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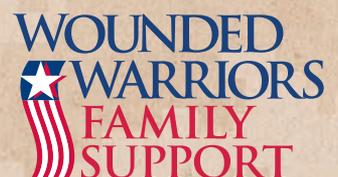
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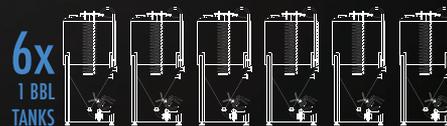
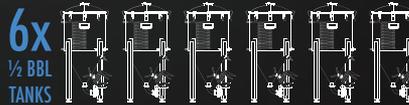
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### **Bringing Change to Diversity in Craft Beer**

How can the overall craft-beer industry be more inclusive and expand the consumer base into under-represented ethnicities? How can the industry encourage more minority-owned breweries? How can minority-owned breweries create beer relevant to their own communities?

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## | CONTRIBUTORS IN THIS ISSUE |



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**FM NOT ASHAMED TO SAY IT—I LOVE IPAS.** It may not be “cool” because it’s such a popular family of styles, but give me the day-to-day choice, and I’ll grab a hazy New England–style or citrusy and piney West Coast–style IPA over most other beers in the fridge. As Camper Van Beethoven sang in “Life is Grand,” I say this at the risk of falling from favor with those of you who have appointed yourselves to expect me to say something darker.

It’s easy to hate anything that reaches the level of ubiquity of IPA, and I’ve heard the curmudgeonly groan of old school brewers and beer writers as they look through a brewery’s tap list and see 75 percent of the taps consumed by IPA. But let’s not let that love of style diversity cloud the basics here—there’s a reason those taps are full of IPA, and the reason is that a lot of beer drinkers love to drink them.

What I love most about the IPA family of styles is the incredible diversity it represents. Soft and fruity? Yes. Dry and bitter? Yes. Rich, malty, and ester-driven? Yes. Pale? Golden? Orange? Amber? Yes, yes, and yes. Sour? Depends on who you ask. The term

“IPA” is both meaningless as a descriptor and almost universally understood as shorthand for “hoppy”—yet another term made meaningless by the incredibly broad range of its applications.

But as a lover of the agriculture behind beer and the broad spectrum of flavors possible, I can’t help but love that “hoppy” is no longer is a synonym for “bitter.” For some reason, the incredible flavor complexity of the hops plant was reduced, for much of the history of beer, to that one predominant note. The rise of New England–style IPA is as much an embrace of the creative agricultural lineage of hops and power of the plant as it is a testament to brewers’ vision—the two go hand-in-hand, and one wouldn’t happen without the other.

To read more about how hops are bred and those flavors developed, check out Chris Colby’s story “Hops Breeding: Better Hops for a Bitter Tomorrow” (page 77). If you’re looking for a quick and easy way to make a flavorful IPA even on your stove-top, read Drew Beechum’s piece, “Homebrewing Hazy IPAs” (page 66). Curious about how pros use lactose and brew “milkshake” IPAs with vanilla and more? We’ve got you covered.

For this issue, we embarked on one of the most ambitious review programs we’ve ever done. We received more than 300 beers, tasted them all, put 144 in front of our blind panel to review, and now share full reviews of eighty-three of them here in the issue (with sixteen more in score-only format). As always, we share the best and most interesting scores here in the magazine, but beerandbrewing.com hosts all of the reviews, with more than two thousand reviews by our blind panel of BJCP and Certified Cicerone judges. If you’re curious about a beer, it’s as easy as using the search bar at the top of the site.

Whether you love IPAs or not, we hope you enjoy this issue—we made it for you.



*Jamie*  
**Jamie Bogner**  
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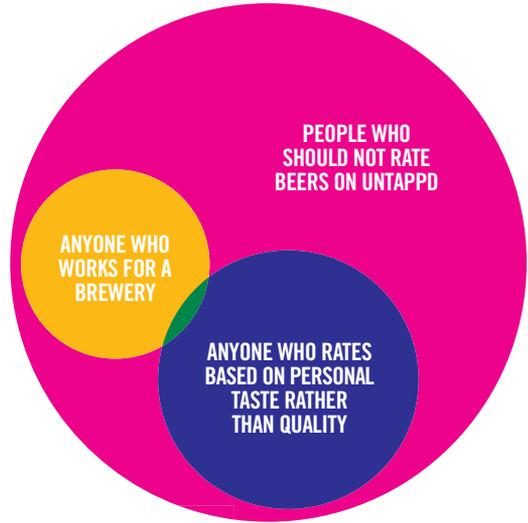
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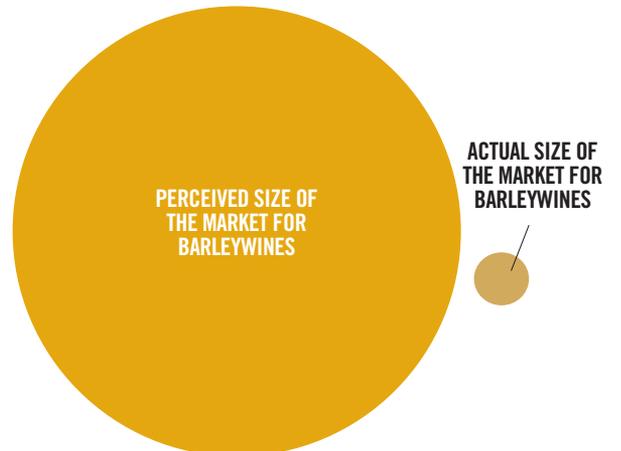
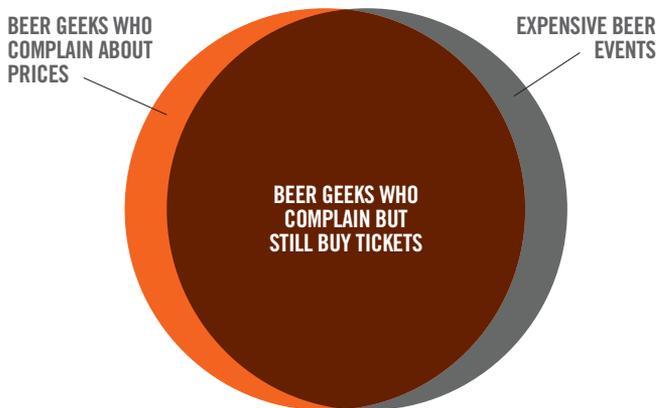
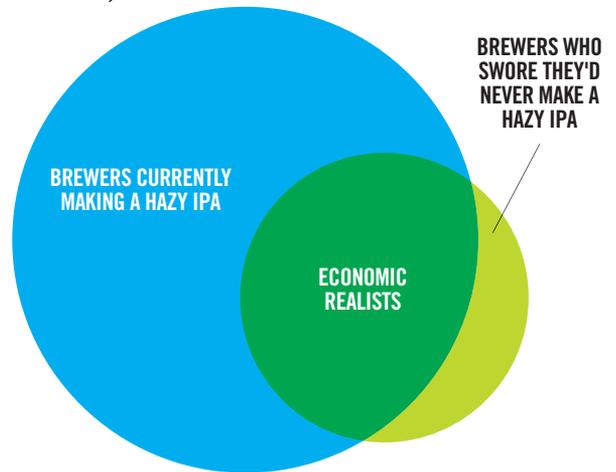
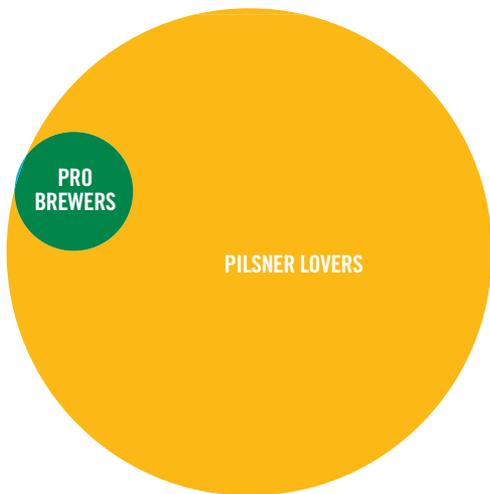
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# Taking a Venn Approach

A humorous look at the intersections and insanity of craft beer.



# Editors' Picks



## DraughtLab Flavor Maps

\$15.95, draughtlab.com

Describing flavors in beer can be challenging, and all of us—whether we're trained beer judges, avid homebrewers, or casual beer drinkers who love to share beers with friends—can use some continuing education in the lexicon department. Thankfully, sensory software maker DraughtLab has put together a series of flavor maps that help articulate the components of taste, aroma, and mouthfeel to help broaden and direct the language we use to describe beer.

Four maps make up the series—Beer Flavor, Hop Flavor, Base Malt Flavor, and Specialty Malt Flavor—and the 13" by 19" posters break down the variety of impacts in contextual ways depending on the subject. Hops are all aroma, malts and beer offer taste and mouthfeel components. Beer includes texture elements such as bubble density and astringency, while the hops and malt also include step-by-step

instructions for the standard American Society of Brewing Chemists materials preparation methods.

The design is not an accident but a thoughtfully considered departure from more common flavor wheels that suggest opposition and adjacency in flavors. The groupings are thoughtful but loose, with big subheadings that pull you into more precise descriptors below.

Whether you're a small brewery ramping up your sensory program, a homebrewer interested in expanding your descriptor game, or a beer lover who needs some utilitarian art for the basement or garage beer cave, these flavor maps have you covered.—JB

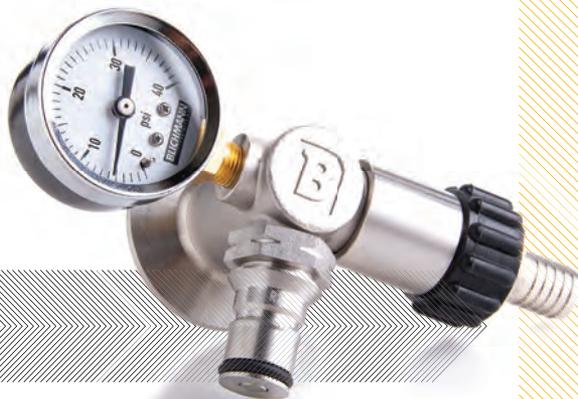
## Xtra Tuf Ankle Deck Boot

\$90, xtratuf.com

These boots from XtraTuf are the pair of boots I never knew I needed—comfortable, waterproof, durable, lightweight, and shockingly breathable, these boots provide peace of mind on brew days and have since found their way into my daily life for dog walks, gardening, outdoor cleaning, and a whole lot more. The sole provides solid grip across a number of surfaces both wet and dry, they slip on easily (great pulls on the front and back of the boot), and look good. For homebrewers who are still brewing in tennis shoes, dog-ear this page so that you don't forget to order yourself a pair—whether for safety or style, you owe it to yourself to up your game.

The boots run slightly smaller than your standard sizes so consider going up a half size from your normal shoe size. The only downside is the lack of sole stiffness and protection—they're comfortable, but I wouldn't want to step on a nail in them. I didn't know I needed them, but now that I have my own pair at home, I'll never brew without them.—HS





## Blichmann Engineering Spunding Valve

\$74.99, [blichmannengineering.com](http://blichmannengineering.com)

We've written in the past about how to build your own spunding valve, but with the renewed interest in fermenting under pressure, we were delighted to see that Blichmann developed a thoughtful out-of-the-box solution for those looking to carbonate naturally with the by-products of fermentation or simply suppress ester production.

Build quality, as with all Blichmann products, is high, and the hefty tri-clamp base structure provides a solid foundation. The gas line in is a nice touch for those who would prefer to add pressure from an external CO<sub>2</sub> source rather than wait for the fermentation to produce its own. While a blowoff tube isn't necessary given the high level of pressure exiting the valve, the unit does allow brewers the psychological comfort of adding one.

It's available in both NPT and tri-clamp versions depending on your fermentor needs, but if you're still wondering why you might need such a device, don't. This is a quick way to harness a brewing technique used by professionals, and Blichmann has made it thoroughly accessible. Thumbs up! —JB

## Artisanal Small-Batch Brewing

\$21.99, [Page Street Publishing](http://PageStreetPublishing.com)



A "pop" brewing book, if you will, this attractive and accessible volume foregoes technical jargon and thorough process evaluation for a more inspirational approach that simplifies a range of fermented beverages, from beer to cider and mead. It's decidedly flavor-forward, with clever and mouth-watering ingredient combinations, and the one or two pages of instructions per recipe give them an accessibility for stovetop brewers that's hard to beat. It's a great introduction to fermented beverages that should inspire many to delve further. —JB

PHOTOS: JAMIE BOGNER

# The Rundown

The latest stories, events, podcasts, and more from the *Craft Beer & Brewing Magazine*® team

## Exclusive on [BeerandBrewing.com](http://BeerandBrewing.com)



### Sour in an Hour?

Brewers are experimenting with white koji to speed up the time to acidify their kettle sours.

### Big Beers Inspired by Booze

One brewery is hoping to launch a new style category based on the flavors of cocktails.

## Upcoming Craft Beer & Brewing Events and Appearances

- Aug 25-28** Brewery Workshop: New Brewery Accelerator in Chicago, Illinois. Four days of learning for breweries in planning and new breweries. [breweryworkshop.com](http://breweryworkshop.com)
- Oct 4** Denver Rare Beer Tasting II, a dedicated fundraiser for the Pints for Prostates nonprofit. Enjoy incredible beer poured by some of the best brewers in the business. [pintsforprostates.org](http://pintsforprostates.org)
- Mid Oct** Tickets go on sale for the 2020 Brewers Retreat. Don't miss out on this unique brewing event!
- Nov 1** The Best in Beer 2019 issue hits the app and email inboxes for subscribers, along with a special episode of the podcast discussing the stories behind the picks!

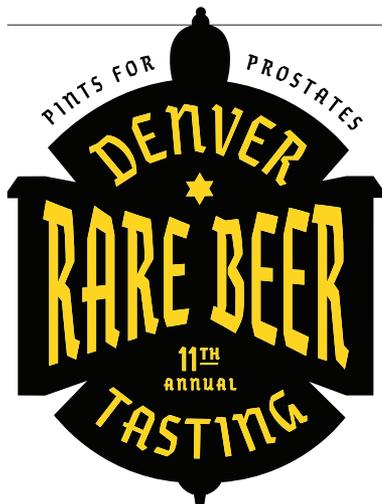
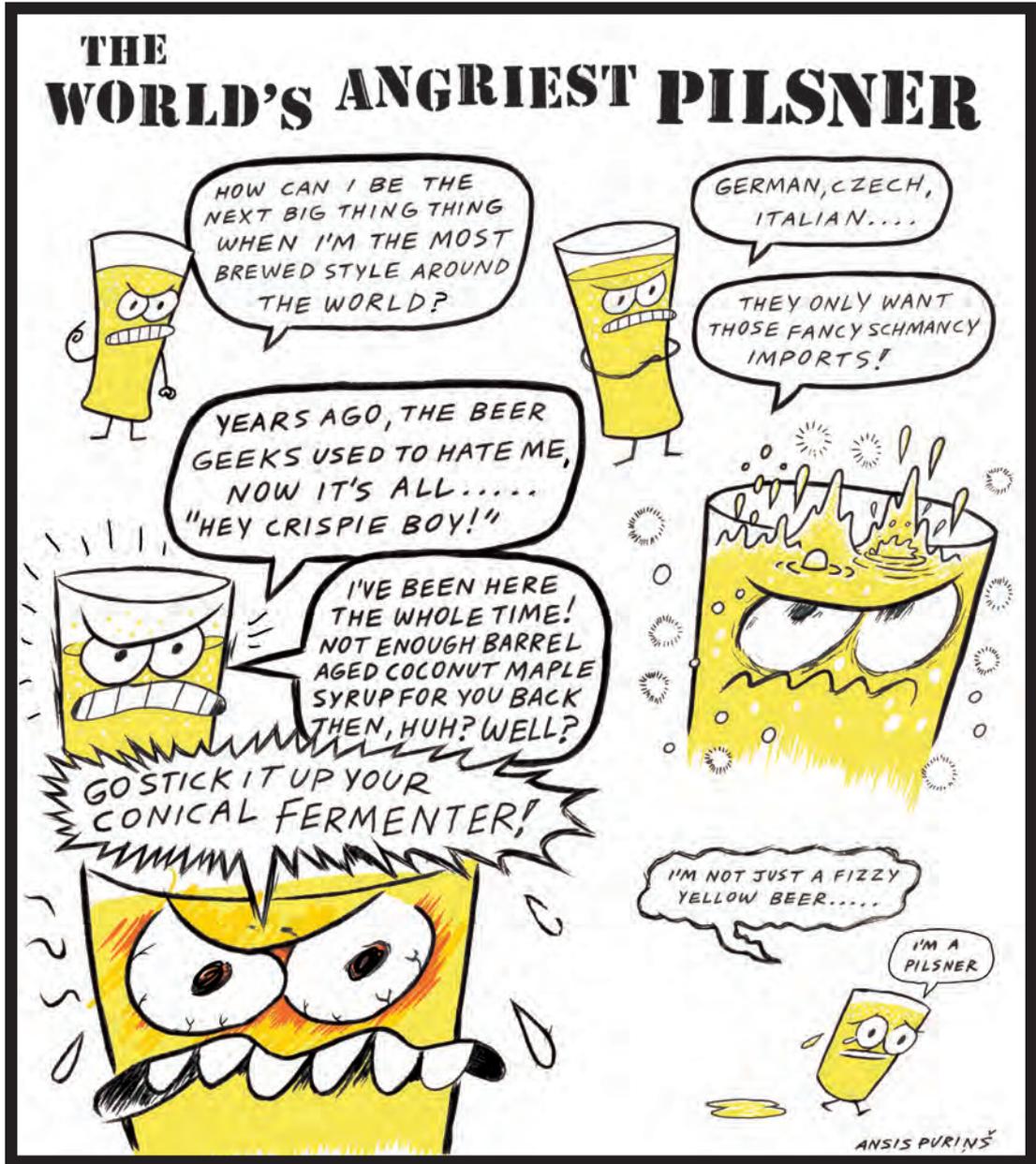
## The Latest from the Craft Beer & Brewing Podcast

- Ep.79** Randy Mosher: The Importance of Homebrewing and What It Means for the Future of Beer
- Ep.80** Moxa Brewing's Derek Gallanosa and Cory Meyer: Designing and Brewing Flavorful and Rich Ingredient-Forward Stouts
- Ep.81** Exhibit 'A' Brewing's Matthew Steinberg: Creating Character within Classic Styles
- Ep.82** pFrien Family Brewers' Josh Pfriem: Nuance and Subtlety Is the Key in Everything from Pilsner to Wood-Aged Sours
- Ep.83** Brewers Association's J. Nikol Jackson-Beckham: Making Craft Beer (and Brewing) Relevant and Accessible to Wider Audiences
- Ep.84** Hop Butcher for the the World's Jude La Rose, Jeremiah Zimmer, and Justin Miller: Unlocking The Magic Inside Hops
- Ep.85** Russian River Brewing's Vinnie Cilurzo: Sweating the Small Stuff When Brewing Hoppy Beers
- Subscriber-Exclusive Podcast Takeover:** Side Project's Cory King and WeldWerks' Neil Fisher Discuss Brewing Big Barrel-Aged Stouts
- Ep.86** Russian River Brewing's Vinnie Cilurzo: Brewing Sour Beer with Old World Tradition and Contemporary Innovation
- Ep.87** Modist Brewing's Keigan Kneeb: Brewing Otherwise Impossible Beers Using a Mash Filter
- Ep.88** Allagash Brewing's Jason Perkins: Belgian Tradition Meets American Creativity in Everything from Wit to Spontaneous and Funky Beers



Visit [beerandbrewing.com/podcasts](http://beerandbrewing.com/podcasts) to listen and subscribe.

