

More Reliable Oak Trials



Dr. Jeff McCord

Dr. Jeff Murrell

Overview – Interactive Seminar

- StaVin Trial Pack - Shotgun vs Directed Approach
- New Barrel Impact – making sense of Barrel Alternatives flavor extraction
 - Toasting Method
 - Aroma
 - Texture
 - Concentration
- Oak Origin – ETS Booth
- Accurate Implementation on a Production Scale

Barrel Alternatives and Barrels are different

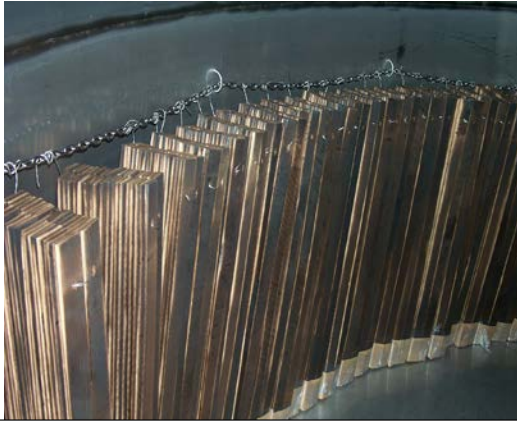
- Duh!
- Appropriate rates vary by company/winemaker
- Size of product influences extraction rate
 - Over oaked wines occur if trying to match interior sq. ft. of a barrel
- For this reason StaVin introduced the concept of % new barrel impact



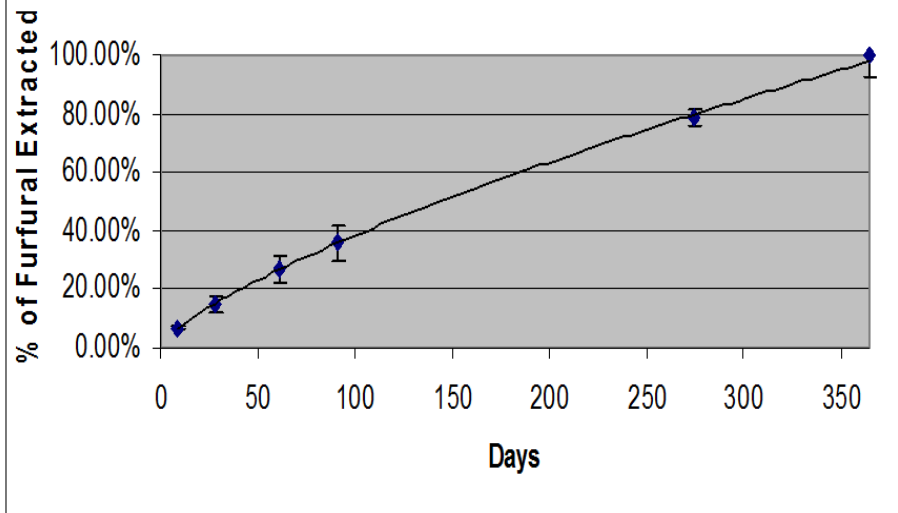
Percent New Barrel Impact

- 1 sq ft of surface area of our toasted stave = 150 and 200 % impact of an equal sq ft of a new barrel.
 - As the percent of end grain exposed increases the overall impact increases
- This idea was refined over the years and many, many tastings with many winemakers across many varieties.
- Further analytical data was used in conjunction to develop our StaVin Trial Packs

