

Grain Varieties

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Base Malts

Base malts make up the bulk of what brewers call the grist—those grains which are used for the mash. They're mainly there to provide the fermentable sugars to be turned into that lovely substance known as ethanol, but they also each carry a distinctive flavour profile. That profile is essential to creating the beer's style.

2-ROW PALE MALT

3L / 6-7 EBC

This is the grain that typically makes up the largest fraction of an all-grain recipe. Pale malt contains starch, and is also high in diastatic enzyme. Mashing is required to allow the two components to react to produce soluble fermentable sugars. Pale malt is light in colour and contributes a crisp malt flavour.

6-ROW PALE MALT

3L / 6-7 EBC

This malt is similar to 2-row, but it has higher enzyme levels. This makes it ideal for use with the adjunct grains. The protein content is higher too. This helps compensate for the lower levels found in rice or corn. 6-row is less flavourful than 2-row base malt so getting a clean taste of it would be difficult.

PILSNER MALT

2L / 4 EBC

This is the base for most of the light German styles. The lightest of all base malts, its delicate flavour and pale colour make it prized for the production of clean lagers. Pilsner malt usually needs a protein rest (steeping at 45-55 degrees C) during mashing. Some varieties have low enzyme levels which require careful mashing.

WHEAT

3L / 6-7 EBC

Wheat has been used for brewing beer nearly as long as barley and has equal diastatic power, so it also needs to be mashed. Malted wheat is a key ingredient in weizen beers, and contributes a "glutiny" mouthfeel and a very light colour. It's used for 5-70% of the mash depending on the style. Wheat has no outer husk and therefore has fewer tannins than barley. It is generally smaller than barley and contributes more protein to the beer, aiding in head retention. But it is much stickier than barley due to the higher protein content and may cause lautering problems if not given a "Protein Rest" during the mash.

RYE

3L / 6-7 EBC

This can be used as 5-10% of the grain bill for a rye "spicy" note. It is even stickier in the mash than wheat and should be handled accordingly.

Specialty Malts

Crystal / Caramel Malts

Caramel Malts have undergone a special heat "stewing" process after the malting which crystallises the sugars. These sugars are caramelised into longer chains that are not converted into simple sugars by the enzymes during the mash. This results in a more malty, caramel sweet,

fuller tasting beer. These malts are used for almost all ale and higher gravity lager styles. Various crystal malts are often make up to a total of 5-25% of the grain bill.

CRYSTAL 20 (E.G. CARA RED)

20L / 40-60 EBC

This malt adds a light honey-like sweetness and some body to the finished beer. Cara red also imparts a deep red colour.

CRYSTAL 60

60L / 120-160 EBC

This is the most commonly used caramel malt, also known as medium crystal. It is well suited for pale ales, English style bitters, porters and stouts. It adds a full caramel taste and body to the beer.

CYRSTAL 120

120L / 300-400EBC

This malt adds a lot of colour and bittersweet caramel flavour. Useful in small amounts to add complexity or in greater amounts for old ales, barleywines and doppelbocks.

Kilned Malts

These malts are commonly produced by increasing the curing temperatures used for base malt production, but can also be produced by toasting finished base malts for a period of time in an oven. TOP TIP: try toasting some base malts in a wok!

BISCUIT MALT (E.G. CARA AMBER)

25L / 60-80 EBC

This fully toasted, lightly roasted malt is used to give the beer a bread and biscuits flavour. It is typically used as 10% of the total grain bill. Gives a deep amber colour to the beer.

MUNICH MALT

10-25L / 5 - 10 EBC

This malt has an amber colour and gives a very malty flavour with lots of body. This malt has enough diastatic power to convert itself but is usually used in conjunction with a base malt for mashing. This malt is used for Oktoberfest-type beers and many others, including pale ales.

DEXTRIN MALT (E.G. CARA PILS)

2L / 3-7 EBC

This malt is used sparingly and contributes little colour but enhances the mouthfeel and perceived body of the beer. Usually around 5% of the grain bill. Dextrin malt has no diastatic power so it must be mashed; if steeped it will contribute a lot of unconverted starch and cause starch haze.

Roasted Grains

These highly roasted malts contribute a coffee or burnt toast flavour to porters and stouts. Obviously these malts should be used in moderation. Some brewers recommend that they be added towards the end of the mash, claiming that this reduces the "acrid bite" that these malts can contribute. This practice does seem to produce a smoother beer for people brewing with "soft" or low bicarbonate water.

CHOCOLATE MALT

400L / 900-1200 EBC

Used in small amounts for brown ale and extensively in porters and stouts, this malt has a bittersweet chocolate flavor, pleasant roast character and contributes a deep ruby black color.

BLACK PATENT MALT

580L / 1500 EBC

This is the blackest of the black. It must be used sparingly, generally less than 10% of the grist. It contributes a roasted charcoal flavour that can actually be quite unpleasant if used in excess. It is useful for contributing colour and/or setting a "limit" on the sweetness of other beer styles using a lot of caramel malt.

ROAST BARLEY

550L / 1400 EBC

This is not actually a malt, but highly roasted plain barley. It has a dry, distinct coffee taste and is the signature flavour of Stouts. It has less of a charcoal "bite" to it than does Black Patent.

Other stuff

FLAKED OATS, RICE AND CORN

These are unmalted grains called adjuncts. Oats contribute a rich mouthfeel. Corn is lightly flavoured, while rice is almost flavour neutral. These latter two lead to very light low-body beers. Corn and rice are very high in convertible starches, but they have no enzymes of their own. Hence in order to use them they must be mashed with malt that is high in diastatic enzyme.

RICE HULLS

These are essentially flavourless grain husks that break apart your grist to aid in lautering. Often used in quantities of around 10% of the grist weight, especially when using sticky grains like wheat or rye.

UNMALTED BARLEY

This gives a rich, smooth, "grainy" flavor to beer and is usually used as 5-10% of the grist. Unlike the other adjuncts, unmalted barley will contribute foam (head) retention to the finished beer because of lower levels of proteolysis. However, the nitrogenous and complex proteins that contribute to head retention also contribute to chill haze problems. Clarity problems make unmalted barley inappropriate for light beers, which is one reason why corn and rice are preferred. It is essential in dry stout, e.g., Guinness Stout.

And many, many more...

http://en.wikipedia.org/wiki/Mash_ingredients