

Brewing Strong Beer!

High Gravity Brewing



Malt bill

- Grist bin/Mash Tun/Lauter Tun size
- Increase your base malt
- Be aware of increased mash pH
- Dark malt will increase viscosity/lower pH
- DME, Dextrose, Honey, Molasses...
- Double mash per Kettle
- Typical IPA 45 lbs/bbl; Pale 35lbs/bbl
- Imperial Stout 70lbs/bbl



Mash Tun

- Water addition 1.3-1.6 q/lbs
- Step up mash
- Increase conversion time
- Monitor pH (5.3)



Lautering

- 24P or higher first runnings
- Collect as much first running's as possible
- Batch Sparge
- Monitor runoff Plato
- Shoot for 1-3 degree Plato below target
- Don't stick the bed! Deep cut and vorlaufing. Run rakes slowly.



Kettle

- Increase boil time 1.5-3 hours or more!
- Hop utilization decreases as Plato increases
- Add sugars to 2nd hops 30min before knock out
- Perceived bitterness dependent on style



Fermentation

- Increase pitching to 1.5-2 million cells/ml/P
- 90% and above viability
- Check with supplier about alcohol tolerance
- 2nd generation or more yeast
- Long fermentation
- Free rise at 50%
- O2 entire pump over
- 70%-75% Attenuation



Conditioning

- Oak aging – Wine, Bourbon, other
- Fortify
- Evaporation ??
- Absorption of alcohol and flavors
- Perception of alcohol presence
- Eisenbock
- Krausening and champagne yeast
- Priming with sugar
- Fruit or no fruit



Packaging

- Cost of beer (\$/bbl)
- Time/ effort/ raw materials
- Present as high end premium
- 22oz, 12oz, 750ml, draft, snifters
- Dollar per ounce price point



Other Considerations

- Target consumer vs volume brewed
- Starting a following
- Anticipation for vintage
- Pre sell to distributors
- Branding
- Proper ABV
- Commercial high gravity brewing and alcolyzer

