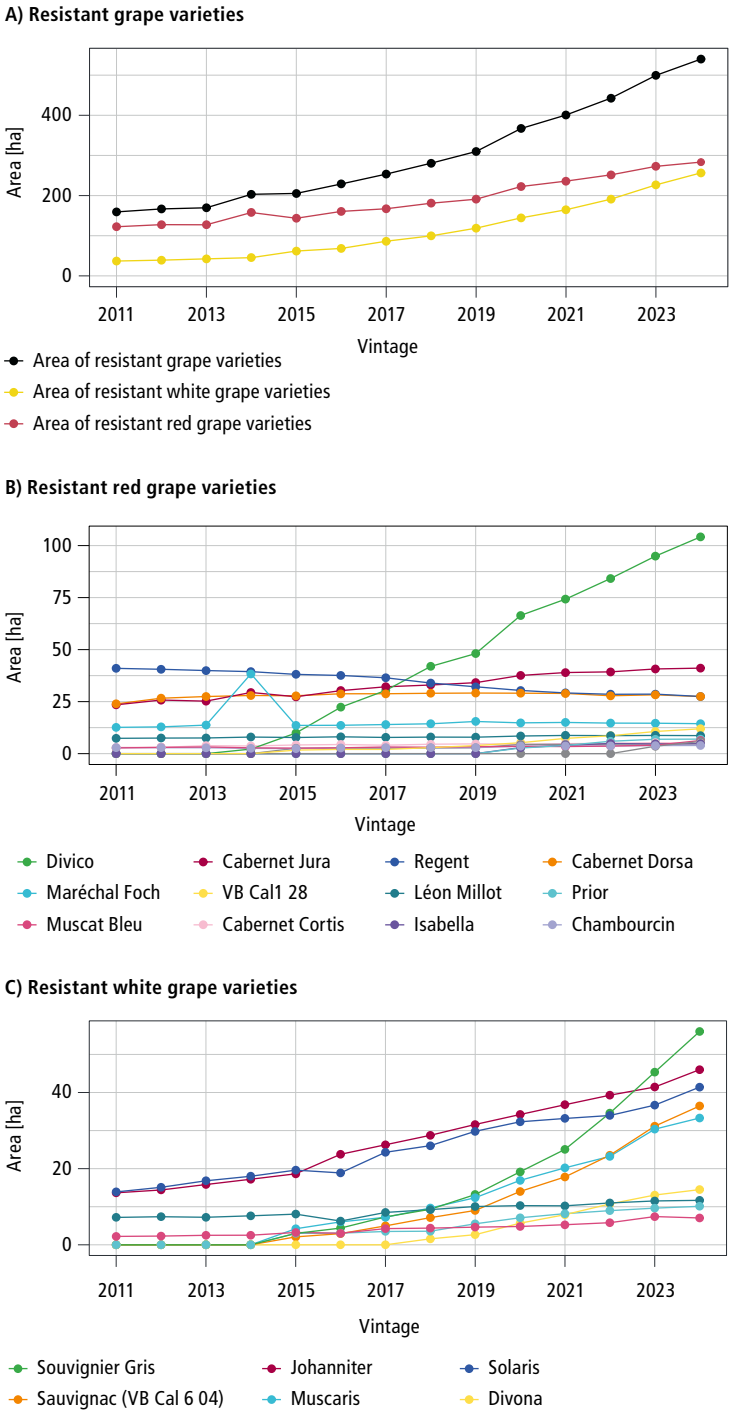

Figure 1 | Areas planted with resistant grape varieties (FOAG, 2025). (The peak observed for the Maréchal Foch variety in 2014 is possibly due to an error in FOAG data.)

Johanniter (46 ha), Solaris (41.4 ha), Sauvignac (36.5 ha) and Muscaris (33 ha) (Figure 1-C).

