

2009 BJCP Exam Preparation Course

Porters and Stouts

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Introduction and History

In early 1700s it was popular to have the bartender blend several beers in the glass to obtain the desired taste. In 1722 a London brewer named Ralph Harwood devised a beer that mimicked the most popular blends and called it "Harwood's Entire". This beer became popular with London's porters and the beer took on the name "Porter Beer".

Porter beer became so popular that brewers began producing it in massive quantities. This required the construction of very large wooden fermentation and aging vats. In 1745 a brewery installed multiple 160,000 US Gallon vats. By 1790 the largest vat reached 860,000 US gallons (more than an Olympic swimming pool) in volume. As these vats were constructed the breweries would host dedication dinners inside them shortly before they were filled with beer. This 860,000 gallon vat hosted 200 dinner guests! In 1814 one of these vats burst, collapsing the brewery walls and flooding the streets of London. Nearby buildings were destroyed and eight people were killed "by drowning, injury, poisoning by the porter fumes or drunkenness."

Enthusiasm for porter spread to the New World, where George Washington and Thomas Jefferson are known to have brewed it. One of the motivations for Americans to ramp up their brewing capacity was the outbreak of the Revolutionary War and the resulting cessation of trade with England.

Gradually porter brewers began brewing stronger beers with more roast character. These beers became known as "stout porter" for a time and then the "porter" was dropped from the name. Daniel Wheeler invented a roasting machine in 1817 which gave brewers more precise control over the degree of roast character in their beers. Another key innovation around this time, pioneered by Guinness, was the use of roasted unmalted barley in beers. This is what gives Guinness its characteristic dry character.

Historically, Porters and Stouts have been served in the British "Cask Ale" tradition. This means beer is delivered to the pub unpasteurized and mostly unconditioned in casks. The casks were historically wooden but have largely been replaced with metal keg-like casks. The conditioning is overseen by a pub employee, and not by the brewery. The pub decides when to serve the beer, and it is served either with an air pump called a "beer engine", or served directly from the cask into the glass using gravity. Beer served in this fashion is served at cellar temperature (52-60 F). Traditional glassware includes British pint glasses (with the flare at the top) or a dimpled glass jug. Many of these beers, especially dry stouts, are served today on draft with a N₂/CO₂ mixture instead of straight CO₂. This creates a dense, persistent head while maintaining a relatively low level of carbonation and a smooth mouthfeel.

Is it a porter or is it a stout? Depends on whom you ask! The key to deciding is in the degree of roasted character. Among breweries which produce both a porter and a stout, the stronger beer is often labeled the stout by the brewer. As a result, what some brewers call a porter, others might call a stout. But we are here to discuss what BJCP says. Strength in terms of

gravity or ABV are not good differentiators between porters and stouts as defined by the BJCP guidelines. The most important characteristic is the degree of roasted character. The porter guidelines range from “restrained roasty characteristics” in the case of Brown Porter to “complex and flavorful roasty character” in the case of Robust Porter. The stout guidelines range from “slightly roasty” for Sweet Stout to “A very dark, roasty, bitter, creamy ale” in the case of dry stout. Despite the overlap here, the degree of roast does seem to be the best single indicator. When in doubt refer to the other characteristics in the guidelines as well. All of these beers make relatively heavy use of darkly roasted and caramel malts. A few porters and stouts are made with lager yeast, but most are made with ale yeast.

Porter

Brown Porter

Vitals:

OG: 1.040 – 1.052

IBUs: 18 – 35

FG: 1.008 – 1.014

SRM: 20 – 30

ABV: 4 – 5.4%

Brown Porters should be more substantial and have more prominent roast than Brown Ales. However, the roast should never have an acrid or burnt component. Some Brown Porters exhibit non-roasted malty characteristics. Hops should not be a major component of aroma or flavor; balance is more towards malt. Medium body or even medium-light. Moderate carbonation. Off-white to light tan head, decent retention. Should be clear if the color is light enough to determine clarity – some examples can approach opacity.

