

# FOR THE LOVE OF BEER

*An overview of Beer and The Brewing Process*

## Session Number 5

- Stouts, IPA's and Wheat Beers

9 June 2011

# 13A. Dry Stout

- **Aroma:** Coffee-like roasted barley and roasted malt aromas are prominent; may have slight chocolate, cocoa and/or grainy secondary notes. Esters medium-low to none. No diacetyl. Hop aroma low to none.
- **Appearance:** Jet black to deep brown with garnet highlights in color. Can be opaque (if not, it should be clear). A thick, creamy, long-lasting, tan- to brown-colored head is characteristic.
- **Flavor:** Moderate roasted, grainy sharpness, optionally with light to moderate acidic sourness, and medium to high hop bitterness. Dry, coffee-like finish from roasted grains. May have a bittersweet or unsweetened chocolate character in the palate, lasting into the finish. Balancing factors may include some creaminess, medium-low to no fruitiness, and medium to no hop flavor. No diacetyl.
- **Mouthfeel:** Medium-light to medium-full body, with a creamy character. Low to moderate carbonation. For the high hop bitterness and significant proportion of dark grains present, this beer is remarkably smooth. The perception of body can be affected by the overall gravity with smaller beers being lighter in body. May have a light astringency from the roasted grains, although harshness is undesirable.
- **Overall Impression:** A very dark, roasty, bitter, creamy ale.
- **Comments:** This is the draught version of what is otherwise known as Irish stout or Irish dry stout. Bottled versions are typically brewed from a significantly higher OG and may be designated as foreign extra stouts (if sufficiently strong). While most commercial versions rely primarily on roasted barley as the dark grain, others use chocolate malt, black malt or combinations of the three. The level of bitterness is somewhat variable, as is the roasted character and the dryness of the finish; allow for interpretation by brewers.
- **History:** The style evolved from attempts to capitalize on the success of London porters, but originally reflected a fuller, creamier, more “stout” body and strength. When a brewery offered a stout and a porter, the stout was always the stronger beer (it was originally called a “Stout Porter”). Modern versions are brewed from a lower OG and no longer reflect a higher strength than porters.
- **Ingredients:** The dryness comes from the use of roasted unmalted barley in addition to pale malt, moderate to high hop bitterness, and good attenuation. Flaked unmalted barley may also be used to add creaminess. A small percentage (perhaps 3%) of soured beer is sometimes added for complexity (generally by Guinness only). Water typically has moderate carbonate hardness, although high levels will not give the classic dry finish.
- **Vital Statistics:** OG: 1.036 – 1.050 IBUs: 30 – 45 FG: 1.007 – 1.011 SRM: 25 – 40 ABV: 4 – 5% **Commercial Examples:** Guinness Draught Stout (also canned), Murphy's Stout, Beamish Stout, O'Hara's Celtic Stout, Russian River O.V.L. Stout, Three Floyd's Black Sun Stout, Dorothy Goodbody's Wholesome Stout, Orkney Dragonhead Stout, Old Dominion Stout, Goose Island Dublin Stout, Brooklyn Dry Stout

# 13B. Sweet Stout

- **Aroma:** Mild roasted grain aroma, sometimes with coffee and/or chocolate notes. An impression of cream-like sweetness often exists. Fruitiness can be low to moderately high. Diacetyl low to none. Hop aroma low to none.
- **Appearance:** Very dark brown to black in color. Can be opaque (if not, it should be clear). Creamy tan to brown head.
- **Flavor:** Dark roasted grains and malts dominate the flavor as in dry stout, and provide coffee and/or chocolate flavors. Hop bitterness is moderate (lower than in dry stout). Medium to high sweetness (often from the addition of lactose) provides a counterpoint to the roasted character and hop bitterness, and lasts into the finish. Low to moderate fruity esters. Diacetyl low to none. The balance between dark grains/malts and sweetness can vary, from quite sweet to moderately dry and somewhat roasty.
- **Mouthfeel:** Medium-full to full-bodied and creamy. Low to moderate carbonation. High residual sweetness from unfermented sugars enhances the full-tasting mouthfeel.
- **Overall Impression:** A very dark, sweet, full-bodied, slightly roasty ale. Often tastes like sweetened espresso.
- **Comments:** Gravities are low in England, higher in exported and US products. Variations exist, with the level of residual sweetness, the intensity of the roast character, and the balance between the two being the variables most subject to interpretation.
- **History:** An English style of stout. Historically known as “Milk” or “Cream” stouts, legally this designation is no longer permitted in England (but is acceptable elsewhere). The “milk” name is derived from the use of lactose, or milk sugar, as a sweetener.
- **Ingredients:** The sweetness in most Sweet Stouts comes from a lower bitterness level than dry stouts and a high percentage of unfermentable dextrins. Lactose, an unfermentable sugar, is frequently added to provide additional residual sweetness. Base of pale malt, and may use roasted barley, black malt, chocolate malt, crystal malt, and adjuncts such as maize or treacle. High carbonate water is common.
- **Vital Statistics:** OG: 1.044 – 1.060 IBUs: 20 – 40 FG: 1.012 – 1.024 SRM: 30 – 40 ABV: 4 – 6% **Commercial Examples:** Mackeson's XXX Stout, Watney's Cream Stout, Farson's Lacto Stout, St. Peter's Cream Stout, Marston's Oyster Stout, Sheaf Stout, Hitachino Nest Sweet Stout (Lacto), Samuel Adams Cream Stout, Left Hand Milk Stout, Widmer Snowplow Milk Stout

