

# What & When:

## A Comprehensive Program for Grape and Wine Analysis

### GRAPES

°Brix	*additional data:
pH	phenolics/color
titratable acidity	skin & seed maturity
physical examination	tartaric & malic acid
soundness, temperature, varietal aroma & flavor	potassium

### JUICE/MUST

temperature	*acid profile: malic, tartaric, citric
°Brix	*potassium
pH	*phenolics/color
titratable acidity	*volatile acidity
SO <sub>2</sub>	*percent solids
ammonia	
assimilable nitrogen	
microscopic examination	

### FERMENTING JUICE/MUST

°Brix & temperature – daily  
sensory evaluation – daily

### OTHER FERMENTATION MONITORING

alcohol	titratable acidity
fermentable sugars	*SO <sub>2</sub>
volatile acidity	*malic acid
sulfide/mercaptan detection	microscopic examination: yeast & bacteria counts
pH	

### WINE ON COMPLETION OF PRIMARY FERMENTATION

alcohol	*acid profile
pH	*potassium
titratable acidity	*phenolics/color
SO <sub>2</sub>	*fining trials
volatile acidity	(clarification/protein stability/color)
fermentable sugars	
malic acid	*microbiology profile
(to monitor malolactic fermentation)	*urea

### PROBLEM SOLVING

sulfide/mercaptan detection & treatment series	acid adjustment (flavor or pH adjustment)
cultures for spoilage organisms	fining trials
microscopic examination	copper/iron/potassium/ sodium/calcium
4-ethyl phenol	sensory evaluation
acid profile: acetic, malic, tartaric, succinic, lactic, citric	potential browning/ pinking acetaldehyde

### AGING AND FINISHING

prior to barreling and at intervals during aging:

SO <sub>2</sub>	*phenolics/color
pH	cultures for spoilage organisms
titratable acidity	4-ethyl phenol
volatile acidity	sensory evaluation
residual sugar in sweet wines	*turbidity

### PRIOR TO BOTTLING

Finishing trials (protein stability, clarification, sensory modification, acid/pH adjustment series)	cultures for spoilage organisms *4-ethyl phenol *turbidity
heat stability	*phenolics/color
cold stability	*color stability
alcohol	*filterability
pH	packaging QC
titratable acidity	cork evaluation
SO <sub>2</sub>	
volatile acidity	
fermentable sugars	
malic acid	

### BOTTLING

sensory evaluation	sanitation checks
fill levels	*dissolved O <sub>2</sub>
headspace vacuum/pressure	*CO <sub>2</sub>

### AFTER BOTTLING

SO <sub>2</sub>	periodic sensory evaluation
bottled wine sterility or cultures for spoilage organisms	& stability checks *sorbate

### EXPORT OR LEGAL COMPLIANCE ANALYSIS

analysis for export: EU/Japan/other      analysis for state requirements

Note: \* indicates optional analysis or treatment

*These guidelines are based on recommendations for a complete wine testing program, whether done by an outside laboratory, the winery's own laboratory or by*

*combined efforts. It is general in nature and should be used as a planning tool only.*