The distribution by region shows that the majority of resistant grape varieties are planted in German-speaking Switzerland (63.7 %), followed by French-speaking

(28.0 %) and, lastly, Italian-speaking regions (8.3 %). In both German- and Italian-speaking Switzerland, the proportion of resistant white grape varieties is higher than that of resistant red varieties. The opposite is observed in French-speaking Switzerland. The three winegrowing regions considered do not have the same total winegrowing area: French-speaking Switzerland is the dominant winegrowing region, followed by German-speaking Switzerland, and then Italian-speaking Switzerland in last place. The production of resistant grape varieties occupies 12.9 % of the total winegrowing area in German-speaking Switzerland, while it occupies only 3.8 % in Italian-speaking and 1.4 % in French-speaking Switzerland (Figure 2).

In addition to the planted area, the grape varieties cultivated in the different winegrowing regions differ (Figure 3). Regarding the red grape varieties, varieties such as Isabella and Chambourcin are almost exclusively cultivated in Italian-speaking Switzerland. Moreover, it should be noted that, with the exception of Divico, the majority of the grape varieties are mainly grown in German-speaking Switzerland. A similar observation can be made regarding white grape varieties, viz., Divona is mainly cultivated in French-speaking Switzerland, whilst the other grape varieties are mostly planted in German-speaking Switzerland.

The consumers' position

Taking Stock of the latest consumer studies

In the recent study focusing on Swiss consumer acceptance of resistant grape varieties, it was possible to define several consumer groups based on their appreciation of wines from resistant grape varieties. Three factors were identified as potentially having a significant impact on consumer opinion, viz., the sensory quality of the wines, level of knowledge regarding wine, and familiarity with the resistant grape varieties (Blackford *et al.*, 2025). This notion of familiarity had already been highlighted by a German study on purchasing behaviour (Kiefer & Szolnoki, 2023). The results of this study show that consumers tend to prioritise the grape varieties they know well when making their purchases. Interestingly, the provision of additional information on wine made from resistant grape varieties before the tasting only had a moderate effect on their rating. Moreover, this effect only influenced a single consumer group – the one identified as being more sensitive to environmental issues (Blackford *et al.*, 2025).

Occasions for drinking wine from resistant varieties

Consumers also gave their opinion on the relevance of resistant grape varieties for various consumption occasions. Results are on the whole positive, indicating con-

