

# Central Washington University Wine Program

Wine Quality Initiative  
A Federally Funded Grant

# Wine Quality Initiative

- Determine the most common faults found in Washington State Cabernet Sauvignon
- Only certain faults tested for
- Tested:
  - Organoleptically
  - Chemically
  - Biologically

# Methodology

- 60 bottles of Cabernet Sauvignon from 60 different producers chosen at random and tested blindly
- 3 bottles of each wine to account for bottle variation
- Wines dispensed and tested same day

# What was the goal?

- To see if certain faults correlated organoleptically with chemical and biological findings
- What was significant?
- What faults could be detected by a mid level taster and an expert taster?

# Wine Scores

- Wines in each score: 1 is best, 6 is worst
  - 1            n=25    14%
  - 1.5        n=13
  - 2            n=22    12%
  - 2.5        n=11
  - 3            n=18    10%
  - 3.5        n=25    14%
  - 4            n=14    8%
  - 4.5        n=13
  - 5            n=11    6%
  - 6            n=20    11%

# What did we test for?

- Organoleptically
  - Visual (color, haze, ropiness, hue)
  - Aroma (oxidation, VA, ethyl acetate, bacteria, hydrogen sulfide, mercaptans)
  - Palate: same as aroma

# What did we test for?

- Chemically – full panel
- Biologically
  - Brettanomyces
  - Lactobaccillus
  - Peddiococcus
  - Acetic Acid Bacteria

# Results: what correlated with a poor wine score?

- High pH: average 3.7
- High Volatile Acidity
- High Ethyl Acetate
- High Lactobacillus
- High Dimethyl Sulfide
- Low free Sulfur Dioxide
- High alcohol (average 14.2%)

# Recommendations

- Get that pH under control
- Get alcohol down to proper levels
- Add enough sulfur dioxide – what is enough? What is it binding to? Need 0.8 molecular SO<sub>2</sub> to be effective
- Control Lactobacillus
- Manage O<sub>2</sub> to control oxidation and prevent Dimethyl Sulfide

# What Next?

- There remains a lot more to be done!
- Be diligent in the winery, you are the first line of defense
- Recognize and be aware of the faults
- Beware house palate!