



Common Winemaking Faults and Flaws

Flaws

- Flaws are a mistake made in the winemaking process that leads to a property in the wine that is not characteristic of the varietal.
- Stylistic Choice vs. Flaw
- Imbalance Flaw
Acid vs Sugar, Oak Levels, Alcohol Level
Solution: test must for acid levels and track pH throughout fermentation (whites 3.2-3.5, reds 3.5-3.9), only oak part of a batch so that you may blend if heavily oaked, adjust original Brix before fermentation to 24-28 to avoid too high or low alcohol in finished wine
- Visual Flaws
Haze, Sediment, Effervescence, TA Crystals, Floaters, Lack of Color Saturation
Solution: heat stabilize with bentonite to avoid haze, cold stabilize with Cream of Tartar to avoid TA crystal dropout, degas to avoid fizz, use opti-red or FT Rouge to help with color saturation
- Aroma/Bouquet Flaws
Lack of Aroma, Non-varietal aroma, Over-oaking
Solution: keeping fermentation temps at or below 75F to preserve aroma, using booster rouge or booster blanc to preserve aromas, watching oak level and adding it in small increments

Faults

- Faults are often a microbial or chemical reaction within the wine in some part of its life that significantly alters a wine, eventually leading to the point of spoilage.
- Oxidation Faults
 - Acetaldehyde – oxidation of Ethyl Alcohol smells like sherry, or old apples, browning
 - Causes: headspace, low sulfites, poor corks, bacterial contamination
 - Solution: top off vessels, addition of sulfites every 2 months, sulfite addition can help aroma bounce back slightly, winery cleanliness with metabisulfite solution as sanitizer
 - Acetic Acid – Vinegar
 - Causes: Acetaldehyde, Acetobacter bacteria react with ethanol, Fruit Flies
 - Solution: keep vessels sealed or covered during fermentation, eliminate standing water/wine for fruit flies to breed in, use sulfites to sanitize to prevent bacteria



- Ethyl Acetate – Nail Polish Smell
 - Oxidation of Acetaldehyde and Acetic Acid
 - Causes: headspace and bacterial contamination
 - Solution: preventing the above from developing, eliminate headspace, use sulfites to sanitize all equipment
- Sulfur Faults
 - Hydrogen Sulfide – Rotten Eggs Smell
 - Causes: lack of yeast nutrients, yeast stress, sulfur sprays, yeast bi-product, high temps
 - Solution: use yeast nutrient to prevent them from getting stressed conditions, stir the lees throughout fermentation, cool must throughout fermentation to avoid high temperature spikes
 - Sulfur Dioxide – Burnt Match Smell
 - Causes: over sulfating, wild yeast
 - Solution: check levels of SO₂ before additions, add 50ppm of SO₂ prior to fermentation to eliminate wild yeast
 - Complex Sulfur Faults- Mercaptans, DMS, DES, DMDS, DEDS
 - Causes: Hydrogen Sulfide reacting with Ethyl Alcohol
 - Solution: Consult a professional winemaker at Musto Wine Grape regarding ascorbic acid and copper bench trials.
- Microbial Faults
 - Brettanomyces – Barnyard, Horse Saddle, Antiseptic Ointment, Band-Aids, Bacon, Clove
 - Causes: spoilage yeast cells that are incredibly dangerous and difficult to eliminate. Most often found in contaminated barrels, winery cleanliness, resistant to acid and SO₂
 - Solution: Only buy barrels from a reputable source, if barrel is contaminated then remove from winery and destroy
 - Geranium Taint – Fresh cut geranium leaves
 - Causes: Reaction of potassium sorbate with Lactic Acid Bacteria in the presence of Ethyl Alcohol
 - Solution: Purposefully inoculate MLF bacteria originally, ensure that MLF is complete, add lysozyme to kill off any remaining bacteria, avoid use of sorbate.
 - Re-fermentation – Fizzy wine, popped corks
 - Causes: Yeast or microbial fermentation of residual sugar



- Solution: Ferment to dryness, use at least 50ppm of sulfites to prevent refermentation, sterilize bottles with sulfite, degas wine before bottling, use potassium sorbate on whites with desired residual sugar
- Other Faults
 - Cork Taint – Wet basement, wet old newspaper, mildew
 - Causes: strain of trichloanisole on cork (cork taint); mold that contacts chlorine and wood
 - Solution: avoid using any sort of chlorine cleaners (bleach) in winery, use fresh corks from reputable vendor
 - Heat Damage – Cooked fruit smell, brick red color, similar to oxidation
 - Causes: leaving wine in a hot car, in the sun, etc.
 - Solution: Proper storing temperatures below 65F