Harvest season is essentially crunch time for every vintner, and there are several things that wineries can do to make it easy for the challenging weeks ahead.

**Ordering Fermentation and Lab Supplies**

Many suppliers and wine labs offer free shipping in July, so planning ahead and determining what fermentation supplies you will need come harvest could save extra money. Having supplies on hand during the busy processing season can be a big stress relief.

Winemakers should also take the time to look at new fermentation products and assess the previous year’s needs in order to adequately supply for the up-and-coming harvest. Keeping an annual inventory of purchases can be helpful to isolate regular needs.

Things to consider purchasing:
- Enzymes
- Fermentation nutrients
- Fining agents
- Malolactic bacteria
- Oak alternatives or barrels
- Polysaccharides and/or inactivated yeast products
- Salts for acid adjustments
- Sanitizing agents
- Tannins
- Yeast
- Yeast hulls

**Checking the Condition of Processing Equipment**

By the end of July, most or all of the wine from the previous vintage year should be bottled or placed in some sort of storage for aging purposes. The completion of bottling prior to the next harvest season should be a priority to each winery to help mitigate the workload during grape processing.

Although it should go without saying, contracting grape growers prior to the start of harvest and estimating yields should be expected. As each harvest season varies, some growers may have decreased or increased yields, and these changes should be evaluated at the winery. Where varieties are missing, new growers may need to be contacted and contracted. Additionally, this is a good time to take tank inventory and double-check space requirements, especially if some of the previous vintage won’t be bottled come harvest. This helps wineries estimate fermentation capacity and determine their annual production quantity.

Due to the fact that most equipment in the winery only gets used once a year, it is essential to prepare equipment to make sure it is in good, working order for the harvest season. Each pump should be checked to make sure that it is working properly. Tanks, hoses, and crush equipment should be (physically) cleaned and rid of any debris (including rice hulls) that may have accumulated in the off-season. Keep in mind, this debris and material not only add to the microbial content of the processed product, but may also carry off-flavors. Furthermore, the equipment should be sanitized after cleaning in order to leave it in a state that is less inviting to microorganisms.

Presses should be thoroughly cleaned and run a few times to ensure their efficacy. If the winery is using a bladder press, the bladder should be examined for holes and its condition should be evaluated. If repairs are needed to any equipment, it should be completed prior to the onset of fruit arrival.

Surfaces and floors should be cleaned and sanitized in preparation for incoming fruit. If any immediate repairs need to be made, they should be completed before harvest. Ensure that the winery’s hot water gets up to the proper sanitation temperature (higher than 180°F) and adequate supplies are available for cleaning and sanitation purposes (e.g., sanitation chemicals, brushes, mops, squeegees).

Make sure enough hydrometers, hydrometer tubes, and mixing supplies (to prepare yeast slurries or additions) are on hand. These materials should be cleaned and stored conveniently by harvest.
### Preparing the Enology Lab for Harvest

Most wineries should run, at minimum, Brix, pH, titratable acidity (TA), and yeast assimilable nitrogen (YAN) for incoming fruit. Make sure that the refractometers, pH meters, and titrators are working properly prior to the start of harvest. Ensure that protocols are written for each analysis and that lab employees are thoroughly trained on running each piece of equipment in the lab.

Make sure all of the equipment has a good inventory of non-expired chemicals to get through the harvest season. Updating buffers and checking the pH electrode is recommended, as most electrodes need to be replaced every 2 to 3 years. Additionally, if the winery is measuring YAN, running the spectrophotometer against standards is recommended. New enzyme kits are typically required for purchase if the winery is running YAN or other enzymatic analyses. Purchasing these kits right before harvest could be a time saver for when fruit arrives.

If the winery's lab is also running analyses like aeration oxidation, volatile acidity by cash still, or Ripper titration, it may be imperative to update chemicals for the up-and-coming harvest season. Chemicals like hydrogen peroxide ($\text{H}_2\text{O}_2$) and iodine have a limited shelf-life that will not be reliable if purchased the previous year.

Calibrations can help ensure that lab equipment is working properly and will be ready for use during the harvest season. Each lab should keep a record book of how to properly calibrate each piece of equipment in addition to standard operating procedures (SOPs) or protocols for each analysis.

If the winery is using a microscope, make sure the microscope is working properly and not in need of any repairs. Update the lab's record books to ensure that proper identification of microorganisms or yeast viability counts can be reliable during harvest season. This may involve developing a small booklet of images of microorganisms viewed through the microscope to help train new or incoming harvest employees. This tool can be helpful to assess the quality of incoming fruit or help diagnose problematic fermentations.

### Bringing Quality Control Standard Operating Procedures Up-to-Date

It is a good idea to evaluate any production-based SOPs in the winery prior to the arrival of the first lot of fruit. Some wineries may have production and laboratory SOPs. These should be reviewed and updated each year. Additionally, each employee should be aware of the SOPs, how to access them, and have a general idea on what they include to ensure that production runs smoothly through harvest. Properly training employees prior to the onset of harvest ensures a smoother workflow system and lays out expectations before the crunch time of harvest season.

Additionally, winemakers need to be aware of allergen-based risks or potential toxins associated with winemaking and how to handle production when equipment comes in contact with such products. As nutritional labeling is not required for wine, consumers may be unaware of these risks.

### Being Aware of Safety Risks

Although wine is a minimal-risk product in terms of foodborne pathogens, there are several microbial-based quality issues that wineries should prepare for prior to harvest. Wineries should develop a safety plan for use of sulfur dioxide, ozone, and other sanitation agents. Employees should be properly trained, wear appropriate clothing, and understand safety procedures if accidents occur. Training before harvest ensures a safe work environment for all.

### Visiting the Vineyard

If the winery is contracted with growers, it is a good idea to form an established, working relationship with the growers. Now is the time, before harvest, to have regular vineyard walkthroughs, evaluate the fruit, and explain expectations for incoming fruit. Growers and winemakers should determine who will analyze berry samples for harvest parameters (e.g., Brix, TA, pH) and how frequently samples should be taken. It is a good idea to develop sampling protocols together. Discuss analytical ripening expectations and taste the berries with growers so that they get a good understanding on sensory evaluation techniques of the fruit. Berry sensory analysis developed by the L’Institut Coopertif du Vin (ICV) in France can be a powerful learning tool for both growers and vintners, and should be a consideration for commercial wineries.

### Resources


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