# 13C. Oatmeal Stout

- **Aroma:** Mild roasted grain aromas, often with a coffee-like character. A light sweetness can imply a coffee-and-cream impression. Fruitness should be low to medium. Diacetyl medium-low to none. Hop aroma low to none (UK varieties most common). A light oatmeal aroma is optional.
- **Appearance:** Medium brown to black in color. Thick, creamy, persistent tan- to brown-colored head. Can be opaque (if not, it should be clear).
- **Flavor:** Medium sweet to medium dry palate, with the complexity of oats and dark roasted grains present. Oats can add a nutty, grainy or earthy flavor. Dark grains can combine with malt sweetness to give the impression of milk chocolate or coffee with cream. Medium hop bitterness with the balance toward malt. Diacetyl medium-low to none. Hop flavor medium-low to none.
- **Mouthfeel:** Medium-full to full body, smooth, silky, sometimes an almost oily slickness from the oatmeal. Creamy. Medium to medium-high carbonation.
- **Overall Impression:** A very dark, full-bodied, roasty, malty ale with a complementary oatmeal flavor.
- **Comments:** Generally between sweet and dry stouts in sweetness. Variations exist, from fairly sweet to quite dry. The level of bitterness also varies, as does the oatmeal impression. Light use of oatmeal may give a certain silkiness of body and richness of flavor, while heavy use of oatmeal can be fairly intense in flavor with an almost oily mouthfeel. When judging, allow for differences in interpretation.
- **History:** An English seasonal variant of sweet stout that is usually less sweet than the original, and relies on oatmeal for body and complexity rather than lactose for body and sweetness.
- **Ingredients:** Pale, caramel and dark roasted malts and grains. Oatmeal (5-10%+) used to enhance fullness of body and complexity of flavor. Hops primarily for bittering. Ale yeast. Water source should have some carbonate hardness.
- **Vital Statistics:** OG: 1.048 – 1.065 IBUs: 25 – 40 FG: 1.010 – 1.018 SRM: 22 – 40 ABV: 4.2 – 5.9% **Commercial Examples:** Samuel Smith Oatmeal Stout, Young's Oatmeal Stout, McAuslan Oatmeal Stout, Maclay's Oat Malt Stout, Broughton Kinmount Willie Oatmeal Stout, Anderson Valley Barney Flats Oatmeal Stout, Tröegs Oatmeal Stout, New Holland The Poet, Goose Island Oatmeal Stout, Wolaver's Oatmeal Stout



# 13D. Foreign Extra Stout

- **Aroma:** Roasted grain aromas moderate to high, and can have coffee, chocolate and/or lightly burnt notes. Fruitiness medium to high. Some versions may have a sweet aroma, or molasses, licorice, dried fruit, and/or vinous aromatics. Stronger versions can have the aroma of alcohol (never sharp, hot, or solventy). Hop aroma low to none. Diacetyl low to none.
- **Appearance:** Very deep brown to black in color. Clarity usually obscured by deep color (if not opaque, should be clear). Large tan to brown head with good retention.
- **Flavor:** Tropical versions can be quite sweet without much roast or bitterness, while export versions can be moderately dry (reflecting impression of a scaled-up version of either sweet stout or dry stout). Roasted grain and malt character can be moderate to high, although sharpness of dry stout will not be present in any example. Tropical versions can have high fruity esters, smooth dark grain flavors, and restrained bitterness; they often have a sweet, rum-like quality. Export versions tend to have lower esters, more assertive roast flavors, and higher bitterness. The roasted flavors of either version may taste of coffee, chocolate, or lightly burnt grain. Little to no hop flavor. Very low to no diacetyl.
- **Mouthfeel:** Medium-full to full body, often with a smooth, creamy character. May give a warming (but never hot) impression from alcohol presence. Moderate to moderately-high carbonation.
- **Overall Impression:** A very dark, moderately strong, roasty ale. Tropical varieties can be quite sweet, while export versions can be drier and fairly robust.
- **Comments:** A rather broad class of stouts, these can be either fruity and sweet, dry and bitter, or even tinged with Brettanomyces (e.g., Guinness Foreign Extra Stout; this type of beer is best entered as a Specialty Beer – Category 23). Think of the style as either a scaled-up dry and/or sweet stout, or a scaled-down Imperial stout without the late hops. Highly bitter and hoppy versions are best entered as American-style Stouts (13E).
- **History:** Originally high-gravity stouts brewed for tropical markets (and hence, sometimes known as “Tropical Stouts”). Some bottled export (i.e., stronger) versions of dry or sweet stout also fit this profile. Guinness Foreign Extra Stout has been made since the early 1800s.
- **Ingredients:** Similar to dry or sweet stout, but with more gravity. Pale and dark roasted malts and grains. Hops mostly for bitterness. May use adjuncts and sugar to boost gravity. Ale yeast (although some tropical stouts are brewed with lager yeast).
- **Vital Statistics:** OG: 1.056 – 1.075 IBUs: 30 – 70 FG: 1.010 – 1.018 SRM: 30 – 40 ABV: 5.5 – 8% **Commercial Examples:**  
**Tropical-Type:** Lion Stout (Sri Lanka), Dragon Stout (Jamaica), ABC Stout (Singapore), Royal Extra “The Lion Stout” (Trinidad), Jamaica Stout (Jamaica), **Export-Type:** Freeminer Deep Shaft Stout, Guinness Foreign Extra Stout (bottled, not sold in the US), Ridgeway of Oxfordshire Foreign Extra Stout, Coopers Best Extra Stout, Elysian Dragonstooth Stout

