

# CARNUNTUM

**The Zweigelt Dossier**

*[www.carnuntum.com](http://www.carnuntum.com)*

April 2022



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# The marvellous success story of an indigenous grape variety

The technical college for viticulture and pomology at Klosterneuburg, about fifteen kilometres away from the cathedral in downtown Vienna, was founded in 1860; it is generally recognised as the oldest viticultural school in the world. Then as now, the institution was not only dedicated to teaching, but also to conducting research, and especially dedicated to the breeding and further development of new grape varieties, in response to changing natural conditions and the needs of the wine industry.

At the beginning of the 20th century, one of the goals of vine breeding was to develop a red wine variety that produced abundant yields even in cool climates while offering the greatest possible resistance to vine diseases.

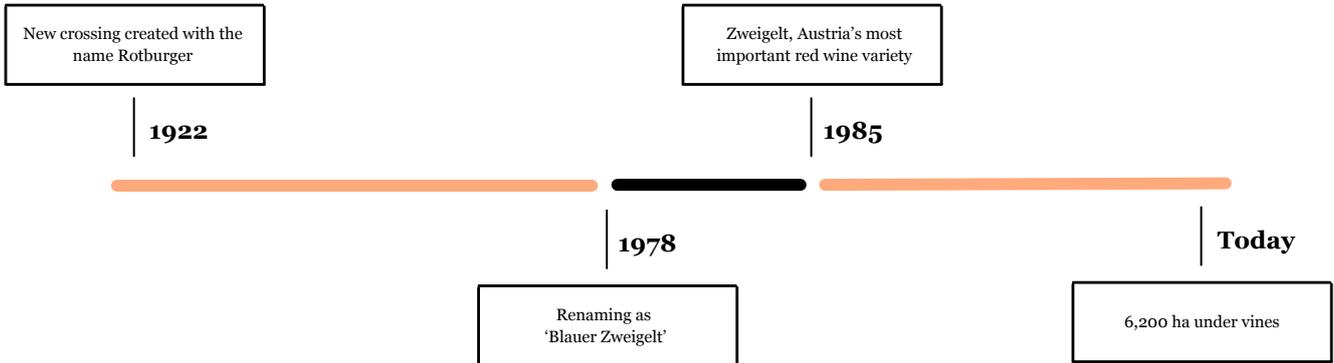
**Fritz Zweigelt** (1888–1964) was in charge of this research, which led to a cross between the two indigenous grape varieties Sankt Laurent – an early-ripening relative of Pinot Noir – and Blaufränkisch (the most noble of Austrian reds) being created in 1922.

The new cultivar was initially christened »**Rotburger**« in reference to its place of origin, Klosterneuburg. In addition to the encouraging quality of the resulting wine, the vine was also impressive for its consistency in flowering, its early ripening, resistance to rot, resistance to frost, resistance to disease and abundant volume

The winegrowing pioneer **Lenz Moser** (1905–1978), whose ‘high culture’ system of training grapevines to wire frames brought about a revolution in domestic viticulture and – thanks to the level of mechanisation it enabled – dramatically reduced the working hours needed in the vineyards, was enthusiastic about the prospects for Zweigelt and propagated the new variety in his nursery with great dedication. Thanks to the changeover from the traditional labour-intensive »Stockkultur« to the new wire frame training and the resulting greater ease in cultivation, Austrian winegrowers were able to plant and work new vineyards in the first post-war decades, and many growers chose Rotburger for this. Thus, the new variety was quickly adopted in all winegrowing regions of Austria.<sup>1</sup>

In 1971, the area planted with Rotburger vines was statistically surveyed for the first time, showing a total of 770 hectares. Just seven years later, the area had grown to 2,100 hectares in Austria. It was not until 1975 – by which time Friedrich Zweigelt had died – that the grape variety was also referred to as Zweigelt in official documents. Before that, there was occasional confusion between Rotburger and the similar-sounding Rotberger, a vine of no great distinction. From 1978, the cultivar was finally listed under the name Blauer Zweigelt (Rotburger) as a grape variety for production of Qualitätswein in Austrian wine law. And Rotburger was only used as a synonym.

