Texas Wine Aged on Texas Post Oak

KEN WUENSCHE

JIMMIE CORMIER

Bio

Kenneth Wuensche

81 yrs 51 yrs married; 2 children; 4 grandchildren

1970 BS Chemistry, University of Houston

5 yrs - Dow Chemical - Research

40 yrs - Houston area - Residential Construction

21 - Grape Grower - Winemaker

10 - yrs Commercial Winemaker, Nice Winery- Houston

Jimmie Cormier

70 yrs old; 52 yrs married; 4 children; 1 grandchild

20 yrs – Project Management Professional

13 yrs – Sawyer, wood entrepreneur

8 yrs retired on 13.5 acres near Hempstead, Tx

40+ yrs - Student and practitioner of Depth Psychology and Behavioral Science

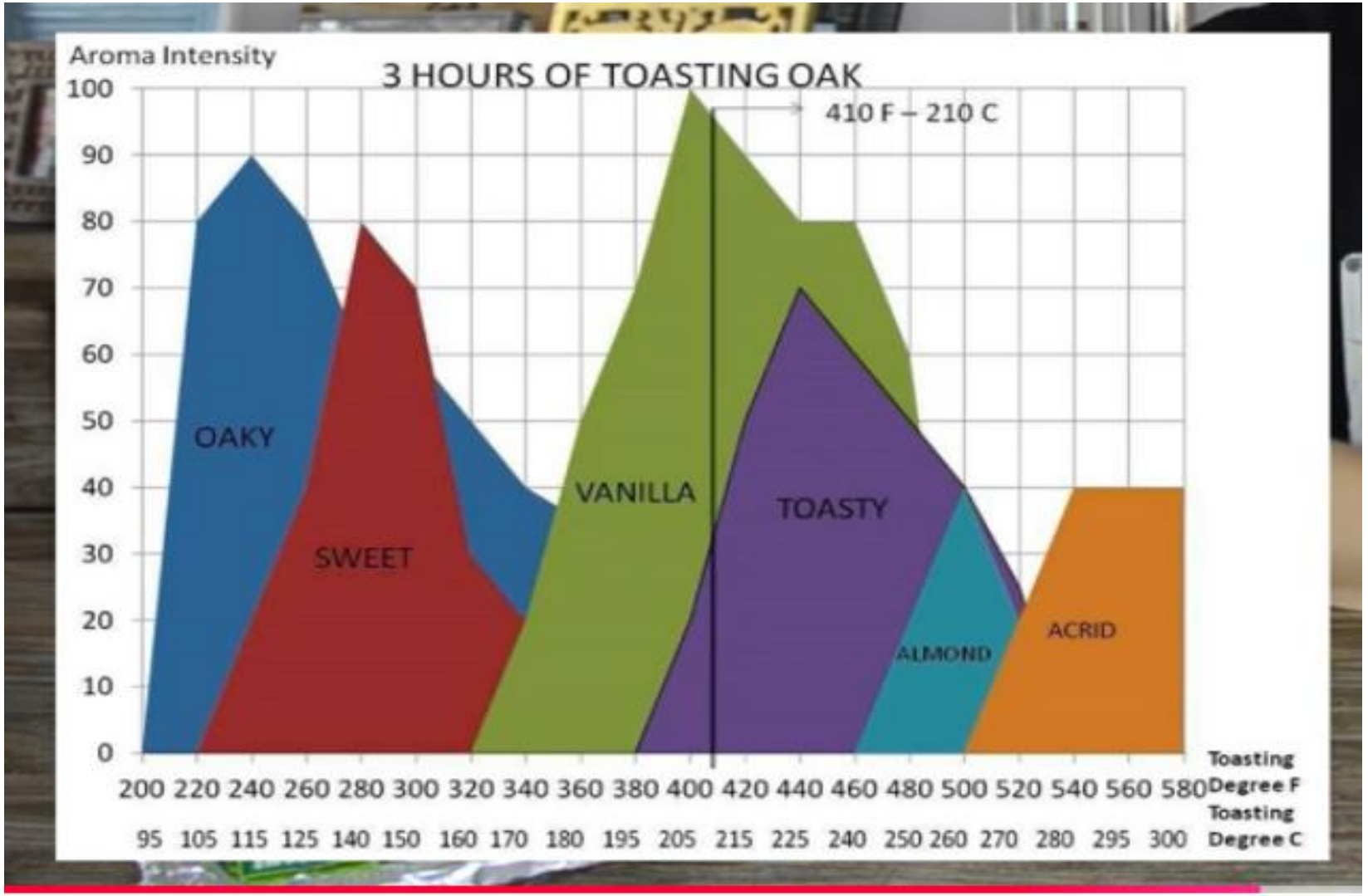
Enjoyer of wine (primarily reds)