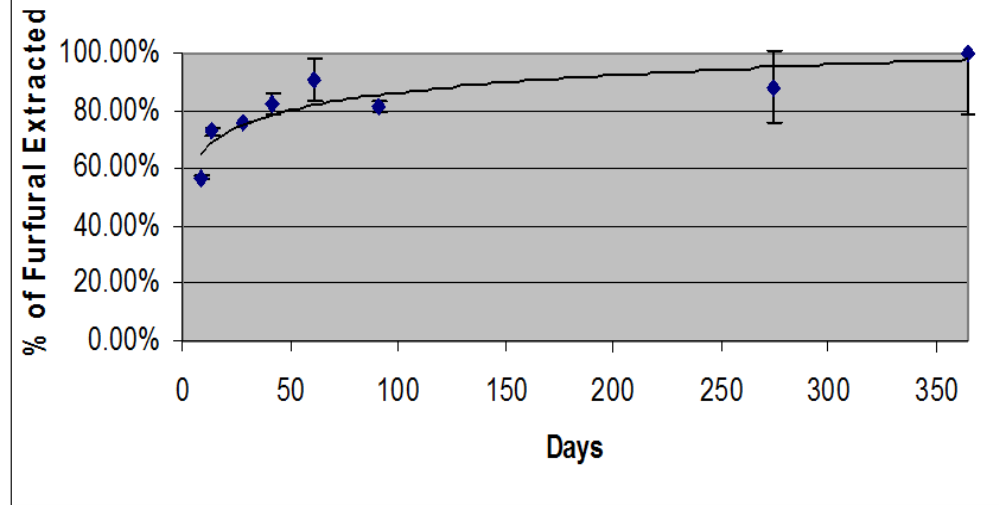
Extraction Dynamics



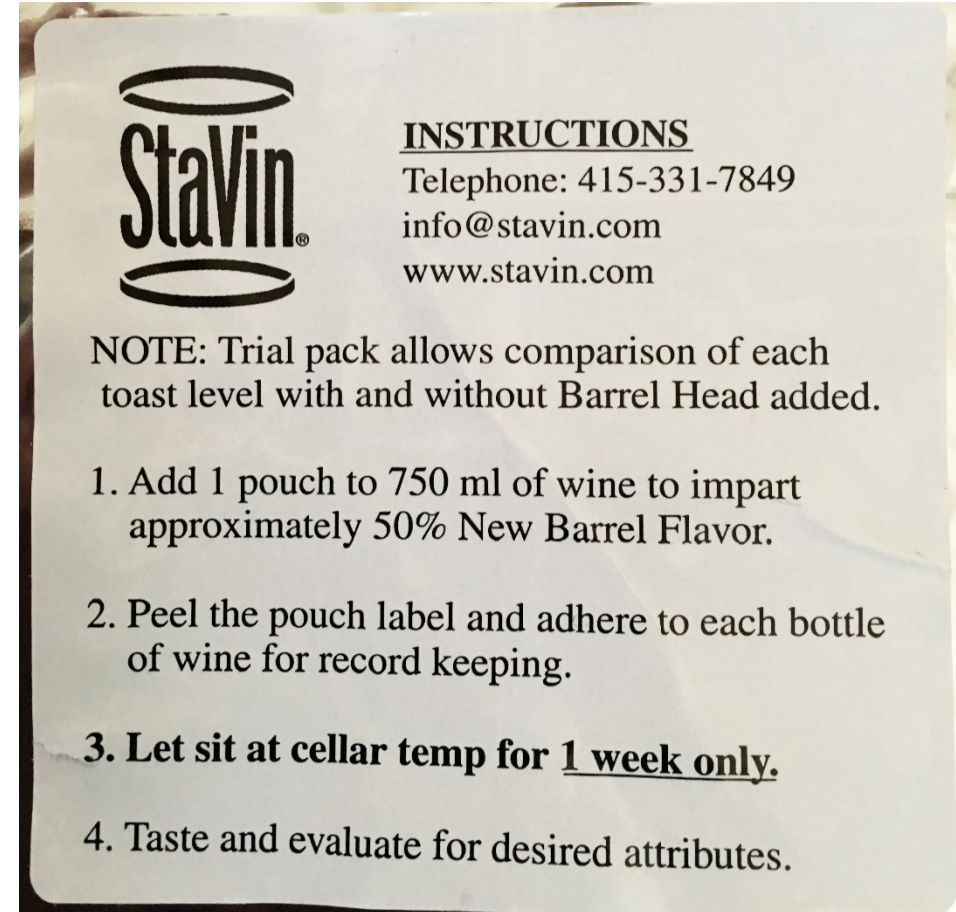
1 year extraction of French M+ Staves



1 year extraction of French M+ Beans



StaVin Trial Pack



StaVin Trial Pack

- Aids the winemaker determining best oak profile for any particular wine
- Helps define source, toast level, toast type or combination of products
- Consistent and Reliable
- Most importantly helps define the amount of oak
- Does not absolutely define the final product
- Sometimes it works best to eliminating sources, toast or type of toast.

