FINING

Juice fining with vegetal proteins

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Concept – “Longevity in Wine”

- Current release wines sold in tasting rooms are vintages 2019 and 2020!
- Need to keep wines fresh, and preserve aromatics.
- Bordeaux white wines are primarily Sauvignon Blanc & Semillon.

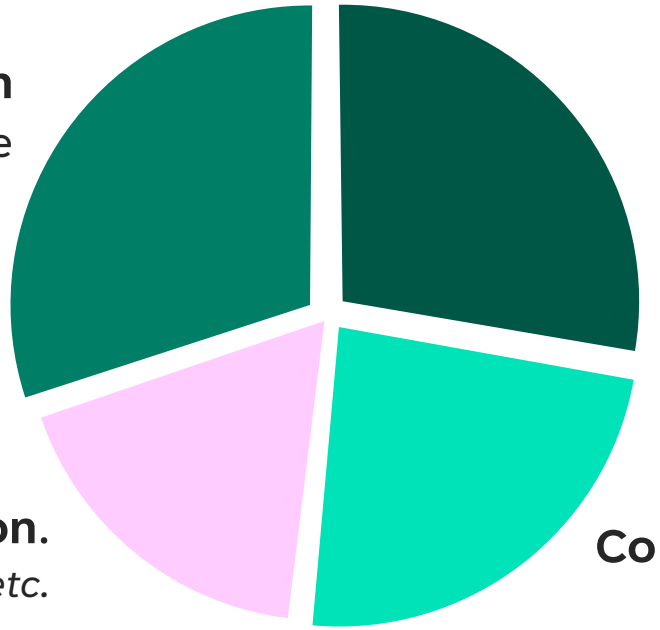
Early Fining of White & Rosé wines

Certified vegan wines may carry this label

Trend towards vegan, allergen-free, & plastic free

Fining, what is the goal ?

Turbidity reduction
Remove particles that make a haze



Elimination of phenolic compounds

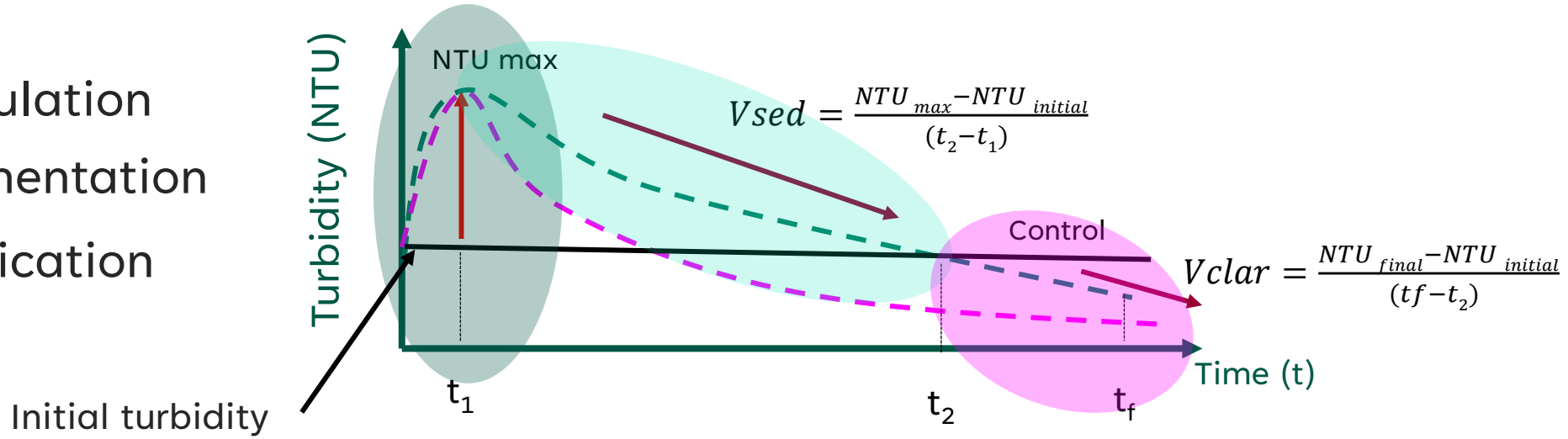
- Reduce astringent tannins & bitterness
- Reduce oxidizable phenolic compounds → aromatic potential preservation

Organoleptic correction & preservation.
Elimination of vegetal notes, oxidative notes, etc.