Objectives

1. Introduce the use of locally gathered post oak in aging wine
2. Get post oak samples to as many interested parties as possible for the express purpose of “oaking” wine
3. Evaluate by tasting the flavors introduced into wine by post oak
4. Gather data on the use of post oak aging of wine

Facts

- In 2009 a fallen post oak tree when sawed on my property smelled like a wine barrel, the idea of using Texas post oak was born
- Neutral post oak contains different aromas than toasted oak
- Different levels of toasting yield different aromas, oaky, sweet, vanilla, toasty



Toasting and Charring Oak

Facts continued

- Time and temperature of toasting produce the aromas desired
- There exists no manual on toasting post oak that we can find, therefore we will have to produce our own
- We have decided on three levels of toasting
  - Neutral – no heat treatment at all
  - Neutral toast plus – 260F – 300F
  - Medium toast – 360F – 400F

Instructions -
“You cannot manage what you cannot measure”

- The toasted oak chips in one Ziploc bag will contain the amount required to oak five gallons of red wine
- If the carboy is not full, measure or estimate as accurately as you can the amount of wine in the carboy and add a proportional amount of oak chips.
- Add the oak after fermentation is complete
- On the worksheet record the amount of wine in the carboy
- On the worksheet record the date oak is added and the amount of oak added
- Taste as often as necessary, more often early on, until you get an idea of the rate of change of the flavors in the wine
- On the worksheet record all sensory changes and date
- Ken will contact you at harvest time and will follow up after
- The idea is to add the oak late enough after the wine is stable, and will benefit from extended aging
- I don’t believe “over oaking” is a problem that cannot be controlled by regular tasting
- Remove the oak when desired benefit has been attained
- Bring sample to next year “Grape Day” for tasting, along with worksheet sheet

SUPPLEMENTAL SLIDES

Lucas Winery – Lodi, California
French-inspired chai (wine barrel room)

Oak and Flavor

During the barrel aging process wines pick up oak-derived aromas – e.g. Vanilla can sweeten the taste

"toasting" process of the barrel adds some degree of toastiness, char or smokiness to the taste of a wine

There's something about the smell of oak, like walking into a winery's barrel room, that sets the hearts of wine lovers aflutter

Some wineries skip the actual barrel aging process altogether. Instead, they are produced entirely in stainless steel tank to achieve a flavor that replicates traditional barrel-aging, oak chips bundled in food-grade mesh bags are commonly dipped into the tanks

Another "oak alternative" process is to utilize various sizes of oak staves

To duplicate the taste of a toasted barrel, both chips and staves can be toasted over fires at varying degrees (the typical grades sold to wineries by cooperages include "blonde," or barely toasted, "medium," "medium slow," "medium plus," or "heavy" for the darkest toasting)

Oak and Flavor

Michael David Winery — owned by the Phillips family, who have been farming in the Lodi region since the late 1860s — is currently producing over 600,000 cases of wine a year

Their current biggest brand, sold as Freakshow, retails for $19 to $22 across the country

The Phillips family's success is also attributable to the sheer quality of their wines, and a lot of that has to do with their commitment to the quaint, old-fashioned idea of aging wines in oak barrels

Michael David Winery's head winemaker Adam Mettler said, “a major reason why our Earthquake reds have been getting better and better each year is that we have been shifting to more high-end oak, all French, based upon our extensive oak trials. The idea is not to make an oaky tasting wine, but a wine that has more elegance in the nose; a cleaner, sweeter vanilla, and higher toast that highlights the fruit without overshadowing it."

Oak and Flavor

American barrels have always been known to exert a much stronger taste of oak (vanilla with discernibly sweet/green flavors of coconut and dill) than those of French oak barrels — due to the fundamental difference in white oak species (*Quercus alba* vs. the *Quercus petraea* used in the finest French oak) as well as in the production process (American oak barrels are traditionally steamed and heavily charred, whereas French barrels are slowly shaped over open fires, imparting a far more subtle "toast").

American oak barrels are strongly favored by Zinfandel specialists — one Lodi producer has described aging Zinfandel in French oak as being like "putting lipstick on John Wayne" — and a handful of prestigious Cabernet Sauvignon producers, such as Ridge Vineyards and Silver Oak Cellars, still age their reds exclusively in American oak.

