

# 와인학 입문 Oenology Intro



김경환(서울대학교병원)

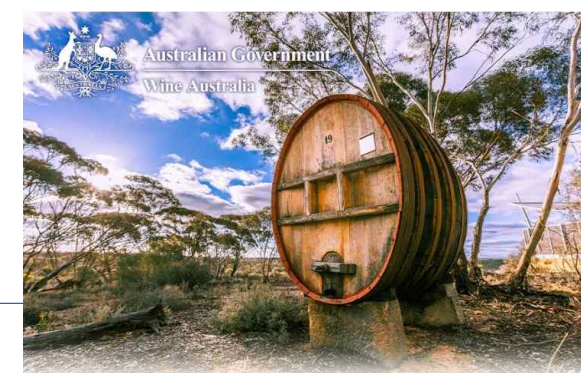
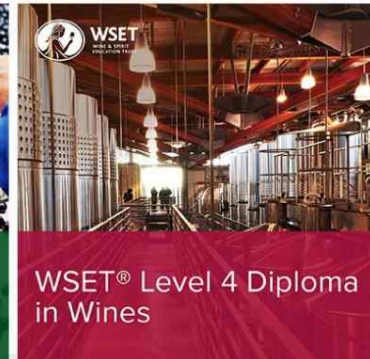
Apr 7, 2023 대한결핵 및 호흡기학회 춘계학술대회



김경환 MD, PhD, WSET L3, FWS, IWS, SWS

## Wine Enthusiast

- **French Wine Scholar(FWS)** 프랑스 와인 전문가 인증, **Pass with Highest Honors**
- CIVB L'Ecole du Vin 보르도 와인 전문과 과정 수료, Natural Wine 마스터 과정
- Australia Wine Discovered 호주 와인 마스터 과정 수료, New Zealand Wine 마스터 과정
- **WSET(Wine & Spirit Education Trust) LEVEL 3 Award in Wines**  
국제와인 전문가 인정과정 고급과정 인증, **Pass with Merit**
- **Italian Wine Scholar(IWS)** 이탈리아 와인 전문가 인증, **Pass with Highest Honors**
- **Spanish Wine Scholar(SWS)** 스페인 와인 전문가 인증, **Pass with Highest Honors**





STUDY PROGRAMS WINE TOURS STU

## OUR RECENT TOP EXAM SCORERS



WSET® Level 3  
Advanced Certificate  
in Wines and Spirits

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## Kyung Hwan Kim, SWS



**Kyung Hwan KIM**  
Spanish Wine Scholar™ with Highest Honors

“ I got four certifications in 2021...It was so strenuous and exhausting but I learned so much.”

“ I got four certifications in 2021...It was so strenuous and exhausting but I learned so much.”

**Kyung Hwan Kim, SWS**, Wine Enthusiast

Other certifications: French Wine Scholar, Italian Wine Scholar, WSET Levels 2 & 3

Congratulations to Kyung Hwan Kim, SWS, for achieving highest honors in the **Spanish Wine Scholar** exam with WSA Wine Academy, Seoul.

### About Kyung Hwan Kim:

I am a cardiac surgeon. Currently I am in Seoul National University Hospital as a chairman and professor of thoracic and cardiovascular surgery and staff surgeon. My main field is heart valve surgery and aorta operation. I have been working since 1998.

I love wine and had a chance to visit Napa, Argentina, Bourgogne, Greece, Portugal, Rioja, Southern Australia and New Zealand...Last year, I had a chance to study WSET L2 intermediate level course. It was such an impressive course. After I completed the whole course, I proceeded my endeavor to WSET L3, FWS, IWS unit 1 & 2, and finally SWS recently. I got four certifications in 2021...It was so strenuous and exhausting but I learned so much.


As a doctor and as a wine lover, I would like to contribute interpersonal communication via wine, and in the near future, I will take on the challenge of the WSET diploma course.

# What is wine?

## How to make?

### WHAT IS WINE?

A beverage of fermented *Vitis vinifera* grapes.



This is the only fruit with a high enough level of sugar and the balance of acids and nutrients to sustain a natural fermentation to dryness and stay stable.

Fermentation is caused by a single-cell fungi (yeast) that consumes a hydrocarbon molecule (sugar) as food and releases ethyl alcohol and carbon dioxide as waste products, leaving the other hydrocarbons present in their relative proportions.

If fermented totally dry, wine is NINETY NINE percent water & Ethyl Alcohol.

The ONE percent of hydrocarbon molecules remaining consist of Tartaric and Malic acids, esters, tannins and around 300 others.

If not fermented dry, then some sugar makes up the remainder.

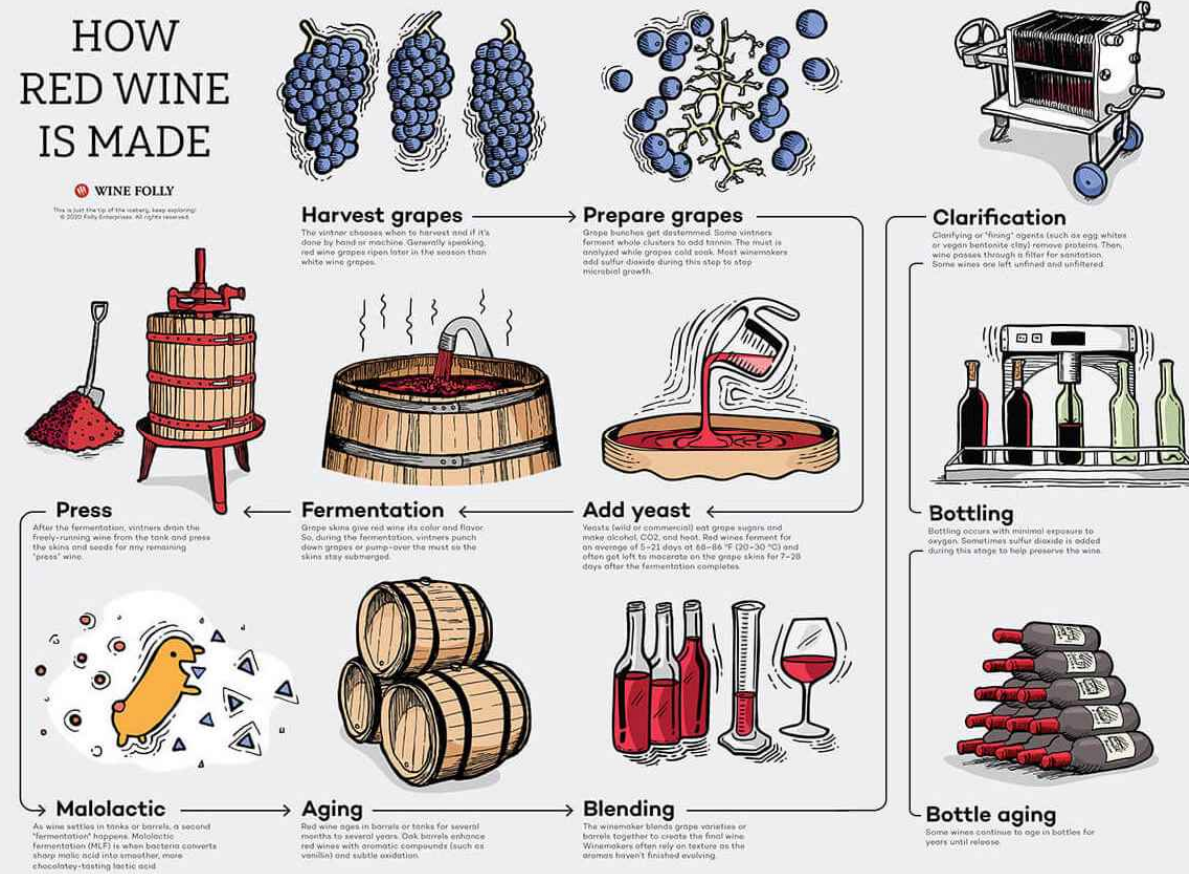
1% Hydrocarbon Molecules  
Tartaric and Malic acids (makes wine stable),  
Esters (aromas),  
Tannins  
& around 300 others.

$$C_6H_{12}O_6 \rightarrow 2C_2H_5OH + 2CO_2$$

(sugar > ethyl alcohol + carbon dioxide)

### HOW RED WINE IS MADE

WINE FOLLY  
This is just the tip of the iceberg. Stay awesome!  
© 2007 Folly Enterprises. All rights reserved.



**Harvest grapes**  
The vintner chooses when to harvest and if it's done by hand or machine. Generally speaking, red wine grapes ripen later in the season than white wine grapes.

**Prepare grapes**  
Grape bunches get destemmed. Some vintners ferment whole clusters to add tannin. The must is analyzed while grapes are cold. Most winemakers add sulfur dioxide during this step to stop microbial growth.

**Clarification**  
Clarifying or "fining" agents (such as egg whites or vegan bentonite clay) remove proteins. Then, wine passes through a filter for sanitation. Some wines are left unfiltered and unfined.

**Bottling**  
Bottling occurs with minimal exposure to oxygen. Sometimes sulfur dioxide is added during this stage to help preserve the wine.

**Bottle aging**  
Some wines continue to age in bottles for years until release.

**Press**  
After the fermentation, vintners drain the freely-running wine from the tank and press the skins and seeds for any remaining "press" wine.

**Fermentation**  
Grape skins give red wine its color and flavor. So, during the fermentation, vintners punch down grapes or pump-over the must so the skins stay submerged.

**Malolactic**  
As wine settles in tanks or barrels, a second "fermentation" happens. Malolactic fermentation (MLF) is when bacteria converts sharp malic acid into smoother, more chocolatey-tasting lactic acid.

**Aging**  
Red wine ages in barrels or tanks for several months to several years. Oak barrels enhance red wines with aromatic compounds (such as vanillin) and subtle oxidation.

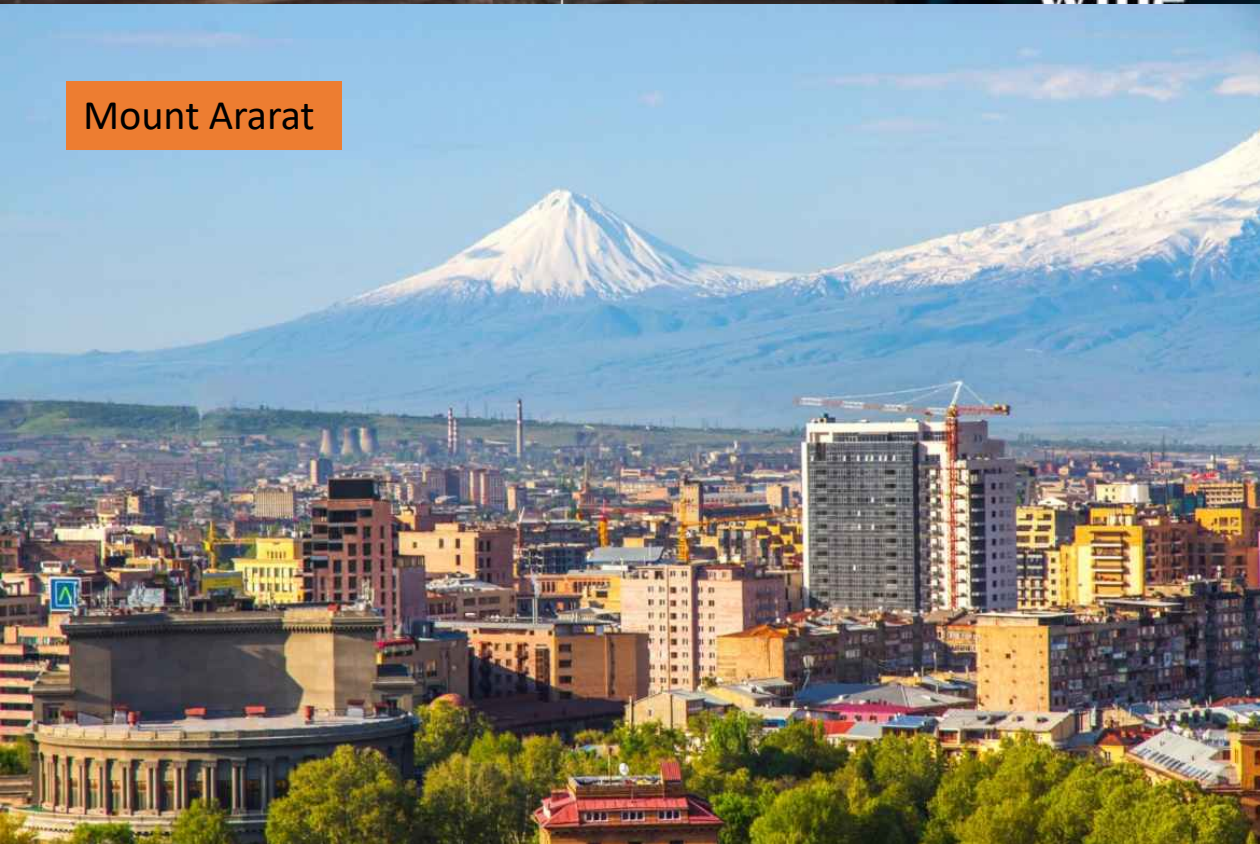
**Blending**  
The winemaker blends grape varieties or barrels together to create the final wine. Winemakers often rely on texture as the aroma hasn't finished evolving.

| TRAVEL |

# Discover the Secret Birthplace of Wine

back to 6,000BC.

Mount Ararat



TRILOBITES

# Wine From Prehistoric Georgia With an 8,000-Year-Old Vintage

Give this article



The base of a Neolithic jar recovered from a Neolithic site in Georgia. Researchers found wine residue on pottery shards at two Georgian sites going back to 6,000 B.C. Judyta Olszewski



ეროვნული მუზეუმის კოლექცია  
National Museum Collections

005038

*Toast Master - the symbol of the earliest wine making in the world*

VANI, VII BC. BRONZE, GEORGIA

საქართველო -  
საყვინტავო -  
საყვინტავო

ვანი, ძვ.წ. VII ს. ბრინჯაო.

와인은 무엇인가?