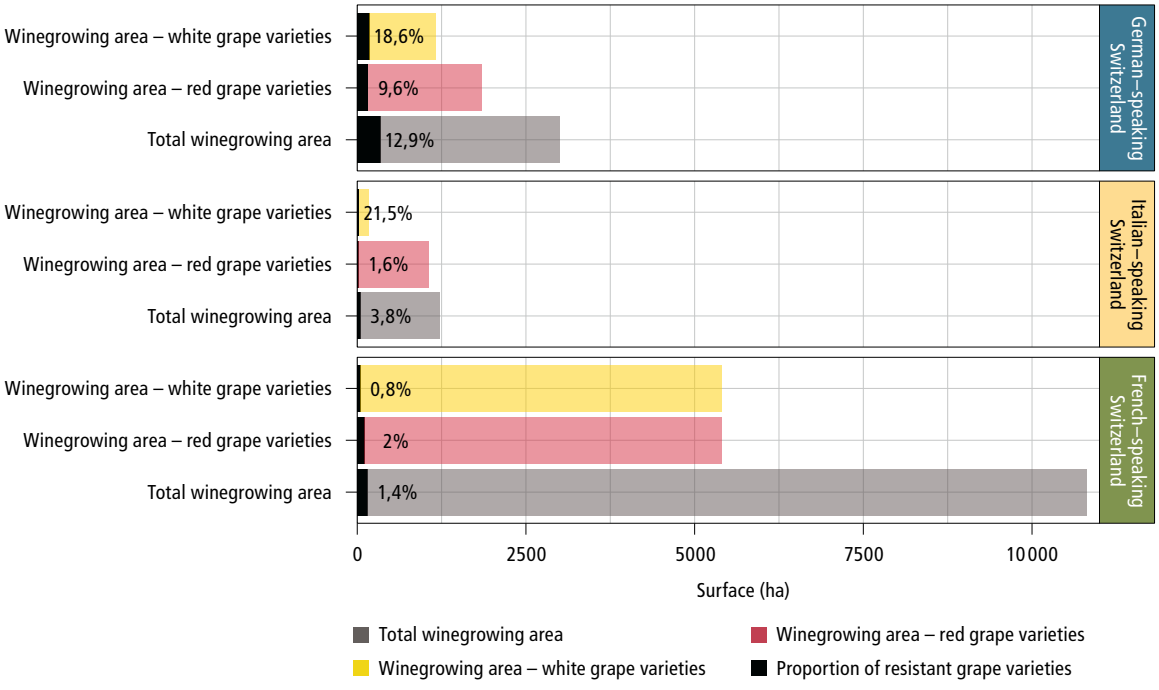

Figure 2 | Distribution of total wine-growing area and proportion of resistant grape varieties according to region (FOAG data, 2025).

sumer openness to resistant grape varieties. Consumers seem willing to incorporate these varieties into their consumption habits and for various occasions. Responses given for the situations 'restaurant' and 'bar' were analysed according to consumer profiles. Statistical analysis of the results shows no significant variation between the different tasting sites (restaurant: p-value = 0.571; bar: p-value = 0.680) or based on the language of the participants (restaurant: p-value = 0.296; bar: p-value = 0.553). There was no significant differences between French and German-speaking Swiss consumers. Given that the tastings took place in Nyon (Canton of Vaud), Liebefeld (Canton of Bern) and Wädenswil (Canton of Zurich), no conclusions can be drawn for consumers from Italian-speaking Switzerland.

There is a significant difference between the men and women surveyed. On the whole, the women are more open to the presence of resistant grape varieties on restaurant (p-value <0.001) and bar menus (p-value <0.001). No significant differences were observed based on consumer age (restaurant: p-value = 0.772; bar: p-value = 0.919). As observed in the consumer test, prior knowledge of the resistant grape varieties influenced consumer responses, with those who are familiar with the resistant grape varieties being more open to finding them on restaurant (p-value <0.01) or bar menus (p-value <0.01).

Taking Stock of resistant grape varieties on Swiss restaurant menus

After analysing the consumer viewpoint, the study focuses on examining the place occupied by resistant grape varieties on restaurant menus. In 2022, sales of still Swiss wines in the hotel/restaurant/café (HoReCa) sector on average represented 10 % of producer volume and 16 % of producer turnover (OSMV, 2023). In our sample, slightly under 40 % of restaurants offered at least one Swiss wine from resistant grape varieties. Of the total number of references reported on the wine lists, we found 444 wines containing resistant grape varieties, i.e. slightly over 1 %.

Origin of the wines

Of the selection of menus analysed, 45 %, 28 % and 37 % of restaurants in German-, French- and Italian-speaking

