



## Home Winemaking Basics

### For fresh juice pails and drums

(This may be applied to other 'fermentables')

Harvested from some of the finest *Vitis vinifera* grape varieties grown in some of the best-known viticulture regions of the world, our [juice pails and drums](#) provide an opportunity to make fine wine economically with little fuss and mess. We offer a variety of Chilean juices in the Spring, and Californian and Italian juices in the Fall. Spanish musts and juices are also offered year round as available.

Grapes are harvested, pressed on site and delivered in cold storage tanks to the processing plant to be pailed. The pails are designated as six (6) gallon but are often overfilled slightly to ensure the customer ends up with a full six gallons at bottling. (A small volume will be lost as sediment.) The pail's lid has a pressure relief valve as a safety precaution.

The pails of juice are transported from the processing plant to the distributors at temperatures close to 32°F and are refrigerated until customer pick-up. Note: It is possible for you to freeze the juice to delay fermentation, if so desired. In addition to the juice, your basic equipment needs are readily available from PIWC. For new winemakers, equipment is conveniently and economically packaged in a [PIWC Winemaking Kit](#) (see our catalog or website for included items in basic or deluxe kits).

### Fermenting Procedure

1. Warm the juice to about 60° - 70°F. Remove about 20% of the volume of juice to a separate container to create head space to avoid overflow during the most active stages of fermentation. Inoculate your juice with yeast or yeast/Goferm mixture. Cover the containers but allow for exhaust. If you are performing a secondary fermentation (MLF), now is the time to add the Malolactic bacteria, which prefers warm temperatures & a populous culture (\*See Goferm instructions below & MLF instructions, if necessary).
2. **Testing** - If possible before fermentation starts, it is recommended to do your own sugar (hydrometer), pH, and Total Acidity (T/A) testing to cross-reference the chemistry figures that are provided. Necessary [testing equipment](#) is available from PIWC: acid testing kits, hydrometers, pH meters, Vinmetrica, etc. Stirring the juice before taking test samples is recommended to eliminate stratified layers.
3. **Sugar & Storage** – Your starting sugar level should be at about 21°Brix. If the starting sugar is lower than desired, add 0.1 lb of sugar per gallon of juice for each 1°Brix you'd like to increase. This is standard to achieve 12.5% alcohol. Your hydrometer will give you your sugar reading, along with **potential** alcohol. When your fermentation is at about 5°Brix, rack (or press if you are working with must) into a glass carboy, barrel, or stainless steel keg w/ airlock. Make sure it's full, or 'topped-off', to the smallest area of the carboy neck, but not touching the bung, throughout storage. Allow space for oak volume, if you plan to add oak chips or another [barrel alternative](#). Top-off if necessary with a sound, dry, neutral wine. When your sugar reading is down below 0°Brix, the fermentation is complete. If you are seeing no activity and your juice is between -1°Brix & -3°Brix, then add [potassium metabisulfite](#) (the rate of addition is on our bottle) for protection against spoilage. If you are getting a steady reading **above** 0°Brix, then you may have a 'stuck' fermentation, so give us a call, we can help! **Note:** % sugar = degrees °Brix = Balling
4. **Acid Adjustment** - We recommend adjusting the Titratable Acidity by adding [Tartaric Acid](#) (the main natural acid of grapes). The rate of 3.7 g/gal will raise the T/A by 0.1%. The optimum range for red wine is 0.55% to 0.7% T/A. For whites, the optimum range is 0.6% to 0.8% T/A. The titratable acidity is expressed as grams of tartaric acid per 100mL. If finishing a wine sweet, the acid level can be slightly higher, as acid and sugar balance each other. The acid level can be adjusted at any time before, during or after fermentation. An example of an acid adjustment is figured here:  
If your juice is 0.5% T/A, and you would like to achieve 0.7%, you would need to raise the acid by 0.2%. Multiply 3.7 grams of tartaric acid X the total number of gallons to raise X 2 tenth percentage points. 3.7g x 6gal x 2points = 44.4 total grams of

tartaric to add to the whole 6 gal. If you don't have a gram scale, see the '[Weights and Measures Conversion](#)' chart in the Presque Isle Wine Cellars Catalog or consider purchasing a small, inexpensive [digital gram scale](#).

