COMPROMISED FRUITS: SUNBURN

Sunburn in grapes, caused by excessive light, poor canopy management, high temperatures, and vine stress, leads to browning or necrosis of the berry tissue. This damage results in degraded pigments and increased spoilage microorganisms. The sensitivity to sunburn varies by grape variety, depending on skin thickness.

Sunburned grapes develop thicker cuticles, higher protein levels, and reduced juice yields, which increase phenolic content and bitterness in the wine. This impacts the wine's color, flavor, and overall quality, particularly in red and white wines made with skin contact.

To optimize quality and manage the impact of sunburned grapes, focus on the following:

- Optimize Yield and Pressing Volume: Prevent over-extraction of phenolics.
- Apply Significant Fining: Reduce oxidative potential and bitterness.
- Boost Aromatic Freshness: Use the right yeast and nutrients for enhanced complexity.
- Balance Mouthfeel: Compensate for high phenolic compounds and harshness by adding mannoproteins for volume, roundness, and softness.
- Manage Oxidation: Use specific additives to address low glutathione and oxidation risks.

Solutions for winemaking
LAMOTHE-ABIET

WINEMAKING GUIDELINES

FOCUS PRODUCTS

EXCELLENCE® B-NATURE®
Organic antimicrobial solution (100% Metschnikowia pulcherrima) for grapes, replacing SO2. Controls spoilage microbes (Brettanomyces, LAB, Acetic Acid Bacteria) without affecting Saccharomyces cerevisiae. Reduces SO2 use, lowers SO2-combining molecules, and enhances aromatic complexity, color intensity, and stability.

TANNIN GALLIQUE A L'ALCOOL
Granulated pure gallic tannin for white and rosé wines. Acts as an antioxidant, antiseptic, and inhibitor of laccase and PPO, reducing SO2 use, enhancing protein stability, and decreasing bentonite needs. It removes reductive notes and is instantly soluble; apply directly to grapes at harvest.

OENOZYM® CRUSH
For red and white grapes, OENOZYM® CRUSH is a highly concentrated enzymatic preparation purified of Cinnamoyl Esterase and Anthocyanase. It increases free-run yield by 3-10%, improves extraction of anthocyanins, tannins, polysaccharides, and aromatic precursors, and significantly enhances color stability, aromatic intensity, and mouthfeel balance.

POLYMIX® NATUR
PVPP, yeast extracts, and bentonite blend, vegan and allergen-free. Prevents oxidation, improves clarification, adjusts color, and stabilizes shelf-life by removing oxidizable phenolics. Reduces bitterness, cleans volatile phenols, and smooths tannins.

GREENFINE® MUST
Natural pea protein fining agent, allergen-free, ideal for organic and vegan winemaking. Rapidly clarifies musts and wines, eliminating oxidized phenolic compounds and yellow tones. Reduces bitterness, astringency, and off-aromas, maintaining a balanced mouthfeel.

OENOZYM® CLEAR
A purified enzymatic preparation that accelerates juice and wine clarification by depectinizing, effective across temperatures from 5°C to 68°C. Suitable for static settling, flotation, and filtration enhancement, OENOZYM® CLEAR provides good compaction and increases juice and wine yield.

OPTITHIOLS®
Selected -SH amino acids to boost varietal thiol production (4MMP, A3MH, 3MH) for aromas like boxwood, cassis, passionfruit, and grapefruit. Its double role of antioxidant and aroma revelation helps to increase the wine's aromatic potential, leading to significantly greater quantities of thiols.

OPTIESTERS®
Selected amino acids and ergosterols to enhance fruity and floral esters in wine. Ideal for wines with lower varietal characters, green, over-ripe, or smoke-affected grapes. Boosts complexity and freshness for a more aromatic profile.

NATUR'SOFT®
Yeast hull preparation rich in polysaccharides. Stabilizes color, enhances roundness, and reduces tannin perception in red, white and rosé wines. Adds complexity, reduces green and smoke notes. Use during fermentation or ageing.

