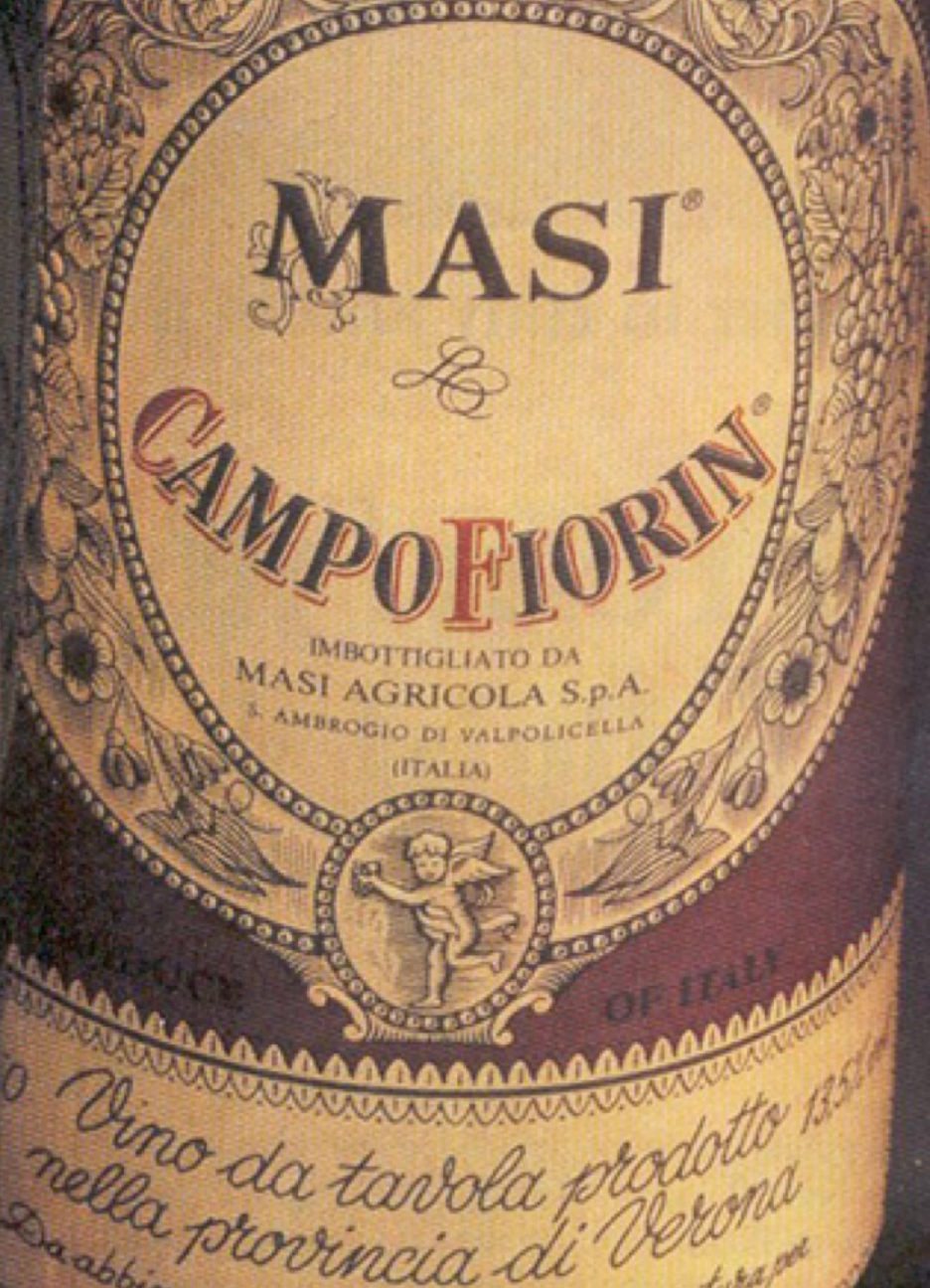


MAASI[®]
AGRICOLA



One company's obsession for Valpolicella

SWE 2018 Conference

Woodcliff Hotel

August 17, 2018

Outline

- Valpolicella
- Regions, territories and valleys
- Appellations facts and figures
- History
- Climate & Geography
- Grapes

Valpolicella

- Valpolicella is a viticultural zone of the province of Verona, Italy, east of Lake Garda.
- The hilly agricultural and marble-quarrying region of small holdings north of the Adige is famous for wine production
- Winemaking in the region has existed since at least the time of the ancient Greeks.
- The name "Valpolicella" appeared in charters of the mid-12th century, combining two valleys previously thought of independently. Its etymology is unknown; it might derive from a Latin and Greek mixture for "Valley of Cellars."







