

Recommended Method to Restart Stuck Fermentations

When restarting a sluggish or stuck fermentation, yeast biomass build-up is as essential as good nutrition. Generally, the nutrient content of a stuck fermentation will be low and inadequate to support yeast growth. Adding an appropriate yeast rehydration nutrient that is rich in micronutrients and survival factors to the rehydration water increases their bioavailability to the selected yeast strain and results in an increase of biomass. Consequently, the selected restart yeast can acclimate more easily to the potentially hostile wine conditions (including high alcohol and low temperature). When residual sugar levels remain high, an addition of Fermaid K directly to the stuck wine is recommended. Spoilage organisms like *Lactobacillus* and *Pediococcus* can compete for nutrients and, in doing so, release metabolites that inhibit yeast growth. Adding lysozyme to the stuck wine prior to restarting the fermentation may also help control the unwanted bacteria and provide a cleaner environment for the new yeast culture to ferment in. Adding yeast hulls to the stuck wine prior to restarting the fermentation may help reduce accumulated toxins and improve chances for a successful restart.

For Wines Stuck at >3°Brix:

BUILD-UP

1. Add 2 lb/1000 gal (25 g/hL) of yeast hulls 24-48 hours prior to restarting the fermentation. Rack off immediately before restarting. After racking add another 1 lb/1000 gal (12.5 g/hL) of yeast hulls.
2. Select a yeast strain that is both alcohol tolerant and a vigorous fermenter such as Uvaferm 43, KI (V1116), BO213 (Bayanus) or VIN 13.
3. Calculate the amount of yeast required for the total volume of stuck wine at 3-5 lb/1000 gal (36-60 g/hL).
4. Calculate the amount of appropriate yeast rehydration nutrient at 1.25 times the amount of yeast to be used. Dissolve the yeast rehydration nutrient in 20 times its weight of clean, chlorine free, 43°C(110°F) water. (Example: 5 lb yeast rehydration nutrient x 20 = 100 lb, divided by 8.33 lb/gal water = 12 gal water needed.) Mix the solution gently. Allow the solution to cool to 40°C(104°F).
5. When the yeast rehydration nutrient/water solution temperature has cooled to 40°C(104°F), slowly (over 5 minutes) add yeast. Stir gently to mix and avoid clumping. Let suspension stand for 15-20 minutes.
6. In the meantime, in another clean container mix equal volumes of stuck wine and water. Generally, this would total 10% of the total wine volume. (Example: For 1000 gal stuck wine, use 50 gal water + 50 gal wine.)
7. If recommended yeast rehydration nutrients are NOT selected for use, add 1.0-1.5 lb/1000 gal (12-18 g/hL) of complete yeast nutrient (Fermaid K) directly to the tank of stuck wine. If yeast rehydration nutrients ARE used, add 0.5-1.0 lb/1000 gal (6-12 g/hL) of a complete yeast nutrient directly to the tank of stuck wine.
8. Check the temperature of the yeast suspension. There should not be more than 10°C(18°F) difference between the yeast culture and the diluted wine or acclimatization may be required. Cold temperatures may shock the yeast cells. When the yeast suspension is ready, add it to the mixture created in Step 6 and wait 20-30 minutes.

ACCLIMATION

9. Add 10% of stuck wine to the starter culture, and wait 20-30 minutes. (Example: For 1000 gal stuck wine, add 100 gal wine to starter culture.)
10. Add 20% of stuck wine to the starter culture and wait 20-30 minutes. (Example: For 1000 gal stuck wine, add 200 gal wine to the starter culture.)
11. Repeat Step 10, 2-3 more times to help acclimate the culture to both temperature and alcohol.

INOCULATION

12. Add the culture to the tank of stuck wine, or continue with the 20% wine additions until the total volume of stuck wine has been transferred into the starter culture.

For Wines Stuck at 1-2°Brix:

See protocol listed above, except in Step 7 reduce the complete yeast nutrient addition to 0.5 lb/1000 gal (6 g/hL).

For Wines Stuck at <1°Brix:

See protocol listed above, except in Step 7 eliminate the addition of a complete yeast nutrient (Fermaid K).