

# Yeast Starters

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## What?

Starters are fermentations done with a focus on making conditions ideal for yeast propagation and health rather than ideal for beer, etc production

## Why?

- Increase # of Yeast
  - Use fewer smack packs / vials
  - Increase # for high gravity or large volume
  - small initial yeast qty (eg slants)
- Ensure Vitality of Yeast
  - Old yeast
  - poorly stored / shipped yeast
- Healthier, cleaner, more repeatable fermentations

## Equipment needed:

- Sanitizable vessel with sufficient headspace for desired size of starter
- Foil, cotton ball or foam plug
- Yeast
- Sanitized Wort
- yeast nutrients (optional)
- stir plate (Optional)

## How-to:

1. Start about 1-3 days prior to brewday
2. Prepare starter 1.030 to 1.040 wort by mixing DME in water (+yeast nutrient if desired) and bringing to a boil for 10 minutes and cool
3. Sanitize starter vessel and cover
4. Add starter wort and yeast, and aerate by shaking, or using a stir plate
5. Continue to regularly agitate starter to drive off CO<sub>2</sub> and encourage O<sub>2</sub> absorption.
6. within 24-48 hrs, yeast activity will drop and solution should be milky white or a layer of yeast collecting on the bottom.
7. Decant and pitch, or place in fridge until brew day (will aid in decanting). If using fridge, allow to warm for several hours before pitching.

## Tips

- Erlenmeyer flasks are popular, but any sanitizable and coverable container can be made to work.
- You can save a step with Borosilicate (Pyrex/Bomex) containers and boil / cool the wort directly in them, sanitizing both at once.
- For a standard strength 5 gal batch using 1 vial/smack pack, 1-2 quarts (1-2 Liters) is an appropriate sized starter. Don't use less than 1 qt for a vial/smack pack.
- Appropriate strength wort can be made with about .75 cup DME per quart (100g DME per liter)
- Don't use an airlock! Oxygen is important to yeast growth and should be encouraged! An airlock can reduce yeast growth by as much as half.
- Starter wort can be made ahead of time, but must be canned with a pressure canner to sterilize the wort and prevent spoilage. (15psi - 250F for 10 minutes)

## Calculators:

<http://yeastcalc.com>

<http://mrmalty.com>

## Extremely In-Depth Nerdage:

[http://braukaiser.com/documents/Troester\\_NHC\\_2013\\_Step\\_Up\\_Your\\_Starter.pdf](http://braukaiser.com/documents/Troester_NHC_2013_Step_Up_Your_Starter.pdf)