Be careful to step-add your acid because it's very *easy to add* acid but *not as easy to remove*. Bench tests and tasting your wine between additions is recommended. If acid is in the correct range, it will taste right. On the opposite spectrum, decreasing acid can be done in several ways. For example, amelioration with sugar water, adding potassium bicarbonate or calcium carbonate, cold stabilizing, using 71B yeast for fermentation or through [Malo lactic fermentation](#). We offer the expertise & products for this, at your service!

5. **Racking & Sulfiting** - Racking is the first step of the clarifying process. Two rackings are typical with the first about 1-2 months post-fermentation, then again 2-4 months after that. The 'racking' process is simply siphoning the wine off the sediment into a clean container, i.e., carboy, barrel or stainless steel keg. Don't forget to top-off and add potassium metabisulfite or crushed [Campden tabs](#) (SO<sub>2</sub>). We recommend 45 parts per million (ppm), however the pH of the wine may be considered. The higher the pH, or more neutral, the higher the ideal SO<sub>2</sub>. For home winemaking purposes, 45 ppm is a standard amount that is considered safe. SO<sub>2</sub> testing titrettes or Accuvin QTF SO<sub>2</sub> are easy to use to give a quick reading of your free SO<sub>2</sub>. SO<sub>2</sub> is ever-changing as it's a gas that is always escaping the container, so it should be monitored & added when necessary, typically post-fermentation, at each racking then at bottling.
6. **Cold stabilization**: This process can be done after the first racking by lowering the temperature of the wine to between 25-30F for two weeks to a month. Tartaric acid crystals will form and you can rack off of them before your wine warms up. If you shine a flash light into your near-frozen carboy, you should see crystal evidence. This will offset the process of crystal sediment formation from happening once bottled, refrigerated & served. If you happen to see these in your glass, no problem...simply refer to them as 'wine diamonds' or 'snake eyes'. They are harmless to consume!
7. **Bottling** – A third racking may be required if you have sediment that you don't want to bottle! After the third racking the wine will generally be acceptably clear for most home winemakers, however if you are not satisfied with the clarity you can further clarify the wine using [fining agents](#) or further still with, [filtration equipment](#). Sanitation is very important for all of your equipment & bottles, try [Onestep](#) for ease of use. Now is the time to sweeten if desired. Add 0.1 lb of sugar per gallon of juice for each 1% sugar you'd like to increase just before bottling. Sweeten **to your liking** (don't forget to add both [potassium metabisulfite](#) and [potassium sorbate](#) when sweetening). *Avoid using potassium sorbate with a potential Malolactic fermentation as a fault can form giving a 'geranium' smell.* It's easiest to make simple syrup out of your determined amount of sugar and when your sugar-water is still warm, add the potassium sorbate & it will dissolve much easier. After this solution has cooled, gently mix into your wine. Gentle mixing & siphoning of your wine is best. Allow your bottles to stand upright for about 2 weeks to allow the corks to decompress before laying them on their sides.
8. **Enjoy** – Well, that was easy! Time to enjoy your creation with friends and family. We are always here for your fermentation needs and inquiries, so don't hesitate to give us a call...we're looking forward to hearing from you!

#### **Fermenting packet instructions:**

Four ingredients are included with the 'fermenting packet'. Yeast (specified strain), GoFerm, Super Ferment & FT rouge tannin for the reds or aromatic enzyme for the whites. There are 10 grams of each item which can be used on a single pail of juice. Follow the GoFerm instructions as the first step, which will include using the yeast. The Super Ferment can be used on day 3 or 4 of the fermentation & is directly added. Make sure to add the Super Ferment **slowly!** The tannin can be sprinkled atop the juice in the beginning. For the enzyme, directly add in the beginning.

#### **\*GoFerm instructions:**

[GoFerm](#) is a yeast rehydration nutrient developed to enhance the kinetics of & offset problems in fermentations. Add 10 grams of GoFerm to 7 oz of pure water at 110F. Cool to 104F then add the yeast. Let stand for 20 minutes. Slowly add small amounts of juice to the slurry. Once room temp is achieved, add slurry to the lot of juice. Gently mix, if desired.

#### **FT Rouge:**

This tannin promotes color, body & fruit. It is derived from exotic woods & chestnut. Add in the beginning to optimize the natural color and mouth feel. It also provides anti-oxidative protection and will off-set browning. The rate of addition is between 4.5-11.5g/pail.