# 13E. American Stout

- **Aroma:** Moderate to strong aroma of roasted malts, often having a roasted coffee or dark chocolate quality. Burnt or charcoal aromas are low to none. Medium to very low hop aroma, often with a citrusy or resinous American hop character. Esters are optional, but can be present up to medium intensity. Light alcohol-derived aromatics are also optional. No diacetyl.
- **Appearance:** Generally a jet black color, although some may appear very dark brown. Large, persistent head of light tan to light brown in color. Usually opaque.
- **Flavor:** Moderate to very high roasted malt flavors, often tasting of coffee, roasted coffee beans, dark or bittersweet chocolate. May have a slightly burnt coffee ground flavor, but this character should not be prominent if present. Low to medium malt sweetness, often with rich chocolate or caramel flavors. Medium to high bitterness. Hop flavor can be low to high, and generally reflects citrusy or resinous American varieties. Light esters may be present but are not required. Medium to dry finish, occasionally with a light burnt quality. Alcohol flavors can be present up to medium levels, but smooth. No diacetyl.
- **Mouthfeel:** Medium to full body. Can be somewhat creamy, particularly if a small amount of oats have been used to enhance mouthfeel. Can have a bit of roast-derived astringency, but this character should not be excessive. Medium-high to high carbonation. Light to moderately strong alcohol warmth, but smooth and not excessively hot.
- **Overall Impression:** A hoppy, bitter, strongly roasted Foreign-style Stout (of the export variety).
- **Comments:** Breweries express individuality through varying the roasted malt profile, malt sweetness and flavor, and the amount of finishing hops used. Generally has bolder roasted malt flavors and hopping than other traditional stouts (except Imperial Stouts).
- **Ingredients:** Common American base malts and yeast. Varied use of dark and roasted malts, as well as caramel-type malts. Adjuncts such as oatmeal may be present in low quantities. American hop varieties.
- **Vital Statistics:** OG: 1.050 – 1.075 IBUs: 35 – 75 FG: 1.010 – 1.022 SRM: 30 – 40 ABV: 5 – 7% **Commercial Examples:** Rogue Shakespeare Stout, Deschutes Obsidian Stout, Sierra Nevada Stout, North Coast Old No. 38, Bar Harbor Cadillac Mountain Stout, Avery Out of Bounds Stout, Lost Coast 8 Ball Stout, Mad River Steelhead Extra Stout

# SHAKESPEARE STOUT

# 13F. Russian Imperial Stout

- **Aroma:** Rich and complex, with variable amounts of roasted grains, maltiness, fruity esters, hops, and alcohol. The roasted malt character can take on coffee, dark chocolate, or slightly burnt tones and can be light to moderately strong. The malt aroma can be subtle to rich and barleywine-like, depending on the gravity and grain bill. May optionally show a slight specialty malt character (e.g., caramel), but this should only add complexity and not dominate. Fruity esters may be low to moderately strong, and may take on a complex, dark fruit (e.g., plums, prunes, raisins) character. Hop aroma can be very low to quite aggressive, and may contain any hop variety. An alcohol character may be present, but shouldn't be sharp, hot or solventy. Aged versions may have a slight vinous or port-like quality, but shouldn't be sour. No diacetyl. The balance can vary with any of the aroma elements taking center stage. Not all possible aromas described need be present; many interpretations are possible. Aging affects the intensity, balance and smoothness of aromatics.
- **Appearance:** Color may range from very dark reddish-brown to jet black. Opaque. Deep tan to dark brown head. Generally has a well-formed head, although head retention may be low to moderate. High alcohol and viscosity may be visible in "legs" when beer is swirled in a glass.
- **Flavor:** Rich, deep, complex and frequently quite intense, with variable amounts of roasted malt/grains, maltiness, fruity esters, hop bitterness and flavor, and alcohol. Medium to aggressively high bitterness. Medium-low to high hop flavor (any variety). Moderate to aggressively high roasted malt/grain flavors can suggest bittersweet or unsweetened chocolate, cocoa, and/or strong coffee. A slightly burnt grain, burnt currant or tarry character may be evident. Fruity esters may be low to intense, and can take on a dark fruit character (raisins, plums, or prunes). Malt backbone can be balanced and supportive to rich and barleywine-like, and may optionally show some supporting caramel, bready or toasty flavors. Alcohol strength should be evident, but not hot, sharp, or solventy. No diacetyl. The palate and finish can vary from relatively dry to moderately sweet, usually with some lingering roastiness, hop bitterness and warming character. The balance and intensity of flavors can be affected by aging, with some flavors becoming more subdued over time and some aged, vinous or port-like qualities developing.
- **Mouthfeel:** Full to very full-bodied and chewy, with a velvety, luscious texture (although the body may decline with long conditioning). Gentle smooth warmth from alcohol should be present and noticeable. Should not be syrupy and under-attenuated. Carbonation may be low to moderate, depending on age and conditioning.
- **Overall Impression:** An intensely flavored, big, dark ale. Roasty, fruity, and bittersweet, with a noticeable alcohol presence. Dark fruit flavors meld with roasty, burnt, or almost tar-like sensations. Like a black barleywine with every dimension of flavor coming into play.



