

CONDUCTING A SUCCESSFUL MALOLACTIC FERMENTATION

	PARAMETER	RECOMMENDATION	ACTION	
Grapes	pH	Between 3.20 and 3.50	Acid addition after cold soak	
	Fruit condition	Visible rot, off odors	Sorting	
Crush/Destem Maceration	SO ₂	< 40 mg/L total for white < 70 mg/L total for red	Minimize SO ₂ by using sound grapes	
	Potential alcohol	< 13.5 %	Harvest parameters	
Alcoholic Fermentation	Yeast strain	Use yeast strain that is compatible with ML bacteria	Check with yeast supplier	
Malolactic Fermentation	Inoculation strategy	Inoculate with starter culture	Direct, Step 1, or Build up: follow manufacturer recommendation	
	Timing	Post-alcoholic fermentation		
	Strain	Consider strains recommended for certain difficult wine conditions	Strains available with low pH tolerance, high SO ₂ tolerance and high alcohol tolerance	
	Temperature	64-71°F (18-22°C)	Inoculate while wine still warm from primary ferment Temp-controlled cellar/tanks	
	SO ₂	< 5 mg/L free	NO SO ₂ additions until MLF complete	
	Alcohol	< 13.5%	Consider higher alcohol tolerant ML strain Use acclimatization steps for culture prior to inoculation	
	pH	3.20 to 3.50	Acid adjustment if necessary (not recommended during MLF) Be alert to microbial spoilage issues if you have a high pH	
	Nutrients	Consider ML nutrients if vineyard lots have been problematic in the past or you used high nutrient demand yeast strain Conduct MLF on yeast lees	Follow manufacturer recommendation Keep wine on light lees during MLF	
	MLF progress	Regular monitoring		Paper chromatography, enzymatic analysis, external lab analysis
		Microscopic examination for Lactobacillus, Pediococcus Monitor VA as indicator of spoilage bacteria PCR analysis		If presence of spoilage bacteria consider lysozyme and re-inoculation after 2-3 weeks
Post Fermentation & Aging	MLF completion	Malic acid < 30-50 mg/L	Confirm with enzymatic assay or external lab analysis before making SO ₂ addition	