Coloring mater stabilization

TURBIDITY REDUCTION

1. Flocculation
2. Sedimentation
3. Clarification



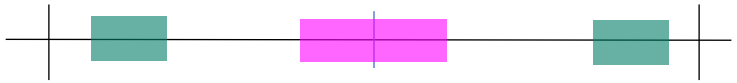
- ✓ **Flocculation capacity** depends on the nature and dose of the fining agent and wine
- ✓ **High flocculation is not associated with a faster clarification rate**
- ✓ **The sedimentation rate and the clarification rate depend on the size and weight of the flocculate**

Zeta potential and particle size

TURBIDITY REDUCTION

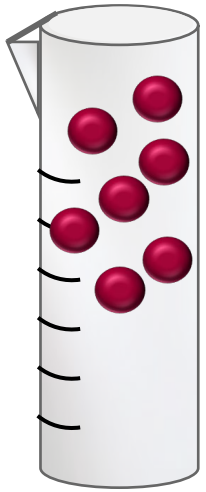
ZETA POTENTIAL

Protein fining agents

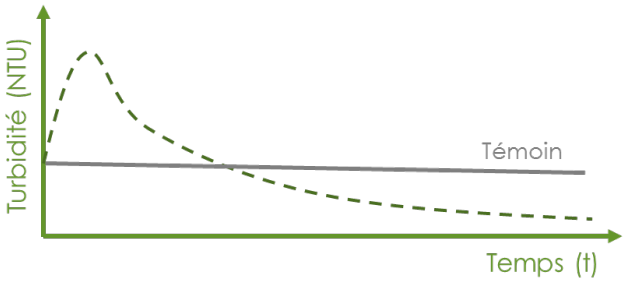


-30 mV

30 mV

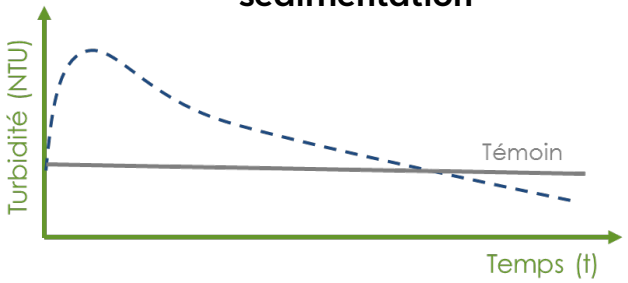


Fining agent with a FAST speed of sedimentation

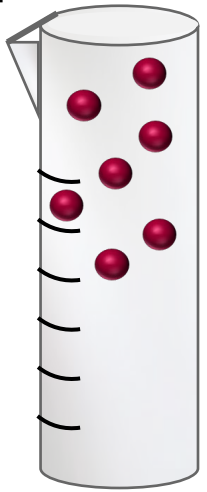


The aggregates are large and heavy

Fining agent with a SLOW Speed of sedimentation



The aggregates are smaller and lighter in size



A fining agent that produces rapid clarification will produce a larger volume of lees.