# Whalez, Bro. By Ansis Puriņš



## Pints for Prostates Denver Rare Beer Tasting 11

\$200, [pintsforprostates.org](http://pintsforprostates.org)

For the second year in a row, *Craft Beer & Brewing Magazine*® is sponsoring Pints for Prostates' Denver Rare Beer Tasting. The yearly event on the Friday afternoon of the Great American Beer Festival is an opportunity for two things—to raise money to help fund research and outreach around prostate cancer and to enjoy extremely rare and delicious beers poured by the brewers and brewery owners who make them. For 2019, the format has changed with a higher ticket price, no VIP entry, and about a quarter fewer tickets sold, allowing for a more intimate environment throughout the event. It's not a bargain ticket, but the great cause and great beer are more than enough reason to splurge if you're making the GABF trip. —JB

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Seattle, Washington

*In a city where drinkers know their Mosaic from their Motueka, The Pine Box has established itself as one of Seattle's best beer bars.*

**What it is:** Almost three dozen expertly curated taps appeal to drinkers of all stripes with options ranging from brut IPA to cask porter, authentic Belgian gueuze to grapefruit radler. Pacific Northwest favorites such as Chuckanut and Ecliptic are well represented at this Capitol Hill landmark but not to the exclusion of classics such as Veltins Pilsener or limited releases such as the latest from Firestone Walker's Barrelworks. The kitchen is open until midnight (a rarity in Seattle) and serves a "big-ass chocolate-chunk cookie" topped with whiskey caramel sauce that begs for a nightcap.

**Why it's great:** Bars come in all shapes and sizes, but there probably aren't many others (any others?) where you'll sit at a table built from reclaimed oak coffin cabinets. For many decades, this Beaux Arts building was in fact a funeral home, most famously providing services for Bruce Lee in 1973. If you like your Fremont Double IPA with a dash of history and a ghostly garnish, this is your place. The same is true if you have strong feelings about the inseparability of helles and beer gardens. —Ben Keene

### DETAILS

**Hours:** 3:00 p.m.–2:00 a.m., Monday–Friday; 11:00 a.m.–2:00 a.m., Saturday & Sunday

**Address:** 1600 Melrose Ave., Seattle, Washington

**Web:** pineboxbar.com



## Stein Haus

Great Falls, Montana

*Two dozen taps dedicated to the best of the beers from Big Sky Country, plus a pool table and superb people-watching.*

**What it is:** Don't judge this book by its cover. The worn street-facing facade doesn't do justice to the quality of the beer and hospitality at this 40-year-old Great Falls institution, where locals mix with travelers looking for the best in Montana beer. All twenty-four taps are dedicated to beers brewed in state—you can order macro lagers in cans and bottles—and most are served in the namesake steins.

**Why it's great:** The taps span breweries from Bozeman to Missoula to some of the state's most remote towns. A pool table, a handful of electronic casino games, and a large center fireplace signal this is the antithesis of a slick hipster beer bar. When the munchies hit, next-door pizzeria Howard's will deliver its distinct pies (sauerkraut and sausage, anyone?) directly to your barstool. —Kate Bernot

### DETAILS

**Hours:** 11 a.m.–2 a.m. daily

**Address:** 711 1st Ave. N., Great Falls, Montana

**Web:** N/A



## Small Bar

San Diego, California

*A venerable dive bar that helped shape an emerging neighborhood and its citizens' taste for artisanal beer recently received a modern facelift while keeping its core ideologies intact.*

**What it is:** The minds behind beer-bar progenitor Hamilton's Tavern built this locals- and industry-focused offshoot in 2008. A decade later, an emerging restaurant group swooped in to give the beloved but aging standout new life. In doing so, the previously dark, cavernous environs were brightened up, thanks to natural light, a softer color palette, and diverse food-and-beverage offerings in line with current yens.

**Why it's great:** With an extensive list of craft cocktails, next-level bar food (dynamite shrimp with eel sauce, bourbon-jalapeño ribeye melt), and inviting décor, the updates are lovely, but they left the beer program alone ... and that's a good thing. Since day one, Small Bar owner Karen Barnett has procured an oft-rotating list of greatly varying yet commonly outstanding ales and lagers. She revels in offering hard-to-come-by rarities such as mixed-culture wares of Portland's Little Beast Brewing, along with Golden State gems from the likes of Russian River, Green Cheek Beer, and The Lost Abbey. —Brandon Hernández

### DETAILS

**Hours:** 11:30 a.m.–2:00 a.m., Monday–Friday; 10:00 a.m.–2:00 a.m., Saturday & Sunday

**Address:** 4628 Park Blvd., San Diego, California

**Web:** smallbarsd.com



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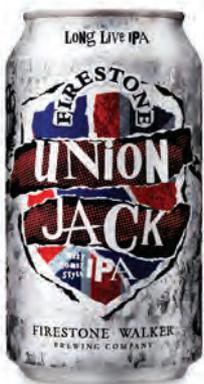
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# Fresh



## Firestone Walker Union Jack IPA

"Legends never die. Ever since its inception, Union Jack has carried the flag for the trailblazing West Coast style. Rather than stand down amid the onslaught of hazy and fruity IPAs, Union Jack is taking a stand: new look, new attitude, same intensely hopped IPA. Union Jack—an icon of the style, for those who like their beer loud and proud."

[firestonebeer.com/beers/products/union-jack](http://firestonebeer.com/beers/products/union-jack)



## New Belgium Passion Fruit Kölsch

"This refreshing Kölsch-style ale is brewed with passion fruit and ready for your next escape. Inspired by tropical fruit punch, this New Belgium take on an American-style fruit beer will leave you digging through the cooler for your next. Available for a limited time in 6-packs as well as New Belgium variety 12-packs."

[newbelgium.com/beer/passion-fruit-kolsch/](http://newbelgium.com/beer/passion-fruit-kolsch/)



## Tröegs Field Study IPA

"In the hops fields, we daydream and study, and at the brewery, we tinker and test. For Field Study, dry-hopping delivers notes of ripe grapefruit, mango, pear, and melon. Add a backbone of local rustic pale malt, and Field Study is just what we were after: a slightly hazy yet bright summer daydream come true. We taste: ripe grapefruit, pear, hint of melon."

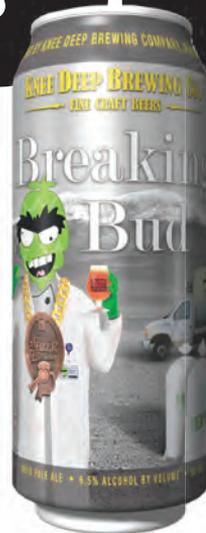
[troegs.com/beer/field-study-ipa/](http://troegs.com/beer/field-study-ipa/)



## Brewery Ommegang Project Cider

"Combining the best of both American and European traditions, Brewery Ommegang's Project Cider offers fresh, fruit-forward flavors with dry, sparkling drinkability. Both Rosé and Dry varieties begin with fresh-pressed culinary apples sourced exclusively from New York State. The juices are fermented with Ommegang's Belgian house yeast to add character and complexity. A touch of hibiscus provides Rosé with a tart snap and a well-rounded texture. The finished ciders are clarified and carbonated for a spirited sparkle."

[ommegang.com](http://ommegang.com)



## Knee Deep Brewing Breaking Bud

"Old school meets new school in this fresh approach to the American IPA. Breaking Bud features the restrained bitterness and alcohol of a classic IPA with newer tropical fruit flavors and aromas of Mosaic hops. Simcoe and CTZ are also in the hops mix, creating layers of mango and passion fruit, along with pine and dank."

[kneedeepbrewing.com](http://kneedeepbrewing.com)



## Sierra Nevada Oktoberfest 2019

"It's the ultimate season of revelry, so we teamed up with Germany's Bitburger Brewery. More than 200 years old, family-owned Bitburger Brewery uses an exclusive mix of hops in its famous Pilsner—a classified blend never shared outside its walls until now. This Oktoberfest features what Bitburger calls Siegelhopfen, meaning 'sealed hops,' which complement the malt backbone. What's more, the beer comes to life thanks to Bitburger's yeast, another house ingredient gifted for the first time ever."

[sierranevada.com/beer/oktoberfest/](http://sierranevada.com/beer/oktoberfest/)



# Beers!



## Bear Republic Purple Lightning IPA, Challenge Series

"Challenge Series 70 is the third lap of the race. It is an IPA that times out at 6.75 percent ABV. This beer has a bracing bitterness with bright pine and citrus notes. Tropical fruits come out while the Pilsner and honey malt create a softness that ends the lap. Like the label, this beer is lightning quick. Get it while it's on the track."

[bearrepublic.com/beer/purple-lightning-ipa/](http://bearrepublic.com/beer/purple-lightning-ipa/)



## Brewery Ommegang Brut IPA

"Ommegang Brut IPA brilliantly expresses the best of two proud brewing cultures by marrying the floral hops of an American IPA and the sparkling drinkability of a fine Belgian ale. Dry-hopped with Bravo, Citra, Calypso, and Mandarina Bavaria and then patiently bottle conditioned, this sparkling sensation is beautifully balanced and intriguingly effervescent. With a bright burst of hops, only 140 calories, and fewer than four grams of carbohydrates, Brut IPA is a different breed of bubbly."

[ommegang.com/beerinfo/brut-ipa/](http://ommegang.com/beerinfo/brut-ipa/)



## Firestone Walker Mind Haze

"Let your mind wander. From the coast of California comes Mind Haze IPA, a free-spirited beer made to elevate your perceptions: juicy yet balanced, hazy yet lasting, and loaded with an imaginative array of tropical hops flavors. Launched this spring after almost a year of experimentation, Mind Haze borrows from Bavarian hefeweizen brewing methods to achieve unsurpassed shelf freshness for the style. Mind Haze—a hazy IPA done the Firestone way."

[firestonebeer.com/beers/products/mind-haze](http://firestonebeer.com/beers/products/mind-haze)



## High Hops Puckerberry

"A 2018 Great American Beer Festival Gold Medal Winner, this delicious kettle-soured ale has a light body and tart fruity flavors brought on by the addition of juicy blackberries. Made with the gluten-free malts buckwheat and millet, it's an approachable and easy-drinking beer year-round."

[highhopsbrewery.com](http://highhopsbrewery.com)



## Tröegs Hop Knife Harvest IPA

"Hop Knife recognizes the time-honored tradition of hand harvesting hops at the peak of maturity. At the end of fermentation, the beer flows through our HopCyclone, releasing a bounty of preserved citrus rind, crushed jungle, and tropical aromas. 'Cracking open a Hop Knife takes me right to the hops fields in Yakima,' says our Brewmaster, John Trogner. 'When we're out there for harvest, those notes of citrus, pine, and tropical fruit are everywhere. For me, Hop Knife embodies that whole experience.'"

[troegs.com/beer/hop-knife-harvest-ale/](http://troegs.com/beer/hop-knife-harvest-ale/)



## New Belgium Peach Kick

"Peach Kick, a slightly sour peach ale, is our ode to harvest time in Colorado. A blend of our world-class wood-aged sours (Oscar and Felix) and a golden ale infused with peaches, it's perfectly balanced for easy-drinking, tongue-tingling excitement."

[newbelgium.com/beer/](http://newbelgium.com/beer/)



## STYLE SCHOOL

# English Old Ale: The Original Barrel-Aged Beers

Old ales have a flavor profile that many younger drinkers, currently rapt with barrel-aged stouts, might love, says **Jeff Alworth**, thanks to complexity, acidity, and gentle sweetness that make them very contemporary.

### BRITISH BREWERS, EVEN ONES

toiling in gracious wrought iron–adorned Victorian breweries, are pragmatists first, last, and always. You may locate romance in their buildings and old processes, but the brewers will shrug and tell you the real reason they do a thing is that it's easiest, best, or quickest. So it is with the names Brits have chosen for their beers: bitter, mild, pale, brown, and perhaps the least poetic of all, *old*. Why invent a flowery name when you can just designate it by type? And in a world where innovation and youthfulness dominate the beer industry, could they have invented any worse name for a style of beer? Check your local beer aisle for old ales, and you can confirm that indeed, they're not selling gangbusters right now.

That's a shame because old ales have a flavor profile that many younger drinkers, currently rapt with barrel-aged stouts, might love. Old ales are the original barrel-aged beers, and they have a complexity, acidity, and gentle sweetness that make them very contemporary.

The lineage of old ales dates back 400 years to just after the adoption of hops in England. The island brewers had finally

come around to that bitter herb continental brewers had been using to preserve their ales, but it took them a long time. Until they started using hops, beer didn't last. It was made and served fresh because in time, it would begin to sour. With the hops to retard the worst ravages of this process, brewers discovered they could make stronger beers that could ripen in casks for months without turning into vinegar.

Over the centuries, British brewers have made a variety of different strong beers that could, as a group, be called old ales.

The first was called “double,” appearing during the reign of Elizabeth I, and it was so popular that it began to displace weaker beer. This was followed by “double double,” a beer so strong and expensive the Queen forbade its production. These beers, quite popular, were known by a variety of unpragmatic names such as Mad Dog, Huffcap, Crackskull, and Merry-Go-Down.

### Vat Aging

The lineage of old ales continued with Burton ales, which emerged in the 1740s. Brewed to gravities higher than 1.100, they were very thick and heavy and *very* bitter and were often made palatable only by ripening in oak. Descriptions of these beers don't sound contemporary: at once syrupy sweet and bracingly bitter, they found their balance through competing intensities. They were made in the great brewing mecca of Burton-upon-Trent and were contemporaneous with the porters being made in London, and this was the era in which English brewers started to get a handle on aging beer.

From this practice of vat aging emerged a type of beer known variously as “stock,” “stale,” or “old” ale. These names tell us a lot. As the beer sat in barrels, it went stale—that is, flat. This was in contrast to regular “mild” or fresh beer, which was served, as it is today, lively and effervescent from the natural carbonation the beer produced. Because the beer was both intensely flavored and still, it was regularly “stocked” at the pub to blend with fresh ale. All three terms—stock, stale, and old—were specific designations to describe what the beer was and how it was used.



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## MAKE IT

# Founders Curmudgeon Ale

This old ale is brewed with molasses and an insane focus on the malt bill, then oak-aged. The result is a rich malty delight that's deceptively smooth and drinkable. Founders Head Brewer Jeremy Kosmicki calls it a "nighttime sipper" and a respite from the hops-forward styles.

### ALL-GRAIN

**Batch size:** 5 gallons (19 liters)

**Brewhouse efficiency:** 72%

**OG:** 1.092

**FG:** 1.019

**IBUs:** 50

**ABV:** 9.8%

### MALT/GRAIN BILL

13 lb (5.9 kg) standard 2-row base malt

2 lb (907 g) Carapils

2 lb (907 g) Munich

8 oz (227 g) Crystal Dark

### HOPS AND ADDITIONS SCHEDULE

0.8 oz (23 g) Nugget [14% AA] at 60 minutes

0.5 oz (14 g) Perle [6% AA] at 30 minutes

8 oz (227 g) molasses at 5 minutes

2.5 oz (71 g) American oak chips in secondary

### YEAST

American Ale Yeast (e.g., Wyeast 1056 or White Labs WLP060)

### DIRECTIONS

Mash the grains at 156°F (69°C) for 60 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains and top up as necessary to obtain 6 gallons (23 l) of wort. Boil for 90 minutes, following the hops and additions schedule. After the boil, chill the wort to slightly below fermentation temperature, about 70°F (21°C). Aerate the wort and pitch the yeast.

Ferment at 70°F (21°C) until the completion of primary fermentation (about 9 days, depending on the temperature). Rack the beer into secondary and add the oak chips. Let the beer age with the wood. Use your palate to decide how long. Oak chips are pretty quick; a week or so can be plenty.

## EDITORS' PICKS

# Old Ale

These four old ales are great examples of a style that doesn't get quite as much play these days. Still, digging into the nuances of each one reveals depth and intriguing flavors that will remind you why this style continues to endure.

### Fuller's Vintage Ale

The annual release of this beer, going back to 1997, is always one to get your hands on. Better yet, stock up for vertical tastings or to see how the beer matures over time. The 2018 version is full of tropical flavors from Olicana hops, making it a bright sipper.

**ABV:** 8.5% **IBUs:** 40

**Loc:** London, England



### North Coast Brewing Co. Old Stock Ale

This is a classic recipe that has long been part of the American craft-brewing fabric. It's rich and malty and mellows with age. You'll find toffee and stone fruits mixed with slight vanilla and toasted brown sugar.

**ABV:** 10.2% **IBUs:** 34

**Loc:** Fort Brag, California



### Founders Brewing Co. Curmudgeon

This beer has all of the classic flavors you want, but with added sweetness and depth from the addition of molasses and then oak-chip aging. It's the kind of beer that makes you think of a leather chair near a warm fire on a cold night.

**ABV:** 9.8% **IBUs:** 50

**Loc:** Grand Rapids, Michigan



### Great Divide Hibernation

When winter rolls around, this beer makes an appearance. It is more hoppy than the traditional English versions, but that adds an earthy character that boosts up the malt profile, giving your taste buds a little boost against all the sweetness. Comes in a can, making it perfect for après ski.

**ABV:** 8.7% **IBUs:** 50

**Loc:** Denver, Colorado



There was also a tradition of serving strong barrel-aged ales unblended and often bottled. In the nineteenth century, certain regional variations helped elevate these beers, if not to a style, at least to a kind of commercial coherence. In Yorkshire, breweries made "Stingo." In Sheffield and other parts of the North, "Old Tom" became a regional specialty. Others, though, were singular products made as a specialty offering with little regard to style. They were strong, aged in vats, and ripened until they produced refined sherry-like flavors.