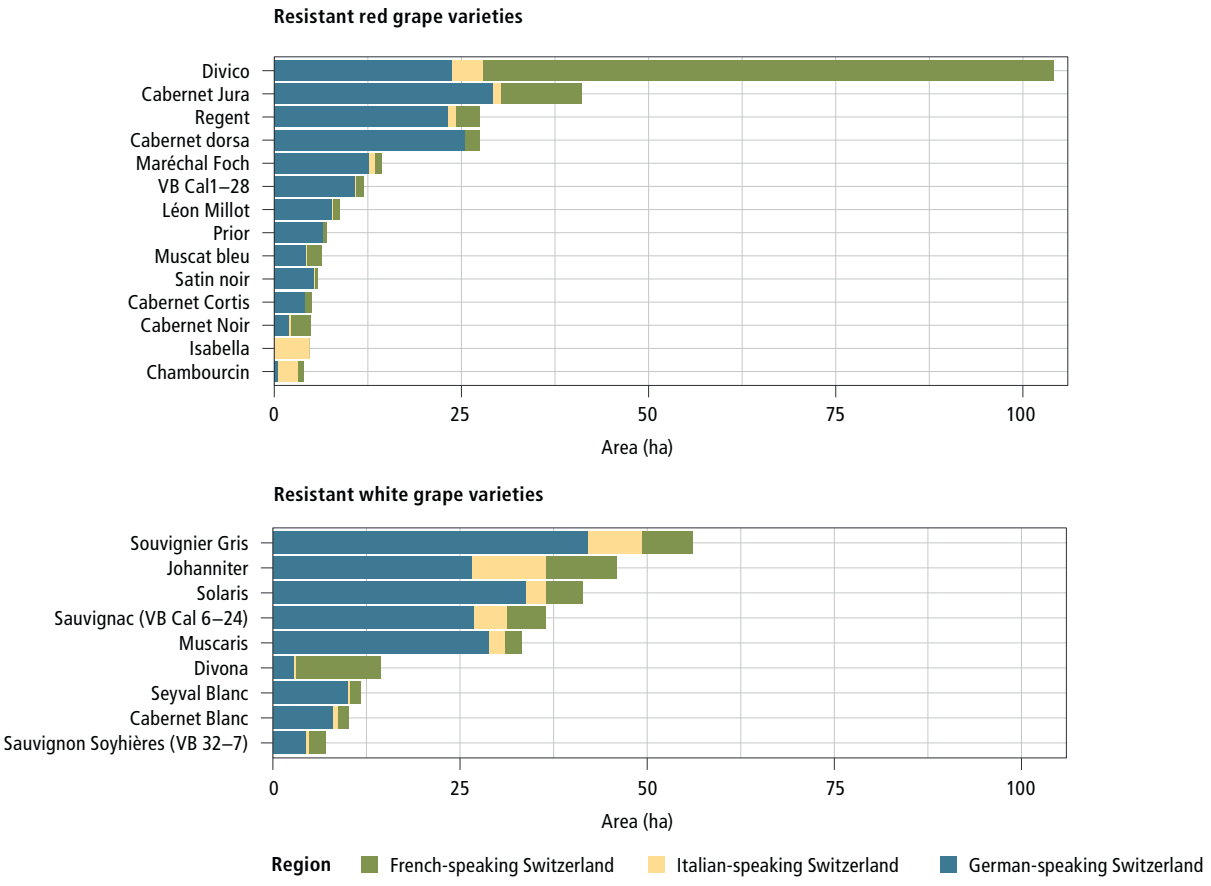

Figure 3 | Distribution of the main red and white resistant grape varieties by Swiss region (FOAG data, 2025)

Switzerland, respectively, offered at least one wine containing one or more resistant grape varieties. Of the 444 recorded references to wine containing resistant grape varieties, 438, i.e. the overwhelming majority, are of Swiss origin. The remaining six bottles are from France, Italy and Austria. The great majority of the bottles (71 %) come from German-speaking Switzerland, followed by Ticino or the Three Lakes (8 %), Vaud (6 %), the Valais (3 %) and Geneva (2 %). These findings are influenced by the distribution of the restaurants in the sample, 61 % of which were located in German-speaking Switzerland. Restaurants in this region tend to prioritise regional wines on their menus.

Types of wines

On restaurant menus, approx. 38 % of the offered wines made from resistant grape varieties are still white wines and approx. 52 % are red wines (the remainder being composed of sweet, sparkling or rosé wines) (Figure 4). These observations are in line with the data regarding the planted area, where the proportion of resistant red varieties is slightly higher than that of the white varieties.

Of the white wines, the majority are offered as single varietals and around 36 % as blends with other resistant and/or traditional grape varieties, in French-speaking and German-speaking Switzerland. In Italian-speaking Switzerland, the majority of white wines are blends. For red wines, trends also vary according to region. In German-speaking Switzerland, the majority of the resistant red grape varieties are offered as blends, and around 42 % as single varietals. In French-speaking Switzerland, red wines made from a single resistant grape variety are more common than blended reds. In Italian-speaking Switzerland, a similar trend to that of the French-speaking part of the country can be noted; however, since our sample only features a small number of wine references from Italian-speaking Switzerland, the results might not be representative of the reality of the region.