**포도juice가 효모에 의해 alcohol로 변화**

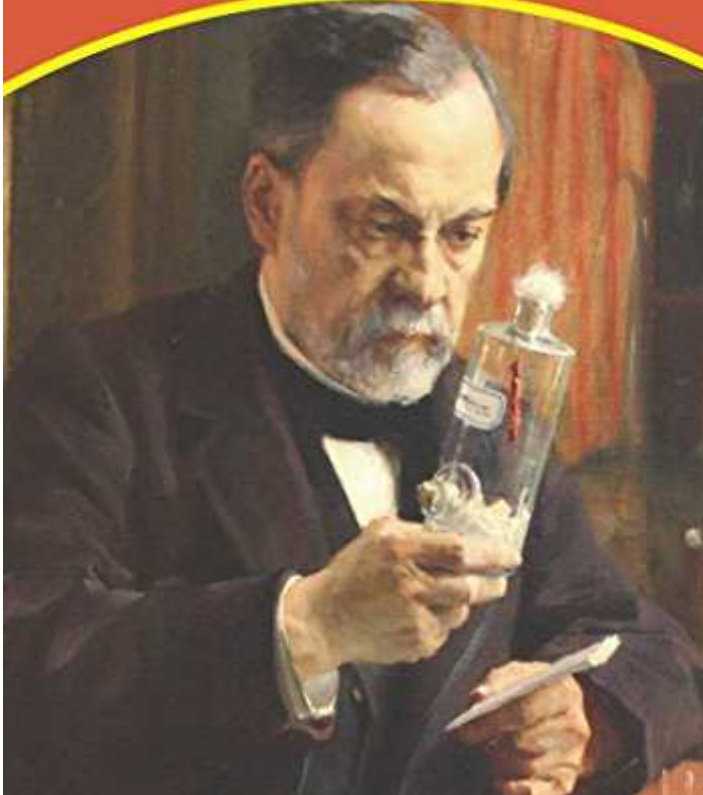
**가장 중요한 키워드는 포도와 발효!!**

그러므로 cognac, almagnac 등은 와인이라고 할 수 없다. 이는 발효과정이 없는 증류주임.

Vintage, Millesime...: 포도 수확연도 (와인양조연도가 아님...)

## Fermentation of glucose by yeast....

### Louis Pasteur



### HISTORY:

- ✗ The chemistry of fermentation were first investigated by Louis Pasteur in 1860
- ✗ He called the process *la vie sans air*, or life without air
- ✗ In 1897, Hans and Eduard Beuchner discovered that fermentation could occur in a cell-free extract of yeast
- ✗ This work led to the elucidation of the enzymes involved

### Micro-organisms involved:

- Saccharomyces: ethyl alcohol and carbon dioxide
- Streptococcus and Lactobacillus: lactic acid
- Escherichia coli: acetic acid, succinic acid
- Clostridium: butyric acid, butyl alcohol, acetone

## 일반와인(Light wine혹은 Still wine)

- ◆ 8 - 15% abv(alcohol by volume)
- ◆ 와인명에 산지 이름을 붙임
- ◆ 포도품종의 이름을 붙이기도 함.
- ◆ Sparkling wine에 대비하여 Still wine으로 불리우기도 함.

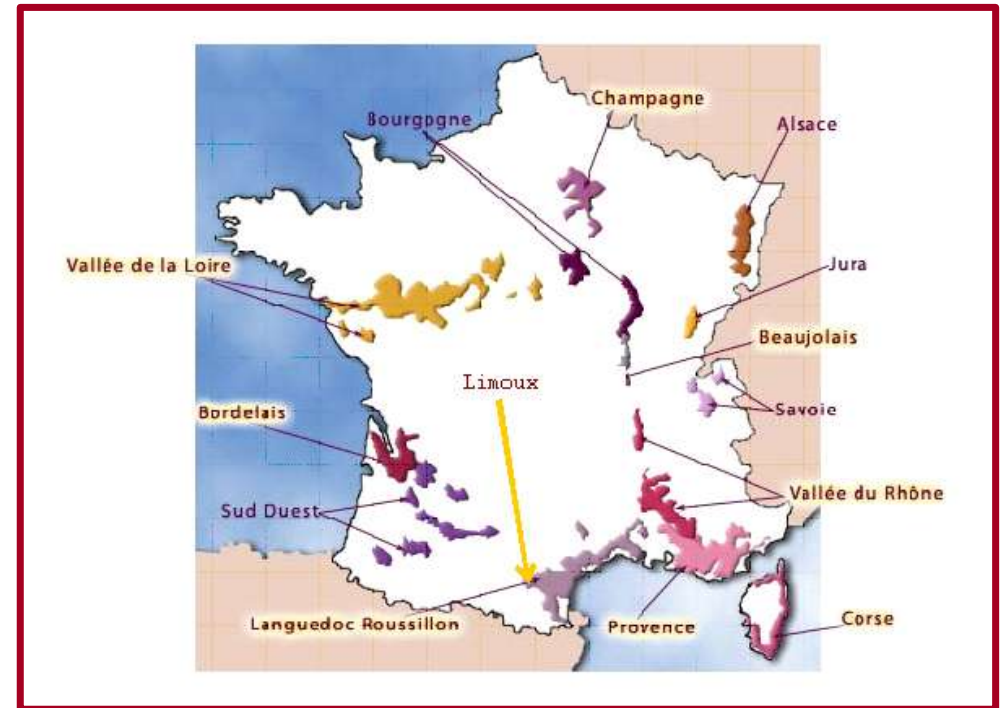


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# Champagne

Sparkling Wines

48.9169° N, 4.1514° E



Champagne, Dom Perignon...

## Champagne vs champagne

### Dom Perignon(1638-1715)

Is Dom Perignon Cellarmaster at the Abbey of Hautviller?

Did he invent "champagne"?

Blind?

### 돔 페리뇽의 업적

적포도로 색없는 와인을 만든 최초의 사람, Blanc de Noir

Assemblage(아상블라쥬, 블렌딩)을 고안

영국산 강한 유리, 스페인산 강한 Cork

발효에 대한 과학적 지식이 없던 시절에 과학에 근거한 판단

발효(12-32°C, 12-18°C/22-32°C, cold/warm)

I am tasting the stars(나는 별을 마신다)



스파클링 와인: 두번에 나누어 발효, 탱크 + 병 발효

2차 발효에서 남는 가스를 보관: 이산화탄소가 곧 bubble임

cf) 스틸와인은 가스를 날려보냄

발효과정에서 생성된 CO<sub>2</sub>가 와인에 용해되어 잔존

발효법(효모와 당을 넣는 것)

병발효- 기압이 높게 되어.. 5-7atm...기포가 많고 작다. 기포가 오래간다.

탱크발효

Champagne, Cremant, Presecco, Cava, Spumante, Franciacorta, Sekt...



## Blanc de Blancs, Blanc de Noirs

### What grape CHAMPAGNE

There are 3 main grape varieties that can be used in the production of Champagne. Different grapes are blended for different styles.

### Quick Guide

## HOW CHAMPAGNE IS



### Pressing

Grapes are pressed quickly after harvest. Extracted juice from the first press, the *cuvée*, is considered the highest quality.

### First Fermentation

Takes place in steel or wood and results in a high quality base wine.

### Lees Ageing

Non-vintage Champagne must spend at least **15 months** in the bottle before release and vintage Champagne a minimum of **3 years**. They are often left for much longer.

### Remuage / Riddling

Done by hand or machine, bottles must be rotated to loosen the sediment for it to collect in the neck of the bottle.

### Disgorgement

Neck of the bottle is plunged into solution at  $-27^{\circ}\text{C}$ . Sediment (in form of a frozen plug) is ejected under pressure when the bottle is opened.

### Dosage & Corking

'Liqueur d'expédition' a sugar mixture is added which determines the final level of sweetness.

Cork, cap and muselet are added, the bottle is then shaken vigorously 'poignettage' and left to rest in the cellars.



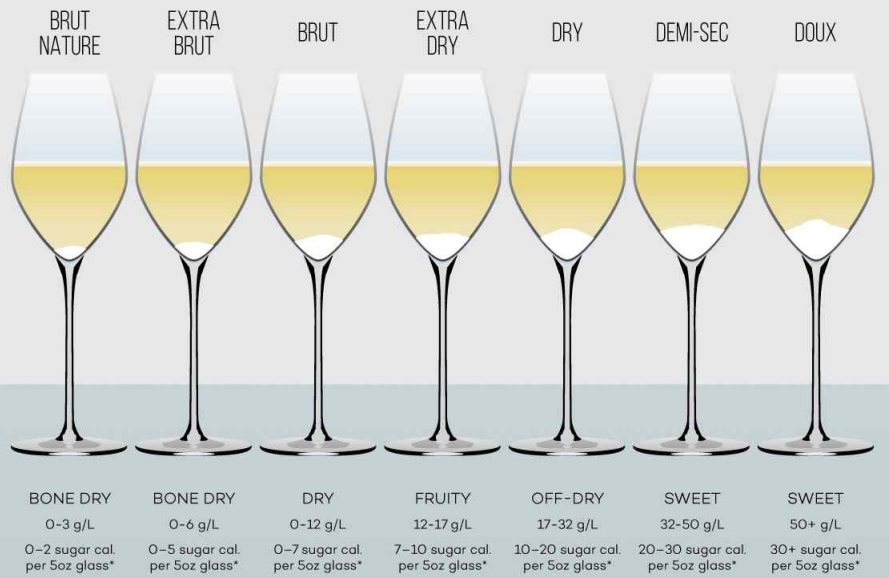
fermentation is at the heart of **Méthode Champenoise**

Bottles must be **rotated regularly** while ageing

Char  
Adds fr  
elegan

# MADAME LOUISE POMMERY, THE WOMAN WHO INVENTED MODERN CHAMPAGNE - BRUT STYLE

## SWEETNESS LEVELS IN CHAMPAGNE



\*calories are estimates and do not include alcohol calories per glass which range from ~90-120

WINE FOLLY



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# Wine Grapes

Black Grapes – Red Wine, White Wine

White Grapes – White Wine

Neutral(Fruit) – Semi aromatic(Flower, Blossom) – Aromatic(Perfume)

## White Grape Variety(white wine)

**Chardonnay**  
**Aligote**  
**Pinot Gris**  
**Semillon**  
**Melon de Bourgogne**  
**Albarino**  
**Chenin Blanc**  
**Gruner Veltliner**  
**Sauvignon Blanc**  
**Riesling**  
**Gewurztraminer**  
**Torrontes**  
**Viognier**  
**Muscat**

*...from grapes to wine!*

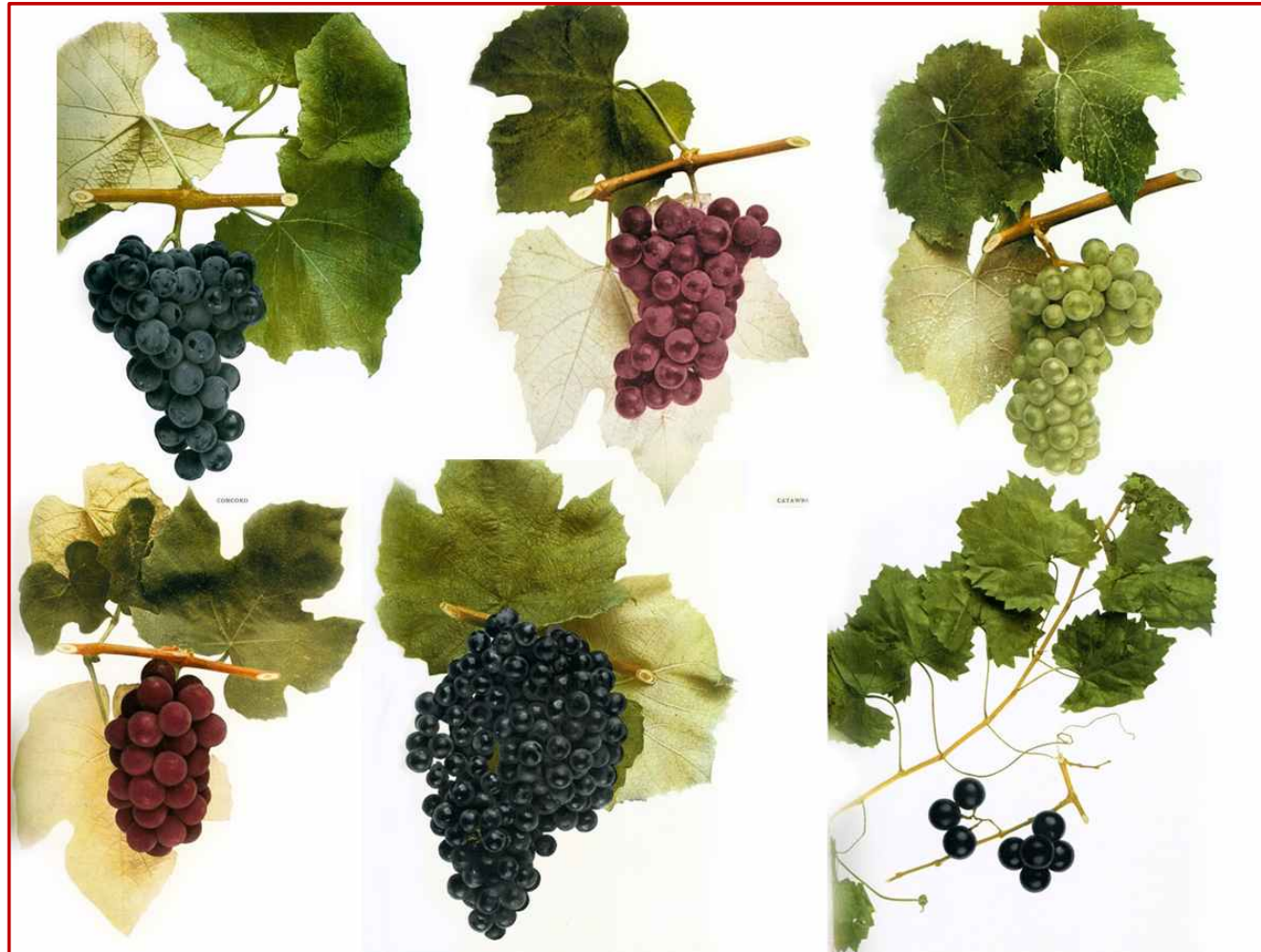
| WHITE GRAPES             |                             | BLACK (RED) GRAPES        |                           |
|--------------------------|-----------------------------|---------------------------|---------------------------|
| <u>Albariño</u>          | <u>Neuburger</u>            | <u>Alicante Bouschet</u>  | <u>Negrette</u>           |
| <u>Aligoté</u>           | <u>Picpoul Blanc</u>        | <u>Aramon</u>             | <u>Nebbiolo</u>           |
| <u>Arneis</u>            | <u>Pinot Blanc</u>          | <u>Barbera</u>            | <u>Petit Verdot</u>       |
| <u>Bourboulenc</u>       | <u>Pinot Gris</u>           | <u>Black Corinth</u>      | <u>Petite Sirah</u>       |
| <u>Chardonnay</u>        | <u>Riesling</u>             | <u>Cabernet Franc</u>     | <u>Picpoul</u>            |
| <u>Chenin Blanc</u>      | <u>Rousanne</u>             | <u>Cabernet Sauvignon</u> | <u>Pinot Noir</u>         |
| <u>Clairette Blanche</u> | <u>Sauvignon Blanc</u>      | <u>Carignan</u>           | <u>Pinot Meunier</u>      |
| <u>Colombard</u>         | <u>Scheurebe</u>            | <u>Carmenère</u>          | <u>Pinot St. George</u>   |
| <u>Fiano</u>             | <u>Semillon</u>             | <u>Carmelian</u>          | <u>Pinotage</u>           |
| <u>Garganega</u>         | <u>Terret Blanc</u>         | <u>Charbono</u>           | <u>Primitivo</u>          |
| <u>Gewürztraminer</u>    | <u>Terret Gris</u>          | <u>Cinsault</u>           | <u>Rubired</u>            |
| <u>Grenache Blanc</u>    | <u>Torrontes</u>            | <u>Corvina</u>            | <u>Ruby Cabernet</u>      |
| <u>Grenache Gris</u>     | <u>Ugni Blanc/Trebbiano</u> | <u>Counoise</u>           | <u>St. Laurent</u>        |
| <u>Grüner Veltliner</u>  | <u>Verdelho</u>             | <u>Duriff</u>             | <u>Sanglovese</u>         |
| <u>Kerner</u>            | <u>Verdicchio</u>           | <u>Gamay Noir</u>         | <u>Souzao</u>             |
| <u>Maccabéo</u>          | <u>Vernaccia</u>            | <u>Grenache</u>           | <u>Syrah/Shiraz</u>       |
| <u>Marsanne</u>          | <u>Viognier</u>             | <u>Grignolino</u>         | <u>Tempranillo</u>        |
| <u>Melon</u>             |                             | <u>Gros Verdot</u>        | <u>Terret Noir</u>        |
| <u>Morio-Muskat</u>      |                             | <u>Malbec</u>             | <u>Tinta Barroca</u>      |
| <u>Müller-Thurgau</u>    |                             | <u>Merlot</u>             | <u>Tinta Cão</u>          |
| <u>Muscadelle</u>        |                             | <u>Meunier</u>            | <u>Tinta Negra Mole</u>   |
| <u>Muscat</u>            |                             | <u>Mission</u>            | <u>Vaccarese/Camarese</u> |
|                          |                             | <u>Mourvèdre/Mataro</u>   | <u>Valdepeñas</u>         |
|                          |                             | <u>Muscadin</u>           | <u>Valdiquié</u>          |
|                          |                             |                           | <u>Zinfandel</u>          |