Lago di Garda

BARDOLINO
CLASSICO
● Bardolino

BARDOLINO
D.O.C.

VALPOLICELLA
CLASSICO

Adige

Verona

VALPOLICELLA
D.O.C.

SOAVE
D.O.C.

SOAVE
CLASSICO

CASTELLO DI SOAVE







Regions of of Valpolicella

Valpolicella Classico

- Sant'Ambrogio di Valpolicella
- Fumane
- San Pietro in Cariano
- Marano
- Negrar

Valpantena

Eastern (Orientale)

Valpolicella

- Squaranto
- Marcellise
- Mezzane
- San Briccio di Lavagno
- Illasi
- Tramign

Valpolicella



Valpolicella Facts and Figures

1. Valpolicella surface area is 30 000 hectares with 7844 hectares of vineyard area 45% Classico, 6 % Valpantena, 49% Orientale
2. Four wine appellations : Valpolicella DOC, Valpolicella Ripasso DOC, Amarone della Valpolicella DOCG and Recioto della Valpolicella DOCG
3. 2 286 grape growers, 7 cooperatives, 229 vertical companies, 286 bottlers
4. Total production = 60 million bottles per year: 42% Ripasso DOC, 36% Valpolicella DOC, 21 % Amarone DOCG
5. 1st Italian Wine region in value \$510 M Euro 75 % export to 85 countries

HISTORY

- Viticulture has been used in the Veneto region since at least the time of the ancient Greeks, though the exact period of cultivation for the Valpolicella area is not precisely known.
- The tradition of using partially dried-grapes (seen today in the modern Valpolicella wines of Amarone) was known as the "Greco" or "Greek style" of winemaking, with its origins likely dating back to this period.
- In the 6th century AD, the Roman writer Cassiodorus notes that the sweet wines of the area were favorites in the courts of the Ostrogothic Kingdom of Italy



HISTORY

- In the 1950s, the "Amarone" style of winemaking was rediscovered.
- In 1968, the Valpolicella region received official recognition for quality wine production when it was granted its own DOC.
- However, with DOC recognition also came a large expansion of vineyard areas that were permitted to produce Valpolicella DOC wine, including land in the fertile plains of the Po River, which tend to produce excessively large yields of grapes with varying qualities.

