

**CLIMATE AND PINOT NOIR WINE STYLE**

*Tools for Controlling the Effects of Climate*

VARIETY	TYPE OF WINE
Pinot noir	Cool and Warm Climate Pinot noir
CHALLENGE(S)	OBJECTIVE
Cool Climate: <ul style="list-style-type: none"> <li>• Low phenolic ripeness</li> <li>• High acidity</li> <li>• Underripe character</li> </ul> Warm Climate: <ul style="list-style-type: none"> <li>• High pH, low acidity</li> <li>• Decreased ageability</li> <li>• Overripe character</li> </ul>	Utilize yeast selection, enological tannins and vinification strategies to compensate for wine components affected by vintage variation and climatic challenges.

**BACKGROUND**

Pinot noir is the fourth most cultivated varietal in the world (OIV 2019) and has a diverse spectrum of styles. Climate and vintage variation are the most important factors in Pinot noir's wine composition and quality. Addressing the challenges that both cooler and warmer growing regions face with Pinot noir vinification is the first step in optimizing final wine quality. This winemaking protocol outlines various enological tools producers can leverage for increasing Pinot noir wine quality through yeast strains selection, tannin utilization and various polysaccharide applications.

For more detailed information about yeast strain selection watch:

- Enartis Webinar Series [Driving Pinot noir Style through Yeast Selection](#)

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The industrial application of the advice provided does not imply any responsibility on the part of our company.*

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## COOL CLIMATE PROTOCOL

### Increasing Mouthfeel and Anthocyanin Extraction

WINEMAKING STAGE	OBJECTIVE	ENARTIS RECOMMENDATIONS	DOSAGE
MUST TREATMENT	Microbial Protection	<a href="#">ENARTISSTAB MICRO M</a> Pre-activated chitosan and yeast hulls for preventing microbial spoilage and volatile acidity. Increases the efficiency of SO <sub>2</sub> .	60 g/ton
	Phenolic Extraction Filterability	<a href="#">ENARTISZYM COLOR PLUS</a> Micro granulated enzyme developed for increasing phenolic extraction and color stability.	20 g/ton
MACERATION/ COLD SOAK	Sacrificial tannins Color Stability Antioxidant	<a href="#">ENARTISTAN FERMCOLOR</a> Blend of alcohol extracted hydrolyzable and condensed tannins. High antioxidant activity and color stabilization.	200 g/ton
YEAST REHYDRATION AND INOCULATION	Organic Nutrient Supplementation	<a href="#">NUTRIFERM ENERGY</a> Amino acids, thiamine, mineral and micro-nutrients. *Add to rehydrating yeast prior to supplementation with DAP	10 g/hL
	Yeast Strain	<a href="#">ENARTISFERM U42</a> Blend of <i>Saccharomyces uvarum</i> and a strain of <i>Saccharomyces cerevisiae ex ph. r. bayanus</i> . At low temperature, this yeast produces high quantities of glycerol and desirable rose and spice aromas. or <a href="#">ENARTISFERM ES 454</a> <i>Saccharomyces cerevisiae</i> with excellent extraction capabilities and well suited for longer macerations. It produces large quantities of glycerol and respects varietal characteristics.	200 g/ton
	Mouthfeel Color Stability	<a href="#">ENARTISPRO ROUND</a> Yeast cell walls with high concentration of mannoprotein blended with condensed and ellagic tannins. Enhances color stability and mouthfeel. *Add before or after inoculation.	145 g/ton
1/3 SUGAR DEPLETION	Inorganic Nutrient Supplementation	<a href="#">NUTRIFERM ADVANCE</a> Inactivated yeast, cellulose and DAP (40 g/hL contributes with 32 mg/L of YAN). *Dosage should be determined based on initial juice YAN.	40 g/hL
	Color Stabilization Mouthfeel Oak Aroma Increasing Red Fruit	<a href="#">INCANTO NC CHERRY</a> Completely soluble inactivated yeasts and tannins. Improves color stability and increases roundness, toasted oak aroma, along with notes of cherry and red fruit.	20 g/hL

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## WARM CLIMATE PROTOCOL

Preserving color while Increasing Freshness and Acidity

WINEMAKING STAGE	OBJECTIVE	ENARTIS RECOMMENDATIONS	DOSAGE
MUST TREATMENT	Microbial protection	<a href="#">ENARTISSTAB MICRO M</a> Pre-activated chitosan and yeast hulls for preventing microbial spoilage and volatile acidity. Increases the efficiency of SO <sub>2</sub> .	60 g/ton
	Phenolic Extraction Filterability	<a href="#">ENARTISZYM COLOR PLUS</a> Micro granulated enzyme developed for increasing phenolic extraction and color stability.	20 g/ton
MACERATION/ COLD SOAK	Sacrificial tannins Color Stability Antioxidant	<a href="#">ENARTISTAN FERMCOLOR</a> Blend of alcohol extracted hydrolyzable and condensed tannins. High antioxidant activity and color stabilization.	200 g/ton
YEAST REHYDRATION AND INOCULATION	Mouthfeel Color Stability	<a href="#">ENARTISPRO R</a> Yeast cell walls with high mannoprotein content. Softens astringency and helps improve color stability.	170 g/ton
	Organic Nutrient Supplementation	<a href="#">NUTRIFERM ENERGY</a> Amino acids, thiamine, mineral and micro-nutrients. *Add to rehydrating yeast prior to supplementation with DAP	20 g/hL
	Yeast	<a href="#">ENARTISFERM MB15</a> Saccharomyces cerevisiae isolate from the Sonoma Coast, displaying high polyphenol extraction capacity. Trials have shown it aids in preserving wine acidity and freshness.	200 g/ton
1/3 SUGAR DEPLETION	Inorganic Nutrient Supplementation	<a href="#">NUTRIFERM ADVANCE</a> Inactivated yeast, cellulose and DAP(40 g/hL contributes with 32 mg/L of YAN). *Dosage should be determined based on initial juice YAN.	40 g/hL
	Co-pigmentation Color Stability	<a href="#">ENARTISTAN XC</a> Low molecular weight condensed tannins extracted exotic untoasted wood species. When added throughout maceration, TAN XC favors co-pigment.	20 g/hL

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## RECOMMENDED ENARTISFERM YEASTS FOR PINOT NOIR

ENOLOGICAL CHARACTERISTIC	ES454	ES488	VINTAGE RED	ASSMANS-HAUSEN	WS	MB15	ES U42
Aroma profile	Fruity	Fruity	Fruity + Varietal	Cherry	Floral	Varietal	Floral
Fermentation kinetic	Fast	Fast	Fast	Long	Fast	Moderate	Moderate
Glycerol	High	Medium	Medium	Medium	Medium	High	High
Acetic acid	Low	Medium	Low	High	Low	Low	Low
Acetaldehyde	High	Low	High	High	Medium	Medium	Low
Total SO <sub>2</sub>	Low	Low	Low	Low	Low	Low	Low
H <sub>2</sub> S	1	1	2	1	2	2	0

Glycerol: low < 7; medium 7-10; high > 10, Acetic acid: low < 0.3; medium 0.3-0.5; high > 0.5, Acetaldehyde: low < 40; medium 40-70; high > 70, Total SO<sub>2</sub>: low < 20; medium 20-40; high > 40, H<sub>2</sub>S: 0=none; 1=low; 2=medium; 3=high

**For more information, call our Technical Winemaking Specialists at (707) 838-6312.**

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