Tasting:

Samuel Smith Taddy Porter

Robust Porter

Vitals:

OG: 1.048 – 1.065

IBUs: 25 – 50

FG: 1.012 – 1.016

SRM: 22 – 35

ABV: 4.8 – 6.5%

Stronger and roastier than Brown Porters, Robust Porters can have a slightly burnt character to them. Non-roasted malty characteristics are also acceptable in this category as support to the roast. Hop flavor and aroma may also be more prominent in this style but this is not a requirement. Should be clear but most examples will be too dark to determine clarity. Moderate carbonation. Full, tan-colored head, decent retention. May have mild astringency. Fuller mouthfeel than Brown Porter and can be stronger in alcohol. Should be lacking a strong roasted barley character-beers that have this character are considered stouts.

Tasting:

Deschutes Black Butte Porter

Baltic Porter

Vitals:

OG: 1.060 – 1.090

IBUs: 20 – 40

FG: 1.016 – 1.024

SRM: 17 – 30

ABV: 5.5 – 9.5%

During a trip to England, Catherine the Great became enamored with the flavor of stout. She had some imported to Russia but it spoiled en route. Always eager to please, the breweries of London devised a solution: brew a very alcoholic and hoppy beer that would survive the journey. The Barclay Brewery of London produced the first such beer and it was a success. This beer became known as “Imperial Russian Stout”. As local breweries in the Baltic Sea and Nordic ports picked up and adapted this style their variants evolved into what we now call Baltic Porter. Baltic Porters usually use lager yeast but sometimes at warm temperatures. If they use ale yeast these beers are usually cold-fermented.

Baltic Porters are complex and strong, with restrained roast. Very smooth, with a clean lager character. There should be some dark malt character but there should never be a burnt component to it. Medium-low to low bitterness is expected but there should be little to no hop aroma or flavor. Medium to medium-high carbonation. Thick, persistent tan-colored head. Dark reddish-copper to opaque brown in color.

Tasting:

Baltika #6 Porter

Stout

Dry

Vitals:

OG: 1.036 – 1.050

IBUs: 30 – 45

FG: 1.007 – 1.011

SRM: 25 – 40 ABV: 4 – 5%

Black, usually opaque, and with a dense, persistent head. Despite their imposing appearance, dry stouts are actually quite light and are usually smooth and creamy. These beers are almost always served on draft or in a “draft can” with a nitrogen widget. If bottled, they are usually stronger and are categorized as Foreign Extra Stouts. Most but not all breweries use roasted unmalted barley as their roasted grain. Moderate to high hop bitterness, but little hop aroma. Hop flavor ranges from none to medium. Can have light astringency but it should not be harsh. Moderate carbonate hardness desirable in water source.

Sweet

Vitals:

OG: 1.044 – 1.060

IBUs: 20 – 40

FG: 1.012 – 1.024

SRM: 30 – 40

ABV: 4 – 6%

We all have seen the “Guinness Is Good For You” advertisements. This plays to a historical belief in Ireland and England that stout provides important nourishment. The Irish called stout “Mothers Milk” and encouraged nursing mothers to drink it. Partially because of this history the English began adding lactose (milk sugar) to stouts and the style became known as “Milk Stout” and “Cream Stout”. Lactose is not fermentable and as a result these beers are quite sweet. Bitterness is lower than that of dry stouts. Roast is prominent in flavor and aroma. Hop aroma is low or not present. Moderate hop bitterness and medium to high sweetness. Low to moderate carbonation. Very dark brown to black in color with a creamy tan to brown head. High carbonate hardness water is often used in brewing this style.

Oatmeal

Vitals:

OG: 1.048 – 1.065

IBUs: 25 – 40

FG: 1.010 – 1.018

SRM: 22 – 40

ABV: 4.2 – 5.9%

One look at a bowl of oatmeal will tell you why oats are a difficult grain to brew with. They become very sticky and gummy, and will almost certainly result in a stuck mash if too much are used. However, if used in moderation (5-10% of grain bill) they can add a nice silky, creamy mouthfeel and a nutty or earthy flavor to a stout. These beers are English in origin but in recent years American craft brewers have revived this style and the results can be delicious. Oatmeal stouts usually fall between Sweet Stouts and Dry Stouts in terms of sweetness. Medium brown to black in color, with a thick, cream tan to brown colored head. Mouthfeel is relatively full-bodied. If a large amount of oats was used, this beer can exhibit an oily slickness. Medium hop bitterness, but little hop flavor and aroma. Some carbonate hardness is desirable in this style.