# 13F. Russian Imperial Stout (continued)

- **Comments:** Variations exist, with English and American interpretations (predictably, the American versions have more bitterness, roasted character, and finishing hops, while the English varieties reflect a more complex specialty malt character and a more forward ester profile). The wide range of allowable characteristics allow for maximum brewer creativity.
- **History:** Brewed to high gravity and hopping level in England for export to the Baltic States and Russia. Said to be popular with the Russian Imperial Court. Today is even more popular with American craft brewers, who have extended the style with unique American characteristics.
- **Ingredients:** Well-modified pale malt, with generous quantities of roasted malts and/or grain. May have a complex grain bill using virtually any variety of malt. Any type of hops may be used. Alkaline water balances the abundance of acidic roasted grain in the grist. American or English ale yeast.
- **Vital Statistics:** OG: 1.075 – 1.115 IBUs: 50 – 90 FG: 1.018 – 1.030 SRM: 30 – 40 ABV: 8 – 12% **Commercial Examples:** Three Floyd's Dark Lord, Bell's Expedition Stout, North Coast Old Rasputin Imperial Stout, Stone Imperial Stout, Samuel Smith Imperial Stout, Scotch Irish Tsarina Katarina Imperial Stout, Thirsty Dog Siberian Night, Deschutes The Abyss, Great Divide Yeti, Southampton Russian Imperial Stout, Rogue Imperial Stout, Bear Republic Big Bear Black Stout, Great Lakes Blackout Stout, Avery The Czar, Founders Imperial Stout, Victory Storm King, Brooklyn Black Chocolate Stout



# 14A. English IPA

- **Aroma:** A moderate to moderately high hop aroma of floral, earthy or fruity nature is typical, although the intensity of hop character is usually lower than American versions. A slightly grassy dry-hop aroma is acceptable, but not required. A moderate caramel-like or toasty malt presence is common. Low to moderate fruitiness, either from esters or hops, can be present. Some versions may have a sulfury note, although this character is not mandatory.
- **Appearance:** Color ranges from golden amber to light copper, but most are pale to medium amber with an orange-ish tint. Should be clear, although unfiltered dry-hopped versions may be a bit hazy. Good head stand with off-white color should persist.
- **Flavor:** Hop flavor is medium to high, with a moderate to assertive hop bitterness. The hop flavor should be similar to the aroma (floral, earthy, fruity, and/or slightly grassy). Malt flavor should be medium-low to medium-high, but should be noticeable, pleasant, and support the hop aspect. The malt should show an English character and be somewhat bready, biscuit-like, toasty, toffee-like and/or caramelly. Despite the substantial hop character typical of these beers, sufficient malt flavor, body and complexity to support the hops will provide the best balance. Very low levels of diacetyl are acceptable, and fruitiness from the fermentation or hops adds to the overall complexity. Finish is medium to dry, and bitterness may linger into the aftertaste but should not be harsh. If high sulfate water is used, a distinctively mineral, dry finish, some sulfur flavor, and a lingering bitterness are usually present. Some clean alcohol flavor can be noted in stronger versions. Oak is inappropriate in this style.
- **Mouthfeel:** Smooth, medium-light to medium-bodied mouthfeel without hop-derived astringency, although moderate to medium-high carbonation can combine to render an overall dry sensation in the presence of malt sweetness. Some smooth alcohol warming can and should be sensed in stronger (but not all) versions.
- **Overall Impression:** A hoppy, moderately strong pale ale that features characteristics consistent with the use of English malt, hops and yeast. Has less hop character and a more pronounced malt flavor than American versions.
- **Comments:** A pale ale brewed to an increased gravity and hop rate. Modern versions of English IPAs generally pale in comparison (pun intended) to their ancestors. The term “IPA” is loosely applied in commercial English beers today, and has been (incorrectly) used in beers below 4% ABV. Generally will have more finish hops and less fruitiness and/or caramel than English pale ales and bitters. Fresher versions will obviously have a more significant finishing hop character.
- **History:** Brewed to survive the voyage from England to India. The temperature extremes and rolling of the seas resulted in a highly attenuated beer upon arrival. English pale ales were derived from India Pale Ales.
- **Ingredients:** Pale ale malt (well-modified and suitable for single-temperature infusion mashing); English hops; English yeast that can give a fruity or sulfury/minerally profile. Refined sugar may be used in some versions. High sulfate and low carbonate water is essential to achieving a pleasant hop bitterness in authentic Burton versions, although not all examples will exhibit the strong sulfate character.
- **Vital Statistics:** OG: 1.050 – 1.075 IBUs: 40 – 60 FG: 1.010 – 1.018 SRM: 8 – 14 ABV: 5 – 7.5% **Commercial Examples:** Meantime India Pale Ale, Freeminer Trafalgar IPA, Fuller's IPA, Ridgeway Bad Elf, Summit India Pale Ale, Samuel Smith's India Ale, Hampshire Pride of Romsey IPA, Burton Bridge Empire IPA, Middle Ages ImPaired Ale, Goose Island IPA, Brooklyn East India Pale Ale