Oak and Flavor

French study from around the turn of the 20th century that had used the best oak available, which at the time came from Latvia, Germany, Yugoslavia, France, and the United States. These were long-term studies, done by making two barrels of wine in each oak at six different châteaux. The very highest ratings came from the Baltic, that is, first from Riga in Latvia and second from Stettin, now in Poland, and third from Lübeck in Germany. And following those came the American oak, then the Yugoslavian oak, and last of all the French oak. And this was done by French oenologists in Bordeaux

What goes unsaid, however, is the basis upon which oak barrels were rated at the turn of the last century. What is known today is that barrels made from *Quercus petraea*, grown in oak forests in France, are now considered to be the world's finest — perhaps for a subtlety imparted to wines that were less appreciated 100 years ago

Oak and Flavor

McCay Cellars owner/grower/winemaker Mike McCay, "We use strictly French oak, generally with medium toast. We get structural tannins in our native fermented reds, but it's not something you want to attack with more aggressive barrels, like what you get in American oak — you can squash the brightness and layers in the wine."

As oak barrels get older, however, the vanillin and toast characteristics begin to recede. Brand new barrels impart a stronger flavor than barrels used over 4, 5, 6, or 7 years

Oak density and porosity

American oak (Quercus Alba) is denser and less porous than European oak(Quercus Petraea); it also contains a higher content of tylose lignin — effectively a clotting agent — which allows American oak to be sawn into staves without risk of leaking. French and Hungarian oak, by comparison, need to be split as if with an axe, so that the breaks in the wood follow their vertical sap channels. This is a far less efficient method of processing and results in a yield of only around 20% (compared to American oak's 40%), which is a contributing factor to the low cost of American barrels.

Oak for consideration

1. ***Quercus petraea***, commonly known as the **sessile oak**, **Cornish oak**, **Irish oak** or **durmast oak**, is a species of oak tree native to most of Europe and into Anatolia and Iran; *used for the finest French oak barrels*

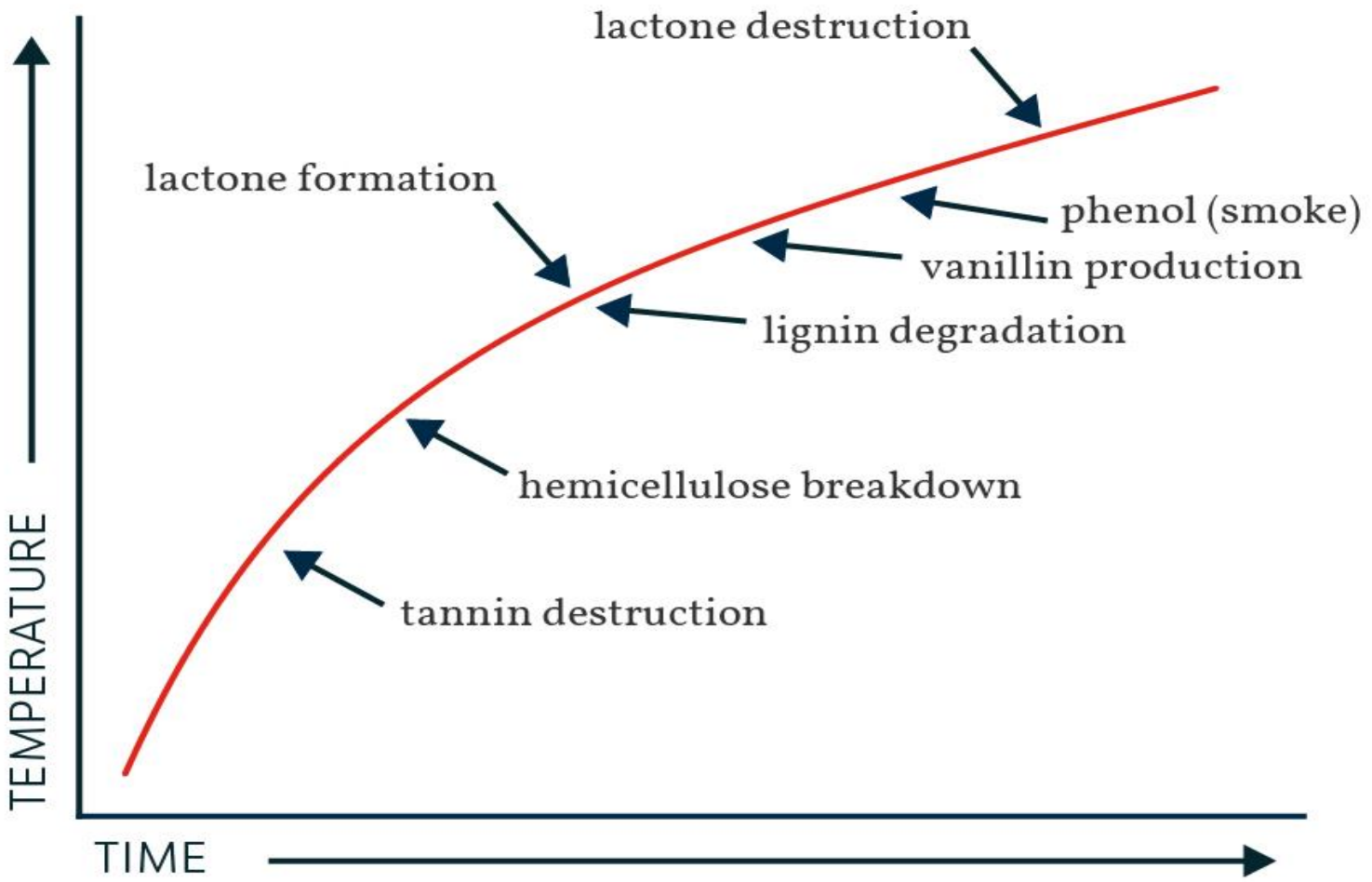
2. ***Quercus alba***, the American **white oak**, is one of the preeminent hardwoods of eastern and central North America. It is a long-lived oak, native to eastern and central North America and found from Minnesota, Ontario, Quebec, and southern Maine south as far as northern Florida and eastern Texas. Specimens have been documented to be over 450 years old

