

Quick White Protocol

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Definition of a “Quick White” wine:

Stabilized, filtered and bottled within four weeks to three months after fermentation and released to the market immediately after. Style will be varietal and appellation specific, but is usually acidic (at least 6.5 g/L TA, pH below 3.50), aromatic. A residual sugar of 0.25-0.50 percent is acceptable, if style-appropriate. R.S. can be higher of course for dessert wines. Balanced body and mouthfeel, with great fruit in both the aroma and mouth. Under 14.0 percent alcohol, no heavy oak or powerful malolactic character. Lees stirring, oak aging and malolactic (ML) completeness aren't ruled out, just less common.

The Process:

Pick fruit as cool as possible

If fruit is sound, do not add SO₂ until AFTER pressing and settling.

PRESSING:

The goal is low solids, and minimal mechanical damage to fruit. Whole cluster press fruit if possible. With difficult to press varieties such as Muscat, utilize pressing aids such as rice hulls to maximize extraction at lower pressures, especially if machine harvested. Again, no SO₂ here.

SETTLING:

Fill cold settling tank from press, and set temperature to ~40 degrees F, for at least overnight. Again, no SO₂ here. This step may only take 24 hours but may require a few days.

If pectic enzymes are used during cold settling, check manufacturer's information for each individual enzyme regarding temperatures, rates, and addition times.

Total removal of sediment is not required, and in fact can be detrimental to the fermentation. The desirable NTU range is between 100 and 250.

FERMENTATION:

Bentonite addition at fermentation can eliminate or reduce its need later. An addition of ~2Lbs/1000 gallons is standard. The prepared bentonite slurry can be added/injected in-line during the juice transfer from the settled juice tank to the fermenting tank

Next, add yeast nutrient based on lab analysis: Adjusting NOPA to 200ppm, and adjusting ammonia to 100ppm concentration. The Formal Titration Method is a simple, inexpensive analysis that any winery can perform. It is advisable to base yeast nutrients on results of must analysis, but if no analysis is performed, at the very least, add appropriate amount of yeast nutrients based on manufacturers recommended additions.

Current research suggests a more refined approach:

“Numerous studies have demonstrated the priority of NH₄⁺ uptake by yeasts relative to amino acids. NH₄⁺ is not only incorporated preferentially to alpha-amino acids (FAN) but also alters the established pattern of amino acid uptake. Traditionally, winemakers add nitrogen supplements along with yeasts at the start of fermentation. Incorporation of ammonia and then amino acids occurs primarily during the yeast's growth phase with limited uptake thereafter. The presence of NH₄⁺ delays the uptake of amino acids. Given this, a better plan is to supplement at a stage after the yeast has incorporated available forms and to initially supplement with a balanced nutritional product, not simply DAP. This may take the form of incremental additions starting at 48 hr (for reds) and 72 hr (for whites) post-inoculation.” -Zoecklein, et al.

At this time add ~30 ppm TSO₂, (15 ppm free SO₂) as well as any other additions, acid, etc.

Yeast addition: The use of a cool fermenting yeast is imperative. Fermentation should be in a stainless steel tank at 55-60°F. The yeast strain should be one with a history of low VA and H₂S production.

EX: Cote des Blancs

ML Fermentation if applicable: Some wine styles include ML fermentation (generally a partial ML fermentation). Tanks should be warmed to ~60°F to accommodate ML bacteria. Warmer temperatures are not recommended as aromatic volatilization may occur. Inoculate as per manufacturer's directions.

Once fermentation(s) are done, adjust SO₂ to 20-25 Free

BLENDING & STABILIZATION:

Make final blend based on an initial bench trial.

Run heat stability trials to determine any remaining bentonite needs for heat stability.

Add bentonite, if required, as per SOP to tank of 55-60°F wine.

Rack off of bentonite lees is applicable and then cold stabilize, chilling wine to 30-35°F before seeding with KHTA. Alternatively, use Calcium Tartrate Seeding procedure.

FILTRATION & BOTTLING:

Once wine is cold stable, run through a rough filter on plate and frame filter, followed by a tight nominal filter pad (0.45), running as two separate operations, or utilizing a crossover plate (a rough and then a polish) all in the same pass.

Allow wine temperature to rise to 58-65°F (bottling temp), or utilize a heat exchanger. Sparge-transfer wine to bottling tank to lower DO to acceptable levels (DO for reds below, 1.5 ppm and whites under 1.0 ppm). It is advisable to place a sparging stone in-line on the way to the bottling tank, gently sparging with nitrogen while filling the tank. Best results are obtained when performed a couple of days prior to bottling. If you require some residual dissolved CO₂, you may utilize this system to create a "frizzante" style wine.

Adjust FSO₂ to about 25

Utilize a 0.45-0.20 micron membrane filter in the wine stream of the bottling line. Normal sterile bottling procedures apply.