

Stuck Fermentations, Can it be restarted?

Q: What causes a stuck fermentation?

A: One, or more, of the following factors (in no particular order) can create conditions for a stuck (or sluggish) fermentation.

- 1) **Insufficient nutrients** (including oxygen) - not providing nutrients at the proper fermentation stages can result in a less effective fermentation.
- 2) **Lack of minerals** – Adequate mineral levels (esp. potassium) are critical to buffering pH changes.
- 3) **A low must pH** (<3.2) - likely in honey musts especially where acids have been added prior to, or during, fermentation; or have a lack of minerals.
- 4) **Low ambient fermentation temperature** (yeast dependent)
- 5) **CO2 toxicity** is a major cause for stuck / slow fermentations in beer, and I suspect it may also occur in wine, mead, and cider as well.
- 6) **Too much nutrient** - A large an influx of yeast nutrient can create elevated fermentation temperatures killing some of the yeast, and lead to a stuck fermentation (and possible off flavors)
- 7) **Using preserved ingredients** (containing sulfites, or sorbates)
- 8) **Must stratification** (may occur early in fermentation)
- 9) **Insufficient viable yeast** was pitched.

Here is my suggested restart method:

- 1) If the SG has not past the 50% sugar depletion point, you may first try vigorously mixing the must following by aeration with pure oxygen.
- 2) If past the above condition, or step 1 was unsuccessful (after about 3 days), then **prepare & pitch an acclimated starter** as follows:
 - a) Rehydrate 2 packets of dry yeast (Uvaferm 43, EC-1118, Pasteur Champagne, K1V-1116) IAW **Dry Yeast Rehydration** FAQ. If you have it, mix-in 12.5g **Go-Ferm** (**NO substitutes**) with 167 ml of water @110°F, and when the temp drops to 104°F then add the dry yeast and follow the remaining FAQ instructions.
 - b) During the rehydration waiting period, prepare a starter by boiling 6 cups of water for at least five minutes. Remove from the heat, and add ¼ tsp yeast nutrient (SF), ¼ tsp yeast energizer (DAP). Then add 1/3 cup of honey and let cool to below 80°F. This may take 90 minutes (or more). Once cooled, pour mixture into the glass container, and add the rehydrated yeast slurry - swirl well to mix. Install an airlock, and place in an area that is nominally 68-75°F.
 - c) In 2-3 days you should see the starter actively fermenting.
 - d) Then daily, over the next 3 days, add ½ C of the existing must with ¼ tsp Superfood & ¼ tsp DAP to the starter and mix in by swirling the container. You will most likely see the starter fermentation activity initially drop, and then slowly build back up. **You are acclimating the starter to the must's environment** in an effort to minimize stressing the yeast and building-up a population sufficient to restart the fermentation.
 - e) **NOTE DO NOT add more must to the starter until you see active airlock activity** - It may take more than 24 hrs for the starter to restore itself to active fermentation.
 - f) After the 3rd must addition, **AND AFTER** the starter restores itself to active fermentation; you may add the entire starter volume to the must and stir in. You will most likely see little, or no, fermentation activity for a few days.