## Black Grape Variety(red wine)

**Cabernet Sauvignon**  
**Merlot**  
**Malbec**  
**Syrah/Shiraz**  
**Cabernet Franc**  
**Carmenere**  
**Pinotage**  
**Zinfandel(Primitivo)**  
**Nebbiolo**  
**Sangiovese**  
**Corvina, Rondinella**  
**Tempranillo**  
**Pinot Noir**  
**Grenache**  
**Gamay**

## How to differentiate one grape variety from others??

와인 양조용 포도는 어떻게 종류를 구별하는가??



# General Guidelines for VVW Parameters

| Type of wine | Brix  | Total Acidity |
|--------------|-------|---------------|
| White        | 19-23 | 0.7-0.9       |
| Red          | 21-24 | 0.6-0.8       |

\*Acidity, Brix and pH levels vary by grape variety.

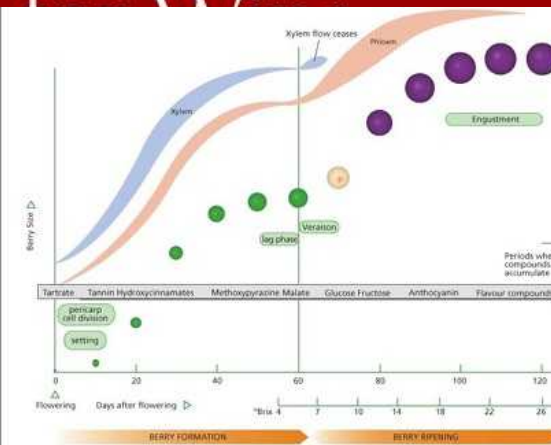


Figure 108. Grape berry development & maturation. (Illustration by J. Koutroumanidis, Winetitles)



Figure 109. Veraison in a red wine cultivar (A). Lag phase (B) and veraison (C) in a white wine cultivar.

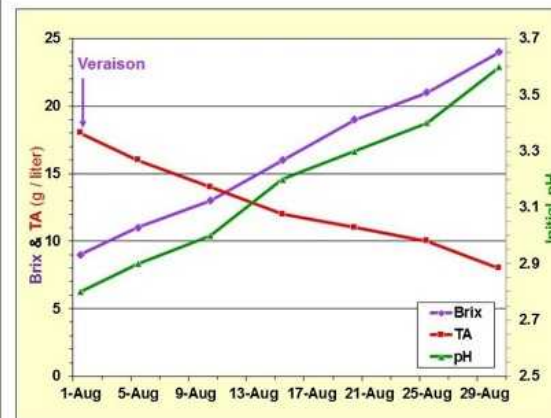


Figure 110. Changes in °Brix, titratable acidity (TA) and initial pH following veraison.

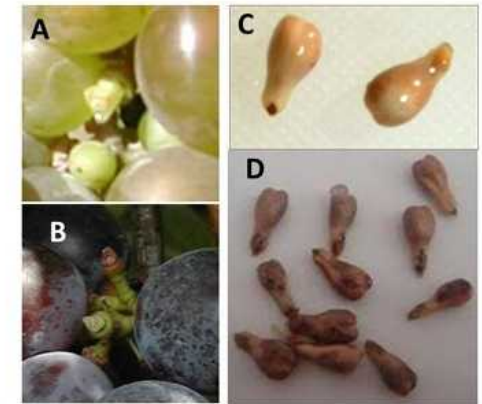
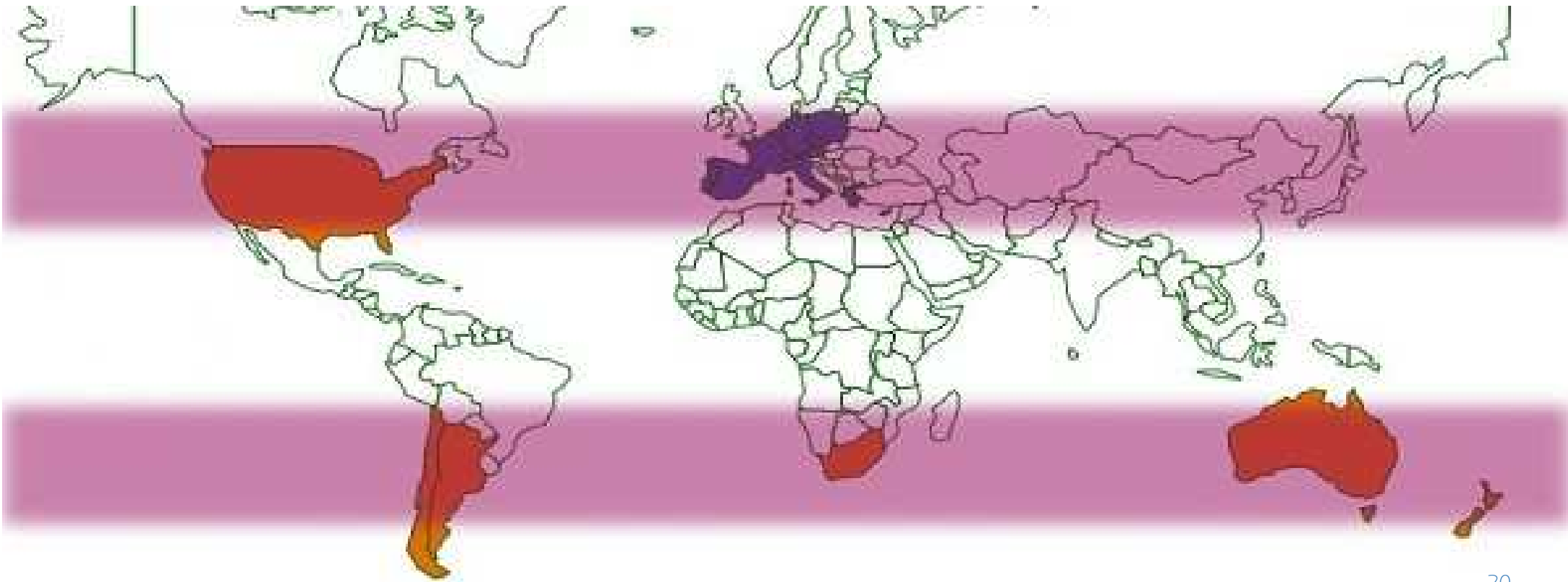


Figure 111. Pedicel/berry abscission zone: immature (A), mature (B). Seed maturity: immature (C), mature (D).

## Wine Belt: 30-50 degree latitude



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# White Grapes

Chardonnay

Sauvignon Blanc

Gewürztraminer

Noble rots

# Chardonnay , Sauvignon Blanc



## Chardonnay World Map

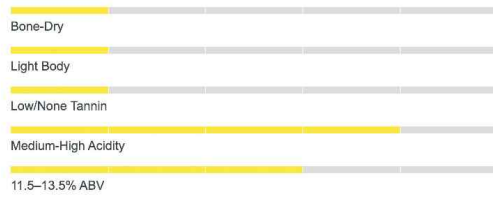


### Chablis

#### PRIMARY FLAVORS



#### TASTE PROFILE



© 2019 winefolly.com

## 5 FAMO SAUVIGNO

- FR BORDEAUX**  
Subtle Citrus Fruit. Sémillon Blends Reveal Honeysuckle.
- FR SANCERRE**  
Significant Minerality. Grape's Purest Expression.
- CL CASA BLANCA VALLEY**  
Crisp. Strong Minerality Cuts Through Weight.
- NZ MARLBOROUGH**  
Grapefruit & Tropical Fruit Aromas. Acidity Cuts Weight.
- US NAPA / SONOMA**  
Ripe Grapefruit & Mandarin Orange. Can Be Weighty.



VINEPAIR

## Cold Fermentation, antimicrobial, antioxidizing wine making



**FERMENTATION TEMPERATURES**

**WHITE WINE**  
*Maintaining 45°-60° F*

- Balances aromas
- Controls acidity
- Produces pleasant mouth-feel
- Preserves desired fruity flavors

**RED WINE**  
*Maintaining 70°-85° F*

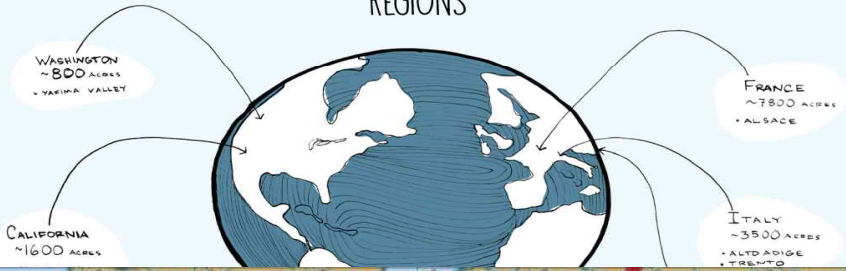
- Extracts richer colors
- Extracts ideal tannin levels
- Reduces fruity flavors
- Achieves desired alcohol levels

A diagram illustrating fermentation temperatures. It features a central illustration of a wine bottle being poured into a fermentation tank. To the left, a thermometer shows a yellow liquid level between 45°F and 60°F, representing white wine. To the right, a thermometer shows a red liquid level between 70°F and 85°F, representing red wine. The text 'FERMENTATION TEMPERATURES' is centered above the diagram.

# GEWÜRZTRAMINER

WINE FOLLY

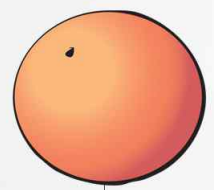
## REGIONS



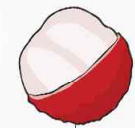
## FLAVORS IN GEWÜRZTRAMINER

By Ripeness

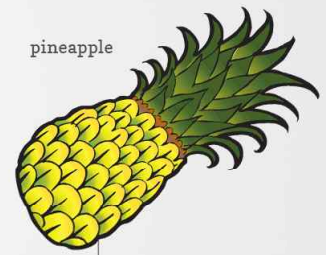
grapefruit



lychee



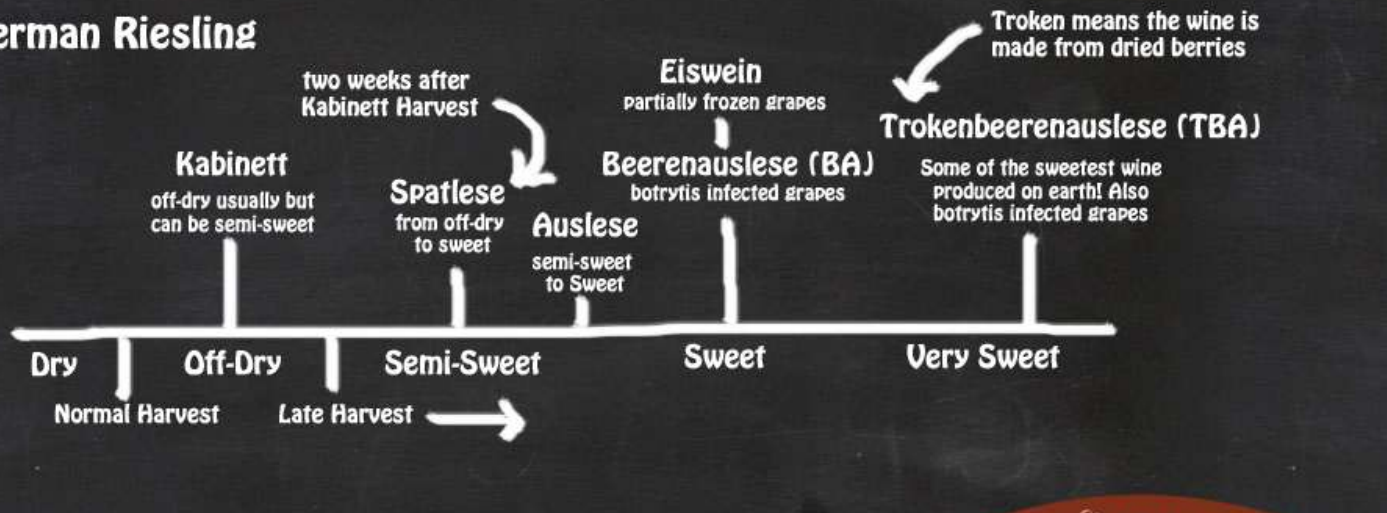
pineapple



# Noble Rot 귀부 포도, Botrytis Cinerea



# German Riesling



## Botrytis Infected Grapes: Noble Rot

# Riesling



Pale Straw



Deep Yellow

Wines range in color from pale straw to deep yellow.



