

Beer Education Series: Lower Left Brewing

About Lower Left Brewing:

Alex Shoenthal met Tim Curtis in 2018 and they decided the time was right to open their own brewery, and just like that, Lower Left was born! Feeling it essential to offer old school, traditionally brewed styles as well as modern and trendy examples, Alex utilizes his years of training and experiences brewing to cultivate a tap list that offers everything from Uber-traditional beers to unique and experimental styles. His education is never-ending as he continues to improvise, experiment, improve, and refine his craft.

The Beers We Are Sampling:

1. Participation Award [Blonde Ale, 5.1%]: Smooth and toasty with a touch of Honey-like sweetness. Beer flavored beer that satisfies.

BJCP Analysis of Blonde Ale:

Aroma: Light to moderate sweet malty aroma, possibly with a light bready or caramelly note. Low to moderate fruitiness is optional, but acceptable. May have a low to medium hop aroma, and can reflect almost any hop variety although citrusy, floral, fruity, and spicy notes are common.

Appearance: Light yellow to deep gold in color. Clear to brilliant. Low to medium white head with fair to good retention.

Mouthfeel: Medium-light to medium body. Medium to high carbonation. Smooth without being heavy.

Taste: Initial soft malty sweetness, but optionally some light character malt flavor (e.g., bread, toast, biscuit, wheat) can also be present. Caramel flavors typically absent; if present, they are typically low-color caramel notes. Low to medium fruity esters optional, but are welcome. Light to moderate hop flavor (any variety), but shouldn't be overly aggressive. Medium-low to medium bitterness, but the balance is normally towards the malt or even between malt and hops. Finishes medium-dry to slightly malty-sweet; impression of sweetness is often an expression of lower bitterness than actual residual sweetness

2. Green Clouds [American Lager, 5.5%]: Built on a base of NC Pilsner, Munich, 2 Row Malt, and kissed with soft pillowy Wheat, our Spring Lager is heavily dry hopped for incredible aromas. It smells like walking through a Spring meadow, with Tangerine, Stone Fruit, Sweet Grass, Gooseberry, and hints of Passion Fruit. It's low bitterness and crisp, mouthwatering flavor will make this your favorite new crusher.

BJCP Analysis of American Lager:

Aroma: Low to no malt aroma, although it can be perceived as grainy, sweet or corn-like if present. Hop aroma may range from none to a light, spicy or floral hop presence. While a clean fermentation character is desirable, a light amount of yeast character (i.e. apple) or DMS is not a fault.

Appearance: Very pale straw to medium yellow color. White, frothy head seldom persists. Very clear.

Mouthfeel: Low to medium-low body. Very highly carbonated with slight carbonic bite on the tongue.

Taste: Relatively neutral palate with a crisp and dry finish and a moderately-low to low grainy or corn-like flavor that might be perceived as sweetness due to the low bitterness. Hop flavor ranges from none to moderately-low levels, and can have a floral, spicy, or herbal quality. Hop bitterness at low to medium-low level. Balance may vary from slightly malty to slightly bitter, but is relatively close to even. High levels of carbonation may accentuate the crispness of the dry finish. Clean lager fermentation character.

3. The Pie Is Falling [Autumn/Amber Ale, 5.7%]: Our first Sweet Potato Spice Autumn Ale is made with loads of NC Sweet Potatoes, hand blended spices, and Madagascar Vanilla. Complimented by a thick and chewy malt base made with 9 different grains, this is Autumn in a glass.

BJCP Analysis of Amber Ale:

Aroma: Low to moderate hop aroma with characteristics typical of American or New World hop varieties (citrus, floral, pine, resinous, spicy, tropical fruit, stone fruit, berry, or melon). A citrusy hop character is common, but not required. Moderately-low to moderately-high maltiness (usually with a moderate caramel character), which can either support, balance, or sometimes mask the hop presentation. Esters vary from moderate to none.

Appearance: Amber to coppery-brown in color. Moderately large off-white head with good retention. Generally quite clear, although dry-hopped versions may be slightly hazy.

Mouthfeel: Medium to medium-full body. Medium to high carbonation. Overall smooth finish without astringency. Stronger versions may have a slight alcohol warmth.

Taste: Moderate to high hop flavor with characteristics typical of American or New World hop varieties (citrus, floral, pine, resinous, spicy, tropical fruit, stone fruit, berry, or melon). A citrusy hop character is common, but not required. Malt flavors are moderate to strong, and usually show an initial malty sweetness followed by a moderate caramel flavor. Malt and hop bitterness are usually balanced and mutually supportive, but can vary either way. Fruity esters can be moderate to none. Caramel sweetness and hop flavor/bitterness can linger somewhat into the medium to full finish.