Why use Oak Trials

- Oak trials are TEDIOUS
- Oak trials are usually ignored, or forgotten
- Takes too much time or I don't have the time
- Every wine is different
- Using the oak profile you like in one wine will not always work well in another, even in the same variety
- Unless you try, you miss a combination of oak that really works well for that wine, thereby missing the chance to make the best wine you could.

How you Toast the Oak Affects the Aromas and Flavors

- Two general types of toasting for Barrel Alternatives
 - Fire Toasting
 - Oven Toasting
- One type is not necessarily better than the other Just produce very different flavor and Aroma profiles.



Oven versus Fire Toasting



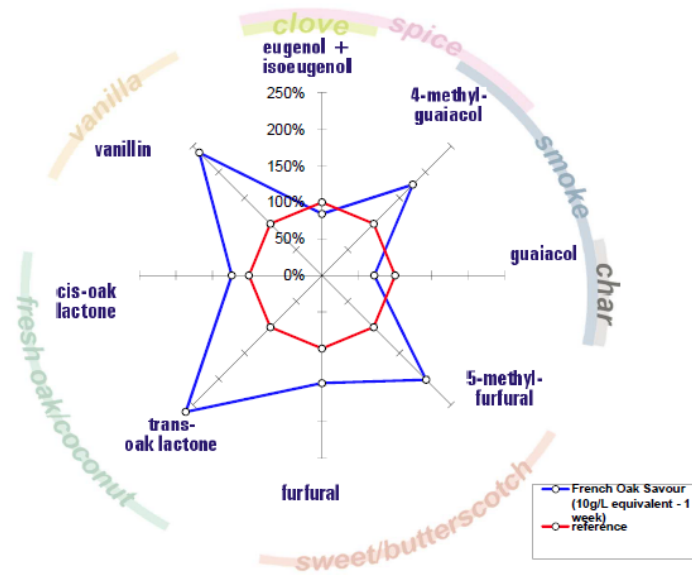
REPORT
890130
SUPPLEMENT

StaVin
Attn: Jeff Murrell
Post Office Box 1693
Sausalito, CA 94966

Samples Received
22 March 2018

Analyses Reported
23 March 2018

603220776 French Oak Savour (10g/L equivalent - 1 week)



eugenol (ug/L)	6	furfural (ug/L)	10375
isoeugenol (ug/L)	10	trans-oak lactone (ug/L)	59
4-methylguaiacol (ug/L)	20	cis-oak lactone (ug/L)	82
guaiacol (ug/L)	18	vanillin (ug/L)	323
5-methylfurfural (ug/L)	1046		

Comments: The reference is an average of all the samples in Group# 890130

Results relate only to the items tested. The report shall not be reproduced except in full without the approval of the laboratory.



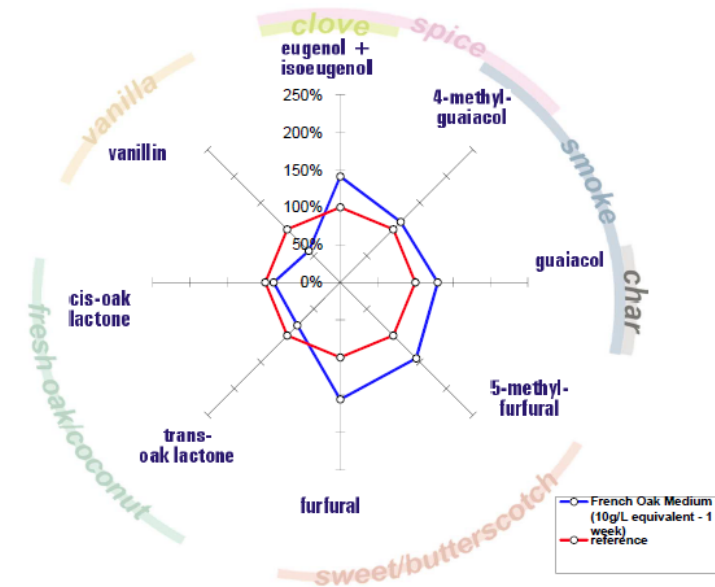
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22 March 2018