Their natures were revealed somewhat in 1904 when Carlsberg's Niels Claussen took a sample of English old ale and found it contained an unusual yeast type. He classified it *Brettanomyces*, or "British fungus," as an acknowledgment of its source. (Those who wish to make beers with some of that classic old-ale character should seek out the strain *Brettanomyces claussenii*, which was the strain Claussen isolated.) Of course, those wild microorganisms resident in vats of old ale continued to change the beer, turning it more acidic and vinous as it aged—and were thus the source of that sherry-like palate.

### Plugging Along

In terms of volume, old ales were never a dominant style, but they had a remarkable run. As other styles came and went, old ales continued to plug along through to the twentieth century. Then the World Wars arrived. Across Europe, war, famine, and rationing were devastating to traditional styles, and no country was more affected than Great Britain. We think of low-alcohol pub beers as innate to the country, but until World War I, they were uncommon—a standard beer was about 6 percent. Grain rationing during the wars forced brewers to weaken their beers enormously. Strengths rebounded after that war, but after a second go-round in World War II, Britons developed a taste for weaker beers, and gravities permanently stayed low.

With one exception. As a reaction to the austerity of wartime, old ales enjoyed a resurgence in the 1950s. The number that continued to be vat-aged dwindled, but a few survived the century. Gale's Prize Old Ale was the standard bearer until the brewery closed a decade ago. Now, only Greene King continues to make an example, a blend of 12 percent strong ale aged for a minimum of 18 months and fresh lower-gravity beer in a product called Strong Suffolk. The blending takes away much of the heft, but it retains a wonderful aged character.

### A Possible Future

Now the tradition of English old ales lives, as much as anywhere, in the barrels and foeders of American craft breweries inspired by this old tradition. The historic old ales picked up their *Brett* naturally, in the staves of the oak in which they were aged. American craft breweries don't leave matters to chance, adding the wild yeast after primary fermentation of a strong ale. Most Americans adhere to tradition in the grist, with a base of English pale and crystal malts and a dash of dark for color. They may hop stiffly or gently to preference with English varieties and add a classic yeast strain to develop esters.

These beers are unusual to our modern palates, with dense creamy bodies balanced by hops bitterness and the unexpected acidity, spice, and dryness of the yeast. But one imagines there's a possible future for them. Mixed-fermentation ales and robust stouts are two of the most popular styles right now, and old ales are a kind of marriage between the two. Unfamiliarity is always a barrier, but drinkers who persist will find that these beers have a balance most stouts lack and a velvety heartiness absent in wild ales. In old ales, drinkers find the best of both worlds. Some advice to pragmatic brewers, though: maybe just don't call them "old ales." A little romance can do wonders to sell beer.

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## SPECIAL INGREDIENT

# Hazelnuts

Whether you call them hazelnuts or filberts, these tasty little nuts add a lot of flavor to beer. Once you figure out how best to avoid the pitfalls of using this special ingredient, you'll find a solid adjunct that is a versatile player with other ingredients in a variety of styles.

**YEARS AGO, WHEN CHRISTIAN** DeBenedetti was working on his book, *The Great American Ale Trail*, but long before he would open his Wolves & People Farmhouse Brewery in Newburg, Oregon, he was in Brooklyn talking with Garrett Oliver about hazelnuts. Or, if you happen to live on, come from, or grow up on a farm that harvests them, as DeBenedetti did, filbert nuts.

"I use the words interchangeably," he says. Oliver, the brewmaster of the Brooklyn Brewery, was interested in the ingredient but warned DeBenedetti to be careful of the fatty oils the nuts contained because they could have adverse effects on the beer, like loss of head retention.

It's those fatty oils, DeBenedetti says, that can also be a benefit to a beer because they can help draw out or boost other flavors. When he finally did open his brewery, he began to experiment with hazelnuts by mixing them with other special ingredients. He landed on white truffles for one beer and found that by steeping the two ingredients together and then adding that essence to a finished beer, he was able to keep the desired flavors vibrant and didn't lose head retention.

There are a few things to keep in mind when looking for hazelnuts with which to brew. Try to source them in the fall when they are harvested and fresh. Make sure they've been stored in a cool dry place and check before use to ensure none have gone rancid.

DeBenedetti also recommends toasting the nuts. Doing so helps bring out their buttery flavor. He works with a commercial roaster, but you can do it at home in an oven. Just be careful not to go above 200°F (93°C). You should look for the raw nuts to come to a maroon, red-wine color. When they're toasted, certain varieties will begin to shed their skins easily. The ones that don't should be rubbed clean to avoid unnecessary tannic flavors.

When it comes to brewing with hazelnuts, DeBenedetti suggests looking to the culinary world—specifically pastries, where they are often used. Beers with complementary flavors, such as imperial stouts or porters, usually do best with the nuts.

"Chocolate and hazelnuts? That combo is just magic," he says.  
—John Holl

## MAKE IT

## Nutfarm II Sweet Stout

This recipe from Christian DeBenedetti of Wolves & People Farmhouse Brewery uses fresh hazelnuts from the Oregon farm where the brewery is located. Hazelnuts, also known as filberts, add a rich character to beer, especially when toasted.

## ALL-GRAIN

**Batch size:** 5 gallons (19 liters)

**Brewhouse efficiency:** 80%

**OG:** 1.071

**FG:** 1.015

**IBUs:** 31

**ABV:** 7.4%

## MALT/GRAIN BILL

5.9 lb (2.68 kg) Bohemian Pilsner

2.8 lb (1.27) CaraMunich II

3.5 oz (99 g) chocolate malt

10.6 oz (300 g) flaked rye

12.8 oz (354 g) rice hulls

6.7 oz (190 g) lactose (milk sugar)

11.9 oz (337 g) white wheat

11.9 oz (337 g) CaraRed

9.5 oz (269 g) rolled oats

11.9 oz (337 g) red wheat

2.1 oz (60 g) Black Patent

## HOPS AND ADDITIONS SCHEDULE

0.68 oz (19 g) Nugget pellets [AA: 14%] at 60 minutes

3.9 oz (110 g) brown sugar at 10 minutes

5 lb (2.3 kg) hazelnuts (see below)

## YEAST

Fermentis Safale US-05 American Ale Yeast

## DIRECTIONS

Roast the hazelnuts in a 200°F (93°C) oven until they become a maroon, red-wine color. If the toasted nuts don't shed their skins easily, rub them clean.

Mash the grains at 151°F (66°C) for 30 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains and top up as necessary to obtain 6 gallons (23 l) of wort—or more, depending on your evaporation rate. Boil for 60 minutes following the hops and additions schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 72°F (22°C). Aerate the wort and pitch the yeast.

Ferment at 72°F (22°C) until the completion of primary fermentation. Rack the beer onto the toasted hazelnuts in secondary. Use your palate to decide how long to leave the beer on the nuts—7 to 10 days should be sufficient. Then bottle- or keg-condition with dextrose.

## BREWERS' NOTES

The trick is getting the hazelnuts in and out of secondary. A wide-mouth fermentor is helpful. Note that pigs like the spent hazelnuts.

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**HOMEBREWING**

# Make Your Best...

Going beyond the simple question of “what” and instead exploring the “why” will help you understand how to design and brew better beers. **By Josh Weikert**

## Blonde Ale

At the opposite end of the scale of “American” beer styles from the borderline-absurd intense flavors and over-the-top interpretations of classic styles and barrel-aged this and smoked that stands the inoffensive, approachable, nonaggressively flavored American Blonde Ale. This is a beer I love to brew and drink, and I breathe a sigh of relief when I’m at a brewpub and have the option of ordering one and passing on the latest vanilla bean–infused triple bock.

**Style:** The 2015 BJCP Guidelines describe American Blonde as an “easy-drinking, approachable, malt-oriented American craft beer, often with interesting fruit, hops, or character-malt notes.” The name also gives away that it’s pale! That milquetoast description conceals the reality that you can have a lot of fun with flavor combinations, adjuncts, special ingredients, and more and still make a beer that “fits” in the Blonde Ale category. The malts generally skew away from caramel flavors in favor of toasted malt flavors, and the hops are usually American, but within those very loose strictures, almost anything else goes!

**Ingredients:** A certain suburban Philadelphia brewery produces a beer every summer that people really seem to love. I suspect it has Victory malt in it. This recipe is for a beer that emulates that beer.

Begin with a 50/50 blend of Maris Otter and Pilsner malt, which should give you plenty of good base-malt flavors without adding much in the way of color. Just to be sure, add some Vienna malt for a bit of light rustic graininess. Finally, use a little Victory malt to bump up the toast in the malt bill. This departs from the “declared” grist from the brewery, but in side-by-side tastings, it holds up well! You should land at about 1.051 and have a barely there, but still noticeable, malt character.

Hopping is simple, but the varieties matter. Bitter with Tettnang at 60 minutes for about 15 IBUs, then add Simcoe and Cascade at 10 minutes. You’ll also add Citra in dry hopping.

Finally, get a hold of some Wyeast London Ale III (1318), which you’ll ferment cool to get a nice light bit of berry ester.

**Process:** Mash, laut, sparge, and boil are all standard here. The only real decisions are fermentation temperature and when to add the dry hops. Blonde Ale is (or was, in previous guidelines) a “hybrid” beer. It can be made with either ale or lager yeast, but the common thread is the temperature. You’re either doing a warm ferment with a lager yeast or a cool ferment with an ale yeast. In this case, target 60°F (16°C) and hold there for the first week. After that, let it rise to 70–72°F (21–22°C) to reduce the risk of diacetyl (though it’s not the worst thing in this style!).

I like to add dry hops for just a couple of days before cold crashing and packaging (2.5 volumes of CO<sub>2</sub>). The beer’s flavor profile doesn’t require (and the style doesn’t necessarily reward) a big hops nose. It’s more an impression of fresh fruit, lightly present, with a bit of grassy dry-hop character.



**MAKE IT**

# Loving Summer Blonde Ale

This blonde ale is more flavorful than your average “lawnmower” beer, so save it for after you mow. Once you dial in the recipe, this beer will get your non-beer-drinking friends started down the path to craft-beer obsession! And you’ll enjoy it, too.

**ALL-GRAIN**

**Batch size:** 5 gallons (19 liters)

**OG:** 1.051

**FG:** 1.013

**IBUs:** 29

**ABV:** 5%

**MALT/GRAIN BILL**

4 lb (1.8 kg) Pilsner malt

4 lb (1.8 kg) Maris Otter malt

1 lb (454 g) Vienna malt

8 oz (227 g) Victory malt

**HOPSSCHEDULE**

1 oz (28 g) Tettnang [4% AA] at 60 minutes

0.5 oz (14 g) Cascade [10% AA] at 10 minutes

0.5 oz (14 g) Simcoe [12% AA] at 10 minutes

0.5 oz (14 g) Citra at dry hop

**YEAST**

Wyeast 1318 (London Ale III) yeast

**DIRECTIONS**

Mill the grains and mix with 3 gallons (11.2 l) of 163°F (73°C) strike water to reach a mash temperature of 152°F (67°C). Hold this temperature for 60 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains with 4.3 gallons (16.2 l) and top up as necessary to obtain 6 gallons (23 l) of wort. Boil for 60 minutes, following the hops schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 60°F (16°C). Aerate the wort with pure oxygen or filtered air and pitch the yeast.

Ferment at 60°F (16°C) for one week, then allow temperature to free rise to 70°F (21°C). Upon completion of fermentation, add dry hops and wait 2–3 days. Crash the beer to 35°F (2°C), then bottle or keg and carbonate to approximately 2.5 volumes of CO<sub>2</sub>.

**TIPS FOR SUCCESS**

Resist the temptation to go overboard on the dry hops. A half ounce isn’t much, but we want a small bit of resinous, fruity character rather than a full-blown session-IPA experience! Any resemblance between this beer and a certain summer seasonal from Victory Brewing is purely incidental.

# A DIFFERENT BREED OF BUBBLY



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# American Wheat Beer

One thing I love about beer and brewing today is how new ingredients mesh with evolving beer styles (and even help them evolve). A major beneficiary of this globalization and democratization of beer is a style that hasn't achieved its due notoriety quite yet: American Wheat Ale. But I think its time is now. New hops from the land of the Kiwis—with their unique blend of bright citrus, herbal, and floral flavors that pair so wonderfully with grainy spicy malted wheat—have given us the perfect tools to make better American wheat ales than ever before.

**Style:** American wheat beer should *never* be confused with German weissbier or hefeweizen. Yes, in both beers, wheat makes up about half of the grist. But American wheat beer doesn't feature clove or banana, and unlike those beers, it usually *does* feature some moderate hops flavors and bitterness. A better way to conceptualize this style is to start at American pale ale. From there, we simply lower the bittering and add to the grainy, doughy malt character. It's a much shorter trip and gets closer to the general qualities of the style! This is a pale ale with limited fermentation character and noticeable hops.

**Ingredients:** The grist in these beers is a simple 50/50 mix of American 2-row and wheat malt. It will give you a clean, bready, doughy maltiness on which to build. If you want to commit to the “spicy loaf of bread” flavor profile, you can split the wheat-malt addition into a wheat-and-rye addition at the same net weight, but I prefer the simpler all-wheat option. Also, if you find you are prone to stuck mashes or sparges, you can add some rice hulls.

We have a clean, grainy, doughy base, and this is where our hops come in. Traditional recipes often use a blend of noble and American hops (e.g., Hallertau/Centennial, Saaz/Amarillo). Instead, I propose that you use some Pacific hops: Motueka (7% AA) provides a minty lime note along with some subtle earthiness, and Sorachi Ace (14% AA) complements the lime of the Motueka with some Meyer lemon flavors and a hint of herb—most say dill, but I say marjoram. However you perceive it, I think you'll love it—and you'll love how we use it here because it's foolproof. Add these with 5 minutes left in the boil to impart lots of hops aroma and flavor and contribute about 15–20 IBUs (just enough to add just a slight bite of bitterness).

Yeast is simple: Wyeast 1056 (American Ale). I don't even use my light-ester-producing German Ale yeast on this one.

**Process:** This beer needs a clean fermentation to shine, and our yeast choice reflects that. We can further advance our cause by letting this beer hearken to its hybrid roots: push your fermentation temperatures well down, to about 60°F (16°C), and allow at least 2 to 3 weeks for primary fermentation to complete. You can gradually increase the fermentation temperature after the first 72 hours or so, but I don't recommend it. An excess of esters or fermentation characters is a far greater sin in this beer than a slight under-attenuation. Keep cool, literally and figuratively, and take your time.

There's no particular need to try to clear this beer. A slight haze is perfectly acceptable, and as we taste first with our eyes, it may get your flavor perceptions leaning in the right direction even before your first sip! Use your standard clarification tactics, but don't worry if a persistent haze is visible, even after several weeks.

**In Closing:** The overall impression is an intriguing blend of simple and complex flavors that makes this beer seem like “straitlaced and in-your-face” American pale ale's scruffy but clever younger brother. You can decide which you prefer, but there's no doubt that this is a beer worth making and making well!

## MAKE IT

# Crux Australis

This American wheat beer with hops from down under is a near-perfect summertime beer!

## ALL-GRAIN

**Batch size:** 5 gallons (19 liters)

**OG:** 1.049

**FG:** 1.012

**IBUs:** 18

**ABV:** 4.9%

## MALT/GRAIN BILL

4.5 lb (2 kg) American 2-row malt

4.5 lb (2 kg) Wheat malt

8 oz (227 g) rice hulls (if you're prone to stuck mashes/sparges)

## HOP SCHEDULE

1 oz (28 g) Sorachi Ace [14% AA] at 5 minutes

1 oz (28 g) Motueka [7% AA] at 5 minutes

## YEAST

Wyeast 1056 (American Ale) Yeast

## DIRECTIONS

Mill the grains and mix with 2.8 gallons (10.7 l) of 163°F (73°C) strike water to reach a mash temperature of 152°F (67°C). Hold this temperature for 60 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains with 4.4 gallons (16.8 l) and top up as necessary to obtain 6 gallons (23 l) of wort. Boil for 60 minutes, following the hops schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 60°F (16°C). Aerate the wort with pure oxygen or filtered air and pitch the yeast.

Ferment at 60°F (16°C) for 2–3 weeks. Upon completion of fermentation, crash the beer to 35°F (2°C), then bottle or keg and carbonate to approximately 2 volumes.

## TIPS FOR SUCCESS

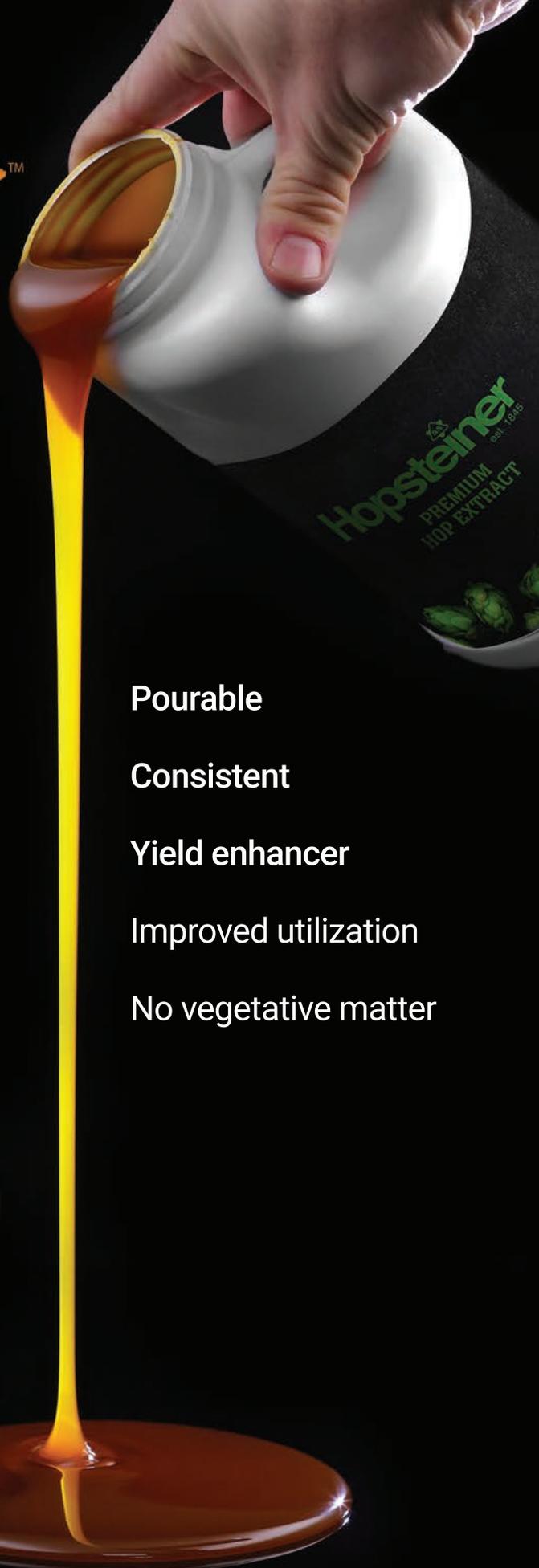
I thoroughly appreciate the irony of using New Zealand/Australian hops in what is ostensibly an American beer, but the flavor fit is just too good to ignore. You're aiming for a clean, grainy background flavor overlaid with the bright citrus flavors of the hops in a clean fermentation profile. Don't get too cute with the grist and don't feel any need to rush the fermentation.



