

# STUCK FERMENTATION

A stuck fermentation can result in a rejected batch of beer representing lost brewing time, ingredient costs and beer supply shortages. By taking preventative measures and reacting quickly in the event of a sluggish or stuck fermentation, the brewer can avoid a devastating loss of product.



## THERE ARE MANY POTENTIAL CAUSES OF STUCK FERMENTATION:

Under-pitching	Insufficient wort nutrition	Poor fermentation temperature control
Low yeast viability	Insufficient oxygenation	Alcohol toxicity
Yeast mutation	Low wort fermentability (insufficient conversion, or poor malt quality)	Other toxic ingredients (certain herbs, spices, etc)
Killer yeast contamination		
Premature flocculation		



## TO PREVENT A STUCK FERMENTATION:

- Select an appropriate yeast strain to achieve the desired attenuation
- Choose a fermentation temperature appropriate for the yeast strain and avoid temperature fluctuations
- Inoculate fermentation with a sufficient quantity of healthy yeast (**pitch rate calculator**)
- Add nutrients, especially when using adjuncts (i.e. **Servomyces, Fermaid K, Yeastlife Extra**)
- If repitching, use a high sterol nutrient such as **Go-Ferm Protect Evolution**
- Ensure adequate wort oxygenation (not required for first pitch with dry yeast)
- Perform a forced fermentation test to determine the fermentability of the wort
- Increase wort fermentability by the addition of enzymes such as alpha amylase (**abv Alphamylase LT30** or **abv Alphamylase FA**) or amyloglucosidase (**abv Glucoamylase 400**)

## ACT QUICKLY AT THE FIRST SIGN OF SLUGGISH FERMENTATION:

- Add more yeast. Rehydrate as normal or dry pitch at a rate of 50-100 g per hL.
- Rouse the yeast by stirring the beer or bubbling CO2 into the bottom of the tank. Care should be taken not to introduce oxygen when stirring the beer
- Raise the fermentation temperature



## THERE ARE SEVERAL SOLUTIONS FOR RESTARTING A STUCK FERMENTATION:

### ADD MORE YEAST

LalBrew® Nottingham – High Performance Ale Strain (add hyperlink) is a good choice because it is alcohol tolerant, a vigorous fermenter and able to efficiently metabolize maltotriose. Rehydrate as normal (or dry pitch) at a rate of 50-100g per hL.

**(Optional)** Activate yeast prior to pitching by adding 2% dextrose (or dilute wort) to the rehydrated yeast and waiting for signs of active fermentation before pitching (~30 minutes).

### ADD MORE YEAST AND NUTRIENTS

Rehydrate the yeast in the presence of a rehydration nutrient (**Go-Ferm Protect Evolution**), then add 2% dextrose to activate the yeast. Pitch the yeast when it is actively fermenting.

### ADD MORE YEAST AND NUTRIENTS WITH ACCLIMATIZATION

Rehydrate yeast in the presence of a rehydration nutrient (**Go-Ferm Protect Evolution**) and add 2% dextrose. When the yeast is actively fermenting, add an equal volume of the beer from the stuck fermentation. Wait 30-60 minutes, then add another equal volume of beer. This will gradually acclimatize the yeast to the environment of the stuck fermentation and increase the chance of continuing active fermentation to achieve full attenuation.



## THE DRY YEAST ADVANTAGE

Dry yeast is very stable with a shelf life of several years. It is a good idea to have some dry yeast available for emergency use in the case of a stuck fermentation! Stuck fermentations can have many causes and the solution will depend on the details of your particular brew and fermentation. For specific technical advice, contact your technical sales representative or connect with us online – **WE BREW WITH YOU®**

### LINKS

- <https://www.lallemandbrewing.com/en/canada/product-details/nottingham-high-performance-ale-yeast/>
- <https://www.lallemandbrewing.com/en/canada/brewers-corner/brewing-tools/pitching-rate-calculator/>
- <https://www.lallemandbrewing.com/en/canada/product-details/servomyces-d50/>
- <https://www.lallemandbrewing.com/en/canada/product-details/fermaid-k/>
- <https://www.lallemandbrewing.com/en/canada/product-details/yeastlife-extra-yje-411/>
- <https://scottlab.com/goferm-protect-evolution-gofermpe>
- <https://www.abvickers.com/abv-alphaamylase-lt30/>
- <https://www.abvickers.com/alphaamylase-fa/>
- <https://www.abvickers.com/abv-glucoamylase-400/>