SOFTAN® VINIFICATION
Catechin-rich tannin combined with plant polysaccharides, designed to stabilize color and enhance mouthfeel when added early in fermentation. It forms strong bonds with anthocyanins, preventing color loss, contributes to mid-palate structure and add length and complexity to wine.

KILLBRETT®
Pure chitosan fining agent with broad-spectrum antimicrobial action against Brettanomyces, Lactic Acid Bacteria, and Acetic Acid Bacteria. Prevents VA, ethyl acetate, and microbial spoilage

AROMA PROTECT®
Inactivated yeasts rich in Glutathione. Provides optimal protection against oxidation during ageing by releasing Glutathione (GSH), slowing oxidation, and enhancing wine resistance. Recommended during transfers, racking and ageing. Can be used as alternatives to SO2.

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WINEMAKING GUIDELINES

WHITE /ROSE GRAPES COMPROMISED FRUIT WITH POWDERY MILDEW - WINEMAKING GUIDELINES

By integrating these management strategies into the winemaking process, you can effectively address the challenges posed by sunburned grapes and maintain wine quality.

HARVEST AND GRAPE TRANSPORT	**Rigorously Sort:** Perform sorting in the vineyard or at the winery to remove damaged grapes. **Limit Phenolic Extraction:** - **Limit SO2 Usage:** Reduce SO2 to prevent uncontrolled extraction of skin compounds. - **Bio-Protection:** Apply **Excellence B-Nature** at 50 g/ton directly on grapes immediately after picking to control spoilage and prevent microbial contamination. - **Antioxidant Protection:** Use **Tanin Gallique à l'alcool** at 80-100 g/ton, sprinkled on the grapes at harvest, to limit browning, and aroma oxidation while improving protein stability.
PRESSING	**Enzyme Application:** Use **Oenozym Crush** at 30 ml/ton to increase juice yield and reduce pressing pressure. **Pressing Technique:** Perform whole cluster pressing with a short cycle, limited rotations, and controlled extraction. Separate the first juices from the bottom of the hopper and the hard press fractions, treating them separately with fining.
CLARIFICATION	**Rapid Clarification:** Use **Oenozym Clear** at 4 ml/hL in the press pan after pressing to optimize and expedite clarification. **Juice Fining:** Apply **Polymix Natur'** (40-60 g/hL) or **Greenfine Must** (40-60 g/hL) to eliminate off-aromas, oxidized phenolics, and toxins that could inhibit alcoholic fermentation.

ALCOHOLIC FERMENTATION	**Yeast Rehydration:** Rehydrate yeast with **OenoStim** at 30 g/hL to enhance yeast activity, aromatic production, and ensure fermentation health.
	Fermentation Profiles:
	- **Fruity, Floral, and Terpenes:**
	  ○ **Temperature:** 58-62°F
	  ○ **Yeast: Excellence STR** at 20 g/hL for a fruity, fresh, delicate aromatic profile.
	  ○ **Aromatic Boosters:** Use **OptiThiols** at 10 g/hL and **OptiEsters** at 30 g/hL to enhance fresh, floral, and fruity aromas.
	- **Thiolic, Tropical:**
	  ○ **Temperature:** 62-66°F
	  ○ **Yeast: Excellence TXL** at 20 g/hL for a thiolic, fresh, mineral profile.
	  ○ **Aromatic Boosters:** Use **OptiThiols** at 30 g/hL and **OptiEsters** at 10 g/hL to boost thiolic compounds and tropical aromas.

