

# BEER

## Method and Equipment Needed

The equipment you need will depend very much upon what type of brewing you wish to do and the quantities you wish to produce. We can summarise approaches in five categories. As you work your way down the list the equipment costs go up but the quality of beer produced should improve.

	Equipment Needed	Considerations	Useful Links
Kit	Can be bought as starter kit. You need a suitable container for fermentation, usually 20-25 litres. Siphon tube and hydrometer are also essential.	A good way to start. Simple to do and not much chance of going wrong	For the beginner, I would recommend <a href="https://www.lovebrewing.co.uk/guides/beer-making/beginners-guide-to-beer-making">https://www.lovebrewing.co.uk/guides/beer-making/beginners-guide-to-beer-making</a> produced by Love Brewing. This keeps it very simple, tells you the equipment needed and they sell a starter kit as well. If you prefer visual guidance try BrewUK's <a href="https://www.youtube.com/watch?v=QfswLKBawqY">https://www.youtube.com/watch?v=QfswLKBawqY</a>
Partial Mash	Moving to this stage which involves adding some malt and/or hops to malt extract, you need a boiling vessel – a large stainless steel pan is suitable, or use a plastic bucket with an electric heating coil or a Burco gas boiler.	A good way of improving kits which can taste a bit thin and often lack hops. Reduce the volume brewed a bit, and add some grain and hops to the boil.	<a href="https://www.youtube.com/watch?v=o1xwhW4NfsI">https://www.youtube.com/watch?v=o1xwhW4NfsI</a> explains the process for making an IPA (I suggest you turn off the sound to avoid the irritating background 'music')
Brew in a bag mash (BIAB)	The simplest form of mashing – using bag(s) to contain malt/hops makes it easier but not essential. Can use the same vessel for mashing and boiling.	Generally suitable for low volume brewing (i.e. 5-12 litres , although some people go up to 25 litres if they can lift it.	<a href="https://www.youtube.com/watch?v=ulYVJ2OvmPQ">https://www.youtube.com/watch?v=ulYVJ2OvmPQ</a> shows you how to brew one gallon of mashed beer without too much outlay on equipment. It just uses a pan and no bag. I found 5 parts – there may be another one.
Mash in insulated container	Here you need some form of insulated mash tun. This is often a cool box fitted with a tap and a copper grain filter. Stainless steel versions are available in larger sizes. These are quite a bit more expensive but easier to keep clean.	Can be quite flexible in batch sizes, particularly if you have multiple vessels.	There seems to be a gap in the availability of midrange mashing videos. Most of the material is US based and tends to deal with large quantities and the joys of building your own equipment. I may have a go at producing something myself.
Integrated all in 1 brewing system	Here you are purchasing a full system. The Grainfather is probably the most widely used example. Basic systems brew about 5 gallons, but larger sizes are available (at a price).	These involve a significant investment, but if you wish to brew in quantity and reliably, they may be for you. They are not really suitable for small quantities though.	Lots around. Grainfather from New Zealand was one of the first systems on the market so has a good user base. Now there are cheaper systems and all have plenty of users. Read reviews!

## FAQs

### How should I store my beer?

The two main options are either a pressurised container or bottles. The pressurised container (plastic or stainless steel) can either use natural pressure from secondary fermentation or CO2 injection. If you use the former approach you need to drink the beer over a short period of time. Containers tend to be 12 litres upwards, so won't work for small batches. Bottling is fine for small quantities but can be very time consuming for larger volumes. You can either use glass bottles, sealed with crown caps, or plastic bottles with screw caps. The latter are less suitable for longer term storage, but are handy if you enter BJCP competitions and have to post your entries. Reusing commercial beer bottles is fine as long as they are sound and reasonably robust.

### For mashing, should I buy grain whole or ready crushed?

If you use whole grain you will need to invest in a grain mill. It depends upon how quickly you plan to use the grain. Ready crushed grain has a much shorter lifespan in terms of quality once a sealed packet has been opened. So for grains you only use occasionally and in small quantities it is best to have whole grain if possible. Crushing large quantities of base malt can be hard work unless you use an electric drill attachment.

### Should I use leaf or pellet hops?

Leaf hops take more space to store and have shorter shelf life, although they last quite well if kept in the freezer. Pellet hops sink, creating sludge in the bottom of the boiling vessel which can be rather messy to deal with. Your method and quantities brewed are major factors here. Leaf hops are probably easier to handle for lower volume brews and may be needed to form a filter bed when straining the wort. In the integrated brewing systems, hop pellets especially when used in a hop spider are now used by quite a lot of brewers. They give better utilisation and are a good option if you tend to use a wide range of hop varieties in your beers.