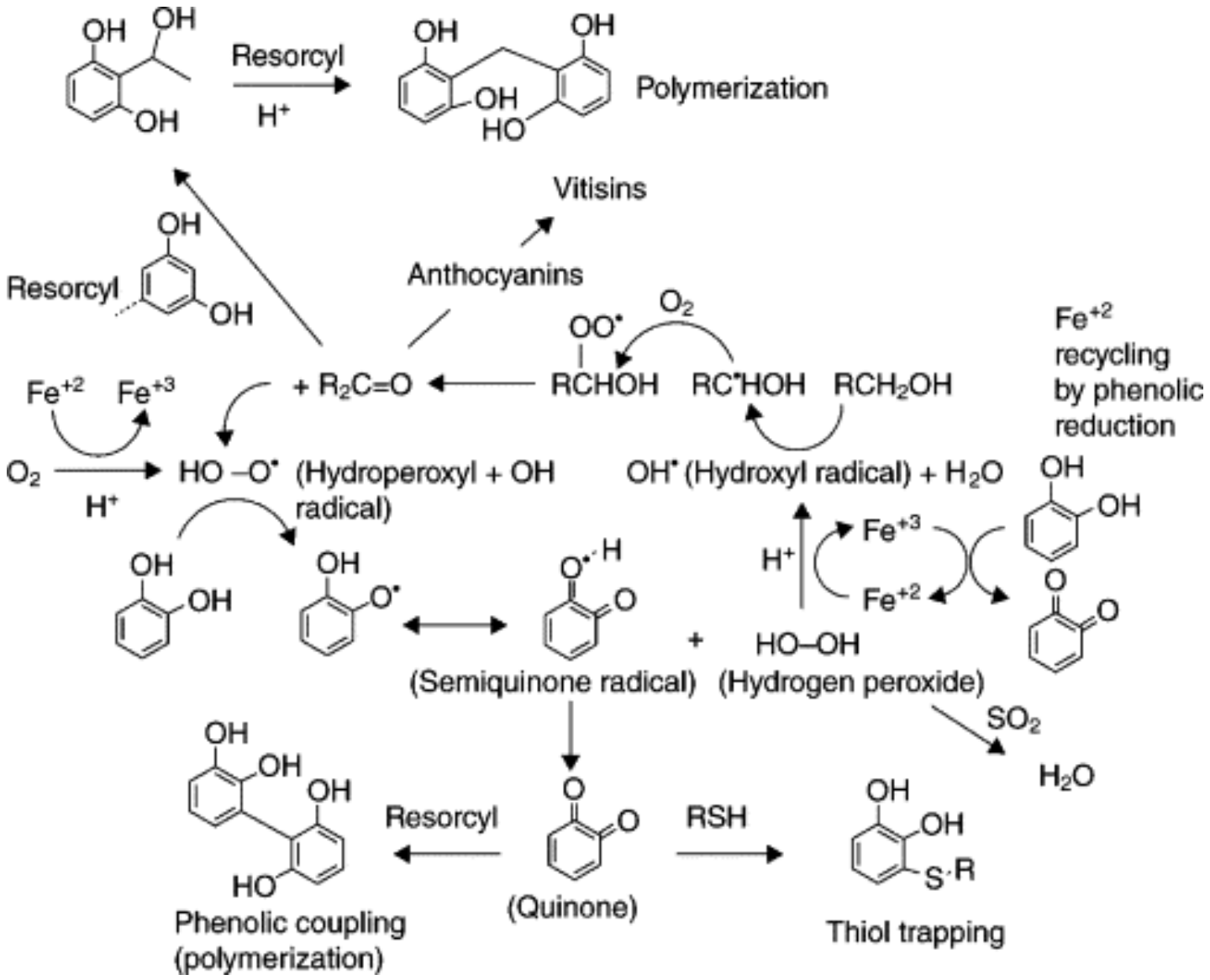
FINING – Eliminating Phenolic Compounds

1. **Avoid the formation of quinones that can trap the aromas of the wine**

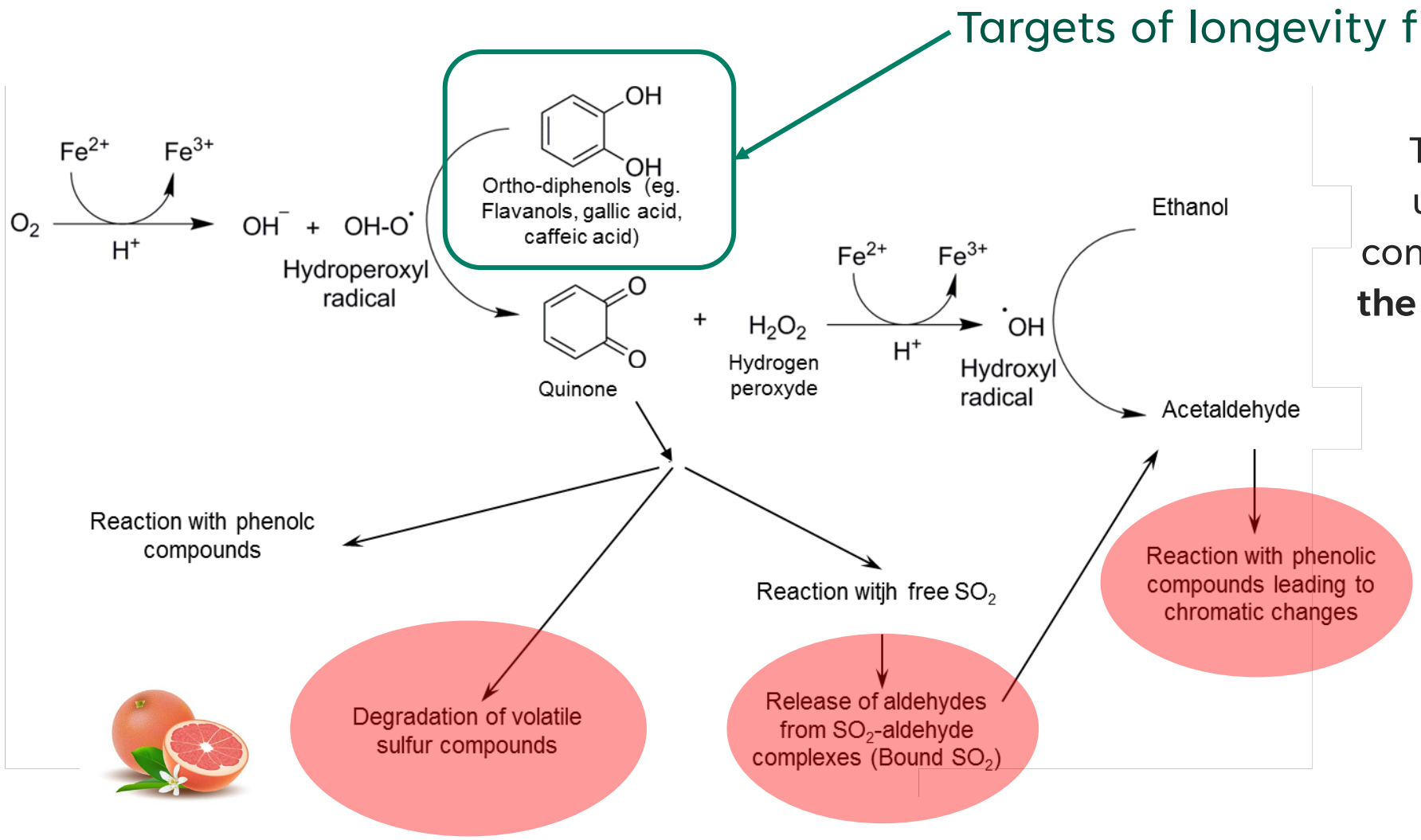
2. **Removal of oxidized phenolic compounds**

3. **Reduce astringency**
4. **Remove bitterness notes**

Remember this reaction?



FINING – Eliminating Phenolic Compounds



The elimination of unstable phenolic compounds **will reduce the quantity of quinone formation**

N.B.
Thiols are mainly synthesized during the 1st 1/3 of AF!
Need to eliminate oxidized and oxidizable compounds as soon as possible!

Early fining is so important!

- Treat the juice before the fermentation esters are developed.
- Remove the oxidizable phenolics and stop the chain reaction of quinone formation.
- Gives longevity to wines.