# 14B. American IPA

- **Aroma:** A prominent to intense hop aroma with a citrusy, floral, perfume-like, resinous, piney, and/or fruity character derived from American hops. Many versions are dry hopped and can have an additional grassy aroma, although this is not required. Some clean malty sweetness may be found in the background, but should be at a lower level than in English examples. Fruitiness, either from esters or hops, may also be detected in some versions, although a neutral fermentation character is also acceptable. Some alcohol may be noted.
- **Appearance:** Color ranges from medium gold to medium reddish copper; some versions can have an orange-ish tint. Should be clear, although unfiltered dry-hopped versions may be a bit hazy. Good head stand with white to off-white color should persist.
- **Flavor:** Hop flavor is medium to high, and should reflect an American hop character with citrusy, floral, resinous, piney or fruity aspects. Medium-high to very high hop bitterness, although the malt backbone will support the strong hop character and provide the best balance. Malt flavor should be low to medium, and is generally clean and malty sweet although some caramel or toasty flavors are acceptable at low levels. No diacetyl. Low fruitiness is acceptable but not required. The bitterness may linger into the aftertaste but should not be harsh. Medium-dry to dry finish. Some clean alcohol flavor can be noted in stronger versions. Oak is inappropriate in this style. May be slightly sulfury, but most examples do not exhibit this character.
- **Mouthfeel:** Smooth, medium-light to medium-bodied mouthfeel without hop-derived astringency, although moderate to medium-high carbonation can combine to render an overall dry sensation in the presence of malt sweetness. Some smooth alcohol warming can and should be sensed in stronger (but not all) versions. Body is generally less than in English counterparts.
- **Overall Impression:** A decidedly hoppy and bitter, moderately strong American pale ale.
- **History:** An American version of the historical English style, brewed using American ingredients and attitude.
- **Ingredients:** Pale ale malt (well-modified and suitable for single-temperature infusion mashing); American hops; American yeast that can give a clean or slightly fruity profile. Generally all-malt, but mashed at lower temperatures for high attenuation. Water character varies from soft to moderately sulfate. Versions with a noticeable Rye character (“RyePA”) should be entered in the Specialty category.
- **Vital Statistics:** OG: 1.056 – 1.075 IBUs: 40 – 70 FG: 1.010 – 1.018 SRM: 6 – 15 ABV: 5.5 – 7.5% **Commercial Examples:** Bell’s Two-Hearted Ale, AleSmith IPA, Russian River Blind Pig IPA, Stone IPA, Three Floyds Alpha King, Great Divide Titan IPA, Bear Republic Racer 5 IPA, Victory Hop Devil, Sierra Nevada Celebration Ale, Anderson Valley Hop Ottin’, Dogfish Head 60 Minute IPA, Founder’s Centennial IPA, Anchor Liberty Ale, Harpoon IPA, Avery IPA



