Pinot Grigio Protocol

Objective:
To produce a fresh and fruit-forward Pinot Grigio free of pinking using little or no activated carbon.

Pre-Crushing:
Add 2 lbs/ton (900 g/ton) of **OxyGuard** directly into the picking bins or as soon as possible after harvesting to minimize oxidation and undesired color pre-pressing.

Pressing:
Whole cluster pressing of handpicked fruit is recommended. Load the press via the top door (not axial feed) to reduce mechanical action. For machine-picked fruit, ensure the press is blanketed with inert gas prior to loading. Avoid or minimize the mechanical movements and rotations during pressing. Use a long press cycle (4 hours) with a max pressure of 0.4 bar for 40 minutes without rotations. Pressure increases/decreases in cycle should be kept to a maximum change of 0.2 bar at 40-minute increments.

Separate must into 3 fractions based on pH:
Fraction A): during filling and free run juice;
Fraction B): up to 60–65%, with max pH 3.4;
Fraction C): up to the end of the press cycle, with a goal of pH 3.5 or lower.

Addition of SO_2:
Fractions A&B): Add 40–50 ppm of SO_2, at the press pan outlet.
Fraction C): This fraction must be handled separately due to the increased potential of color development. Add 60–70 ppm of SO_2. If possible, treat this fraction with an ionic exchange resin such as the **TMCI Padovan Ambra*** to reduce the pH to 2.7–2.9 and the potassium concentration to less than 300 ppm. Ferment separately and perform blend trials with the finished wines from each fraction for optimal results.

Clarification:
Refrigerate fractions A and B at 41°–47°F (5°–8°C) and clarify by flotation, adding 20 ml/ton of **Zyme-O-Float Plus Liquid**, 0.44 lb/ton (200 g/ton) of **Carbovin Activated Carbon**, and 0.22 lb/ton (100 g/ton) of **Puri-Bent**. In addition, 0.35–1.41 oz/ton gelatin or potato protein can be added to increase the cap compaction if necessary.

For fraction C), clarify by flotation, adding 20 ml/ton of **Zyme-O-Float Plus Liquid**, 0.88 lb/ton (400 g/ton) of **Carbovin Activated Carbon**, and 0.22 lb/ton (100 g/ton) of **Puri-Bent**. In addition, 0.35–1.41 oz/ton (10–40 g/ton) gelatin or potato protein can be added to increase the cap compaction if necessary. After racking, allow the temperature to increase to 60–65°F (16°–18°C), and inoculate the yeast.

Fermentation:
Inoculate with 2 lbs/1000 gal (25 g/hL) of **HD T58** yeast. At the same time, add 1.5–3 lb/1000 gal (20–40 g/hL) of one of the following Fermentis Yeast Nutrients:
- **SpringFerm™** (for very low deficiencies)
- **SpringFerm™ + DAP** (for more deficiencies)
- **SpringFerm™ Xtrem + DAP** (for challenging low-nutrient must)
- **SpringFerm™ Complete** (+ additional DAP) (as a convenient all-in-one option)

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Pinot Grigio Protocol (cont.)

Fermentation Management:

During fermentation, maintain a temperature of 62°–65°F (17°–18°C). Twelve hours after inoculation, add 0.34 lb/1000 gal (40 ppm) of **Querca-Tan Blanc**.

To Fractions A and B, add 3.31 lb/1000 gal (40 g/hL) of **Phenol-Fine Plus NF** to eliminate any oxidizable polyphenols.

To Fraction C, add 2.50 lb/1000 gal (30 g/hL) of **Phenol-Fine Plus NF** + 1.68 lb/ton of **Carbovin Activated Carbon**.

When 4–5% vol. alcohol has been produced, add 2 lb/1000 gal (25 g/hL) of **SpringFerm™** and add 10–15 mg/L of O_2 with a macro-oxygenation or open cycle pumping over or rack the must. During this phase, ensure the temperature is controlled to between 63°–65°F (17°–18°C), and watch for temperature spikes.

End of Fermentation:

Stabilize with SO_2 (target 20 ppm of free SO_2) and add 0.2–0.6 lb/1000 gal of **Gallic-Tan** during the first racking. Rack again after 4–5 days with a supplemental 0.2 lb/1000 gal add of **Gallic-Tan**.

Clarification Before Bottling:

To prevent browning, perform a browning test or analyze the polyphenols, paying particular attention to the concentration of quinones (or the oxidized form).

Clarify wine with **Phenol-Fine Plus NF** (carry out trials to determinate the right dosage) and at the end, use **ClarPure** and/or **ClarNOF**.

After blending, check the level of copper, with a target concentration of 0.5 ppm. If necessary, an addition of copper sulfate can be made. Perform lab trials with malic acid to verify the best dosage rate, which is typically between 100–400 ppm. If wine is slightly oxidized, citric acid and tannins can be used with gum Arabic to provide an antioxidant effect.

Note: If additional treatment is necessary in the finished wine, the recommendations for fining/finishing are:

1. Clarify with 10 g/hL (0.834 lb/1000 gal) caseinate and 30 g/hL (2.5 lb/1000 gal) **Phenol-Fine Plus NF.** Target total polyphenols <200 ppm, and catechin specifically <12 ppm.
2. For final clarification/fining, add **ClarPure** or **ClarNOF** at 1–8 g/hL (a trial will be necessary to determine the appropriate dosage).
3. Bench trial malic acid additions at 400–500 ppm.
4. Add 0.3 ppm Cu++ to adjust the concentration to 0.5 ppm.
5. Reduce the concentration of CO_2 to under 600 ppm.

For more information or for assistance with your specific requirements, please contact your ATPGroup Enology Products Specialist.

**Available from our equipment partner Omnia Technologies.*

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