A bunch of Riesling grapes

WINE FOLLY



# World Top Three Noble Rot Wines



## TOKAJI

Tokaji ["toe-koy-ee"] is from the region of Tokaj ("Toe-koy") in Northeastern Hungary.

**GRAPES**

- Furmint ("foor-meen-ee")
- Hárslevelű ("harsh-lee-lee-oo")
- Edige Muskotály (aka Muscat Blanc)
- Kövérszőlő ("koo-voer-soo-foor")
- Zéta ("zee")
- Kabór ("kash-bor")

**STYLES**

- ASZU**
  - Wines produced with a blend of Aszú (noble rot) grapes and standard grape must. Required to have 18 months oak aging (minimum) and 12% potential alcohol (actual ABV around 9%).
  - "3 PUTTONYOS"
    - min. 60 grams sugar/liter
    - term discontinued since 2013
  - "4 PUTTONYOS"
    - min. 90 grams sugar/liter
    - term discontinued since 2013
  - 5 PUTTONYOS
    - min. 120 grams sugar/liter
    - since 2013 it is labeled "Aszú"
  - 6 PUTTONYOS
    - min. 150 grams sugar/liter
  - "ASZUESZENCIA"
    - 180-410 grams sugar/liter
    - discontinued since 2013
- ESZENCIA**
  - A drink made solely of the free-run juice of noble rot (aszú) grapes that rarely reaches above 3% ABV.
  - Eszencia is to be served in a shot served from a tablespoon.
  - 450+ grams sugar/liter
- SZAMORODNI**
  - A wine made without separating noble rot grapes from regular grapes. The term basically translates to "made by itself" and requires less hand processing.
  - Edes = sweet with > 45 g/L sugar
  - Száraz = dry with < 9 g/L sugar usually made in a nutty oxidative style.
- FORDITÁS**
  - A wine produced with grape must, pomace or wine blended with the used pomace (seeds, skins, etc) from Aszú wine.
- MÁSLÁS**
  - A wine produced with grape must, pomace or wine blended with the used wine lees (good yeasts and leftover wine) from Aszú wine.

**Tokaji Aszú**  
WINE FOLLY

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# Events associated with Wines..

Hundred years war

Avignonese Captivity

Phylloxera

# 백년전쟁 Hundred Years War 프랑스 vs 영국 (1337-1453)

Eleanor of Aquitaine  
Henri Plantagenet

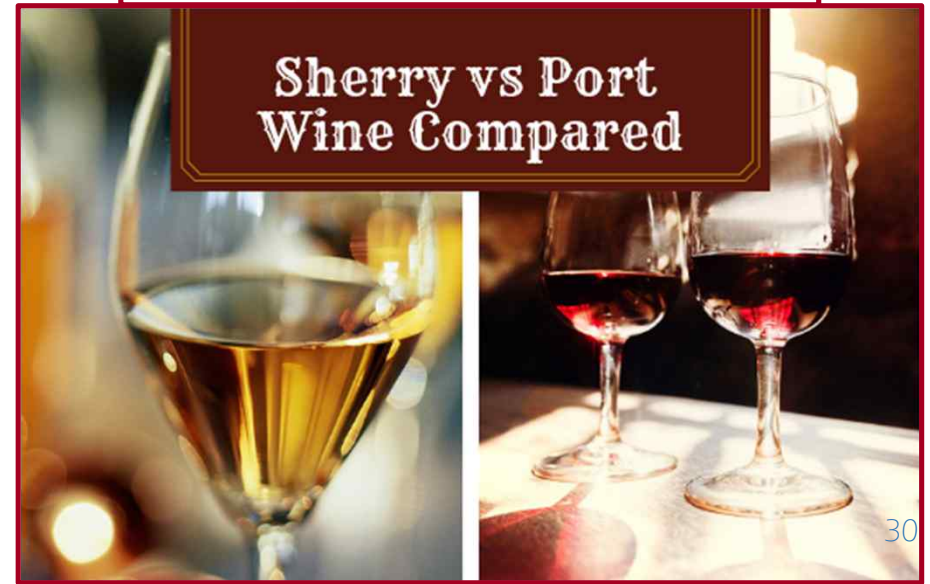
Bordeaux 보르도, 지참금

Jeanne d'Arc

Port Wine(wine + brandy) ;  
residual sugar,  
high abv(alcohol by volume) %



# Port, Sherry : Fortified Wine(주정강화 와인)



## Avignonese Captivity 아비뇽 유수(1309-1377)

7대에 걸쳐 로마 교황청을 남프랑스의 아비뇽으로 이전한 사건으로, 이로 인해 교황권은 크게 약화.



바빌론유수 Babylonian Captivity(BC 597-538)  
예루살렘 함락, 이스라엘의 유다왕국 사람들이 신(新)바빌로니아의  
바빌론으로 포로가 되어 이주한 사건  
보니엠의 노래

## 클레망 5세 – 보르도 출신...



# Rhone Blend – GSM(Grenache, Syrah, Mourvedre) Blending

## CDP – maximal 13 grapes blending !!



**Rhône / GSM Blend**

PRIMARY FLAVORS

- Raspberry
- Blackberry
- Rosemary
- Baking Spices
- Lavendar

TASTE PROFILE

- Dry
- Medium-Full Body
- Medium-High Tannin
- Medium Acidity
- 13.5–15% ABV

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**Châteauneuf-du-Pape**

Grenache

Syrah, Mourvèdre, Cinsault

Counoise, Muscardin, Vaccarese, Terret Noir, Clairette, Grenache Blanc, Roussanne, Bourboulenc, Picpoul

Picardin Noir, Picpoul Noir, Picardin Gris, Clairette Rosé, Grenache Gris, Picpoul Rosé, Picardin

- black grapes
- yellow grapes
- pink grapes

WINE FOLLY

33

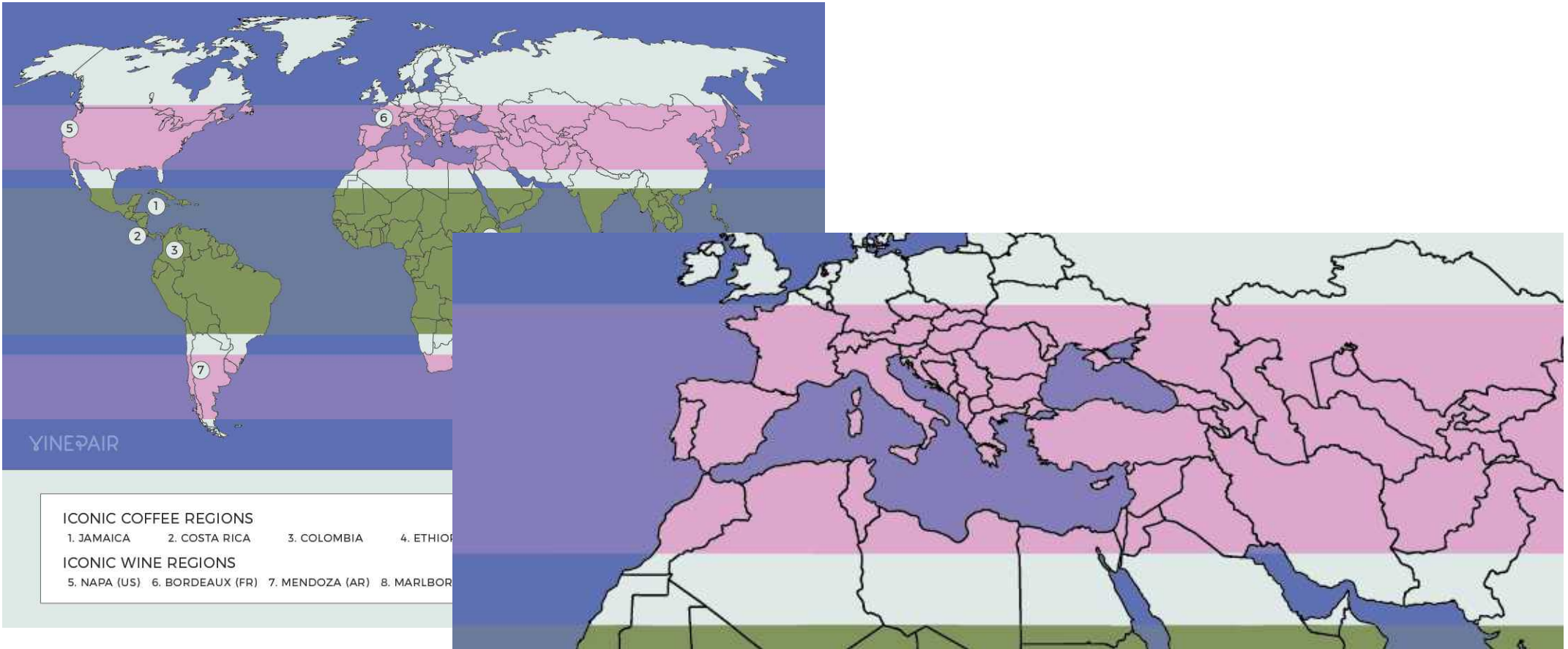
# CDP Chateauneuf De Pape New Castle of Pope

## E. Guigal, Chateau de Beaucastel

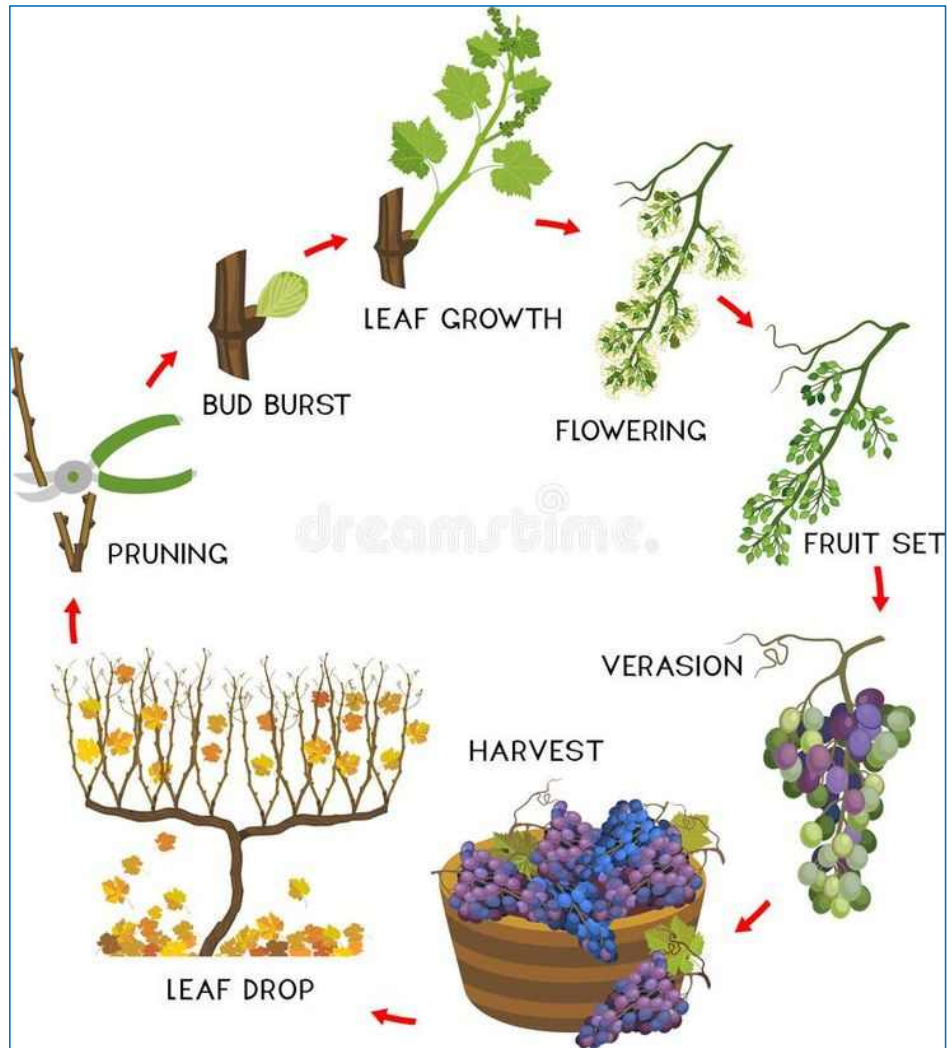


# Wine Belt : 위도 30-50도, 구세계, 신세계 와인...

일조량: 연간 1200-1500시간, 강수량 500-900mm, 6-8월 건기....