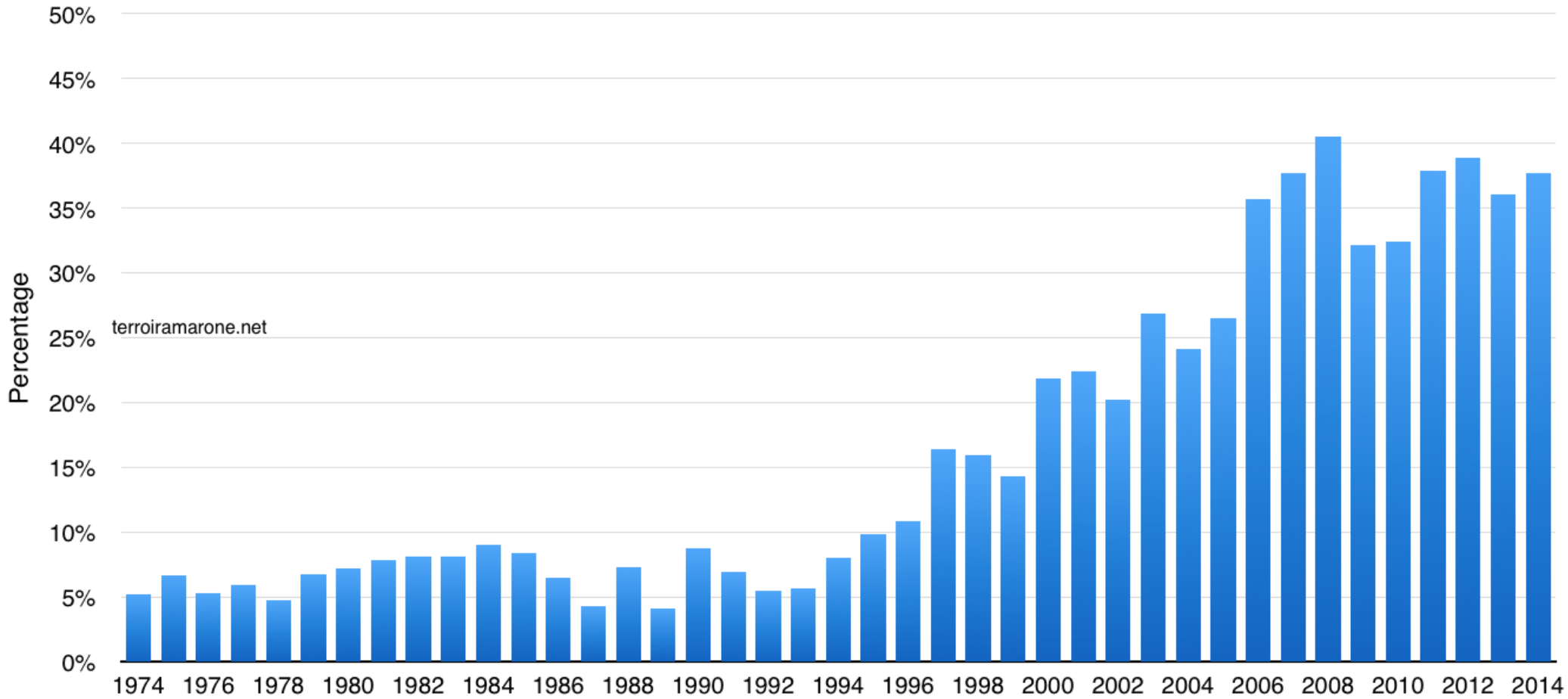
HISTORY

- This led to a general drop in quality, which had a detrimental impact on not only the area's reputation on the international wine market but also on sales and prices.
- As winemaking became less profitable, the vineyards in the most labor-intensive areas (such as the hillsides in the classico zone) were uprooted and abandoned.
- This shifted the source of grape production even further away from the better quality producing hillside regions down to the fertile plains.

HISTORY

- In the 1980s and 1990s, the Amarone wines of Valpolicella experienced a spike in popularity on the world's wine market.
- Production of Amarone jumped from 522,320 US gallons (19,772 hectoliters) in 1972 to 1.2 million gallons (46,500 hl) by 1990 and by 2000 Amarone production grew to over 3.9 million (148,000 hl).
- By this point, the price for grapes destined for Amarone production was nearly three times higher than what a comparable quantity of grapes would fetch for basic Valpolicella production.

Valpolicella, % of Amarone & Recioto grapes over Total Production



Climate & Geography

- mostly a mild to cool continental climate that is influenced by its proximity to two sizable bodies of water-Lake Garda to the west and the Adriatic Sea to the southeast.
- The coolest regions are in the Monti Lessini foothills to the north, where cool winds blow southward from the Alps, the area primarily known as the Classico zone
- towards the south and east, the climate gets warmer in the fertile plains of the Adige River
- mean temperature in the growing season is usually around 74.5 °F with average rainfall around 34 inches

Climate & Geography

- The vineyard soils of the region range from morainic gravel near Lake Garda to more dolomite residual gravel with alluvial deposits in the fertile central plains.
- Towards the east and near the Soave DOC are several areas featuring volcanic soils.
- The most favorably situated vineyards are located in the Monti Lessini foothills in the classico zone where the grapes ripen at altitudes between 490 to 1,500 feet





Grapes of Valpolicella

Corvina Veronese (45%to 95%)

- (also called Cruina or Corvina) is one of the main grape varieties in the blends of Valpolicella wines.
- Medium-sized, five-lobed leaf with lyre-shaped or slightly open "U" petiolar sinus.
- Medium-sized cluster whose weight can reach 200 -250 grams, cylindrical-pyramid in shape, winged.
- Medium-sized ellipsoid berry with a thick, hard black-blue pruinose skin.



Fresh Corvina

Corvina



Grapes of Valpolicella

- **Corvina** is a late bud break variety with a medium-late ripening (end of September - beginning of October). Vigour is good and the productivity regular; specific feature of the grapevine is the low fertility of basal buds of the vine shoot, for this reason **Corvina** needs vine training systems which allow annual change of the vine shoot and long pruning.
- It shows average susceptibility to cryptogams but it is considerably sensitive to water stress and to sunburn of the berries.
- Good suitability of the grapes for drying.

