



BEST PRACTICES

PROPAGATION FROM DIAMOND DRY YEAST

PROPAGATION PURPOSE

To produce biomass that is not stressed, that is highly viable (>95%), vital (active) and free of contamination. Oxygen is key since we are looking for cell division rather than alcohol production. Sanitation is primordial to make sure the culture remain pure.

If you don't currently propagate: the economics of propagating yeast needs to be counterbalanced with the increased risk of contamination associated with the propagation step(s).

If you currently propagate: using dry yeast will save you the first few steps of propagation in the laboratory and lower you risk of contamination.

WHAT YOU NEED

- Packs of Diamond lager yeast 11g
- A sanitized vessel twice the size of the volume you want to propagate
- Go-Ferm rehydration nutrient
- Antifoam
- Aeration/oxygenation supply

PROCEDURE

- This procedure is based on a pitching rate for lager beer of 1.5 million cells per ml per Plato degree.
- The propagation yield is ~200 million cells per mL of propagation broth. A propagation volume of 5-10% of the intended brew volume is recommended to provide enough cells to pitch the beer.
 - For example, a 10hL brew requires a propagation of 50-100L.
 - At 200 million cells per mL, a 100L propagation yields 2 x 10¹³ total cells, which gives 20 million cells per mL when pitched into a 10hL brew.

BREW VOLUME	10HL	100HL
OG	12°P	12°P
Ideal pitch rate (1.5 million cells / mL / °P)	18 million cells per mL	18 million cells per mL
Propagation volume (5-10% of brew volume)	50-100L	500-1000L
Propagation pitch rate (1g/L)	50-100g Diamond (5-10 11g sachets)	500-1000g Diamond (1-2 packs of 500g)
Total yield from propagation	1-2 x 10 ¹³ viable cells (100-200 million cells per mL)	1-2 x 10 ¹³ viable cells (100-200 million cells per mL)
Pitch rate from propagation	10-20 million cells per mL	10-20 million cells per mL

HOW TO INOCULATE A 10HL BREW WITH 20 MILLION CELLS PER ML

- YEAST REHYDRATION**
(protocol available on the pack or Diamond or on the technical datasheet).
Add 30g of GO-ferm* in 1L of sterilized water at 30°C, mix then add the dry yeast.
- YEAST INOCULATION**
Add rehydrated yeast to 100 liters of wort t 12°P
- YEAST PROPAGATION**
24h at 18-20°C with oxygenation 1-1.2LPM/L
- DECANT**
the propagation media and resuspend in sterile water
- QUALITY CONTROL**
Perform a cell count to confirm the yield and viability – make sure it is above 95%
- FERMENTATION**
Inoculate in 10hL of wort to obtain an average concentration of 20 million cells per mL

* Yeast rehydrated with Go-ferm produce yeast that is more vigorous and finishes fermentation 1-2 days earlier than beers inoculated with yeast non-rehydrated or rehydrated without nutrients.

