How to manage oak barrels to improve your white wines?

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A wine that pleases consumers and at the right cost = Good practices
Like anywhere else on the planet, this cannot be taken as granted for Czech Republic or Slovakia's grapes, wineries and winemakers!
So... apply good practices in the vineyard and in the winery!
Oxidation

Excessive pressure

Excessive: oak, temperature, tannins, fining

Cu²⁺, SO₄²⁻

Grapes with the right concentration and ripening

Right pH

Balanced and stabilized colloidal matrix
How to adapt the winemaking?

Precise examples for whites at 10 euros and 20 euros

Note: the following proposed procedures are primarily for Chardonnay wines for international markets quality and style constraints. The goal is to develop strong points, balance weak points and limit potential risks.
Example #1
Chardonnay « Reserve » international level

• 10 euro per bottle
• First bottling in April-May
• 24 month longevity
• Chosen example for the use of oak: an expert in the use of oak barrels recognizes the oak effect from the sweet-mineral pineapple aromas and from the fullness and length in mouth. Consumers do not identify vanilla or tannins that they generally associate with « barriques »

Grapes could look like this
Example #2
Chardonnay « Ultra Premium »
international level

• 20 euro per bottle
• First bottling in June-July
• 24 month longevity
• Chosen example for the use of oak: rich consumers immediately identify the classic Ultra Premium Chardonnay style (e.g.: expensive Burgundy and Napa Valley - California) : roasted almond, butter and pineapple on the nose, creamy rich mouthfeel, good length and minerality in mouth. Consumers do not identify oxidized vanilla or harsh tannins that ruined the « Chardonnay barrique » concept in many countries with bad oak practices
Chardonnay - 10 Euro/bottle (with taxes in the cellar)

Staves Ambrosia Fr. Complex 250 g/hl

Segmentation of the juices
Cleaning of the juices
Fermentation
Segmentation of the lees
Segmentation of the lees
Segmentation of the lees
Blending and bottling
Chardonnay - 20 Euro (with taxes in the cellar)

First part of alcoholic fermentation. SD = 1.060

Second part of alcoholic fermentation

Malolactic fermentation

Segmentation of the lees

Blending, stabilization and bottling

Segmentation of the juices

Cleaning of the juices
Lallzyme Cuvée Blanc 3 g/hl

Optimum White
20 g/hl

Optimum White: inactivated pure yeast rich in reduced glutathion

SO2 adaptation in function of pH: (measured after the first pressing):
3.1: 1 g/hl, 3.2: 2 g/hl
3.3: 3 g/hl, 3.4: 4 g/hl, 3.5: 5 g/hl
Those dosages are sufficient to block the enzymatic oxidative chain reactions (tyrosinase or laccase enzymes) until the onset of fermentation. Absolute key point to prevent oxidation enzymatic chains action in the juice before fermentation.

2 g/hl + 4 g/hl ascorbic acid

2 g/hl (because of MLF) + 3 g/hl ascorbic acid

20 g/hl

Optimum White

Use FCE enzymes. The dose should allow a complete depectinisation of the juice before clarification.

Enzymes

Destem
Crush

Adjust pH

<3.2

<3.3

SO2

12.5-13% vol.
13-13.5% vol.

Chardonnay
10 euro
Chardonnay
20 euro

DIELTEIL INTERNATIONAL WINE CONSULTING
Pneumatic press
Grapes < 15°C
2-4 hours contact juice-pulp

<0.4 bar + 1 g/hl SO2 +
1 g/hl Ascorbic (tank fermentation without MLF)

0.4 bar < <0.8 bar + 2 g/hl
SO2 + 1 g/hl ascorbic + 20 g/hl PVPP

Type of extraction

Juices segmentation

Chardonnay
10 euro

Pneumatic press
Grapes < 12°C
4-6 hours contact juice-pulp

<0.4 bar + 0 g/hl SO2 because of MLF

0.4 bar < <0.8 bar + 2 g/hl SO2 +
1 g/hl ascorbic + 10 g/hl PVPP

Chardonnay
20 euro
**Chardonnay 10 euro**

- **<13%vol (maximum 13%vol on the label)**
- Sedimentation 24 hours at 10°C <100 NTU
- Yeast strain
  - ICV-D47, 25 g/hl
  - Yeast protection during rehydration with GoFerm Protect Evolution
- Optimum White 20 g/hl
- Start fermentation at 18°C. As soon as alcoholic fermentation starts, add the bacteria
- Coinoculation with lactic acid bacteria
  - VP41

**Chardonnay 20 euro**

- **<13,5%vol (maximum 13,5%vol on the label)**
- Sedimentation 24-48 hours at 10°C <100 NTU
- Clean the juices
- Yeast strain
  - ICV-D47, 30 g/hl
- Optimum White 20 g/hl
- Coinoculation with lactic acid bacteria
  - VP41
When Specific Density is 1070, agitate the tank, after 12 hours fill the barriques.
Chardonnay
10 euro

Limited options because of the limited barrel fermented volume in the final blend
♦ 100% Odysé MT+ French oak.
Get the best value out of your barrel budget!

