OAK ALTERNATIVES

Jasha Karasek
Winemaking Specialist, Enartis USA
OVERVIEW

• Why we use oak barrels
• Why consider alternatives
• Alternative options
• Chips
• Barrel Boost
• Oak Tannin
• Alternative approach to oak aging
• When to use alternatives
• Q & A
WHY DO WE USE OAK BARRELS?

- Extraction of Flavors or tannin from oak
- Oxygen ingress
- Color stability
- Tradition
- Romance
- History
WHY CONSIDER ALTERNATIVES

- Cost
  - Capital investment, labor, topping wine
- Space
- Product consistency
- Quality control
- Microbe control
- Sanitation
- Sampling

On labor with oak barrels:

"you can do it once in a tank, or you can do it 300 times in barrels."

Mike Robustelli of McManis Family Vineyards
ALTERNATIVE OPTIONS

- Incanto Oak chips
- Enartis Tan Range Incanto NC
- Incanto Barrel Boost
OAK CHIPS - INCANTO

- High surface area/ Extractability
- Low cost
- Unique/Original Toasting process
- Consistent toasting
- Wide range of toasting options
- Bench trial applicable
- Easy to use
SURFACE AREA COMPARISON

- Only small fraction of oak contributes to flavor / aroma / permeation
- Surface area in contact with wine minimal

- High Surface area
- Higher extractability
- Less oak required
- Faster Extraction
- Less wasted product
OAK WEIGHT COMPARISON

OR

New barrel equivalent dosage rate in 225 L = 1.35 Kg

50 Kg barrel
WHAT TO DO WITH USED BARRELS...
MINISTAVES/BARREL BOOST

- Add to used barrels
- One barrel boost = 25% new oak barrel equivalent
- Faster extraction of oak flavors than new barrels
- Can fine-tune oak extraction without transfer
- Extend lifetime of barrels in the winery
• Specific flavors/aromas derived from each toasting level
• Convection toasting delivers consistent results
• Wide range of toasting options available
• Create benchtop trials to determine your best oak option
• Unique oak chip profile? Blends?
ENARTIS OAK TANNINS

- Extracted from US/FR oak sources
- Seasoned oak
- Various organoleptic properties
- Multi-purposed
- Easy-to-use
- Bench trial applicable
- Cost effective
• Improve structure
• Stabilize color
• Alter redox potential
• Impact aroma profile
• Reduce green character
• Soften astringency
# OAK TANNIN OPTIONS

<table>
<thead>
<tr>
<th></th>
<th>Aroma cleanliness</th>
<th>structure</th>
<th>astringency</th>
<th>softness</th>
<th>aroma intensity</th>
<th>aroma</th>
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<tbody>
<tr>
<td>TAN SLI</td>
<td>****</td>
<td>**</td>
<td>*</td>
<td>****</td>
<td>****</td>
<td>oak, coconut, vanilla</td>
</tr>
<tr>
<td>TAN MAX NATURE</td>
<td>****</td>
<td>*</td>
<td>*</td>
<td>*****</td>
<td>*</td>
<td>chamomile</td>
</tr>
<tr>
<td>TAN RICH</td>
<td>***</td>
<td>**</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>toasted oak, coffee, spices</td>
</tr>
<tr>
<td>TAN EXTRA</td>
<td>**</td>
<td>**</td>
<td>*</td>
<td>*****</td>
<td>*****</td>
<td>vanilla, caramel, cocoa, coffee</td>
</tr>
<tr>
<td>TAN SUPEROAK</td>
<td>***</td>
<td>**</td>
<td>*</td>
<td>**</td>
<td>**</td>
<td>vanilla, caramel, tobacco</td>
</tr>
<tr>
<td>TAN ELEVAGE</td>
<td>***</td>
<td>***</td>
<td>***</td>
<td>**</td>
<td>***</td>
<td>toasted oak, caramel</td>
</tr>
<tr>
<td>TAN NAPA</td>
<td>**</td>
<td>***</td>
<td>*</td>
<td>*****</td>
<td>*****</td>
<td>coconut, vanilla, cocoa</td>
</tr>
<tr>
<td>TAN COEUR DE CHENE</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>***</td>
<td>****</td>
<td>vanilla, caramel, spices, toasted oak</td>
</tr>
<tr>
<td>TAN VANILLA</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>***</td>
<td>*****</td>
<td>vanilla, butterscotch, coconut, almond</td>
</tr>
<tr>
<td>TAN TOFFEE</td>
<td>**</td>
<td>**</td>
<td>**</td>
<td>***</td>
<td>****</td>
<td>toffee, vanilla, caramel, hazelnut</td>
</tr>
<tr>
<td>TAN DARK CHOCOLATE</td>
<td>**</td>
<td>***</td>
<td>*</td>
<td>*****</td>
<td>*****</td>
<td>cocoa, toasted almond, hazelnut</td>
</tr>
<tr>
<td>UNICO#1</td>
<td>*</td>
<td>****</td>
<td>*</td>
<td>****</td>
<td>**********</td>
<td>vanilla, caramel, spices, toasted oak</td>
</tr>
</tbody>
</table>