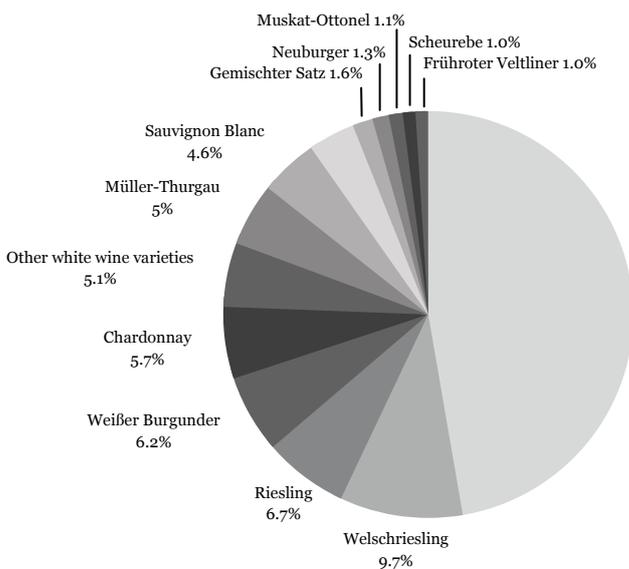
<sup>1</sup> More about Friedrich Zweigelt: [https://www.austrianwine.com/fileadmin/user\\_upload/PDF/WiATH\\_Deckers\\_Zweigelt.pdf](https://www.austrianwine.com/fileadmin/user_upload/PDF/WiATH_Deckers_Zweigelt.pdf)



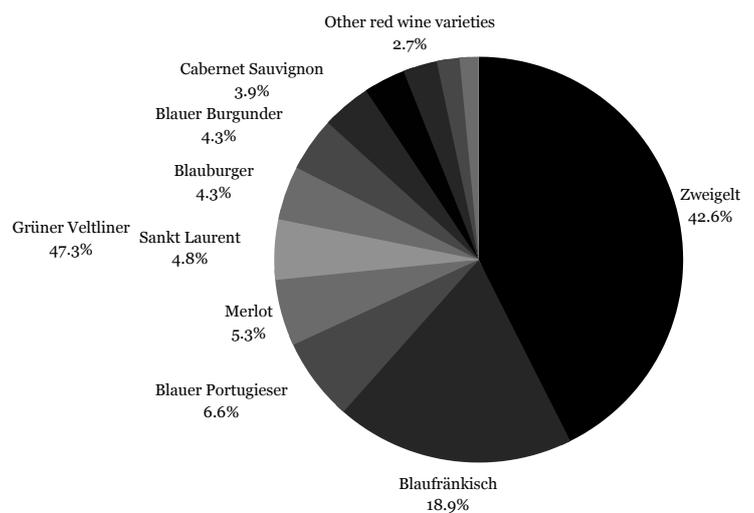
Up until 1985, Blauer Portugieser had been the most important red-wine vine in Austria. Over the years, however, the Portugieser waned in importance – due to its susceptibility to frost – and had to cede its leading position among red varieties to Zweigelt. Zweigelt had the reputation of producing high-volume wines of mediocre quality for quite some time but has enjoyed an improved image since the 2000s thanks to reduced yields and élevage in wooden casks.

Today, the **total area planted to Zweigelt** in Austria is **6,144.54 hectares**, which means that the variety occupies around 42% of the red wine acreage and some 13% of the total winegrowing area (circa 46,100 hectares).

## Grape varieties in Austria in 2020, area of distribution in per cent:



White wine variety acreage 31,752 ha



Red wine variety acreage 14,412 ha

Q: STATISTIK AUSTRIA, Weingartengrunderhebung 2020. Created 29.09.2021.

