

# Base Malts

They contain enough enzymes to self-convert in the mash

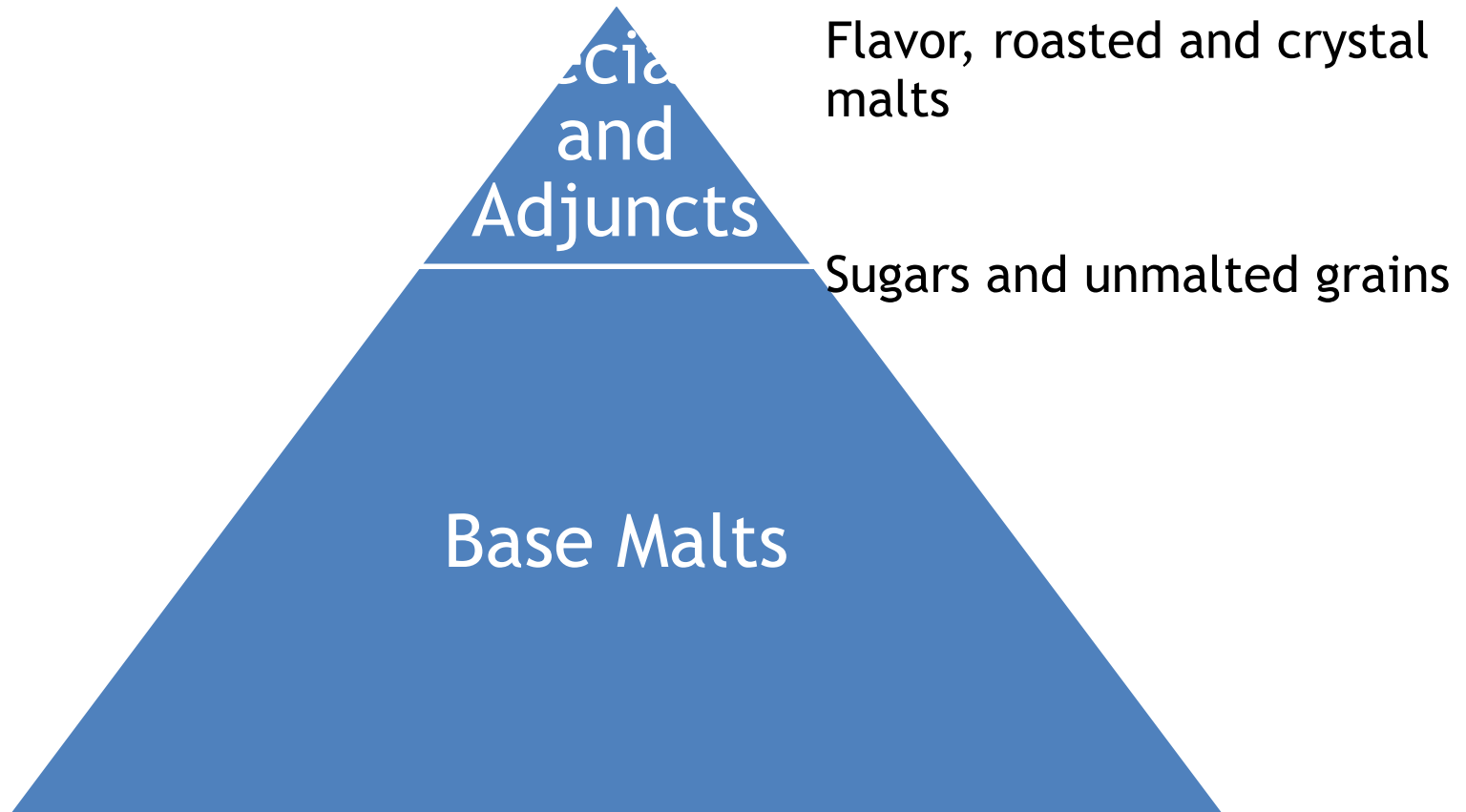
You would use up to 100% of the grist?



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# Base Malts



# Base Malts

The purpose of base malts

- To provide the majority of fermentable sugars
- Flavor contribution from “barely noticeable” to “strong”
- Diastatic power to convert itself and other specialty malts and adjuncts

The purpose of specialty malts and adjuncts

- To provide flavor, color, mouthfeel and fermentables

# Base Malts

- Classification of grains
  - Two-row barley
  - Six-row barley
  - other malted grains such as wheat and rye
- Types of malts
  - Pilsner, Pale, Munich...
- Variety
  - Maris Otter, Golden Promise, Harrington...
- Maltster and Region
  - Weyermann, Briess...
  - US, Germany, Belgium...

