



ALT

BREW

Alternative Grain BREWing

Agenda

- Alternative Grains
- Enzymes
- Mashing Techniques
- Resources
- Q&A

Alternative Grains

- Sorghum
- Millet
- Buckwheat
- Rice
- Roasted Grains

Sorghum

- Produced from unmalted white sorghum grain
- Mild “grain-like” flavor
- No unpleasant aftertaste like red sorghum syrup
- 1:1 malt extract substitute for brewing beer
- Sufficient proteins and amino acids for 100% extract brewing



Millet

- A naturally gluten-free ancient grain
- Very small



Buckwheat

- Good alternative to millet when looking to add body and head retention to your beer
- 10-15% of total malt bill to avoid stuck mashes
- Has slight metallic taste



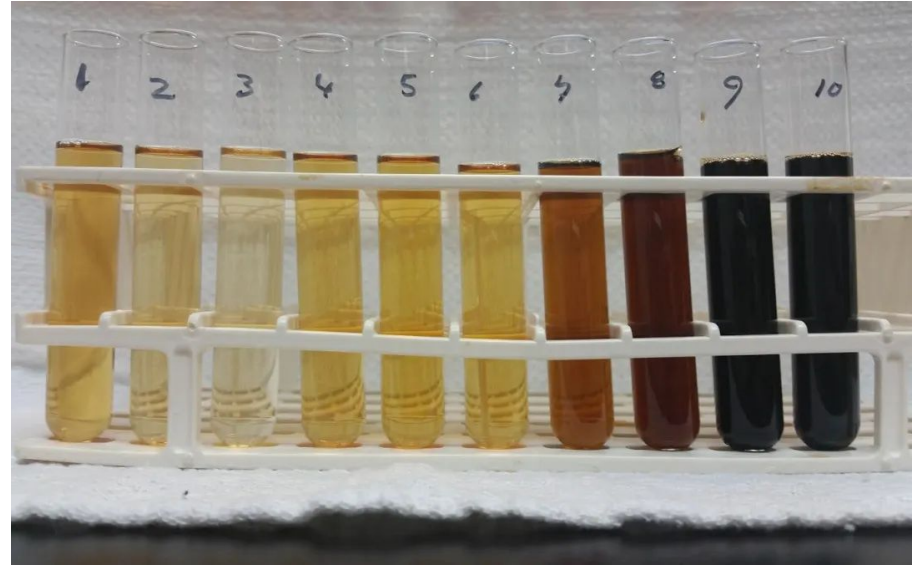
Rice

- Replaces pale barley malt
- Rice hulls great for circulation and filtration



Roasted Grains

- Light to dark roasts
- Darker is more bitter and astringent, burnt popcorn.



Enzymes

- GF grains have little to no natural enzyme activity
 - Diastatic Power: 0-20, Barley: 200
- SEBAmyl BAL 100
 - 131- 167F
- Termamyl
 - Up to 230F

WITH

- SEBAmyl L
 - 131-167F

Mashing Techniques

- Single Infusion Mash
 - 155-165F, 90-120 min, 1-1.25 quarts/pound
 - 3-5 ml/gal: Termamyl or SEBAmyl BAL 100, and 3-5 ml/gal SEBAmyl L
- High Efficiency Reverse Step Mash
 - 155-165F, 90-120 min, 1-1.25 quarts/pound
 - 3-5 ml/gal: Termamyl or SEBAmyl BAL 100
 - Drop temp to
 - 140-150F, 90-120 min
 - 3-5 ml/gal SEBAmyl L

Resources

- www.glutenfreehomebrewing.com
- www.grousemalthouse.com
- <https://eckertmaltingandbrewing.com/>
- www.coloradomaltingcompany.com
- http://www.brewingwithbriess.com/Malting101/Gluten_Free_Brewing.htm