## Zweigelt - the facts:

*ORIGIN*

Austria, the viticultural college at Klosterneuburg

*PEDIGREE*

New crossing of Sankt Laurent x Blaufränkisch

*VINEYARD AREA  
IN AUSTRIA*

6,230.17 ha = 13.9 % share

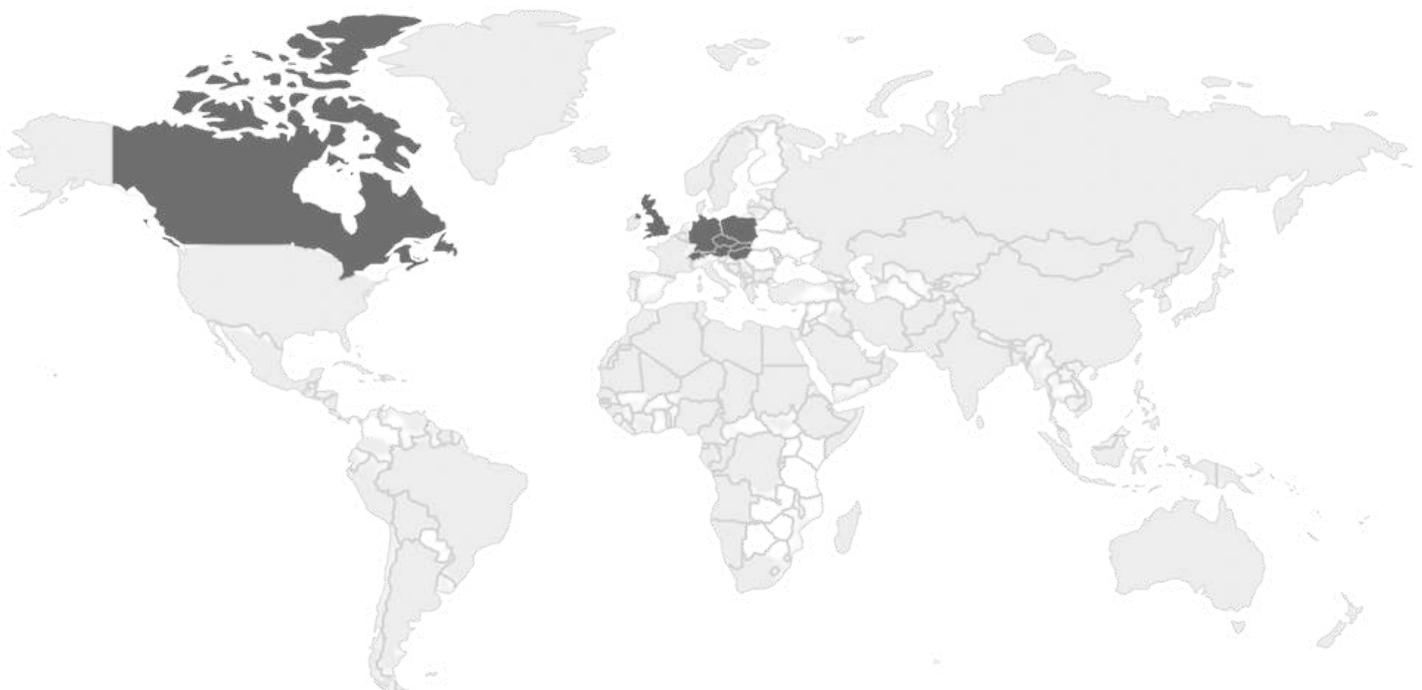
*SYNONYMS*

Blauer Zweigelt, Rotburger, Zweigeltrebe, Cvaigelt, Cveigelt, breeding line number Klosterneuburg 71.

## Where does Zweigelt grow?

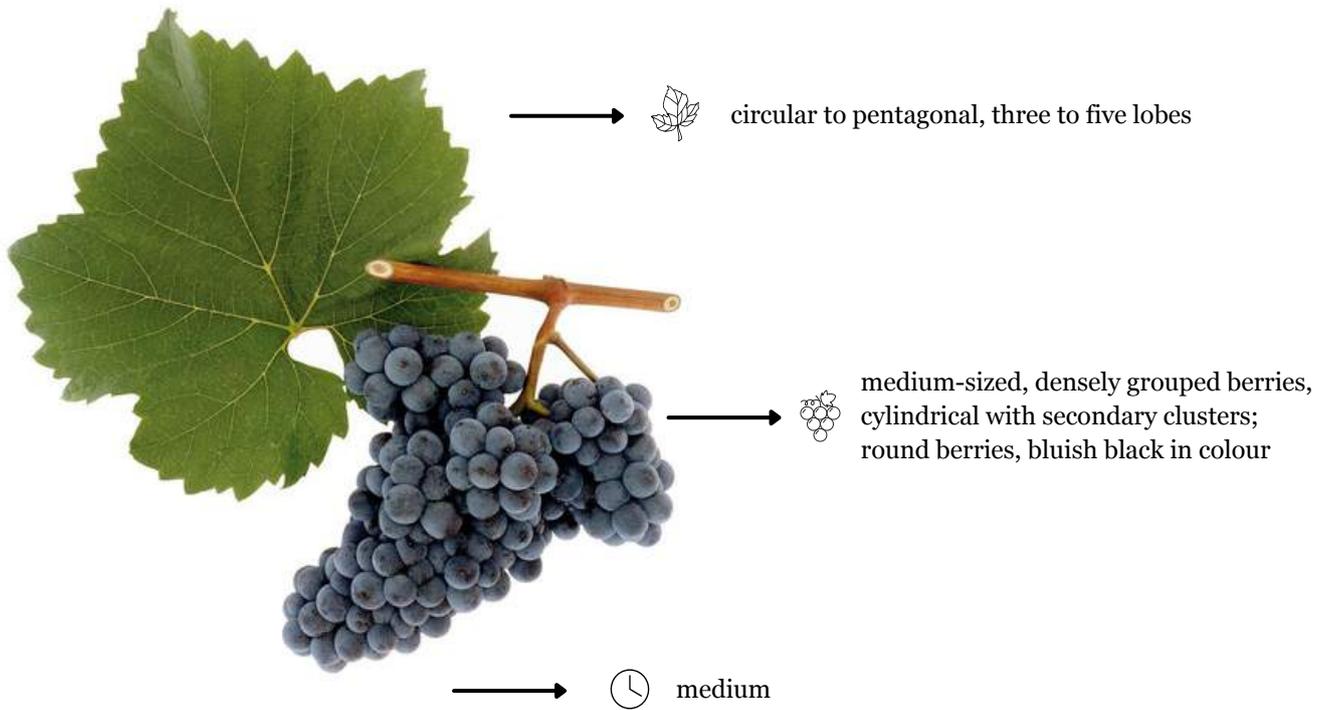
Zweigelt is widely planted throughout Austria and is considered the most important red wine vine, especially in the state of Niederösterreich. Here, Zweigelt grows primarily in Carnuntum, in the Weinviertel, in the Kamptal, on the Wagram and in the Kremstal. Other areas under cultivation can be found in the winegrowing regions Neusiedlersee, Neusiedlersee-Hügelland and Mittelburgenland, as well as occasionally in the Steiermark (Südoststeiermark).