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23 March 2018

603220778 French Oak Medium + (10g/L equivalent - 1 week)



eugenol (ug/L)	8	furfural (ug/L)	10989
isoeugenol (ug/L)	19	trans-oak lactone (ug/L)	18
4-methylguaiacol (ug/L)	13	cis-oak lactone (ug/L)	59
guaiacol (ug/L)	32	vanillin (ug/L)	81
5-methylfurfural (ug/L)	742		

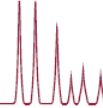
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Comparison of Toast levels



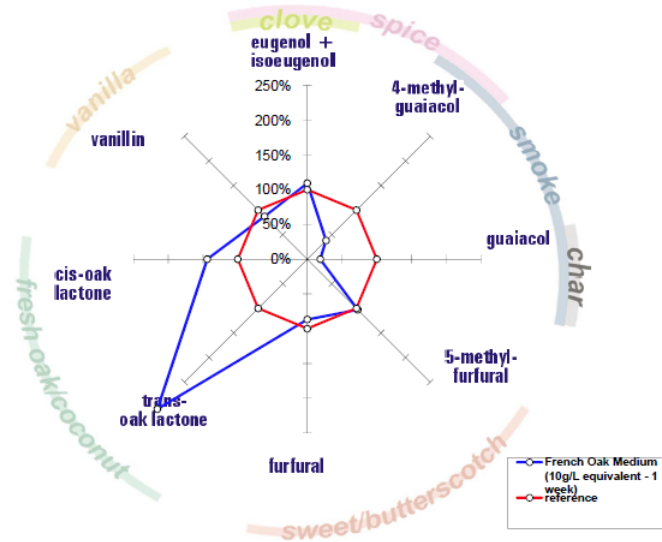
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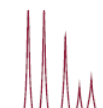
eugenol (ug/L)	9	furfural (ug/L)	6111
isoeugenol (ug/L)	12	trans-oak lactone (ug/L)	68
4-methylguaiacol (ug/L)	4	cis-oak lactone (ug/L)	96
guaiacol (ug/L)	5	vanillin (ug/L)	118
5-methylfurfural (ug/L)	534		

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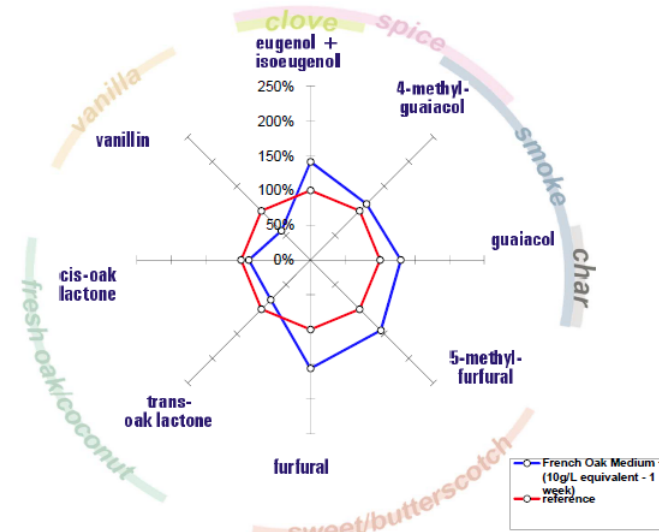
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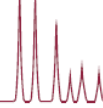
eugenol (ug/L)	8	furfural (ug/L)	10989
isoeugenol (ug/L)	19	trans-oak lactone (ug/L)	18
4-methylguaiacol (ug/L)	13	cis-oak lactone (ug/L)	59
guaiacol (ug/L)	32	vanillin (ug/L)	81
5-methylfurfural (ug/L)	742		

