

# Yeastie Boys



Yeast Propagation & Storage for home brewers

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# Agenda

- Yeast options for the homebrewer
- Yeast propagation
- Yeast storage
- Learnings

# Yeast options for the homebrewer

Dry:



Wet:



# Back in the day



# Yeast Propagation

“Brewers make wort, yeast makes beer”

- Need sufficient yeast density to ferment quickly to avoid competing organisms taking over
- Target in cells/ml/°P
  - Typically 0.5 – 1.5 depending on starting gravity
  - Higher for higher gravity & for lagers
  - Pitch rate affects many aspects of resulting beer
- Propagation objective is to grow sufficient yeast cells for the batch of beer

<https://weastlab.com/resource/professional-pitch-rate/#:~:text=A%20general%20rule%20of%20thumb,consist>

# Propagation for the homebrewer

Choose your preferred yeast calculator

- Internet search
- Brewing software (I use Brewfather)
- Options: stir plate v shake method
- Target wort parameters
- Beer style
- Beginning yeast cells
  - Commercial yeast pack & age
  - Stored yeast (estimate seems to work here)
- Number of steps (manual v automatic)



# Examples



# Yeast Storage

Preserving yeast (strains) for future use

- Long term
  - Essentially very careful freezing to avoid bursting yeast cells
  - Professional technique - HB options do exist (e.g. glycerine)
- Short term
  - Yeast slurry
  - Top cropping
- Medium term storage
  - Storage under beer
  - Yeast slants
  - Other options

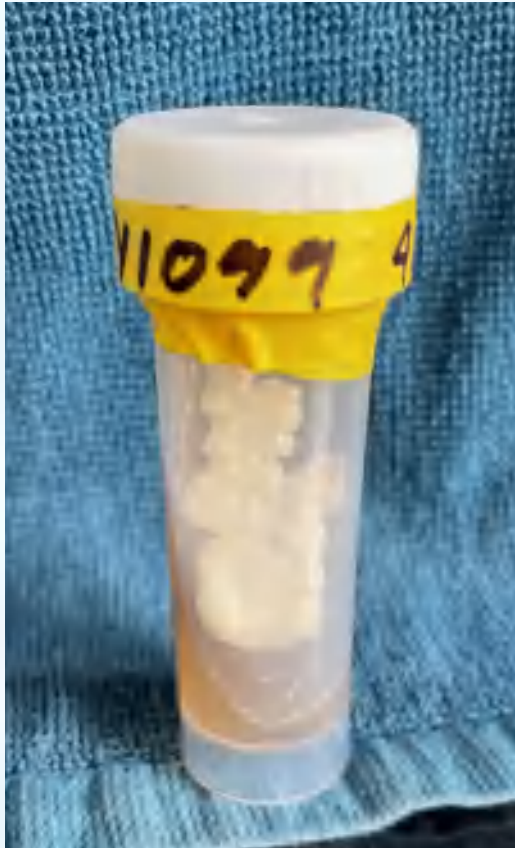


# Storage under beer

- Yeast is resilient
- Yeast has been recovered from 19<sup>th</sup> Century beer bottles (& older)
- Simple technique for Homebrewers:
  - Collect 250-500ml actively fermenting wort
  - Allow to ferment out
  - Cap and store
  - Yeast remain viable for at least 12 months
  - I have successfully used this technique for several yeast styles



# Slants



# Preparing blank slants

- Equipment

- 1030-1040 wort (DME/LME/spare wort)
- Agar Agar powder (2% in the wort)
- Slant tubes
- Syringe
- Autoclave (or pressure cooker)

- Process

- Add 2% bw Agar Agar powder to wort & stir to dissolve
- Bring to boil & add 15ml to each slant
- Loosely cap & place vertically in pressure cooker
  - I place them on a plate in the bottom on a metal ring with 1" or so water
- Bring to boil with lid on then wait until plenty of steam is seen before adding weight
- Boil for 20-25 minutes to sterilise before removing heat
- Allow to cool a little before removing weight and then lid
- Remove slants & place then at a suitable angle to cool – covered with a clean tea towel – and set, then tighten the lids.

# Using slants

- Inoculating blank slants
  - Work next to an open flame
  - Sanitise/sterilise the outside of the blank slant & the yeast container (commercial or another slant)
  - Flame a yeast loop (or use a one-use sterile plastic loop)
  - Touch the loop onto the blank slant to cool it
  - Pick up a little of the yeast and transfer this to the blank slant
  - Cap immediately, tape the lid on (I use electricians tape), label & place somewhere warm for the yeast to grow
- Yeast use
  - Propagate using your preferred technique/calculator
  - I assume 1B yeast cells in my slants
  - Inoculate a blank slant before beginning to propagate for your beer



# Lessons learnt (& still learning!)

- Yeast propagation
  - Working out the starting point is near impossible, but guesswork seems to be OK
  - Yeast are resilient and will make beer as long as there's enough yeast – the margins seems quite wide!
- Storage under beer
  - Long term storage can lead to autolysis, so don't forget those bottles in the back of the fridge!
- Slants
  - Sterile techniques are key, but not that hard
  - Slants can seem to breed!

