

**Dominique
Delteil
Consultant**



Dominique Delteil Consultant

International Wine Consulting



▶ Français

▶ English

▶ Italiano

▶ Español

www.Delteil-Consultant.com

Winemaking Good Practices to build a Pinot Noir

**Fruity, balanced, with a conforming longevity, to
reach market segment goals**

LALLEMAND

Documento Dominique Delteil Consultant.

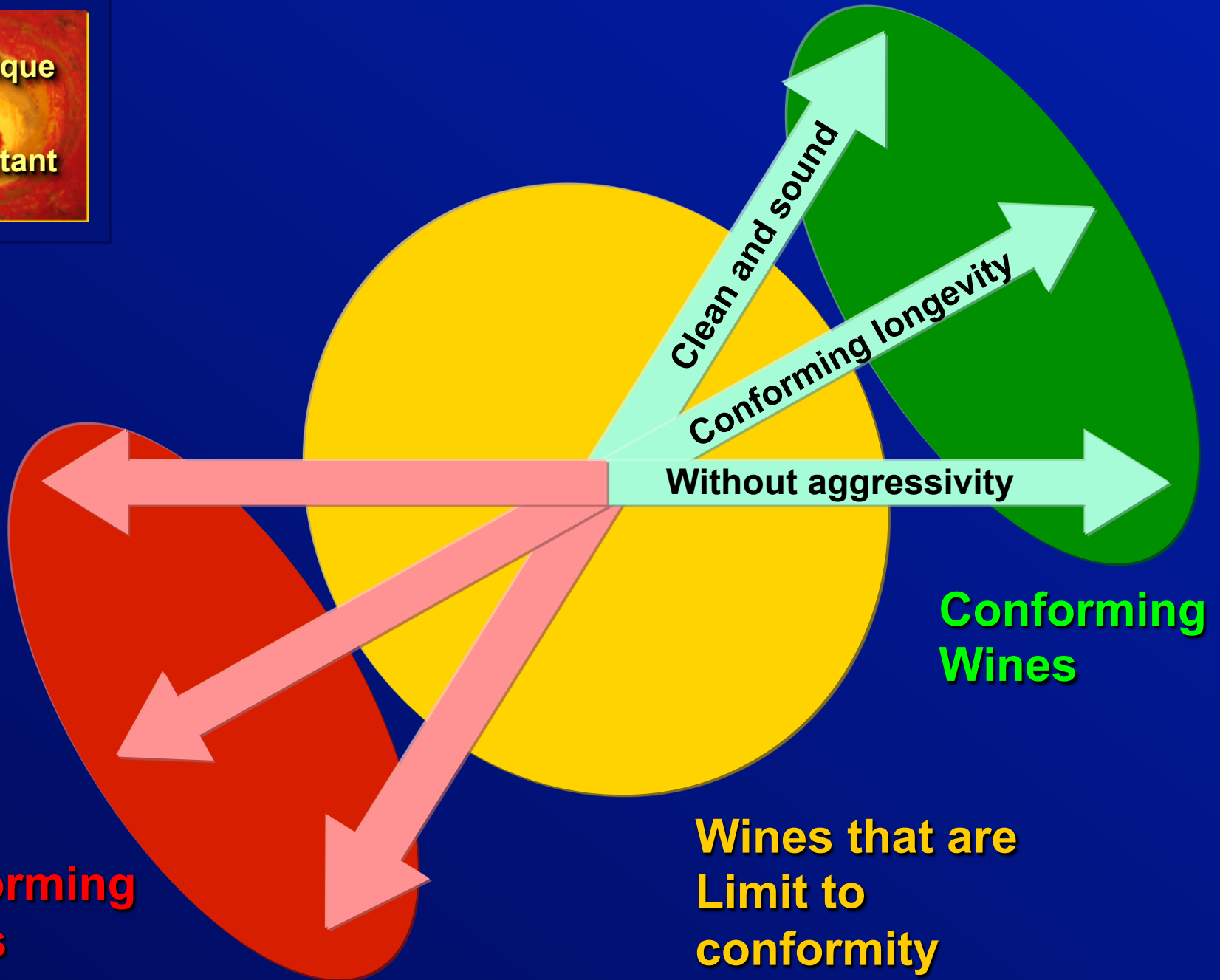
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1. Which are the successful wines?

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Number 1 Axis: To build the right longevity

With a colloidal matrix sufficiently concentrated, balanced and stabilized

- 1. The right pH in the juice and the wine: a very powerful motor for the colloidal balances, the most powerful**
- 2. Sufficient concentration with macromolecules from grape, yeast, bacteria, oak**
- 3. Right concentration with compounds that participate to different families of aromas and their right interactions with macromolecules. Often, interactions are more important for sensorial expression than the molecular concentration itself**



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Right concentration with compounds that participate to different families of aromas and their right interactions with macromolecules

- 1. Sulfur like aromas and tastes**
- 2. Chemical and solvent like aromas and tastes**
- 3. Herbaceous and vegetal like aromas and tastes**
- 4. Fruits and spices like aromas and tastes**
- 5. Burning, cooked and / or pharmaceutical like aromas and taste**



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Some important considerations

- **Fruity and spicy like aromas and taste, balanced acidity, roundness and length can express and last (longevity) only if :**
 - **The other 4 aromatic families are:**
 - **at enough low molecular concentration**
 - **in enough intense interaction with macromolecules**
 - **The compounds that may participate to fruit and spicy like aromas are in enough intense interaction with macromolecules**



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Manage pH

- **Tartaric acid immediately in the fresh grape**
- **Note: the most efficient and eliminate the potassium that is in excess**

- **Don't listen to trendy talks about malic and lactic...**



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Take interesting macromolecules

- **Enough maturity of grapes cells (cell walls, aromas, pigments, tannins interacting with grape polysaccharides) and enough maceration**
- **Right yeast strain and right inactive yeast at the right moment, including after membrane treatments**
- **Right lactic bacteria strain**
- **Right oak, at the right dosage, at the right moments, starting with fresh grapes**

Do not eliminate interesting macromolecules

- **Be careful with excessive maceration or oak for too much time : they destabilize interesting macromolecule complexes**
- **Be very careful with excessive finings**
- **DO NOT USE copper sulfate or copper citrate = fruit killers!**
- **Work with membrane as soon as possible: to early balance the wine and be able to start again aging with the right inactivate yeast and the right oak**

Other interesting axis (1)

- **Eliminate potassium (and calcium) as soon as possible: pH membranes, resins or electro dialysis**
- **Absorption, as soon as possible, of compounds that participate to defects (sulfur, herbaceous, chemical, cooked-pharmaceutical) : for example Noblesse with segmented fractionated additions, starting early during vinification and aging**



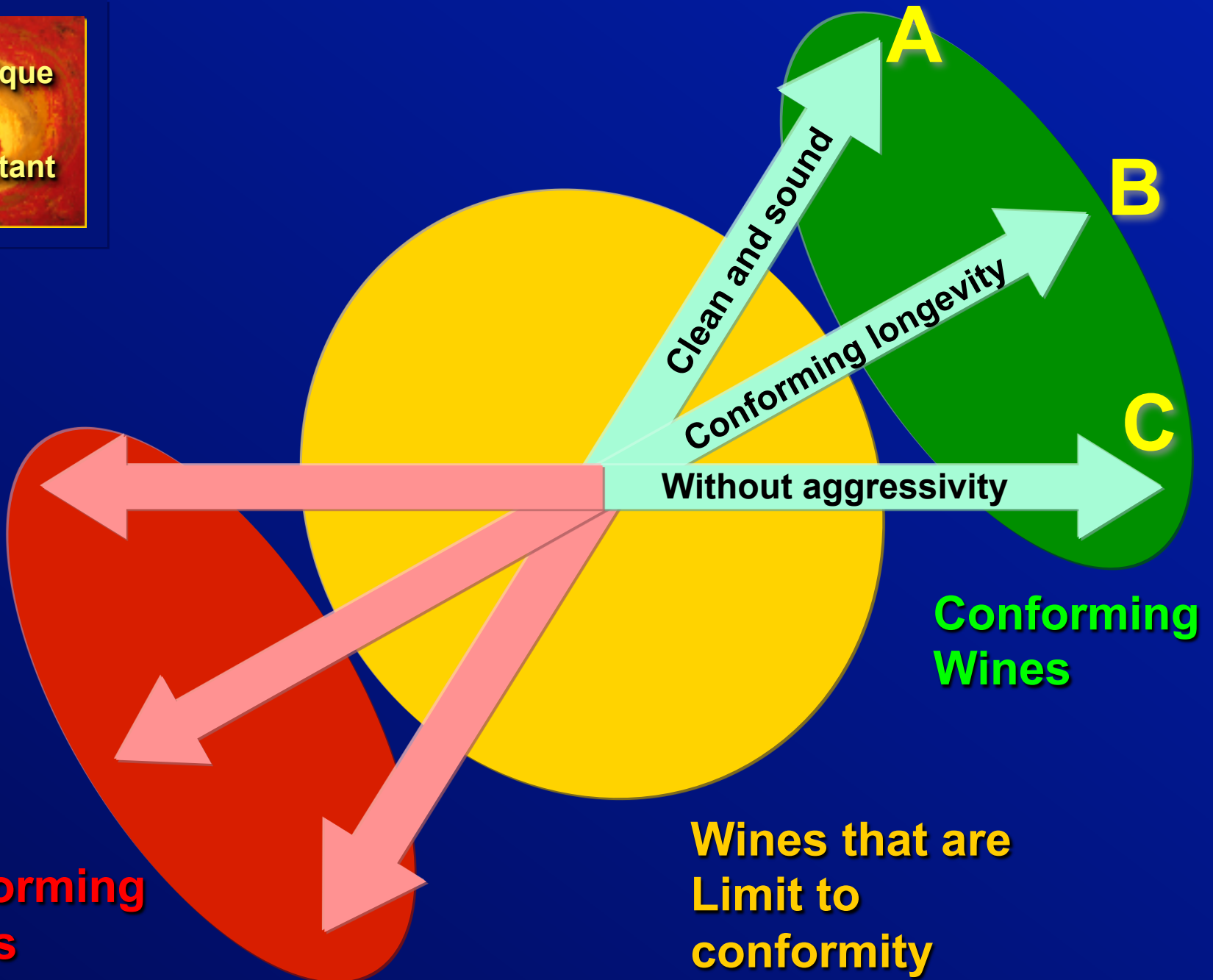
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Other interesting axis (2)

Avoid the 4 mistakes of micro-oxygenation:

- 1. Too much oxygen**
- 2. Too much time**
- 3. Too late during the life of wine**
- 4. Too much contamination**

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A small square portrait of Dominique Delteil, showing a close-up of his face with a warm, reddish-orange background.

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2. Vinification Strategy



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Winemaking goals and main risks management to reach the main market goals : A, B and C

- **Taking fruit aromas from pulp and skin, pigments, polysaccharides from pulp and skin, hydrosoluble tannins from the skin**
- **Not extracting herbaceous aromas and aggressive tannins in the inner layers of the skin**
- **Extracting as few as possible ethanol soluble tannins.**



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Winemaking goals and main risks management to reach the main market goals : A, B and C (2)

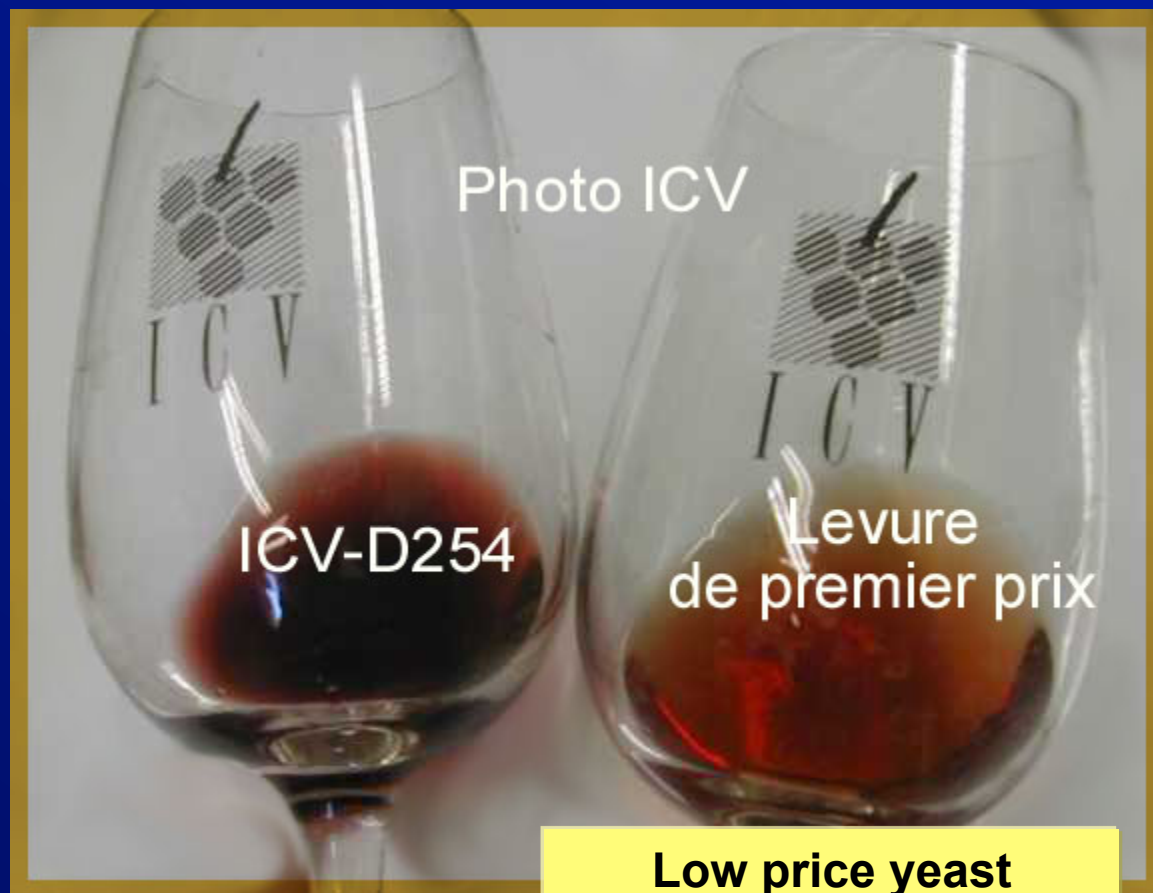
- **Avoiding sulfur like off odors: they amplify herbaceous and aggressive sensations on the nose and in mouth (metallic taste and bitterness).**
 - **The lowest efficient level of SO₂ before fermentation**
 - **The right protection and nutrition of the yeast during fermentation**
 - **The right oxygenation program during maceration**
 - **The right program of racking, agitation during aging**

