

BREWING WITH MALT EXTRACTS



Brewing with malt extract (liquid or dry) is the starting point for every new brewer. Today many homebrewers use malt extract as the dominant base for their beer. Brewing with extract offers many advantages over all-grain brewing. Less time and equipment is required.

While some purists point out that all-grain brewing gives you more control over certain ingredients in beer, the parade of award winning extract recipes in both local and national competition indicates that extract brewers are more than capable of going toe-to-toe with all grain brewers with regards to beer quality. To design a great beer recipe with malt extract it is important to understand its characteristics and limitations.

Malt extract is made by mashing grains using the traditional process to produce wort, a hot sweet sugary liquid. The wort is then concentrated from its original gravity of perhaps 1.080 to a thick syrup with gravity of between 1.040 and 1.045. The wort is concentrated by evaporation under heat.

To reduce the heat required, the entire process is typically done under vacuum. Heating the wort to concentrate it also produces melanoidins, a color pigment that darkens the extract. This darkening process continues when boiling your extract. That is why wort made with even the palest malt extracts is significantly darker than corresponding all grain wort.

Liquid malt extract also contains water, an element that allows the coloring reaction to continue at a slow rate as the malt extract ages. Thus liquid malt extracts will continue to get darker as they age. Dry malt extract is not susceptible to this effect.

Beers made with malt extract will tend to ferment slower and finish at a higher gravity than corresponding all-grain beers. This is due to a variety of factors including the presence of unfermentable dextrins from the concentrating process, the lack of free nitrogen in extract malt needed for yeasts, and the potential for oxidization of the malt for malts stored for an extended period.

The last point is worth mentioning, as both dry malt and liquid malt are prone to oxidizing when exposed to air or moisture for an extended period of time. All of these factors point to the critical importance of getting fresh malt extract whenever possible, and storing malt extracts in an airtight container in the refrigerator to minimize moisture and slow the effects of aging.

As long as proper care is taken in selecting and storing your extract, brewing with malt extract can be a real pleasure. To enhance your malt extract recipes I recommend the following tips:

- * Use pale malt extract as your base for the beer.
- * To add color to your beer, steep dark grains rather than adding dark extract - this will enhance the body and flavor profile of your beer.
- * Avoid using sugar in proportions larger than 10%. Sugar adds a cider-like flavor to the beer without contributing body.
- * For bitterness, boil with separate fresh hops (pellets, plugs or leaf). Many hop oils and bittering agents break down during storage in pre-hopped malt extracts. It's always better to go with fresh hops.
- * Use steeped grains to enhance the color, body and flavor of your beer. From 1 to 2.5 kilograms of steeped grains in a 20 liter batch will produce better beer than extract alone. Remember that some malts (munich, wheats, flaked and terrified malts) require mashing, and can't be steeped.
- * As you boil malt extract, it will get darker. Consider using a late malt extract addition if you are targeting a light to medium color beer.
- * If you are brewing a wheat beer, use wheat based extract. Similarly if brewing an Oktoberfest or Marzen beer, use Munich based extract.
- * Use a spreadsheet or brewing program such as BeerSmith to estimate your color, bitterness and original gravity and match it against your target style. This will avoid many bad batches of beer.
- * Be aware of the effect of the size of your boil pot on the bitterness of your beer. Small boil, high gravity malt extract batches will achieve significantly lower hops utilization than full size boils. Use a good spreadsheet or brewing program to estimate your bitterness before brewing.
- * When converting an all-grain recipe to extract, take into account bitterness and color change as well as the base malt conversion. Extract recipes will generally need more hops and less colored additions than all-grain.
- * Use high attenuation yeasts with extract brews. Remember that extract beers generally ferment slower and leave a higher final gravity than expected.
- * Store your malt extract in airtight containers, away from light sources, and ideally in a refrigerator to minimize oxidization and aging effects.