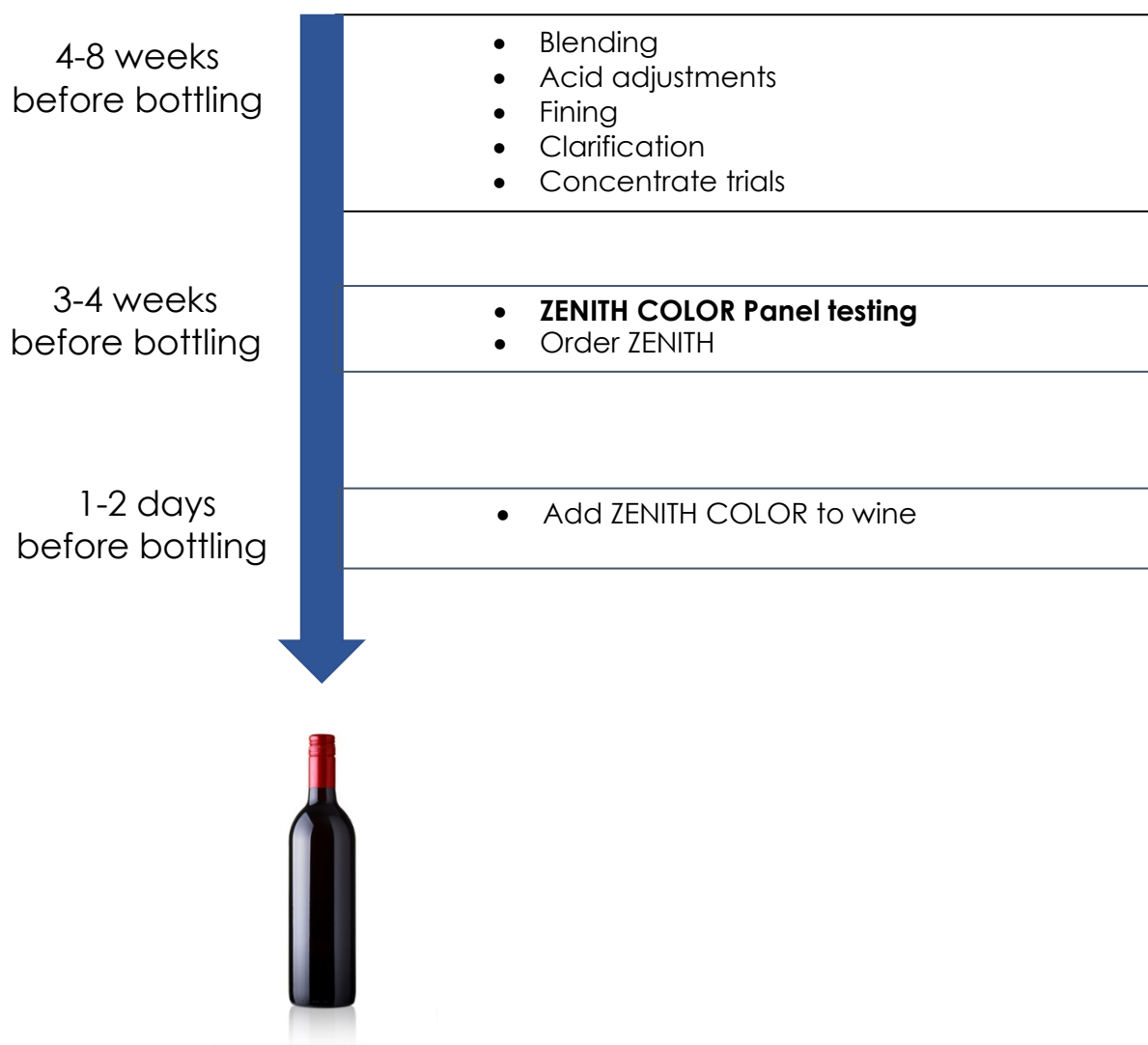


ZENITH IN-HOUSE TESTING

A Detailed Guide to In-House ZENITH Testing for Red Wines

Red wines can be unstable for both color and tartrates. ZENITH COLOR is comprised of a filterable gum Arabic and potassium polyaspartate, which act synergistically to stabilize both tartrates and color. To verify that wines require ZENITH COLOR, simple testing is recommended. The timeline for this testing can be seen below:





ZENITH COLOR PANEL

A ZENITH COLOR Panel is a set of analyses required to ensure a wine is compatible with ZENITH. This panel verifies that the tested dosage of ZENITH COLOR will be sufficient to fully stabilize potassium bitartrate and color in a wine. The testing consists of two parts, **conductivity test** and **cold hold test**.

Before starting the tests, make sure that the wine is filtered to less than 2 NTU.

Conductivity Test

1. Place filtered sample in two bottles: dose one bottle with 100 mL/hL ZENITH UNO, gently mix. The other bottle is untreated.
2. Conduct a conductivity measurement via mini-contact test on both wines using Tartarcheck device or CheckStab device. Specific instructions will vary depending on the instrument, please consult the manuals for details.

MINI-CONTACT TEST USING TARTARCHECK PLUS:

Test at 0°C for 30 minutes using micronized potassium bitartrate.

The wine is considered STABLE when the result is $< 30 \Delta \mu\text{S/cm}$.

* Method based on Boulton Test

MINI-CONTACT TEST USING CHECKSTAB PLUS:

$$\frac{(\text{initial conductivity} - \text{final conductivity})}{\text{initial conductivity}} \times 100 = \% \Delta S (\mu\text{S/cm})$$

The wine is considered STABLE when the change in conductivity ($\% \Delta S (\mu\text{S/cm})$) is < 3 .

Cold Hold Test

Cold stability is tested by comparing untreated and treated samples placed in a -4°C freezer for 6 days. The presence of precipitate, either color or tartrate, indicates that the wine is unstable.

1. Place sample in two labelled Imhoff cones, 100 mL per cone. Dose one cone with 200 mL/hL ZENITH COLOR (treated sample). The other cone is untreated (control sample).
2. Control sample: measure color intensity and record results.
3. Place both samples in a freezer at -4°C for 6 days.
4. After 6 days, allow the samples to reach room temperature and proceed with a visual evaluation of the precipitate, checking on its nature and quantification.



Inspiring innovation.

5. Measure color intensity on both control and treated samples.

COLD HOLD TEST:

The wine is considered STABLE when:

- The precipitate observed in the cones is $\leq 0.05\%$.
- The Color Intensity difference between the Control and the Treated sample is $\Delta CI < 8\%$.

Questions? We're Here to Help!

Contact the Enartis USA technical line at (707) 838-6312.