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## FLAVOR FEVER

# Farmhouse Season: Decoding This Yeast-Driven Style

It's clear that much about the origins of saison is confusing. That doesn't mean there aren't style marks to strive for. **Randy Mosher** breaks down this beer (often called farmhouse) point by point to give us a better understanding.

**THE STORY OF BELGIAN** farmhouse ales could fill a book—that is, if there were any *real* historical information available to fill the pages. Nevertheless, tales of ghostly rustic “saisons” fill our imagination, burnished in the fading golden light of an early harvest, dripping with romance of a connection to the land. The beer itself often has to work very hard to maintain the image. It's an illusion, but boy, what a pleasant one.

Because the history is so sketchy and contradictory, I'm just going to bullet-point it. You can connect the dots as best you can while we're waiting for someone to figure this out.

- The late, great Michael Jackson wrote in his *World Guide to Beer* in 1977, “In the south of the country, top-fermented beers are sometimes called saisons.”

He was pretty capable of ferreting out obscure styles, so he either missed it, or saison just wasn't much of a thing then.

- The Belgian Brewmaster G. Lacambre wrote in his *Traité Complet de la Fabrication des Bières* in 1851 that “saison” indicated a beer brewed “en saison,” indicating a winter-brewed stronger beer: between 4.5 percent and 6.5 percent ABV at the time.
- Lacambre also details a couple of dozen regional styles in Belgium. None of them resemble modern saison.
- The beers in the current saison-producing region of southern/southwestern Belgium were amber-to-brown in Lacambre's day. There's no mention in Lacambre's book about farmhouse anything. There were rural breweries, but from photographic evidence, these were multistory brick buildings in large

compounds employing twenty or more people. This makes sense when you consider the variety of tasks—barrels, brewing, delivery, horses, cleaning, coal furnaces—and the considerable amount of manual labor required.

- The only historic beer with the word saison in its name was Liège saison, a poorly attenuated 2.5 percent ABV brown ale brewed from malted spelt, oats, and/or buckwheat, or sometimes broad beans. It's utterly unlike today's saisons.

It's clear that much about the origins of saison/farmhouse ale is confusing. The fact that we use these two words pretty interchangeably just makes my point. I'm going to call them saison since I'd rather appear sophisticated and use French, but you can plug in “farmhouse” if you're that crunchy kind of person. So let's suspend disbelief on the history until something comes along and bursts our fantasy. Let's move on to what we can be sure of about this sprite of a style—today.



**Style:**

Farmhouse Ale

**Topline/Concept:**

Often spiced, highly attenuated, complex beer that relies heavily on yeast character.

**ABV:** 5+ percent

**Color/Clarity:**

Pale golden, often hazy, with lasting rocky head

**Hops/Bittering:**

Minimal hops aroma, but big on spice. 2-35 IBUs

**Yeast:**

Saison

**MAKE IT**pFriem Lemon Zest  
Farmhouse Ale

We built a traditional farmhouse ale base and infused it with lemon zest, which gives this beer a bright, fresh lemon flavor that is balanced by the earthy and fruity base. A super-refreshing and playful summer crusher.

**ALL-GRAIN****Batch size:** 5 gallons (19 liters)**Brewhouse efficiency:** 78%**OG:** 1.056**FG:** 1.005**IBUs:** 29**ABV:** 6.2%**MALT/GRAIN BILL**

6 lb (2.7 kg) Gambrinus Pilsner

5 lb (2.3 kg) Weyermann Pilsner

1 lb (454 g) Rahr Raw White Wheat

1 lb (454 g) Weyermann Malted Spelt

**HOPS AND ADDITIONS SCHEDULE**

0.5 oz (14 g) Tettnanger [3.8% AA] at 60 minutes

0.4 oz (11 g) Huell Melon [6.1% AA] at 5 minutes

1.3 oz (37 g) El Dorado [17.4% AA] at 5 minutes

One large lemon (see below)

*Dry Hop Schedule*1.2 oz (34 g) *each* Huell Melon [6.1% AA] and El Dorado [17.4% AA]**YEAST**

Imperial Organic Yeast B56 Rustic

EC-1118 champagne yeast for bottle conditioning

**DIRECTIONS**

Mash the grains at 147°F (64°C) for 90 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains and top up as necessary to obtain 6 gallons (23 l) of wort—or more, depending on your evaporation rate. Boil for 70 minutes following the hops schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 75°F (24°C). Aerate the wort and pitch the yeast.

Ferment at 80°F (27°C). After the beer reaches terminal gravity and passes VDK (vicinal diketone) analysis, cool to 60°F (15°C) and dry hop. Wait 2 days, remove from dry hops, and cool to 29°F (-2°C). Wait 3–7 days, removing yeast and hops material every other day. Zest one large lemon and add the zest, being careful to introduce as little oxygen as possible. Let your palate be your guide for how long to leave the beer on the lemon zest.

Bottle condition with EC-1118 and dextrose.

**BREWER'S NOTES**

Feel free to experiment with the zest, try other citrus, etc. (tangels are a crew favorite), but in our experience Meyer lemon zest is very bitter. Stick to the big yellow ones.

Be sure to have a strategy to remove all of the zest afterward because if particulate makes it into bottles, it's likely to cause gushing. We use a centrifuge, but I can see a teabag setup working great on the homebrew scale. Cheers! —*Josh Pfriem*

Saison's unique fermentation character largely defines the style. While it's assertive, it is also subject to distortion and dilution. As malts get darker, flavor chemicals with sharper edges are created, and while these are delicious in the right context, it's been my experience that they also detract in lighter styles and compete with the peppery yeast nose.

**Modern Saison**

First, saison is quite pale, and a light haze is typical. From a flavor standpoint, the malt character is limited to a very narrow range: grassy, bready, crackery, possibly with delicate accents of light kettle-corn caramel or malt ball. Period. No raisin, no toast, not even that little biscuity edge pale-ale malt sometimes brings. Of course, there are many delightful variations that shoot off in just about every direction, but we're going to limit ourselves to the historical-ish center.

We'll talk about the yeast character later, but it is my personal opinion that this should be the absolute star of the show. Saison's unique fermentation character largely defines the style. While it's assertive, it is also subject to distortion and dilution. As malts get darker, flavor chemicals with sharper edges are created, and while these are delicious in the right context, it's been my experience that they also detract in lighter styles and compete with the peppery yeast nose.

**ABV**

The Belgian classics such as Saison Dupont are in the 6.5 percent ABV range, and some Wallonian producers have stronger versions close to 10 percent. Back in the nineteenth century, every beer style in Belgium was brewed in both strong and weak versions; the bigger ones were likely more in alignment with present-day reality. But history does give us permission to make legitimate saisons in the lower-alcohol realm.

**Grain Bill**

Saison is a dry-tasting beer, but that does not mean it should be thin. The grain bill can add a lot to the texture, adding a creamy viscosity with the right ingredients. The general opinion is that saisons "frequently contain wheat, oats, rye, or spelt" as the BJCP guidelines



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EDITORS' PICKS

# Farmhouse Ales

"Farmhouse funk" can be achieved in a number of ways, from *Saccharomyces* fermentations to mixed-culture medleys, in these paragons of the various saison styles.

## Brasserie Dupont Saison Dupont

**Traditional saison.** If we sound like we're repeating ourselves, it's because we are. It's just not possible to talk about saison without including Saison Dupont in the conversation, as the mix of heady fermentation esters—lemon, apple, and pear—with white-pepper spice literally define the style. The dry and quick finish keeps us coming back.

**ABV:** 6.5% **IBUs:** N/A **Loc:** Tourpes, Belgium



## Funkwerks Saison

**Traditional saison.** It's everything we want in a saison, and less—because in this style, less is definitely more. Subtlety is an often overlooked element of the style, but Funkwerks Saison has confidence to spare with a spicy lemon citrus and earthy floral nose, a perceived sweet lemon note that finishes dry as a bone in the body, and a zippy effervescence that delivers all of the flavors with gusto.

**ABV:** 6.8% **IBUs:** 25 **Loc:** Fort Collins, Colorado



## pFriem Lemon Zest Farmhouse Ale

**Saison with lemon zest.** A clean and yeast-forward nose offers just a hint of hay, crisp linen, bright lemon zest, and white pepper. The body is hazy and soft with an initial yeast and hops bite that fades into a slight lingering hops bitterness. A touch toward the bitter side of the saison spectrum with a firm but satisfying structure.

**ABV:** 6.2% **IBUs:** 29 **Loc:** Hood River, Oregon



## Blackberry Farm Brewery Classic

**Belgian-style saison with noble hops.** Opens with an intense pop, and wafts of wildflower honey permeate the nose with a subtle maltiness underpinning it. The sip offers a bit of white grape and more attenuated honey with only a touch of sweetness that resolves into a lingering slightly herbal bitterness as it fades.

**ABV:** 6.3% **IBUs:** N/A **Loc:** Walland, Tennessee



## Jester King Brewery Le Petit Prince

**Farmhouse table beer.** This is the holy grail—impossibly light, extremely flavorful, weightlessly funky, low ABV, and heavy on character. Few beers match Le Petit Prince pound for pound, and the addition of green bottles adds a not-quite-lightstruck phenolic richness to this beer that we would drink daily, if given the chance.

**ABV:** 3% **IBUs:** N/A **Loc:** Austin, Texas



put it. Higher amounts of these adjuncts can be especially helpful in lighter versions to maintain a sense of weight on the palate. These grains don't have assertive flavors and can actually thin out the malt character a little, and the brewer needs to make a call as to whether this is a good thing.

Regardless of the grains, saison should be formulated and brewed so there's little or no residual sweetness, another reason why caramel ingredients must be used very sparingly, if at all. Even the stronger versions should be crisp and refreshing.

### Fermentation

The dryness can get a boost from certain yeast strains that are very robust fermenters, and one type of strain, the so-called *diastaticus*, can even break down certain starches. This is sometimes a problem for brewers since the yeast strains are slow fermenters, and the beer may appear to be completely fermented when it is still chugging away, resulting in bulging cans or over-pressurized kegs ... whoops!

Saisons represent the extreme phenolic peppery end of the Belgian yeast spectrum. The characteristic description is white pepper. The brewing-yeast manufacturer White Labs says their French Saison strain produces "a phenolic 'bite' and moderate ester compounds." Several strains are available, differing in their spice-and-fruit balance.

The classic Dupont strain is a notoriously truculent fermenter, working like crazy for a few days and then slowing to an agonizing crawl. Many brewers at this point simply use a neutral house yeast to

The classic Dupont strain is a notoriously truculent fermenter, working like crazy for a few days and then slowing to an agonizing crawl. Many brewers at this point simply use a neutral house yeast to finish. Since the beer's yeast character is largely determined by this point, there's no major impact on aroma.

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## EDITORS' PICKS

# Farmhouse Ales

These farmhouse ales tend toward the funkier side, with mixed cultures adding acidity and fruit notes to balance the familiar farmhouse phenolics for which the style is known.

## Sante Adairius Saison Bernice

**Mixed-fermentation saison.** There's something about the stainless fermentation of Saison Bernice that just lets the culture sing without some of the weightier fruit flavors of richer wood fermentations. Light acidity, subtle white-pepper saison phenolics, lemon and apricot fruit notes, and a vague hint of saddle leather give it a brightness that's hard to beat.

**ABV:** 6.5% **IBUs:** N/A **Loc:** Capitola, California



## TRVE Brewing Psychopomp

**Mixed-culture saison with Mosaic and Galaxy.** A sweaty, slightly citrusy nose layers hops funk with yeast funk to stellar effect. The sip is slightly less precise, with a soft roll-in for lemon-lime hops flavor that overpowers more farmhouse notes, but resolves and finishes crisp and clean. A gorgeous example of acidity complementing hops.

**ABV:** 5.7% **IBUs:** N/A **Loc:** Denver, Colorado



## Casey Brewing and Blending East Bank

**Mixed-fermentation farmhouse ale aged in wood with honey.** Honey in mixed-fermentation farmhouse beers often produces stellar results (see Hill Farmstead's Anna), and Casey's East Bank is another prime expression. Juicy citrus, stone-fruit, and tropical notes blend with a touch of *Brett* and leathery honey funk for a beautiful balance.

**ABV:** 5.5% **IBUs:** N/A **Loc:** Glenwood Springs, Colorado



## Monkish Brewing Composed of Nows

**Blended mixed-culture saison.** American approaches to tart and funky mixed-fermentation saisons tend to be heavy-handed, but this saison from Monkish goes the other direction, prizing subtlety and nuance over bombast and intensity. The light crackery malt character sits astride a faint orange-lemon-lime acidity, with bits of hay and a slight *Brett* bitterness. **ABV:** 5.9% **IBUs:** N/A **Loc:** Torrance, California



## Proclamation Brewing Stereo > Mono

**Oak-aged grisette.** A very light lemon-tangerine citrus note hints at a tartness that isn't overbearing, while a very light funk note keeps things interesting. The sip delivers a bright initial acid hit that morphs into perceived citrus sweetness before resolving into a zesty drying note.

**ABV:** 5.9% **IBUs:** N/A **Loc:** Warwick, Rhode Island



finish. Since the beer's yeast character is largely determined by this point, there's no major impact on aroma.

Many saison strains work well at elevated temperatures. Dupont ferments their beers at 90°F (32°C) or above although White Labs recommends a maximum of 85°F (29°C) for theirs. We will often start at room temperature, then after a day or so let the beer free rise into that temperature zone to finish up. Because of the sometimes-sluggish finish, we often give our saisons a little extra time to make sure they're absolutely completely finished with fermentation.

Saison may be made with *Brettanomyces* yeast as well, although most brewers are not interested in the precautions necessary to invite this rogue yeast into their breweries. The Trappist ale Orval is pretty much a saison in terms of its flavor profile. It is fermented with normal yeast, but bottled with a *Brett* strain, which slowly ferments residual sugars, developing the barnyard/horsey aromas over many months. Some connoisseurs are very particular about the perfect age for an Orval. Wine-barrel and highly sour versions exist, but while delicious, this starts to strain the boundaries of the style, I think.

### Hops

Saison tends to be on the hoppy side for a Belgian style, but it is a far cry from IPA. Traditionally, hopping tends toward European noble-type hops, especially Saaz and its relatives, with modest bitterness and just-perceptible hops aroma. If you want to get creative, hoppier—even dry-hopped—versions can taste great. It should be noted that the yeast character is not compatible with every type of hops. We've found fruit-forward hops—especially with notes of pear, apricot, or pineapple—to be most harmonious.

### Carbonation

Like most Belgian beers, saisons tend to be a little fizzier than the average ale, with CO<sub>2</sub> volumes pushing up to 3.0 or higher. This is not always the case with draft versions, as elevated carbonation requires bartenders to make annoying changes to their system, which few are keen to do. Packaging equipment also has its limits, so American versions tend to be less lively than their Belgian counterparts. If a brewer can manage, even a little more sparkle can brighten up the beer in a pleasant way. And to a good extent, carbonation is the engine that drives aroma up out of the liquid and into your face, so a little more is usually a good thing.

Saison can be a phantom and, even when we find it, may be a shape-shifter. But one thing we know for certain: it's flat-out delicious. 



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LEARNING LAB

# Standard Hops Additions

As a brewer, you recognize that hops contribute bitterness, flavor, and aroma to beer. The traditional process maps directly onto this, with three steps for adding hops to the wort during the boil. Here we examine those three additions to gain a practical understanding of how each one contributes to your beer. **By Jester Goldman**

**SO FAR, THIS SERIES** has focused on what goes into beer. Now it's time to start digging into how we use those building blocks. The first ingredient we tackled was hops, so it makes the most sense to start there.

## Tradition? Tradition!

Before we dive into the steps, let's talk briefly about hops. They have alpha and beta acids, which contribute bitterness, and they contain a complex mix of volatile aromatic oils that provide the flavor and aroma we all love. Getting all of those components into your beer can be a little tricky because of a fundamental conflict. It takes time in the boil kettle to convert the alpha acids into their isomerized bitter form. But every minute of that time drives off and breaks down some of the aromatic oils. The traditional three hops-addition steps are a compromise that balances this trade-off.

The first addition goes all in for Team Bitter. These hops are added early in the boil, spending the most time in the kettle, usually 60 minutes or more. That allows plenty of opportunity for the alpha acids (e.g., humulone, cohumulone, and adhumulone) to go into solution and be chemically converted into their bitter form. Of course, that's also long enough to boil off the volatile hops oils and lose most of

the flavor and aromatics that these hops might have provided.

The flavor-hops addition is generally made about 20–30 minutes before the end of the boil in an attempt to find a midpoint along the bitter-to-hoppy continuum. This addition will still extract some bitterness, but the important thing is what happens to the aromatics. The most volatile aromatics will be driven off, but there are plenty of flavorful compounds that can withstand the heat and lend some hoppy character.

The final aromatic addition is made either in the last few minutes of the boil or at flameout. Assuming the wort is immediately chilled, this doesn't allow much time for isomerization, and there's less opportunity to evaporate off hops

essential oils. The net result is that very little bitterness is added, but many of the pleasant aromatics remain. As you may know from experience, the exact timing can make a big difference to the intensity and character of the beer's aroma.

## The Experiment

In the interest of better understanding that spectrum of bitterness fading over to delightful hops flavor and aroma, we're going to sample a few isolated points and contrast them. We'll start with a base pale-ale recipe, brewing a control batch that follows the full tradition of three hops additions. Then we'll create a set of beers that will each have a single hops addition at various points during the boil.