# 14C. Imperial IPA

- **Aroma:** A prominent to intense hop aroma that can be derived from American, English and/or noble varieties (although a citrusy hop character is almost always present). Most versions are dry hopped and can have an additional resinous or grassy aroma, although this is not absolutely required. Some clean malty sweetness may be found in the background. Fruitiness, either from esters or hops, may also be detected in some versions, although a neutral fermentation character is typical. Some alcohol can usually be noted, but it should not have a “hot” character.
- **Appearance:** Color ranges from golden amber to medium reddish copper; some versions can have an orange-ish tint. Should be clear, although unfiltered dry-hopped versions may be a bit hazy. Good head stand with off-white color should persist.
- **Flavor:** Hop flavor is strong and complex, and can reflect the use of American, English and/or noble hop varieties. High to absurdly high hop bitterness, although the malt backbone will generally support the strong hop character and provide the best balance. Malt flavor should be low to medium, and is generally clean and malty although some caramel or toasty flavors are acceptable at low levels. No diacetyl. Low fruitiness is acceptable but not required. A long, lingering bitterness is usually present in the aftertaste but should not be harsh. Medium-dry to dry finish. A clean, smooth alcohol flavor is usually present. Oak is inappropriate in this style. May be slightly sulfury, but most examples do not exhibit this character.
- **Mouthfeel:** Smooth, medium-light to medium body. No harsh hop-derived astringency, although moderate to medium-high carbonation can combine to render an overall dry sensation in the presence of malt sweetness. Smooth alcohol warming.
- **Overall Impression:** An intensely hoppy, very strong pale ale without the big maltiness and/or deeper malt flavors of an American barleywine. Strongly hopped, but clean, lacking harshness, and a tribute to historical IPAs. Drinkability is an important characteristic; this should not be a heavy, sipping beer. It should also not have much residual sweetness or a heavy character grain profile.
- **Comments:** Bigger than either an English or American IPA in both alcohol strength and overall hop level (bittering and finish). Less malty, lower body, less rich and a greater overall hop intensity than an American Barleywine. Typically not as high in gravity/alcohol as a barleywine, since high alcohol and malt tend to limit drinkability. A showcase for hops.
- **History:** A recent American innovation reflecting the trend of American craft brewers “pushing the envelope” to satisfy the need of hop aficionados for increasingly intense products. The adjective “Imperial” is arbitrary and simply implies a stronger version of an IPA; “double,” “extra,” “extreme,” or any other variety of adjectives would be equally valid.
- **Ingredients:** Pale ale malt (well-modified and suitable for single-temperature infusion mashing); can use a complex variety of hops (English, American, noble). American yeast that can give a clean or slightly fruity profile. Generally all-malt, but mashed at lower temperatures for high attenuation. Water character varies from soft to moderately sulfated.
- **Vital Statistics:** OG: 1.070 – 1.090 IBUs: 60 – 120 FG: 1.010 – 1.020 SRM: 8 – 15 ABV: 7.5 – 10% **Commercial Examples:** Russian River Pliny the Elder, Three Floyd’s Dreadnaught, Avery Maharaja, Bell’s Hop Slam, Stone Ruination IPA, Great Divide Hercules Double IPA, Surly Furious, Rogue 12PA, Moylan’s Hopsickle Imperial India Pale Ale, Stoudt’s Double IPA, Dogfish Head 90-minute IPA, Victory Hop Wallop

# 15A. Weizen/Weissbier

- **Aroma:** Moderate to strong phenols (usually clove) and fruity esters (usually banana). The balance and intensity of the phenol and ester components can vary but the best examples are reasonably balanced and fairly prominent. Noble hop character ranges from low to none. A light to moderate wheat aroma (which might be perceived as bready or grainy) may be present but other malt characteristics should not. No diacetyl or DMS. Optional, but acceptable, aromatics can include a light, citrusy tartness, a light to moderate vanilla character, and/or a low bubblegum aroma. None of these optional characteristics should be high or dominant, but often can add to the complexity and balance.
- **Appearance:** Pale straw to very dark gold in color. A very thick, moussy, long-lasting white head is characteristic. The high protein content of wheat impairs clarity in an unfiltered beer, although the level of haze is somewhat variable. A beer “mit hefe” is also cloudy from suspended yeast sediment (which should be roused before drinking). The filtered Krystal version has no yeast and is brilliantly clear.
- **Flavor:** Low to moderately strong banana and clove flavor. The balance and intensity of the phenol and ester components can vary but the best examples are reasonably balanced and fairly prominent. Optionally, a very light to moderate vanilla character and/or low bubblegum notes can accentuate the banana flavor, sweetness and roundness; neither should be dominant if present. The soft, somewhat bready or grainy flavor of wheat is complementary, as is a slightly sweet Pils malt character. Hop flavor is very low to none, and hop bitterness is very low to moderately low. A tart, citrusy character from yeast and high carbonation is often present. Well rounded, flavorful palate with a relatively dry finish. No diacetyl or DMS.
- **Mouthfeel:** Medium-light to medium body; never heavy. Suspended yeast may increase the perception of body. The texture of wheat imparts the sensation of a fluffy, creamy fullness that may progress to a light, spritzy finish aided by high carbonation. Always effervescent.
- **Overall Impression:** A pale, spicy, fruity, refreshing wheat-based ale.
- **Comments:** These are refreshing, fast-maturing beers that are lightly hopped and show a unique banana-and-clove yeast character. These beers often don’t age well and are best enjoyed while young and fresh. The version “mit hefe” is served with yeast sediment stirred in; the krystal version is filtered for excellent clarity. Bottles with yeast are traditionally swirled or gently rolled prior to serving. The character of a krystal weizen is generally fruitier and less phenolic than that of the hefe-weizen.
- **History:** A traditional wheat-based ale originating in Southern Germany that is a specialty for summer consumption, but generally produced year-round.
- **Ingredients:** By German law, at least 50% of the grist must be malted wheat, although some versions use up to 70%; the remainder is Pilsner malt. A traditional decoction mash gives the appropriate body without cloying sweetness. Weizen ale yeasts produce the typical spicy and fruity character, although extreme fermentation temperatures can affect the balance and produce off-flavors. A small amount of noble hops are used only for bitterness.
- **Vital Statistics:** OG: 1.044 – 1.052 IBUs: 8 – 15 FG: 1.010 – 1.014 SRM: 2 – 8 ABV: 4.3 – 5.6% **Commercial Examples:** Weihenstephaner Hefeweissbier, Schneider Weisse Weizenhell, Paulaner Hefe-Weizen, Hacker-Pschorr Weisse, Plank Bavarian Hefeweizen, Ayinger Bräu Weisse, Ettaler Weissbier Hell, Franziskaner Hefe-Weisse, Andechser Weissbier Hefetrüb, Kapuziner Weissbier, Erdinger Weissbier, Penn Weizen, Barrelhouse Hocking Hills HefeWeizen, Eisenbahn Weizenbier