Zweigelt is also cultivated on a small scale in Germany (Franken, Saale-Unstrut, Württemberg), Switzerland, Slovakia, Poland, southern England and Canada. There are also significant plantings of Zweigelt in Hungary and the Czech Republic.



# The grape Zweigelt

Important ampelographic features: <sup>3</sup>



## Significance, requirements:

As Austria's most widespread red wine variety - it finds favourable sites in all Austrian winegrowing regions - Zweigelt's spectrum ranges from easygoing wines designed to be drunk young, without any influence of wood, to powerful wines matured in barrique. The variety is also frequently used as a blending partner in cuvées. Great wines can be vinified from it, especially in Carnuntum and on Lake Neusiedl. The variety places relatively little demand on the type of soil, but due to its prolific fertility it requires intensive foliage canopy work and regulation of yield. If there is a lack of potassium, overly high weight of yield or other possible stress factors (water and nutrient stress, waterlogging, unfavourable ratio of leaf/fruit, extreme temperatures, etc.) Zweigelt will tend to wilt in the ripening phase. The complex of causes has not yet been sufficiently investigated or clarified. But in any case, wilted grapes cannot be made into wine.

<sup>3</sup> <https://www.austrianwine.com/our-wine/grape-varieties/red-wine/zweigelt>

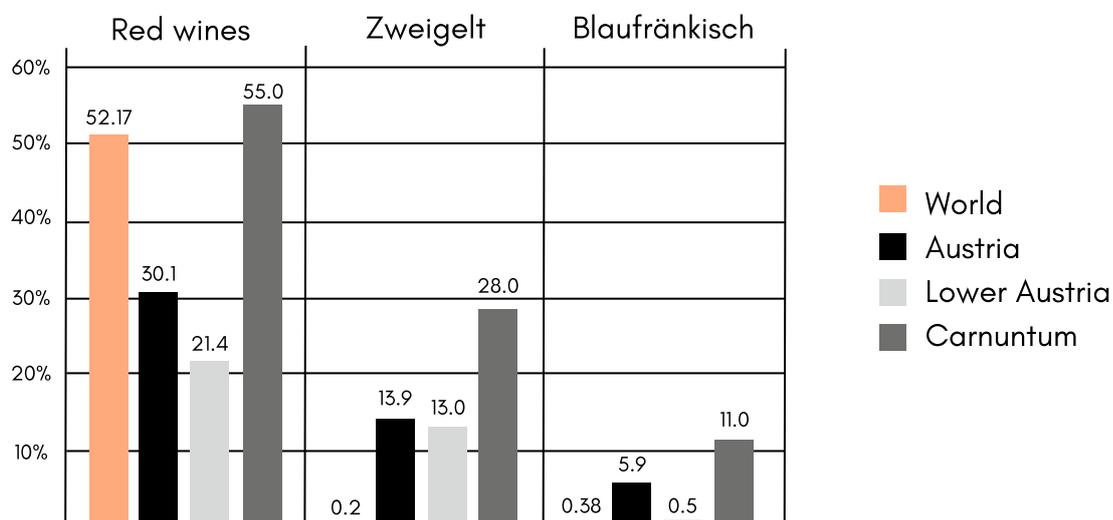
# Zweigelt in Carnuntum

Zweigelt is not only the **most widely planted grape variety in Carnuntum**, but it also embodies a living tradition and represents the brilliant ascendancy of the region in recent decades. As early as 1986 – when the winegrowers’ association Rubin Carnuntum Estates was founded as the ‘Association for the Promotion of the Greater Carnuntum Region’ – the objective was to establish a community brand based on Zweigelt, which would help every estate to better position itself on the Austrian wine scene. Rubin Carnuntum quickly became successful and is now an indispensable category in any Austrian wine shop. Today, one out of every six bottles of red wine from Carnuntum is a Rubin Carnuntum.