Foreign Extra Stout

Vitals:

OG: 1.056 – 1.075

IBUs: 30 – 70

FG: 1.010 – 1.018

SRM: 30 – 40

ABV: 5.5 – 8%

This style of stout originated in the British Isles as stronger versions of Dry and Sweet Stouts for export to tropical locations. As a result they tend to be strong and the category is fairly broad. No longer brewed exclusively in the British Isles, the locals started brewing this style in places such as Sri Lanka, Jamaica, Singapore, and Trinidad. Like Dry Stouts and Sweet Stouts, these beers should exhibit a prominent roasty flavor and aroma. They are usually opaque but should be clear when not opaque. Tropical versions tend to be sweeter while export versions tend to be more assertive with the roast and more bitter. Medium to full body, often smooth and creamy. Can give a warming alcohol impression. Moderate to moderately-high level of carbonation. Very bitter and highly hoppy versions of this category may be more appropriately labeled American Stout. Some tropical-type versions use lager yeast, all others use ale yeast.

Tasting:

Export-Type: Coopers Best Extra Stout

American Stout

Vitals:

OG: 1.050 – 1.075

IBUs: 35 – 75

FG: 1.010 – 1.022

SRM: 30 – 40

ABV: 5 – 7%

Moderate to strong roasted aroma, moderate to very high roasted flavors. Jet black color, large, persistent light tan to light brown head. Normally opaque. Can have burnt flavors but should not be prominent. American hop flavor can be low to high. Medium to full body, can be creamy. Some brewers will use a small quantity of adjunct such as oatmeal. Overall, this style is akin to a stronger, hoppier export-type Foreign Extra Stout.

Tasting:

Sierra Nevada Stout

Russian Imperial Stout

Vitals:

OG: 1.075 – 1.115

IBUs: 50 – 90

FG: 1.018 – 1.030

SRM: 30 – 40

ABV: 8 – 12%

See Baltic Porter for full discussion of history. These are the beers that English brewers continued to produce as a result of their popularity in Russia and other Baltic states. Black Barleywine. Very strong, rich and complex. High in alcohol. American versions are highly hopped, English versions typically less so. Very strong roasted flavors and aromas. Can include burnt character. Very dark reddish-brown to jet black in color. Well-formed head, but retention may not be great. Very full-bodied, can be almost chewy but should not be syrupy. Low to moderate carbonation. Lots of latitude for the brewer in choosing grains, but should include large amounts of roasted malts or roasted grain. Alkaline water is used to balance the acidity contributed by all the roasted grain.

Homebrew Recipes

Silver Dollar Porter (from Papazian's Joy of Homebrewing)

All-grain, 5 gallons.

8 lbs. Pale malted barley

1lb. Munich Malt

½ lb. Crystal Malt

½ lb. Black Patent Malt

½ lb. Chocolate Malt

1tsp. Gypsum

1oz. Northern Brewer or Perle Hops: 8 HBU (60 min)

½ oz. Cascade Hops: 3 HBU (10 min)

½ oz. Cascade Hops: aroma (2 min)

¼ tsp. Irish Moss

American Ale-type yeast.

Priming Sugar

Mash schedule: 45 min. @ 155F; 10-20 min. @ 158F; raise to 167F and sparge.

O.G. 1.052-1.056

F.G. 1.012-1.016

Bitterness: 43 IBU; Color: 40 SRM

Dusty Mud Irish Stout (from Papazian's Joy of Homebrewing)

All-grain, 5 gallons.

6 lbs. English or American 2-row pale malt

1 lb. English Crystal Malt

¾ lb. Roasted barley

½ lb. Black malt

1tsp. Gypsum

¼ oz. First Gold hops: 2 HBU (60 min.)

½ oz. Kent Goldings hops: 2 HBU (60 min.)

½ oz. Willamette hops: 3 HBU (60 min.)

¼ tsp. Irish moss

Irish ale-type yeast

Priming Sugar

Mash Schedule: 30 min. @ 133F; 45 min @ 158F; raise to 167F and sparge.

O.G.: 1.038-1.040

F.G.: 1.006-1.008

Bitterness: 28 IBU; Color 44 SRM

References:

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Any questions? Feel free to contact me at curryj@alum.rpi.edu