

Beer Education Series: Vaulted Oak Brewing

About Vaulted Oak Brewing:

A former BB&T bank, Vaulted Oak Brewing is a passion project of four friends from the Carolinas. They wanted to keep some of the bank aesthetic without making it too much of a brand. The old teller space of the bank is now the bar, and is accessible from both sides, with a walk-up window on the backside where the drive-thru used to be. The drive-thru space now serves as a fully covered patio with roll-up garage doors where the car lanes used to be. They've also added outdoor patio seating in both the front and the back. Vaulted Oak has a 7-barrel system that can be seen through windows from the bar space. They have two 7-barrel fermenters and two 15-barrel fermenters.

The Beers We Are Sampling:

1. Festbier [Festbier, 5.9%]: A clean, pale golden German-style lager. Medium body and bitterness from German hops complement a toasty, malty finish.

BJCP Analysis of Festbier:

Aroma: Moderate malty richness, with an emphasis on toasty-doughy aromatics and an impression of sweetness. Low to medium-low floral, herbal, or spicy hops. Malt shouldn't be deeply toasted, caramel, or biscuity. Clean lager fermentation character.

Appearance: Deep yellow to deep gold color; no amber hues. Bright clarity. Persistent white to off-white foam stand. Commonly medium gold.

Mouthfeel: Medium body, with a smooth, somewhat creamy texture. Medium carbonation. Alcohol strength barely noticeable as warming.

Taste: Medium to medium-high malty flavor initially, with a lightly toasty, bread dough quality and an impression of soft sweetness. Medium to medium-low bitterness, more malty in the balance. Well-attenuated and crisp but not dry. Medium-low to medium floral, herbal or spicy hop flavor. Clean lager fermentation character. Taste is mostly of Pils malt, but with slightly toasty hints. Bitterness is supportive, but still should yield a malty, flavorful finish.

2. Me and Hazy McGee [East Coast IPA, 7%]: Feeling good is good enough for me! This Hazy IPA will have your taste buds feeling real good with 3 separate, generous dry hop additions of Idaho 7, Azacca, & HBC 586. This smooth bodied and easy drinking beer has flavors of tropical fruits with a touch of resinous dankness.

BJCP Analysis of Hazy Pale Ale:

Aroma: Low to low-medium malt aroma. Medium-high to very high hop aroma, typically using citrusy or juicy profiled hops.

Appearance: Straw to deep gold in color, with a very high degree of cloudiness to the beer.

Mouthfeel: Medium-low to medium-high body, with slightly silky or full feel. Medium-low to medium carbonation.

Taste: Low to medium bitterness, tending towards the citrusy or juicy hops. Low to medium malt flavor. Medium-high to high hop flavor from the citrusy or juicy hops. Well balanced bitterness with the malt profile. Low to medium fruity esters may be present.

3. Spare Change [Saison, 6%]: Brewed with Carolina Gold malt from Carolina Malt House, wheat, and spelt. Lighter bodied, moderate herbal bitterness, peppery, with notes of biscuit and banana and a drier finish.

BJCP Analysis of Saison:

Aroma: Quite aromatic, with fruity, spicy, and hoppy characteristics evident. The esters can be fairly high, of citrus fruits such as oranges or lemons. The hops are low to moderate and are spicy, floral, earthy, or fruity. Spicy notes are typically peppery rather than clove-like, and can be up to moderately strong. Subtle, complementary herb or spice additions are allowable. Malt character is typically slightly grainy in character and low in intensity.

Appearance: Pale versions are often a distinctive pale orange but may be pale golden to amber in color. Long-lasting, dense, rocky white to ivory head resulting in characteristic Belgian lace on the glass as it fades.

Mouthfeel: Light to medium body. Alcohol sensation varies with strength, none in table to light in standard versions. Any warming character should be fairly low. Very high carbonation with an effervescent quality. Enough prickly acidity on the tongue to balance the very dry finish. A low to moderate tart character can add a refreshing bite, but not be puckering.

Taste: Medium-low to medium-high fruity and spicy flavors, supported by a low to medium soft malt character, often with some grainy flavors. Bitterness is typically moderate to high. Attenuation is extremely high, which gives a characteristic dry finish essential to the style; a Saison should never finish sweet. The fruity character is frequently citrusy (orange or lemon), and the spices are typically peppery. Hop flavor is low to moderate, and generally spicy or earthy in character. The balance is towards the fruity, spicy, hoppy character, with any bitterness or sourness not overwhelming these flavors.

