Gusmer Enterprises, Inc.®

Maintaining and Measuring Wine Filterability

There are many aspects of the winemaking process and wine production which can affect wine filterability. The final preparation stages are some of the most critical. We have summararized the most important areas and methods to improve and maintain wine filterability to achieve the best process economics through the final bottling filtration.

Clarification

Wines must be properly clarified prior to final filtration. This may be accomplished by a diatomaceous earth filter such as a pressure leaf or candle filter, a hollow fiber crossflow, sheet or stacked lenticular filters, or clarification cartridges. Gusmer Enterprises represents each of these technologies and can recommend the best options for clarification in each scenario.

Tank Storage

After clarification, wine should be stored for as little time as possible before bottling. It is recommended that a wine be stored for no more than 7 days following clarification before it is bottled. Tank temperature should be cool and consistent. Large temperature fluctuations can reduce filterability.

Wine Temperature

Higher temperature during bottling reduces viscosity and increases filterability. Lower storage temperature maintains microbial stability. Cold and heat stabilization of a wine, important to product quality, also aids in maintaining filterability through bottling when there are often large temperature changes.

Mixing

Tanks should never be mixed or topped off after clarification. This includes tanks of the same vintage. If any tanks are mixed they should be re-clarified before the bottling filtration.

Headspace Management

Tanks should be kept as full as possible to minimize headspace. Pitching dry ice to create a layer of CO_2 or using a separate nitrogen or argon tank blanketing system protects from oxygen and helps preserve filterability.

Tank Strata

Wine filterability is layered within a tank. The areas with the lowest filterability tend to be the tank bottoms and the top layer. These two layers often combine towards the end of the bottling run to create the least filterable portion of wine passing through the filters at a point when they've already been online and are nearing their capacity. If overall wine filterability has not been managed properly this causes filter plugging, downtime, and occasionally wine left over at the end of a run.

Turbidity Testing

In general, turbidity measurement is not a good indicator of a wine's filterability.

Filterability Testing

Testing a tank's filterability with a small format membrane disk allows a winery to screen for batches with a poor filterability or gauge the effectiveness of process improvements. Wineries should first create a baseline to compare future batches against past batches' performance at the bottling filters. A good use of the test is having batches identified as having poor filterability passed through an optional clarification cartridge just prior to the standard pre and final filter before bottling. This allows the wine to still be processed inline but adds extra protection to complete the run and better preserve the final membrane.

Please contact your local Gusmer Enterprises representative to discuss optimizing your wine's filterability and your final bottling filtration.