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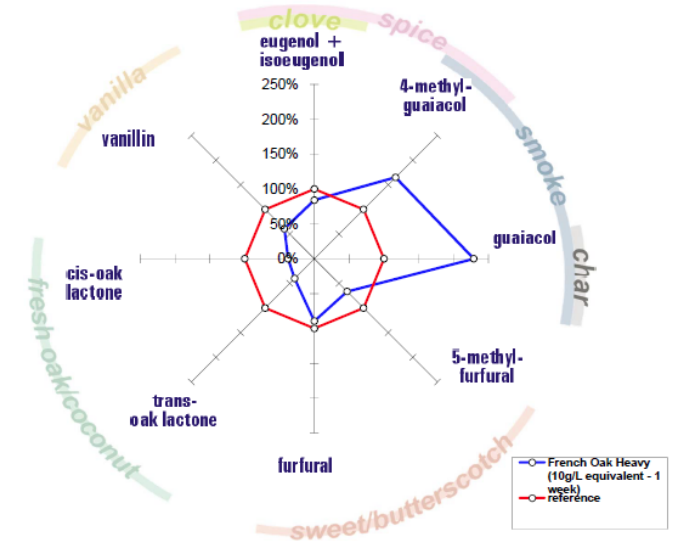
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603220779 French Oak Heavy (10g/L equivalent - 1 week)

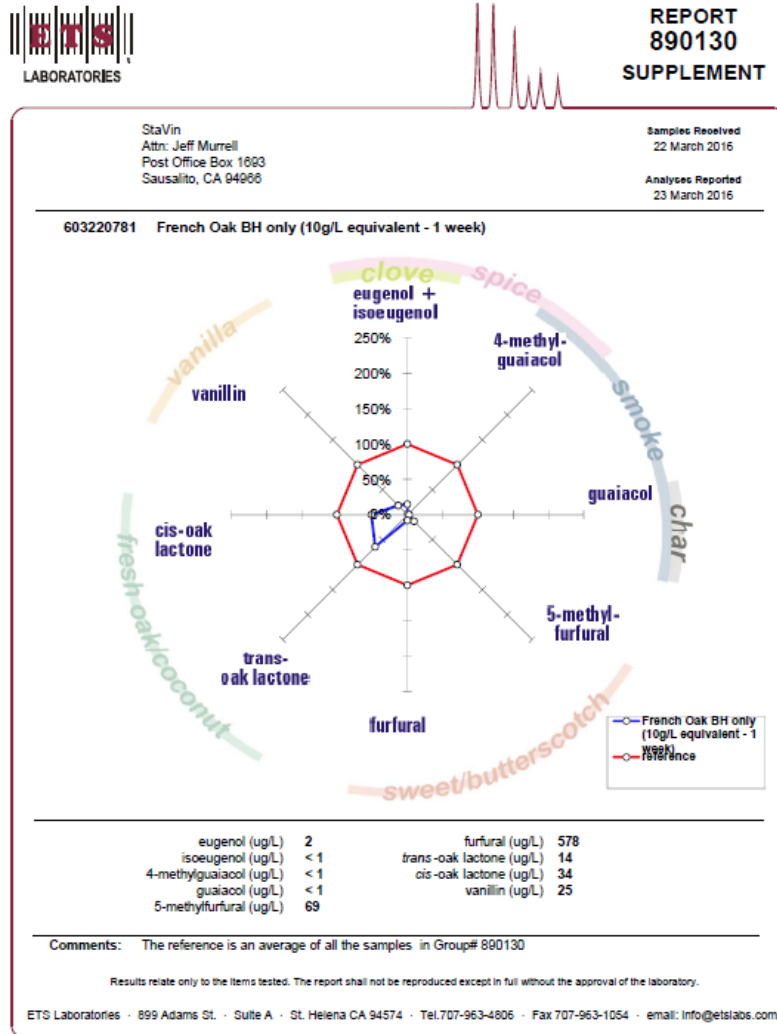


eugenol (ug/L)	5	furfural (ug/L)	6312
isoeugenol (ug/L)	11	trans-oak lactone (ug/L)	9
4-methylguaiacol (ug/L)	18	cis-oak lactone (ug/L)	25
guaiacol (ug/L)	57	vanillin (ug/L)	83
5-methylfurfural (ug/L)	345		

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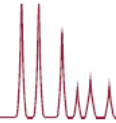
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Barrel Head (almost untoasted oak)



- Little if any “toasted” oak flavors are imparted
- Depending on the wine some sweet coconut/vanilla can come through.
- Biggest impact is the ellagitannins extracted in the wine, acting as flavor modifiers and as antioxidants.