However, the ambitions of the winegrowers for their own wines continued to grow. People wanted to know exactly where quality potential could still be developed, because Zweigelt often retained the image of being a prolific variety bearing high yields. They wanted to clarify the question of whether Zweigelt was suitable for the vinification of truly great wines. In 2006, a **work group for Zweigelt** was established in Carnuntum to investigate with scientific accuracy a) in which vineyard sites, b) at which age of the vines, and c) with which methods of vinification the finest wines could be produced from Zweigelt in Carnuntum.

There are 906 hectares of grapevines growing in Carnuntum. **235 hectares** – around a quarter of the area – is **Zweigelt**. Following developments that occurred in the 80s and 90s, about half of this production flows into cuvées – mostly blended with Blaufränkisch or internationally popular varieties. Around **120 hectares of Zweigelt** are bottled as **monovarietal wine**. Zweigelt has grown significantly in recent years, since there were only 118 ha of it planted in 2000.

The style of these wines has changed significantly. While powerful wines with a heavy dose of new oak were still the favourites of the Austrian red wine scene twenty years ago, today there is a clear tendency towards more freshness, cool aromas and individual expression.



Proportion of vineyard area as per cent

Zweigelt from Carnuntum has become **a big hit on the export market**. Even if the majority of the bottles are still sold by Austrian wine merchants, the export share is increasing year by year. Winegrowers now export their red wines to countries including the Netherlands, the USA, China and Japan, but also to Slovakia and Hungary. The most important customers are located on Austria's western borders: for years now, the biggest export markets for Carnuntum Zweigelt have been Germany and Switzerland.

## How does Zweigelt from Carnuntum taste?

Due to the unique geologic and climatic conditions, Zweigelt from Carnuntum has a distinctive flavour, showing a wealth of nuances that vary depending on the soil and exposure.

However, all Zweigelts from Carnuntum have their **deep, dark colour** in common, which is often referred to here as **ruby garnet**. The scent of the Zweigelt from Carnuntum is also very consistent, mostly recognisable by its intense black cherry aromas, but generally characterised by a fruit-forward, stimulating opulence. Very often the variety also shows a blueberryish coolness and marked acidity that imparts structure to the wine. Zweigelt from Carnuntum is therefore always fresh and lively, even with its concentrated nature.

As a Gebietswein (regional wine) Carnuntum Zweigelt can often be drinkable after just one year. Zweigelts on the levels of Ortswein (village wine) and Einzellagenwein/Riedenwein (single-vineyard wines) are **impressive wines with elegant tannins** and great potential for cellaring.

In all their efforts on behalf of the variety, the winegrowers of Carnuntum have adopted the goal of giving Zweigelt a new, complex and yet refined expression. As a common descriptor for Carnuntum Zweigelt, the term '**pithy**' has been agreed upon. This is intended to describe the somewhat **cooler style** that distinguishes the varietal character of Carnuntum from that of Burgenland, for example.

The winegrowing region Carnuntum lies beyond the sphere of influence of Lake Neusiedl and therefore enjoys a **continental climate** with hotter days and cooler nights. The Maria Ellender Forest and the Danube meadows, which border the winegrowing region to the north, ensure cooling and pronounced differences in temperature between day and night. The constant wind that blows through the Brucker Pforte between the Alps and the Carpathians provides an additional element of cooling.

In the vinification of single-vineyard Zweigelt, the new awareness of the Carnuntum's winegrowers for the specific origins of the grapes can also be observed. In the past, either fruity-light or heavy-aromatic, wood-influenced wines were typical, but today it is **juicy, spicy wines with firm structural acidity** that set the tone. In addition to the change in vineyard management, this also has to do with the special care taken in the cellar: fermentation is often carried out in smaller batches and without the addition of cultured yeasts, so that the fermentation temperatures remain cooler from the outset (approximately 28°C).

When vinifying the grapes, **uncrushed whole berries** are processed more and more regularly, and sometimes **entire clusters including the stalks** are used. When it comes to leaching (lixiviation), more and more cellar masters are opting for a gentle approach by manually submerging the cake of must, which leads to better structure and greater length in the wine. In matters of cooperage, the cellar masters of Carnuntum are increasingly turning to larger wooden casks, which limit the supply of oxygen and produce more tightly structured wines.