Oak for Consideration

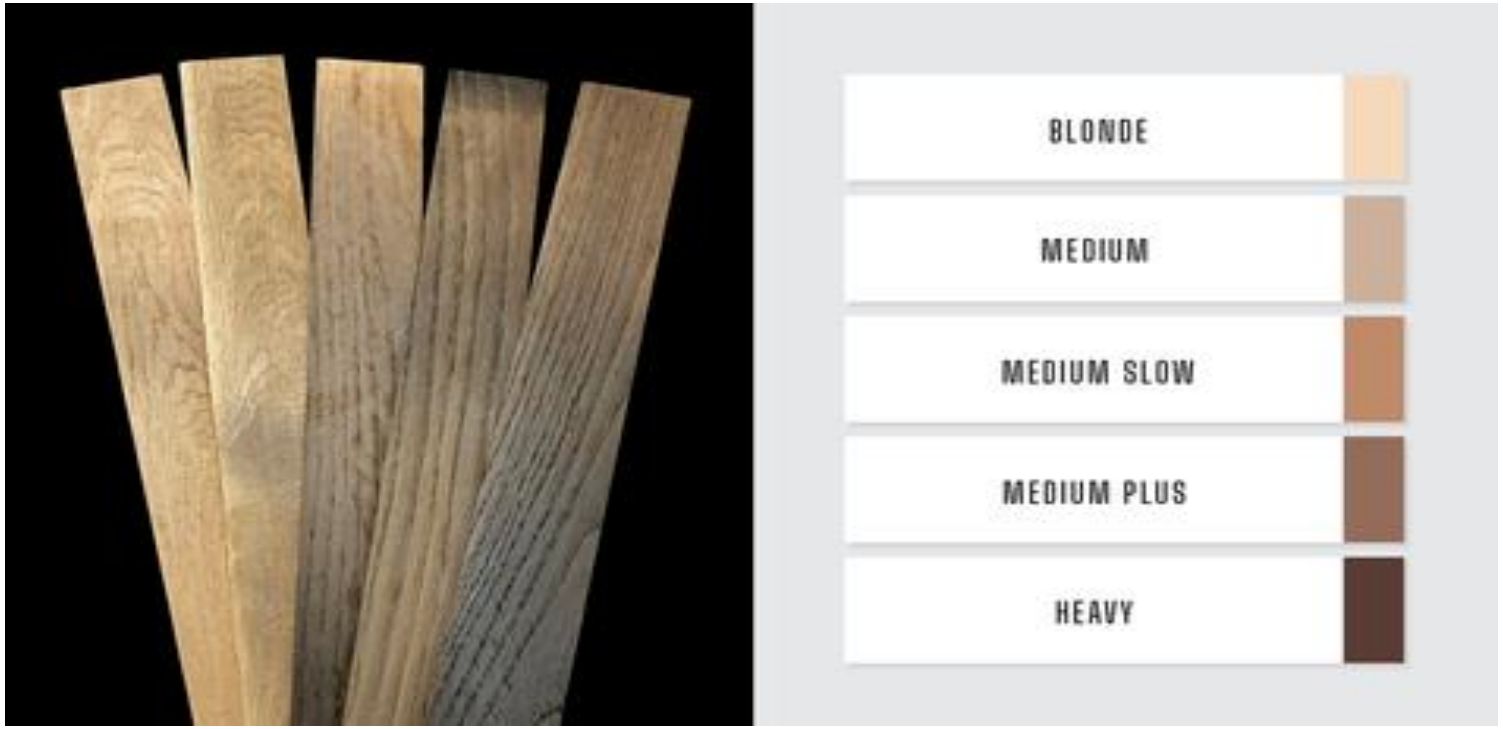
3. ***Quercus muehlenbergii***, the **chinquapin** (or **chinkapin**) **oak**, is a deciduous species of tree in the white oak group. The species was often called *Quercus acuminata* in older literature. *Quercus muehlenbergii* (often misspelled as *muhlenbergii*) is native to eastern and central North America. It ranges from Vermont to Minnesota, south to the Florida panhandle, and west to New Mexico in the United States. In Canada it is only found in southern Ontario, and in Mexico it ranges from Coahuila south to Hidalgo

