Bay Area Mashers Share Your Brew Series:

Belgian Partigyle

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Overview

- What is a partigyle?
- Partigyle calculations
- Belgian partigyle - Dubbel and Single
  - Recipe
    - Homemade Belgian candi syrup recipe
  - Process
- Additional partigyle techniques
  - Balancing
  - Color and/or gravity adjustment
- Today’s beers: XX(+) and X

What is a partigyle?

- In *ye olden times*, a brew was often called a gyle
- Multiple beers could be made from a single mash by splitting the gyle into parts, hence partigyle
- Initially, a strong beer is brewed with a large amount of grain
- Once this strong wort was mashed and drained, more water was added to the mash to extract the remaining sugars and make a lower gravity wort
    - This process was often repeated a third time (and perhaps even a fourth) to maximize the amount of beer that could be made from the grain being mashed
- The resulting beers were often divided up by class, with the strongest beer going to the richest people, and the weakest beer going to the peasants

Partigyle calculations

- There are multiple charts and calculators that exist for partigyle brewing, but the process is mostly trial and error until you find out what works for your setup
- For example:
  - To brew two 5 gallon batches, one with an OG = 1.080 and one with OG = 1.040, I would need to calculate a mash that would make 10 gallons of 1.060 wort
  - However, these tables/calculations have assumptions built in, so this is just a rough starting point
  - Depending on how you sparge and other various aspects of your brewing process, the amount of sugars generated in the mash can be skewed towards the first beer or not

Table I: Estimated original gravities.

Total Batch	1/3-2/3 split 1/3	2/3	1/2-1/2 split First 1/2	Second 1/2
1.0500	1.0750	1.0375	1.0666 -	1.0333
1.0510	1.0765	1.0383	1.0680 -	1.0340
1.0520	1.0780	1.0390	1.0693 -	1.0347
1.0530	1.0795	1.0398	1.0707 -	1.0353
1.0540	1.0810	1.0400	1.0720 -	1.0360
1.0550	1.0825	1.0413	1.0733 -	1.0367
1.0560	1.0840	1.0420	1.0747 -	1.0373
1.0570	1.0855	1.0428	1.0760 -	1.0380
1.0580	1.0870	1.0435	1.0773 -	1.0387
1.0590	1.0885	1.0443	1.0787 -	1.0393
1.0600	1.0900	1.0450	1.0800 -	1.0400
1.0610	1.0915	1.0458	1.0813 -	1.0407
1.0620	1.0930	1.0465	1.0827 -	1.0413
1.0630	1.0945	1.0473	1.0840 -	1.0420
1.0640	1.0960	1.0480	1.0853 -	1.0427
1.0650	1.0975	1.0488	1.0867 -	1.0433

http://www.morebeer.com/brewingtechniques/library/backissues/issue2.2/moshertable.html

Belgian partigyle recipe - Dubbel and Single

- Grain bill for 5.5 gallons of Dubbel and 5.5 gallons of Single (~75% efficiency)
  - 16 lbs pilsner malt
  - 4 lbs munich malt
  - 2 lbs Belgian aromatic (abbey) malt
- Mash schedule
  - Heat 8.3 gallons strike water to 158˚F and dough in. Mash at 150-152˚F for 60 min.
  - Heat 8.1 gallons sparge water to 190˚F and sparge after the 60 min mash.
- Hop schedule
  - Dubbel: 1 oz Styrian Aurora 9.2% AA @ 60 min
  - Single: 0.5 oz Styrian Aurora 9.2% AA @ 60 min
- Additions
  - Each beer: ½ tsp Wyeast yeast nutrient and ¼ tsp Supermoss (similar to Whirlfloc) @ 10 min
  - Dubbel: 1 lb homemade Belgian candi syrup (recipe to follow) @ 10 min
- Yeast
  - Any Belgian strain, just make a big starter (today's beers use Wyeast 3787)