Grapes of Valpolicella

- The exact origin of **Corvina** is unknown but the first hints of its cultivation in Valpolicella were reported by Pollini in 1824. Undoubtedly this grapevine has been part of the Veronese viticulture since very early times, being the main variety used for both Valpolicella and Bardolino blends.
- It contributes colour and tannin to the wine as well as body, aroma and delicate perfume
- The most susceptible grape to glycerol forming Botrytis during *Appassimento*
- *Appassimento* brings out the aromas of sour cherries, cherries preserved in spirit and hazelnuts

Corvina: 100 days appassimento



The first observation, perhaps a banal one, but important, is about the different speeds of appassimento shown by the different grape varieties tested.

There is no doubt that different grape varieties given the same appassimento treatment behave in different ways. Fig. 1 illustrates the progression of weight loss with 6 varieties and shows each variety dehydrating at a different rate.

The time differences involved are not negligible: losing 30% weight takes 40 days for Syrah, about 50 for Cabernet and Oseleta, 70 days for Merlot, but about 90 days for Sangiovese and 100 for Corvina.

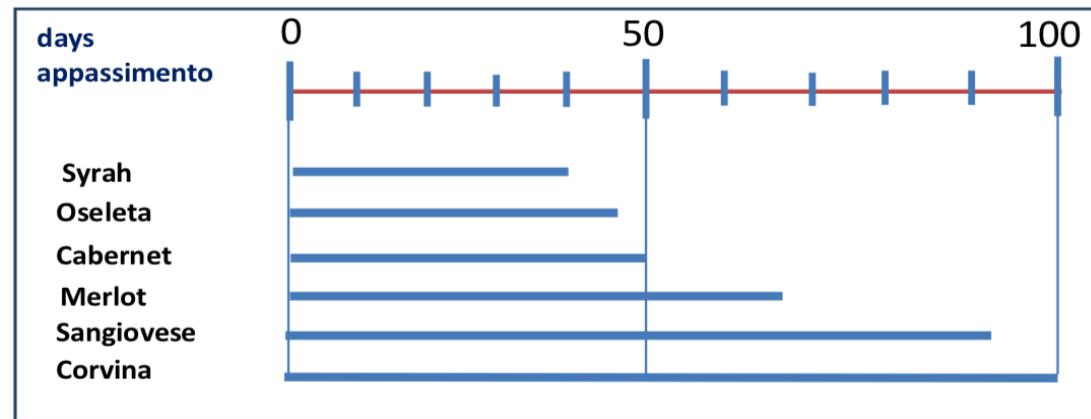


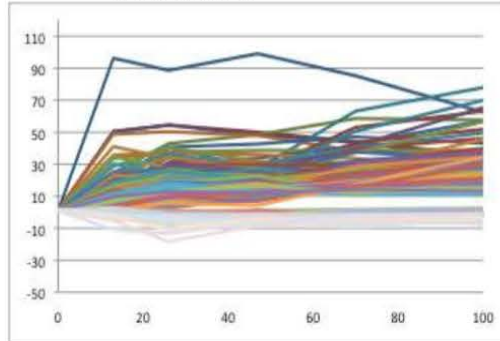
Fig. 1 - Number of days necessary for grapes to lose 30% weight during appassimento.

The second observation comes from the research carried out in collaboration with the Department of Biotechnologies at the University of Verona in which it was shown that different grape varieties undergo different levels of gene activity and support different gene behaviour during appassimento (Technical Seminar 2011).

The fact that numerous genes are active in grapes that have already been picked shows

