Moving to Mashing

A Guide to Beginning Partial Mash and All Grain Brewing

WHY?

- Variety – There are malts that need to be converted by mashing that can't be steeped
- Freshness – Mashing will let you add flavors to your beer that you can't get from extract
- It's fun! It's magic! It's easy!

What is mashing?

- Mashing is a lot like steeping, but with closer control over temperature, time, and water amount
- You use a specific amount of water at a specific temperature for a specific amount of time
- The goal is to activate enzymes in the malt that will convert the starches to fermentable sugars.

Mashing Overview

- Add crushed grain to hot water
- Let it sit for 60 minutes
- Separate the wort from the grain (lautering)
- Add more hot water to the grain to remove the remaining sugar (sparging)…no sparge, fly sparge, batch sparge
- Separate the wort from the grain again

- That's all there is to it!

Partial mashing

- If you can't mash enough grain, you can add light or extra light extract to make up the gravity points you're missing
- Use .6 lb. of DME or .75 lb. of LME to replace each lb. of grain
- For more info, see "Converting All-Grain Recipes to Extract/Partial Mash" by Ken Schwartz
- http://home.roadrunner.com/~brewbeer/extract/pres.pdf

Which grains need to be mashed?

- Pilsner malt
- Pale malt
- Pale Ale malt
- Vienna malt
- Munich malt
- Wheat malt
- Rye malt
- Special Aromatic malt
- Biscuit malt
- Victory malt
- Carapils malt
- All flaked grains must be mashed with diastatic malts

The Theory

When grain is malted, enzymes in the grain are activated. When malt is dried and kilned, they are "put to sleep". As long as the kilning process doesn't use too high a temperature, the enzymes may be reactivated later by contact with hot water. These enzymes start converting the starch in the grain into sugar, which can be fermented. The temperature and length of time at which you mash (and to a much lesser degree the amount of water used) determine how fermentable the wort will be. In general, mashing uses 1-2 qt. of water per lb. of grain at a temperature of 145-165F for 60 -90 minutes.

How to Mash

- In a pot on the stovetop or in the stove

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How to Mash

- Brew In A Bag

How to Mash

- Cooler

Caveat: Make sure the braid is really stainless steel!

For details on construction or method, go to
www.dennybrew.com

How to Mash

- Cooler

How to Mash

- Big Fancy Schmancy system

Which Method Is Right For You?

- Space – What kind of space do you have to brew in?
- Budget – How much do you want to spend? All at once or incrementally?
- Time – How much time do you have to brew?
- Personal Preference – How do you like to brew? Hands on or push button?
- Skills – Do you like building equipment? Do you have the tools and skills?

Cream Swill Partial Mash

- 1 lb. 6 row pale malt
- ½ lb. flaked maize
- 2 lb. light or extra light DME
- 3 lb. rice solids extract
- .5 oz. Horizon hops (13%AA) for 60 min.
- .3 oz. Horizon hops (13%AA) for 1 min.

- Heat 2.5 qt. (1.67 qt./lb.) of water to about 160 F. Add grain, cover pot, let it sit for 60 min.
- The mash should settle at about 150 F
- Maintain temp with occasional heat from burner or place the pot in an oven
- Separate wort from grain
- Sparge with about 2.5 qt. of water at about 175 F
- Separate wort from grain
- Fill pot with as much water as you want to boil, add extract, proceed with boil and hop additions

Rye IPA All Grain Batch Sparge

5.5 gal.

- 12.25 lb. 2 row pale malt
- 3.25 lb. rye malt
- 22 oz. Crystal 60
- .5 lb. wheat malt
- .5 lb. carapils malt
- 1.1 oz. Mt. Hood pellets (5.2%AA) FWH
- 1.2 oz. Columbus Pellets (16.8% AA) 60 min.
- .5 oz. Mt. Hood pellets (5.2%AA) 30 min.
- 1 oz. Mt. Hood pellets (5.2%AA) flameout
- 1 oz. Columbus dry hop
- Wyeast 1450 Denny's Favorite 50

- Heat 6.5 gal. (1.45 qt./lb.) to about 168F.
- Add to cooler, stir grain in slowly. Mash should end up at about 153F

- Rest for 60 min.

- Recirculate (vorlauf) until the wort runs clear, then move the runoff tubing to the kettle

- Gently pour the vorlauf portion back over the top of the mash and add the First Wort Hops to the kettle

- Heat 3.5 gal. of water to 185-190F. Stir the water into the mash.

- Again, do the vorlauf process. Once the wort is clear, direct the runoff into the kettle.

- Continue with the boil and hop additions as usual
- Are you kidding? That's it????