



INTRODUCTION TO BREWING – EXTRACT BREWING

Introduction: This is a one-page, “quick and dirty” introduction to brewing with malt extract.

Preparing to Brew: Ensure all equipment that will come in contact with your wort (unfermented beer) is clean and sanitized (like with iodophor or StarSan) and work surfaces are clean. This minimizes the possibility getting unwanted bugs in your beer that may cause off tastes and odors.

Brewing Process: Steeping: The first step in brewing is to steep the specialty malts that came with your recipe, kind of like you would tea. Place the milled malts (Brew Brothers will mill your malt for you, just ask) in a nylon mesh bag with drawstring. Fill your brew kettle (3 or more gallon stock pot, preferably stainless steel) with 2 to 3 gallons of water, leaving enough head space to allow for the addition of malt extract and help prevent boilovers. Heat water to at least 150°F, but not more than 170°F. Place the mesh bag containing the malt into the water. Steep for about 30 minutes, maintaining temperature. Remove the bag from the kettle.

Adding Extract: Remove the kettle from the heat and stir in the malt extract. Once the malt is completely dissolved, place the kettle back onto the heat; bring the wort, to a boil. Be careful: wort has a tendency to boil over, especially when you add hops. You can either turn down the heat or remove the kettle temporarily from the heat to avoid a boilover. Or, spray the foam with drinking water from a clean spray bottle (get a brand new clean spray bottle filled with clean drinking water...no Windex bottles or the like!).

Hops: You’ll normally boil the wort for 60 minutes...sometimes 90. Add hops per the recipe. If it says to add hops at 60 minutes, that means to add the hops right at the start of a 60 minute boil (i.e. 60 minutes before the end of the boil). If it says to add hops at 5 minutes, that means to add hops 5 minutes before the end of the boil...you get the idea.

Cooling: You must cool the wort before you can pitch (add) yeast to it. You can let the wort just sit in the kettle for several hours, but that isn’t especially convenient and brings with it the possibility of infection and other undesirable flavors. To bring the temperature down faster, you can set your brew kettle in a tub or sink filled with ice water. You’ll have to continue to add ice until your wort gets down to about 70°F. Then, pour your wort through a sanitized strainer into your primer fermentor. Alternatively, you can freeze a couple gallons of bottled drinking water, cut the ice out of the bottle and put the ice in your fermentation bucket. Then, pour your wort through a sanitized strainer into the bucket, straining out the hops and protein matter from the wort. The ice serves to cool the wort and top up to your target volume, which is normally a total of 5 gallons. Be sure not to add too much ice, as this will thin your wort out too much. If you’re still short of the target volume, top up with some bottled water. At all times, protect your wort from introduction of dust, dirt, dog fur, etc, as any or all of these could allow nasties to enter your beer and ruin it.

Specific Gravity: At this point, take a sample of your beer (use a sanitized Thief, siphon, or pour it out...the first two methods are definitely preferred). Put it in a sample jar (or leave it in the Thief) and float your hydrometer in it. Spin the hydrometer a few times to dislodge any bubbles clinging to it, so as to get a more accurate reading. Now, read the specific gravity of the wort and record it. This is the Original or Starting Gravity (OG or SG). This is used later to calculate the Percent Alcohol by Volume (%ABV) of your beer.

Fermentation: Once the temperature of the wort is at about 70°F, you can pitch the yeast. It’s also beneficial at this point to get a little oxygen back in your wort by carefully agitating it or stirring with a well sanitized stainless steel spoon. Your yeast needs some oxygen to thrive, and the bad news is boiling drives all oxygen out of the wort. However, this is the only time your beer should be exposed to oxygen. If it’s exposed to oxygen after fermentation, nasty flavors/odors will result. If you’re using a clear carboy to ferment, cover it...light exposure causes skunky beers. Once the yeast is in, cover the wort and insert your fermentation lock into the lid of the fermenter. Fill the fermentation lock with the cheapest Vodka you can find (our preference) or with a sanitizer like StarSan. Put the fermenter somewhere where it won’t get disturbed and where the temperature remains about 68°F. In 24 to 48 hours, the fermentation lock will start bubbling, indicating active fermentation. When the bubbling slows significantly or stops, take a sample with a Thief and check the specific gravity (you can float the hydrometer right in the Thief). If the beer is at or really close to what the recipe says the Final Gravity (FG) should be, then it’s time to bottle.

Bottling: To carbonate your beer, you’ll need to add a bit more sugar to it right before bottling. Put 4 oz of corn sugar (dextrose) in a sauce pan with about 2 cups of water and boil for about 10 minutes. Cover and cool. When cool, pour the sugar water into your sanitized bottling bucket (make sure the spigot is closed!). Rack (siphon from one vessel to another) your beer to the bottling bucket. Carefully stir the beer to ensure the sugar water is dispersed throughout. Don’t agitate it too much...oxygen now is bad! Attach your bottling hose to the spigot of the bottle bucket and attach a bottle filler to the other end of the hose. Now open the spigot and begin filling your cleaned and sanitized bottles up to about 1 inch from the top. Cap with new, sanitized crown caps (O₂ absorbing, preferably). Some boil their bottle caps to sanitize them. We put them in a bowl of StarSan and fish them out one at a time to cap. Let the bottled beer stand at room temperature for about 10 days: sugar + yeast = CO₂.