Figure 5 lists only those grape varieties found at least five times on our sample of menus. We note that, of the white grape varieties, certain ones are mainly offered as single varietals. This is particularly the case for Souvignier Gris, Solaris, Seyval Blanc and Johanniter. By contrast, others such as Sauvignac, Muscaris and Cabernet Blanc instead tend to be offered as blends. For the red grape varieties, the uses of the varieties are more differentiated. Divico is the most common single varietal on restaurant menus, whilst Cabernet Jura and Regent appear more often owing to their greater presence in various blends. In terms of distribution according to linguistic region, the order of occurrence is relatively similar between the regions, apart from Divico, which is the most commonly featured resistant grape variety in restaurants in French-speaking Switzerland, whilst remaining highly unusual in German-speaking Switzerland. The

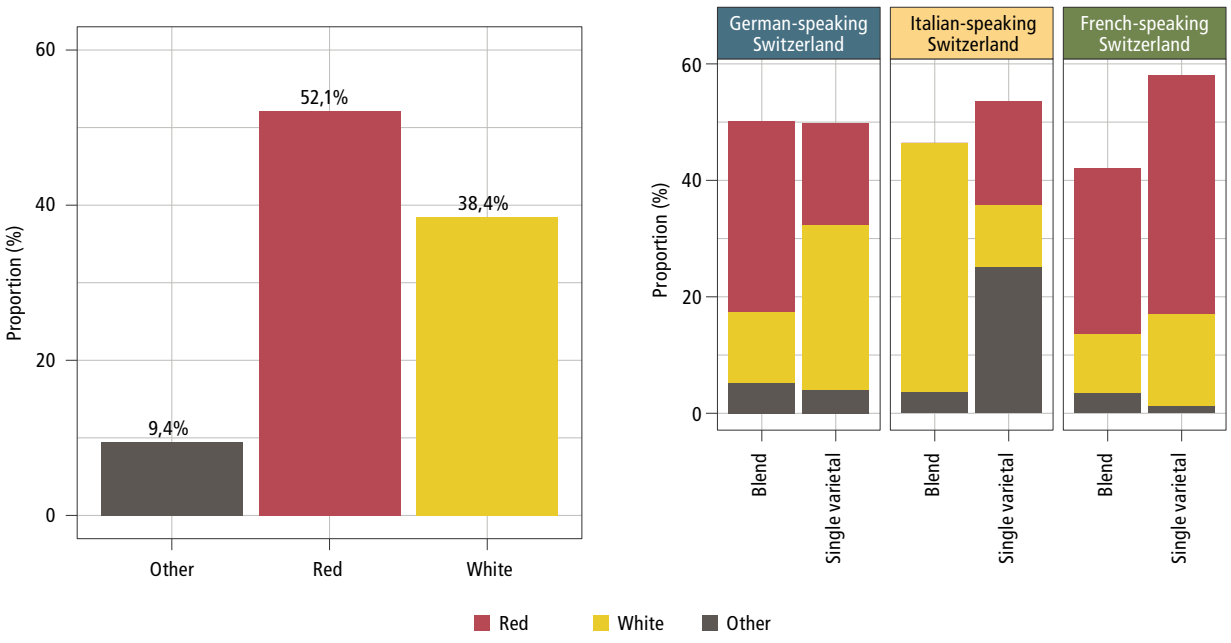

Figure 4 | Distribution of the offered wines made from resistant grape varieties according to colour, composition and linguistic region ('Restaurant menu' data)

most commonly featured white grape varieties are also the most frequently grown ones. All of the grape varieties appearing in the table below feature among the ten with the highest planted area (Figure 3). For the reds, the percentage levels are similar except for Rondo and Monarch. Although far more widely cultivated than the others, Divico is not yet significantly ahead of the pack in terms of its presence on restaurant menus. Essentially, it is planted in French-speaking Switzerland and well represented in this linguistic region.

