

Reusing Yeast

Brent Else

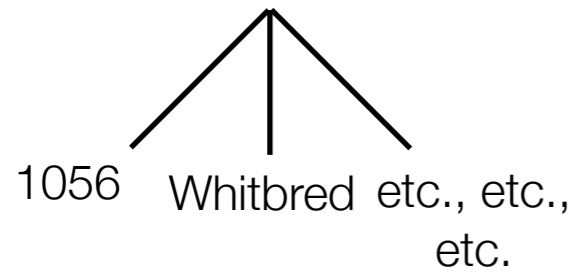
1. What is yeast?

Kingdom:
Fungi

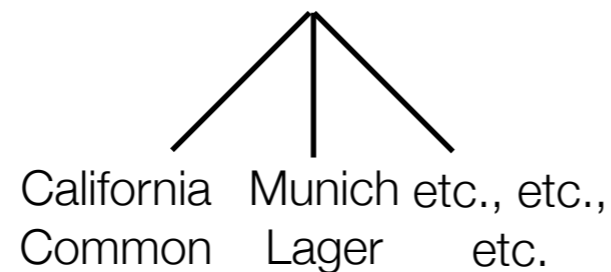


Species:

Saccharomyces cerevisiae
(ale yeast)



Saccharomyces pastorianus
(lager yeast)

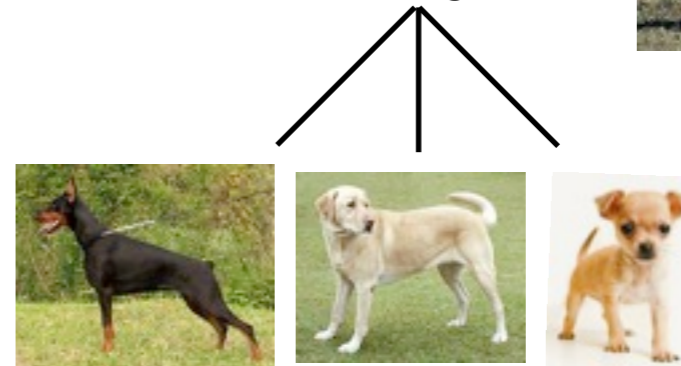


Kingdom:
Animalia



Species:

Canis Lupus
(Dog)



Jackal



Coyote

2. What happens when you pitch yeast?

1. The yeast multiply

- Prior to pitching, the yeast have built up glycogen
- They use this glycogen as an energy source for multiplication
- Oxygen allows the yeast to produce sterols which help the cells divide
- The cells can divide 4-5 times, then the oxygen and sterols are used up

2. The yeast ferment

- Under anaerobic conditions, they convert sugars into CO₂ and ethanol
- They produce a lot of “other” compounds (esters, fusel alcohols, sulfur compounds, phenols, diacetyl)

3. The yeast return to a dormant state

- As they run out of food, they start building up glycogen stores
- They begin to flocculate and fall out of suspension



3. Yeast washing: one way to reuse yeast

1. Make some sanitized water the night before

- Need about 2L (I used 3.5L... prob. too much)
- Boil the water for 15 mins
- Sanitize the jars (can boil w/ the water)
- Seal the water in the jars w/ no headspace
- Cool the water to fridge temp (overnight)



2. Add the water to the yeast cake

- Pour slowly, down the sides to reduce O₂ uptake
- Give it a couple of swirls
- Let it sit for about 20 minutes



3. Yeast washing: one way to reuse yeast



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3. Carefully decant the top level into the big jar

- Let the big jar sit in the fridge, about 20mins



4. Decant this water into the three smaller jars

- Put them in the fridge until you're ready to use them!



5. Making a yeast starter

1. Recipe:

- 200g DME, 2L water, pinch of yeast nutrients
- Boil ~15 mins
- Cool to your expected fermentation temp
- Use bottle w/ foil cover or airlock with NO WATER
- Shake the heck out of the bottle to aerate

2. Pitch Yeast

- Get one of the jars out of the fridge, pour off most of the liquid
- Swirl remaining liquid to get yeast into suspension
- Pitch!

3. Swirl starter regularly

- As often as possible, give it a good shake
- Keeps yeast in suspension, adds oxygen



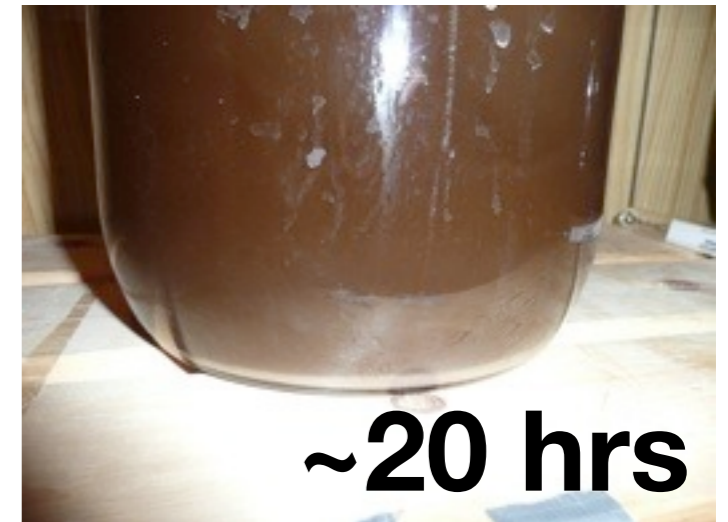
5. Making a yeast starter

4. What next??:

- Some: yeast is at its maximum activity 12-18 hours in
 - can use it anytime after that
- Others: wait until the fermentation is complete

5. Then?

- Could just pitch the whole thing
- Or, put in fridge for 12-18hrs, let yeast settle, decant & pitch



Mr. Malty's Pitching Rate Calculator™ v4.02

| Fermentation Type | O.G. (e.g., 1.048) | Volume US Gallons | Viability % | Harvest Date |
|-------------------|--------------------|-------------------|-------------|--------------|
| Ale | 1.048 | 5.25 | 94 | 01/31/2011 |

Calculate Viability from Date

Liquid Yeast | Dry Yeast | Repitching from Slurry | Preferences

Yeast cells needed (in billions) : 177
ml of yeast needed : 87

Yeast Concentration billion/ml
1 ————— 4.5
Thin Slurry (reset) Thick Yeast

Non-Yeast Percentage
0 ————— 25
(reset)

Save Settings Calculate

<http://www.mrmalty.com/calc/calc.html>



5. Making a yeast starter



Great Success!!

6. Other ways to reuse yeast

1. Pitch on top of old yeast cake

- Easy, fermentation will start fast
- May transfer some of the character of the first beer
- Guaranteed you are over-pitching it by 3-4 times
- Sanitation may be an issue

2. Just “scoop” it up

- Sanitize a spoon, graduated flask
- Spoon the desired amount into your flask, put an airlock on it, put it in the fridge
- Use it in a few days in your next batch

7. Questions?

