



## MoreWine's Guidelines to Rehydrating Active Dry Wine Yeast & A Recommended Nutrient Regimen:

This is done in two steps if you are using dry, active yeast, or only one if you are using a liquid strain:

### -Dry Yeast:

First you hydrate the yeast, following the directions on the packet. This is quite simply just pouring the contents of the packet into a cup/bowl containing the specified amount of warm water (usually 10 ml's of water per gram of yeast is about right) and waiting until it becomes active- you will usually see signs of activity in 10-15 minutes depending on the strain\*. It is important to make sure that the water is bottled/filtered (distilled is best) to avoid any chemicals that might retard the yeasts awakening, and that the water's temperature is at around 100°. The reason for the water being warm is that yeast will be more active at warmer temperatures. Remember that warm is good (around 95°-105°), but if you make it too hot, you can also poach them...It is also a good idea to add a pinch of a complete yeast fertilizer (containing no DAP, however) to the warm water before adding your yeast, as this will aid them in their revival process. (This being said, however, it must be noted that the optimal way to prepare the yeast before going into the must would be to use the highly recommended, two-part addition schedule outlined at the end of this paper).

**\*Note:** that you do not want to exceed 30 minutes during this initial stage (using only water) because the yeast will use up whatever stored energy they had in them to hydrate themselves and will be ready to take in nutrients immediately after you start to see signs of activity. In general, if you add the yeast to the warm water, wait 20 minutes, then proceed to the next stage, you will be fine.

Once the yeast has become active, it is time to begin the second step: building-up and acclimating your starter. Ideally you want a large population of healthy, active yeast in order to get your fermentation off and running, thereby crowding out any other possible undesirable contaminants (wild yeast, bacteria, etc.). So, in order to begin this process, you will need to feed your starter. This is best done by adding ½ to an equal part of your initial water volume of juice/must to the newly revived yeast. For example, if you used 60 ml's of water (for 6 grams of yeast), then you will simply add 30 to 60 ml's of juice/must into the starter. You will then wait until you see signs of activity (this usually takes around 15-30 minutes) and then you are ready to pitch it into your must (please refer to the notes on pitching your yeast at the bottom of the following page).

**-Attention, relevant explanation!:** The reason for the two steps in this process: first hydrate, then build-up/acclimate in a diluted juice solution before pitching, as opposed to just adding the yeast from the water directly into the must, is because the newly awakened yeast are not yet completely hardy and need to adjust themselves to your must. By using the two steps, you avoid shocking the yeast and create a buffer zone between the water (pH of around 7.5), and the must (pH of around 3.5, presence of a great deal of sugar, SO<sub>2</sub>, etc...). This insures that your initial population will be well adjusted, healthy and as vigorous as possible right from the start.

### **-Liquid Yeast:**

Since the yeast is already hydrated, you only need to carry out the second step from above, namely building your starter up in a 50% juice/water solution for all of the same reasons. Again, you can add a pinch of yeast fertilizer to liven things up, if so desired (Make sure to avoid nutrients with DAP at this stage).

**A Note About Juice:** If you are using the juice from fresh grapes in your yeast starter build-up, make sure that you take your juice from the recently-crushed grapes before you make your SO<sub>2</sub> addition. If you are using a kit, you can use grapes (or oranges) from the store as a source for fresh, sulfite free juice. However, if you are using pre-packaged juice from a store, remember that many of them contain sulfites in order to preserve them (and you don't know how much was used...). Therefore, if you can find organic/non-treated juice this would be a much better choice...Remember that a high level of sulfites and/or sorbates could possibly compromise your yeast in its early developing stages, so if at all possible, take care to avoid them when building up your starter...However, if you can't find fresh fruit and have no choice but to use a possibly suspect juice for your starter, don't despair, use it. Cultured yeasts are quite hardy, and remember that you will be diluting the juice at this stage by half with water and that this will dilute any potential preservative's presence. So, in fact, the chances are that you will be perfectly fine. The presence of preservatives in some store-bought juices is only mentioned here in order to help you understand all of the possible factors at work so that you can make the best choices possible.