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A simple proof to demonstrate that yeast may have an impact on color stabilization

Vintage: 1997
Photo: 2004

From: ICV Internet site
www.icv.fr





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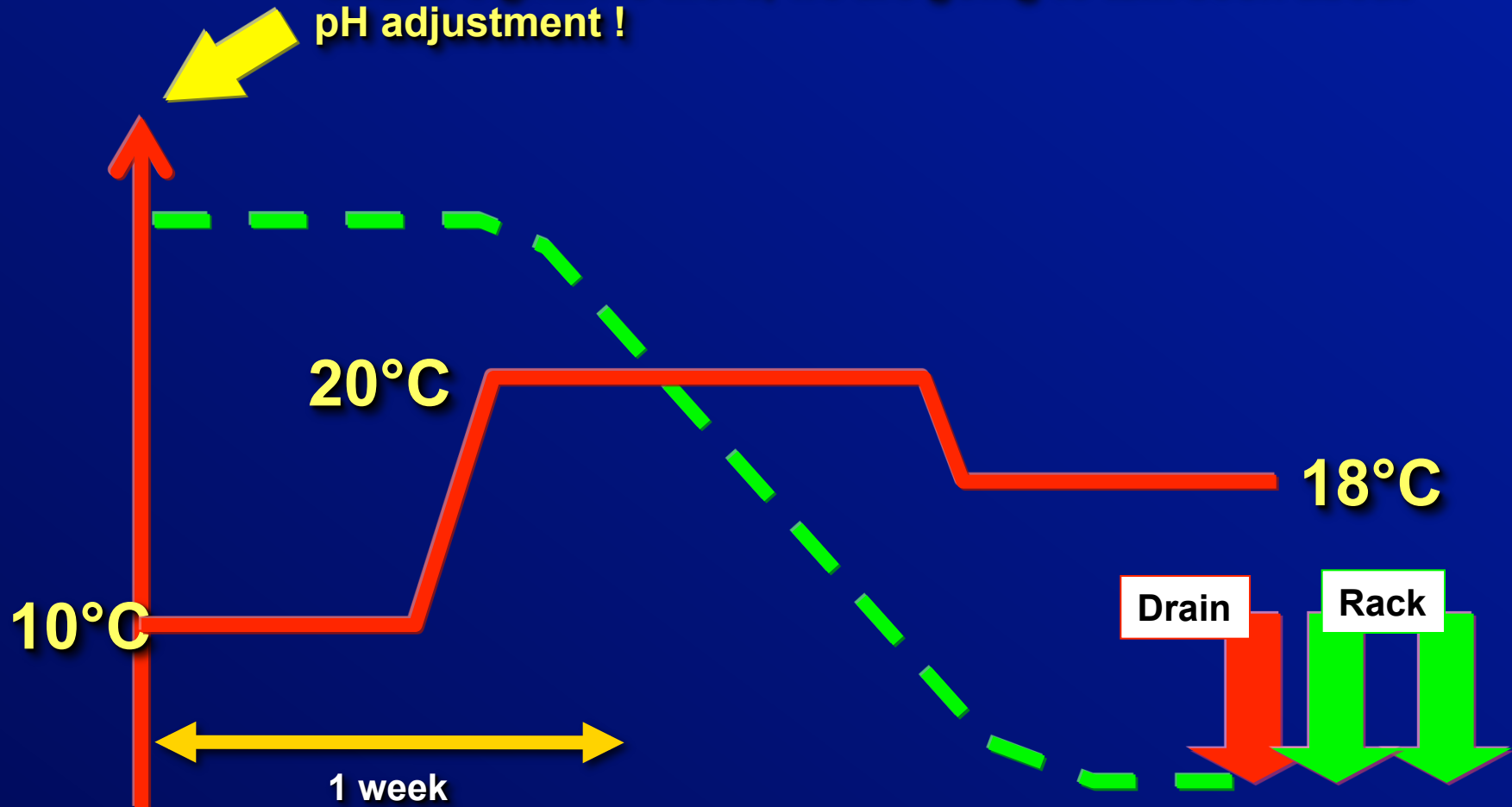
Full bodied Pinot Noir with malo in barrel and barrel aging

To reach a classical top burgundy style with excellent grapes from outside Bourgogne: shining red color, clean graphite/licorice/black plum fresh jam aromas, intense fresh mid palate with present acidity, long fresh and mineral finish. Real minerality !

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Temperature management with Cold Prefermentative Maceration

SO₂: 2-3 g/hl. No more, we are going to talk soon about
pH adjustment !



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Yeast protection and nutrition strategy

GoFerm
Protect
40 g/hl

Adjust pH to 3,30 (don't care
about Total Acidity)

On grapes: "hl" = 100 kg
On juice and wine: "hl" = 100 L

OptiRed 30 g/hl

Lactic Bacteria. VP41 One Step +
Fermaid O 20 g/hl (if >14%vol.)

Fermaid K
30 g/hl

Redules, if
needed
1 g/hl.
Not more at this stage

Lalvin RC212
at 30 g/hl

Noblesse
10 g/hl

Drain

Rack

1 week

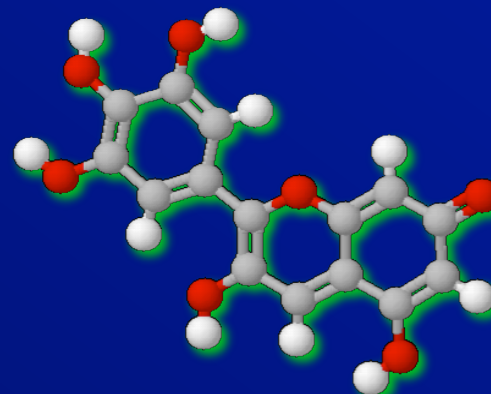
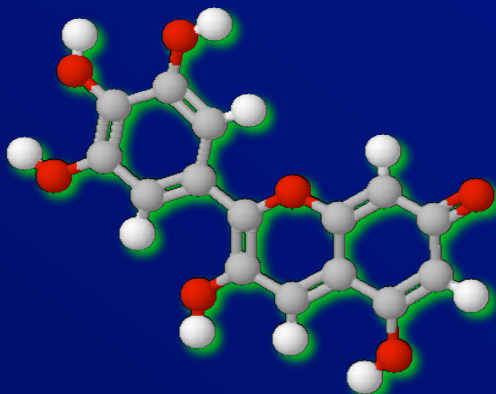
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OptiRed® in action on the colloidal matrix

Before



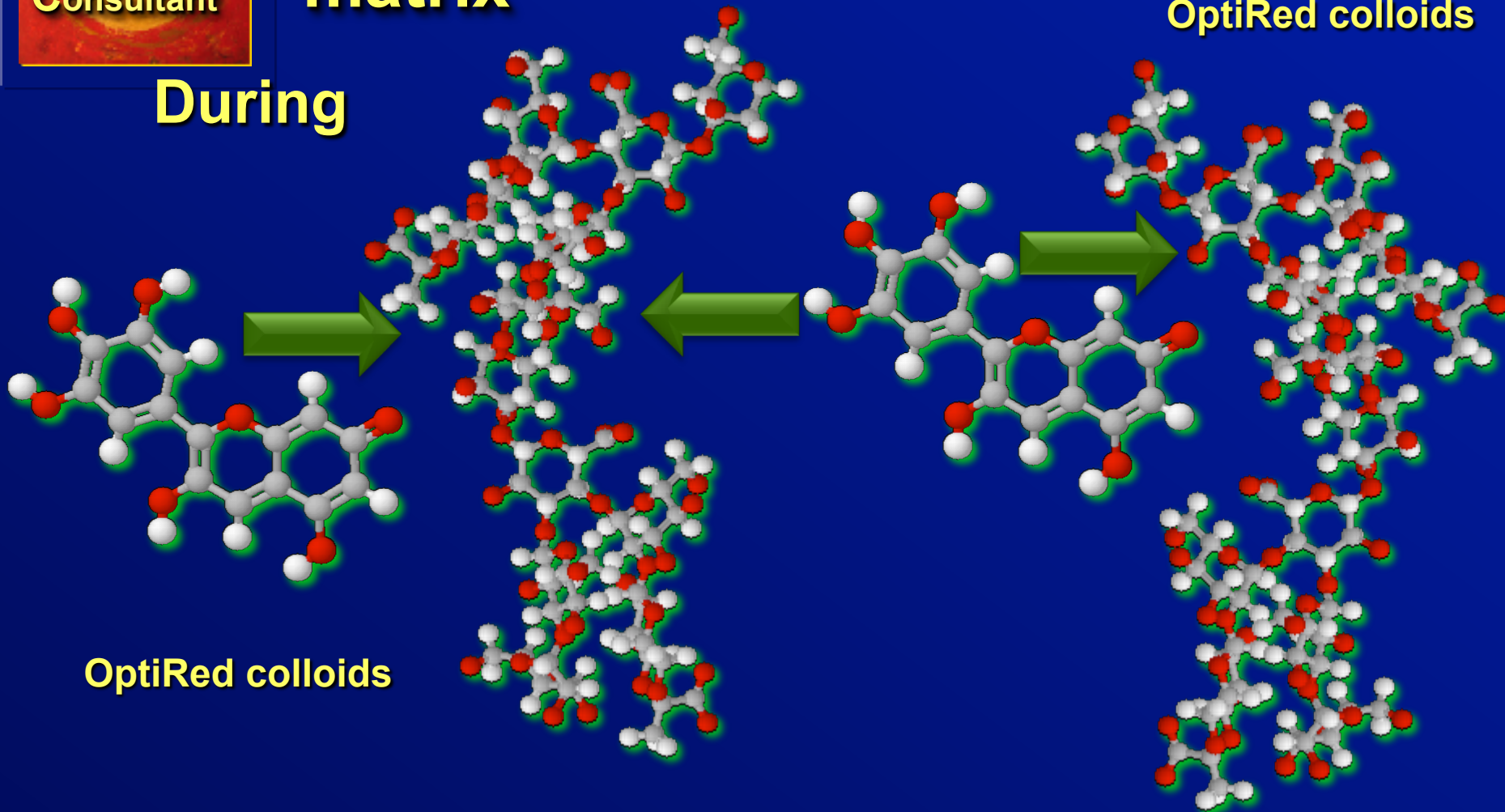
Anthocyanins exposed to
instability reactions

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OptiRed[®] in action on the colloidal matrix

During

OptiRed colloids

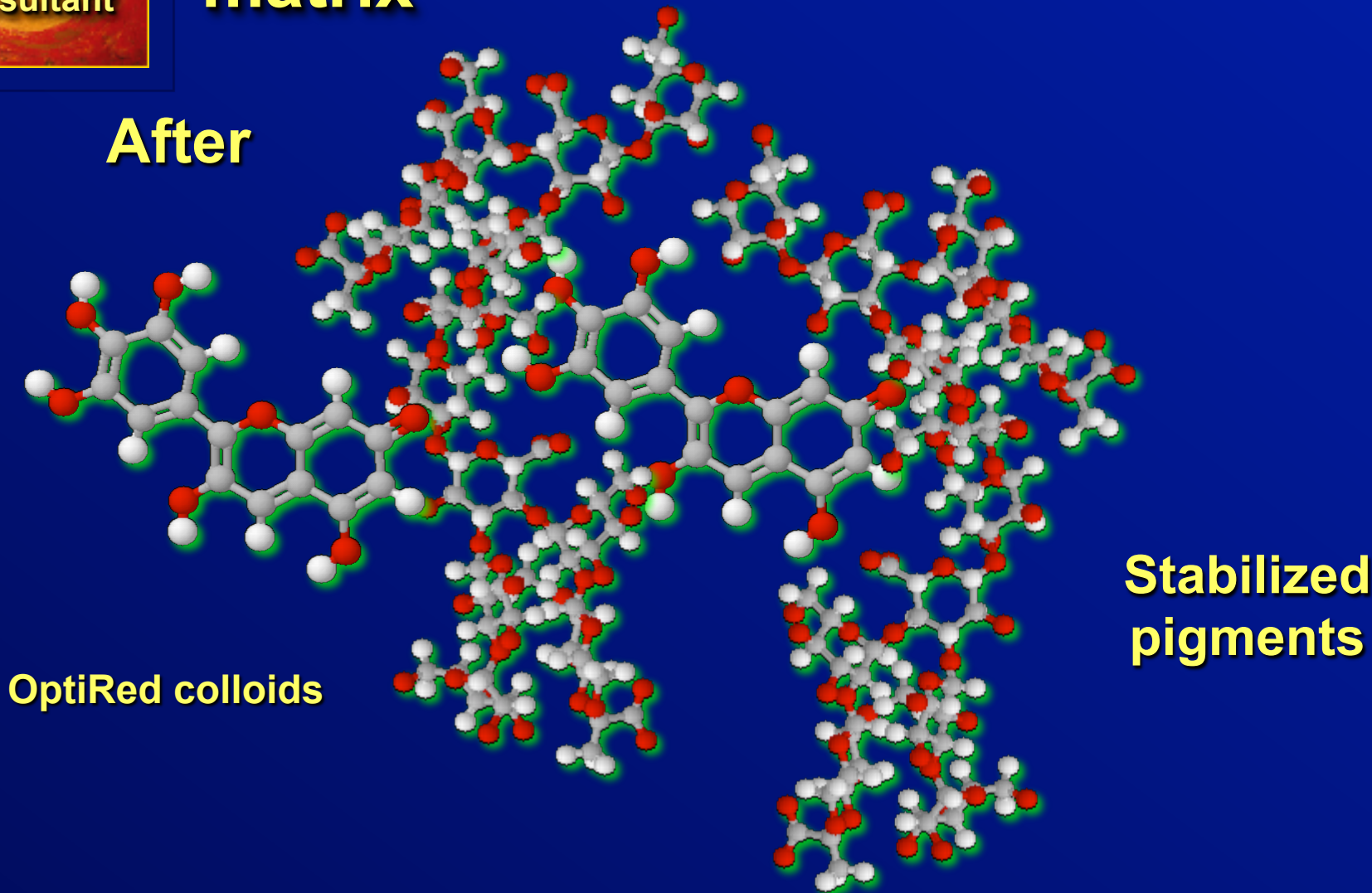


OptiRed colloids

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OptiRed[®] in action on the colloidal matrix

