

# BEER

## HISTORY

- **Kui** – first early reference of a fermented beverage in china almost 6000 yrs ago fermented from rice water
- First reference of beer was during the (ancient Iraq) **Sumerian era** around 4000 BC. “The Hymn to Ninkasi”, serves as both a prayer as well as a method of remembering the recipe for beer in a culture with few literate people. Brewing during this era was discovered accidentally.
- During the medieval period it was **the monks** who had mastered the art of brewing in a scientifically sequenced procedure. They actually required some nutritious & good tasting beverage which they could consume during their fasting period thus they started brewing and termed them as liquid bread.

## DEFINITION

Beer is an alcoholic beverage made by brewing and fermenting malted barley (and sometimes other cereals) with hops added to flavor and stabilize it.

## INGREDIENTS USED IN BEER MANUFACTURE PROCESS

- Water
- Cereal (BARLEY)- the source of carbohydrate
- Hops
- Yeast
- Additive(s)

Malt is germinated cereal grains that have been dried in a process known as "malting". The grains are made to germinate by soaking in water, and are then halted from germinating further by drying with hot air. Malting grains develops

the enzymes required to modify the grain's starches into sugars. It also develops other enzymes which break down the proteins in the grain into forms that can be used by yeast.

- **Cereal - The source of carbohydrate in beer making. The best cereal for beer production is barley.** Apart from barley other grains like rye, maize etc are used but in less quantity.
- **Water** – Water is the most important ingredient in the making of beer as it is the major component of beer. The taste and type of water influences the character of beer.
- **HOPS-** ( Humulus lupulus) belongs to the nettle family. It is used in form of flower buds and is used as a flavoring and stabilizing agent. It imparts the bitter taste to the beer and also acts as an anti bacterial and clarifying agent preventing the addition of unwanted particles.

Credit goes to Brabant Monastery for introducing HOPS to beer. The following are examples of hops:

1. **Hallertau Mittelfrüh-** Germany
2. **Goldings-** UK
3. **Saaz-** Czech Republic
4. **Cascade** - USA
5. **Goldings-** UK

- **YEAST -**

Yeast is a micro-organism which helps in the process of fermentation .

**Fermentation** - is the process by which bacteria, yeast or any other micro- organism converts sugar into alcohol and carbon di-oxide in the presence of moisture and oxygen.

**Yeasts used in Beer Production are:**

*Saccharomyces Cerevisiae* and

*Saccharomyces Carlsbergensis*

**BEER MANUFACTURING PROCESS**

**Barley received and screened**

↓  
**Steeping**

↓  
**Kilning**

↓  
**Milling**

↓  
**Mashing**

↓  
**Lautering**

↓  
**Brewing**

↓  
**Fermentation**

↓  
**Lagering**

↓  
**Carbonation**

↓  
**Packaging - Bottles, Cans, Kegs**

### **Optional Steps**

- Fining & Priming

### **TYPES OF BEER**

#### **ALE**

- Top fermentation
- Fermented at higher temperature
- Short fermentation
- Short maturation
- More hop-flavor
- Generally higher alcohol (4% - 5%)

#### **LAGER**

- Bottom fermentation
- Fermented at lower temperature
- Long fermentation
- Long maturation
- Less hop-flavor
- Generally lower alcohol (3.2% - 4%)

#### **Variations of Ale**

- Stout
- Porter

#### **Variations of Lager**

- Light lager (Pilsner)
- Dark lager

### **Bottled or canned**

- Below 70°F
- 1 to 3 months

### **Draught**

- 36° to 38°F
- 2 weeks (48 hrs in tropical countries)

### **Foreign beers**

- Upto 5%

### **Indian beers**

- Below 5% (strong variants – up to 8%)

### **Temperature**

- Lager - 45°F
- Ale - 50°F
- Indians prefer at 40°F

### **Service-ware**

- Bottles/Cans – glass/goblet/mug
- Draught – tankard (also pitchers)

### **BRAND NAMES**

#### **Ale**

- Boddington's
- Ballantine
- King of Ales
- Provisie

### **Stout**

- Guinness
- Russian Imperial Stout
- Murphy
- Young's Stout
- Beamish

### **Lager**

- Heineken
- Budweiser
- Carlsberg
- San Miguel
- Lowenbrau
- St. Pauli Girl
- Olympia

### **Pilsner**

- Pilsener Urquell
- Tuborg

- Konig
- Heineken Pils



IHM NOTES