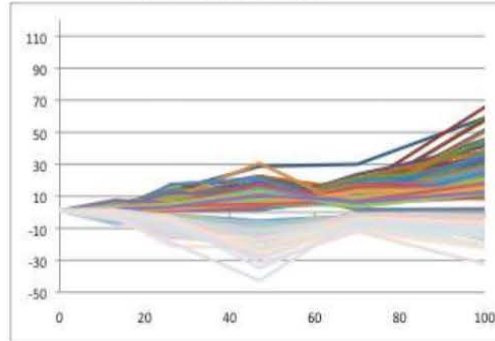
activated and de-activated genes

CORVINA



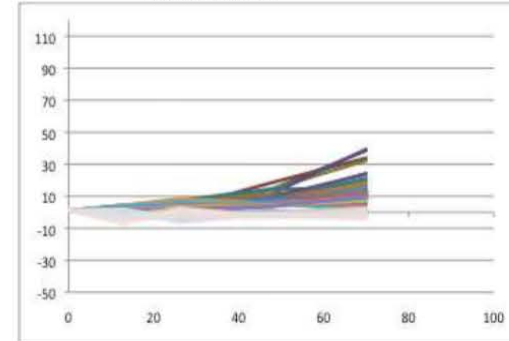
Days of drying

SANGIOVESE



Days of drying

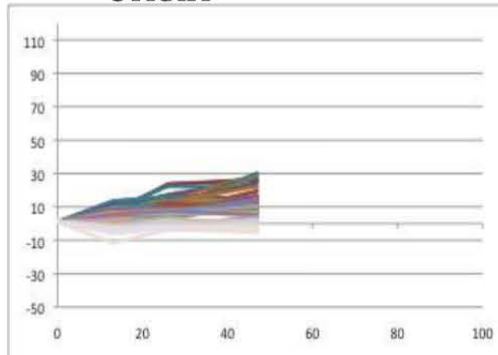
MERLOT



Days of drying

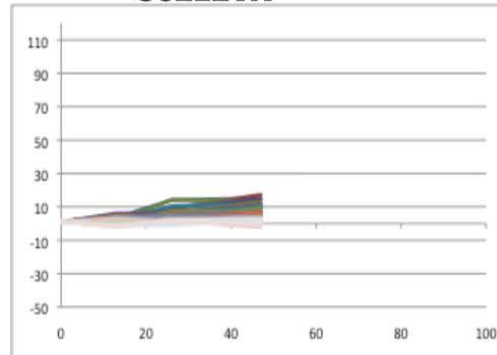
activated and de-activated genes

SYRAH



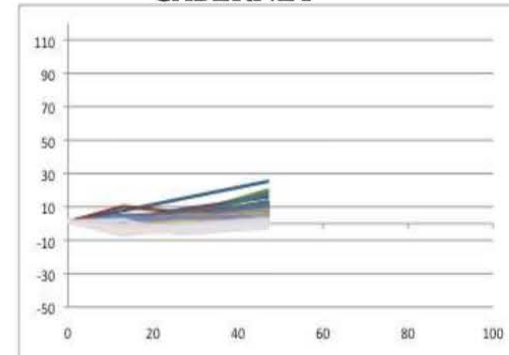
Days of drying

OSELETA



Days of drying

CABERNET



Days of drying

Grapes of Valpolicella

Corvinone (substitute up to 50% of Corvina)

- also called "Cruinon", is a complementary and optional grape variety in the blend of Valpolicella wines.
- Five-lobed elongated leaf with long jaggy "teeth" and an open-V petiolar sinus.
- Medium-large sized grape cluster whose weight can reach 400-500 grams, pyramidshaped, winged.
- Large ellipsoid berry with a thick, hard, dark-blue and pruinose skin.

Grapes of Valpolicella

Corvinone (up to 50% of Corvina allowed)

- from a phenological point of view it does not substantially differ from Corvina: it's a late bud break variety with a medium-late ripening (end of September – beginning of October). Vigour is good, sometimes high, and the productivity is good and regular
- Very sensitive to downy mildew, moderately sensitive to powdery mildew
- Good suitability of the grapes for drying.
- No historical hints were found for Corvinone, for the fact that in the past it was considered the same as Corvina. Until 1993 it was considered a clone of Corvina but with the latest techniques in genetic analysis it was demonstrated that, on the contrary, Corvinone and Corvina are different varieties.

Grapes of Valpolicella

Rondinella (5%-30%)

- Medium-large five-lobed pentagonal leaf with deep upper and lower sinuses; “U” or lyre shaped perioral sinus; thin flat foliar limb.
- Medium-large cluster, approximately 200 grams in weight, pyramid-shaped, medium compactness.
- Medium-large spheroidal berry with very pruniose black-purple skin.
- is a variety with medium bud break and medium-late ripening (end of September - beginning of October).
- Good, at times high, vigour and good and regular productivity due to the regular fertility of buds.
- Very good resistance to the main cryptogams of the vine and to rot.