4. Choose 1 WILDCARD for your final Ladies Choice Selection!

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Dropping Some Beer Knowledge:

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.
 - o Pilsner Malt: type of pale lager malt made from two-row spring barley that is always highly modified (i.e., good protein degradation) during malting and is kilned to an exceptionally blonde color value of no more than 2.5 to 4 European Brewery Convention (EBC; approx. 1.5° to 2.1° Lovibond).
 - o Carolina Gold Malt: local malt bringing beautiful golden color and a delicately balanced, sweet and clean flavor. Kilned to a 2.5°-3.0° Lovibond color.
 - o Wheat Malt: a specialty malt with sweet, malty, mild bread dough characteristics, that contribute a light straw color and can be used as a specialty or base malt for wheat beers. Kilned to a 2.5°-3.5° Lovibond color.
- 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 – **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]: Terranger, Spalt, Hallertauer, Saaz; *Spalt, Styrian Goldings, Perle, Hersbrucker*

Examples of Hops:

- **Mosaic Hops:** Released in 2012 by the Hop Breeding Company, LLC, Mosaic hops feature complex but clean flavor characteristics and are known for their triple-use profile encompassing bittering, flavor and aroma. They have high alpha acids but low cohumulone which makes them pleasantly hoppy, carrying flavors of mango, pine, citrus and herbs and aromas of tropical and stone fruit. Mosaic is the first daughter of Simcoe and Nugget as has been humorously referred to by some as "Citra on steroids".
 - o Alpha Acid Composition: 11.5%-13.5%
 - o Beta Acid Composition: 3.2%-3.9%
 - o Co-Humulone Composition: 24%-26%
 - o Retains 75% alpha acid after 6 months storage at 20°C (68°F)
 - o Myrcene Oil Composition: 47%-53%
 - o Humulene Oil Composition: 13%-16%
 - o Caryophyllene Oil: 5%-8%
 - o Farnesene Oil: None
 - o Substitute Hops: Citra
- **Saaz Hops:** Officially registered in 1952, the original Saaz, or Czech Saaz as it is sometimes known, has established itself as a staple variety for brewers and dates back more than 700 years. Originating in Zatec, Bohemia (now part of the Czech Republic) it is an esteemed red-bine variety that is now grown around the world. New Zealand in particular has embraced Saaz, breeding several descendants including the popular Motueka and Riwaka varieties (B & D Saaz, respectively).
 - o Alpha Acid Composition: 2%-4.5%
 - o Beta Acid Composition: 4%-6%
 - o Co-Humulone Composition: 23%-28%
 - o Retains 45%-55% alpha acid after 6 months storage at 20°C (68°F)
 - o Myrcene Oil Composition: 25%-40%
 - o Humulene Oil Composition: 15%-30%
 - o Caryophyllene Oil: 6%-9%
 - o Farnesene Oil: 14%-20%
 - o Substitute Hops: Saaz (US), Sterling, Lubelska-Pulawy, Moteuka, Centennial, Amarillo
- **Azacca Hops:** named after the Haitian god of agriculture. It is big in Alpha Acids (14-16%) and has a bright and refreshing aroma with juicy mango, tropical fruits, and citrus. Azacca® is a dual-purpose hop that produces sensational single-hopped beers. Whirlpool after flameout to maximize the juicy flavors and sweet aroma. Aroma: Fresh citrus, lemon, piney, tropical fruit.

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- **Idaho 7 Hops:** first hop release from Jackson Farms just outside of Boise. This hop is ripe with zesty tangerine flavor that is reminiscent of marmalade. Its uniqueness shows up as a pleasant herbal character that melds with the citrus to come across like fine earl grey tea. A dual purpose hop capable of carrying a recipe, but it works best in conjunction with Citra or a bittering hop like Warrior. Mainly used as a late addition hop with a distinct tangerine flavor.
- **HBC 586 Hops:** HBC 586 is an experimental hop variety from the [Hop Breeding Company](#), which is a joint venture between John I. Haas and Yakima Chief Ranches. It is the result of a hybrid pollination of the mother YCR 21 and male #01239-2. The aroma of HBC 586 has been described as "a large medley of fruit flavors... Mango, guava, lychee, citrus, with slight sulfur and herbal notes."

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