- Ability to use less SO2 in winemaking process.
- Potentially more active glutathione in wine after fermentation.

Removing polyphenols = organoleptic correction

FINING & AROMATIC PRESERVATION

Allows the preservation of the aromatic potential while preventing the browning of the wines post-fermentation.

- This is achieved by the early elimination of reactive and oxidizable phenolic compounds.
- This practice is widely used in Europe for all the so-called "aromatic" wines.
- Wines more stable and less reactive to oxygen.

In the early 2010s, LAFFORT research and development team played a huge role in the wine industry's adoption of fining during fermentation, especially for Rosé wines.

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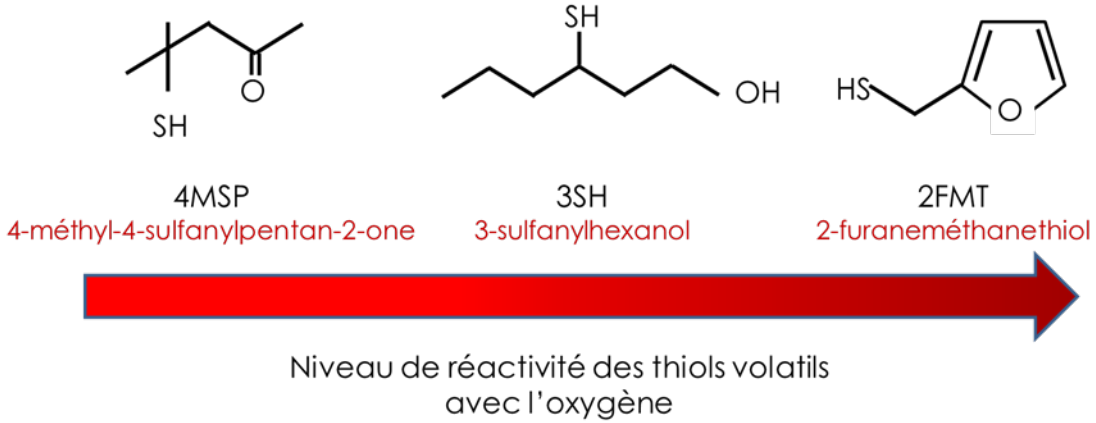
FINING ANALYSIS – is it working?

