

Tips for Better Extract Brewing

Adapted from articles by: David Beechum – Maltose Falcons Website

Scott Renney – Homebrewers Conference

With personal experiences added by Ed Tate

1) Ingredients

- a. Always choose the freshest ingredients, especially extract
- b. Use DME rather than liquid extract (but store in the dark)
- c. Use malt extract from the country that the style is from
- d. Don't use sugar (corn or cane), even if the kit says to use the equivalent DME in points of gravity.
- e. Use grains to assist the malt extract
- f. Chew your malts and soak your hops in hot water to learn their characters. This helps you to learn what malts and hops you like. It will help you to imagine what adding a particular grain or using a particular hop might add to your extract recipe.
- g. Try honey and/or fruit
- h. If sugars are called for (Belgians, some types of specialty ales), Use exotic sugars from other countries

2) Water

- a. Filter Water or use bottled water (I prefer spring water)
- b. Do not use distilled water or reverse osmosis water (without adding back minerals such as pre-packaged "Burton water salts" or something similar – Yeast needs minerals)
- c. Chloramine which does not boil off, must be filtered out or not present. Is being used more and more by municipalities in water treatment. This will give your brews a definite "off taste"
- d. More advanced
 - i. PH adjustments
 - ii. Make adjustments for matching water to where style is from
 1. Our water tends to have a lot of temporary hardness. This can be removed by boiling it for 30 minutes the day before and letting it cool. Rack the good water off the milky solids that have precipitated out.

3) Yeast

- a. Use liquid yeast (although some of the newer dried yeast are supposed to be yielding good results, these are not the yeasts packaged with the kits)
- b. Use fresh, high quality yeast (check the dates on the labels)
- c. Avoid no-name yeast
- d. Use more than one type of yeast
- e. Hydrate Dry Yeast

- f. Pitch directly onto the yeast cake from a previous batch
 - g. Starters – Generally you should make a starter if your starting gravity is > 1.055
 - i. DME, Nutrient, Hops
 - ii. ~3.2 oz (by weight) DME per Quart
 - h. Other sources
 - i. Make friends with your local pro-brewer and obtain yeast from your local brewpub or craft brewery
 - j. Make friends with local homebrewers, re-pitch off of their batches
- 4) Yeast Nutrient
- a. Add for extra ammonia and nitrogen (less important for All-Grain)
- 5) Hops
- a. Learn to adjust your hopping schedule based upon the Alpha Acid percentage of your available hops and don't stick to the recorded amount on a recipe. Only in your later additions does an addition of 8% Cascade yield the same bitterness as a 6% hop.
 - b. Use lower co-humulone hops; mellower bitterness
 - c. Use some of the newer hop varieties – Don't just stick with the hops that Sierra Nevada uses or that come with the kits
- 6) Chilling – Immersion / CFC
- a. The faster the chill the more proteins and cold break you will drop out of suspension.
 - b. Water bath – slowest method.
 - c. Immersion – Cleaning a snap, a little slow and the efficiency isn't spectacular. – Put the kettle in a water bath while you do the immersion chill.
 - d. Counter Flow – Very Efficient, More Work to Keep Clean
 - i. Caustic cleaner – PBW, etc.
 - ii. Hot Water Rinse
 - iii. Acid Rinse – Sani-Clean, Citric Acid, etc.
- 7) Oxygenate
- a. Shake
 - b. Aquarium Pump w/stone
 - c. O2 Canister w/stone
- 8) Sanitation
- a. Use a no rinse sanitizer such as Sani-clean / Star-San or Iodophor
 - b. Boil the wort at least 5 minutes, even if the kit says it is no-boil
 - c. You don't need to go overboard with sanitation, but it is probably the most important part of brewing a good beer.

- d. As long as your brewing gear is clean, you probably don't need to worry about sanitation until you start to work with the cooling wort. From that point forward, beware. (although everyone laughs at me, I sanitize my mash tun – it is plastic, it has scratches, the temperature is right for bacterial growth.....)

9) Fermentation

- a. If fermenting an ale, try to keep the temperature between 65°F and 72°F. Lower than this range and the fermentation will be slow and may not finish. Higher than this range and you may develop off flavors or higher (fusual) alcohols. (Note: Some Belgian yeasts need to be fermented at a higher temperature, but that is not the norm)
- b. If fermenting a lager, try and keep with in the manufacturer's recommended range for the yeast selected.
- c. Keep carboy (if using glass or clear plastic) in the dark. Put in a closet or wrap in a towel.
- d. Try to keep temperature constant if possible (don't vary by more than +/- 2 degrees)
- e. To provide additional clarity to your beer and continued fermentation off of the initial fermentation debris, rack your beer to a secondary vessel.
- f. For an added aroma kick to your brew, dry hop you beer in the secondary fermenter. Half an ounce of a good aroma hop for a week or two really makes a noticeable difference. Put the hops in a hop bag though, don't add loose.

10) Techniques

- a. Do a full wort boil (start with 6 gallons of liquid and follow the recipe as otherwise instructed, over a 60 minute boil, you will boil away approximately 1 gallon to arrive at your 5 gallon final)
 - i. For a lighter color beer this avoids excessive caramelization (darkening of the wort due to browning of the sugar content).
 - ii. Better Hop Extraction – The higher the gravity the lower the hop utilization
- b. Add a small amount of extract at the beginning and the remainder in the last 5 minutes. This is in lieu of a full wort boil and will achieve the same results.
- c. Boil longer and harder to achieve more caramelization for styles that require this characteristic such as Scottish ales.
- d. Add 2-3 ounces of malto-dextrine to give your extract beer more body. If you are doing a partial mash (not steeping), add 8 oz of carapils-dextrine malt instead of the malto-dextrine. Most extract beers are criticized as being thin. This is one way to address that issue.

- e. Cold Steeping Darker (roasted) Grains – use cold water and steep longer. Also rinse with cold water. Better Control of Color Contribution. Less Harsh Acid Flavor extracted using cold water.

11) Record Keeping

- a. Notebook. Legal pad. Index cards. Anything to keep the notes around
- b. Handy to track what you did differently.
- c. Track how a beer changes.
- d. When you give the beer to a judge or an experienced brewer, they can tailor their remarks to what you actually did.
- e. There are many computer programs out there these days to help you. Some run on-line and are free. I use Pro-Mash. I have looked at most of them and consider this to be the best of the lot.
 - i. Other computerized options include StrangeBrew, BeerSmith, HBD Recipeator, Handmade Excel Worksheets (Tom Wolf has a particularly handy sheet)
 - ii. Using software allows you to adjust a recipe to the ingredients you are actually able to purchase, especially the Alpha Acid content of the hops.
 - iii. Software also provides a more permanent way to record your results for future reference and to compare outcomes.

12) Debate/Brew

- a. Your fellow homebrewers may not always be right, but keep an open mind about what they've done.
- b. Brew with them. No one remembers all the little things they do or the little gadget they made and it's the perfect way to spot it. Plus it's a good excuse to drink some beer with your friends.

Good Resources:

The AHA Style Guide Books

CloneBrews – Tess and Mark Szamatulski

Beer Captured - Tess and Mark Szamatulski

Zymurgy - The official magazine of the AHA

Brew Your Own – A more beginner oriented magazine.