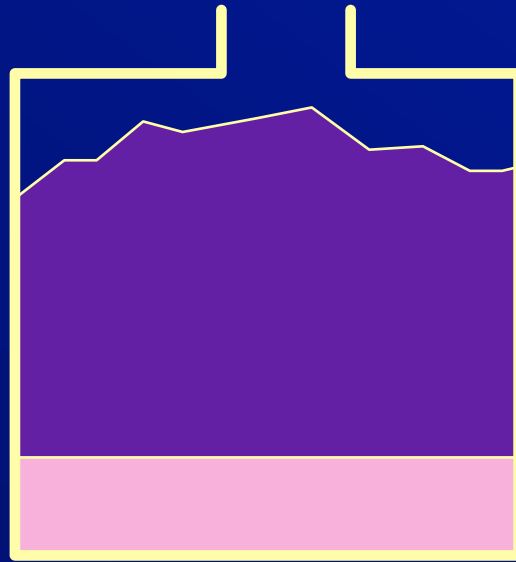
After



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Délestage. Preparation

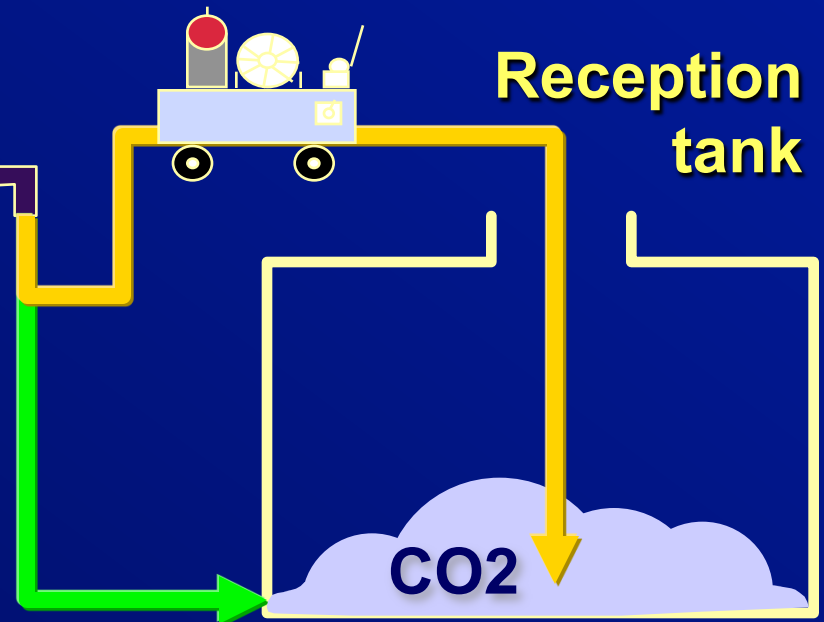
Délestage can be started as soon as the cap is formed.
Délestage is also interesting during cold soak to eliminate the mud coming from rehydrated dust that was on the grapes (without air addition)



**Maceration
tank**

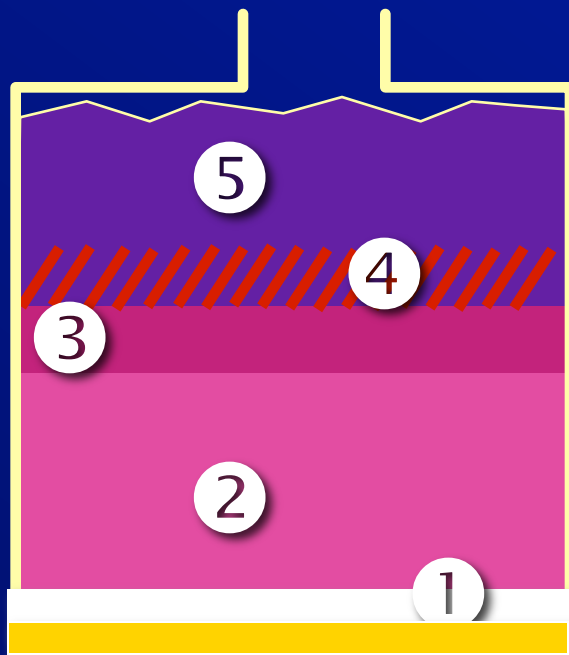
Best délestage is made with gravity, flushing the maceration tank juice towards the reception tank

Best délestage is made without oxygen. Oxygen being precisely added to the maceration tank with a precise macro-oxygenator



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Délestage. Step #1



Notes:

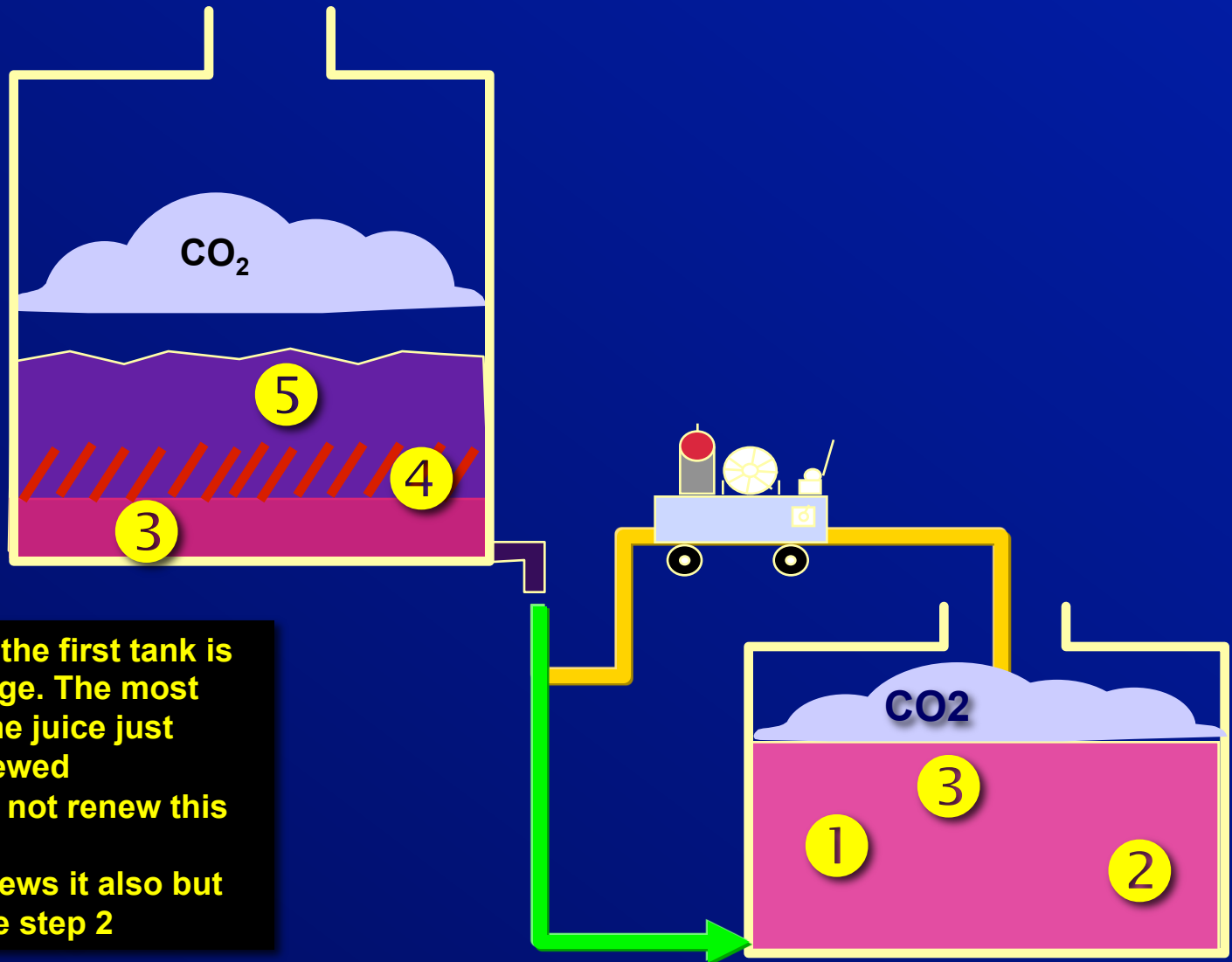
- 1= yeast and mud at the bottom of the tank
- 2= fermenting juice not in contact with the pomace
- 3= pigment and tannins concentrated juice below the pomace : low extraction, low stabilization
- 4= juice bathing the pomace
- 5= emerged pomace : no juice contact

Maceration
tank is
completely
drained to
the
reception
tank

Note: An open jet in a bucket allows a true juice oxygenation : 2 to 4 mg/liter dissolved oxygen.
Not recommended when a precise macro-oxygenator is used

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Délestage. Step #1 (cont.)

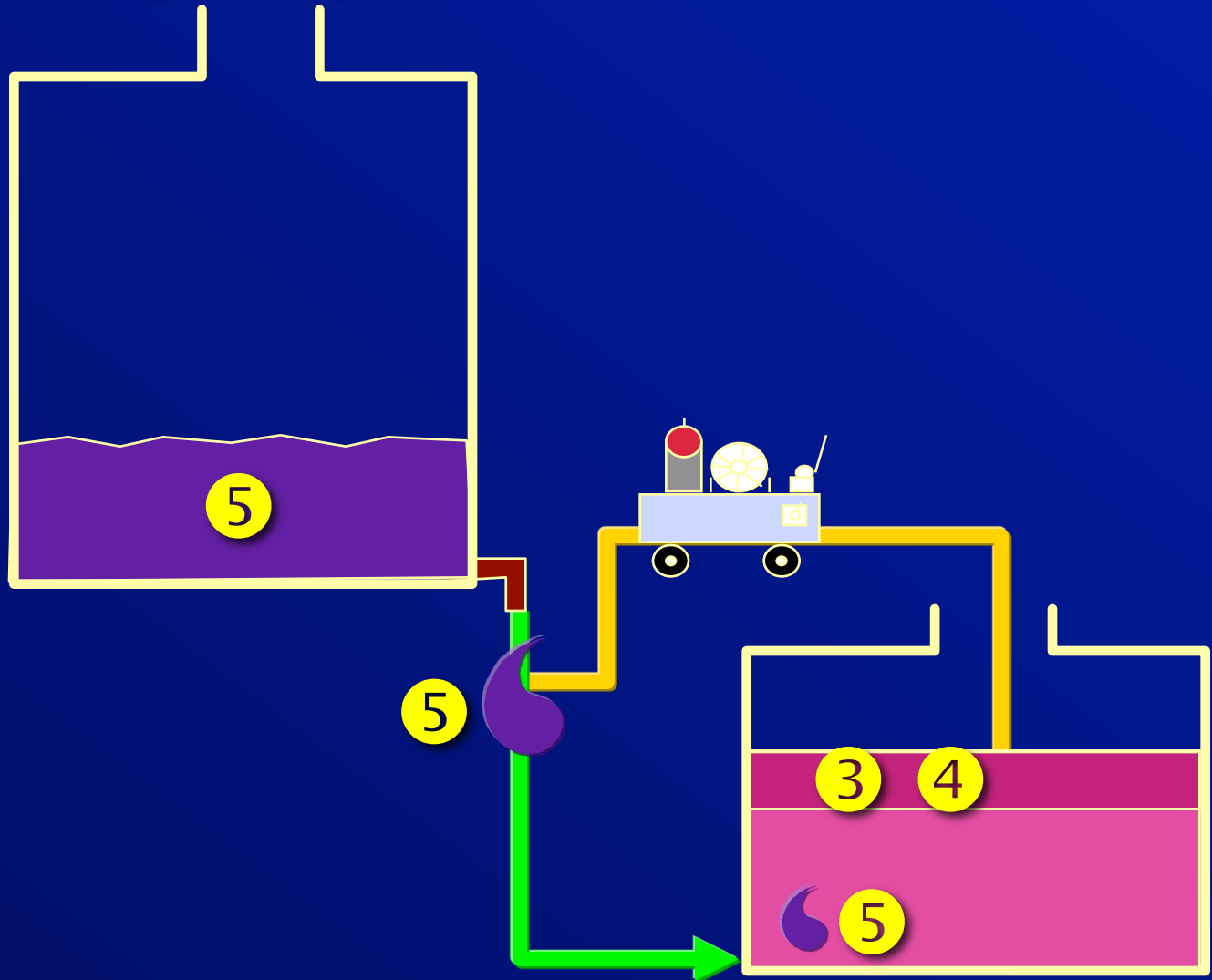


Complete draining of the first tank is a key point of délestage. The most concentrated juice (the juice just below the cap) is renewed
A pumping over does not renew this juice.
A punching down renews it also but is not doing délestage step 2