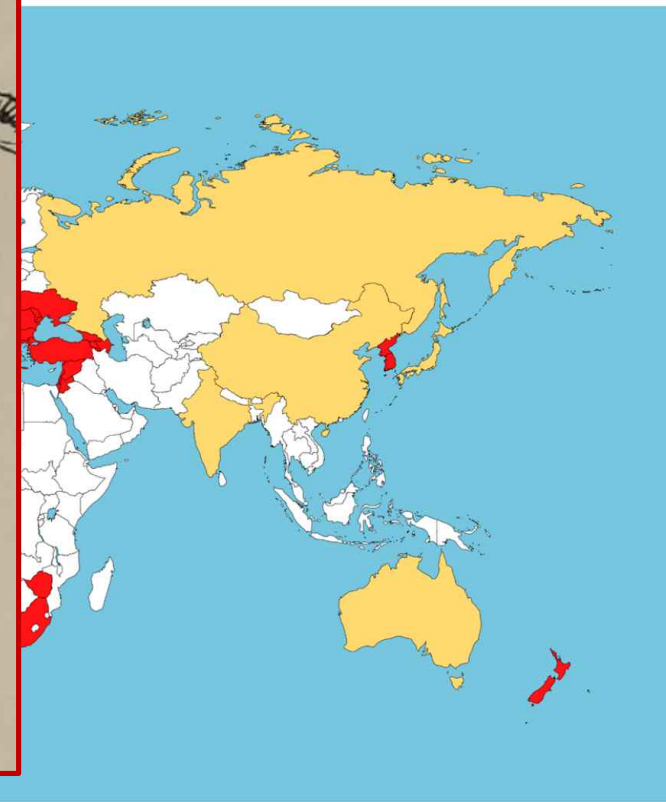
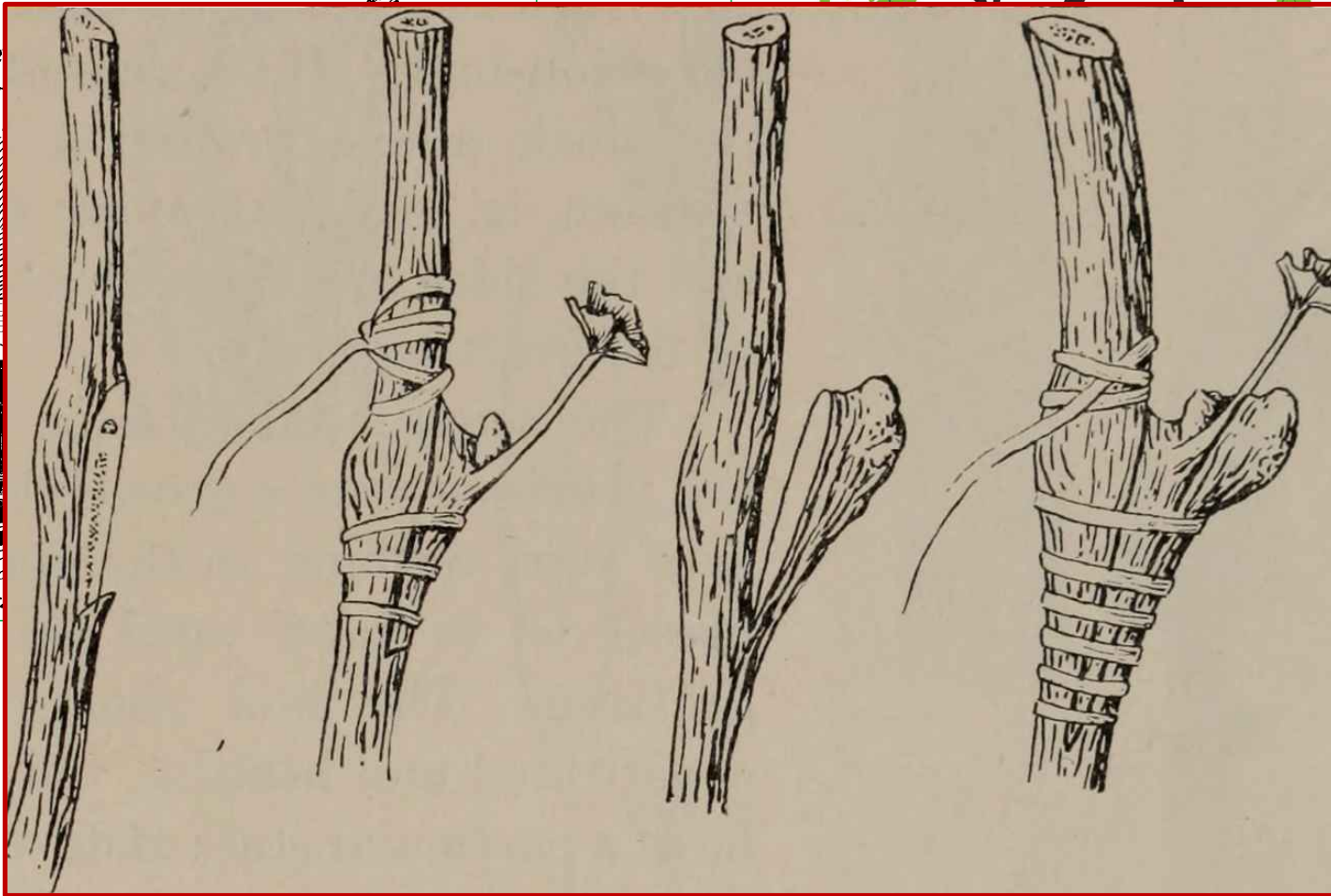
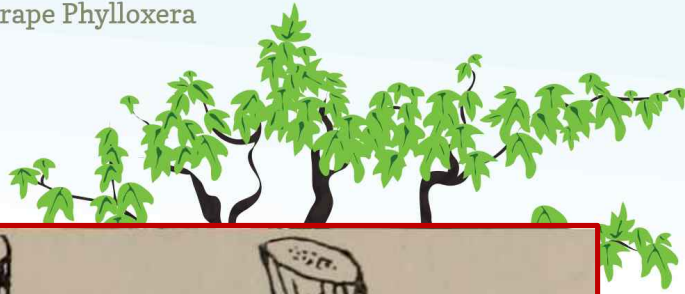


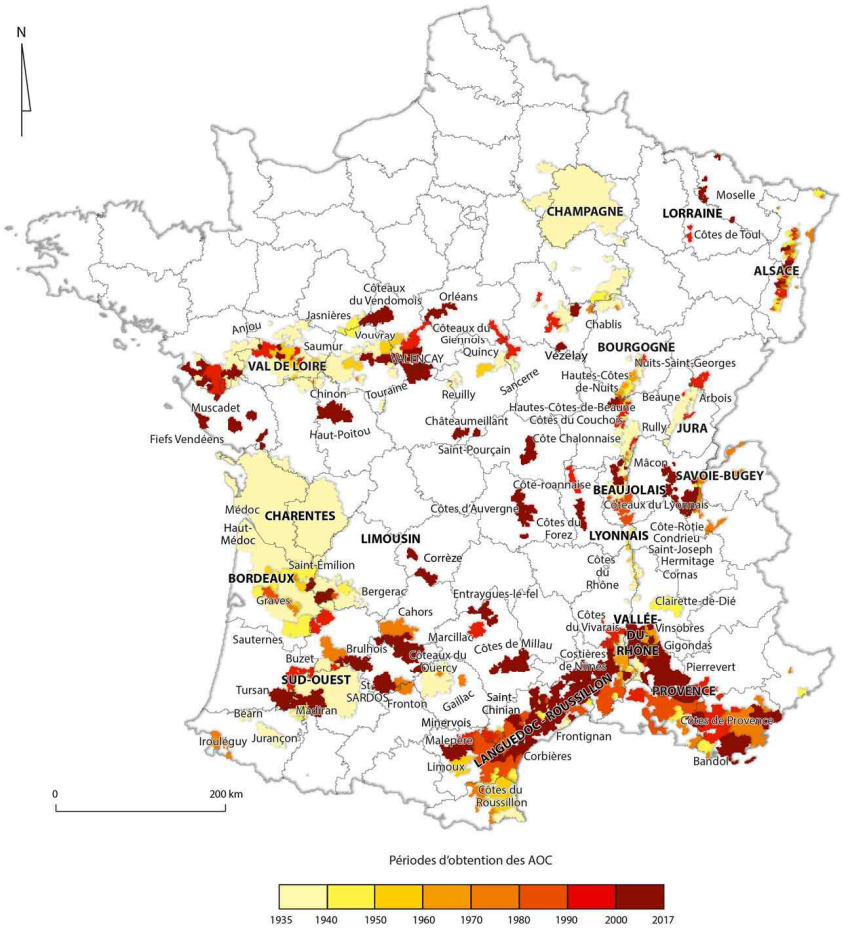
# Lifecycle of vine



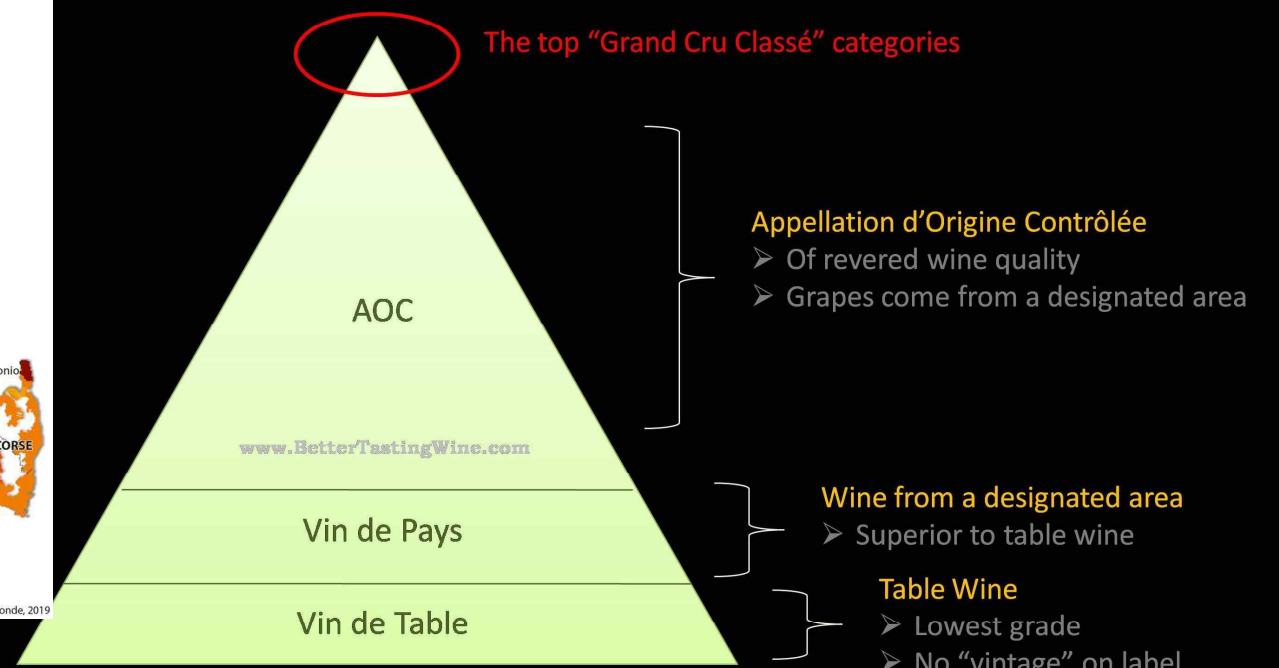
# Phylloxera(1863 in Europe ~)

Grape Phylloxera





## Wine Hierarchy in France



Source: INAO

Conception et réalisation : F. Legouy, Université Paris 8, Ladysy

Mappemonde, 2019

Only lists grape varieties

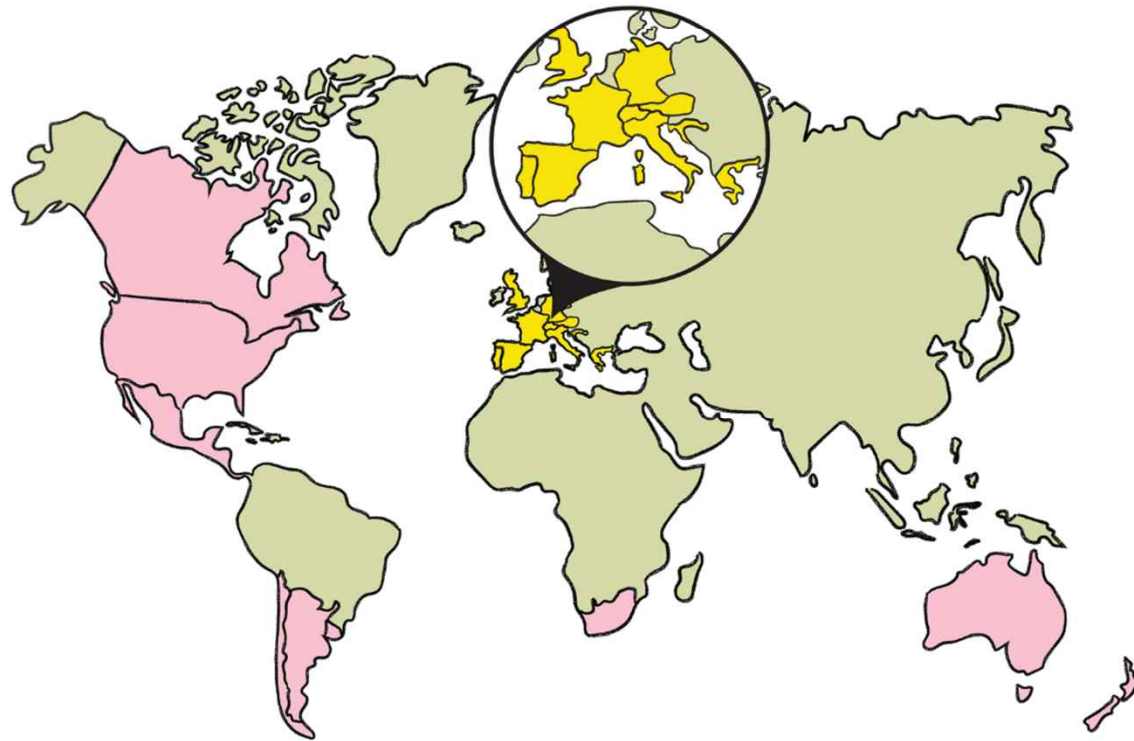


Copyright © 2012 by [www.BetterTastingWine.com](http://www.BetterTastingWine.com)