20-25%

Chardonnay
20 euro

Many options!
With this one you never go wrong!
♦ 40% Ambrosia Complex Boost French oak
♦ 40% Odysé MT+ French oak
♦ 20% Mistral MT+ French oak

DIWC considers that 225 barriques are more adapted to reach the presented style goals, better than 500 L barrels
Barrique choice

Chardonnay

10 euro

20-25%

100%

Chardonnay

20 euro

DIWC considers that 225 barriques are more adapted to reach the presented style goals, better than 500 L barrels.

Note: After 2 or 3 years of use, DIWC has demonstrated that Long Convection (Ambrosia Complex Fr.) are the barrels that better go on bringing roundness and ripe fruit to the wine. They help you to manage better the risk of negative « old oak » aromas and dry tanins. Especially if you use the right amount of zig-zags. When you choose your new barrels, take into account the way they will age. The higher cost of a new Long Convection (Ambrosia) barrel is greatly paid during the second and third years of use. Not talking about traditional flame toasted barrels from maybe famous French coopers!
Agenda of actions with inactivated yeast

MLF and rhythm of first rackings (1)

1. Dryness: immediately add 1 g/hl Reduless and rack to a tank. Clean the barrels. Let the heavy lees sediment during 24 hours. Bring the wine back to the barrels. Add 10 g/hl Noblesse.

Racking #1

Chardonnay Barrique
Agenda of actions with inactivated yeast

MLF and rhythm of first rackings (2)

2. As soon as malic is finished, immediately add 1 g/hl Reduless + tartaric acid to reach pH 3.3 (if necessary) + 3 g/hl So2 + 3 g/hl ascorbic acid.

After 24 hours, rack to a tank. Clean the barrels. Let the new heavy lees sediment during 24 hours. Bring the wine back to the barrels. Add 10 g/hl Noblesse

Racking #2

No tannin or fining agent addition needed
Agenda of actions with inactivated yeast

3. When the wine is back in the barriques, wait for one month.
   One batonnage a week.
After one month, add 1 g/hl Reduless and rack after one week.
One or 2 days in a tank to eliminate the heavy lees.
Back into the barriques adding 20 g/hl Noblesse.
Racking #3.
Keep molecular SO2 at 1 mg/L.
One batonnage a month.
Next stop: bottling!
4. One month before the planned bottling date, bring the wine to a tank and add 1 g/hl Reduless + 50 g/hl Staves Ambrosia Complex Fr. For a last sponge effect of the oak on the wine. Adjust SO2 if necessary. Rack after 3-4 days to eliminate the last aging heavy lees. Clean the staves. They follow the wine. Add 10 g/hl Noblesse. Check the bentonite needs. Treat if necessary. After 10 days, rack and pre-filter. At bottling add 2-3 g/hl Mannolees, adjust sugar if necessary, add 5 g/hl ascorbic acid and SO2 38-42 mg/L.
Chardonnay 10 euro

Staves Ambrosia Complex French oak 250 g/hl

Fermaid O 20 g/hl

1 per day

Oak in fermentation

Tank shape

Temperature program

Complex nutrient for yeast at 1/3 of fermentation

Batonnage

For a 10 euro Chardonnay 75-80% of the final blend is fermented in tank with staves
1. Dryness: immediately add 1 g/hl Reduless + tartaric acid to adjust tantric if necessary (pH 3,2) + 3 g/hl SO2 + 4 g/hl ascorbic
Rack after 24 hours.
Racking #1.
Clean the staves. They follow the wine

SO2 adaptation in function of pH:
3,1 : 2 g/hl, 3,2: 3 g/hl
3,3 : 4 g/hl, 3,4: 5 g/hl, 3,5: 5 g/hl
Those dosages are sufficient to kill the yeast and give the right amount of molecular SO2
2. Four days after the first racking, add 1 g/hl Reduless. Wait for another 4 days. Rack. Racking #2. Clean the staves. They follow the wine.

3. Add 10 g/hl Noblesse. Wait for one month: add 1 g/hl Reduless and rack after one week. Racking #3. Clean the staves. They follow the wine.

Keep molecular SO2 at 1 mg/L. Two agitations per month.
Agenda of works until Christmas and spring bottling

1. 15-20 December, 1 g/hl Reduless + 10 g/hl Pure Lees Longevity

2. 10-15 January: rack and add 1 g/hl Reduless and 10 g/hl Pure Lees Longevity.

3. Every month check if you need to: rack or not, adjust Reduless (1 g/hl) or Pure Lees Longevity (10 g/hl) or add another 100 g/hl new staves

4. Prepare bottling: blend with the barrique part

5. At bottling, add 4-6 g/hl Mannolees, adjust sugar if necessary, adjust 38-42 mg/L free SO2 according to closure + 5 g/hl ascorbic acid