Rondinella

Rondinella



Grapes of Valpolicella

Rondinella (5% to 30%)

- This variety apparently reached the Veronese area in the 19th century; it is part both of Valpolicella and Bardolino blends. His name seems to originate in the colour of the skin that reminds of the plumage of swallows.
- With drying process, colours are intensified and tannins softened, without astrincency
- It is fundamental for transfer of tannin and colour to the *appassito* wines

Grapes of Valpolicella

Other Varietals

- The grapes coming from the following varieties can contribute to a maximum of **25%** in total in the making of the above mentioned wines:
- non aromatic red-berried varieties allowed to be cultivated in the province of Verona to the maximum extent of **15%**, with a maximum limit of **10%** for every single variety used;
- red-berried Italian varieties which have been classified as native according to the provisions of law nr.82/06, art. 2, and are allowed to be cultivated in the Province of Verona, for the remaining total amount of **10%.**"

THE BLEND

ACCORDINGLY TO THE PDOs POLICY OF PRODUCTION



MANDATORY VARIETIES



45%

CORVINA

5%

RONDINELLA

95%

30%

STRICTLY INDIGENOUS VARIETIES, GROWN EXCLUSIVELY IN VERONA PROVINCE. THEY CAN FORM THE ENTIRE BLEND BY THEMSELVES



RECOMMENDED VARIETY

0%

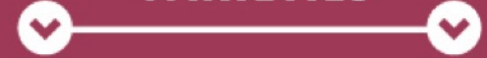
CORVINONE

50%

IT CAN BE USED INSTEAD OF CORVINA ONLY



AUXILIARY VARIETIES



0%

OF VERONA

15%

15% OF THE BLEND CAN BE COMPOSED OF ALLOWED VARIETIES OF VERONA, WHILE 10% OF THE AUTOCHTHONOUS VARIETIES OF ITALY

0%

OF ITALY

10%

Grapes of Valpolicella

List of some authorized grape varieties for the Province of Verona:

- Molinara
- Oseleta
- Dindarella
- Sangiovese
- Cabernet Franc
- Teroldego
- Merlot
- Cabernet Sauvignon
- Spigamonte



Oseleta

Molinara

- Typical Veronese variety, listed as compulsory in the blend of Valpolicella until the modifications of the production specifications occurred in 2003.
- Its name comes from the large amount of bloom covering the berries that seem covered by white flour, as if coming from inside an old mill.
- Appreciated for the mineral aroma it brings to the wine.
- The dried Molinara rounds off a wine that is well structured and high in alcohol
- Appassimento brings out the spiciness until it is transformed into “hints of black pepper”



Molinara

Significant Production Rules

Valpolicella DOC

- Minimum alcohol level: 11.0% ; 12.0% for Superiore
- Residual sugar: Maximum 0.4% potential alcohol (approx. 7 g/l or 0.7% residual sugar)
- Aging: For Superiore, minimum 1 year (ERD = January 1, V+2)

Significant Production Rules

Valpolicella Ripasso DOC

- Ripasso start with a Valpolicella DOC then with the drained but still fermenting lees (unpressed skins) left over after Amarone della Valpolicella DOCG or Recioto DOCG is raked to a different container for finishing.
- Minimum alcohol level: 12.5% , 13.0% for Superiore
- Residual sugar: Maximum 0.6% potential alcohol (approx. 10 g/l or 1.0% residual sugar)
- Aging: Minimum approx. 1 year

Significant Production Rules

Amarone della Valpolicella DOCG

- Minimum potential alcohol level at harvest: 11.0%
- After harvest, grapes must be air-dried to achieve a minimum potential alcohol level of 14% and cannot usually be vinified until December 1 (though most producers wait until January or February)
- Minimum alcohol level: 14.0%
- Residual sugar: Maximum 12 g/l (1.2%) for a 14.0% alcohol wine, with a sliding scale up to about 16 g/l (1.6%) for higher alcohol levels
- Aging: For normale, minimum 2 years for Riserva, minimum 4 years (ERD = November 1, V+4)

Significant Production Rules

Recioto della Valpolicella DOCG

- Minimum potential alcohol level at harvest: 11.0%
- After harvest, grapes must be air-dried to achieve a minimum potential alcohol level of 14.0% and cannot usually be vinified until December 1
- Minimum alcohol level: 12.0%
- Residual sugar: Minimum 2.8% potential alcohol (approx. 50 g/l or 5.0% residual sugar)
- Aging: No minimums specified

VALPOLICELLA DOC
(light-bodied wine)



1 BLEND



4 WINES
APPELLATIONS

VALPOLICELLA RIPASSO DOC
(medium-bodied wine)