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Délestage. Step #2

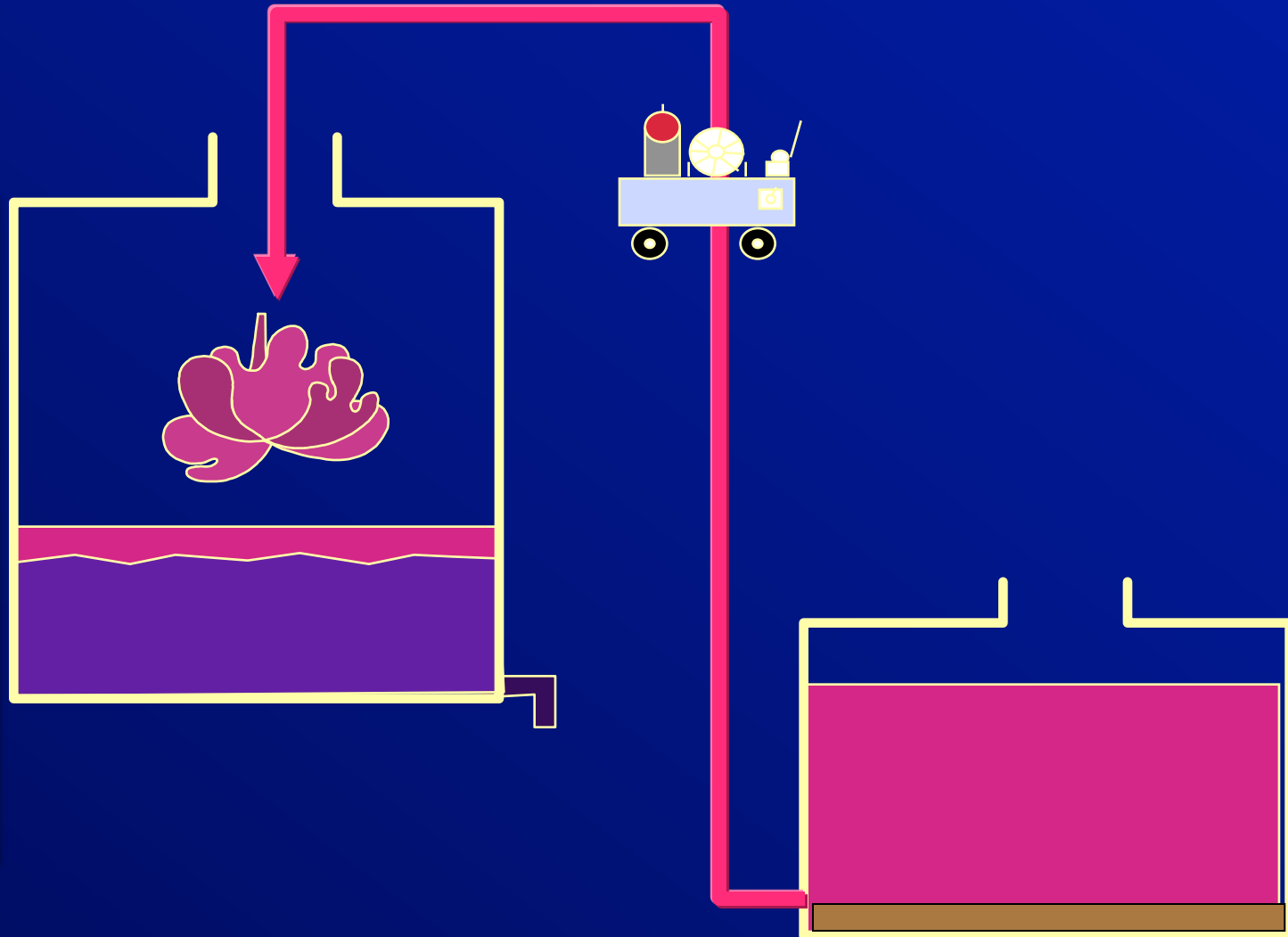
Complete
draining of the
cap achieves the
diffusion goals :
extracts the most
interesting grape
macromolecules



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Délestage. Step #3

The return of the juice is done with high flow and low pressure (flooding), to avoid mechanical action on the cap. It is not necessary to look for a complete cap bathing



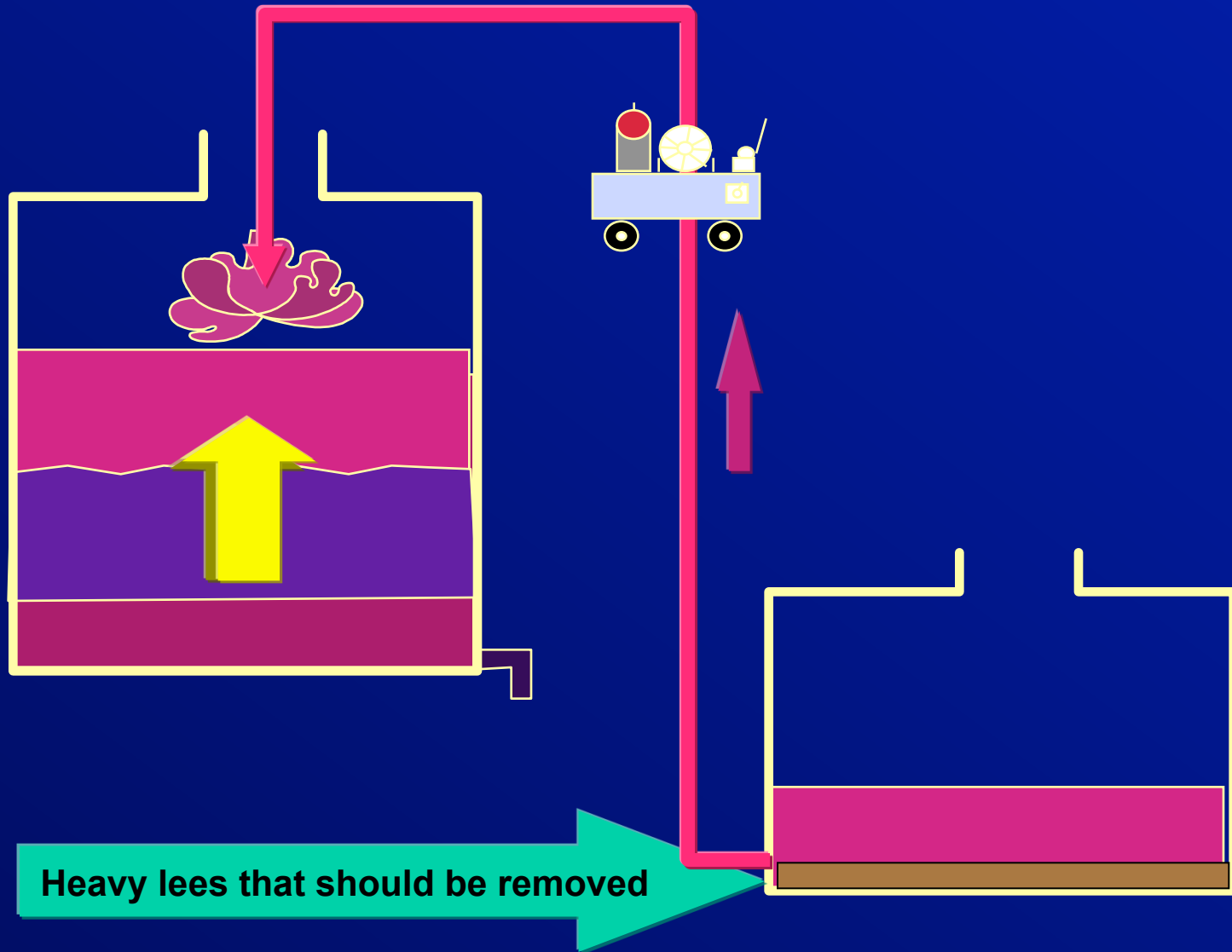
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Délestage. Step #4

When the cap stays together, it percolates through the juice or the wine. In other situations, it « melts » in the juice giving also excellent juice / cap exchanges, without violent extractions



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Strategy of maceration

Destem, Crush*, cool grapes + Adjust pH to 3,30 (don't care about Total Acidity)

500-700 g/hl Chips, French, toasted Medium +

Delestage + 2-3 punching down + lees elimination

Delestage + 2-3 p.d + lees elimination

Delestage + 2-3 p.d + lees elimin.

Del. + 2-3 p.d + seeds elimination

Del. + 2 p.d + seeds elim.

Del. + 2 p.d+ seeds elim.

Maceration
enzymes
Lallzyme EX-V
2-3 g/hl

Delestage +
CO2

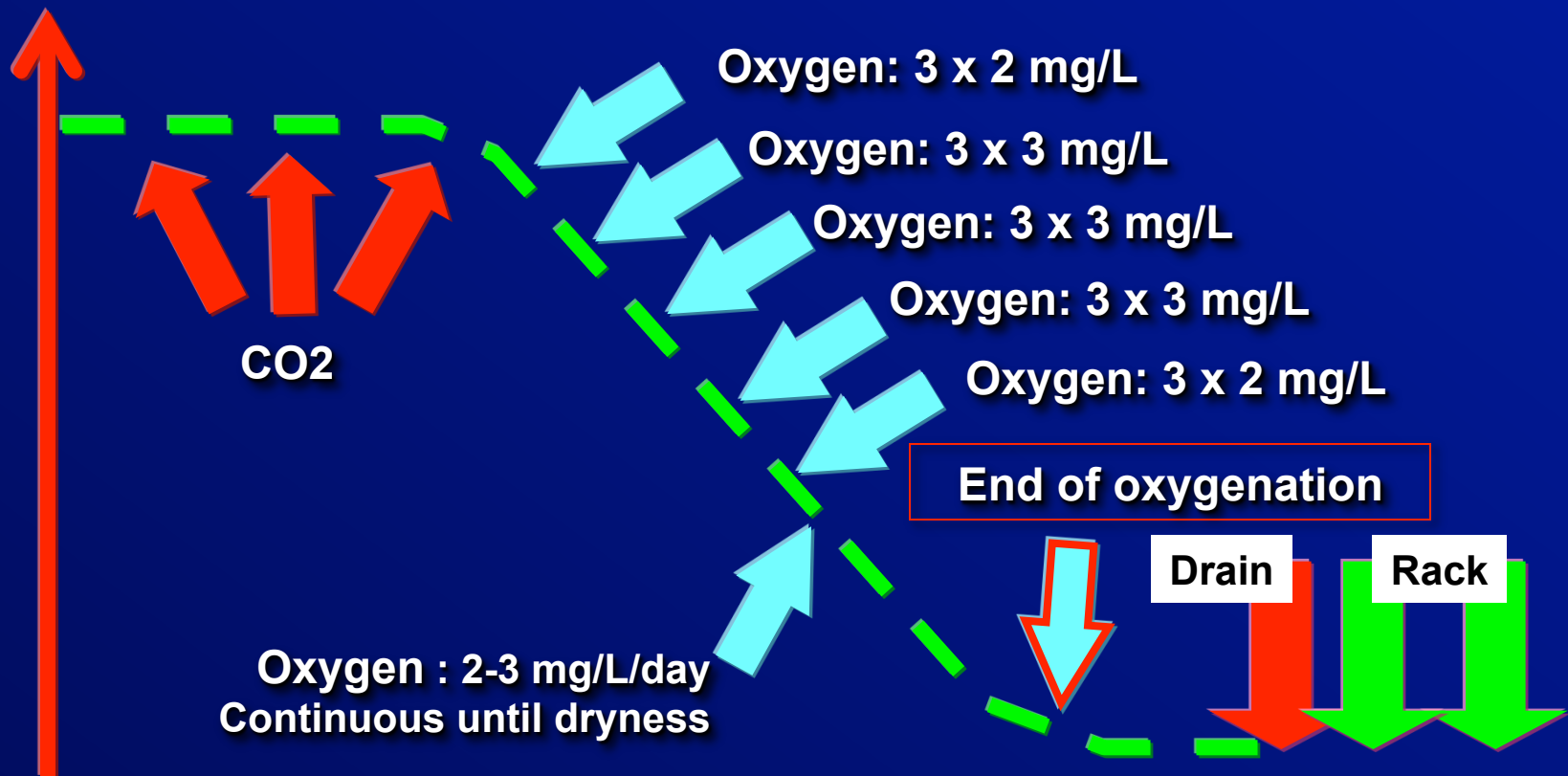
*Crushing is a key point in early diffusion of the best grapes elements. It is compulsory when it comes to extended maceration to avoid sugar leaking when selected yeast are dead

1 week

Drain

Rack

Strategy of oxygenation

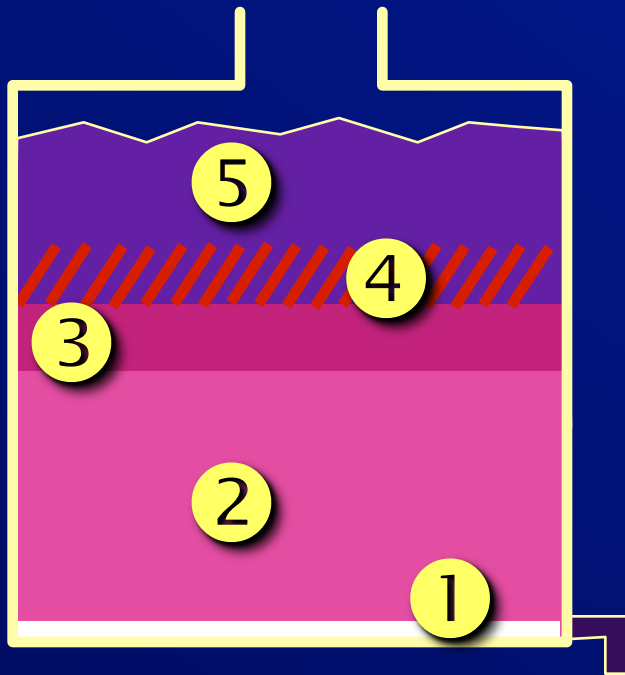


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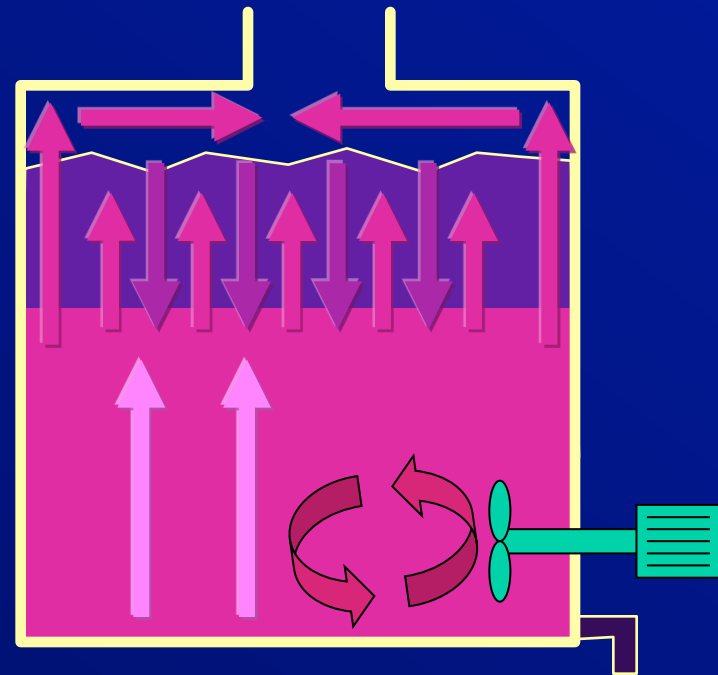
Agitation: a key action in red winemaking