**Volume (after boil):** 1 gallon (3.8 liters)  
**OG:** 1.055  
**FG:** 1.014  
**IBUs:** 43 (control batch)  
**ABV:** 5.46%

## Recipe

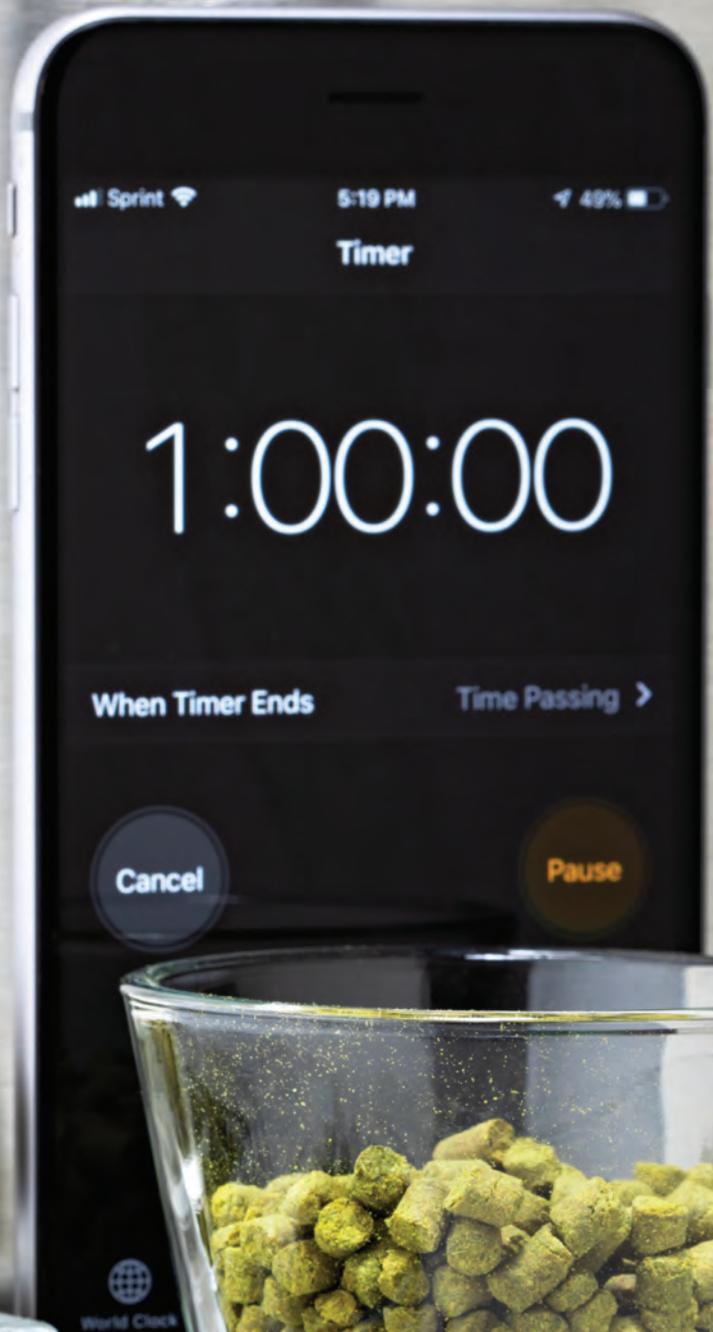
**Grain:** 1.25 lb (567 g) light dry-malt extract; 4 oz (113 g) crystal malt (30L)  
**Hops:** 0.125 oz (3.5 g) Amarillo [8.6% AA] at 60 minutes; 0.125 oz (3.5 g) Amarillo [8.6% AA] at 30 minutes; 0.125 oz (3.5 g) Amarillo [8.6% AA] at 5 minutes. (If you need to substitute a different hop, aim for about 40 IBUs in a one-gallon/3.8 l batch.)  
**Yeast:** ½ packet SafAle US-05

## Process Steps for Control Batch

Dissolve the DME into the initial volume of water (1 gal/3.8 l plus any make-up for the evaporation loss), then bring to a boil. Start the boil, then add the first hops addi-



It takes time in the boil kettle to convert the alpha acids into their isomerized bitter form. But every minute of that time drives off and breaks down some of the aromatic oils. The traditional three hops-addition steps are a compromise that balances this trade-off.



tion. After 30 minutes, stir in the second hops addition. After another 25 minutes, add the final addition of hops. Let the wort boil for 5 minutes longer.

Chill the wort down to pitching temperature (use a cold-water bath or immersion chiller). Transfer to a gallon jug and pitch the yeast. After a week or so, rack the beer off the hops and bottle it with about 0.8 oz (23 g) total dissolved priming sugar.

### Test Batches

The four experimental batches should follow the same recipe and process as above, except each will have only a single hops addition: one batch will have 60 minutes of boiling with hops; another will have 30 minutes; another 5 minutes, and the last batch will have 0 minutes of boiling with hops (take the pot off the burner and add the hops).

### Evaluation

You'll have five batches to compare. In this case, the control batch is there to give the full profile of hops contributions. The four experimental batches won't be complete enough to make a great beer, but you will be able to isolate what each addition brings.

Start with the control batch. If you used the recommended Amarillo hops, note the citrus and floral character in the aroma and the flavor. The bitterness should be balanced by a reasonable level of malt. Once you've grasped the specifics of smell and taste, pay particular attention to the flow of sensory impressions and how they combine.

When you have a handle on the control beer, pour samples of the 0- and 5-minute batches. Contrast the hops aroma of each. Do you notice a difference in intensity or character? You would expect the 0-minute version to have a slightly stronger and more intriguing nose than the 5-minute one. It's also interesting to compare these aroma experimental batches to the control batch. Even though the control batch had the same aroma addition as the 5-minute batch, they likely don't smell quite the same because the flavor addition still contributes some aroma, which you'll notice later.

Now try a sip of each of the two experimental batches. Of course, each will lack the bitterness of the control batch, but the 5-minute version should be noticeably more bitter than the 0-minute one. In both cases, some isomerization occurs before the batch is chilled, but the extra 5 minutes does make a difference. You'll also notice some hops flavor, although it may well be overwhelmed by the malt.

Now, open the 30-minute batch. A good sniff will reveal what the flavor-hops addition contributes to the final aroma. It will be milder and more simplistic, but you should still get some of that citrus character. When you taste this one, the hops flavor should stand out more, and there should be significantly more bitterness than in the aroma versions.

The 60-minute batch shifts the focus more fully to the bitter side. You may detect a faint hops aroma—I sensed a little bit, but it was indistinct and generic. The taste will be somewhat more bitter than that of the 30-minute batch, but it won't offer much flavor-hops character. Take a moment to compare the bitterness between the 60-minute and 30-minute versions. They're closer to one another than you might have guessed because 30 minutes offers plenty of time for hops isomerization.

Now that all five beers are poured, compare each one in turn with the control batch again. You'll likely notice that the control batch is more than just the sum of the parts;

the multiple additions work in concert to create a smooth flow from the initial sniff into the first hit of hops flavor and bitterness and then into the finish that settles into a clean bitter base with a lingering hint of orange flavor.

### Lessons Learned and Other Possibilities

One good takeaway from this experiment comes from the comparison of the 30- and 60-minute versions. Given that the bitterness is not so different, it suggests that you could experiment with a hopping schedule with only two additions: one for bitterness and flavor at 30 minutes and a second for aroma. It would be worthwhile to run another mini-batch like this to see how it compares to the control. Just use a little more than two times the flavor hops (maybe 8 grams rather than a total of 7 grams), and you'll get about the same total level of bitterness with a stronger hops flavor.

It's also interesting to think about how the three standard additions work in concert and then consider continuous hops additions, as in Dogfish Head's 60 Minute IPA. That's certainly worthy of an experiment, but the amounts work out to be a bit small for one-gallon batches. If you want to try that out, I'd recommend committing to at least a standard five-gallon (19 l) batch. 🍺





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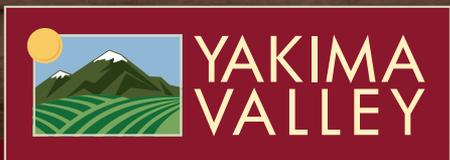
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# The Pranksters

Northern Virginia's **Aslin Beer Co.**'s humble and hands-on start as a 2-barrel brewhouse instilled the discipline of constant experimentation and continuous learning that helped propel them to where they are today—one of the mid-Atlantic's leading brewers of progressive, culinary-inspired, flavor-forward beers. **By Jamie Bogner**

**THE FOUNDERS AND STAFF** of Aslin Beer Co. are relentless in everything they do. Whether it's maintaining a breakneck pace of innovation in the brewhouse, firing off sarcastic jokes in a rapid-fire and self-deprecating manner, improving the quality of the beer they make, or even doggedly pranking each other, they approach everything they do with an unstoppable yet self-critical energy.

The early story is familiar—two homebrewing friends decided to launch a brewery and fired up a small nano system in 2015 to make beer as they figured out the business side. Not long after launch, they had what's now a more common come-to-Jesus moment as they realized their initial plan to make standard styles with wide appeal was not going to satisfy them and that there was a market for the beers they loved to homebrew but which didn't exist commercially in their region at the time—hazy IPAs, extremely flavor-forward beers, and the like.

So they did what you might expect a couple of homebrewers to do—they changed

course, started brewing daily (and often twice in a day), used their tiny scale and frequency of brewing to test methods and ingredients, and started building a name. Through a disciplined methodology of changing single variables and tasting the results, they were able to learn volumes about their ingredients and fine-tune their techniques to get the flavors they were searching for.

"It took off," says Cofounder Kai Leszkowicz. "We didn't realize how many people would be interested or dedicated to the product or how quickly we would convert people who were anti-IPA into IPA drinkers because of that style specifically."

There was no hazy IPA roadmap in 2015, but Leszkowicz and Cofounder Andrew Kelley were inspired by the progenitors of the style—Tree House, Trillium, Tired Hands, etc.—and had built a solid homebrew recipe for a hazy double IPA (Mine the Hop), which today still underpins many of their hazy IPAs. But like many homebrewers turned pro, they

found that streamlining and simplifying recipes was necessary to produce beers efficiently at the commercial scale.

"There are five or six different malts in a homebrew recipe, for what reason?" says Leszkowicz. "You need a little 2-row for sugar extraction, a little Carafoam and 60L Melanoidin for body and color and head retention ... why can't we just find one element that does that, or simplify it and go back to basics?"

"Generally we now have two or maybe three different types of malts," says Kelley. "And we've found that keeping it simple has created the best product."

They lean toward more flavorful base malts (e.g., Maris Otter, pale malt) for their hoppy beers, with a pretty consistent 5–20 percent of the grist made up of flaked oats or wheat.

## Seeking Inspiration

In order to stay ahead of the curve, they've looked to parallel industries and not just the brewing world for everything from flavor to process innovation.

"We asked, 'Where are we getting our inspiration from, and how are we building this product to be us?'" says Leszkowicz. "We took a lot of inspiration on executables from tons of different industries; for instance, with whirlpooling stuff we looked at the coffee industry—extracts in coffee, coffee blooming, how people are drawing flavor from coffee at such high temperatures—and immediately found correlations. We're not always following old guard, tried-and-true methods from within the brewing industry. Not that they're wrong, but they should be questioned. And that was the mindset we took on for a new approach to making a traditional product."

That approach of not saying "no" to even seemingly outlandish ideas led them to culinary-inspired IPAs. While others were pushing big flavors in stouts, Leszkowicz took advantage of an open tank to brew a hoppy IPA inspired by Cinnamon Toast Crunch cereal, and it was an immediate hit.

"It's trippy for consumers to see what looks like a hazy New England-style IPA. Then they drink it, and it tastes like Cinnamon Toast Crunch."

But they don't just pull ideas from



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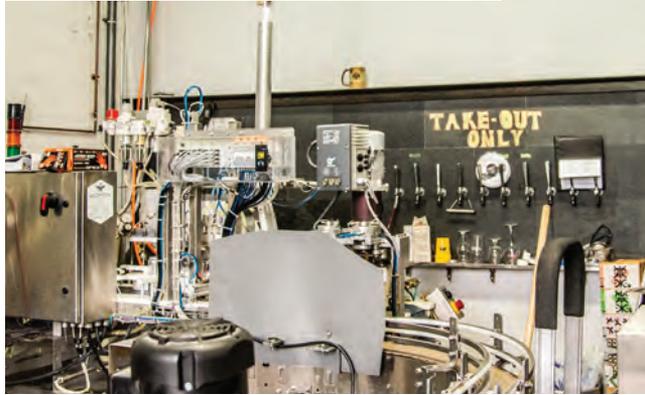
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**Left** Vestiges of former strategies abound in the Herndon, Virginia, warehouse brewery of Aslin Beer Co. Here, their original taproom draft faucets sit idle as the space was repurposed for a canning line.

pop-culture packaged food. Bringo, their rosemary IPA, was inspired by a brewing white paper they once read that discussed extraction of geraniol and linalool (two prominent flavor compounds in hops) and mentioned that rosemary was high in the same compounds. The first edition was hand-pestled and steeped in the whirlpool then dry hopped with rosemary, but they found that simply hanging a bag of rosemary in the whirlpool achieved the same results. They added some vanilla to the beer to help balance out some of the herbaceous and pine notes of the rosemary.

Determining the quantity of new ingredients to use is, of course, a challenge. But they've developed a bit of math to make the process more consistent.

"We measure a sample of beer out of the tank and weigh it and know what the weight is of the adjunct we were adding, so we have a definitive ratio," says Leszkowicz. "And we ask ourselves, 'Is this a ridiculous amount or does that sound ballpark right?' It's worked so far, with the exception of lemon. That thing is a bitch. You always need more than you think."

They're currently focused on exploring the timing of fruit additions through the brewing process, as fruits respond differently to various temperatures and processes.

"We've learned that some fruits work better in the whirlpool," says Leszkowicz. "The higher temperatures create a caramelization effect, the same as if you had accidentally burned them in your pan as a homebrewer. But other fruits don't do well with that at all, and they get manipulated or destroyed beyond a salvageable range. Some hops are the same way—you put a hop in the whirlpool, and it gets degraded or destroyed over a certain temperature. A lot of folks using hops-oil extracts will tell you that between 140–164°F (60–73°C) is detrimental to a lot of the hops oils you want to retain in the product. So lower-temperature whirlpools is the way to go. That may simplify things in the future if we can extract more flavors in the knockout."

## Dry Hops Trial and Error

For hoppy, hazy beers, dry hops methods can make or break a beer or brewery. Like most, Aslin has worked through a litany of methods and settled back on the tried-and-true hops in from the top of the tank, later roused with CO<sub>2</sub>. They don't recirculate, but instead focus on details such as temperature and ratios of T-90 pellets to lupulin or Cryo pellets. They keep the temperature relatively high during dry hopping—60 to 65°F (16 to 18°C), which has impacted their yeast harvesting process. Rather than fully crashing to drop out yeast, they lower to 50°F (10°C) to harvest, so they can quickly get the tank back up to ideal dry-hops temperatures.

"It's generally 2 to 3 days," says Kelley. "There are diminishing returns after that."

Aslin's success resulted in a strange growth pattern. Demand for their beer and the need for production space led to replacing the 2-barrel system with an 8.5-barrel system, and they made an uncommon decision to shutter the tiny taproom in order to install a canning line. The old taps are still visible behind the canning line, but go unused, and 5,000 barrels of beer per year are sold from a plastic folding table set up at the brewery roll door. A tasting room in Herndon, Virginia, followed in late 2018, and later in 2019, they'll open a brand new facility in Alexandria, Virginia, with a 30-barrel brewhouse that's both closer to Washington, D.C., and capable of feeding a much larger taproom and packaging program.

Kelley and Leszkowicz aren't shy about their ambitions, which reflect confidence in the quality of their beer and their ability to connect with consumers.

"If this is the field of play, and we're in the game right now, we're going to win," says Leszkowicz. "We're out here to be our best and be the best at what we do. We definitely have not achieved that yet, and we have tons of critics willing to tell us otherwise, which is great because we're using that as jet fuel to continue our search." 

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# The Adapters

To stay grounded, the founders and brewers of **Ruse Brewing** in Portland, Oregon, remain meticulous about ingredient selection. They also have to trust their collective gut as a compass to steer them through the changing beer tides. **By Kate Bernot**

**IN AN ALTERNATE UNIVERSE,** Ruse Brewing could have opened 5 years before it did.

About 2011, its two co-owners and brewers, Shaun Kalis and Devin Benware, were employed by the same Portland, Oregon, brewpub within just a month of each other. But it would take another half decade and a few brewing jobs in between before the pair met, working together at Culmination Brewing.

“We’d heard each others’ names so often,” Kalis says. “When we finally met, it was like ‘Oh you’re Devin!’ ‘Oh you’re Shaun!’”

The pair quickly made up for lost time, discovering a mutual work ethic and appreciation for *Brett*-focused farmhouse beers. They launched Ruse in late 2015 under an alternating-proprietorship agreement with Culmination, eventually staking claim on their own taproom space in the Brooklyn neighborhood of Southeast Portland that opened in July 2018.

But once Kalis and Benware eventually debuted the brewery they’d imagined for so long, what customers wanted most from them wasn’t what they’d initially set out to brew. Ruse’s first four releases were all barrel-aged, *Brett*-forward saisons, but just a few years later, IPAs and lagers dominate the taplist.

“We didn’t package anything hoppy or in

a can until we opened this place last year,” Benware says. A 2018 gold-medal win in the Hazy Hoppy Beers category of the Oregon Beer Awards—over Great Notion Brewing and Oakshire Brewing—only fanned the IPA flames.

Kalis says the shift wasn’t intended to steal focus from barrel-aged farmhouse styles, but Ruse couldn’t ignore Oregon’s seemingly unslakable thirst for both West Coast and hazy IPAs. If the brewery has a saison and an IPA on draft at the same time, he says the IPA outsells the saison ten to one.

“That’s our whole model; that’s why we’re a smaller brewery. We have a 10-

barrel system, so if all of a sudden, things are a different trend, we can switch,” Benware says. “We don’t really have flagships out there. We brew whatever people want, to a certain extent.”

They honed some of that instinct at Culmination, where a 5-barrel, 5-vessel system afforded brewers opportunities to brew a rainbow of styles, then gauge the customers’ reactions in the taproom.

“We learned a lot about what was selling. For example, we brewed a mild, and all the brewers were drinking it, but there are only so many brewers in town,” Benware says. “We learned we had to brew what people were drinking. We learned a lot about business from them because they’re a start-up, too.”

But the pair emphasizes that brewing what customers are excited about doesn’t



They approach these questions with a lack of ego that spurs constant refinement of their processes and ingredients. They’ve recently dropped their whirlpool temperature when dry hopping IPAs and pale ales to extract more flavor, for example, and upped the timeline for lagers to 7 weeks, which they say has made a huge impact on the quality of those beers.



**Above»** Shaun Kalis, Luc Goovaerts, and Devin Benware in the Ruse Brewing brewery and cellar.

mean chasing every trend. To stay grounded, Kalis and Benware remain meticulous about ingredient

selection, refusing to use fruit extracts and working with hops breeders to troubleshoot diacetyl issues arising from dry hopping with experimental varieties. They also have to trust their collective gut as a compass to steer them through the changing beer tides.

