

Part Two - Cracking the Grain

The main ingredient of most home-brewed ales, from the palest bitter to the blackest stout, will normally be **pale malt grain**. Exceptions are lager, and possibly mild; these are discussed in a future article. Because just one 5 gallon brew will use 3 - 4kg of pale malt, it is more economical to buy larger quantities than the 1kg bags found in home-brew shops. 25kg sacks are a sensible size, and will provide 8 brews on average. Before it can be mashed, malt grain must be cracked (not ground to a powder) so the hot water can reach the starch and enzymes. It is on this process more than any other that most home brewing books fail to describe a satisfactory method. H E Bravery¹ simply reminds us to 'crack grain malts before use'. C. J. J. Berry² used a small hand coffee mill, but also suggested a food mixer, or a wine bottle used as a rolling pin. (Just try a little grain with a wine bottle -most of it ends up, uncracked, in the corners of the room!)

David Line⁵ describes a hand mill, as Berry, but driven by an electric drill. Later⁸ he recommends buying malt ready-crushed. This is fine if you are going to use it all within a few months, otherwise it can go 'slack'; enzyme activity suffers and poor extracts result. **However, in recent years, since about 2008, the price of whole grain malt offered by home brew shops has been about 60% more expensive than crushed malt, so I have started using the latter.** In his last book⁹, a photograph of a home-made malt mill with at least one roller is shown but no constructional details are given. It appears to have been made from a cannibalised piece of commercial equipment. This book was published posthumously so we shall never know. Wilf Newsome⁶ devotes a page to the question of milling. He mentions several types of mill without giving specific details, but they appear to be expensive commercial types. Dart & Smith¹⁰ describe the construction of a wooden two-roll mill from a pair of rolling pins. These are given a roughened surface and are counter-rotated by each hand, with the grain passing through a small gap.

I have tried most of these devices with mixed success. The rolling pins soon produced severe cramp of the wrists. Berry's hand mill worked but was slow and produced too much fine material. Connecting it to an electric drill certainly speeded things up, but I wore out two coffee grinders; the grinding faces had too small an area for the throughput, and a foreign body such as a pebble in the grain was disastrous! A different type of mill, with equispaced parallel blades rotating between fixed vanes, and normally used for herbs, was once recommended for malt crushing. I found this excellent at first: the malt had the right degree of cracking with little dust. However, the blades tended to snap off one by one and it soon had to be thrown away.

A well-known local CAMRA member, whose brother had obtained a grain-kibbling machine (intended to be driven by bicycle power in Third World rural societies), mounted it on a board and linked it to a powerful washing machine motor. He invited me to try it for malt crushing. The result was terrifying - with much din it reduced a kilogram of grain to a fine flour in about five seconds! Even when mixed with 2kg of normal cracked grain this caused the mash to 'set'. It stubbornly refused to sparge and I never used the infernal machine again.

References

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| 1 <i>Home Brewing Without Failures</i> by H E Bravery, | Max Parrish, London | 6 <i>The Happy Brewer</i> by Wilf Newsome, | Amateur Winemaker |
| 2 <i>Home Brewed Beers & Stouts</i> by C J J Berry, | Amateur Winemaker, Andover | 7 <i>All About Beer and Home Brewing</i> by Bob Pritchard, | Argus Books, Hemel Hempstead. |
| 3 <i>Brewing Better Beers</i> by Ken Shales, | Amateur Winemaker | 8 <i>Brewing Beers like those you Buy</i> by Dave Line, | Amateur Winemaker |
| 4 <i>Advanced Home Brewing</i> by Ken Shales, | Amateur Winemaker | 9 <i>Beer Kits and Brewing</i> by Dave Line, | Amateur Winemaker |
| 5 <i>The Big Book of Brewing</i> by Dave Line, | Amateur Winemaker | 10 <i>Woodwork for Winemakers</i> by C J Dart & D A Smith, | Amateur Winemaker |