Notes:

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- 4= juice bathing the pomace
- 5= emerged pomace : no juice contact



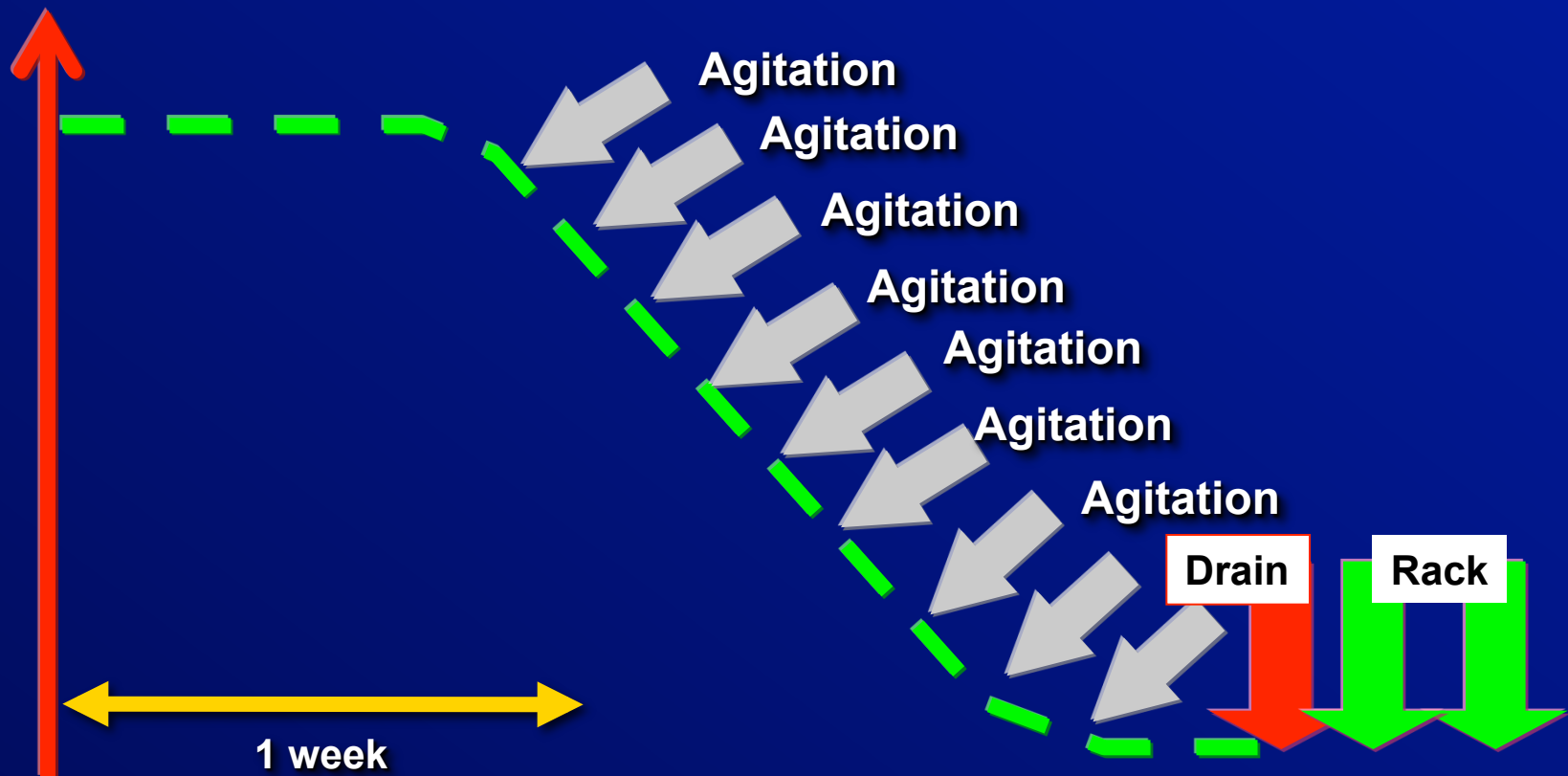
Before
agitation



During
agitation

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Strategy of agitation

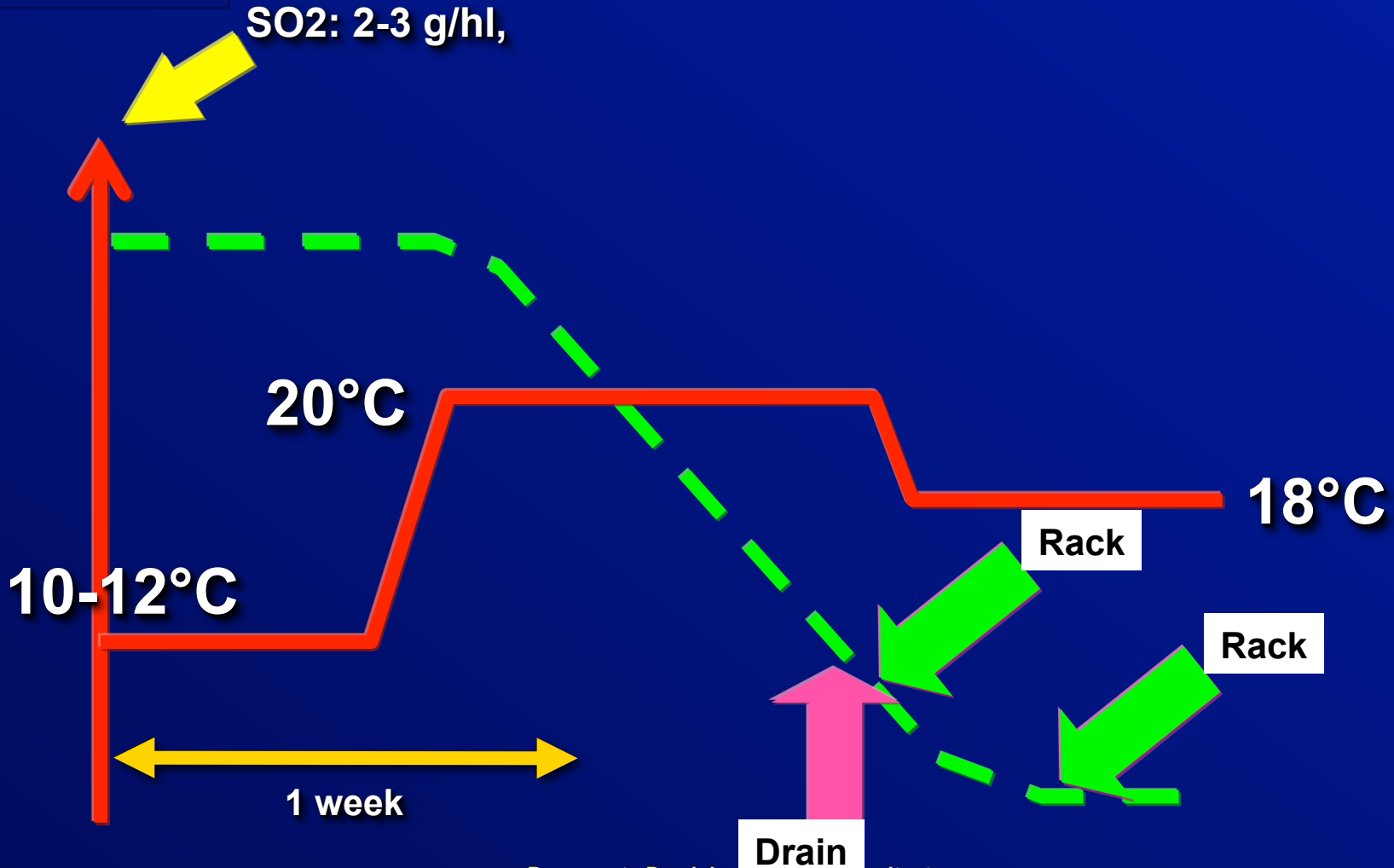


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Strategy of temperature with Pinot Noir: with shorter maceration



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Aging

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Strategy with agitations and rackings around malolactic

Noblesse
10 g/hl



In the barriques:
Tartaric to reach pH 3,35
+ SO₂, 4 g/hl
1 batonnage a day for 3
days. Rack

Keep 0.7 mg/L molecular SO₂

Noblesse
10 g/hl



Batonnage

16°C

1 week

End of malic

2 rackings*

Back to barrels

<12°C



Second
racking after
draining

*Pump wine and all lees to a tank. 24 hours settling. Rack to another tank for homogeneity. Analysis of the lot. Rack back to barrels 12 hours later

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Doses of SO₂ at the very end of malolactic