THE WINEMAKING
TECHNIQUES DETERMINE
THE APPELLATION



AMARONE DELLA VALPOLICELLA DOCG
(full-bodied wine)

RECIOTO DELLA VALPOLICELLA DOCG
(straw wine)

Vine Training

- 80% of DOC grapes managed with the Guyot training system
- Rules allow for either guyot or pergola
- Masi is moving to 100% use of Pergola, the ancient Roman system
- Pergola trained vines produce berries with more anthocyanins, and fewer tannins, while the historic approach also removes the risk of overripeness in the bunches.
- the shady pergola-training system means that grapes can be up to 20 degrees Celsius cooler than the same berries grown using the Guyot approach. This is an important difference in the warmer hillside Valpolicella vineyards, which are used to produce bunches for drying on racks to create concentrated Amarone wines.

Vine Training

- Crucially, the slower ripening period of Pergola trained vines, along with the absence of sun-burn, produces berries that are suitable for a longer drying process – or *appassimento* – which is key to creating a concentrated and high-quality Amarone.
- Pergola training costs 40% more than Guyot because all the management in the former system must be done by hand, and the vine density is lower with pergola training: 3,500-5,000 vines per hectare compared to 4,500-10,000 for Guyot.









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MASI
 BELLAVINI
Mazzano
 Amarone della Valpolicella
 Classico
 2019
 16% vol
 750ml - 14700 bott.

MASI
 BUSCAIPI
Campobugno di Tabe
 Amarone della Valpolicella
 Classico
 2019
 16% vol
 750ml - 14700 bott.

Vaio Armaron
 SEREGO ALIGHIERI
 DAL 1353
 AMARONE DELLA VALPOLICELLA
 (CONFESSIONE IN BOTTIGLIE CON ETICHETTA E GARANTIA)
 CLASSICO
 2011

MASI
 HISTORIC VENETIAN
 ESTATES

MASI
 RISERVA
COSTASERA
 AMARONE DELLA VALPOLICELLA

MASI
COSTASERA
 AMARONE DELLA VALPOLICELLA

Classification: Valpolicella Classico DOC
2016

Origin: Hillside with red calcareous
sediments on basalt

Grape Varieties: 70% Corvina, 25%
Rondinella, 5% Molinara

Vinification: grapes harvested separately
(mid September for Molinara and
Rondinella, end of September for Corvina)
25-28 C controlled fermentation, 16 day
skin contact (Corvina) 10 days for others,
20 day fermentation in total followed by
complete malolactic fermentation

Maturation: 4 months in 60-90 hl Slavonian
oak. 20% Corvina in new Allier and
Slavonian casks

Data Analysis: Alcohol 12.37%, sugars 2.5
g/l, dry extract 26.1 g/l, total acidity 5.05 g/l



Classification: Rosso del Veronese IGT

Origin: Classico valleys of Marano and Negrar. Very deep in alluvial terrain on eocenic limestone

Grape Varieties: 70% Corvina, 25% Rondinella, 5% Molinara

Vinification: fermented with wine from the fresh grapes is re-fermented with 25% of whole semi dried (50 days) grapes of the same varieites. Second fermentation lasts for 15 days at 18-20 C., malolactic takes place immediately after.

Maturation: minimum 18 months of 2/3 Slavonian 90 hl, 1/3 in Allier and Slavonian 600 litre and minimum 3 months bottle

2014 no amarone production

Data Analysis: Alcohol 13.62%, RS 0.3 g/l, dry extract 29 g/l, total acidity 5.18 g/l, pH 3.55



Classification: Rosso del Veronese IGT

Origin: Valgatara di Marano in Classico region

Grape Varieties: 80% Corvina, 10% Rondinella, 10% Oseleta

Vinification: freshly picked are vinified straight after harvest for 25 days at 22-24 C with the use of selected yeasts. The Oseleta component, which ripens at the end of October, is vinified separately. At the end of November a third wine, 30 % of lightly dried Corvina, is added to the blend, provoking a second fermentation for 15 days at 23-25 C. The final and malolactic fermentations complete the process.