### Is it better to use dried or liquid yeast?

For the beginner, dried yeast is the easiest and most economical to use. Packets are usually described as being sufficient for 5 gallons (22.5 litres) of wort. If brewing a smaller quantity there is no need to use the whole packet. Any surplus yeast will be usable for quite a time if kept in the fridge. Dried yeasts are cheaper and have a longer shelf life. Some recommend hydration before pitching but most seem to work perfectly well if just sprinkled on the wort. They also don't need wort aeration or oxygenation. The main reason for using liquid yeasts is the wider selection of strains available, so they may be the best choice for brewing a specific style of beer.

### How long can you keep a bottled beer for?

Assuming you are bottle conditioning, it will need about 3 weeks to settle and condition – if the weather is cold, store it somewhere warm for a few days to get the secondary fermentation started. How long you can keep it depends on the style of beer. Broadly speaking, the more alcohol the longer the beer will keep. Barley wine for example should be kept for at least a year and often improves over 2-3 years. The main change in a beer with time is that the hop aroma and bitterness will fade. Any faults will probably magnify with age. For hoppy style beers drink them within a few weeks/months, although if you have over hopped, keeping them longer may improve them. Generally, light style beers should be drunk young, although lagers can sometimes keep for quite a while. I entered a 2 year old Kolsch in a show last year and it got best beer in show award. Drinking old beers won't do you any harm. They just won't taste so good and there is the risk that they will fob when opened. It is best to put them in the fridge for a while before opening and have a jug handy

## Other Links

### The Brewing Process

For a comprehensive and quite technical set of material on the brewing process written in easy to understand terms, I would recommend How to Brew by John Palmer. This used to be available as a website, but now you need to buy the book or alternatively look at some of his videos on YouTube (see link). Hopefully you will find the mashing hints and tips and troubleshooting pages on this website useful material as well. Below are a few pointers to consider:

- Avoid using chlorine-based cleaning agents – no rinse is best or sulphite can be used
- Mash should be of the consistency of porridge
- If sparging – don't oversparge (below OG of about 1.010. If you need more water for the boil, add pre-treated water
- You need a vigorous rolling boil
- Use Irish Moss or Protofloc tablets for the last 15 minutes of boil if you want a clear beer. Don't use too much protofloc – 1 tablet is ample for 5 gallons – use part
- pf a tablet for smaller volumes
- Cool the wort as quickly as possible after boiling.
- Don't ferment at too high a temperature. Unless you have a beer fridge/controlled conditions it may be best not to brew in the height of summer.
- Don't over condition your beer – ½ tsp sugar in 500 ml is maximum.

### Recipes

There are loads of recipes out there, but many of them are US derived and may involve several types of grain and hops which can get a bit complicated or difficult to source.

Pete's Pint Pot [https://www.yobrew.co.uk/petes\\_big\\_yobrew\\_beer\\_wine\\_cider\\_recipe\\_book-v1.0.pdf](https://www.yobrew.co.uk/petes_big_yobrew_beer_wine_cider_recipe_book-v1.0.pdf) focuses entirely on kit and malt extract based beers, but has a number of easy to follow recipes as well as hints on kit enhancement and reviews of a number of commercial kits. Coopers in Australia have some interesting partial mash recipes <http://www.aussiehomebrewing.com/Customize/CustomizeCoopers.html> .

For a really comprehensive set of recipes covering all sorts of styles try <https://beerrecipes.org/> .

If all the ingredients in these recipes get a bit much for you, there are a couple of sites that tell you what grain and hop substitutes you can use. The Homebrew Shop has an excellent hop substitution chart <https://www.the-home-brew-shop.co.uk/acatalog/Hops-Substitution-Chart.html> along with various other brewing aids, guides and recipes. <https://www.brew.is/files/malt.html> gives some information on grain substitution.

### Help/Advice

When things go wrong as they occasionally will, and you can't find the answer in any of the sources mentioned here – you need other brewers to help you out and for this you may need a forum.

The ones I would recommend are the Facebook Homebrew UK Wine and Beer Making Forum <https://www.facebook.com/groups/homebrew.uk/> and the Homebrew forum <https://www.thehomebrewforum.co.uk/> which contains a number of useful calculations.

Try also the UK Homebrewers Association <https://www.facebook.com/groups/UKHomebrewAssoc/>.

And if all else fails you can always contact us via the link on our home page