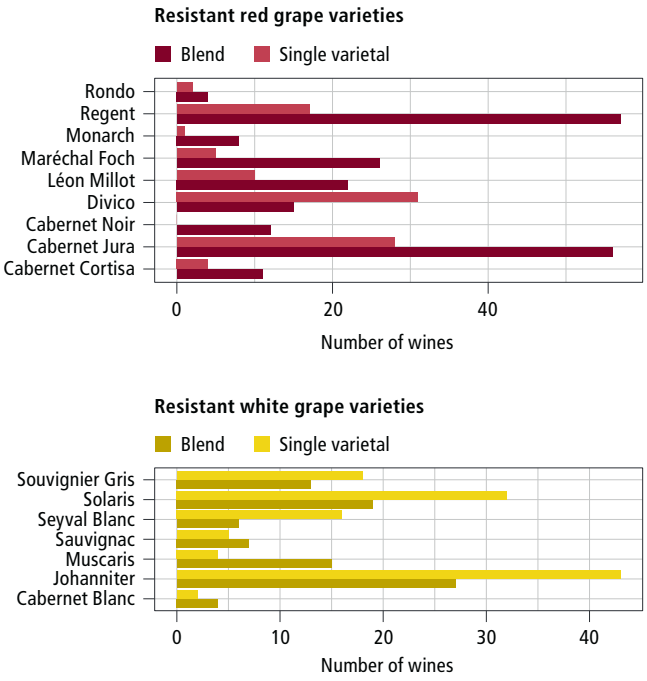

Figure 5 | Type of wines offered according to grape variety ('Restaurant menu' data)

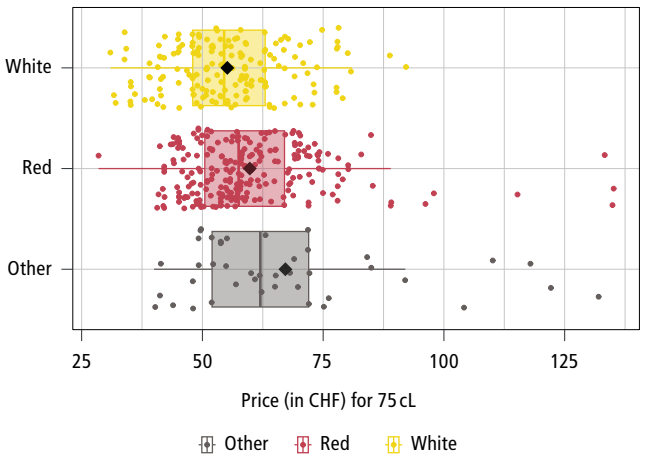

Figure 6 | Price of wines made from resistant grape varieties according to colour (the black diamond corresponds to the average price) ('Restaurant menus' data).

Price and positioning

On average, a 75cl bottle of Swiss wine costs a little over CHF 61 in the restaurants examined; the price is slightly lower for wines made from resistant grape varieties, which cost an average CHF 58.80. White wines are the least expensive, with an average price of CHF 55.20, particularly in German-speaking Switzerland, where the average price of a 75cl bottle is CHF 54.58 compared to CHF 57 in Italian-speaking Switzerland and 57.59 in French-speaking Switzerland (Figure 6). Red wines are more expensive on average, except in francophone Switzerland, where both reds and whites are sold at similar prices: one can expect to pay CHF 60.28 per bottle in German-speaking Switzerland, CHF 71.70 in Italian-speaking Switzerland and CHF 57.43 in the French-speaking regions. In the sample studied, the average and median of the white wines coincide, reflecting a symmetrical distribution with no extreme values influencing the results (Figure 6). For red wines, the average is slightly higher than the median, due to some very-high-priced wines that drive the average up. The price range for rosé, still and sparkling wines is greater, with values between CHF 27.50 and CHF 85. Wines from resistant grape varieties are sold at lower prices than traditional wines, making them more affordable in the restaurants examined. Nevertheless, these are merely averages, and price dispersion is fairly significant, depending on the range of restaurants, the reputation of the wines, the grape varieties used, etc.

