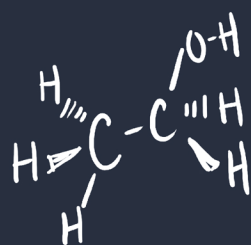


The Science of



Brewing



Malting

Barley is germinated. It is soaked in water until it forms a root. Enzymes—molecules that speed up reactions—are formed and start to break down sugars and proteins in the barley.

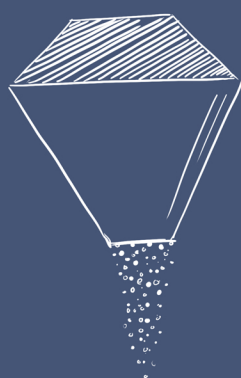


Kilning

The barley is dried to stop germination. Increasing the temperature at this stage can lead to caramel and bitter notes in the beer.

Milling

The grain is ground into finer pieces to expose more of the grain's surface to the molecules that will be involved in the chemical reactions that occur in the brewing process.



Boiling Process

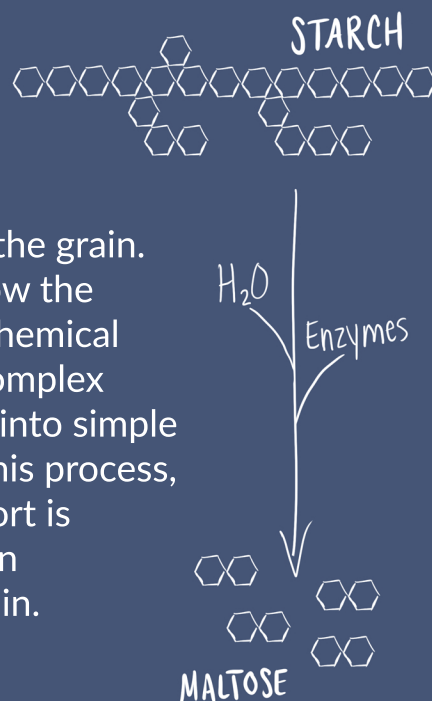
Hops are the flower of the hops plant, *Humulus lupulus*. Hops add the bitterness to beer that people love or hate. The bitterness is due to a compound called alpha acid.



The wort is brought to a boil and the hops are added. Different strains of hops can add different flavour profiles to beer, such as citrus or pine. The hops are filtered out and the wort is cooled.

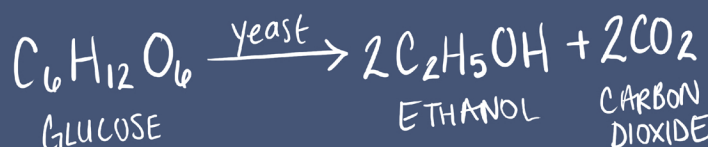
Mashing

Hot water is added to the grain. High temperatures allow the enzymes to facilitate chemical reactions to convert complex sugars, such as starch, into simple sugars. At the end of this process, a malty liquid called wort is produced, which is then separated from the grain.



Fermentation

Yeast, a single-cell organism often used to make bread, is added to the liquid wort. The yeast eat up the sugar, with the help of the enzymes that were activated in previous steps, and release carbon dioxide and ethanol. This process can take between 2-10 weeks depending on the type of beer being made.



Packaging

The second fermentation focuses on creating carbon dioxide to give the beer more crisp carbonation.

The beer is bottled or kegged for enjoyment!

