

## Lager

Q. What is lager?

A. A beer made principally from water, barley malt, hops and yeast that has a primary fermentation at around 7 – 12 °C and a slow period of conditioning, or secondary fermentation at around 0 – 4 °C.

## History

Modern methods of producing lager were pioneered by Gabriel Sedlmayr the Younger, who perfected the lager brewing method at the Spaten Brewery in Bavaria, and Anton Dreher, who began brewing a lager, now known as Vienna Red, in Vienna in 1840–1841.

The first clear golden beer, pils, from the town of Plzen in the Czech Republic, was first brewed (on a large scale) on the 4 October 1842 by Josef Groll from Munich.

Until the mid-1840s, most Bohemian beers were top-fermented. The taste and standards of quality often varied widely, and in 1838, consumers dumped whole barrels to show their dissatisfaction. The officials of Pilsen founded a city-owned brewery in 1839, called *Bürger Brauerei* (Citizens' Brewery – now Plzeňský Prazdroj), brewing beer according to the new Bavarian style of brewing. Bavarian brewers had begun experiments with the storage ('Lagering') of beer in cool caves using cool-fermenting yeasts, which improved the beer's clarity and shelf-life. Most of this research benefited from the knowledge already expounded on in a book (printed in German in 1794, in Czech in 1801), written by František Ondřej Poupě (*Ger.* Franz Andreas Paupie) (1753–1805) from Brno

The *Bürger Brauerei* recruited the Bavarian brewer Josef Groll (1813–1887) who, using new techniques and paler malts, presented his first batch of modern pilsner on 5 October 1842. The combination of pale colour from the new malts, Pilsen's remarkably soft water, Saaz noble hops from nearby Žatec (*Saaz* in German) and Bavarian-style lagering produced a clear, golden beer that was regarded as a sensation.

Improving transport and communications also meant that this new beer was soon available throughout Central Europe, and the *Pilsner Brauart* style of brewing was soon widely imitated. In 1859, "Pilsner Bier" was registered as a brand name at the Chamber of Commerce and Trade in Pilsen. In 1898, the Pilsner Urquell trade mark was created to put emphasis on being the original brewery.

Brewing method – Sedlmayr, Dreher, Groll and others

Water – Plzen's incredibly soft water

Availability of cheap glass meant that a clear beer looked more appealing – with earthenware Steins there was no need for beer clarity as you couldn't see it.

Industrialisation – London Porter/Dreher's Vienna Red

Transport – Railways

Saaz Hops – Zatec

New malt kilning techniques – Indirect kilning; paler, more fermentable malt

Political – All this was happening within the Austro-Hungarian Empire under Emperor Franz Josef I.

## How it's made

What are the ingredients for beer?

Which is/are the most important?

**Water** – Beer is mostly water, so it's bound to affect the flavour. Called “liquor” when used for brewing, it is not tasteless. Water is a great solvent and as it travels through soil, sand, rock etc. mineral salts become dissolved in it.

Carbonate – chalky  
Sodium & Chloride – salt  
Sulphate – plastery

These chemical salts also have important effects on the brewing process, each type of beer and brewing process has its ideal water. Before about 1900 brewers were limited in the types of beer they could brew by the chemistry of the local water.

For example carbonates (from limestone) make water alkaline but brewing water needs to be slightly acidic to avoid unpleasant astringency when it reacts with hop bitterness. Dark malts are, themselves acidic and can be used to correct the water. So traditionally areas with limestone rock are associated with dark beers.

Burton water contains sulphates ideal for the pale ales created there.

Of course for some beer styles the best minerals are none at all, the water from the town of Plzen in Bohemia is very soft, ideal for the golden lagers invented there.

**Yeast** – low temperature of fermentation – primary fermentation at 7–12 °C (45–54 °F) (the fermentation phase), and then is given a long secondary fermentation at 0–4 °C (32–39°F) (the lagering phase). During the secondary stage, the lager clears and mellows. Responsible for fruity and spicy flavours.

**Malt** – the palest colour, modern malting techniques, more fermentable=cheaper. Responsible for bready, sweet, biscuity flavours.