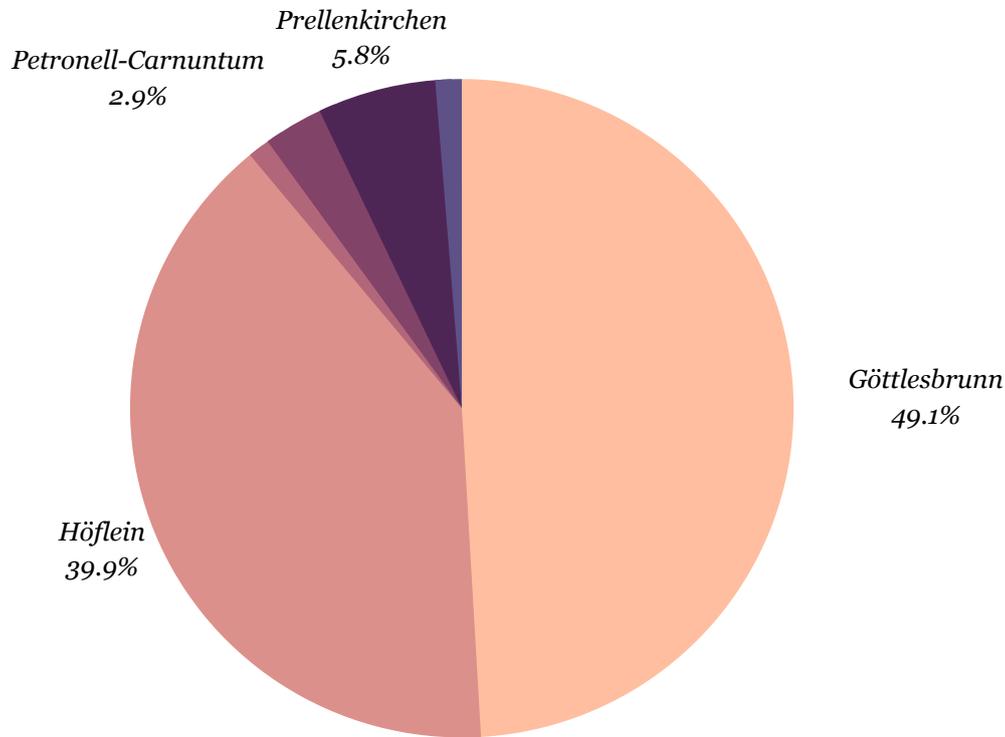
Single-vineyard Zweigelts are bottled after around one and a half to two years, and then develop their individual personality and fascinating character.

## How is the soil reflected in the wine?

Zweigelt is a grape variety that expresses the nature of the soil perfectly in the glass. Basically, it can be said: **the more meagre the soil, the more slender the wine - the more nutritious the soil, the greater opulence in the bottle.**

So, it is very exciting to observe variations in Zweigelt, depending on the soil type:

- On **sparse gravel soils**, Zweigelt seems firmer, more precise, not as juicy, but even more mineral in character on the palate.
- On **loess and clay soils**, Zweigelt develops a softer, warmer structure with juicy, dark berry fruit in combination with an exciting spiciness on the finish.
- **Warm, sandy soils** yield slightly richer wines if a good supply of moisture is guaranteed. Structure and acidity depend on the soil's clay content. This gives a strong boost to cellaring potential
- With **limestone** in the subsoil, freshness, structure and elegance are more perceptible in the wine.



Zweigelt cultivation in the Ortswein communes

## Rubin Carnuntum

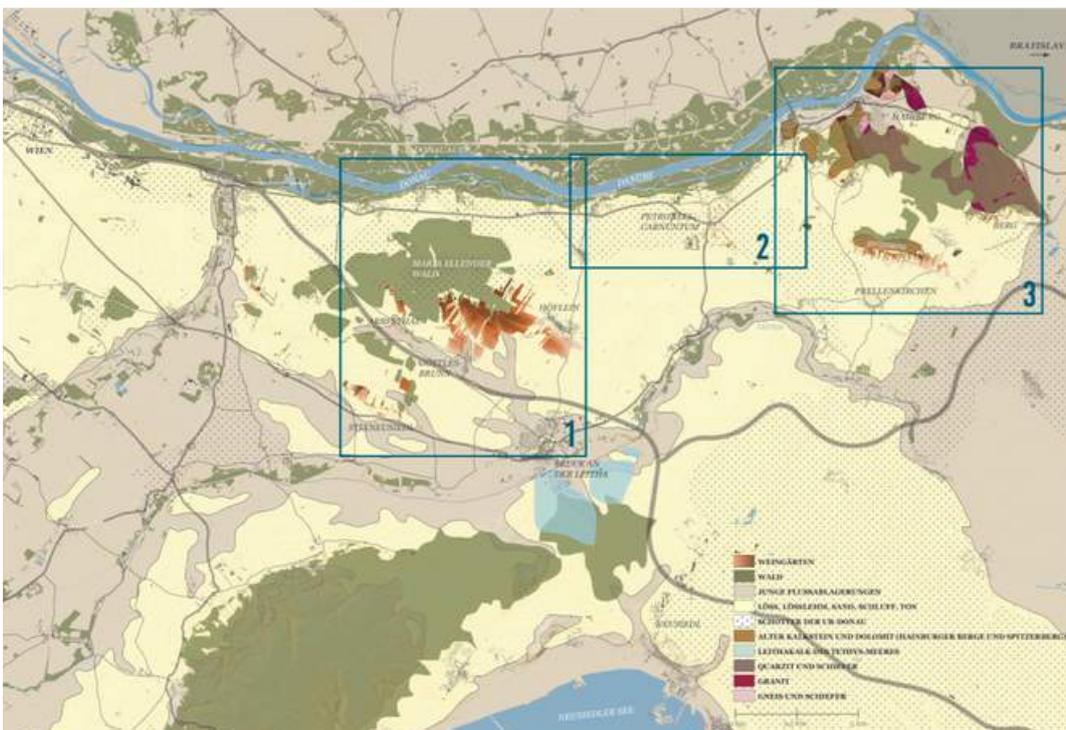
The President of the growers' association Rubin Carnuntum Robert Payr once put it in a nutshell: **'Rubin Carnuntum belongs to Carnuntum like the Eiffel Tower to Paris and the Statue of Liberty to New York.'**