Barrel Head Effects



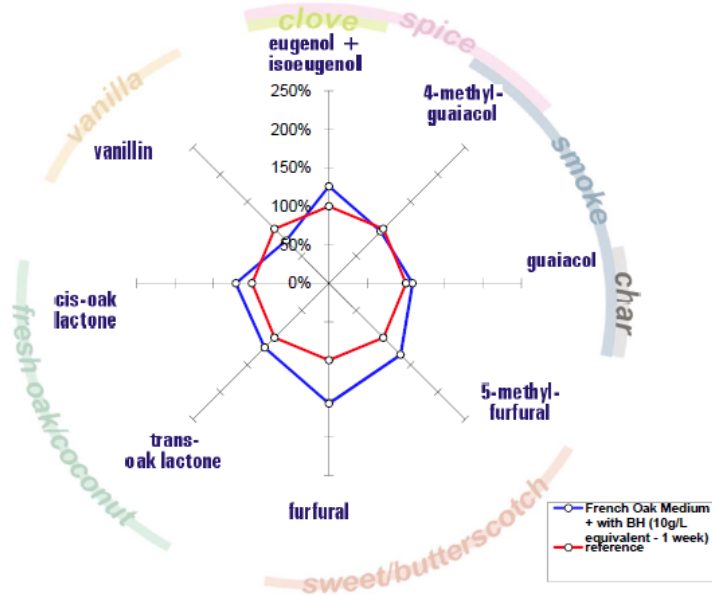
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22 March 2016

Analyses Reported
23 March 2016

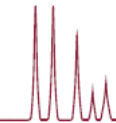
603220780 French Oak Medium + with BH (10g/L equivalent - 1 week)



eugenol (ug/L)	8	furfural (ug/L)	11020
isoeugenol (ug/L)	16	trans-oak lactone (ug/L)	26
4-methylguaiacol (ug/L)	11	cis-oak lactone (ug/L)	80
guaiacol (ug/L)	27	vanillin (ug/L)	107
5-methylfurfural (ug/L)	682		

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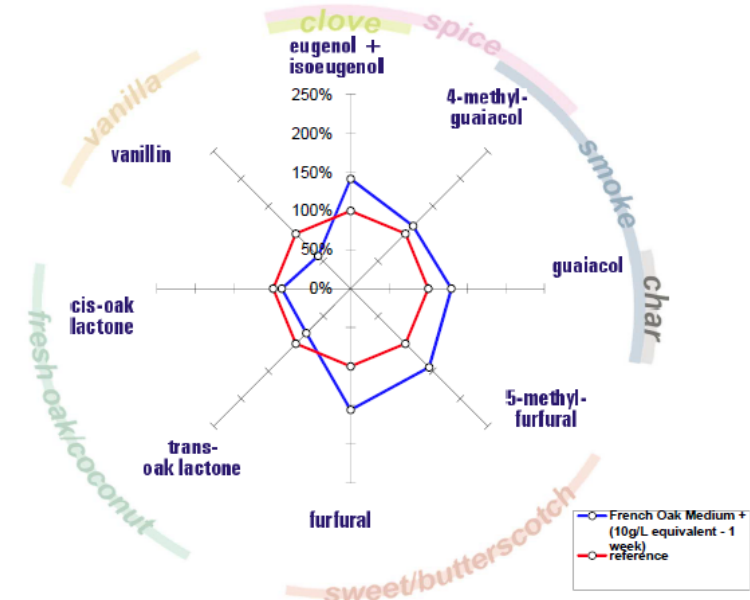
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eugenol (ug/L)	8	furfural (ug/L)	10989
isoeugenol (ug/L)	19	trans-oak lactone (ug/L)	18
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guaiacol (ug/L)	32	vanillin (ug/L)	81
5-methylfurfural (ug/L)	742		

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Choose the Right Product



Summary

- While Barrel Alternatives can come close to matching Barrel flavor profiles, extraction dynamics are quite different
- StaVin Trial packs can help winemakers optimize their oak program for individual wines
- The trial procedure is rapid and allows easy customization of oak profiles for individual wines.
- Toasting times and types produce distinctive aroma and flavor profiles, somewhat dependent on the source of oak
- Barrel Head can influence aromas and flavors in wine mostly due to larger molecular weight compounds extracted into the wine.

Questions?