Solutions for winemaking
LAMOTHE-ABIET

RESTART STUCK ALCOHOLIC FERMENTATION

Principal causes of stuck/sluggish fermentation:

- *Yeast nutrient deficiency: YAN, vitamins, and salts determine yeast biomass population and activity*
- *Survival factor deficiency: Sterols and unsaturated fatty acids improve yeast cell resistance to stress conditions and increases their viability.*
- *Temperature shocks can be responsible for an abrupt stop or sluggish late fermentation.*
- *High alcohol content: Alcohol degrades the cell membrane and reduces yeast viability. Brix adjustment and a proper yeast choice are necessary to deal with high Brix juices.*
- *The presence of toxins such as residual pesticides, medium-chain fatty acids, acetic acid, … inhibit the metabolic activities of yeast.*
- *Spoilage microbes inhibit yeast growth and activity, leading to a stuck fermentation and wine spoilage. For a wide spectrum of action, Kill Brett combined with 2 g/hL of SO_2 can reduce populations of spoilage yeast, lactic acid bacteria, and acetic acid bacteria in wine.*

Fixing a stuck fermentation – Example for 100 hL (26.4 gal)

Regardless of the cause of the stuck/sluggish fermentation, it is necessary to detoxify and treat wine before attempting to reinoculate the fermentation.

STEP 1: Treat stuck wine

- Press off skins
- Add **30 g/hL Actibiol** to detoxify the wine.

ACTIBIOL *is a specific yeast hull and purified cellulose formulation. It is composed of growth factors to improve yeast multiplication, survival factors to improve yeast viability and metabolism, and detoxifying agent that binds with pesticide residues and inhibitory compounds to improve fermentation conditions.*

- Rack the wine off gross lees, without aeration
- Add **2 g/hL of SO_2 and 3 g/hL KillBrett** to limit spoilage microbes development

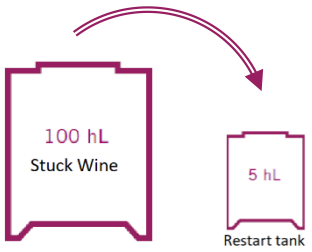
KILLBRETT *is a pure chitosan formulation, an efficient anti-microbial agent with a wide spectrum of action. It binds, inhibits, and eliminates spoilage microbes.*

STEP 2: Prepare the restart tank (5 %)

- Transfer 5% of the wine (5 hL) into another tank
- Adjust wine sugar content at ~3°Brix and alcohol content at 6-7%vol, with acidified water and sugar additions.
- Add **20 g/hL of OptiFerm®** (1.6 lb/1000gal) for healthy yeast nutrition.

OPTIFERM *is a complex yeast nutrient with organic and ammonium nitrogen for quick and balanced nutrition and survival factors to improve yeast resistance in difficult conditions.*

- Maintain the temperature of the restart tank at 68-77°F (20-25°C)



STEP 3: Rehydrate and acclimate the yeast

- Prepare **30 g/hL of Oenostim®** (2.4 lb/1000 gal) into 20 times its volume of chlorine-free, hot water (~104°) stirring to avoid clumps.

OENOSTIM *is a rehydration nutrient, composed of sterols, ergosterols, and unsaturated fatty acids, essential to build an efficient and resistant yeast cell membrane*

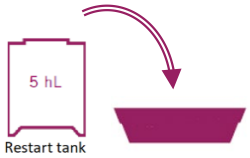
- Add **30 g/hL of L.A Bayanus** (2.4 lb/1000 gal) and stir gently.

L.A BAYANUS *is a Saccharomyces ex-bayanus strain, with a high implantation rate, high dominance, high resistance to extreme conditions, and fructophilic.*

- Wait 20 minutes

STEP 4: Acclimate yeast

- Double volume of yeast culture with restart tank wine.
- Once Brix drops by 1/2, double the yeast culture volume by adding wine from the restart tank
- Repeat the previous step until the full volume of the restart tank has been transferred to the yeast culture



STEP 5: Restart fermentation

- Once Brix <0.3, add restart tank to the stuck tank.
- Add **20 g/hL of OptiFerm** (1.6 lb/1000gal) to the stuck tank
- Maintain the tank at 68°F (20°C)

PRODUCT LIST FOR 100 hL (26.4 gal)

- **3 kg ACTIBIOL**
- **200 g KILLBRETT**
- **3 kg OENOSTIM**
- **3 kg L.A. BAYANUS**
- **2 kg OPTIFERM**