In fact, it is sometimes difficult to believe that the regional brand will be celebrating its **thirtieth anniversary** in 2022. An impressive age indeed for a branded wine. The Rubin has weathered the many trends and fashions that Austrian wine has experienced over the past three decades, developing from a young star to a great classic and becoming the calling card of the region.

However, the Rubin has also evolved over the course of its lifetime. ‘A couple decades back, Rubin wines were still quite varied in style and flavour,’ remembers winegrower Gerhard Seidl, one of the founding fathers of the association. Over time, the styles of the forty or so member estates became more and more homogenous, until Rubin Carnuntum actually became a source of identity for the entire region.

This development took place thanks to a **lively cooperation between the winegrowers in Carnuntum**. In many rounds of tastings, the subject ‘the essence of a true Rubin Carnuntum’ has been discussed time and time again. This has made the Rubin Carnuntum wines more and **more precise**, the **character of their origins** clearer. And working together brought the winegrowers closer to one another. Over the years, Rubin Carnuntum has become a genuine wine of origin, faithfully reflecting terroir. Recent vintages have been moulded more than ever by the distinctive features of the region.

Today Rubin Carnuntum is a wine of notable dynamic tension, freshness and precise fruit. It is a balanced and harmonious wine, sometimes with a subtle use of wood – and in any case with moderate alcohol content. Thirty years after the initial bottling, its role as a price-performance miracle and an ideal accompaniment to meals is still undisputed. It laid the foundation for the region’s success story and is still writing it: every sixth bottle of red wine from the region is a Rubin Carnuntum, now exported to more than twenty countries around the world.



Vineyard map of Carnuntum

# Zweigelt and the challenges it faces in the vineyard

Healthy grapes in the vineyard lay the foundation for a wine. The greatest challenges to the health of Zweigelt are the following:

## **Grape wilt:**

The well-known grape wilt affecting Zweigelt remains unconquered today, but we now understand better why it occurs and can work to counteract it. It was found that the grapes tended to wilt more when the previous year was characterised by severe drought and/or higher yields. The wilt is therefore a stress reaction in the plant. The extent of wilt can be limited with maintenance measures such as topping the vines, appropriate tillage and planting of greencover to increase nutrient density in the soil. It is essential to reduce the yield in demanding weather conditions.

## **Botrytis:**

The crossing partner Sankt Laurent – with its thin skin and the extremely dense clusters – gives the Zweigelt a slightly earlier maturity than other red wine varieties and thus a sensitivity to rot (*Botrytis cinerea*). In Carnuntum, thanks to ventilation from the constant wind, the variety enjoys good protection against damage caused by botrytis. The presence of greencover in the vineyard can also slow down the development of the clusters and in this way counteract the early occurrence of botrytis.

## **Esca:**

Esca develops from fungal spores in the wood of the vine, which appears more frequently as a result of stress and overload as well as interruptions in the transport of nutrients within the plant. Thanks to the conversion of many winegrowers to gentler, less-invasive pruning, the occurrence of Esca can be minimised.



## How the Zweigelt vine develops...

The experience of the winegrowers shows that within the first fifteen years of a Zweigelt vine's life, **lighter and more fruit-forward wines** are produced. Only with a decade and a half of age do they then offer **more depth, complexity and spice** along with the typical fruit. Once vines reach twenty-five years of age, the wines begin to become **silkier and more tightly structured**.



It figures as a general advantage that in the winegrowing region Carnuntum it is almost exclusively **family businesses** that are **active in viticulture**, so that the vineyards are passed on from generation to generation. This means that many Zweigelt vines reach an age of thirty years or more.