# 15B. Dunkelweizen

- **Aroma:** Moderate to strong phenols (usually clove) and fruity esters (usually banana). The balance and intensity of the phenol and ester components can vary but the best examples are reasonably balanced and fairly prominent. Optionally, a low to moderate vanilla character and/or low bubblegum notes may be present, but should not dominate. Noble hop character ranges from low to none. A light to moderate wheat aroma (which might be perceived as bready or grainy) may be present and is often accompanied by a caramel, bread crust, or richer malt aroma (e.g., from Vienna and/or Munich malt). Any malt character is supportive and does not overpower the yeast character. No diacetyl or DMS. A light tartness is optional but acceptable.
- **Appearance:** Light copper to mahogany brown in color. A very thick, moussy, long-lasting off-white head is characteristic. The high protein content of wheat impairs clarity in this traditionally unfiltered style, although the level of haze is somewhat variable. The suspended yeast sediment (which should be roused before drinking) also contributes to the cloudiness.
- **Flavor:** Low to moderately strong banana and clove flavor. The balance and intensity of the phenol and ester components can vary but the best examples are reasonably balanced and fairly prominent. Optionally, a very light to moderate vanilla character and/or low bubblegum notes can accentuate the banana flavor, sweetness and roundness; neither should be dominant if present. The soft, somewhat bready or grainy flavor of wheat is complementary, as is a richer caramel and/or melanoidin character from Munich and/or Vienna malt. The malty richness can be low to medium-high, but shouldn't overpower the yeast character. A roasted malt character is inappropriate. Hop flavor is very low to none, and hop bitterness is very low to low. A tart, citrusy character from yeast and high carbonation is sometimes present, but typically muted. No diacetyl or DMS.
- **Mouthfeel:** Medium-light to medium-full body. The texture of wheat as well as yeast in suspension imparts the sensation of a fluffy, creamy fullness that may progress to a lighter finish, aided by moderate to high carbonation. The presence of Munich and/or Vienna malts also provide an additional sense of richness and fullness. Effervescent.
- **Overall Impression:** A moderately dark, spicy, fruity, malty, refreshing wheat-based ale. Reflecting the best yeast and wheat character of a hefeweizen blended with the malty richness of a Munich dunkel.
- **Comments:** The presence of Munich and/or Vienna-type barley malts gives this style a deep, rich barley malt character not found in a hefeweizen. Bottles with yeast are traditionally swirled or gently rolled prior to serving.
- **History:** Old-fashioned Bavarian wheat beer was often dark. In the 1950s and 1960s, wheat beers did not have a youthful image, since most older people drank them for their health-giving qualities. Today, the lighter hefeweizen is more common.
- **Ingredients:** By German law, at least 50% of the grist must be malted wheat, although some versions use up to 70%; the remainder is usually Munich and/or Vienna malt. A traditional decoction mash gives the appropriate body without cloying sweetness. Weizen ale yeasts produce the typical spicy and fruity character, although extreme fermentation temperatures can affect the balance and produce off-flavors. A small amount of noble hops are used only for bitterness.
- **Vital Statistics:** OG: 1.044 – 1.056 IBUs: 10 – 18 FG: 1.010 – 1.014 SRM: 14 – 23 ABV: 4.3 – 5.6% **Commercial Examples:** Weihenstephaner Hefeweissbier Dunkel, Ayinger Ur-Weisse, Franziskaner Dunkel Hefe-Weisse, Schneider Weisse (Original), Ettaler Weissbier Dunkel, Hacker-Pschorr Weisse Dark, Tucher Dunkles Hefe Weizen, Edelweiss Dunkel Weissbier, Erdinger Weissbier Dunkel, Kapuziner Weissbier Schwarz