Maturation: 24 months in 600 litre 'fusti veronesi': 70% medium toasted Allier & 30% Slavonian oak barrels. Minimum 4 months bottle age

Data analysis: Alcohol 13.82 %, RS 0.4 g/l, dry extract 31.4 g/l total acidity 5.05 g/l pH 3.62



Classification: Amarone della Valpolicella Classico
DOCG

Origin: communes of Negrar, Marano, San Pietro in Cariano, S. Ambrogio . Soil is friable red limestone with cretaceous period marl

Grape Varieties: 70% Corvina, 25% Rondinella, 5% Molinara

Vinification: late September harvest with 105 days of natural appassimento with 35 % weight loss by late January, slight botrytis attack (12%) on Corvina by 80th day. Soft, pressing, partial destalking, 45 days fermentation in stainless steel vats at low natural temperatures, transfer to 30-40 hl where alcoholic fermentation for 35 days in the presence of alcoholic resistant yeasts and then malolactic fermentation.

Maturation: 30 months in 80% 40-80 hl Slavonian oak (40% new, 30% second usage, 30% third usage).
Minimum 6 months bottle age

Data Analysis: Alcohol 14.8%, RS 7 g/l, dry extract 33



Classification: Amarone della Valpolicella Classico
DOCG Riserva

Origin: Communes of Marano, Negrar,
Sant'Ambrogio, San Pietro in Cariano. Loose red soil
on eocene limestone and tight packed red soil on
basalt

Grape Varieties: 70% Corvina, 15% Rondinella, 10 %
Oseleta 5% Molinara

Vinification: Harvest early October with 110 days natural
appassimento resulting in 40% weight loss. Corvina slight
attack of botrytis (14%). Gentle pressing and partail
destalking with 45 days fermentation in stainless steel vats
in natural temperatures. Final fermentation and malolactic
for 35 days in 30-40 hl slavonian oak

Maturation: 40 months 600 litre Slavonian and Allier
oak (1/3 new, 1/3 2nd passage, 1/3 3rd passage). Six
months bottle age

Data Analysis: Alcohol 15.46%, RS 9 g/l, dry extract
36.2 g/l, total acidity 6.30 g/l, pH 3.47



Classification: Amarone della Valpolicella Classico
DOCG

Origin: Commune of Negrar, 375-400 meters. Terrain: hills of red eocenic limestone, deep with good drainage, plentiful stones and with favourable chemical and mineral components. Wide terrace supported by “marogne”.

Grape Varieties: 70% Corvina, 25% Rondinella, 5% Molinara

Vinification: Late September harvest, 110 day appassimento in Campolongo farmhouse lofts with 40% weight loss. Slight attack of botrytis on Corvina. After delicate pressing, the dried grapes are partially destalked and fermented for 45 days in large Slavonian oak barrels at low natural temperatures and complete malolactic fermentation

Maturation: 36 months in 60% Slavonian 30-40 hl barrels, 40% in Slavonian and Allier 600 litre partly new, 2nd, 3rd and 4th usage, minimum six months bottle



Classification: Amarone della Valpolicella Classico
DOCG

Origin: Commune of Negrar, 350 -415 meters.
Terrain: loose soil on eocenic marl. Wide terrace supported by “marogne”.

Grape Varieties: 70% Corvina, 25% Rondinella, 5% Molinara

Vinification: Late September harvest, 110 day appassimento in Campolongo farmhouse lofts with 40% weight loss. No attack of botrytis on Corvina due to higher hillside climate. After delicate pressing, the dried grapes are partially destalked and fermented for 45 days in large Slavonian oak barrels at low natural temperatures and complete malolactic fermentation

Maturation: 36 months in 1st, 2nd, 3rd year use of Allier and Slavonian 600 litre barrels and then six months bottle age.

Data Analysis: Alcohol 15.93 %, RS 3.45g/l, dry extract 36.85 g/l, total acidity 6.40 g/l, pH 3.49



Classification: Recioto della Valpolicella Classico
DOCG

Origin: Communes of Marano, Negrar and Sant'Ambrogio. Soil has mainly red calcareous sediments with cretaceous marl

Grape Varieties: 70% Corvina, 20% Rondinella, 10% Molinara

Vinification: Late September harvest with natural 100 day appassimento in hillside lofts on bamboo racks resulting in 35 % weight loss. After soft pressing and complete destalking, grapes ferment for 35 days in large Slavonian oak barrels in natural low temperatures.

Maturation: 12 months in Slavonian 25 hl oak barrels, three months bottle age

Data Analysis: Alcohol 13.70 %, RS 73 g/l, dry extract 40.1 g/l, total acidity 7.32 g/l, pH 3.35



