



BASIC MASHING EQUIPMENT



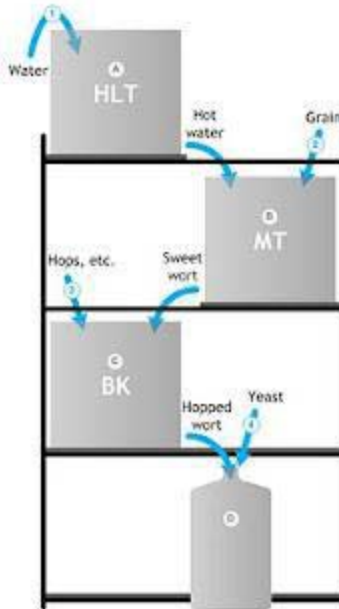
When setting up your Primary Mashing Equipment for the first time, think about the following;

- Convenient – One-man operation; minimize the amount of re-jigging and moving equipment
- Simple – Gravity fed; i.e. no pumps (for now)
- Indoor operation – Use electric heat (vs. gas burning) so you can brew inside.
- Compact – Fit within a shed or house with a reasonably small footprint (not too large)
- Portable– Pack all the gear into the car and go on site to brew with friends or if you relocate.
- Productive – Brew up to 60 -litre batches.
- Flexible – Allows experimenting with the design, e.g. add a pump for a Heat Exchanged Recirculation Mash System (HERMS) setup.

When making beer, the four key ingredients are:

1. **Water** - Water makes up about 95% of the beer so it is quite important. Things like pH, mineral and chlorine content are factors.
2. **Grain** – When malted, grain contains all the starches that will be converted to sugars; sometimes other cereals like corn or rice are used
3. **Hops** – Hops is a dried flower that adds bitterness and is a natural preservative
4. **Yeast** – Yeast is a living organism that consumes sugars and produces the all important alcohol

The four key pieces of brewing equipment are:



- A. Hot Liquor Tank (HLT)** – This is where water is treated (if needed) and heated . Hot water is transferred from the Hot Liquor Tank to the Mash Tun.
- B. Mash Tun (MT)** – This is where the milled grain is soaked (mashing and lautering) and rinsed (sparging) – this converts the grain’s starches into sugars. In this setup the mashing, lautering and sparging is done in the same vessel. The resulting liquid (called “the sweet wort ”) is transferred from the Mash Tun to the Brew Kettle.
- C. Brew Kettle (BK)** - Also called “the copper” (because it is traditionally made from copper), this is where the wort is boiled and hops (and sometimes other ingredients) are added. Once cooled, the resulting liquid (called “the hopped wort”) is transferred from the Brew Kettle to the Fermentor.
- D. Fermentor** – This is where the yeast is added and the fermenting starts – the yeast consumes the various sugars and produces alcohol (actually ethanol, a.k.a. ethyl alcohol, grain alcohol, C₂H₅OH) as well as carbon dioxide (CO₂) gas.

Other helpful pieces of equipment are:

- A mill to crush the grains.
- A chiller to cool the hopped wort .
- A large mug to enjoy the fruits of your labour.