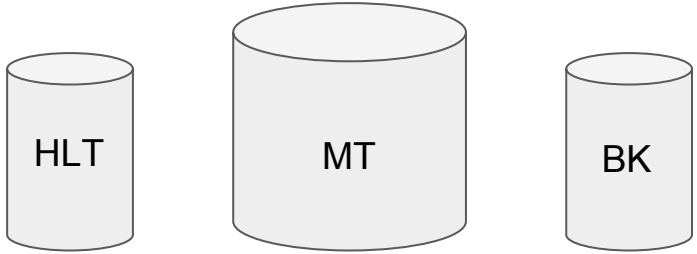
Homemade Belgian candi syrup recipe

- For ~1 lb of Belgian candi syrup:
  - **Note:** a candy or grilling thermometer is necessary for proper control
  - Heat 1 lb of table sugar (sucrose) and ¼ tsp malic acid* with ½ cup of water over high heat**
    - *tartaric or citric acid are substitutes for malic acid
    - **Using electric heat makes this process much easier than heating over a flame
  - Once the sugar solution reaches 270˚F, turn the heat to medium-low
  - Maintain a temperature of 260-280˚F for 0-10 min (light candi sugar), 30-60 min (medium/dark candi sugar), or 90+ min (very dark candi sugar)
  - Once the time above has been reached, remove the sugar solution from heat and

    CAREFULLY stir in ¼ cup of room temperature water (solution can spatter hot liquid while doing this)
- Tip: before adding your candi syrup to your beer, heat it in the microwave for a few minutes to make it easier to work with
  - **Note:** use care working with hot sugar solutions (unlike my wife, who still hasn't learned this...)

Partigyle brewing process (using fly sparging)

1)

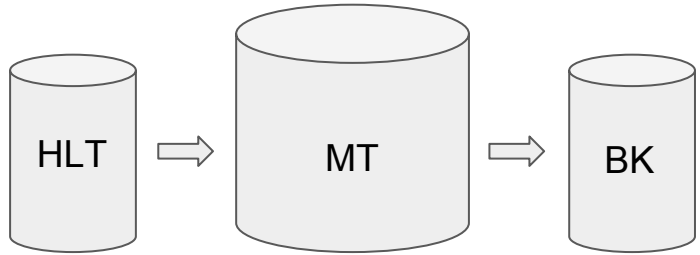


Heat sparge water

1. Heat strike water
2. Dough in grains
3. Mash for 60 min

Empty

2)



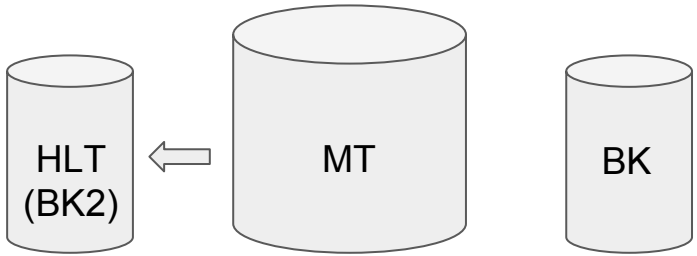
Drain sparge water to mash tun

Drain wort from mash tun into boil kettle

Being filled with wort from mash tun

Note: If batch sparging, Step 2 would be done in two separate steps, not one continuous one

3)



Being filled with wort from mash tun

Drain wort from mash tun into hot liquor tank (now BK2)

Starting the boil of the first beer

<u>Abbreviations</u>

HLT: Hot liquor tank

MT: Mash tun

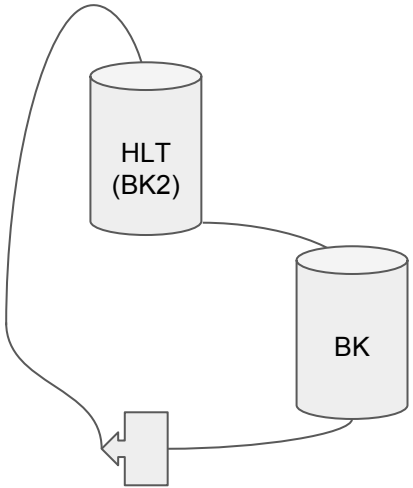
BK: Boil kettle

BK2: Second boil kettle (formerly HLT)