4. ***Quercus stellata***, the **post oak** or **iron oak**, is a North American species of oak in the white oak section. It is a slow-growing oak that lives in dry areas on the edges of fields, tops of ridges, and also grows in poor soils, and is resistant to rot, fire, and drought. Interbreeding occurs among white oaks, thus many hybrid species combinations occur. It is identifiable by the rounded cross-like shape formed by the leaf lobes and hairy underside of the leaves. Because of its ability to grow in dry sites, attractive crown, and strong horizontal branches, it is used in urban forestry. It is resistant to decay, so it is used for railroad ties, siding, planks, construction timbers, stair risers and treads, flooring, pulp, veneer, particle board, fuel, and its namesake fence posts. It is one of the most common types of wood used for Central Texas barbecue

Toasting Chemistry



Barrel Toasting



Samples of oak staves demonstrate the range of barrel toasting from "blonde" (i.e., light toast) to "heavy". Image courtesy of [Tonnellerie Ô]

Credit for presentation material

RANDY CAPAROSO Based in Lodi, California, “Letters from Lodi”; Blog posts in 2021; 4 part series

https://www.lodiwine.com/blog/Oak-barrels--part-1---origin-and-usage

https://www.lodiwine.com/blog/Oak-barrels--part-2---historical-usage-up-until-modern-times

https://www.lodiwine.com/blog/Oak-barrels--part-3---French-and-American-silviculture-and-oak-seasoning

https://www.lodiwine.com/blog/Oak-barrels--part-4---Step-by-step-visual-of-how-barrels-are-coopered

Various Wood Species

A comparison of species not traditionally used for barrel coopering with fine-grained Quercus sessilis, a.k.a., Quercus petraea (#7), used for the finest French oak barrels

Various Wood Species

1. Quercus pyrenaica, also known as **Pyrenean oak**, or **Spanish oak** is a tree native to southwestern Europe and northwestern North Africa. Despite its common name, it is rarely found in the Pyrenees Mountains and is more abundant in northern Portugal and north and northwestern Spain.

2. ***Quercus humboldtii***, commonly known as the **Andean oak**, **Colombian oak** or **roble**, is a species of oak found only in Colombia and Panamá.

3. Sweet chestnut (***Castanea sativa***), also known as the **Spanish chestnut** or just **chestnut**, is a species of tree in the family Fagaceae, native to Southern Europe and Asia Minor, and widely cultivated throughout the temperate world

4. Robinia pseudoacacia, commonly know n as **black locust**, is a medium-sized hardwood native to a few small areas of the United States, Another common name is **false acacia**

5. ***Prunus avium***, commonly called **wild cherry**, **sweet cherry** or **gean** is native to Europe, Anatolia, Maghreb, and Western Asia, from the British Isles south to Morocco and Tunisia, Norway and east to the Caucasus and northern Iran, with a small isolated population in the western Himalaya. The species is widely cultivated in other regions and has become naturalized in North America, New Zealand and Australia

6. **Fraxinus excelsior**, known as the ash, or European ash or common ash

7. ***Quercus petraea***, commonly known as the **sessile oak**, **Cornish oak**, **Irish oak** or **durmast oak**, is a species of oak tree native to most of Europe and into Anatolia and Iran

8. ***Quercus insignis*** (locally **encino chicalaba**) is a Mesoamerican species of oak in the white oak section, It is native to southern Mexico and Central America, from Veracruz to Panamá