## Which vintages?

Until the 2000s, Zweigelt was considered more of a cuvée partner, so there is little evidence to document vintage development in monovarietal wines. The oldest Zweigelts are currently around twenty years old and inspire participants at every tasting – not only the ‘great’ vintages, but also from years with cooler weather. According to the experience of the winegrowers, the following vintages are currently very exciting: 1999, 2000, 2004, 2009, 2010, 2011, 2013, 2015, 2017, 2019 and 2020.

Vintages with cooler weather conditions through June, followed by a dry August and September are generally to be preferred, according to the growers. Here some descriptions of the most important representatives from the last decade:

- 2009: warm vintage, powerful wines
- 2011: very high physiologic maturity, full-bodied, rounded wines
- 2013: elegant, slightly cooler, fresh, fruit-forward wines with robust tannins
- 2015: optimal weather conditions, very dark and fruit-driven wines
- 2017: very warm, extract-rich wines
- 2019: Fully ripe, beautiful fruit, very warm, good acidity
- 2020: Juicy fruit, stimulating freshness and impressive length

# How much and how little yield can the Zweigelt tolerate?

There is no patent formula, say the winegrowers of Carnuntum. Each vineyard site must be judged on its own, especially in combination with vintage variations, which are becoming more and more extreme. However, a few parameters can be drawn from many years of experience: with a grape yield of around 7,000 to 8,000 kg per hectare, lighter to medium-bodied wines are produced, while with a yield reduction to 4,000 to 6,000 kg per hectare, more powerful wines will result. The irony of viticulture is that one must spend a great deal of time working in order to achieve low yields. The reduction in yield is achieved by reductional pruning, removing the secondary cluster and dividing the clusters. The age of the vines also plays a role here. Depending on the site, different rootstocks can also contribute to balanced growth.



Ideally, one only harvests about **1 – 1.5 kg of grapes per vine** – older vines are particularly helpful if one wants to achieve great concentration with harmonious character. Especially in very dry summers, this reduction in yield is also an advantage with regard to minimising the risk of grape wilt.



# Climate change?

Among the blue grapes, Zweigelt is one of the **early-ripeners**. The harvest time has hardly been changed by the recent warm spring weather. Zweigelt grapes are usually mature by mid/late September, some 100 days after flowering.



As soon as the grape seeds turn brown but the berries remain firm, the time for picking has come. People used to harvest grapes according to the sugar content, but the refractometer has mostly become obsolete thanks to climate change. The growers rely on their tastebuds, or – if one wants to measure something – on the pH value, which provides information about the ripeness of the acidity. Ideally, the pH of the grapes should be at least 3.2 at the time of harvest.

As a **'cool-climate' region**, Carnuntum is also prepared for climate change. The cool winds that flow through the Brucker Pforte between the Alps and the Carpathians put worries about the climate on the back burner. Thanks to the calcareous and argillaceous layers in the subsoil, which originate from the primordial maritime and river landscapes of the Pannonian sphere and can store a lot of moisture, it is not necessary to irrigate Zweigelt vines. Only the increased precipitation in late summer is causing winegrowers in Carnuntum to worry. Here, however, the conversion to organic cultivation and the associated greater attention paid to foliage canopy management are proving beneficial.

## Zweigelt on the dinner table

Zweigelt is an **all-rounder at mealtimes**. In the classic style, it is recommended for Italian standbys such as pasta and pizza and everything involving tomatoes. It also provides an exciting accompaniment to spicy dishes such as those found in Indian or Israeli cuisine. Even in summer one doesn't have to abandon the Rubin Carnuntum: slightly chilled, it is indispensable during barbecue season. Powerful Zweigelt goes well with dark meat or roasts. For the wild game season (insider tip: game from Carnuntum!), the single-vineyard wines prove to be particularly exciting companions. Due to their elegance and freshness, mature Zweigelts can also accompany more delicate meat dishes very well.



**Recommended serving temperature** is a maximum of 18°C, but better slightly chilled at 15°C.

## Sources & useful links

**About the grape variety in general:**

<https://www.austrianwine.com/our-wine/grape-varieties/red-wine/zweigelt>

**About Friedrich Zweigelt:**

[https://www.austrianwine.com/fileadmin/user\\_upload/PDF/WiATH\\_Deckers\\_Zweigelt.pdf](https://www.austrianwine.com/fileadmin/user_upload/PDF/WiATH_Deckers_Zweigelt.pdf)

**Rubin Carnuntum estates:**

<https://www.carnuntum.com/en/>

**Carnuntum Academy:**

[www.wine-partners.at/en/veranstaltungen/carnuntum-academy/](http://www.wine-partners.at/en/veranstaltungen/carnuntum-academy/)

**Vineyard map of the Rubin Carnuntum estates:**

<https://www.wine-partners.at/en/riedenkarte-der-rubin-carnuntum-weingueter/>

**Status : April 2022**