pH

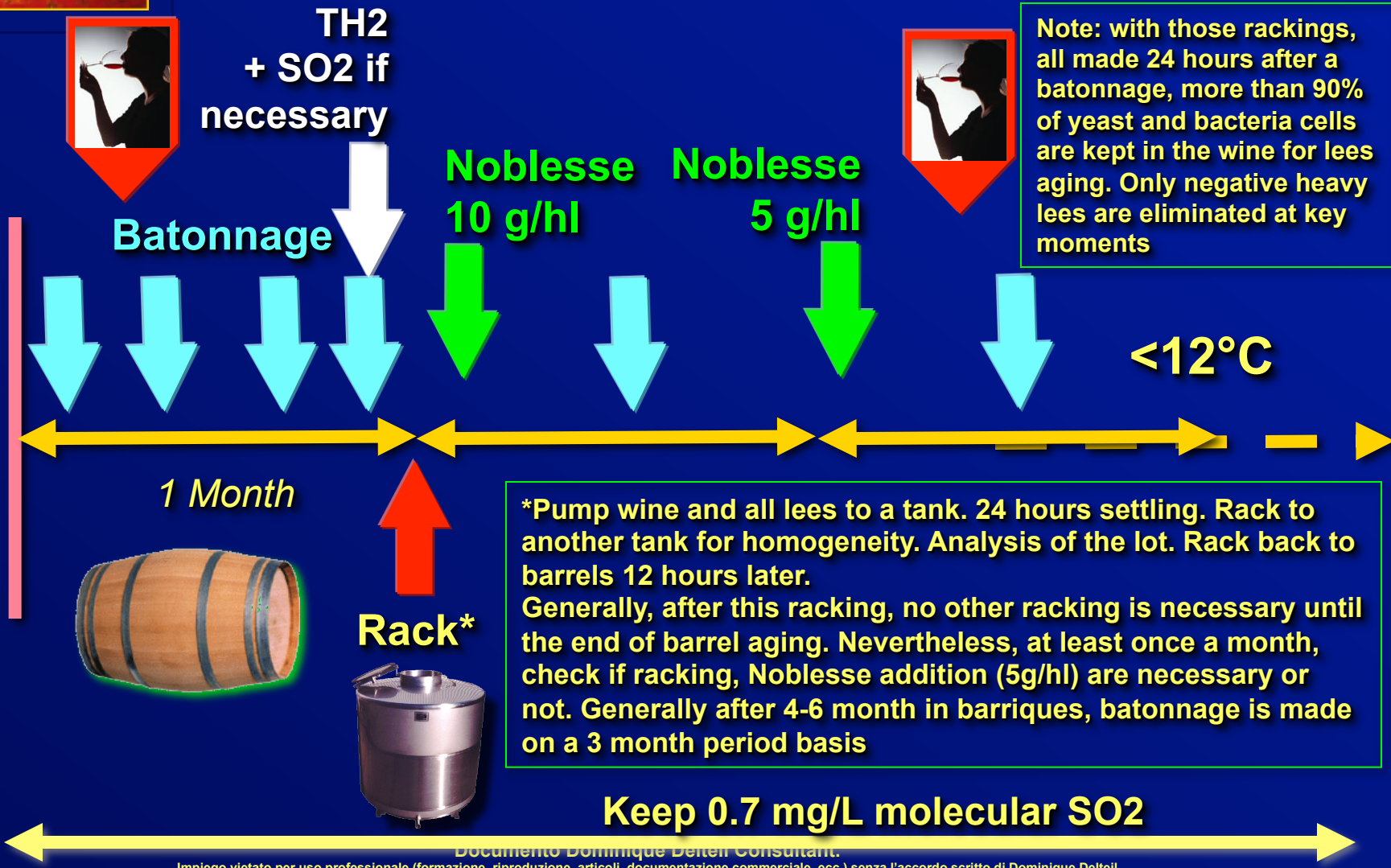
- 3,30
- 3,40
- 3,50

SO₂ added

- 3 g/hl
- 4 g/hl
- 5 g/hl

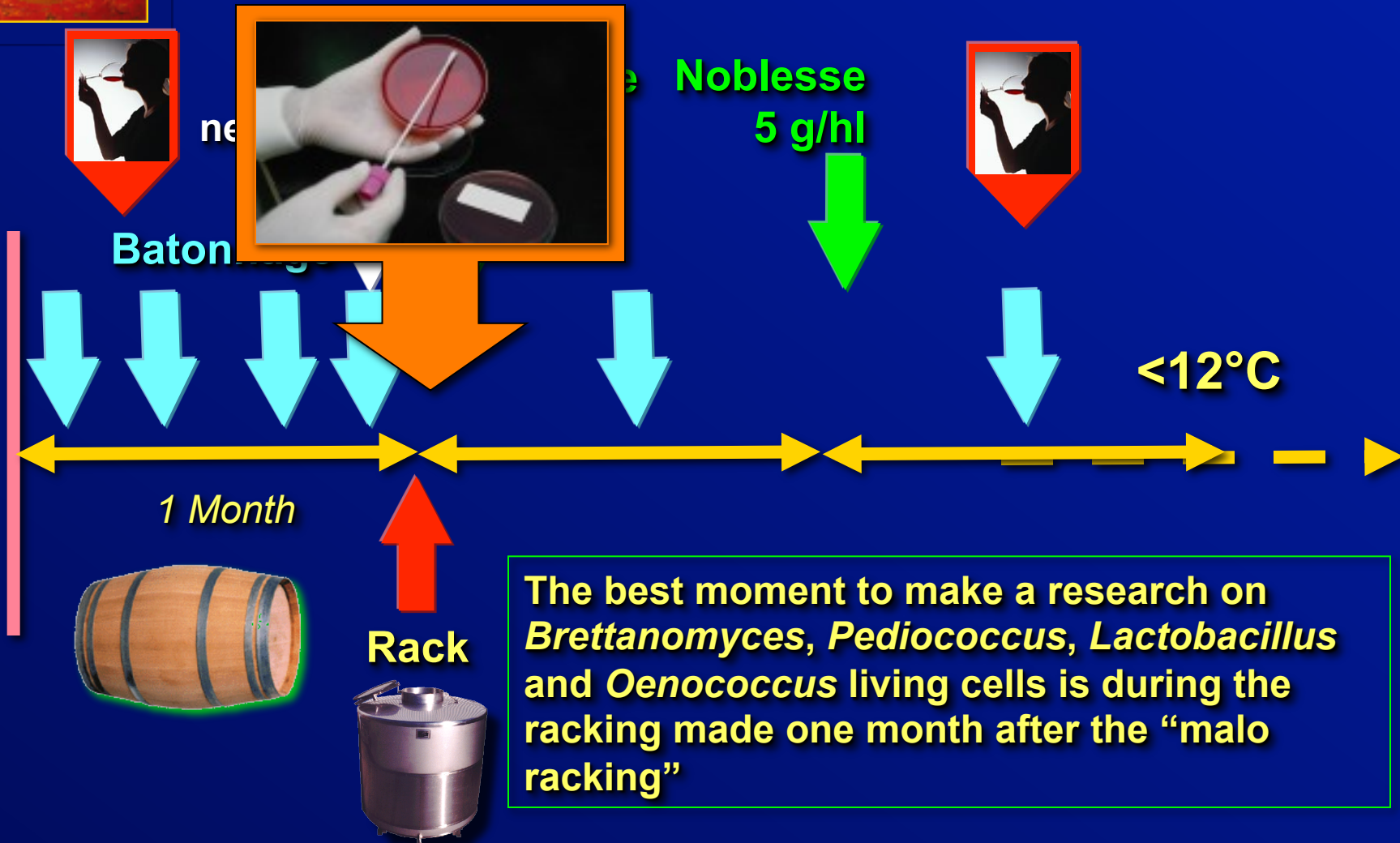
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Continue to work building the colloidal matrix and the longevity



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Monitoring spoilage population



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General procedure when the wine is taken from the barriques to a stainless steel tank

Staves,
30-40 g/hl, French,
Convection Toasted, 210°C

Noblesse
10 g/hl

12-15°C

Staves and Noblesse are buffering the negative electrostatic and tensio-active effects of stainless steel tanks

TH2 + SO2
if
necessary
48 hours

Crossflow filtration?

Rack,
pumping all
the lees

Electrodialysis?

Keep 0.7 mg/L molecular SO2





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Full bodied Pinot Noir with tank + staves malo and barrel aging

According to barrel aging length, 2 possible styles:

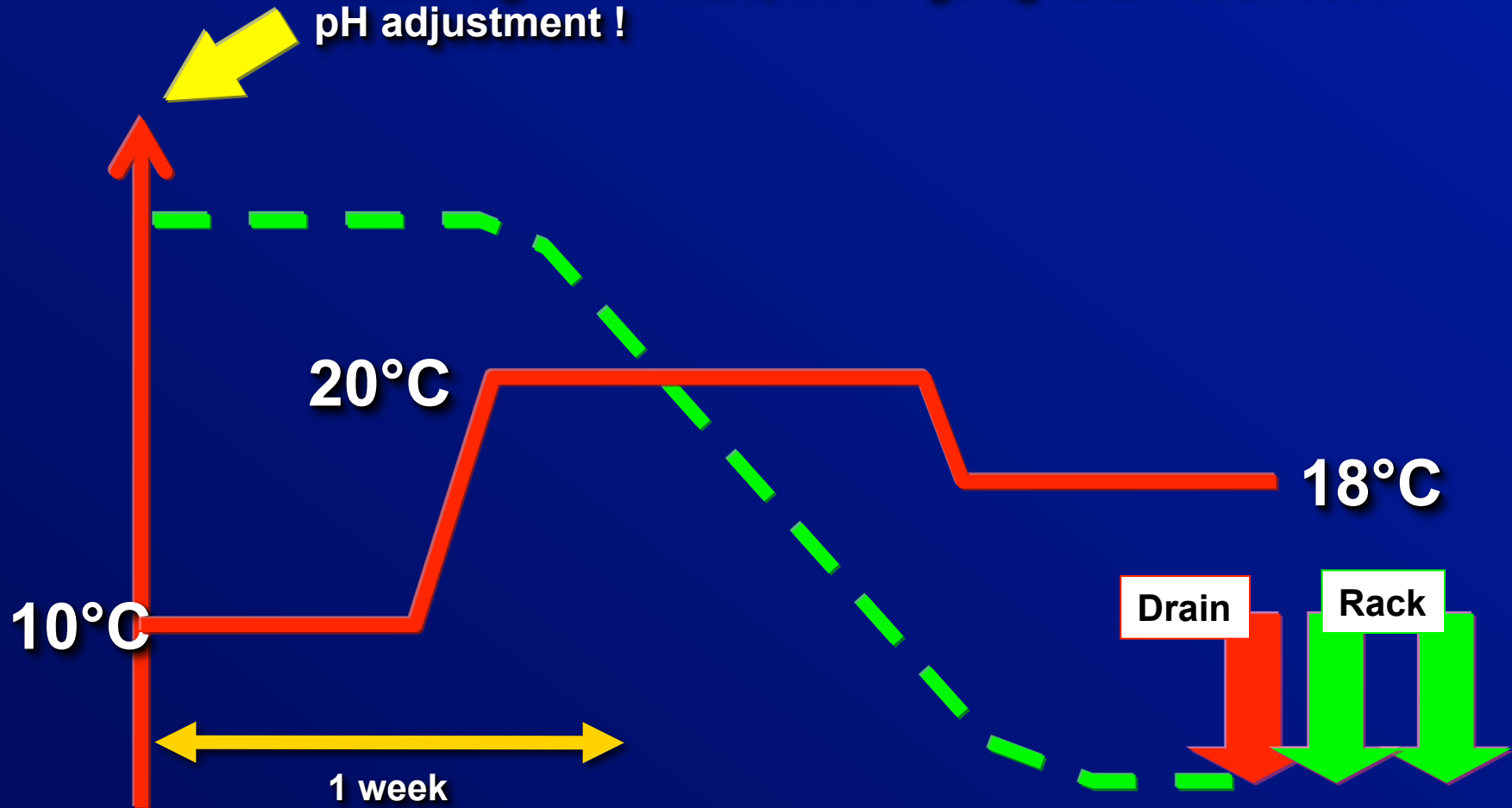
- Top Santa Barbara (California, USA) with 3-6 month barrel aging, or
- Top classical burgundy with 12-15 month barrel aging

With excellent grapes from outside Santa Barbara or Bourgogne

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Temperature management with Cold Prefermentative Maceration

SO₂: 2-3 g/hl. No more, we are going to talk soon about
pH adjustment !



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Yeast protection and nutrition strategy

On grapes: "hl" = 100 kg
On juice and wine: "hl" = 100 L

GoFerm Protect
40 g/hl

OptiRed 30 g/hl

Lactic Bacteria. VP41 One Step +
Fermaid O 20 g/hl (if >14%vol.)

