Aged Wine

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The 5%


Lowest PRICES
Wine, Spirits & Beer
America's Wine Superstore
STYLE A COGNAC / BRANDY
ORGANIC SELECTIONS
Lush & Full Bodied
Elegant & Refined
Fresh & Fruity
Elegant & Soft
Big & Robust
ITALY/GERMANY
CHARDONNAY
The other 95%

Some Producers Hold then Release

- 2008 & 2010 Rioja
- 2010 is the *current* release!
- It's a Reserva, yet aged 6 years in barrels, and clearly longer in bottle
- Producer chooses to hold and age even longer

Hard to Do, Still Desired…

“Techniques used to artificially age wine (**with inconclusive results on their effectiveness**) include shaking the wine, exposing it to radiation, magnetism or ultra-sonic waves… high-voltage electricity… Some artificial wine-aging gadgets include the "Clef du Vin", which is a metallic object that is dipped into wine and purportedly ages the wine one year for every second of dipping. **The product has received mixed reviews**…”

“Several wineries have begun aging finished wine bottles undersea; ocean aging is thought to accelerate natural aging reactions as a function of depth (pressure).”

What Happens as Wine Ages?

- Color changes
- Sediment deposits
- Ullage may increase slightly due to evaporation through cork
- **Acidity tends to drop over time**
- **Tannins soften** – more on this in a moment…
- **Aroma compounds are slowly freed from binding components, adding complexity and secondary & tertiary aromas**
- **Alcohol and acid interact to create new, additional esters (aroma compounds)**

<u>Overall, the right wine, well-made and age worthy, will increase in complexity and improve in mouthfeel over time</u>

A brief Foray into Tannin Chemistry

- Polymerized flavonoid phenols, or **polyphenols** – plant compounds bonded together into long chains.
- **Tannins bond to anthocyanins** (other polyphenols responsible for pigmentation) and form new polymers (polymerization) and precipitates (sedimentation) which also results in a lighter color. (Sedimentation)
- **Tannins also bond to proteins** and precipitate solids that are insoluble in water – *this happens in your protein-rich saliva, creating the abrasive sensation on your tongue!*
    - Many fining products are protein based!
- Theorized is that over time, tannins bond with those anthocyanins and become either insoluble and precipitate out (so simply the loss of tannin…) (Taste less tannin.)
- Tannin polymerization: it is also theorized these longer chain tannins simply translate to less total opportunities to bind with proteins and form precipitates. (Taste less tannin.)
- **We don't actually know for sure**. But we do know that over time, the sensation of tannins gets softer/silkier, and we like that.

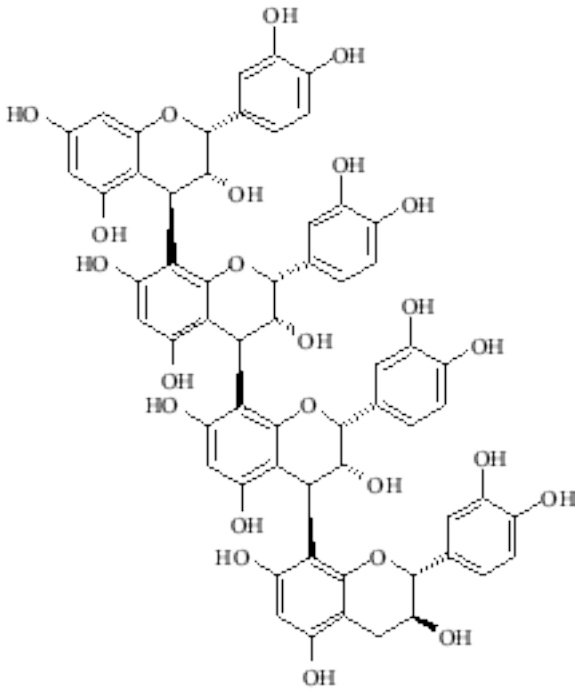


Figure 10. Condensed Tannin tetramer

What *Actually* Makes a Wine Age Worthy?

1. Low pH/high acid
2. High ABV
3. Sulfites
4. Tannin/well extracted phenolic compounds
5. Residual Sugar – high osmotic pressure