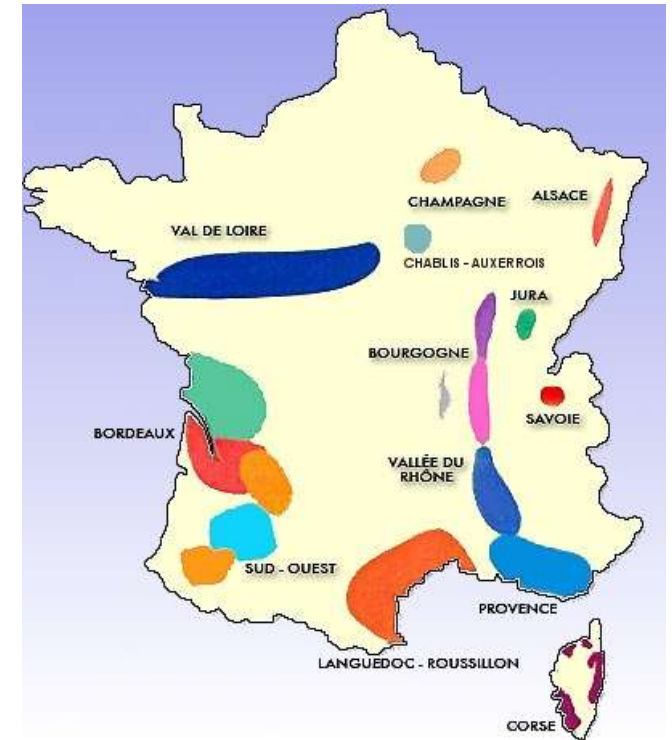
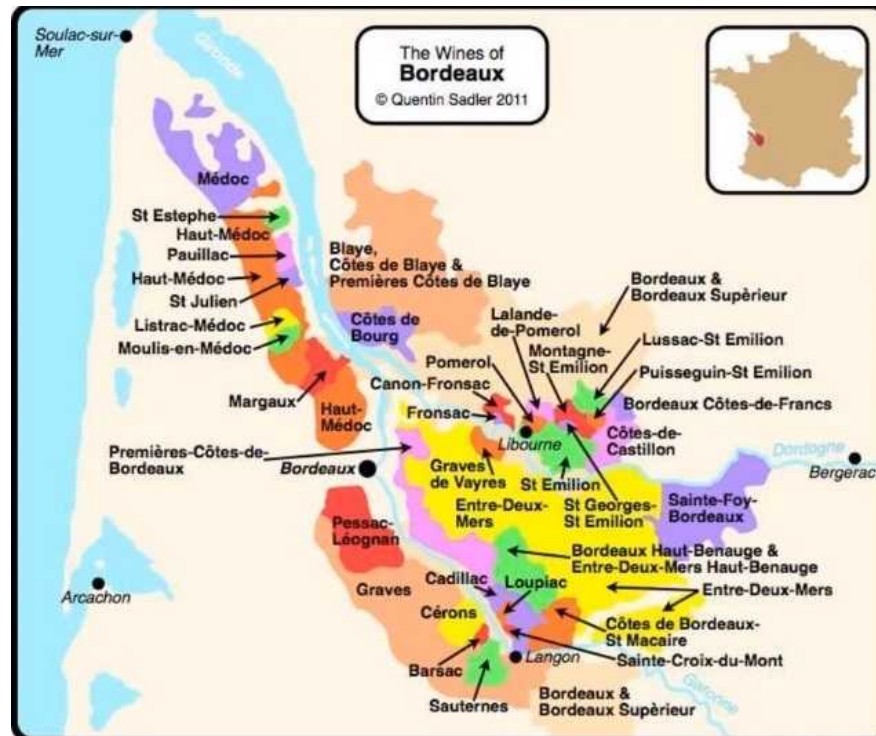
# OLD WORLD VS. NEW WORLD

● Old World Regions

● New World Regions



# Bordeaux Wine



# Left Bank , Right Bank, Gironde River, Garonne River, Dordogne River







Pinot Noir



Chardonnay



Gamay

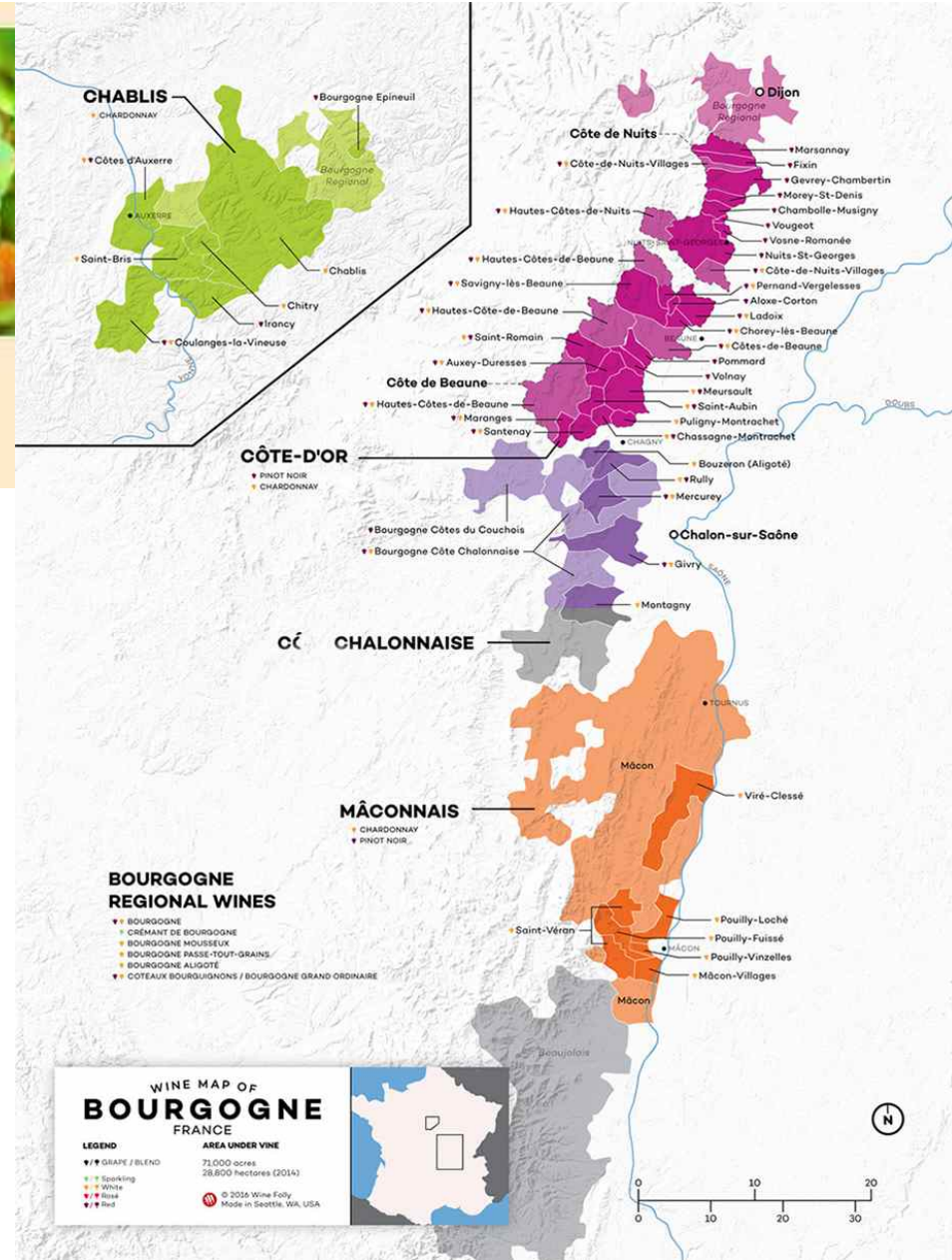


Aligoté

밭에 엄청나게 집착

프랑스 혁명 후 소작농에게 일일이 나누어 준 결과

Grand Cru Classe AOC



# Romanee Conti - monopole



# Bourgogne Pinor Noir

## Burgundy style



---

# Toscana vs Piemonte

Like Bordeaux vs Bourgogne

## Expressions of Italian Nebbiolo



### Barolo

The most well-known Nebbiolo region. Loved for its rich rose and anise aromas and mouth-drying tannin.



### Barbaresco

Close to Barolo but with different soils. Wines are aromatic (like Barolo) but usually with lighter tannin.



### Gattinara

Northern vineyards towards the alps produce wines with elevated acidity, dried fruit notes, and earthiness.



### Valtellina

In Lombardy, Nebbiolo is called Chiavennasca. Wines are often floral and light-bodied like Pinot Noir.

Barbaresco  
Barolo  
Roero



Valtellina  
Ghemme  
Carema



## Sangiovese

### PRIMARY FLAVORS



Cherry



Roasted Tomato



Oregano



Espresso



Sweet Balsamic

### TASTE PROFILE

Bone-Dry

Medium-Full Body

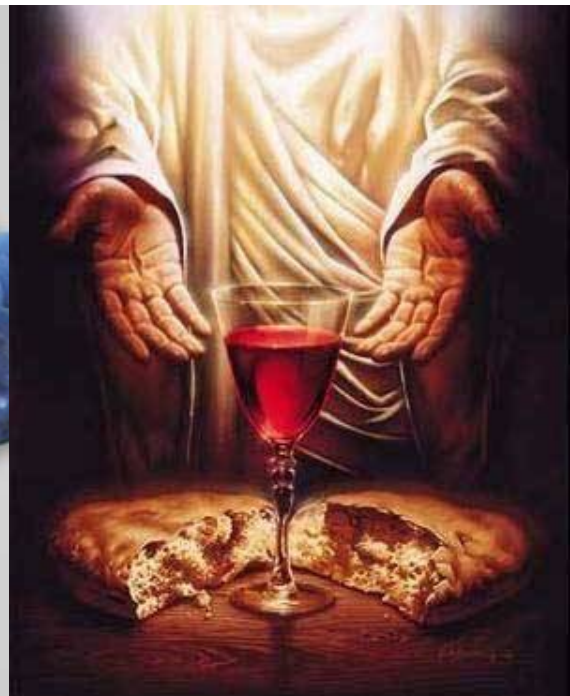
Medium-High Tannin

Medium-High Acidity

13.5-15% ABV



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CASTELGIOCONDO



BRUNELLO DI MONTALCINO

*Consorzio di Tutela del Brunello di Montalcino*



FRESCOBALDI



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## 와인이 미사에 쓰이는 이유 [명옥의 술 인문학]

기독교는 와인에 핍박 속의 부활이라는 이미지도 추가된다. 와인을 만들기 위해서는 포도를 뜯어야 하고, 즙을 짜기 위해서는 밟아야 한다. 이러한 모습이 핍박받는 예수의 모습으로 보인 것이며 영롱한 와인으로 다시 태어난 것은 그것 자체가 부활이라는..... 로마는 기독교를 공인하고 전 유럽으로 와인도 함께 전파한다. 이전까지 지중해를 제외하고는 대부분 맥주 문화였지만 게르만족이 기독교를 받아들여 와인도 더불어 영역을 넓히게 된다.

93  
WA



**RICASOLI**  
Toscana IGT 2016  
GROWING SEASON  
The Autumn and Winter were very mild with below-freezing temperatures only for part of January and rainfall of about 17 inches. Harvesting temperatures were average.

**FORMULAE**  
2001  
dall'Alcantaer, un vino da poter stare a confronto per profumo, grazia, scioltezza, col vino comune di Brolio, la cui base è il San Giveto...  
Barone B. Ricasoli



## TUSCAN WINE

- angiovese
- bernet Sauvignon
- erlot
- trah
- bernet Franc

FRANCO BIONDI SANTI  
NELLA CANTINA DELLA TENUTA "GRIPPO"  
MONTALCINO-ITALIA



포도밭에 장미꽃을 함께 심는다. 이유는??

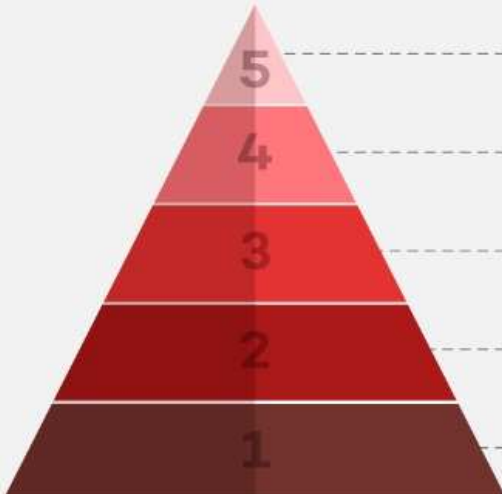


# Veneto

- Valpolicella
- Recioto
- Amarone
- Ripasso



# Valpolicella Wine Styles



## RECIOTO DELLA VALPOLICELLA (DOCG)

- ✕ Classic pairing for dark chocolate
- 💰 Price Range: \$40+ sold in half bottles

## AMARONE DELLA VALPOLICELLA (DOCG)

- ✕ Pairing: Braised meats, aged cheese
- 💰 Price Range: \$50+

## VALPOLICELLA RIPASSO (DOC)

- ✕ Pairing: Steak, mushrooms, dark flavors
- 💰 Price Range: \$20 - \$25

## VALPOLICELLA CLASSICO SUPERIORE (DOC)

- ✕ Pairing: Burgers, roasted chicken, fresh cheese, charcuterie
- 💰 Price Range: \$15-\$20

## VALPOLICELLA CLASSICO (DOC)

- ✕ Pairing: Lots! Pizza, pasta, light meats, veggies
- 💰 Price Range: \$12-\$15



# How **AMARONE** della **VALPOLICELLA** is made

## 1st Harvest → Appassimento

The harvest for the grapes used in producing Amarone is strictly done by hand and generally occurs between the end of September and the first weeks of October.



After the harvest (Corvina & other varieties) up to 40% of the grapes are dried in rooms.

## Destemming & Crushing

### Harvesting The Valpolicella Formula



- Mandatory**
- Corvina 45-90%
  - Rondinella 5-30%
  - Corvinone 0-50%
- Optional: 0-25%**
- Molinara
  - Oseleta
  - Negrara etc.

### Valpolicella Ripasso DOC Key winemaking rules



## Fermentation



## Clarification & Filtration

After the aging, and before being bottled, the wine generally undergoes a clarification & a filtration process in order to eliminate any residual solids.



## Ageing



The wine develops its characteristic flavors over at least 2 years of ageing. Amarone minimum ageing is 2 years.

## Refinement

The wine is then bottled and put to rest in the bottles from a few to several months in the cellar.



## Ready to Market

Amarone de Valpolicella DOCG wines are available to the market from January following the harvest.