### **Important Information to Keep In Mind When Pitching Your Yeast Starter:**

When you pitch your starter, you will just want to distribute the yeast over the top of the must/juice in an even, wide layer. At this early stage, you do not want to mix it in. The goal here is to increase the surface area of the yeast so that the largest number of cells will be exposed to oxygen, thus aiding their reproduction. This being said, it is important to remember that only at this beginning stage in the winemaking process will oxygen be your friend, and after you start to see signs of fermentation you will want to avoid it completely for the rest of the winemaking process.

## **A Recommended Guide to Yeast Nutrient dosages:**

The following is a recommended nutrient schedule based on the latest research from Lallemand. It has been conceived to ensure the maximum viability of yeast throughout the entire course of a fermentation, and it is comprised of two, separate additions: “**Go Ferm**”, and “**Fermaid-K**”.

-The first nutrient addition is done by adding “**Go Ferm**” directly into the water used to hydrate the yeast. This represents a new approach and is important because by making this first nutrient dosage outside of the must, you are able to eliminate potential problems early-on: namely the binding-up of certain nutrients by SO<sub>2</sub> (thus making them unavailable to the yeast), and the possible, partial depletion of the nutrient addition due to the early feeding of other organisms that may have gotten into the must before the yeast have had a chance to reach the cell-density needed to begin the fermentation (again, lowering the level of nutrients ultimately available to the yeast). It is this “**Go Ferm**” addition, therefore, that will ensure that the yeast will receive the whole of the nutrient addition without any interference, -and this in turn translates to the start of a clean and healthy fermentation.

-However, your work is not done...As the fermentation progresses, the must becomes a more difficult place to work in for the yeast: the alcohol level starts to rise (slowly becoming more and more toxic) and all of the nutrients that were present at the beginning of the fermentation start to become depleted. “**Fermaid-K**” is then used at 1/3 sugar depletion (usually an 8-10 brix drop) so that the nutrients required by the yeast to maintain a healthy metabolism all the way through to the end of fermentation are available to them before they become stressed and you start to see signs of a stuck or sluggish fermentation (not to mention excessive VA and Hydrogen-Sulphide production!).

*\*It may be helpful to think of the following analogy: “**Go Ferm**” is the complete breakfast that is eaten on the morning of the 20-mile race, and “**Fermaid-K**” is the energy bars and sports drinks that are consumed at the mid-way point to help get you to the finish line!*

## **Dosage- Rates:**

**“Go Ferm”:** Rate is 1.25 grams of “Go Ferm” / 1 gram of yeast / 17mls of water.

**“Fermaid-K”:** Rate is 1 gram per 1 gallon of must.



## **How to Hydrate Dry Wine Yeast using “Go Ferm” (A Recommended Nutrient Regimen):**

- 1) Using clean water (filtered or distilled is best), calculate the amount needed and heat it to **110 degrees F** (43 degree C).
- 2) Add the required amount of “Go Ferm” to the heated water. Mix it in well so that there are no clumps, and let it stand until the temp of the mixture falls to **102 degrees F** (39 degrees C).
- 3) Add the required amount of yeast to the mixture. Stir it to break-up any clumps and wait 15-30 minutes.
- 4) At this point you will want to add a portion of the must/juice into the yeast mixture that is  $\frac{1}{2}$  to equal the volume of the yeast starter. This helps the yeast become accustomed to the pH, TA%, brix level (sugar), and the temperature of the must they will ultimately be fermenting, and is done to avoid shocking them.
- 5) After a 10-15 minute wait, the yeast should now be ready introduce into the must!
- 6) \*Once the fermentation is underway, it is highly recommended to add “Fermaid-K” at a rate of 1 gram per gallon at 1/3 sugar depletion (after an 8-10 brix drop).

### **Example of volumes needed:**

-Say you are inoculating 6 gallons of must. This would mean that you would be using:

- A) 6 grams of yeast
- B) 7.5 grams of “Go Ferm”
- C) 100mls of water
- D) 50-100mls of must/juice
  
- E) 6 grams of “Fermaid-K” at 1/3 sugar depletion