*Pre-oxidization

*Storage best practices

Typical Age Worthy Examples

- Reds that age:
- Bordeaux
- Burgundy
- Barolo & less so Barbaresco
- Port

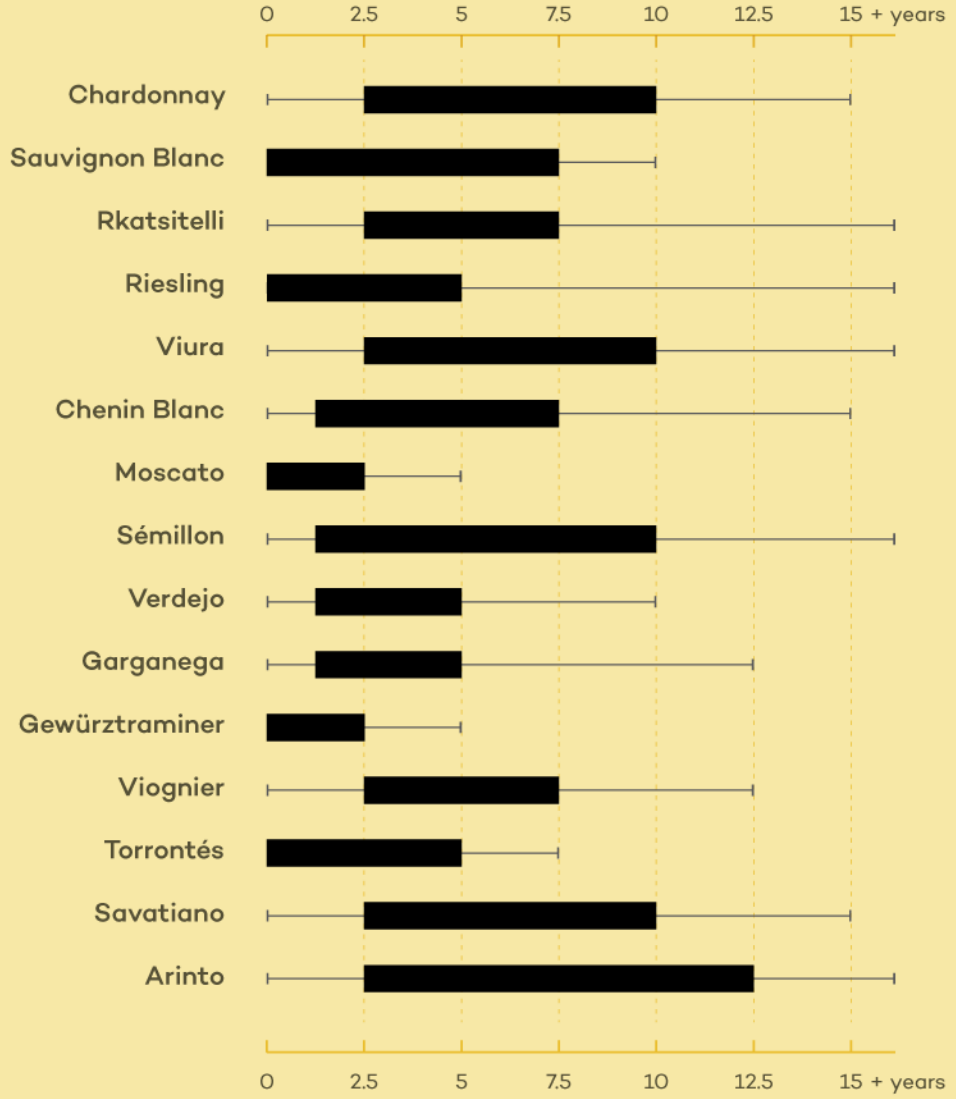
- Whites that age:
- Chardonnay
- Riesling
- Botrytis Wines
- Sherry, Madeira

AGING CHART FOR RED WINES

Best practices for different red wine varieties.

AGING CHART FOR WHITE WINES

Best practices for different white wine varieties.



Tasting – Riesling <u>2014</u>

Grape: Riesling
Region: Mosel
Vineyard: Multiple sites, 100% estate fruit
Soil: Slate
Production: Stainless steel

“Young Rieslings are almost always about primary fruit… apple and pear to peach and apricot, often with citrus notes of lemon, lime, grapefruit and orange…”

“As Riesling ages, the fruit recedes [to] **beeswax, lanolin, butter, smoke, pine, or pine forest, honey, butterscotch, mushroom, woodsy spice, lemon candy and citrus preserve**.”

- Wine Spectator

May also get color change. May also get “petrol” notes.

”Better” may be up to you!

Sourced from Cork Dork in South Minneapolis

We Want Aged Wine

Age worthy wine is rare

Aged wine is rare

Aged, age worthy wine is good

Therefore… we covet good aged wine, and we want to make good aged wine!

How can we do it as home winemakers?

Making Age Worthy Wines at Home

- Master the basics. Free from flaws
- As always, start with the best quality fruit available
- Keep an eye on pH. Closer to 3.5 is great for reds, and lower for whites. Fruit wines may vary.
- Of course, acid must be balanced, so you may not be able to do much for pH
- Appropriate sulfite levels can balance a higher pH.