4. Ladies Choice!

Dropping Some Beer Knowledge:

What is an Ester? An Ester is an organic compound made by replacing the hydrogen of an acid by an alkyl or other organic group. Many naturally occurring fats and essential oils are esters of fatty acids. Esters have a characteristic pleasant, fruity odor and are common in organic and biological materials. They are used mostly in the flavor and fragrance industry.

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Malts: Base vs Specialty:

- **Base Malt:** The larger percentage of a grain bill used to make a beer. These malts provide enzymes to convert malt starches into sugars. Provides extra enzymes to convert specialty malts/adjuncts without enough enzymes of their own to convert into sugars. Includes: Pale Malt, Pilsner Malt, Vienna Malt, Munich Malt, Rye Malt, & Wheat Malt. 2-Row vs 6-Row: Differentiates based on the formation of corns on the barley stalk rows.
- **Specialty Malt:** Smaller percentage of a grain bill used to make a beer. These malts are cracked & steeped to release the sugars and flavor compounds. The color of a beer typically comes more from the Specialty Malts. Includes: Roasted Malts, Chocolate Malt, Crystal/Caramel Malts, Smoked/Peated Malts, Acidulated Hops

Hop Oils, Acids, and Regions:

- **Hop Oils:** Main source of flavor and aroma from hops; provide non-bitter tastes/aromas for hops.
 - o **Myrcene:** natural organic compound that is classified as a hydrocarbon. In thyme, bay, parsley, lemongrass, cannabis. Used in the perfume industry.
 - o **Humulene:** named after the scientific name for hops, *Humulus lupulus*, it's an isomer of Caryophyllene. Key part of hops that gives the "hoppy" aroma. It's been found to possess anti-inflammatory properties, and is being studied.
 - o **Caryophyllene:** one of the oils that help to give black pepper its spiciness. Gives a strong dry wood, pepper, earthy flavor, and an herbal character. This compound has been seen to reduce inflammation & been in anti-cancer studies. Used in the perfume industry.
- **Bittering:** During longer boil times hop oils evaporate, so they're added at beginning of boil to impart bitterness.
- **Aroma:** During shorter boil times and dry hopping, hop oils don't evaporate as much, so get the non-bitter aspects of the hops during shorter boil times and/or flameout/dry-hopping additions.
- **Alpha Acid:** Basis of bittering; quick breakdown: Humulone, Cohumulone, Adhumulone, Posthumulone, Prehumulone.
- **Beta Acid:** Slow breakdown: Lupulone, Colupulone, Adlupulone.
- **Noble Hops [original Hops, Central Europe]:** Terrnanger, Spalt, Hallertauer, Saaz; *Spalt, Styrian Goldings, Perle, Hersbrucker*

Example of Malt & Hop Profiles:

- **Pecan Smoked Wheat Malts:** This malt is produced using our Appalachian Wheat and locally-sourced Pecan wood. The pecan imparts a delicious, fruity that blends perfectly the bread notes of the malted wheat. This malt was developed using a bakery quality wheat variety. Germination and kilning were designed to create a rich, fresh-baked bread flavor and aroma.

Extract FG: 83.0%

Protein: 10.7%

Color: 3.0 SRM

S/T Ratio: 56

Alpha Amylase: 12.1

DP: 86

- **Citra Hops:** released to the brewing world in 2008. Now one of the most coveted high-impact aroma hops in the US, particularly among craft brewers, it boasts a complex lineage that includes the likes of Hallertau Mittelfrüh (father), Tettnanger (US), Brewer's Gold and East Kent Golding. Gene Probasco is credited with having first bred Citra in 1990. Citra, as the name implies, has a strong citrusy profile. This is largely credited to its very high myrcene content. It has an extraordinary flavor profile of grapefruit, lime and tropical fruits but despite its high alphas, brewers often warn against its use for bittering, which is considered by some to be harsh and undesirable. Aroma: Citrus, grapefruit, lime, tropical fruits, harsh bitterness.

o **Alpha Acid: 10-15%**

Beta Acid: 3-4.5%

o **Humulene Oil Composition: 7-12%**

Co-Humulone Composition: 20-35%

o **Caryophyllene Oil: 5-8%**

Farnesene Oil: 1%

Myrcene Oil Composition: 60-70%

o **Substitute Hops:** Simcoe®, Cascade (US), Centennial, Mosaic®

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