Responses to the questionnaire sent to the restaurants

According to our survey of restaurateurs, 76 % of those polled were familiar with resistant grape varieties before receiving the questionnaire. Of these, 72 %, representing around half of the people questioned, stated that wine from resistant grape varieties is offered on their restaurant menus. A slightly higher percentage of German-speaking Swiss (81 %) state that they are familiar with these grape varieties, although they are offered on their menus in similar proportions to other linguistic regions.

Of the establishments not offering any wines made from resistant grape varieties, around half of the respondents (61 % of restaurants in German-speaking and 45 % in French-speaking Switzerland) stated that they could consider adding them to their wine lists; this is the case both for those who were initially familiar with these grape varieties and for those who had never heard of them. The study also questioned respondents as to the reasons that would prompt them to add this type of

wine to their menu, as well as to the reasons which, to the contrary, would explain their lack of interest. The analysis of the restaurateurs' responses to the open-ended questions concerning resistant grape varieties highlights a variety of positionings, ranging from curiosity to caution, by way of a dependence on suppliers.
Several restaurateurs express a qualified openness to including these wines, motivated by the wish to diversify their menus and by values associated with sustainability. This openness is often based on curiosity and the growing demand for sustainably produced wines:

> *"To discover them and bring a diverse offering to my customers"* (Vaud)

> *"If it's ecological and sustainable, I'm interested."* (Vaud)

> *"Growing customer demand for sustainably produced wines – a growing supply from producers"* (Valais)

These statements show that sustainability can serve as a commercial motivation, particularly with customers that are sensitive to these issues.

The inclusion of new products also appears to be strongly conditioned by the offerings of the regular winegrowers and suppliers. Numerous restaurateurs expect their partners to take the initiative and depend on their advice in choosing the wines:

> *"That will depend on our winegrowers' offerings."* (Valais)

> *"I take advice from my suppliers: I taste and choose."* (Uri)

> *"I'll discuss it with them when I next order."* (Bern)

This dependence highlights the importance of good communication and cooperation between producers and restaurateurs to facilitate adoption.

Several professionals insist that adoption of this type of wine will depend on actual consumer demand and on market trends:

> *"The customer decides."* (Lucerne)

> *"If wine from resistant grape varieties becomes appealing, popular and attractive in terms of price, we'll offer it also."* (Zurich)

> *"Demand hasn't reached that stage yet and conventional grape varieties are still high-quality. Maybe in future, with climate change. I'm not saying "no", but I'm remaining cautious."* (Bern)

Several respondents express reservations in terms of taste quality of wines made from resistant grape varieties, which is sometimes perceived as inferior to or less "expressive" than that of traditional grape varieties:

> *"The grape varieties are not very complex yet in terms of flavour."* (Vaud)

> *"It doesn't spark any emotion in me; the quality is generally not comparable to that of the historic grape varieties."* (Solothurn)

> *"I haven't had any customer demand [for them], and we haven't been wowed by the tastings."* (Fribourg)

Lastly, some restaurateurs express a lack of knowledge regarding these grape varieties and a need for support in order to better understand them and include them on their menus:

> *"I'm not familiar enough with them yet."* (Bern)

> *"It's too much an unknown territory. First you've got to explain them to us and have us taste them."* (Valais)

> *"I've never yet tasted a wine from resistant grapes that I'd fancy drinking myself, so I can't offer any to my customers."* (St. Gallen)

This need underscores the importance of information campaigns and targeted tastings to dispel uncertainties.

Discussion

Regional differences

Regional differences in terms of area planted with resistant grape varieties persist, with no variation in the proportions (Mackie-Hass *et al.*, 2023). As stated in these papers, there are several elements that can partially explain these disparities: differences in terms of climate, the influence of the AOC, with the acceptance or otherwise of the resistant grape varieties in these regulations which differ from Canton to Canton. Some, such as Johanniter and Solaris, are present in all three regions, probably because of their early arrival on the market. Muscaris and Souvignier Gris are dominant in German- and Italian-speaking Switzerland, with their profiles being reminiscent of Muskateller and Pinot Gris, respectively. In French-speaking Switzerland Divona and Divico are the most common, probably because they were developed by Agroscope's Competence Centre in Pully, and due to their similarity with popular local grape varieties

such as Gamaret. Finally, half of the resistant red grape varieties cultivated in German-speaking Switzerland are Cabernet Jura or Regent, both varieties of which are fairly well adapted to the cool climate.