**Ageing**  
2 years min.



Optional



**Short re-fermentation**  
Vinacce: unpressed Amarone or Recioto grape skins

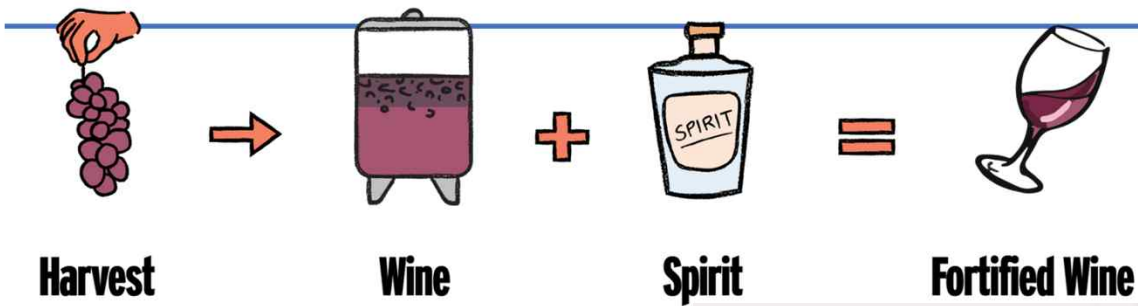


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# Fortified Wine 주정강화와인

Port  
Sherry  
Madeira  
Marsala  
Muscat  
Vermouth





## TYPES OF FORTIFIED WINES



# GO FOR

**Merlot**

**Cabernet Sauvignon**

If you want

**Plum and Cheery Flavors**

**Blackcurrant and spice flavors**

Buzzle.com

## NAPA VALLEY WINE MAP

DIGITAL EDITION - FREE TO SHARE - ENJOY

43,000+ Vineyard Acres

**MOST POPULAR GRAPE VARIETIES**  
 Cabernet Sauvignon  
 Chardonnay  
 Merlot  
 Pinot Noir  
 Sauvignon Blanc

**POINTS OF INTEREST**

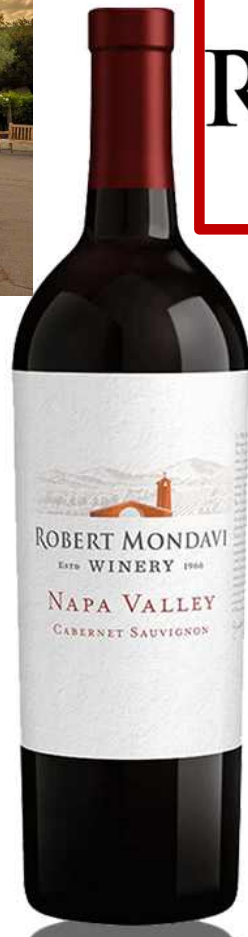
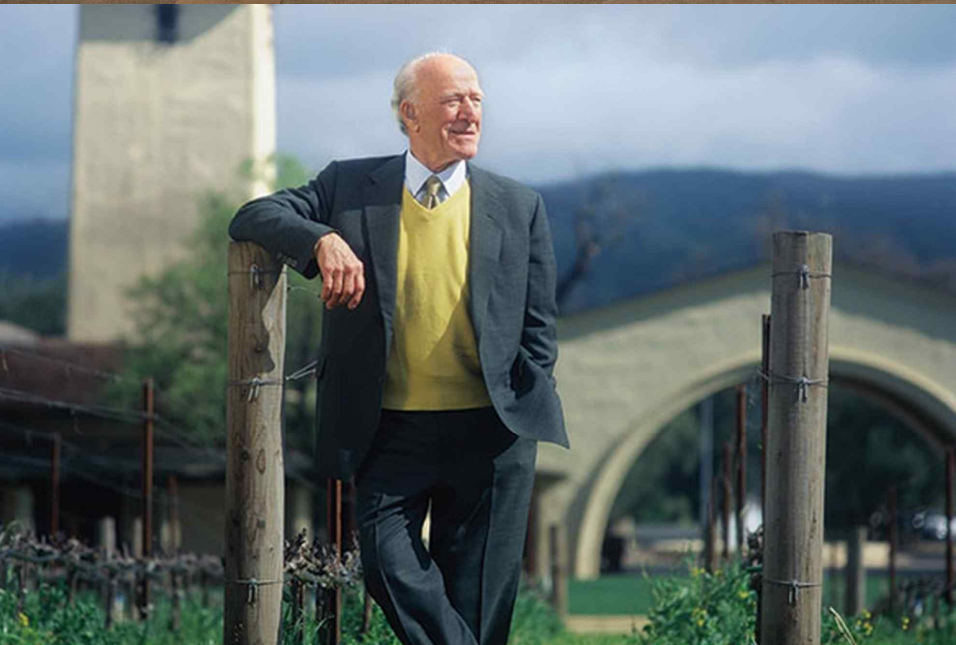
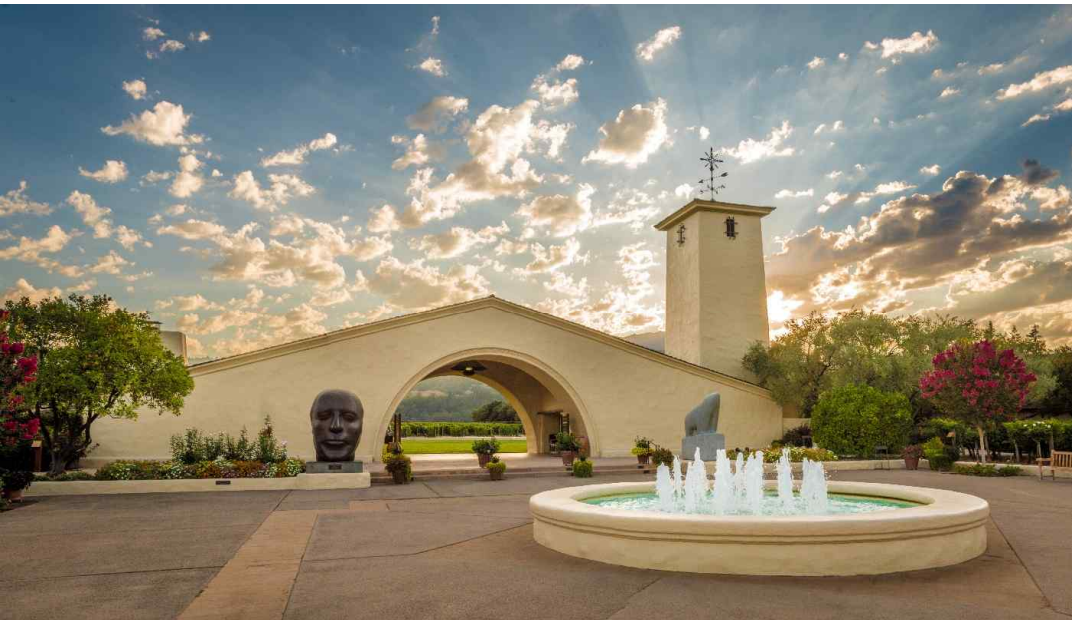
- 1 French Laundry Restaurant
- 2 Atlas Peak Mountain
- 3 Historic: Buena Vista Winery
- 4 Greystone Culinary Institute of America
- 5 Chateau Montelena
- 6 Screaming Eagle
- 7 Hotel Auberge du Soleil

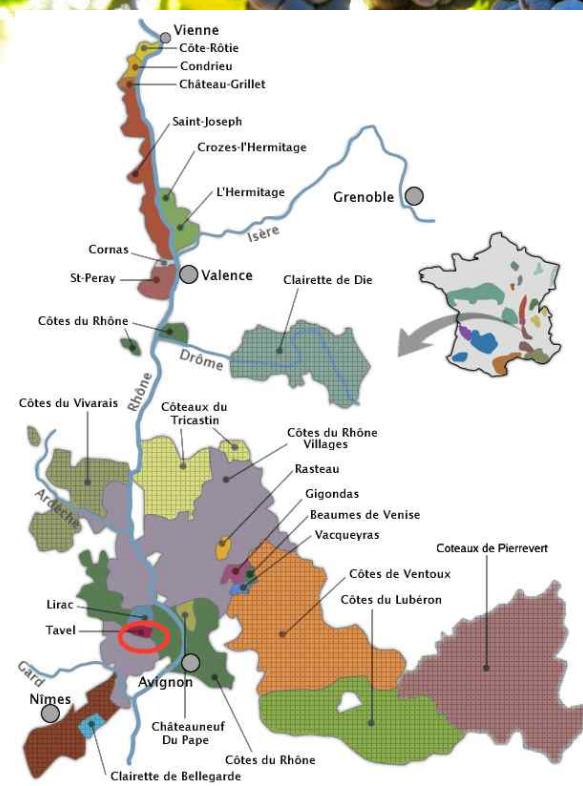
**LEGEND**

- VALLEY Known for Merlot & Cabernet
- VALLEY Known for Cabernet Sauvignon
- VALLEY Great for Pinot Noir
- HILLSIDE Known for Merlot & Cabernet
- HILLSIDE Known for Cabernet Sauvignon
- Known for Zinfandel

Map labels include: CALISTOGA, HOWELL MOUNTAIN, CHILES VALLEY, DIAMOND MOUNTAIN DISTRICT, SPRING MOUNTAIN DISTRICT, ST. HELENA, RUTHERFORD, OAKVILLE, STAGS LEAP DISTRICT, YOUNTVILLE, MOUNT VEEDER, OAK KNOLL, NAPA, COOMBSVILLE, CARNEROS (NAPA), CARNEROS (SONOMA), SONOMA, WILD HORSE, Lake Berryessa, Lake Hennessey, To Clear Lake, To Healdsburg, To San Fran., San Pablo Bay, Napa, California, 101, 29.

OKAY TO PRINT FOR PERSONAL USE | NOT FOR RESALE  
 SOURCE: winetolly.com/reviex/napa-wine-map  
 © 2013 winetolly.com





Australian wine region





# The Different Styles of Malbec



# SOUTH AMERICA WINE MAP



# CARMÉNÈRE

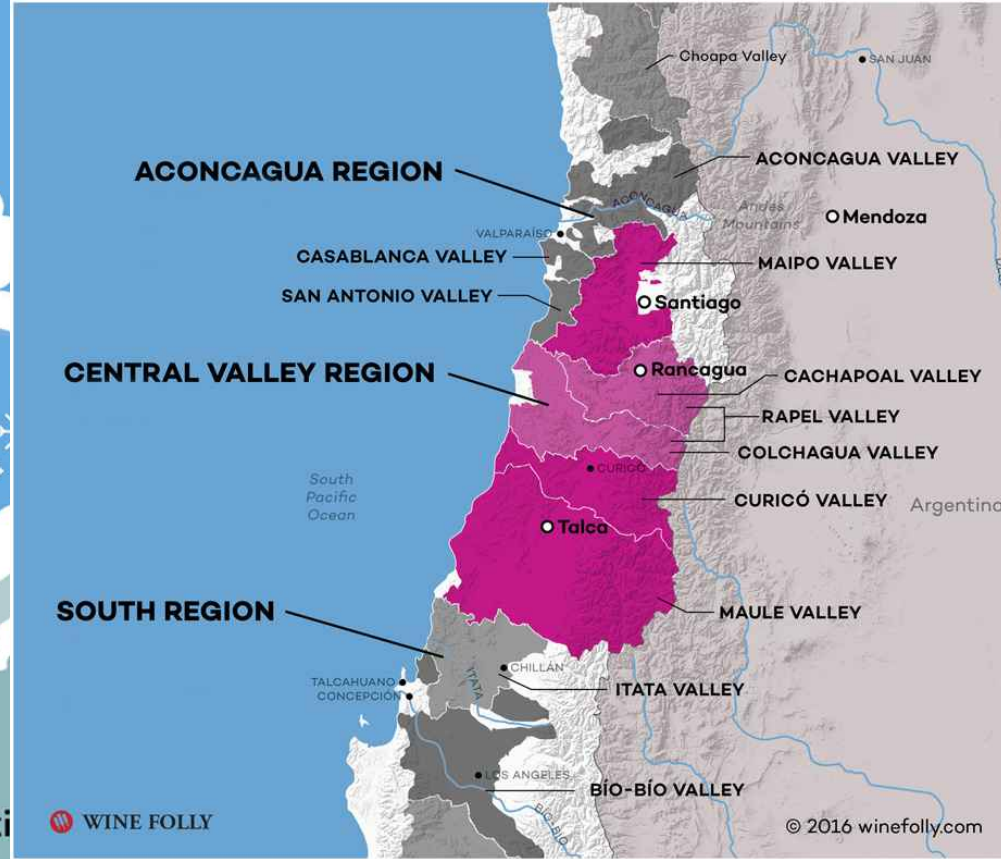
## DOMINANT FLAVORS



## COLOR / TASTE PROFILE



Atlantic Ocean



Pacific Ocean



# 아르헨티나를 대표하는 white grape는???



## TORRONTÉS

DOMINANT FLAVORS

- MEYER LEMON
- PEACH
- LEMON PEEL
- ROSE PETAL
- GERANIUM

COLOR / TASTE PROFILE

|           | LOW | MEDIUM-LOW | MEDIUM | MEDIUM-HIGH | HIGH |           |
|-----------|-----|------------|--------|-------------|------|-----------|
| FRUIT     | ●   | ●          | ●      | ●           | ●    | FRUIT     |
| BODY      | ●   | ●          | ●      | ●           | ●    | BODY      |
| SWEETNESS | ●   | ●          | ●      | ●           | ●    | SWEETNESS |
| ACIDITY   | ●   | ●          | ●      | ●           | ●    | ACIDITY   |
| ALCOHOL   | ●   | ●          | ●      | ●           | ●    | ALCOHOL   |

A wine glass filled with white wine, showing a pale yellow color. The glass is positioned in the center of the profile section.

# Wine Manner





### How much wine should I pour?

**DO**



Fill just below  
the widest part  
of the glass

**DON'T**



Fill more than halfway,  
which prevents the  
wine from being  
swirled and sniffed



CLINKING WINE GLASSES

1.



2.