**Hops** – Related to nettles and marijuana. From Chinese extract to Noble Hops:

Hallertauer Mittelfrüh – Hallertau region of Bavaria  
Tettnanger – Tettnang, Germany  
Spalter – Spalt, Bavaria  
Saaz – Zatec, Czech Republic

Responsible for herbal, bitter and citrus flavours.

## Global Producers

<b>AB-Inbev</b>	<b>SAB Miller</b>	<b>Heineken</b>	<b>Carlsberg</b>	<b>Molson Coors</b>
Budweiser	Grolsch	Heineken	Carlsberg	Coors
Becks	Miller	Amstel	Kronenbourg	Carling
Stella Artois	Peroni		Baltika	Molson
	Urquell	Moretti	Holsten	
Brahma		Sol	Tuborg	Corona
Labatts	Fosters	Kingfisher		
Michelob		Zywiec		58% owned by SAB Miller

## Craft Producers

Uniquely, all the classic, historical producers tend to be fairly large brewers, however, there are many craft brewers of Premium Lager/Pils. See how many you can find and list below:

<b>Old</b>	<b>New</b>
Faessler Gold-Pils Bernard	St Austell Korev Moravka

## **Tasting**

### **1 – Stella Artois (AB-Inbev, Leuven, Belgium)**

Style – Pale Lager

ABV – 5.2%

Appearance - completely transparent light yellow, huge bubbles, large wispy head

Aroma – chemically, grassy, cheese, cellar, spruce

Taste – sweet bread, slight bitterness

Mouth feel – thin-bodied, flat, oily, medium to high carbonation

Overall – easy-drinking, bland

Comments –

### **2 – Pilsner Urquell (SAB Miller, Plzen, Czech Republic)**

Style – Pils

ABV – 4.4%

Appearance - clear pale yellow-golden colour with medium white head

Aroma – floral, grassy, cereal

Taste – clean and strong flavour with long medium bitter finish; spicy, peppery aftertaste

Mouth feel – medium carbonation, crisp, smooth

Overall – original and still the classic example

Comments –

### **3 – Herold Czech Premium Lager (Independent, Breznice, Czech Republic)**

Style – Pils

ABV – 5.2%

Appearance – mid gold and clear with lasting head

Aroma – peppery and floral, bread dough, sulphur, buttered toast, grassy

Taste – dry, hoppy but not very bitter, slightly sulphurous, dry malt

Mouth feel – light body, low-mid carbonation

Overall – Good example of the style, water could be softer

Comments –

### **4 – Hofmann Hopfen Gold Pilsener (Independent, Pahres, Germany)**

Style – Pils

Appearance – golden with a huge, creamy, white head

Aroma – lightly buttery, straw and bread

Taste – sweet and bready, with woody fruity bitterness

Mouth feel - dry

Overall – Reasonable attempt without the depth of aroma / taste of a good Czech example

Comments –

## **5 – Distelhäuser Premium Pils (Independent, Tauberbischofsheim-Distelhausen, Germany)**

Style - Pils

ABV – 4.9%

Appearance – clear light golden beer with medium head

Aroma – malt, bread, straw, slightly sweet, grassy and peppery hops

Taste – starts dry leading to a malty sweetness, peppery bitterness at the finish

Mouth feel – light/dry-bodied, soft carbonation

Overall – classic German pilsener, good if not outstanding

Comments –

## **6 – Goeller Lager (Independent, Zeil am Main, Germany)**

Style – Pale Lager

ABV – 4.9%

Appearance – golden with white short-lasting head

Aroma – grainy, bready, spicy, earthy, grassy

Taste – dry, malty, background honeyed-sweetness

Mouth feel – dry, medium bodied,

Overall – a more malty, typically Bavarian example

Comments –

## **7 –**

Style –

ABV –

Appearance –

Aroma –

Taste –

Mouth feel –

Overall –

Comments –

## **8 –**

Style –

ABV –

Appearance –

Aroma –

Taste –

Mouth feel –

Overall –

Comments –