

# Fun Techniques

## Part 1

Rockhoppers Brew Club, May 2018



# Decoction Mash

- A technique for raising mash temp by removing a portion of the mash, boiling it, then returning it to the mash
  - Adds color and melanoidens (improved malt character)
  - Breaks down starches, which enable improved mash efficiency
  - Improves “crispness” of beer
  - Improves clarity by breaking down proteins
- Typically done with German lagers and ales
- How to do it
  - Use brewing calculator to determine the amount to decoct
  - Draw thick mash, not the water
  - Rest the decoction at 150-ish to convert sugars before raising to boil
  - Be sure not to burn the mash (stir!)
  - Be careful when handling hot mash (wear gloves)



# Recirculating Mash

- A process of cycling wort through the mash
  - Sets grain bed for sparging
  - Improves clarity of beer by filtering solids and proteins
  - Can help control mash temperature
  - Can help improve mash efficiency
- Vorlauf: Simply drawing wort and pouring it back into mash
- Pump recirc: Running wort through a pump and back to mash
- RIMS: Run wort through pump/heater and back into mash (Sabco Brewmagic)
- HERMS: Run wort through pump, through wort chiller immersed in HLT, and back into wort
- In all cases, be careful to control flow, as you may over compact the grain bed, causing stuck sparge



# No Sparge

- A method in which no water is added to the mash during the lauter process and the mash liquid (wort) is simply drained from the mash into the boil kettle. In practical terms, the method has similarities to BIAB and batch sparging.
- Pros
  - Saves time, reduced steps = reduced variability = more consistency
  - Don't need separate HLT and sparge apparatus
  - Mashing at higher water to grain ratio supports complete conversion and good attenuation
  - Mitigates risk of “oversparging”
- Cons
  - Requires a larger mash tun
  - Method requires full drain of mash, which can compact the grain bed and a) cause mash to stick (or tunnel), b) extract tannins
  - Typically get less volume of wort than you might with continuous sparging
    - Significant inefficiency when brewing high OG beers
- Techniques
  - Determine pre boil kettle volume and add  $.12 \times (\text{lbs of grain}) + (\text{mashtun deadspace})$  of additional water to mash to account for absorption and wort loss.
  - Use infusion mash calculators (a tool in BeerSmith) to calculate strike temperature



# Using Wort as Sparge Liquor

- This method involves creating a wort from a mash, then using that wort as HL to sparge a second mash.
- Pros: The method is used to achieve a higher all grain OG than the size of your MT typically allows
- Cons: You have to conduct two mashes
- Calculating Method: It's a gravity unit thing
- Alternatives
  - Add LME/DME to boil
  - Add LME/DME to fermentation



# Kettle Sour

- A method for “quick souring” beer that occurs on the hot side of process. Therefore, you can boil wort (kill souring organisms) and add hops after souring.
- Pros
  - Much quicker overall
  - Reduces chance to infect cold-side equipment
  - More controllable/predictable
- Cons
  - Sour is more 1-note
  - Increases brew-time (2-3 days)
  - Requires additional equipment
  - Scoffed upon by many “traditionalists”
- Method
  - Conduct mash, run off wort, flash pasteurize (15-minute boil)
  - Reduce wort temp/hold at 95-115 degrees (typically 110 optimal)
  - Pitch lacto (culture, malt, yogurt, probiotics)
  - Wait 24-72 hours until pH is at target (3.2-3.6)
  - Rack and boil as usual



# Warm Ferment

- This technique enhances yeast character and activity
  - Esters
  - Phenolics
  - Fusels
- Can help drive higher attenuation (dry out beer)
- Entirely appropriate for some beers (Belgians, saisons, farmhouse ales, weisse biers)
  - Know your yeast
  - Increase temps after primary
  - Careful too aggressive early fermentation
  - Allow time for the beer to condition
    - Diacetyl and acetaldehyde will form and yeast will clean given time
    - Some alcohols will esterify and become a spicy character
    - You're sorta fucked with Fusels



# Lagering

**Literally refers to process of cold-conditioning beer for an extended time**

- We generally think of beers made with lager yeast as “lagers”, which has created confusion around the term -
- Lager yeast was isolated through the practice of cold conditioning beer

**Any beer can be lagered, and many will profit as a result**

- Clarity
- Cleaner flavor (given time, yeast cleans up many of the off-flavors in beer)
- Better attenuation
- Beers with significant boil hops shouldn't be lagered ... hop oils oxidize and material gets a vegetal quality

**Methods**

- **Temperature control**
  - Chest freezer with controller
- Follow yeast parameters, start towards high end of range (54 for lagers, 64 for ales), begin to lower 2 degrees every couple days until you reach lower end target (44/55)
- Diacetyl Rest: bump temp 5-6 degrees to rouse yeast and spur some cleanup activity
- Give a few weeks