Making Age Worthy Wines at Home

- For reds, aim for good skin extraction
  - Pre-fermentation cold-maceration tends to extract more color and softer tannins
  - Managing fermentation temperature, say 75F – 85F. (Cooler for whites, say 60F.)
    - Keep in mind, exothermic
    - ”Hot and quick” maximizes skin extraction while minimizing seed contact.
  - Punch your caps, consider pump-overs if you have the equipment
- Cold, post-ferment extended maceration
- For whites, ferment cooler, limit oxygen exposure
- Consider separating free-run and press-run
  - Overly harsh and unbalanced tannins may not ever resolve with age - you want grape skin tannin.
- Possible to add “sacrificial” grape skin tannin powder pre-ferment

Making Age Worthy Wines at Home

- Age in oak barrels, or with oak adjuncts
  - Oak adds complexity in aromas, flavors, and mouthfeel to wine…
  - **Oak adds tannin** to the wine, increasing ageability. **Taste like grape skin tannins, but <u>greater antioxidant power!</u>**
  - **Concentration** of the wine, increases acid and tannin concentration, decreases pH. The "angel's share" is win-win.
- **Manage your sulfites**
  - Measure sulfites at periodic intervals
  - Use a detailed sulfite calculator
  - Don't be afraid to sulfite appropriately – it's molecular sulfites that you smell and detect, not free SO2 (shoot for 0.5ppm for reds, 0.8ppm for whites.)
  - *Reference the sulfites presentation from Chad Redlin and Joey DeCarlo*

Making Age Worthy Wines at Home

- Consider higher acid styles, even for high tannin wines
  - Acid and tannin reinforce each other
  - High acid AND high tannin will often taste harsh, unapproachable
- Consider sweet wines
  - Sugar is a preservative
  - Sweetness may allow for higher acid content to balance the sweetness
- Consider blending

And remember that many wines intended to age may not be approachable and balanced now!

Aging Your Wines at Home

- Use amber bottles, or at least green bottles. Avoid clear bottles for age worthy wines
- Use high quality closures. High grade natural corks, or at least twin tops.
- Pambianchi 18-month Closures Study. Oxygen transfer measured

Aging Your Age Worthy Wines at Home

- Store bottles with corks on their side*
- Store as close to “cellar” conditions as possible – 55F/55% RH
- Consistent temperature
- Cool, dark, consistent place
- Avoid lots of vibration and heavy movement

Vertical Tasting – Barolo 2018

- **100% Nebbiolo** from Bricco Ambrogio in Roddi village
- The most important vineyard in the village of Roddi
- 275 meters elevation
- South/southeast exposure
- Marl and limestone soil
- Made for the first time in 2002 and nearly a monopole
- Harvested by hand, normally after the 10th of October
- **Submerged-cap maceration (10-12 days in average)**
- **Fermentation (20-30 days in average)** in stainless steel with **temperature controlled** and indigenous yeasts
- Malolactic fermentation in 225 L barrels over the winter
- **Aged 11 months in neutral French oak** barrels and further **13 months in large casks**, plus **8 months in stainless steel** and **6 months in bottle**

Sourced from Haskell's in Stillwater

Vertical Tasting – Barolo 2007

- **100% Nebbiolo** from Bricco Ambrogio in Roddi village
- The most important vineyard in the village of Roddi
- 275 meters elevation
- South/southeast exposure
- Marl and limestone soil
- Made for the first time in 2002 and nearly a monopole
- Harvested by hand, normally after the 10th of October
- **Submerged-cap maceration (10-12 days in average)**
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Closing Thoughts

"Wine is a living beverage; it progresses and transforms during aging, or what is referred to as maturation, what the French call elevage, akin to raising a kid."

- Pambianchi

… But no wine improves indefinitely. There is a life expectancy. The world's oldest bottle is past it's prime!

Follow the story arch - Taste over time, monitor aging, and when it peaks, drink it.

Employ techniques within reason. A wine that is *totally* unbalanced now will likely never be balanced. Everything is a spectrum, practice makes perfect.


Thank you!
Questions?

Additional Thoughts Post-Presentation

- Any time you plan for residual sugar, be sure that your wine is first stable – this means all yeasts have been killed off, your wine is appropriately sulfited, and you may have also added potassium sorbate to prevent any renewed fermentation in the bottle.
- For cold maceration, another option is to fill 1-gallon jugs with water, seal them shut and freeze them. Then, submerge the frozen jugs in the grape must to keep it chilled to the desired temperature (aim for something like 40 F.) Be sure to sanitize the outside of the jugs and not allow ice or water to leak into the must.
- Another tip to age your wine – make more! It's easier to set some wine aside for the long haul when you have more.
- Finally, keep in mind that "better" is ultimately up to the wine drinker. Some people may prefer younger wines, enjoying a more fruit forward and fresh style. That's okay. Be encouraged to explore different styles and try both young and aged wines to determine your goals.

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