



MIXOLOGY LEADERSHIP BEER BASICS: Growing and Processing

From Grain to Bottle: Much like our coffee, quality beer only comes into being through the care and hard work of many dedicated and passionate people. Each step of the process impacts the quality and taste. Beer is a fermented alcoholic beverage brewed from malt and flavored with hops.

The four main ingredients of beer are:



Water: Water is the main ingredient in beer making up over 90% of a beer by weight.



Malt: Malted Barley gives beer its color, body & sweetness, foamy head, sugars needed for fermentation, and a variety of flavors. Other grains, such as wheat, oats, rye, corn and rice are also used in many beer styles.



Hops: Dried female flower clusters of the *Humulus lupulus*, or hop, vine is used to provide bitterness, aroma and flavor to beer and also preserves the beer.



Yeast: Converts the sugars into alcohol. Yeast may contribute over 50% of a beer's aroma and flavor depending on the style.

Processing

Brewing beer is a scientific process. Each step must be completed with precision and care to produce delicious, quality crafted beverages.



Cereal grains, mostly barley, are grown and harvested and germinated to produce malt.



Dry malt is mixed with hot water to extract fermentable sugars. The resulting liquid is called "wort."



Hops are added to the drained wort and the mixture is cooled.



Yeast is added to the wort to convert the sugars into alcohol and carbon dioxide.



After clarification and stabilization, carbonation is added to the brew.



Types of packaging include: bottles, cans, kegs, and casks just to name a few.



Beer Tasting: Tasting beer is a lot like tasting coffee! Here are the tasting steps for beer.

Tasting Steps

Beer can be tasted and compared using four steps:

1. **See** – Notice the color, head and consistency in the glass.
2. **Swirl** – Gentle agitation unlocks consistency, aroma and carbonation.
3. **Smell** – Deeply inhale the aroma.
4. **Taste** – Before swallowing, let the beer pass over your taste buds, contacting every part of your mouth. Identify the overall taste, body, character and flavors.

Glossary of Tasting Terms

Appearance: The color, head and consistency of the beer in the glass

Aroma: How the beer smells

Body: The “weight” or “mouth feel” of the beer

Flavor: How the beer tastes

International Bittering Units (IBUs): A measure of the bitterness in beer. The bitterest beers can be over 100 IBUs.

Types of Beer

There are two main types of beer: **lager** and **ale**. The primary differences between them are the type of yeast used for fermentation and the temperature at which the fermentation process takes place.

Lager

Derived from the German word for “storage” (lagern), the name lager references how Bavarians once stored beer in caves during the summer to keep it cool.

The process of making a lager (bottom fermenting yeast, cool temperature, slower fermentation) results in a crisp, mild beer.

Ale

English word that may be derived from Middle English or Old English word for “bitterness” or “intoxication”.

The process of making an ale (top fermenting yeast, warmer temperature, faster fermentation and the addition of more malt & hops) results in a fruitier, more bitter, fuller flavored beer.



MIXOLOGY LEADERSHIP BEER BASICS: Spectrum & Varietals

PALE
STRAW

Light/Pale Lager/Pilsner

Type: Lager **Aroma:** Traditional beer aroma
Body: Light **Flavor:** Malt forward, citrus
IBU's: 2 – 5

STRAW

Maibock/Helles Bock

Type: Lager **Aroma:** Sweet
Body: Medium **Flavor:** Malt, corn syrup, hoppy bitterness
IBU's: 20 – 35

STRAW

Wheat Ale American

Type: Ale **Aroma:** Citrus
Body: Light to medium **Flavor:** Wheat, citrus notes, low-moderate hop flavor
IBU's: 15 – 30

PALE GOLD

Wheat Ale Belgian (Witbier)

Type: Ale **Aroma:** Citrus, orange
Body: Light to medium **Flavor:** Citrus, orange, spicy, low hop flavor
IBU's: 10 – 20

DEEP GOLD

APA American Pale Ale

Type: Ale **Aroma:** Citrus, bready or toasty
Body: Medium **Flavor:** Citrus, bready, bitter
IBU's: 30 – 45

DEEP
AMBER

IPA (India Pale Ale)

Type: Ale **Aroma:** Pine
Body: Medium to full **Flavor:** Lemon, pine, bitter, bold
IBU's: 40 – 60

AMBER
BROWN

Amber

Type: Ale **Aroma:** Bready
Body: Medium **Flavor:** Syrupy, hoppy
IBU's: 28 – 40

RUBY
BROWN

Porter

Type: Ale **Aroma:** Coffee, chocolate, caramel
Body: Full **Flavor:** Coffee, roasty, low hops
IBU's: 18 – 35

BLACK

Stout

Type: Ale **Aroma:** Woody, nutty, coffee, roasty
Body: Full **Flavor:** Coffee/ espresso, licorice, creamy, roasty
IBU's: 35 – 75