*WineFolly*  
LEARN BY DRINKING



---

# Wine Tasting, Eye Contact!



---

# Wine Tasting...

## Color Aroma Flavour Assessment

Standardization

# THE COLOR OF WINE



**[light-bodied]**  
 Light-bodied red wines tend to have low tannin and high acidity.  
 e.g. Pinot Noir, Gamay



**[medium-bodied]**  
 Medium-bodied red wines tend to have moderate tannin and medium acidity.  
 e.g. Tempranillo, Merlot and Sangiovese



**[full-bodied]**  
 Full-bodied red wines tend to have high tannin and low acidity.  
 e.g. Syrah, Malbec and Cabernet Sauvignon



**young wine**  
 A young wine is at its peak level of tannin, acidity and fruit aroma.



**old wine**  
 Wine loses acidity and tannin over time but gains bottle-aged aromas of spice.



**[light-bodied]**  
 Light bodied white wines tend to have high acidity and are best enjoyed ice-cold.  
 e.g. Pinot Grigio, Albariño, Muscadet



**[medium-bodied]**  
 Medium bodied white wines tend to have moderate acidity. Most white wines fall into this category.  
 e.g. Sauvignon Blanc, Trebbiano, Chenin Blanc



**[full-bodied]**  
 Full bodied white wines have lower acidity and rich creamy flavors.  
 e.g. Chardonnay, Viognier, Semillon



**young wine**  
 Most white wines are meant to be enjoyed young with higher acidity and fresh flavors.



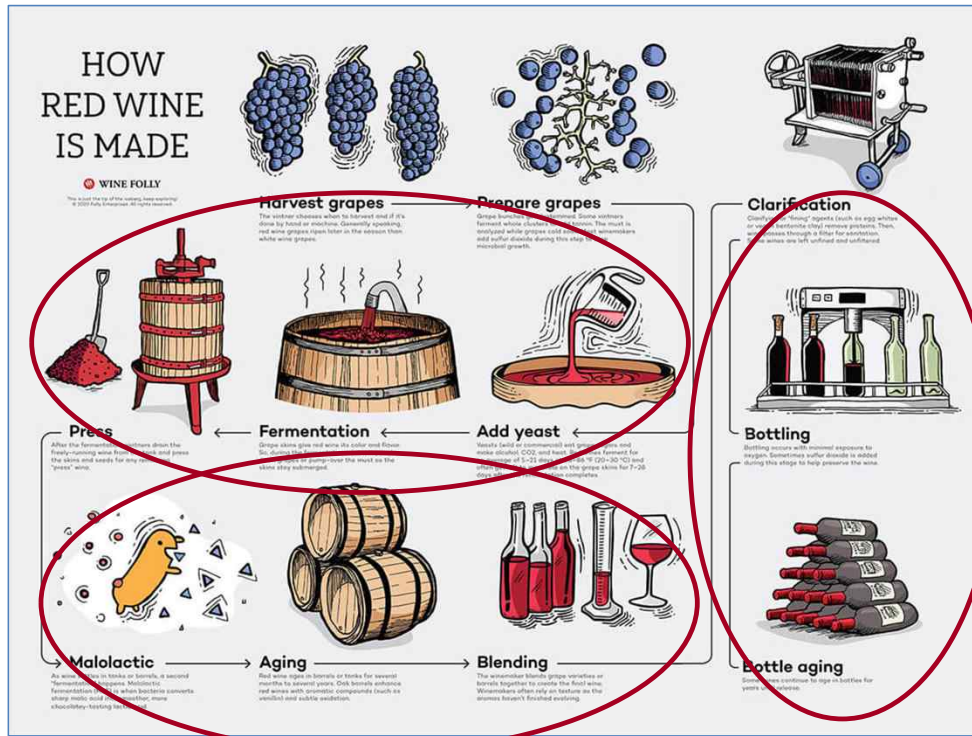
**old wine**  
 Aging is best suited for full-bodied and sweet wines. It lowers acidity but adds tertiary nutty aromas.



Designed by winefolly.com

# Aroma and Flavour of Wine

- Primary : from the grape and alcoholic fermentation
- Secondary: from post-fermentation winemaking (lee, autolysis, flor, MLF, oak)
- Tertiary: from maturation



tasting date: \_\_\_\_\_ location: \_\_\_\_\_

tasting partner(s): \_\_\_\_\_

wine name: \_\_\_\_\_

producer: \_\_\_\_\_

region/appellation: \_\_\_\_\_

grape varieties: \_\_\_\_\_

vintage: \_\_\_\_\_ alcohol: \_\_\_\_\_ price: \_\_\_\_\_

**COLOR DEPTH:**  
watery | pale | medium | deep | dark

**COLOR HUE:**  
WHITE: greenish | yellow | straw yellow | gold | amber  
RED: purplish | ruby | red | garnet | brick | brown  
ROSÉ: pink | salmon | orange | copper

**CLARITY:**  
clear | slight haze | cloudy

**AROMA INTENSITY:**  
low | moderate | aromatic | powerful

**DEVELOPMENT:**  
youthful | some age | aged

**AROMAS:**

**DRY/SWEET:**  
bone dry | dry | off-dry | medium sweet | sweet | very sweet

**BODY:**  
very light | light | medium | medium-full | full-bodied | heavy

**ACIDITY:**  
tart | crisp | fresh | smooth | flabby

**TANNINS (IF PRESENT):**  
LEVEL: low | medium | high TYPE: soft | round | dry | hard

**BALANCE:**  
good | fair | unbalanced (excess: alcohol - acid - tannin - sugar)

**FLAVOR INTENSITY:**  
low | moderate | flavorful | powerful

**FLAVORS:**

**FINISH:**  
short (< 3 sec) | medium (4-5) | long (5-7) | v. long (>8 sec)

**CONCLUSION:**

**STYLE:**  
traditional | in-between | modern  
rating: \_\_\_\_\_

**FOOD: FOOD PAIRING:**  
MATCH: perfect | good | neutral | bad

tasting date: \_\_\_\_\_ location: \_\_\_\_\_

tasting partner(s): \_\_\_\_\_

wine name: \_\_\_\_\_

producer: \_\_\_\_\_

region/appellation: \_\_\_\_\_

grape varieties: \_\_\_\_\_

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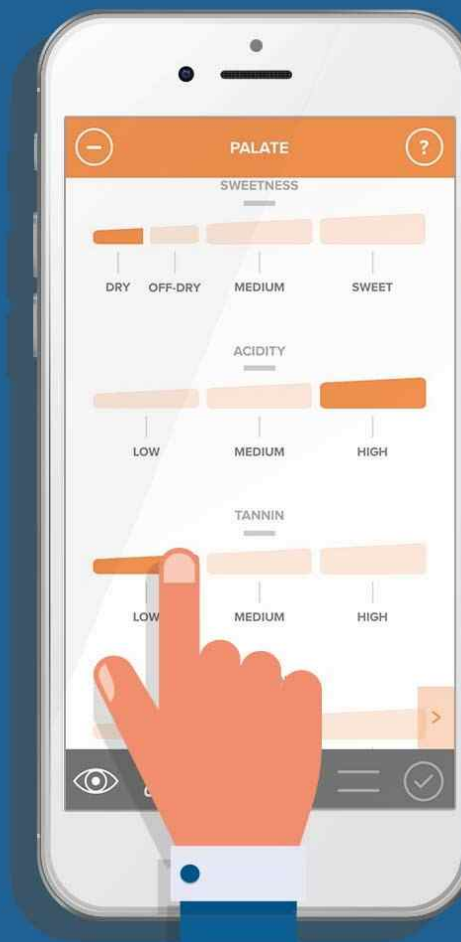
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**STYLE:**  
traditional | in-between | modern  
rating: \_\_\_\_\_

**FOOD: FOOD PAIRING:**  
MATCH: perfect | good | neutral | bad



# Tasting notes app - wine



## Why download the app?

- it's easy to use, with helpful tips to guide you
- save detailed tasting notes, with a "blind" tasting mode option
- includes a comprehensive list of common aromas and flavour characteristics, as well as wine producing regions and grapes

Free to download  
for iOS and android





**WSET**  
WINE & SPIRIT  
EDUCATION TRUST

Celebrating  
**50**  
years  
1969-2019



[1회차] 포도 재배



[4회차] 프랑스 1 - 개갈 / 보르도



[7회차] 프랑스 4 - 론 / 남프랑스



[2회차] 와인양조



[5회차] 프랑스 2 - 부르고뉴



[8회차] 이탈리아 1 - 북부, 중부



[3회차] 와인 개요 / 심화 테이스팅



[6회차] 프랑스 3 - 알자스 / 루아르



[9회차] 이탈리아 2 - 남부 | 스페인&포르투갈



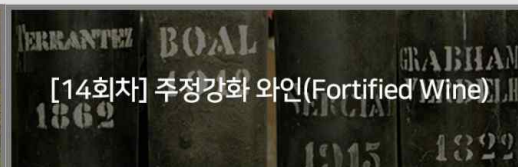
[10회차] 독일, 오스트리아 및 기타 유럽



[13회차] 스파클링 와인(Sparkling Wine)



[11회차] 북미&남미



[14회차] 주정강화 와인(Fortified Wine)

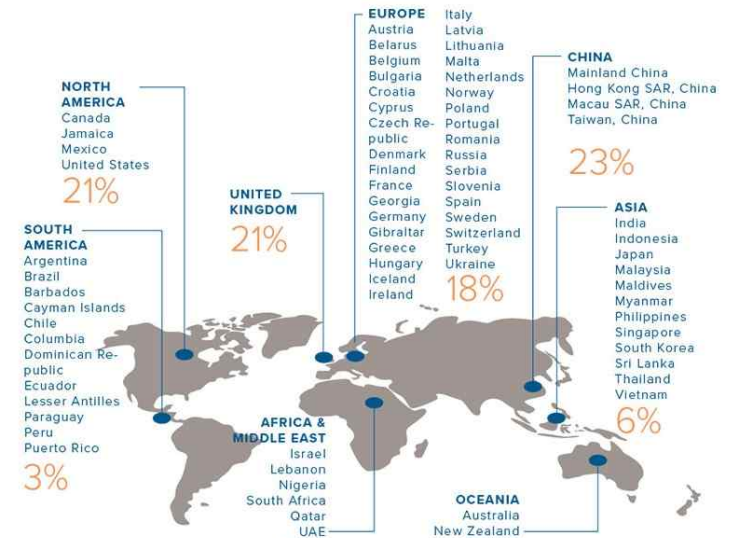


[12회차] 호주&뉴질랜드&남아프리카



[15회차] 고급 과정 총 정리 & 시험 OT

WSET는 유럽과 미국을 중심으로 호주, 뉴질랜드, 중국, 홍콩, 일본 등 전세계의 70여개 주요 국가에서 그 권위와 공신력을 인정 받고 있는 국제 와인 전문 교육 및 전문가 인증기관입니다.



### 1. 보르도 프리미엄 라

- a. 피노 누아(Pinot N
- b. 쉬라(Syrah)
- c. 까베르네 소비농(C
- d. 산지오베제(Sangi

### 2. 다음 중 말벡 품종이

- a. 칠레
- b. 아르헨티나
- c. 미국
- d. 남아프리카공화국

### 3. 다음 중 샤프도네 품

- a. 샤프블리(Chablis)
- b. 보르도(Bordeaux)
- c. 상세르(Sancerre)
- d. 말보로(Marlborou

### 4. 전통 방식으로 생산되는 스파클링 와인은?

- a. 쉐트(Sket)
- b. 프로세코(Prosecco)
- c. 카바(Cava)
- d. 아스티(Asti

### 5. 다음 중 호주

- a. 그르나슈(G
- b. 피노 누아(P
- c. 진판델(Zinf
- d. 쉬라즈(Shi

### 6. 레드 와인의

- a. 양금에 숙성
- b. 오랜 껍질 접
- c. 자연스럽게
- d. 탄산침용을

### 7. 탄닌이 높은

- a. 와인이 더 산
- b. 와인이 더 스킨
- c. 와인이 부드
- d. 알코올 도수

### 8. 스페인과 남프랑스 로제 와인에 자주 활용되는 품종은?

- a. 그르나슈(Grenache)
- b. 쉬라(Shrah)
- c. 카리냥(Carignan)
- d. 진판델(Zinfandel)

### 9. '나파 푸메 블랑(Napa Fume Blanc)'이라는 라벨에 명시된 품종은?

- a. 슈냉 블랑(Chenin Blanc)
- b. 위니 블랑(Ugni Blanc)
- c. 소비농 블랑(Sauvignon Blanc)
- d. 샤프도네(Chardonnay)

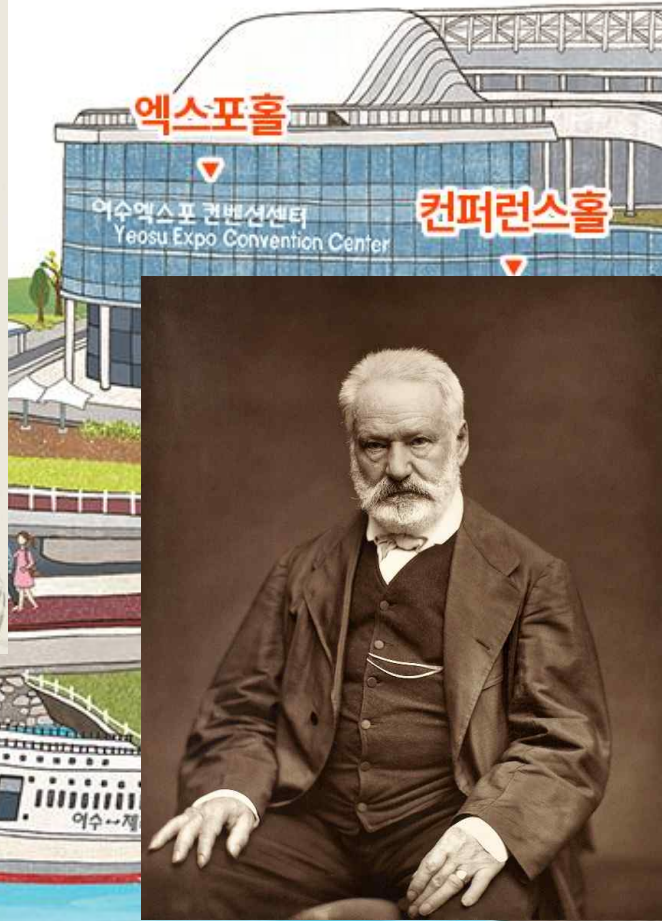
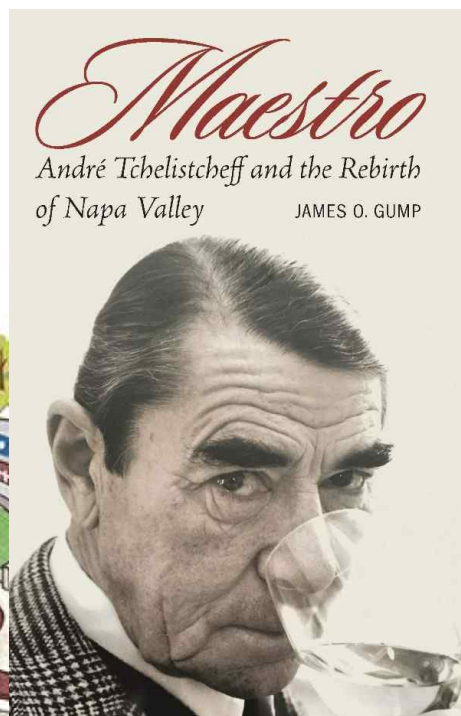
### 10. 다음 중 플로르(Flor)와 함께 숙성되는 와인은?

- a. 피노 셰리(Fino Sherry)
- b. LBV 포트(LBV Port)
- c. 빈티지 포트(Vintage Port)
- d. 올로로소 셰리(Oloroso Sherry)

REMEMBER: "Life is too short to drink bad wine."

God made Cabernet Sauvignon, whereas the Devil made Pinot Noir.

God made only water, but man made wine.



CDP (샤도네프 뒤 배프)  
깊은 루비색의 컬러로 풍부한 과실 향이 매력으로  
파워풀하면서도 우아한 매력을 뽐내는 와인



감사합니다!!