These regional differences are also to be found on restaurant wine lists. Judging by the sample of analysed restaurants, the Swiss German segment is one step ahead both in terms of production and the inclusion of these new grape varieties on restaurant menus. Furthermore, although certain grape varieties are less commonly produced in this region, they still appear on restaurant menus, as is the case for Divico in particular.

Familiarity / lack of knowledge

One essential point emerging both from the consumer study and the survey of the restaurateurs is the lack of familiarity with the resistant grape varieties. For consumers, better familiarity with these grape varieties tends to bolster their general appreciation, which is in line with findings in other papers showing that familiarity can influence choice during the purchasing process (Kiefer & Szolnoki, 2023). Several restaurateurs, for their part, have emphasised the need for more information and support to help them become better acquainted with these grape varieties so they might consider including them on their establishment's wine list.

This issue highlights the importance of interaction between winegrowers, restaurateurs and consumers. Often, the perception is that demand should emanate from consumers, the decision of the producers or restaurateurs to commit to these resistant grape varieties being justified by an increase in consumer demand. Such an approach, however, implies a shifting of responsibility onto the consumer, who is already under heavy pressure in areas associated with sustainability (recycling, reduced meat consumption, transport choices, etc.). Wine consumption remains associated with pleasure and sensory experience rather than with a purchasing rationale that is merely used as a tool. This is confirmed by the consumer study, in which sensory quality appeared to be the top criterion on which the appreciation was based.

The best way to transmit information remains uncertain. The results of the consumer study show that a written definition or simple labelling of the wines made from resistant grape varieties does not influence consumer preferences (Blackford *et al.*, 2025). Other papers on willingness to pay (WTP) have shown that passing on negative information about resistant grape varieties tends to reduce consumer WTP for these wines (Vecchio *et al.*, 2022). The effect differs according to the consumer in question, however: greater WTP is observed in individuals with a higher level of wine knowledge, or with a heightened awareness of sustainability issues, while WTP is lower in those manifesting distrust towards innovations and new technologies applied to food. For restaurateurs, the inclusion of these wines depends in part on the offerings of their usual winegrowers and suppliers. In line with the work of Finger *et al.*, (2023), adoption appears to be favoured by a short distribution chain enabling direct support, including the introduction and tasting of the wines, which in turn facilitates their appearance on restaurant menus.

Henceforth, it appears that it will be necessary to work in a concerted manner with all sector stakeholders, from production to distribution. Workshops and tastings aimed at both consumers and professionals could be a favoured approach for increasing familiarity with these grape varieties. Information regarding their environmental advantages would benefit from being adapted according to the target audience, whilst highlighting sensory quality as the primary engine of acceptance.

Conclusions

Establishment of the resistant grape varieties within the viticultural landscape remains limited, although German-speaking Switzerland is a few steps ahead in this regard. The results indicate that a percentage of consumers are relatively open to these varieties, both in regards to their sensory acceptance and their presence on restaurant menus. These wines already appear on restaurant wine lists, but their market penetration could be improved by better educating the stakeholders responsible for choosing the wines, and by strengthening the links between winegrowers, suppliers and restaurateurs. In general, improving communication and education on these grape varieties appears to be an appropriate way to support their inclusion in the range of Swiss wines offered. Although the role of consumers as 'consum'actors' should not be discounted, sensory quality clearly remains the key criterion on which their appreciation is based, whilst environmental messaging seems to take a back seat in purchasing decisions. ■

Acknowledgements

The authors would like to extend their wholehearted thanks to the Müller Thurgau Foundation, which contributed to the funding of the consumer study; to the consumers who participated in the study; and to the restaurateurs who completed the questionnaire.

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