“We brewed a brut IPA and were tasting some around that time, and we were like ‘This isn’t really something for us,’” Benware says.

Flexibility and humility have enabled the duo to expand the styles Ruse brews without losing its identity or letting quality slip. Even their most celebrated beers are never immune to tweaks and changes. That gold-medal winning IPA, Papyrus Iris, has changed “maybe 1 percent here and there” as the brewers pursue the best possible recipe for it.

“We don’t just say, ‘We make only these kinds of beers.’ You can’t do that in this day and age,” Kalis says. “So it just comes down to ingredients. We really pay attention to quality as much as possible.”

Though the brewery’s off-the-beaten-path location means its taproom attracts mostly regulars who live in the neighborhood, those regulars certainly don’t expect—or order—the same beers every visit. Rather than asking about the beer they enjoyed 3 weeks ago, regulars are more likely to order whatever the most recently tapped keg is. Ruse typically has about two new beers on each week.

“Sometimes you go to a concert, and everyone wants to hear a band’s old album. It’s nice that our customers want to try our new stuff all the time and aren’t like, ‘Where’s that last beer you had?’” Benware says. “It means we’re doing something right.”

To keep fresh ideas flowing, Kalis and Benware aren’t afraid to mine the wealth of neighboring breweries for advice and inspiration. They rely on trusted fellow

## MAKE IT

# Phantom Shore Citra Extra Pale

This American-style extra pale ale is brewed with a nice layer of wheat and exclusively with one of our favorite hops, Citra. It’s super-smooth with a real light body and dank notes of tangelo, nectarine, and kiwi.

### ALL-GRAIN

**Batch size:** 5 gallons (19 liters)  
**Brewhouse efficiency:** 83%  
**OG:** 1.050  
**FG:** 1.009  
**IBUs:** 20  
**ABV:** 5.4

### MALT/GRAIN BILL

6.75 lb (3.1 kg) Rahr 2-row  
12 oz (340 g) Weyermann Vienna  
12 oz (340 g) Rahr White Wheat

### HOPS SCHEDULE

1 oz (28 g) Citra at whirlpool, with a 20-minute rest  
6 oz (170 g) Citra at dry hop (5 days)

### YEAST

Chico

### DIRECTIONS

Mash the grains at 152°F (67°C) for 45 minutes to an hour. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains and top up as necessary to obtain 6 gallons (23 l) of wort—or more, depending on your evaporation rate. Boil for 75 minutes following the hops schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 68°F (20°C). Aerate the wort and pitch the yeast.

Ferment at 68°F (20°C), then step up to 70°F (21°C) when the gravity reaches 1.020.

### BREWER'S NOTES

Our brewer’s beer, what we crave after a hard day of work—clean, crisp, pale with a nice hops expression. Go lighter on sulphate and heavier on chloride addition for the water profile.



## 'Take Better Beer Photos

Ruse's small operation means co-owner and brewer Devin Benware always wears the brewery's social media and photography hats. Though Ruse's Instagram shots look professional, he says it doesn't take much more than a DSLR camera and a hobbyist's knowledge of photography.

"People notice when you go a little out of your way on social media, when you're not just slapping your beer down," he says. "I'll go out of my way to post something for people to look at on their lunch break for hopefully more than 1 minute."

And it's not just screaming into a void: When Ruse posts about a beer on Instagram, it correlates to more customers asking for it by name in the taproom. Here are Benware's tips for upping your beer-photo quality without breaking the bank.

- » Invest in a 50mm lens. It creates a crisp focus on the beer, with a softer blur to the background that keeps the attention on what's in the glass. Benware likens it to the iPhone's Portrait Mode, but for beer.
- » Get near a window. Most of the credit for Ruse's photos goes to the taproom's huge windows, which do 95 percent of the work toward creating a great photo. If you want the best shot, get out of the brewery's corners.
- » DIY your backgrounds. Some of Ruse's solid-colored Instagram shots are taken against colored or painted poster boards that Benware assembled into a lightbox-like square.
- » Write on. Overlay a beer's name, ingredients, or other details without fancy software by using text overlay in iPhoto.
- » Borrow, don't steal. When Ruse wants to share or repost someone else's great taproom photo, Benware says he always asks permission via Instagram or email first, then shouts out the photographer's handle in the caption.



brewers, their tight-knit taproom staff, and beer-geek regulars to keep them up to speed on new styles and attention-worthy breweries. Benware mentions an IPA he recently tried from Bellingham, Washington-based Structures Brewing that he admits set off a chain of "aha!" moments.

"Sometimes we'll try a beer, and I'll be like 'Oh my god.' It's almost frustrating how good it is," he says. "Then the second question is: 'Alright, how do we do that now?' It's about questioning and trying."

They approach these questions with a lack of ego that spurs constant refinement of their processes and ingredients. They've recently dropped their whirlpool temperature when dry hopping IPAs and pale ales to extract more flavor, for example, and upped the timeline for lagers to 7 weeks, which they say has made a huge impact on the quality of those beers.

While it's tempting to push the pedal to the floor while the brewery enjoys early success, Ruse is more interested in small improvements, both to the beers and the taproom. A new 20-barrel tank added in June will be the last production expansion for at least 6 months, enabling Kalis, Benware, and Ruse's third brewer and Ecliptic Brewing vet Luc Goovaerts, to remain hands-on in the brewhouse

every day. They both say the office is their least-favorite place in the brewery.

"We really only go in there when the WiFi's down," Benware says. "We'd rather sit in the walk-in cooler when it's really hot, just have a beer in there."

They'd much prefer to be on the brew deck, which overlooks the airy, minimalist taproom that is the focus of all their energies. Though Ruse is often busy brewing with or at other breweries—recent collaborators include The Ale Apothecary (Bend, Oregon), Cellarmaker Brewing Company (San Francisco, California), Modern Times Beer (San Diego, California), and Great Notion Brewing—the small taproom is the brewery's beating heart. It often hosts notable live-music acts, mostly friends who drop in for jam sessions, which Kalis sometimes joins. Ruse is toying with the idea of reconfiguring the taproom a bit to accommodate a small stage or lighting kit. One day, Kalis and Benware hope to open a second location with an actual music venue.

For now, though, the goal is to keep a steady pace, refining recipes and searching for the next beer that keeps customers intrigued enough to return the next week.

"Coming up with new recipes is always tough," Kalis says. "But, oh god, then there's naming beers!"

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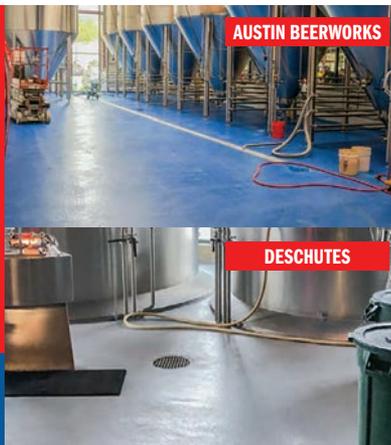
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## BREAKOUT BREWER

# The Diversifiers

Opening a new brewery in an area that is already rich with well-respected brewers and savvy beer drinkers takes some guts and talent. Fortunately, the team behind **Chapman Crafted Beer** has both in abundance. Mix in a diverse tap list, and you come to a beer lover's dream in Orange County, California. **By John Holl**

**IN THE ERA OF** IPA, it's refreshing to walk into a brewery today where the beers on offer range from the new and hazy to the clear and classic. Chapman Crafted Beer is the creation of long-time restaurateurs, beer enthusiasts, and entrepreneurs who staffed the venture with seasoned beer-industry veterans to ensure that the whole experience, from the taproom to the finished pint, is easy and memorable.

"We're in one of the few historic downtowns in California, so we wanted to have beers that appeal to anyone who walks through the doors. That means lagers, IPAs, and whatever else the brewers want to make that will make everyone feel welcome," says Jonas Nemura, the brewery's general manager.

Over and over again, employees at the brewery talk about the diversity of the

tap list (there's a red ale that's usually on, for goodness sake) and how the brewery should be a place for all. It's not just because of the push by Randy Nelson and Will Dee but also because of the brewery-savvy clientele that exists in this particular part of California, especially since the 3-year-old brewery is just a 17-minute drive from The Bruery.

"While the bars might not have been too craft-centric, people in the area certainly have come to expect a certain level of quality from local breweries," says Nemura, who previously worked at The Bruery.

The brewing team routinely cites how lucky they are to have the blessing to create a balanced portfolio of beers. In an era where if you can sell sixteen taps of hazy IPA, then that's what ownership wants, the brewers are happy to create choice on each line.

The 20-barrel premiere stainless brewing system with 200 barrels of capacity gets a good workout on most days, and the resulting beers are packaged and served in the taproom that resides in a renovated historic building that once housed a garage or sent out to accounts in the area.

"We do the beers of the moment, such as New England IPA, but I get to brew a Pilsner frequently, and that's very satisfying and gratifying. Most brewers don't get to do that. We also make an amber ale with all Cascade hops, and it's so much fun to make that beer," says Lead Brewer David Hall.

"We actually went looking for some Cascade hops recently when we ran out and had a brew day scheduled, and we had local brewers scratching their heads, asking what we used Cascade for."

By offering beers that aren't necessarily sitting at the cool kid's table these days, Chapman Crafted is able to appeal to the beer drinkers who still like diversity.

"It's a hot topic for us, and we fight hard to keep balance. On our sales-and-distribution side, we work hard to find custom-



**Clockwise from Opposite** » An afternoon crowd fills the taproom; Chapman Crafted Head Brewer Brian Thorson is a nitpicker on some styles and lets taste drive the expression of others; Chapman focuses both on honest iterations of classic styles and progressive approaches to evolving styles.

dition to the lagers and ales, we balance it out with the milkshake IPAs, all the lactose beers, and fun nitro beers.”

The brewer leading the team is Brian Thorson, who has spent a career working at well-respected breweries on both coasts, notably time at Harpoon Brewery (Boston, Massachusetts), Trumer Brauerei (Berkeley, California), and Drake’s Brewing Co. (San Leandro, California). He innovated and learned techniques at all three, and he puts them into practice each day at Chapman.

“I like to brew to taste, not necessarily a style,” says Thorson. “I am a nitpicker

ers who like more traditional styles. That can be hard, but when you do find them, you know they are passionate,” says Sean Higginbotham, the brewery’s head of sales.

“And then in addition to the lagers and ales, we balance it out with the milkshake IPAs, all the lactose beers, and fun nitro beers.”

He’s wary of kettle sours, and while they’ve added fruit to recipes in the past, he’s still partial to a traditional Berliner weisse, with no flavoring added. While that takes some drinkers a little bit of time to get used to, there are others who appreciate the simple complexity of the unadorned style.

But, it’s hard to ignore the fondness for red ales and other amber-hued beers on offer. It’s delightfully old school, which brings a smile to long-time craft con-

on some styles, such as lager and Pilsners. I want people to come away from drinking those beers and knowing it is how it’s supposed to be done. But, I’ve brewed IPAs on the West Coast and the East Coast. I’ve done hazy and clean, and it comes down to whatever tastes good, tastes good.”

In any given week, they are experimenting with beers, but he enjoys playing in the lager space. This means you can find a Märzen when seasonally appropriate or a hoppy lager that receives the DDH treatment normally associated with IPA.

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## MAKE IT

# Chapman Crafted German-Style Pilsner

Here’s a German-style Pilsner that is crisp, dry, quenching, and classic.

### ALL-GRAIN

**Batch size:** 5 gallons (19 liters)

**Brewhouse efficiency:** 80%

**OG:** 1.043

**FG:** 1.006

**IBUs:** 15–20

**ABV:** about 4.9%

### MALT/GRAIN BILL

8 lb (3.6 kg) German Pilsner malt

### HOPS SCHEDULE

0.2 oz (6 g) German Magnum [13.5% AA] at 60 minutes

1 oz (28 g) Saaz [4% AA] at flame out/whirlpool (steep for 15 minutes)

### YEAST

Fermentis Saflager 34/70

### DIRECTIONS

Mash the grain at 148–150°F (64–65°C) for 60 minutes. Vorlauf until your runnings are clear. Sparge the grains and top up as necessary to obtain 6 gallons (23 liters) of wort—or more, depending on your evaporation rate. Boil for 60 minutes following the hops schedule.

After the boil, chill the wort to about fermentation temperature (53–54°F/12°C), aerate, and pitch the yeast.

Ferment at 53–54°F (12°C) until final gravity is reached. Typical tank time is 4 weeks. Let the temperature free rise a couple of degrees a few days after primary completes, then cold crash. Add 4.8 oz (136 g) of corn sugar (dextrose) at bottling for natural carbonation.

### BREWER’S NOTES

We use mostly reverse-osmosis (RO) water as brewing water and blend in a little bit carbon-filtered water. We make pH adjustments with lactic acid in the mash tun.





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## Paying Dues and Rising through the Ranks

Brian Thorson, the head brewer of Chapman Crafted Beer (Orange, California) has spent his career rising through the ranks and going through the paces of brewery life. Aspiring brewers often ask him what they can do to break into the industry and find a rewarding career path.

Thorson has worked for some of the country's better-known and well-respected breweries, including Trumer Brauerei (Berkeley, California), Harpoon Brewery (Boston, Massachusetts), and Drake's Brewing Co. (San Leandro, California).

To the curious, he says it really "depends on where you're coming from, how old you are, and what you're expecting to get out of the industry. It's not easy. It's a slugfest. And while it's changed over the past few decades, even if you start off pushing around kegs, it's going to be a tough life. The pay isn't great either."

He compares rising through the ranks to that of a chef's career. There's education, the grunt

work as practical experience, the eventual taking on of responsibility, and then opportunities to strike out on your own or be part of something bigger. But, there are always proving grounds.

"It has to be about the love and passion because there's a lot of paying your dues," he says.

The other aspect is getting a rounded education. At all of the various breweries where he worked, Thorson was able to immerse himself in different styles, from the early American craft IPAs on the East Coast to the hoppier versions on the West Coast, and then the discipline that comes with making the same Pilsner over and over again, hitting specs each time.

"Getting good at making one style, learning about the whole process of just one beer, is incredibly valuable," he says. "Exploring different styles is good, but knowing how to make at least one beer exceptionally well is enormously valuable."



sumers' faces but also, because of the reputation of the brewery, introduces the brewery to new drinkers.

A recent tap list included not just the 5.2 percent ABV, 25-IBU amber ale, but also a red coffee ale and an amber lager.

"If you cornered me these days, I guess I'd say I'm a lager brewer," Thorson says. "But that doesn't mean we don't make pastry stout. Everyone has a preference, and my take is that if someone enjoys that experience, we should have it for them. But, personally, I like beers that are on the cleaner side."

As you can see by the brewery's scores in the review section of *Craft Beer & Brewing Magazine*®, Chapman's beers are worth seeking out. For now, at least, it seems like a visit to Southern California is your best bet to taste the full lineup in one area.

"In the same way we focus on a broad portfolio, we also think about how the beer gets to people. We self-distribute in California, and we're looking at Oregon and Washington. There are people on the East Coast who would like us to come in, but that's not the mentality we have. A lot of the beer we are making does well when it's close to home, and we have no desire to build a \$10 million production brewery just for the sake of production," says Nemura.

"We're working hard to make sure each beer we make goes into your glass at a high level. We need to make sure it's always available fresh."



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## PICK 6

# Familiarity and Mystery

**Monkish Brewing** Cofounder **Henry Nguyen** offers up this 6-pack of beers that have made a mark on his brewing journey. **As told to Jamie Bogner**

**GIVEN THE CHOICE**, Henry Nguyen will choose possibility over certainty. Definitive answers create boundaries to exploration and a false sense of permanence in a world of ever-shifting experiences. But still, there are moments that shape the directions we take, and it can be useful to consider the impact those have on us.

For Nguyen, it was the experience of the flavor possibilities of Belgian and Belgian-inspired beers that made deep and lasting impacts on the direction of his brewing career, and today, the common thread that connects the hazy IPAs Monkish Brewing (Torrance, California) is best known for with the mixed-culture saisons Nguyen loves is their mutual embrace of the impacts of yeast. But which specific beers are responsible for those pivotal and enduring moments in his beer history? Read on to find out.

## Lefte Blond

*(Dinant, Belgium)*

"I think the first beer that marked me was Lefte Blond. Having consumed a lot of early craft-beer imports early on, I then went to Cambridge and lived there in 2005. I got over pints of English cask ales pretty quickly but wanted to keep trying new beers even though I was getting bored with the flavor. One of the students I was studying with asked, 'Have you ever had a Belgian beer before?' I said, 'No,' and she replied, 'You've got to try one. The flavor is amazing.'

"So I went to a bar and asked for a Belgian beer, and someone gave me a Lefte Blond. I remember drinking it and being impacted by the flavors. The idea of drinking what

I know now as the ester and phenolic and not understanding that journey from initial sweetness to bone-dry finish—that really put a mark on me. I was excited to the point where I just kept drinking Belgian beers from that point on. That led to homebrewing and brewing only Belgian-style beers. That eventually led to Monkish where we focused on Belgian-style beers. That beer definitely left a lasting mark on me."

## De Struisse Brouwers Pannepot

*(Oostvleteren, Belgium)*

"Back in my homebrewing days, I listened to the Brewing Network a lot. I remember there was an episode where de Struisse came on, and it turned out to be a 4–5 hour episode. I wanted that episode not to end just because of the excitement, the more interesting philosophical idea of this Belgian brewer who's a little more forward thinking, and how his passion exuded.

"They described this beer, Pannepot, and how people were going crazy over it in America, too, at the time. I couldn't find it and had never had it, but they gave a little clone recipe, and I did some research on it to try to brew it. The flavor profile just sounded so remarkable that I tried to brew a beer I had never had. I don't think it worked, and I created something else, but when I finally tried Pannepot, it was pretty spectacular. I was still stuck in an American mindset when they described these bold flavors and expected it to be pretty rich, but then when I tasted it, everything was just so nuanced. And it really

did taste like this Old World fisherman beer. Fishermen would drink a beer like this with some simple sugar and an egg yolk to make a nutritious drink out of it. I just love the whole backstory of that. Pannepot was definitely influential on my thinking about dark Belgian beers.

"That, and beers such as De Dolle's Oerbier have been quite important to me in thinking about this time in Belgium when these brewers were making them, and they were always a little off, a little different. It's also a way for me to think about beers past classics such as Orval that have impacted me, but what is it about Orval that makes it so loved? It's the unpredictability."

