BEST GLUTEN FREE BEERS

The ExpirementALE

Home Brew Recipe #1

This is the outline for the brewing process we used to brew the Expirement...Ale.
This guide represents all of the activities from *Day 1: Brewing the Beer.*

Warning / Release of Liability

BE CAREFUL. You are cooking. Use proper precautions of propane tanks, open flames, lighters, hot liquids and disposing of hot mash. You can burn yourself or others.

Additional Note: Your spent grains can be used to make breads or feed animals such as cattle or horses. DISPOSE of HOPS properly. Dogs can get very sick from ingestion of hops.

The Home Brew Process Outlined

1) 8:00am **Prep & Sterilization:** (0 minutes)

A. Sterilize: Make Sure all your equipment is properly sterilized. When brewing 110% cleanliness is necessary. Without sterilization, there is a high chance for contamination when fermenting. Looking over this step creates a much stronger possibility of having to throw out your whole batch of brew.

B. Prep: Set up your propane tanks and burners (or coil heating system) outside (on a hard surface such as concrete or asphalt). Place around you everything on the equipment list. Everything needs to be easily accessible including ingredients and an elevated surface such as a table or counter.

2) 8:30am **The Mash In:** (30 minutes in)

A. Bring 2 gallons of water to approx 110 degree in your Mashing Vessel w/ False Bottom on the Propane (or Coil System) to begin the Mash In process.

B. Slowly while stirring with the long-necked spoon, pour in the following ingredients gradually (DO NOT dump it)
   a. Grouse Pale Millet
   b. Grouse Munich Millet Malt
   c. Grouse Pale Buckwheat Malt
   d. Grouse French Roasted Millet Malt

   Note: *You'll see in our video that we circulated the water in the mash from the Mashing Vessel Spigot into a large metal bowl and back into the Mashing Vessel to lower the temperature. If your temperature is spot on, this step isn't necessary.*

C. Let rest for 20 min at 104 degrees. Brewer's Note: Resting means: once you hit the temp wanted, turn the flame off and start the clock.

3) 8:50am **Liquid Enzyme:** (50 minutes in)

A. Raise your temperature in between 120-130 degrees.

B. Let it rest for 25 min.

C. Pull liquid off: draining from the Mashing Vessel's spigot and save in another kettle on the side. This is the Liquid Enzyme which will be used later. Put a lid on to hold the temperature as much as possible.

4) 10:50 am **The Wort (2nd Mash In):** (2 hours 50 minutes in)

A. Add 2 gallons of hot water to the mash already in the Mashing Vessel and stabilize the temperature to 163 degrees. Rest 60 minutes.

B. 12:05pm - After 60 min rest, add our liquid enzymes (saved earlier) to our mashing vessel. Stabilize temp to 150-158 degrees. Add cold water if necessary. Rest another 60 minutes.

C. 1:06 pm - Warm hot liquor water (approx. 4-5 gal) to 168 degrees in the Boiling Kettle to prepare for the sparging process (which means to rinse the mashing kettle to get all the sugars.) Do not stir the wort for a bit. Brewer's
Note: *it is important not to stir for the next 15-20 minutes as the grains settling will act as a natural filter as we drain it in the next step.*

5) 1:15pm **Vorlauf**: (5 hours 15 minutes in)

A. Clearing wort:
   a. Vorlauf (circulate for clarity) until wort is clear, then begin run off
   What's Vorlauf?
   b. Once you've established a liquid foundation in your boil kettle, it is safe to turn on high flame to prepare for the boil, which should arrive slightly after you've collected your 10 gallons of wort.
   c. Sparge until you collect your final volume (approx 10 gal).
   d. Once you reached your final volume and come to a rolling boil, dissolve your brown rice syrup. Take an initial gravity reading.
   How To Take A Gravity Reading
   e. Set your timer for 60 min.

6) 1:20pm **Hops/Sugar/Boil Additions:** (5 hours 20 minutes in)

A. Bittering Hops - 2 ounce Hops Added (½ oz CTZ, ½ oz Horizon & 1 oz Millenium added for bitterness at beginning of boil. Make Sure the wort doesn't boil over.
   Note: *If needed, use your hose to spray the boil down to prevent a boil over and adjust your temperature accordingly.* Take lids on and off to make sure the temperature is as consistent of a boil as possible through the rest of the brewing process.
   Hop Notes: *The Millennium and Horizon hops are typically considered to impart a cleaner bitterness due to their low cohumulone oil content).*

B. 20 minutes from end of boil, add 1.25 lbs of Sugar (this number can be adjustable pending your projected extract vs. your actual extract tested at begining of boil).

C. 15 minutes from end of boil, add 16 oz GF Maltodextrin stirring in slowly.

D. 10 minute Hop Addition: ¼ oz each Simco, CTZ, Bravo & Crystal Hops.

E. 5 minute Hop Addition: ¼ oz each Simco, CTZ, Bravo & Crystal Hops

F. Whirlpool Hop Addition: Turn off flame to end boil. Add 1 oz each Simco, CTZ, Bravo, Crystal & Horizon Hops.

G. Create whirlpool by stirring consistently until hops are dissolved.

H. Once hops are dissolved, let hops sit for 10 minutes.

7. Heat Exchanger/ Pump Over:

A. Hook up the heat exchanger or immersion chiller and chill wort to fermentation temperature. We would reccomend 66-72 degrees pending what yeast you're using.

B. Take a final gravity sample on chilled wort. Ours tested at 1048. (Considerably lower than target)

8. 5:20pm **Fill the Carboys:** (9 hours 20 minutes in)

A. Pump the wort into the carboys evenly.
Note: *When filling carboys of different sizes, use the stop-watch to fill both carboys equally. If your carboys are equal sizes, you can eyeball it using your best judgement.* Leave adequate headspace for fermentation.

B. Install air locks on carboys

9. 6:00pm **Pitch Yeast:** (10 hours in)

A. Transport carboys into a temperature controlled/fermentation room (66-72 degrees).

B. In the 1st (larger) carboy, we dropped one package of American West Coast Yeast. In a fluid motion, circulate the carboys until the yeast becomes saturated trying to prevent splashing yeast onto the sides so it doesn't stick to the top of the carboy.
Note: *The Larger Carboy eventually called for more yeast. One package did not suffice. We will explain later how to decide if you need to add more yeast.*

C. In the 2nd (smaller) carboy we dropped one packet of Nottingham yeast in the same way described above (Step 21.B) in a fluid circular motion.

D. Aerate yeast in carboy by stirring / splashing or by use of oxygen tank and aeration stone.

10. 6:30pm **Clean Up:** (10 hours and 30 minutes in)

A. Wash everything and put it away for the next beer we brew!

Congrats! Your Experimental GF ALE Brew Day is Complete!

Note:
You will also need to clarify, carbonate, and bottle your beer!
The details of this process can vary based on which methods you choose.

www.BestGlutenFreeBeers.com

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