Fermaid K
30 g/hl

Reduless?
1 g/hl.
Not more at this stage

Lalvin RC212
or
ICV D21
or
Cross Evolution
at 30 g/hl

Noblesse
10 g/hl

Drain

Rack

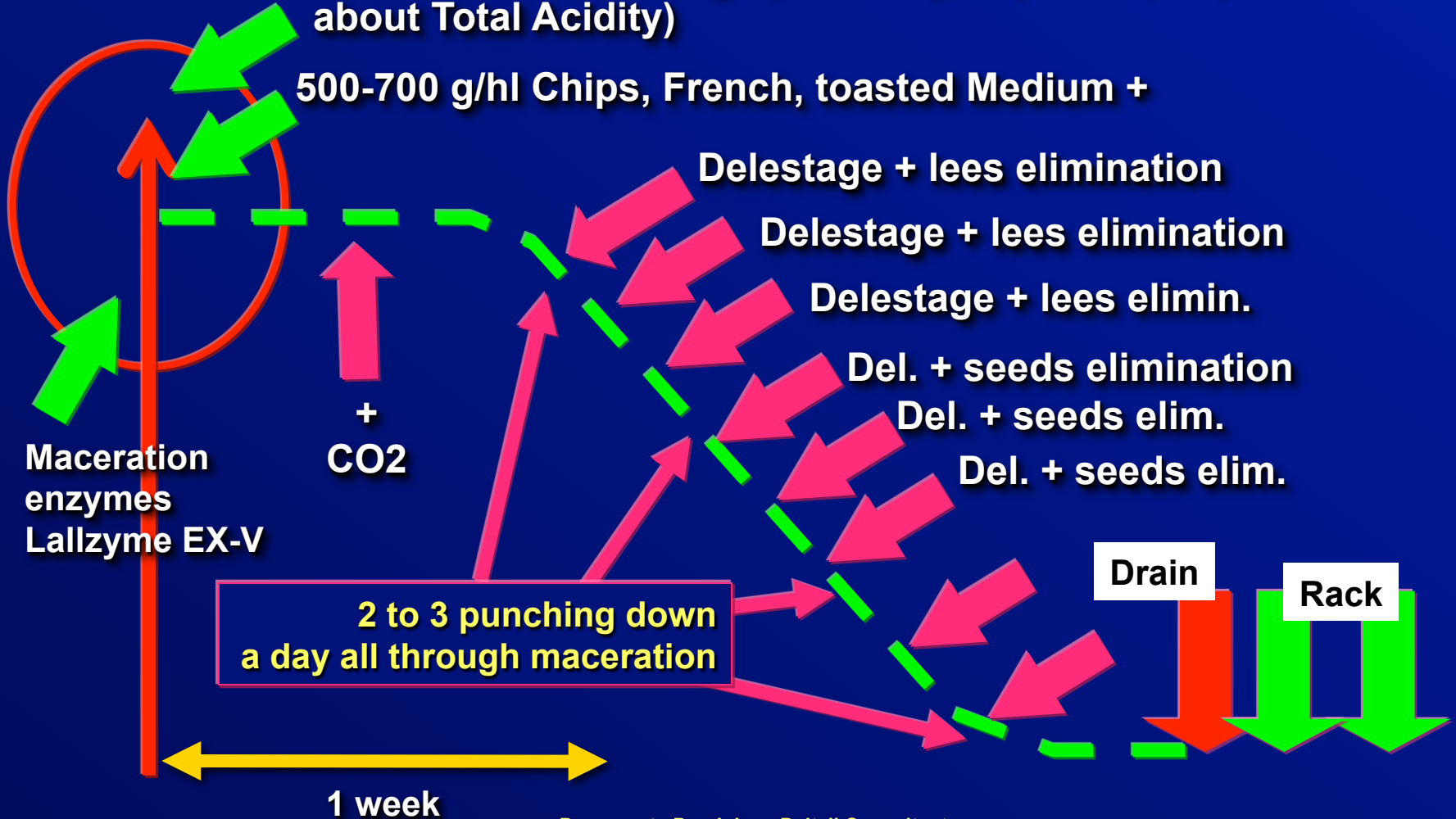
1 week

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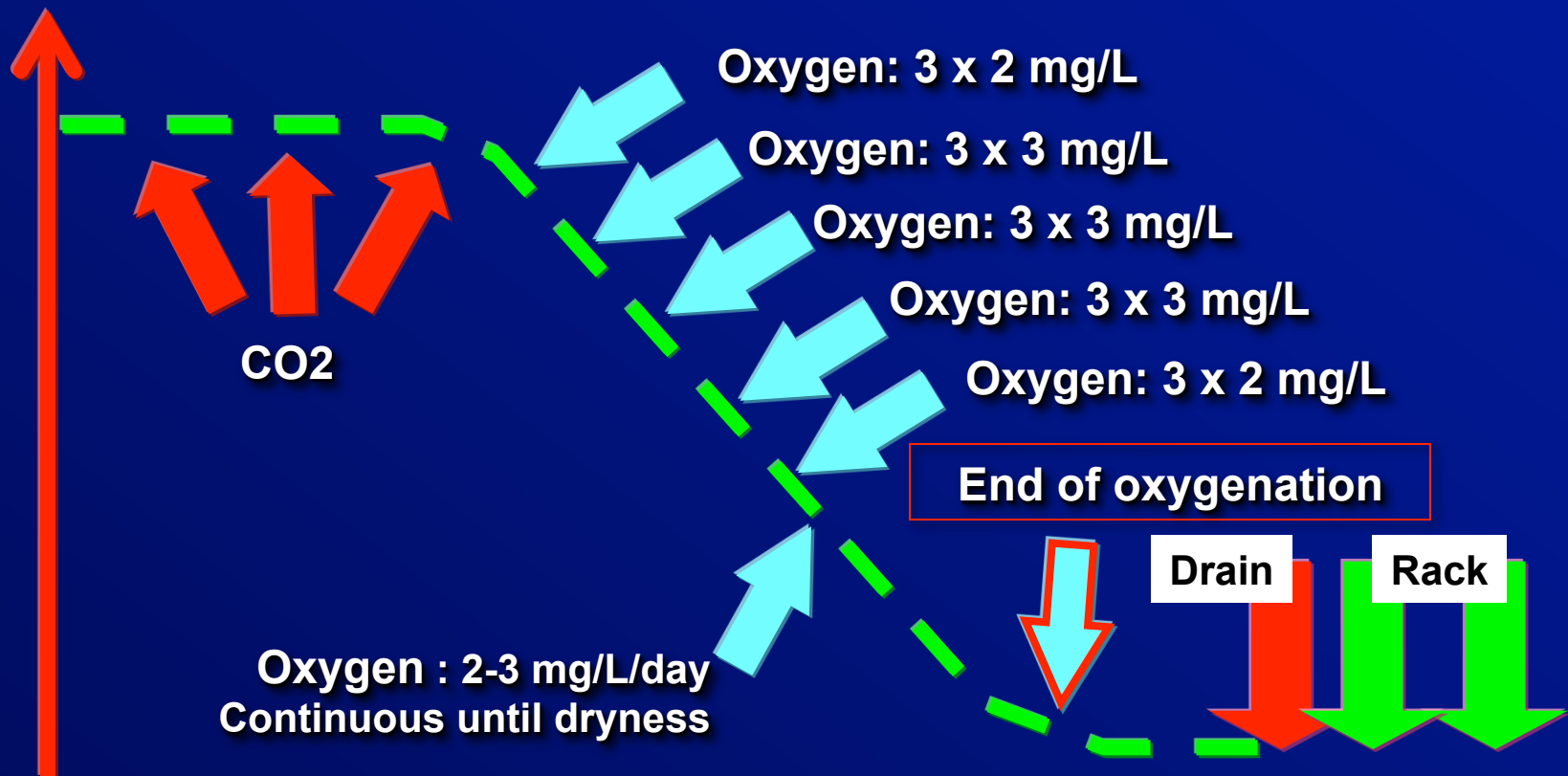
Strategy of maceration

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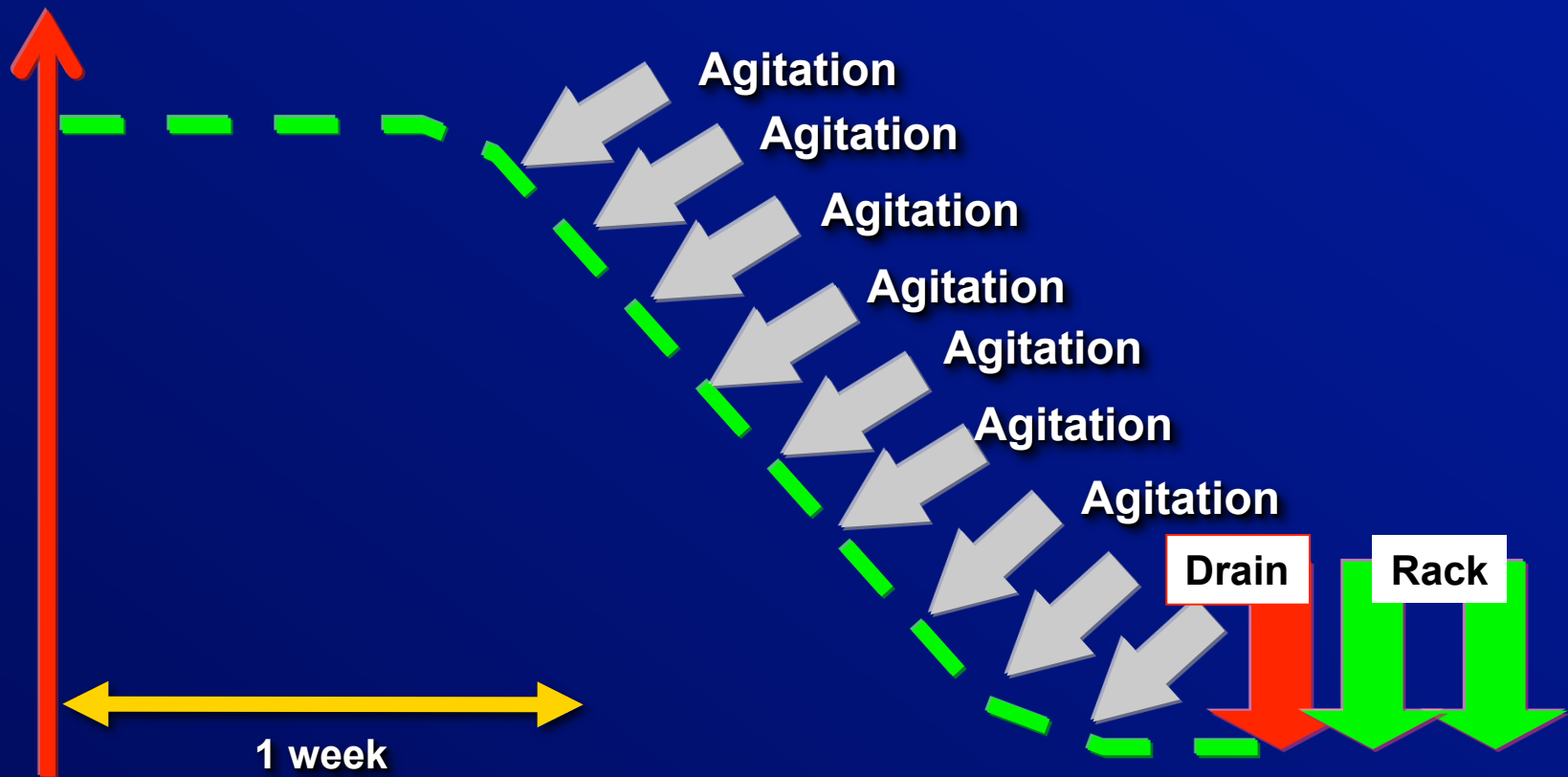


Strategy of oxygenation



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Strategy of agitation

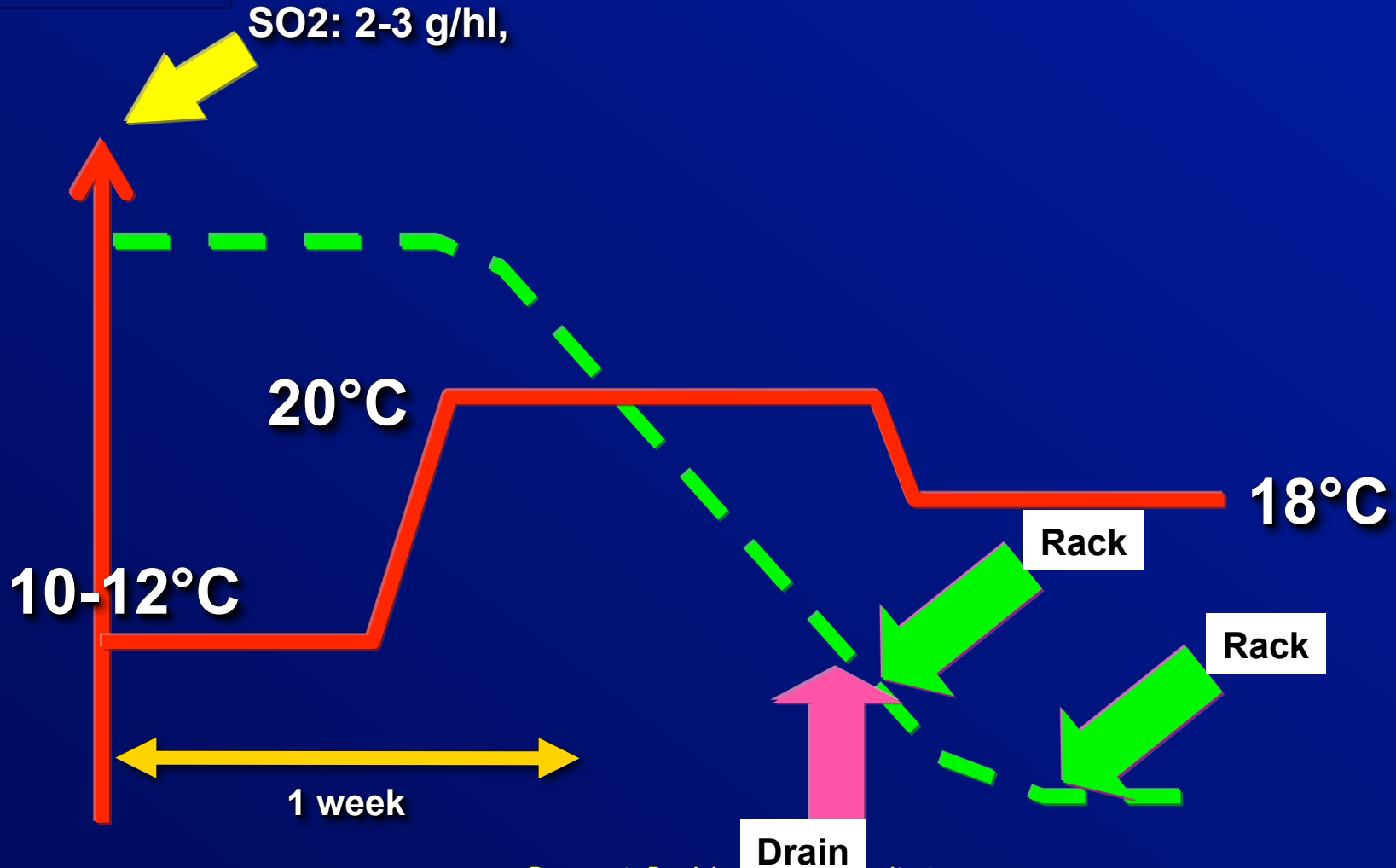


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Strategy of temperature with Pinot Noir: with shorter maceration