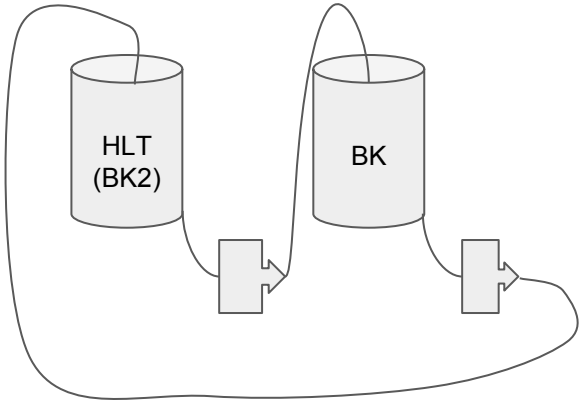
Additional partigyle techniques - Balancing

- If instead of making one strong beer and one weak beer, you can make two medium-strength beers by balancing them
  - Requires either a pump/gravity, two pumps, or just gravity and an additional small pot
  - You can then treat the two beers differently, by pitching two different yeasts, using different hops/hop schedules, different spice/fruit additions, etc.

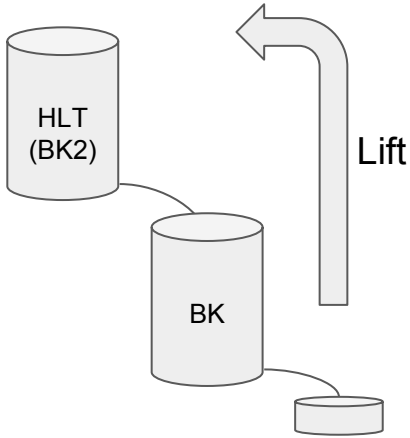
One pump with gravity



Two pumps with gravity



Gravity and an additional small pot

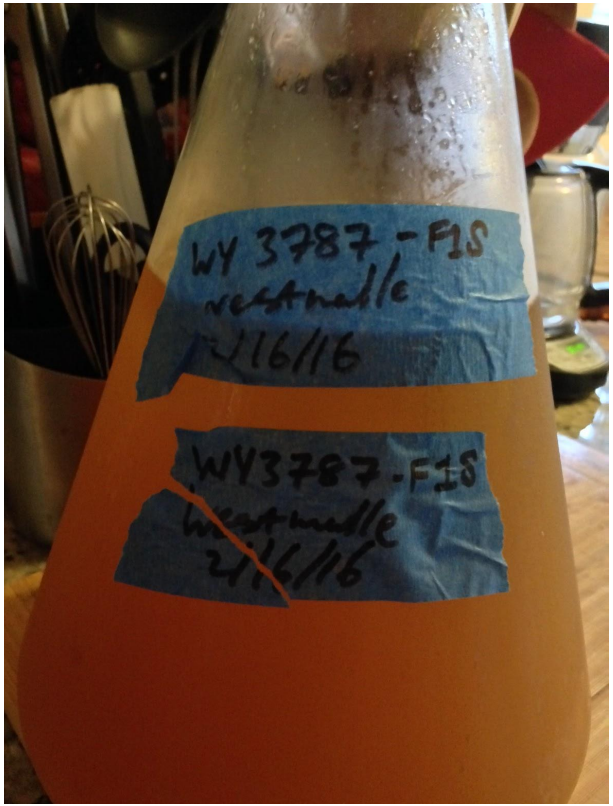


Additional partigyle techniques - Adjustment

- Color adjustment
  - If one of the beers is lighter in color than desired, add some crushed dark malt to a grain bag and steep in that beer for 10-15 min prior to boiling (Note: do not add grains to boiling wort!)
  - This can also be used (along with some additional grains) to make two balanced beers, but one that is light in color (e.g. pale ale) and one is dark (e.g. a stout)
- Gravity adjustment
  - If one of the beers is too low in gravity, you can either add some crushed base malt in the process stated above (basically a second mash; I would mash for 20-30 min in this case) or add some DME or sugar

Today’s beers: XX(+) and X

- Belgian Dubbel: XX(+)
  - OG = 1.090
  - FG = 1.017
  - ABV = 9.7%
- Belgian Single: X
  - OG = 1.050
  - FG = 1.009
  - ABV = 5.5%




CHEERS!