

INVESTIGATING COPPER FINING AS A STRATEGY FOR ELIMINATING UNDESIRABLE AROMAS IN WINE**ABSTRACT:**

Volatile sulfur compounds are produced in wine throughout winemaking and storage. These compounds have a “reductive” odor characterized as egg-like and sewage odors which is an obvious flaw in wine. As such, these odors are undesirable by both winemakers and consumers, and should be removed prior to consumption. Winemakers utilize copper fining for eliminating some of these volatile sulfur compounds, but there are numerous downsides to this process. This process leads to losses of desired aroma, oxidation of wine, and accumulation of reductive odor during storage. This project aims to understand the underlying mechanism by which copper fining interacts with desirable and undesirable sulfur aroma compounds as well as non-volatile sulfur compounds in wine. This will be accomplished by monitoring rate of oxygen consumption, thiol oxidation, and identification of oxidation products. This study will be the first step to rationalize a new strategy for controlling sulfur compounds in wine while minimizing unwanted side effects.