**Notes:**
- Oak, coconut, vanilla
- Chamomile
- Toasted oak, coffee, spices
- Vanilla, caramel, cocoa, coffee
- Vanilla, caramel, tobacco
- Toasted oak, caramel
- Coconut, vanilla, cocoa
- Vanilla, caramel, spices, toasted oak
- Vanilla, butterscotch, coconut, almond
- Toffee, vanilla, caramel, hazelnut
- Cocoa, toasted almond, hazelnut
- Vanilla, caramel, spices, toasted oak
HOW TO TRIAL FINISHING TANNIN

1 g tannin

13% ethanol or wine

100 ml

5 g/hL = 625 uL

7 g/hL = 875 uL

10 g/hL = 1250 uL

100 mL wine
FERMENTATION OAK ALTERNATIVE: INCANTO NC

- Easy-to-use
- Soluble oak extract
- Antioxidant
- Improves color stability
- Enhances structure
- Aromatic improvement
- Precise dosing
- Lower dosage required (1/10)
- No solids to worry about
- No loss of color by surface adsorption
ADDRESSING THE OXYGEN FACTOR – MICRO-OX (MOX)

- Several sizing options: 1, 2, 5, 10, 15, 20, 25 dosing port
- Portable and easy to use
- Reduction of green character
- Softening of tannins
- Stabilization of color
- Micro/macro options
- Shorten aging period
- Deliver exact amounts of oxygen
ALTERNATIVE APPROACH TO OAK AGING
SAME FOOTPRINT YIELDS HIGHER VOLUME

Volume / sq ft comparison

2 x Tank = 4218 gals
18 barrels = 1080 gals
## OAK COST COMPARISON

<table>
<thead>
<tr>
<th>Cost/vintage</th>
<th>$/gal</th>
<th>$/hL</th>
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</thead>
<tbody>
<tr>
<td>New barrel</td>
<td>14 - 20</td>
<td>350 - 500</td>
</tr>
<tr>
<td>Neutral barrel</td>
<td>1.5 - 4</td>
<td>40 - 100</td>
</tr>
<tr>
<td>Incanto Chips (3 g/L)</td>
<td>0.15</td>
<td>4</td>
</tr>
<tr>
<td>Incanto Chips (10 g/L~100 % new oak)</td>
<td>0.5</td>
<td>13</td>
</tr>
<tr>
<td>Incanto Barrel boost (25 % new oak)</td>
<td>1.5</td>
<td>38</td>
</tr>
<tr>
<td>Incanto Barrel boost (100 % new oak)</td>
<td>7.5</td>
<td>190</td>
</tr>
<tr>
<td>Tannin</td>
<td>.14 - .26</td>
<td>3.5 – 7</td>
</tr>
<tr>
<td>Tannin + Polysaccharides</td>
<td>.25 - .37</td>
<td>6.5 - 10</td>
</tr>
</tbody>
</table>

“We have taken the savings and poured it back into our growers in buying high quality fruit for these programs”

Corey Beck  
Winemaker, Francis Coppola Winery
WHICH ALTERNATIVE/WHEN TO USE IT

**Fermentation**
- Incanto N.C.
- Incanto Chips
- Tannin / polysaccharides

**Pre-ML**
- Incanto Chips
- Barrel Boost
- Tannin / polysaccharides

**Post-ML Maturation**
- Incanto Chips
- Barrel Boost
- Tannin / polysaccharides

**Bottling**
- Tannin / Polysaccharides

*Recommended contact time*

<table>
<thead>
<tr>
<th>Incanto Chips</th>
<th>Barrel Boost</th>
<th>New Oak Barrel</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 weeks</td>
<td>4 - 6 months</td>
<td>12 - 24 months</td>
</tr>
</tbody>
</table>
Thank you for your participation!

Now, 20 minute Q&A

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