Chill and drink!

Homebrewing Glossary

Ale:	Typically, a beer made with top-fermenting yeast and fermented at warmer temperatures. Ale fermentations are generally shorter than lager, and yeast fermentation by-products are more pronounced in the flavor/aroma.
Alpha Acid:	Resin in hops that contributes bitterness of beer. Higher %alpha acid = more potential extracted bitterness.
Aroma Hops:	Hops usually added in the last 5 minutes of the boil to impart hop aroma; don't contribute much bitterness.
Attenuation:	The decrease in original gravity that occurs during fermentation. A highly attenuated beer will be thinner in body than a beer with low attenuation.
Base Malt:	Malt, such as pale malt, that serves as the "backbone" of the beer; also main sugar source for fermentation.
Bittering Hops:	Hops used early in the boil to impart bitterness. They do not generally impart much flavor or aroma.
Bottle Condition:	Carbonating beer with an additional fermentation in the bottle.
Cold Break:	The coagulation of proteins during wort cooling.
Dry-Hopping:	Adding hops to finished beer which provides hop aroma and flavor but no bitterness.
Esters:	The "fruity" flavor/aroma most commonly found in ales. Comes from the interaction between acids and alcohol.
Fermentation:	In simple terms, the process of yeast breaking down sugars into alcohol and carbon dioxide.
Fermenter:	Fermentation vessel; for homebrewers, usually a glass/plastic carboy or food-grade plastic bucket.
Final Gravity:	The density of the wort after fermentation occurs.
Fining(s):	Use of irish moss or isinglass (or others) to clarify beer.
Flavor Hops:	Hops added to the boil within the last 20 minutes of the boil, imparting flavor and some aroma to the beer.
Flocculation:	"Dropping out" of yeast cells and proteins that effects the clarity of the beer. Higher flocculation = clearer beer.
Fusel Alcohol:	Off-flavor/flaw in excessive amounts that contributes to an alcoholic harshness or "hotness" in the beer.
Hops:	One of the four main ingredients in beer. The flower or cone of a perennial vine that contributes to the bitterness, flavor, and aroma in beer. They are considered the "spice" of beer, and there are many varieties of hops that each impart different flavors, aromas, and bitterness levels.
Hot Break:	The coagulation of proteins during wort boiling.
Hydrometer:	Instrument that measures the density of liquid in comparison to the density of water. One can determine the alcohol % of a finished beer by comparing the original gravity and final gravity.
IBU:	International Bitterness Unit. A measure of the bitterness in beer.
Krausen:	Pronounced by some as "Kroy-zen"; two definitions. 1. Method to carbonate beer in which wort is added to the fermented/finished beer to carbonate. 2. The foamy head that develops during the initial stage of fermentation.
Lager:	A beer made with a bottom-fermenting yeast. Usually fermented at cooler temperatures than ale and lagered (stored cold) after fermentation to drive off yeast by-products, usually resulting in a "cleaner" character.
Lovibond:	Measurement with which malt and beer color is compared against. Higher lovibond = darker color.
Malt:	Usually refers to malted barley. Any grain (rye,wheat,barley etc) that underwent the malting process.
Malt Extract:	A condensed/concentrated wort that is used by homebrewers. It is found in either a liquid or dry form.
Malting:	The process which basically consists of immersing or soaking grains in water until they germinate, then drying and kilning them in a way which develops the needed enzymes in malt for mashing later.
Mash:	Crushed grains/malt are mixed with hot water to rest at a pre-determined temperature(s). Enzymes in the malt convert the starches in the grain to fermentable and unfermentable sugars which the yeast will then consume.
Original Gravity:	The density of the wort before fermentation occurs.
Pitch:	Adding yeast to the cooled wort.
Priming:	Addition of a fermentable sugar (usually corn sugar) to finished beer to carbonate the beer in the bottle.
Rack:	Also referred to as "transfer." To move beer from one vessel to another, usually through siphoning.
Sparging:	Rinsing excess sugars from the grain after mashing.
Specialty Malts:	Used in lesser quantities to impart flavor/color/aroma. Most only need to be steeped, not mashed.
Steeping grains:	Extracting color/flavor/aroma/body from grains by soaking in water (No starch to sugar conversion...see Mash)
Wort:	Basically, unfermented beer. Pronounced "wert."
Yeast:	Single-cell fungus which feeds on sugars, producing alcohol and carbon dioxide.