## Hill Farmstead Brewery Arthur

*(Greensboro Bend, Vermont)*

"My third beer has to be a Hill Farmstead saison, and if I had to choose one of them, I'd say Arthur. I remember always hearing about Hill Farmstead saison, and with Shaun's being the number one brewery in the world, people were always trading for it. I bought my first bottle off of some trading forum, and as I was drinking it, it was one of those moments where the beer really exceeded my expectation. It had those perfect nuances of flavor, and I just kind of felt that there was some sort of magic in that beer. It's so simple yet expressive, and it's extremely drinkable. That's something I think about a lot with saisons and the beers we make. I'll often have one of his beers as a reminder and yearly calibration of what that sensibility really is—that quest for something so simple yet so complex and so drinkable at the same time.



## Hear Here!

Listen to more of Henry Nguyen on Monkish's approach to brewing in episode 29 of the *Craft Beer & Brewing Magazine*® podcast.

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“There was this group that called themselves ‘The Pacifico Gang’ because one local brewer made fun of these guys because they were criticizing his beer. He said, ‘You guys don’t know what you’re drinking; you probably just drink Pacifico.’ So they created this group and called themselves The Pacifico Gang. They knew that I enjoyed Pacifico, so they would actually bring Pacifico to the brewery, and I’d trade them a 4-pack of Monkish for a 12-pack of Pacifico. Then I would just toss cans out to all of our employees, and everyone would be drinking Pacifico.

“I like the idea of beer that represents a cultural context, a certain time. Being from Southern California—the idea of eating tacos and burritos and enjoying a nice beer—there’s nothing like a good Mexican lager.

“I know many people enjoy Coors Banquet, and I enjoy Banquet. I’m not a big Bud fan. Once in a while I do have a PBR, and Adriana loves PBR. But for me, it’s more Pacifico. The idea of drinking something as close to water as possible and also the demographic of living in Southern California and being a minority—drinking a beer that’s of that population I think is quite important for me.”

## The Next Beer

“For my sixth beer, I don’t know that I could choose a single beer. This comes to more of a philosophical thing for me. I don’t have a favorite movie or favorite book because I don’t want to pigeonhole myself. I like the unknown, the exploration, the quest of moving forward toward something better. It’s always nice to have that unknown beer that will make a mark on my life. I always have to keep that element of mystery.”



“Any of his farmstead beers could take this spot, especially the younger and non-barrel-aged ones. The ten-dollar 750ml bottles that he makes often can be so remarkable.”

## Allagash Brewing Allagash White

(Portland, Maine)

“I think what I like about White is its ability to transcend beer drinkers in general. I’m always surprised that this beer is as popular as it is because it’s such a spicy beer. But if you go to a restaurant in Los Angeles, they’ll have two taps, and there’s a good chance that one is Allagash White and the other is an IPA or a pale ale. But that White tap seems to fulfill so many people, from an experienced beer drinker to a beginner. There’s something about this idea for me. People ask me a lot, ‘What beer do you drink in your off time? What beer do you enjoy?’ And to be honest, I don’t drink much beer because beer tends to be work. But the idea of a perfect beer to me is something that I want to pick up and drink and not have to think about but know experientially or subconsciously that it’s a good beer and

that I want to continue drinking it. There are very few beers that will get my mind thinking in the subconscious rather than thinking in the conscious, and Allagash White does that for me. The complexity, the mouthfeel, the super-drinkability, the amazing foam retention that keeps going on—it’s for me a quite remarkable beer.

“Thinking about other standards that brewers have chosen, such as Sierra Nevada Pale Ale—they’re good, and they’re timeless, but sometimes I drink a Sierra Nevada Pale Ale, and I have to look at the date on the bottle and evaluate whether it’s at its peak, whether it’s been on the shelf too long, or whether it’s very fresh. I’m always thinking about quality, but White seems very consistent across the board, even if it’s an older bottle.”

## Cerveza Pacifico

(Baja, Mexico)

“I was going to go with something like Taras Boulba, then I thought I’d instead go with De Ranke Simplex, which I’ve been drinking a lot of. I like that it says, ‘Not a Pilsner.’ But then I asked myself what I really find myself drinking most often, and I drink a lot of Pacifico. I love Pacifico.

## GEARHEAD

# Running A Warm Bottling Line

Most packaging lines in the United States are run cold. This makes sense, given that the beer that's going into the package is coming directly from the bright tanks at the tail end of fermentation. However, there are some breweries, especially those specializing in secondary fermentation, that are taking steps to warm the beer before it goes into the package. **By John Holl**

**FOR THOSE BREWERIES THAT** package, an automated bottling (or canning) line is obviously a necessary piece of equipment. And it is actually mesmerizing to watch as bottles (or cans) are fed into the machine, lined up, rinsed, filled, topped, sprayed, and sent off to be packaged with others.

You've probably noticed when you've been on brewery tours that the employees manning the line wear gloves. This is in part for safety reasons, but it's also because it's cold. Standard filling lines run the beer right from the bright beer tanks and into the bottles or cans, and when the beer comes out of the bright tank, it's anywhere from just above freezing to the 40s Fahrenheit.

That makes sense for the majority of beers—especially for lagers, which thrive under colder temperatures, and even for most ales when it comes to serving temperatures.

But for the breweries that practice bottle- or can-conditioning, where yeast is added to a bottle or can to ferment the residual sugars in the beer and thus create a more layered and effervescent beer-drinking experience, cold filling has its disadvantages.

Typically, the ale yeasts these brewers use need warmer temperatures to get down to doing their job. So if yeast is added to a package with cold beer, it needs to wait until the beer warms to begin the important fermentation work.

We all know that there's a lot of passion behind beer, but breweries are also businesses, and the sooner that beer is ready for distribution and consumption, the sooner breweries get paid and can make more beer, and the happier we consumers are. So, any advantage—as long as it doesn't impact the flavor, quality, or integrity of the product—is a good one.

A few years back, Phil Leinhart, the brewmaster of Brewery Ommegang (Cooperstown, New York) was visiting colleagues at Duvel in Belgium. The two breweries make similar beers, but the European counterpart has a bit more history than the American craft brewer, and with that history come some tried-and-true techniques that have helped the brewery succeed.

As they were watching the bottling line run, Leinhart noticed that hooked up to the bright tank were two heat exchangers that were warming the beer from the

cold-conditioning temperature into a more manageable one that would allow the secondary fermentation to begin almost immediately.

"From a timing standpoint, it just makes sense," Leinhart says. "Bottling the beer cold out of the bright tanks at 32°F (0°C) and then transferring it to our warm room, it just takes a while for the beer to come to temperature so the yeast can get to work."

So Brewery Ommegang installed two heat exchangers in its packaging line. The first uses steam to heat water. It's set to about 77°F (25°C). Then the second one uses the warm water to warm the beer before it's packaged. The temperature of the beer that goes into the bottle is about 64°F (18°C).

It's an automated system, and both heat exchangers are on a closed loop because if a system should fail or get stuck, Leinhart notes that they wouldn't want "the beer to start cooking in the lines."

The other key piece of equipment for this kind of filling is the actual filler.

"You can't just use the one that comes off the rack," Leinhart says. Bottling warm means higher volumes of CO<sub>2</sub>, so you need a higher-pressure filler to keep the gas in solution.

In addition to faster delivery time, there's been one other benefit for Ommegang: consumer packaging. Leinhart notes that before warm bottling, the cold beer was packaged into cardboard holders



**Above and Below »** To facilitate the bottle-conditioning process, Brewery Ommegang (Cooperstown, New York) bottles their beer warm rather than the more typical cold temperatures.



**Right**» Brewery Ommegang's warm storage warehouse maintains the temperature needed for yeast to referment after bottling, producing additional carbonation while scavenging any oxygen from the packaged beer.



or cases. As the cold beer was brought up to temperature in the warm room (usually held at about 70–75°F/21–24°C), condensation would form out the outside of the bottles, potentially weakening the commercial packaging.

Craft beer is still a collaborative industry, and brewers are, more often than not, willing to share what they've learned. The adage of a rising tide lifts all boats applies here. So, when Jason Perkins, the brewmaster of Allagash Brewing Company (Portland, Maine) heard what Leinhert was doing, he asked to stop by and take a look.

"We bottle-condition/can-condition everything," says Perkins. "No matter what beer we're making, we bring it up to warm-room temperature. Bottling at about 45–50°F (7–10°C) just takes more time to get the beer warmed."

Previously, as other brewers still do, bottles were transferred from the line and into plastic crates with openings along the side to allow for air flow and then moved to the warm room. Still, it was a slow process because the bottles on the interior of the crate were insulated by the other bottles, taking longer to warm up and allow the yeast to work. After seeing the Ommegang setup, Allagash installed one of its own.

"There's a slight difference in layout," Perkins says, "but we basically copied what they did."

The results have been noticeable.

"We did some studies internally. Under the cold-filling method, the outside bottles warmed up in a day or less. The bottles inside might take 4 to 5 days," Perkins says. "So the beer needed more time in the warm room, and we all know that keeping beer warm for long periods isn't necessarily a good thing."

Since Allagash switched to warm filling, the time in the warm room has decreased.

"We did some studies internally. Under the cold-filling method, the outside bottles warmed up in a day or less. The bottles inside might take 4 to 5 days," Perkins says. "So the beer needed more time in the warm room, and we all know that keeping beer warm for long periods isn't necessarily a good thing."

Allagash White, for example needed 8 to 10 days before and can now be released within 5 days. Bigger beers such as their Tripel used to take 3 to 4 weeks; now its time in the warm room has been lowered to 2 to 3 weeks. It has also eliminated the extra time needed to move the beer from the plastic crates into final packaging when the beer is ready.

"It's been great for us," Perkins says, "but now we have several hundred plastic crates that we don't need to use anymore. So if anyone is interested in buying them, call me."

There are other methods to warm up a beer before bottling. Several years ago, Tomme Arthur, the brewmaster of The Lost Abbey (San Marcos, California) started thinking about warming up his bright tank before beer went into the bottle. The brewery fashioned a system by hooking

up a hot water heater to its glycol system to circulate the liquid around the tank, continually running through those lines "rather than going back to the roof" where it would cool back down.

Running the glycol at about 85°F (29°C) around the 200bbl tank (although the beers usually range from 50 to 100 barrels), it takes about a day to get the beer from 34°F (1°C) to about 55°F (13°C). Using a carbonation stone, the beer is then dosed with lager yeast and packaged.

"It's a very sanitary process," says Arthur.

As more breweries experiment with intentional refermentation and look to get beer to the market a little faster, a few steps at the packaging phase might be a boon.

"I think it's really beneficial," says Leinhert. "For our refermented beer, I'd never go back to the other way."

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BEER CULTURE & BUSINESS

# Bringing Change to Diversity in Craft Beer

How can the overall craft-beer industry be more inclusive and expand the consumer base into under-represented ethnicities? How can the industry encourage more minority-owned breweries? How can minority-owned breweries create beer relevant to their own communities? **By John Holl**

**THERE HAVE BEEN A LOT** of conversations about diversity in craft beer over the past few years—specifically how the overall industry needs to be more inclusive and to expand the consumer base beyond the middle-aged white man (beard optional) that makes up the majority of sales. Steps have been made by the Brewers Association (BA) as well as individual breweries. Notable are the creation of a diversity committee and the hiring of J. Nikol Jackson-Beckham, PhD, better known as Dr. J. as the diversity ambassador.

But everyone involved with and committed to the cause knows there is still a long way to go.

Citing a recent Harris Poll study, the Brewers Association's chief economist, Bart Watson, compared numbers between 2015 and 2018 when it came to race and ethnicity among craft drinkers.

"In 2018, the percentage of white drinkers dropped to 85.5 percent (from 86.3 percent), with non-white increasing slightly to 14.5 percent (from 13.7 percent)," he writes. "Lining that up with the total population/craft-drinker data, that means that from 2015 to 2018, 81 percent of new craft drinkers were white, and 19 percent came from minority groups. Given that only 68.7 percent of the 21+ U.S. population is non-Hispanic white, that's not progress." Minority craft drinkers are growing, he continues, "but only because the total population of craft drinkers is growing, not because craft drinkers are getting more diverse along racial lines."

As the number of craft breweries has grown in America, the number of minority-owned breweries has also grown but overall still account for a very small number in the full picture.

## A Different Perspective

"Craft beer has been looking at diversity in the wrong way," says Four Cities Brewing Company's Roger Apollon Jr. Four Cities Brewing is slated to open this July in the heart of Orange, New Jersey. Orange and its three neighboring towns that comprise The Oranges are a mix of leafy suburbs and hardscrabble city streets. It's one of the most densely populated areas of the state and still largely underserved by breweries. Once upon a time, the city of Orange was home to larger brewery facilities, specifically Rheingold. It's predominantly an urban area and since the 1970s hasn't been home to a brewery.

"As craft-beer guys, we know how the beer should taste and what we want to put forward, but putting the business plan together, we really needed to think about the demographics of the area," says

PHOTO: SHUTTERSTOCK





**Left** » The founders of Four Cities Brewing.

Apollon, one of the brewery founders. The residents of Orange and East Orange are predominantly African-American, while the residents of South Orange and West Orange are predominantly white.

“We’re not looking to be a gentrifier. We are coming in to be a part of this community. I’m black, and I’m not here for lip service.”

“Breweries might set up in a city or an urban area, and they think that just because they are there, the local folks will come in. But the local folks don’t always feel welcome. Maybe it’s the music, maybe it’s the attitude, or maybe they just walk past, look inside, and don’t see black folks inside, so they don’t want to go inside. Our job as craft brewers is to go to where the people are, to go into the bodegas and the barbershops and introduce them to the beers we’re making and our business and then let them know they are welcome and encouraged to come in. After that, it’s our job to actually demonstrate that.”

Apollon, who lives in neighboring West Orange, says Four Cities Brewing will include activities, art exhibits, and other regular events that will seek to form ties with the brewery’s new neighbors. The plan is also to offer beers that can ease people into craft and not immediately assault them with over-hopped beers or outlandish flavors.

“The beers need to be approachable for people who are coming off of Corona or Heineken,” he says.

Christopher L. Harris, the founder of Black Frog Brewery in Ohio, started off as a homebrewer but quickly found himself in the same position as others who have taken up the hobby.

“I had more beer than my friends and I could drink,” he says. So he put together a nano system and went pro from the garage in his house, later moving up to a formal brewery space and taproom outfitted with a 2.5-barrel system.

He’s seen the key to his success as having diversity with the beers he offers. IPA still makes up the majority of sales, but having amber ales, traditional stouts, porters, brown ales, and other styles on offer helps bring a diverse clientele through his doors.

“Some people come in because of who I am, and they want to try the beers, but really it’s more like nine out of ten people come because they heard about the beer versus hearing about me. That’s what I want. I’d

rather be known for the beer I make than for being an African American in craft beer.” Harris admits that he might be seen as a “unicorn because there are not many of us.”

That has had some advantages. Through festivals such as Fresh Fest, which is billed as the country’s first Black brew festival, he’s been able to meet others who are interested in getting into the craft-beer industry and has become a mentor to some.

“In the beginning, when I got into professional brewing, it was a little intimidating,” he says. “I didn’t know where to reach out. The BA is great, but maybe there should be something in between to help out the little guy who is coming from a different background.”

It’s a sentiment that is repeated by many of the other minority-owned breweries interviewed for this piece.

It’s hard work, but determination is key, and the more you can tell your story, the more you can inspire others to follow, says Alisa Mercado, the founder of Connecticut’s Rhythm Brewing Co., which contracts a lager through Black Hog Brewing Co. (Oxford, Connecticut). She and others cite beer as a vehicle for employment in areas that need it as well as economic stability.

“Mentorship is key,” says Apollon. “I don’t have a playbook for it, but I’m learning as I go, and even though opening and running a brewery is mind melting, I want to pass on this information because there is a feeling that if I can do it, others can do it. If this brewery can inspire a few people to learn about beer, to start brewing beer, then maybe they will start to do their own thing.”



“Breweries might set up in a city or an urban area, and they think that just because they are there, the local folks will come in. But the local folks don’t always feel welcome. Maybe it’s the music, maybe it’s the attitude, or maybe they just walk past, look inside, and don’t see black folks inside, so they don’t want to go inside. Our job as craft brewers is to go to where the people are, to go into the bodegas and the barbershops and introduce them to the beers we’re making and our business and then let them know they are welcome and encouraged to come in. After that, it’s our job to actually demonstrate that.”

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LET'S PLAY

LET'S PLAY

**Beer should be fun, right? When it comes to IPA, brewers are having more fun than ever breaking all the “rules,” whether it’s building fruit flavors with new-school hops or blending lactose, vanilla, and fruit for a milkshake-like experience. Here, we explore everything from quick-and-easy hazy IPAs brewed with extract, to the hops breeding programs that produce these new school flavors.**



## SIMPLE BREWING

# HOW TO BREW HAZY IPAs

For the scores of homebrewers who brew with extract, the New England-style IPA has been a bit of a problem, thanks to the common ingredient in many of these beers: oats. The breakfast-champion grain has a long history in brewing, but the common forms—flaked and cut oats—aren't useful to a non-mashing brewer. **Drew Beechum** offers some advice and solutions.

**IF I HAD A NICKEL** for every time I've seen someone puff up his chest and slag extract or extract brewers, I'd be able to afford a whole carload of expensive hazy IPA 4-packs. If you close your eyes, I guarantee you can hear the crabby old brewer complaining that “extract brewing is cheating,” “extract brewing isn't real brewing,” etc. Please pass me a few more nickels.

Here's the thing—the majority of homebrewers—even in this day and age of brew-in-a-bag, astonishing and endless varieties of grain, and easy mashing techniques—use extract. Why? Because not everyone has the time, the energy, or the inclination to spend hours on a brew day mashing grain, but they still want to make beer. So who am I, who are you, to turn up our noses at their happy passion about creating?

The reason most of our experiences with extract beers have been “doggy” is that many of those brewers are on their first attempts. Just think how many things you got wrong in your first batches. In truth, I've known veteran brewers who continue after decades to use extract because it fits

their lifestyle better. You know I'm not telling you about them if their beer isn't great.

The truth of brewing still comes largely down to our ability to be clever, accurate, and on point during fermentation. There's very little you can't do with extract, including make a hazy IPA.

But, extract brewing has its limitations—namely without mashing, you're somewhat hamstrung in terms of additional ingredients you can use. Anything that requires mashing is a no-go for extract brewers. This is a problem in the world of hazy IPA brewing because a common ingredient in many of these beers is the wonderful oat.

The breakfast-champion grain has a long history in brewing, but the common forms—flaked and cut oats—aren't useful to a non-mashing brewer. The problem is a lack of enzymes to convert the oaty starch into oaty sugar. For all-grain brewers, this isn't a problem—they have more than enough enzymatic power in a regular mash to chop the oat starch into component sugars.

Extract brewers don't have the enzymes available because the concentration step

has killed all the goods. So we've got to get you, the extract fiend, a way to convert oat starch into fermentable oat sugar and allow you to take advantage of the protein and body-building properties of *Avena sativa*.