	One Day After Inoculation: - **Yeast Nutrition:** Use **Optiflore O** at 40 g/hL to ensure good yeast nutrition, detoxify the must, and limit off-flavors. - **Mouthfeel Enhancement:** Add **Natur'Soft** at 30 g/hL to improve mouthfeel, balance high phenolics, and increase wine volume. **At 18 Brix:** - **Nutrient Addition:** Add **OptiFerm** (20-40 g/hL) to support fermentation, and **Bentosol Poudre** (40-80 g/hL) to improve protein stability during fermentation
AGEING	**Post-Fermentation Stabilization:** - **Racking:** Rack off gross lees using inert gas during transfer. - **Stabilization:** Add SO2 at 3-4 g/hL and **KillBrett** at 4 g/hL to stabilize the wine from oxidation and microbial contamination. - **Redox Balance:** Use **Aroma Protect** at 20 g/hL to maintain wine freshness, protect against oxidation, lower redox potential, and limit SO2 loss during aging. **Final Adjustments:** Consider using fining agents, mannoproteins, or tannins to balance mouthfeel and reduce aggressive phenolics as needed.

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WINEMAKING GUIDELINES

RED GRAPES COMPROMISED FRUIT WITH POWDERY MILDEW - WINEMAKING GUIDELINES

By integrating these management strategies into the winemaking process, you can effectively address the challenges posed by sunburned grapes and maintain wine quality.

HARVEST AND GRAPE TRANSPORT	**Rigorously Sort:** Perform sorting in the vineyard or at the winery to remove damaged grapes. **Limit Phenolic Extraction:** - **Limit SO2 Usage:** Reduce SO2 to prevent uncontrolled extraction of skin compounds. - **Bio-Protection:** Apply **Excellence B-Nature** at 50 g/ton directly on grapes immediately after picking to control spoilage and prevent microbial contamination. - **Antioxidant Protection:** Use **ProTaninR** at 150-180 g/ton, sprinkled on the grapes at harvest, to limit browning, color loss, and aroma oxidation.
MACERATION	**Enzyme Application:** Use **Oenozym Crush** at 30 ml/ton to improve extraction and increase free run yield.
ALCOHOLIC FERMENTATION	**Yeast Rehydration:** Rehydrate yeast with **OenoStim** at 30 g/hL to enhance yeast activity, aromatic production, and ensure fermentation health. - **Yeast: Excellence DS** at 200 g/ton for fresh, fruity, spicy and elegant profile with smooth structure - **Aromatic Boosters:** Use **OptiThiols** at 10 g/hL and **OptiEsters** at 30 g/hL to enhance fresh, floral, and fruity aromas.
	One Day After Inoculation: - **Yeast Nutrition:** Use **Optiflore O** at 40 g/hL to ensure good yeast nutrition, detoxify the must, and limit off-flavors. - **Mouthfeel Enhancement:** Add **Natur'Soft** at 150-200 g/ton to improve mouthfeel, balance high phenolics, and increase wine volume. - **Color Stability:** Add **Softan Vinification** at 150-200 g/ton to help color stability, fill mid palate, add length and complexity to wine. **At 18 Brix:** - **Nutrient Addition:** Add **OptiFerm** (20-40 g/hL) to support fermentation. - Rack and return with seed removal if possible. Alcohol is a solvent that extracts seed tannins. Over extraction will lead to increased bitterness.
PRESSING	We recommend a short maceration to prevent the extraction of harsh tannins with the presence of alcohol. Press as soon as you are good with your phenolic and color extraction even if not dry.
MLF	Add **Oeno1** at 1g/hL once AF is completed. For a fruitier and fresher profile, we recommend doing co-inoculation and add Oeno1 48hrs after the yeast.
AGEING	**Post-Fermentation Stabilization:** - **Racking:** Rack off gross lees during transfer. - **Stabilization:** Add SO2 at 3-4 g/hL and **KillBrett** at 4 g/hL to stabilize the wine from oxidation and microbial contamination. - **Redox Balance:** Use **Aroma Protect** at 20 g/hL to maintain wine freshness, protect against oxidation, lower redox potential, and limit SO2 loss during aging. **Final Adjustments:** Consider using fining agents, mannoproteins, or tannins to balance mouthfeel and reduce aggressive phenolics as needed.