# 15C. Weizenbock

- **Aroma:** Rich, bock-like melanoidins and bready malt combined with a powerful aroma of dark fruit (plums, prunes, raisins or grapes). Moderate to strong phenols (most commonly vanilla and/or clove) add complexity, and some banana esters may also be present. A moderate aroma of alcohol is common, although never solventy. No hop aroma, diacetyl or DMS.
- **Appearance:** Dark amber to dark, ruby brown in color. A very thick, moussy, long-lasting light tan head is characteristic. The high protein content of wheat impairs clarity in this traditionally unfiltered style, although the level of haze is somewhat variable. The suspended yeast sediment (which should be roused before drinking) also contributes to the cloudiness.
- **Flavor:** A complex marriage of rich, bock-like melanoidins, dark fruit, spicy clove-like phenols, light banana and/or vanilla, and a moderate wheat flavor. The malty, bready flavor of wheat is further enhanced by the copious use of Munich and/or Vienna malts. May have a slightly sweet palate, and a light chocolate character is sometimes found (although a roasted character is inappropriate). A faintly tart character may optionally be present. Hop flavor is absent, and hop bitterness is low. The wheat, malt, and yeast character dominate the palate, and the alcohol helps balance the finish. Well-aged examples may show some sherry-like oxidation as a point of complexity. No diacetyl or DMS.
- **Mouthfeel:** Medium-full to full body. A creamy sensation is typical, as is the warming sensation of substantial alcohol content. The presence of Munich and/or Vienna malts also provide an additional sense of richness and fullness. Moderate to high carbonation. Never hot or solventy.
- **Overall Impression:** A strong, malty, fruity, wheat-based ale combining the best flavors of a dunkelweizen and the rich strength and body of a bock.
- **Comments:** A dunkel-weizen beer brewed to bock or doppelbock strength. Now also made in the Eisbock style as a specialty beer. Bottles may be gently rolled or swirled prior to serving to rouse the yeast.
- **History:** Aventinus, the world's oldest top-fermented wheat doppelbock, was created in 1907 at the Weisse Brauhaus in Munich using the 'Méthode Champenoise' with fresh yeast sediment on the bottom. It was Schneider's creative response to bottom-fermenting doppelbocks that developed a strong following during these times.
- **Ingredients:** A high percentage of malted wheat is used (by German law must be at least 50%, although it may contain up to 70%), with the remainder being Munich- and/or Vienna-type barley malts. A traditional decoction mash gives the appropriate body without cloying sweetness. Weizen ale yeasts produce the typical spicy and fruity character. Too warm or too cold fermentation will cause the phenols and esters to be out of balance and may create off-flavors. A small amount of noble hops are used only for bitterness.
- **Vital Statistics:** OG: 1.064 – 1.090 IBUs: 15 – 30 FG: 1.015 – 1.022 SRM: 12 – 25 ABV: 6.5 – 8.0% **Commercial Examples:** Schneider Aventinus, Schneider Aventinus Eisbock, Plank Bavarian Dunkler Weizenbock, Plank Bavarian Heller Weizenbock, AleSmith Weizenbock, Erdinger Pikantus, Mahr's Der Weisse Bock, Victory Moonglow Weizenbock, High Point Ramstein Winter Wheat, Capital Weizen Doppelbock, Eisenbahn Vigorosa



# 15D. Roggenbier (German Rye Beer)

- **Aroma:** Light to moderate spicy rye aroma intermingled with light to moderate weizen yeast aromatics (spicy clove and fruity esters, either banana or citrus). Light noble hops are acceptable. Can have a somewhat acidic aroma from rye and yeast. No diacetyl.
- **Appearance:** Light coppery-orange to very dark reddish or coppery-brown color. Large creamy off-white to tan head, quite dense and persistent (often thick and rocky). Cloudy, hazy appearance.
- **Flavor:** Grainy, moderately-low to moderately-strong spicy rye flavor, often having a hearty flavor reminiscent of rye or pumpernickel bread. Medium to medium-low bitterness allows an initial malt sweetness (sometimes with a bit of caramel) to be tasted before yeast and rye character takes over. Low to moderate weizen yeast character (banana, clove, and sometimes citrus), although the balance can vary. Medium-dry, grainy finish with a tangy, lightly bitter (from rye) aftertaste. Low to moderate noble hop flavor acceptable, and can persist into aftertaste. No diacetyl.
- **Mouthfeel:** Medium to medium-full body. High carbonation. Light tartness optional.
- **Overall Impression:** A dunkelweizen made with rye rather than wheat, but with a greater body and light finishing hops.
- **Comments:** American-style rye beers should be entered in the American Rye category (6D). Other traditional beer styles with enough rye added to give a noticeable rye character should be entered in the Specialty Beer category (23). Rye is a huskless grain and is difficult to mash, often resulting in a gummy mash texture that is prone to sticking. Rye has been characterized as having the most assertive flavor of all cereal grains. It is inappropriate to add caraway seeds to a roggenbier (as some American brewers do); the rye character is traditionally from the rye grain only.
- **History:** A specialty beer originally brewed in Regensburg, Bavaria as a more distinctive variant of a dunkelweizen using malted rye instead of malted wheat.
- **Ingredients:** Malted rye typically constitutes 50% or greater of the grist (some versions have 60-65% rye). Remainder of grist can include pale malt, Munich malt, wheat malt, crystal malt and/or small amounts of debittered dark malts for color adjustment. Weizen yeast provides distinctive banana esters and clove phenols. Light usage of noble hops in bitterness, flavor and aroma. Lower fermentation temperatures accentuate the clove character by suppressing ester formation. Decoction mash commonly used (as with weizenbiers).
- **Vital Statistics:** OG: 1.046 – 1.056 IBUs: 10 – 20 FG: 1.010 – 1.014 SRM: 14 – 19 ABV: 4.5 – 6% **Commercial Examples:** Paulaner Roggen (formerly Thurn und Taxis, no longer imported into the US), Bürgerbräu Wolznacher Roggenbier