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Aging

Strategy with agitations and rackings around malolactic

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Staves, 400 g/hl,
Fr. M+

Tartaric
for pH
3.35
+ 30 ppm
SO₂

Noblesse
10 g/hl

Keep 0.7 mg/L molecular SO₂

Agitation



16°C

1 week

Back to staves

Noblesse
20 g/hl

2 rackings

Rack to
barrels

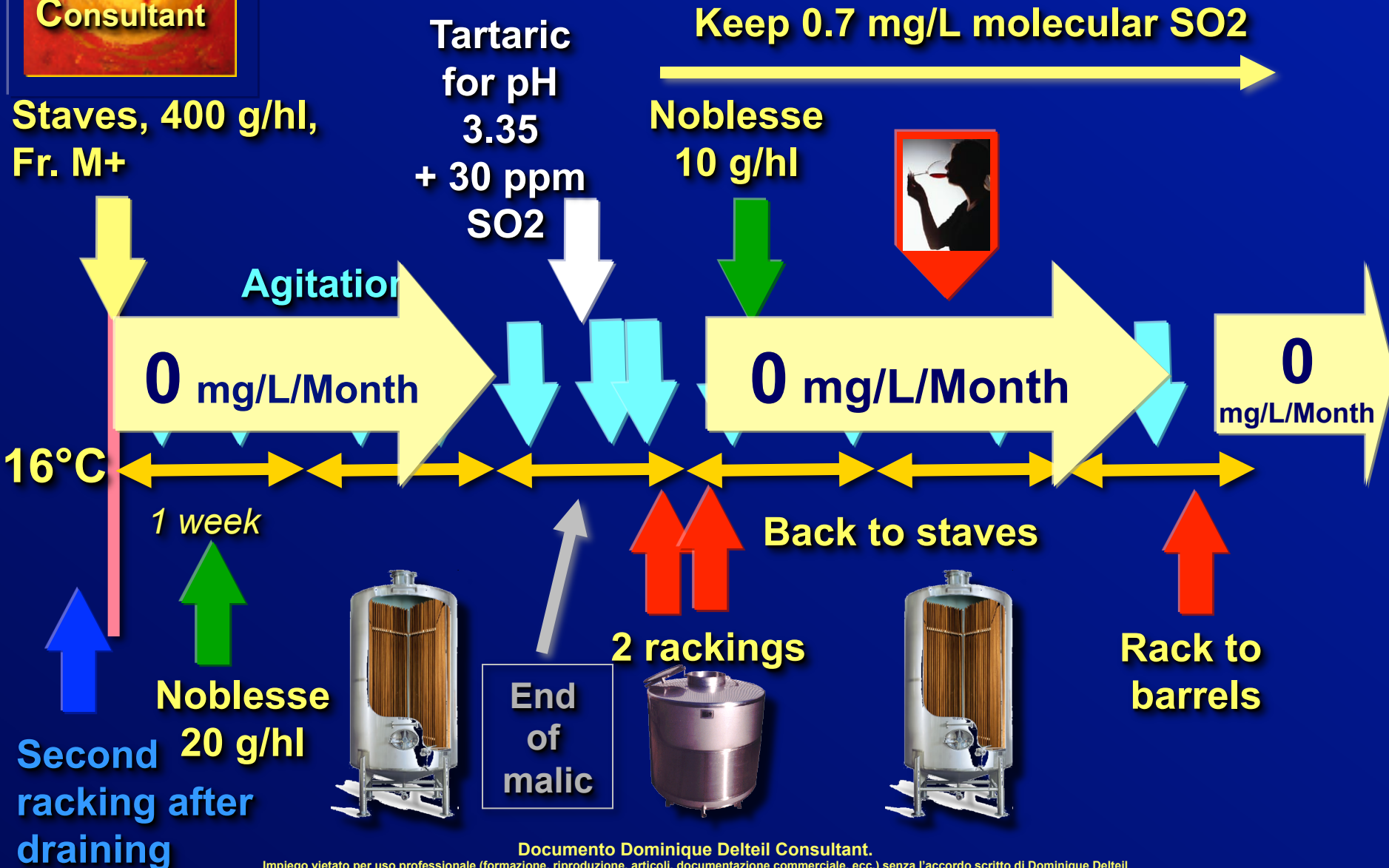
End
of
malic

Second
racking after
draining



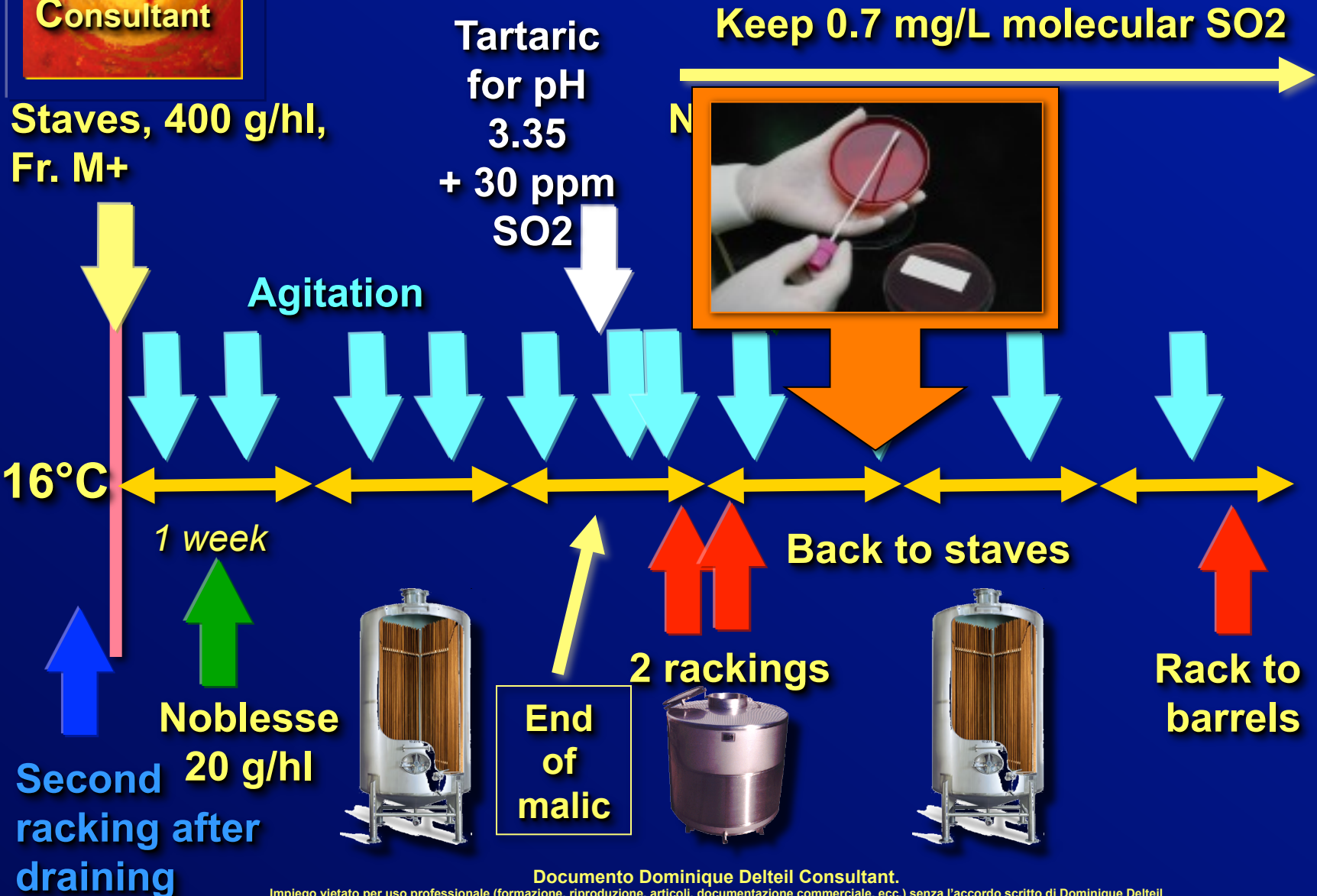
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Micro-oxygenation



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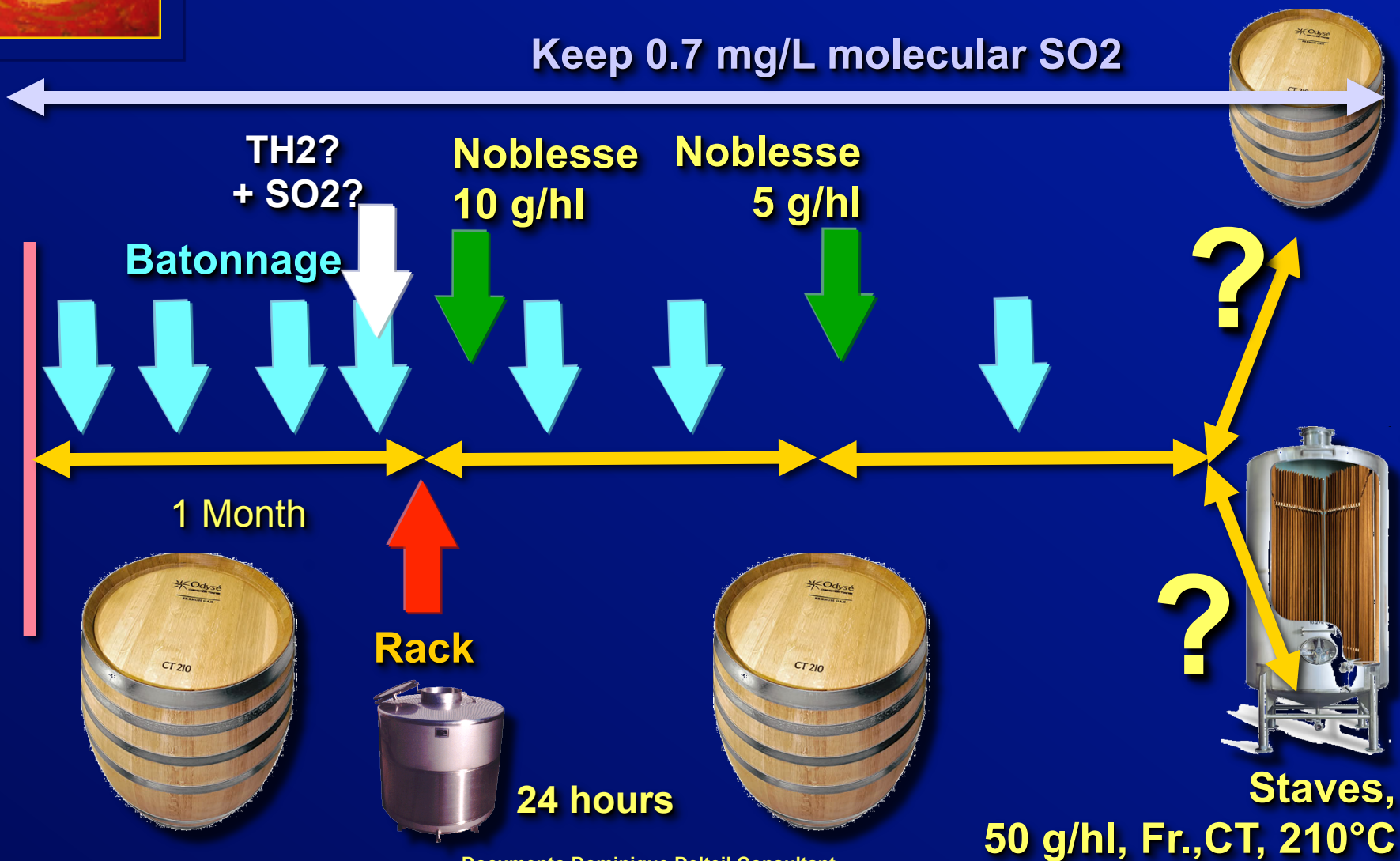
Monitoring spoilage population



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Continue to work building the colloidal matrix and the longevity

Keep 0.7 mg/L molecular SO₂

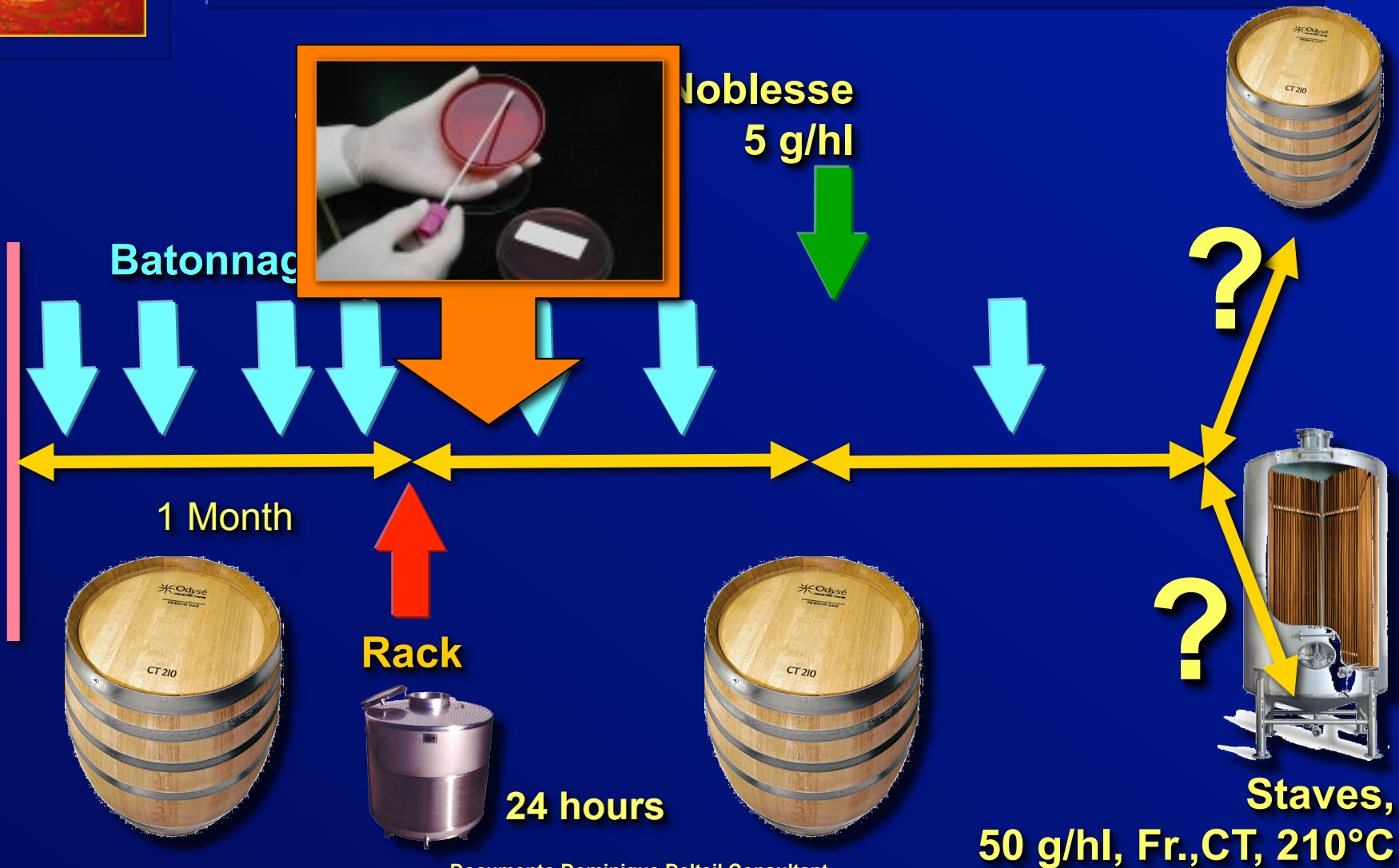


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Monitoring spoilage population



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Co-inoculation : long term advantages to manage spoilage level in your barrel cellar

- **Your barrels only touch a wine with very low spoilage level and high stable molecular SO₂**
 - **Lower level of spoilage bacteria and yeast**
 - Lower spoilage population at the end of MLF when SO₂ is added, due to coinoculation
 - Better sanitation efficiency of SO₂ on a lower spoilage population
 - **Better stability of the molecular SO₂:**
 - adjusted pH before sulfiting,
 - right SO₂ addition in function of pH,
 - very few combining heavy lees (4 rackings)



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Why MLF in barrel is not such a key technique for balanced wines and longevity? (1/2)

- **Higher spoilage risks than tank+staves proposed procedure**
- **Higher risks of sulfur like off flavors:** more difficult to manage 100 barrels than just 1 or 2 tanks with the right staves, right active lees (Noblesse), right agitation, right temperature, right micro-oxygenation if needed (not for Pinot Noir, in general)
- **Not easy to adjust the level of heavy lees before MLF and during MLF if needed**



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Why MLF in barrel is not such a key technique for balanced wines and longevity? (2/2)

- **Not possible to make a precise micro-oxygenation before and during active MLF, if needed**
- **Obligation to add a high quantity of SO₂ into the barrels, in order to kill the selected LAB population with only one shot**
- **Wine-barrel balance is easy to reach quickly with the proposed program: the wine prepared with staves+Noblesse is not an aggressive extractor on the barrel oak**

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General procedure when the wine is taken from the barriques to a stainless steel tank

Staves,
30-40 g/hl, French,
Convection Toasted, 210°C

Noblesse
10 g/hl

12-15°C

Staves and Noblesse are buffering the negative electrostatic and tensio-active effects of stainless steel tanks

TH2 + SO2
if
necessary
48 hours

Crossflow filtration?

Rack,
pumping all
the lees

Electrodialysis?

Keep 0.7 mg/L molecular SO2