Source, Brewing better  
beer, Gordon Strong

# Base Malts

What do we look for in a base malt?

- Flavor
- Sugar content or potential (SG or Plato)
- Color (SRM or EBC)
- Protein level
- Diastatic power (Lintner or Windisch-Kolbach)
  - 30 - 40 Lintner is considered the minimum to convert a mash
  - Excess Lintner from base malts helps convert adjuncts and specialty malts with little or no diastatic power

# Base Malts

	Barley Malts	Other Malts
Pilsner	Vienna (s)	Wheat (s)
Pale	Mild	Rye (s)
Pale Ale	Munich (s)	
Maris Otter (v,s)	Red (s)	
Pearl (v,s)		
Belgian (r)		

Note: This is not a complete listing of base malts, rather the more popular ones. Some are used 100%, others are only for specific flavor, mouthfeel, body or other characteristic.

v = variety

r = region

s = samples provided

# Base Malts

Sample beers (excluding Andy's "Hole In One" Red)

- 1.75 - 2.00 pounds of malt
- 85% RO/15% tap water with a bit of Gypsum and Calcium Chloride
- A modified version of brew in a bag
- 0.2 ounce Hallertauer hops for 17 IBUs
- OG target 1.049 (actual from 1.041 - 1.056)
- FG target 1.012 (actual from 1.011 - 1.019)
- Yeast
  - US-05 for Maris Otter, Vienna and Munich
  - 2<sup>nd</sup> generation WLP001 for Pearl, wheat and rye
- Fermented in gallon jugs placed in big bucket

# Base Malts





# Base Malts

## Pilsner

### Flavor

Delicate, smooth, light malty, grainy, bready

### Color

Lightest of base Malts

Typical range of color - 1.5l - 2.0l

Some specialty as low as 1.2 or high as 2.4

### Diastatic power

Many in the 110 - 130 range with some as low as 60 and others as high as 300

### Use

Produce light colored lagers and ales

Blended with other malts to lighten color and add sweetness

# Base Malts

Pale (often referred to as pale 2-row)

## Flavor

Light, neutral, clean and smooth, sweet mild malty

## Color

Light

Typical range of color - 1.7l - 2.0l

## Diastatic power

In the low 140's

## Use

Produce light colored lagers and ales

# Base Malts

Pale ale (Maris Otter/Pearl)

## Color

Darker than Pale Malt

Typical range of color 2.0l - 3.0l

## Flavor

Rich malty, sweet, biscuit, bready, nutty

## Diastatic power

Typically over 100

## Use

Ales, particularly English

I use this for many of my ales including west coast IPA

# Base Malts

## Vienna

### Color

Typical range of color 2.8l - 4.1l

### Flavor

Sweet light bready malty

### Diastatic power

Varies dramatically from 50 - 220

### Use

Typically for continental beers such as Vienna and Märzen

Can be used as only base malt, but often in a blend of base malts

# Base Malts

## Munich

### Color

Wide range 5l - 35l

Typical range of color 7l - 10l

### Flavor

Rich malty biscuit and very distinctive

### Diastatic power

Typical 20 - 50 but some as high as 150

### Use

German style beers such as Munich, Märzen or Oktoberfest

Adds a malty flavor to other ales and sometimes a cherry like ester

Can be used as 100% of the base malt, but often in a blend with other base malts

# Base Malts

## Red

### Color

Range for Best RedX brand 11l - 13l

Distinctive red color, especially in 1.048 original gravity beers

### Flavor

Bready similar to Munich

### Diastatic power

200

### Use

Either blended to add red tint or up to 100% of base malt for red color

# Base Malts

## Wheat

### Color

Typical range of color 2.0l - 3.0l

Some as low as 1.5l or high as 9l

### Flavor

Sweet malty wheat, mild bread dough

### Diastatic power

Typical 75 - 120 but some as low as 10

### Use

Wheat or Weizen, Kölsch, Alts and Wit

Aids in head retention due to high protein

Typically used in a blend with other base malts

# Base Malts

## Rye

### Color

Typical range of color 3.0l - 5.0l

### Flavor

Spicy, fruity, earthy

### Diastatic power

Wide range from 30 - 100

### Use

German style Roggenbier

To add spicy note to other ales

Typically used in a blend with other base malts



# Base Malts

Malts used for the sample brews

Maris Otter - Crisp

Pearl - Fawcett

Vienna - Weyermann

Munich (II Dark) - Weyermann

Wheat (Pale) - Weyermann

Rye (pale) - Weyermann

Red (Best Red X) - BestMalz

# Base Malts

## Source data

- Manufacturer websites
- Distributor websites
- Beersmith 3.0
- Various websites
- Brewing better beer by Gordon Strong