Measuring Aromatic Compounds for Trials



- Perception threshold - to show the level of impact on the aroma profile.
- The reactivity of quinones & thiols is variable according to the oxidizable nature of the thiols.
- Analysis is important for the classification of the processes, but the tasting (sensory) must remain the most important (interactions perceptions, structure, acidity...)

Non-animal, non-GMO proteins.

PURE VEGETABLE PROTEINS

DIFFERENT FORMULATIONS ADAPTED TO EACH SITUATION.

VEGEFLOT®

Potato & Pea - with a high flocculation capacity, specifically developed for flotation.

- Rapid flotation speed
- **Stable flotation cap.**
- Good compaction of the foams (low percentage of lees).

VEGEMUST®

Potato & pea - with a high flocculation capacity, suitable for cold settling and fining in fermentation.

- **Rapid sedimentation rate.**
- The presence of patatin efficiently participates in reducing compounds that are a potential source of oxidation.

VEGEFINE®

Potato proteins for fining wines and musts.

- **Versatile and utilizable on a wide range of musts and wines with high levels of oxidized and oxidizable polyphenols.**
- Extremely effective on wine for organoleptic refining.

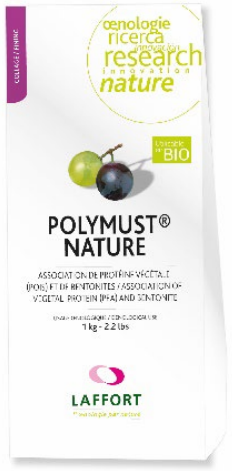
VEGECOLL®

Pure Patatin – one specific Potato protein

- **A high native protein** concentration and a very high Zêta potential make it one of the most reactive proteins in juice and wine.
- **Low dosage, very efficient and gentle.**

POLYMUST® Range – specific formulations

Make the most of the synergy between raw materials through different formulations adapted to each situation

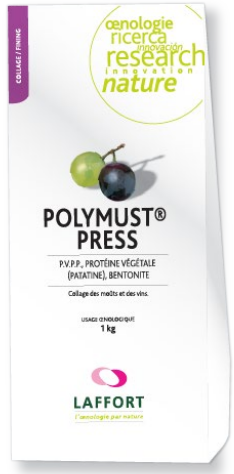


Pea + Bentonite

- Ensures must and wine clarification
- Excellent lees compaction
- Contributes to early protein stabilization

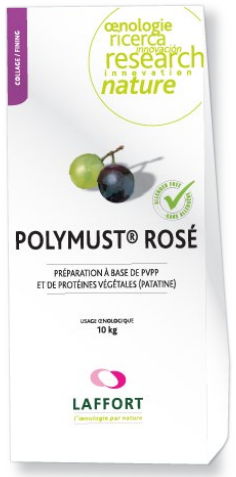
PVPP + Pea

- **Phenolic fining preventing pinking and oxidation.**
- Prevents quinone formation that can trap aromas and alter the color.



Potato + PVPP + Bentonite

- Removes oxidizable and oxidized phenolic compounds.
- Protects musts and their aromatic precursors.
- **Eliminates bitterness in wines.**
- Good for red wine fining



PVPP + Potato

- Decreases the phenolic compounds content.
- **Ensures hue stabilization by eliminating oxidized polyphenols.**
- Keep your Rose pink!

How to make your choice ?

1. There are no wrong choices but **right choices**.

2. In my process, do I want to work with 100% vegetable protein or with mixes?

3. If I choose the mixes, can I work with PVPP or not?

4. I can make my choice according to the juice or wine application.

5. Talk with my Laffort tech rep to narrow down my choices.