Cold Stability by Conductivity

Four Feathers Wine Estates

Principal

Cold stability is measured to reduce the chance of bitartrate crystals from precipitating out of a chilled wine. Four Feathers Wine Estates runs a Modified Mini-Contact Conductivity Test at 0°C to determine if the wine is cold stable. A cold stable wine at Four Feathers Wine Estates has less than a 3% conductivity change at 0°C over the course of 30 minutes.

Procedure:

1. Place 200 mL of filtered wine in refrigerated water bath set to 0 °C with a stirrer.
2. Once the wine is at 0°C, measure and record the conductivity and temperature. This the "Pre-add KHT Conductivity Value"
3. Add 3 grams of cream of tartar to wine.
4. Continually mix the wine to ensure the wine temperature remains at 0 °C for 30 minutes.
5. After 30 minutes record the conductivity and temperature. This measurement is the "Final Conductivity Value".
6. To determine the rate change:
    a. (Pre-Add KHT Conductivity Value @ 0◦C) – (Final Conductivity Value @ 0◦C) = X
    b. (X / Pre-Add KHT Value) * 100 = % difference
    c. If conductivity is <3%, the wine is cold stable. If the conductivity is >3% the wine is cold unstable.