The easiest, hackiest solution is to use oat milk, a dairy alternative made from soaked oats and enzymes. Remember, liquid starch is highly undesirable in a shelf-stable food-stuff. Manufacturers will soak oats with amylase to convert starch into sugar and then blend and strain the gruel into a milk-like product. Several breweries and homebrewers have added oat milk straight to the kettle post boil. The result is an outstanding murk with plenty of sugar for fermentation.

But for my money, the best way isn't any harder, except finding the needed grain. We think of malt as being barley, but malt is the name we apply to any cereal that's been sprouted and dried. We use wheat malt all the time. If you search hard enough, you can find malts of a number of grains, including oats.

Largely used in the past in the United Kingdom for stouts, oat malt has been barely hanging on until now. For years only Thomas Fawcett & Sons made oat malt, but now others are in on the game, including Canada Malting Company and Simpsons Malt. The nifty bit about oat malt is that it comes packed with enough enzymatic power to convert itself.



## Safale S-04

### DRY ALE YEAST

Ingredients: Yeast, emulsifier (E491).  
Packaged in a protective atmosphere.

Store in a cool, dry place.

For best before end date and batch number:  
see on packaging. Manufactured in Belgium.

**CHARACTERISTICS:** English ale yeast  
for the production of a large range of ales.

Fast fermentation. Sedimentation: high.

Final gravity: medium. Temperature range:  
12-25°C (53.6-77°F) ideally 15-20°C (59-68°F)

**DOSEAGE:** 11.5 g in 20 to 30 litres.

**PITCHING:** Sprinkle into wort.

NET WEIGHT: 11.5 g

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# Hazy Arguments to Extract the Truth

It's funny how things work. Trends develop, then people grumble about them. "You're destroying the old ways. This isn't right! You're a terrible person because you like this thing, etc." It's gone on through history from well before people getting bent out of shape at Chaucer for producing a vernacular story (*The Canterbury Tales*—aka the bane of high-school students) or the Beatles and their mop tops.

The beer world is not immune. Look all the way back to when hops first started their way toward prominence. They were resisted—not traditional, they said, no good for you. There are myths about hops being called pernicious and wicked—an attitude reflected in the pre-craft-brew tastes of macro America—but yes, our beloved, industry-driving hops were once an ill-considered trend.

Today, the debate still rages, although the battle lines are in new places. The latest front is the hazy IPA, just the latest in a long line of arguments about what constitutes an IPA. In the past 20 years of American brewing, we've seen the original East Coast vs. West Coast battle (malt character or no), the rise of the double IPA ("Hey, isn't that just another name for a barleywine?!"), the IBU Wars, and the brief appearance of the black IPA before people remembered that porter was a better idea.

The hazy "juicy" thing has irritated people left and right as well as won a ton of adherents who seek out the latest prized goodies. It's easy to see both sides.

## The Traditionalist View on Hazy IPAs

- » Haziness is a sign of lazy brewing, and there are a lot of bad hazy IPAs out there.
- » Haziness only belongs to certain styles, such as hefeweizen and witbier.
- » IPA is supposed to be bitter, not just "hoppy."
- » Hazy IPAs have an unwelcoming and unpleasant mouthfeel that impedes drinking.
- » Once you get past the label, it's hard to tell different hazy IPAs from a brewer apart because the flavor is overwhelmingly hops oil.

## The Modernist View on Hazy IPAs

- » The style showcases massive hops aromas and flavors without being bitter.
- » The haze adds a dramatic appearance to the beer that reinforces the juicy hops character. (We drink first with our eyes!)
- » Haziness is derived from a combination of hops oils and protein transformations, not leftover yeast and dregs.
- » Hazy IPAs are more approachable than old-school bitter-focused American IPAs.
- » The ephemeral nature of hazy IPA means it can only truly be captured in a local market.

You know the problem with listing out things like that? I can totally see fair scores in each list. (I know I wrote them, so naturally I'm going to). I fight against the laziness perception, I prefer more bitter IPAs, and after a while, I'd be hard pressed to tell you the difference between one can and another. At the same time, I can't believe the hops aromas, and when the beer is done right and in good shape, I hate to admit it—but the haze can be dramatic.

Safe to say, as much as the traditionalists have fervently wished for it—the hazy IPA doesn't appear to be following in the retreating footsteps of its earlier trendy cousin, the black IPA. Sure, it may recede from the omnipresent heights of today, but it's got a foothold, and it's staying.

After all this time, we've got a pretty good bead on what causes that glowing craziness. You just need an appropriate yeast strain, some good protein-rich adjuncts, and a ton of late-addition hops to push the oil content sky high. It's a technique like anything else. Whether or not it appeals to you, well, that's your ball to call.

In other words, if you're steeping grains (and as much as I believe in the power of extract, you really should be steeping fresh-cracked grains), you can steep your cracked oat malt and get adequate conversion. Just watch your crush. Oat malt is remarkably skinny and can slip through a lot of mill gaps unharmed. For that reason, I like to mix in pale malt to aid in crushing and add some more heft to the steeping liquid. If you're feeling cheeky, throw in some Golden Naked Oats for sweet oat character as well.

Just keep in mind that you want your gruel to land in the 150–165°F (66–74°C) range for 20 minutes.

## Brewing It

Surprisingly, that's the toughest nut for an extract brewer to crack in the arena of hazy brewing. Beyond this point, it's just being sensible. When shopping for extract, choose the freshest palest liquid extract you can find. Look for extracts that call out a Pilsner character.

Choose a strong haze-helping yeast—Wyeast 1318 London Ale III is a solid go-to. Look also for Imperial A38 Juice (see "Finding the Right Yeast to Create Hazy IPAs," page 74 for more about this one) and White Labs WLP066 London Fog, among others. Get a starter going to make some healthy sugar eaters.

On brew day, steep your grains and watch the odd swirling character of the oat malt come out. After you strain and rinse the grains and bring your grain tea to a boil, take your pot off the heat and stir in ¼ to ½ of the extract. This small addition helps adjust the pH of the wort, which will make the hops chemistry work more efficiently.

Once the wort is back to the boil, I like a small addition of bittering hops such as Warrior, but I'm a bitter West Coaster.

Since we're not extracting bitterness, a short boil suffices. I go for 20 minutes, remove the kettle from the heat, and add the rest of the extract. I bring it back to the boil for 10 minutes, then cool the wort to 170°F (77°C).

And now, this is where the true fun of the style comes in—it's time for your hops to take a bath. Stir the kettle vigorously and add your hops for 20 minutes. Your hops steep, unleashing goodness.

Chill your wort down with dilution water (if doing a concentrated boil) or any process that works for you. Pitch your healthy yeast and wait 3 days. After 3 days, hit the

fermentor with more hops and let the final bit of magic happen. Interactions between the yeast, the hops oils, and the proteins in the wort will cause a stable haze to form. If you're lucky, you've got a beautiful golden orange glow to look forward to.

After 7 days on the hops (10 days total fermentation), you should be ready to bottle. At this point, your IPA is on a ticking time clock toward oxidized hops characters that will make you blue. So work carefully and quickly—bottle or keg with the minimum amount of oxygen exposure possible. Let your beer carb and enjoy. These beers are best within a month, so get to it! You need to make room to make more!

Let's stop and back up for a second—what changes if I'm brewing all-grain? Not much. I'm replacing the liquid malt extract with 12 lb (5.4 kg) of pale

malt and mashing that at 152°F (67°C) for 60 minutes with my other grains and then sparging. All told I'm adding more time (while saving money on the grain), but all the boil, fermentation, and packaging steps? Exactly the same.

And best of all, there's nothing stopping any of us time-strapped brewers from throwing one of these together right now. Step out of your extract-hating haze and make the beer. You'll be high on hops in no time! 

## Choosing Hops for Your Hazy IPA

How do you choose your hops? Lots of different philosophies abound, but I implore you to be thoughtful and pick a strategy. For hazy IPAs, I prefer a straight line of continuity in tone. You can mix flavor streams, but it's a tricky thing to pull off.

Do you want your beer to be orangey, citrusy? Go for the classics: Cascade, Centennial. Want it dank? Blow out the stack on Columbus and friends. For this IPA, we're going more fruity and tropical with the pineapple/mango of Citra and Mosaic. Galaxy would work well here, but nobody can get their hands on it!



## MAKE IT Extracting the Hazy IPA

This quick and tasty hazy IPA uses malted oats for a luscious body to support a ton of hops oils.

### EXTRACT

**Batch size:** 5.5 gallons (20.8 liters)

**OG:** 1.057

**FG:** 1.012

**IBUs:** 77

**ABV:** 5.9%

### MALT/GRAIN BILL

9 lb (4.1 kg) Pilsner liquid malt extract

1.5 lb (680 g) oat malt

1 lb (454 g) pale malt

8 oz (227 g) Golden Naked Oats

### HOPS SCHEDULE

0.50 oz (14 g) Warrior [16% AA] at 30 minutes

2 oz (57 g) *each* Citra [11% AA] and Mosaic [12.5% AA] at whirlpool at 170°F for 20 minutes

### DRY-HOP SCHEDULE

2 oz *each* Citra [11% AA] and Mosaic [12.5% AA] on day 3 of fermentation for 7 days

### YEAST

Wyeast 1318 London III, Imperial A38 Juice, White Labs WLP066 London Fog

### DIRECTIONS

Steep the grains at 150–165°F (66–74°C) for 20 minutes in 5 quarts (4.7 l) of water. Rinse the grains with an additional 5 quarts (4.7 l) of 170°F (77°C) water. Add 4 quarts (3.8 l) of water to the kettle and bring to a boil. If you're doing a full boil, add 12 quarts (11.4 l) of water.

Remove the kettle from the heat and dissolve 1/3 of the malt extract (3 lb/1.4 kg) in the wort. Bring the kettle back to a boil and add the Warrior hops. After 20 minutes, remove the kettle from the heat and add the remaining extract. Return to the boil for a final 10 minutes.

Cool the wort to 170°F (77°C) and stir to form a whirlpool. Add the Citra and Mosaic hops. Steep the hops for 20 minutes before chilling the wort to 66°F (19°C).

Aerate the wort, pitch your yeast, and ferment at 66°F (19°C) for 3 days. Add the dry hops and continue to ferment for 7 more days. Package, carbonate, and serve the beer. Consume within a month.



## BREWER'S PERSPECTIVE

# RUNNING DOWN THE UNMARKED ROAD OF MILKSHAKE IPA

**Peter Kiley**, head brewer of **Monday Night Brewing** in Atlanta, Georgia, has a lot of opinions when it comes to milkshake IPA. Since it's not a fully formed style, he enjoys playing with the parameters and bringing a little bit of childhood joy to a pint.

**MILKSHAKE IPA IS NOT** a classic beer style, so everyone is allowed to have an opinion. When it comes to milkshake IPA, first you have to give hats off to Tired Hands Brewing Company (Ardmore, Pennsylvania) who put it on the pedestal for all of us to look at. It's now the kind of beer with which all of us get to play around and allow it to be what it is, but also what it could be.

Because of the name, it leads you in a direction that is not inherently beer. So you need to find a way to reconcile both the desert thought and the beer thought. Lactose is obviously a big part of this. You need a lot of it. We also use vanilla. That's a good base of the flavors you want in this kind of beer, and then you can build out from there.

Right now, we're making a bunch of these beers for our Adult Summer Camp program. So we have one that is mint chocolate chip, one that is peanut butter, and one that is strawberry vanilla. Honestly, like a lot of brewers, I never thought I'd be adding things like chocolate and mint to a beer, but here we are. Basically I think these beers work best when you're kind of inspired by those ice cream-parlor flavors you enjoyed as a kid.

When we make these beers, we have one base recipe, and although there aren't too many set guidelines, we basically stay within the guardrails. We're doing lactose on the lower end, but still a lot—maybe about 8 to 10 percent. Some people are going as high as 20 to 30 percent.

Since it's an IPA, you want to make sure that the hops are coming through, but you don't want the IBUs to be too strong because that will take away from the experience. For me, it's no more than 50 IBUs on the kettle-addition side, and we add most of them in the whirlpool because that's where we get more character and unlock aromas.

A massive amount of dry hopping is where to get the best hops experience, I've found, while still letting the other flavors shine. You want to know it's an IPA, but you want your brain to have this trick while you're drinking it. The trick is in the creaminess of the mouthfeel and the vanilla character but also in the added ingredients.

We found that we get the best results by adding the fruit and the other flavors to the base beer post fermentation on the cold side. And you don't have to be limited. You can be as creative as you want to be. Being crazy as shit is the point of these beers. Work with the ingredients in different ways. See what happens when you use whole ingredients, or when you chop them, or prepare them in different ways. There are so many different kinds of the same ingredients that what you use and how you use it can dramatically change the finished beer.

But, you need to add the ingredients post fermentation. If you do it before, then you lose a lot of the key flavors and aromas that you want in the finished product.

One thing that I really do like about these beers is that they are an experience. As I said earlier, the name is going to

remind you of something even before you taste it, so you need to deliver on that. When people come into the brewery, I want them to taste these beers, and it's not about the quantity, or getting drunk; it's about the quality of the experience. Producing this "dessert" but making sure it's still a beer is paramount. We're beer makers first and foremost, and we can't lose sight of that, no matter how crazy we get with the ingredients.

A cellar team can really shine with milkshake IPAs. We'll make a 30-barrel batch of our base and then split it off into four or five tanks. Our cellar team has the chance to get creative with ingredients and amounts and to spend time learning what works, what doesn't, and what is going to taste great.

Packaging is tricky for us. I need to ask myself whether the beer is something that we're willing to can, and usually it's not something ready for distribution because there can be volatility. But sometimes it makes sense because some of these beers, I don't want in my draft lines. It comes down to what a brewer or brewery feels comfortable with.

If you're making these at home, be brave. This is where you can flex your creative muscles and try something outside your wheelhouse. Try unique combinations. But you need to document your methodology. There's so much going on that in order to replicate what works or fix what doesn't, you need to make sure you're taking notes. It's the old saying: the difference between science and messing around is taking notes. Even when you're working with a style that isn't a style, you need to make sure you know how to reproduce recipes. 

## MAKE IT

# Slow Churn Milkshake IPA

This creamy sweet milkshake IPA is a perfect complement to summer.

### ALL-GRAIN

**Batch size:** 5 gallons (19 liters)

**Brewhouse efficiency:** 90%

**OG:** 1.0689

**FG:** 1.0149–1.0177

**IBUs:** 50

**ABV:** about 7.2%

### MALT/GRAIN BILL

6.8 lb (3.1 kg) Pilsner

1.7 lb (771 g) rolled oats

2.2 lb (998 g) white wheat

11 oz (312 g) honey malt

### HOPS AND ADDITIONS SCHEDULE

0.26 oz (7 g) Simcoe [13% AA] at FWH

1 lb (454 g) lactose at 10 minutes

0.81 oz (23 g) Citra [14% AA] at whirlpool

0.81 oz (23 g) Ekuanot [15% AA] at whirlpool

0.31 oz (9 g) Mosaic [13% AA] at whirlpool

### Dry-Hop Schedule

1 oz (28 g) *each* Citra [14% AA] and Mosaic [13% AA] 1–2 days into fermentation

1 oz (28 g) *each* Citra and Mosaic 3 days into fermentation

2 oz (57 g) *each* Citra and Mosaic after the yeast drops

### YEAST

Wyeast 1318 London Ale III

### DIRECTIONS

Mash the grains at 164°F (73°C) for 45 minutes. Stabilize the temperature at 154°F (68°C). The pH should be 5.25. Vorlauf until your runnings are clear, then run off into the kettle. Don't forget to add the first wort hops as you fill your kettle. Sparge the grains and top up as necessary to obtain 6 gallons (23 l) of wort—or more, depending on your evaporation rate. Boil for 75 minutes following the hops and additions schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 66°F (19°C). Aerate the wort and pitch the yeast.

Ferment at 66°F (19°C) following the dry-hop schedule.





## BREWER'S PERSPECTIVE

# SWEETNESS WITHOUT THE CLOYING CHARACTER

**Scott Vaccaro** of **Captain Lawrence Brewing Company** in Elmsford, New York, started off his professional brewing career making West Coast IPA. Now he turns out modern hops-forward styles, many with lactose. Here he shares his insight on why lactose works and what it brings to IPA.

**BREWING THESE SWEETER IPAS** has been a huge shift for me. I went from brewing bone-dry, highly bitter, aromatic West Coast IPAs, which is what I grew up dreaming about and drinking at home, to joining this industry shift for sweeter IPAs. It's not unlike what happened with the IBU wars years ago when everyone wanted to outdo each other on bitterness. Thank goodness we've gotten away from that, and now it's about the flavors and the aromas.

Lactose is milk sugar, and it is full of unfermentable sugars. Lactose offers a little bit of backbone and sweetness that elevates the hoppiness in a beer in a positive way. If you think about a New England-style IPA, there's a lot of vegetative matter that comes from dry hopping and what goes into the kettle. When you add lactose to your boil, it helps those flavors and, more importantly, I think it puts a little more meat on the bones of the finished beer.

Lactose turns an IPA into an interesting, smooth, and flavorful drink. It definitely adds to mouthfeel and gives the beer a fuller body.

When we use lactose, it's a balancing act. We want to have the combination of unfermentable malt-derived sugars and lactose in a beer that can carry all that hops content. Because of its sweetness, we think lactose works well with the more modern hops—Citra, Mosaic, and the like—especially since we tend not to overly fruit our beers.

However, lactose really does help when it comes to brewing beers that highlight a lot of different fruits. If you use it with some of the tarter fruits or berries, you're going to get a super-creamy mouthfeel from the lactose that helps those flavors round out and become more palatable.

How much is enough to use is a question we get a lot. I think the answer is



## BREWER'S PERSPECTIVE

# BLENDING BANGERS

**Jude La Rose, Jeremiah Zimmer, and Justin Miller** of Chicago's **Hop Butcher For the World** offer advice for successful hops blends.

**IF YOU'RE GOING TO** use certain hops, you've got to learn what they're going to produce. It's easy as a homebrewer or pro brewer to get sucked into a description, but you really have to find out for yourself through sensory analysis, through rubbing, through tasting beers that use that hop.

The safest way for us to really get to know a hop is to pair it with things we know that work. We know what Citra brings to a beer at 7.5 percent versus 5.75 percent; we know what Mosaic, Vic's Secret, Galaxy, Simcoe, and Cascade do. So when we add hops we've never used before and get that new angle to something, then we taste that beer and can ask, "Alright, what if we paired it with this?"

We'll use a hop like Motueka and read that it has a 0.8 oil content, and we want to pair it with Citra which has a range of 1.8 to 2.5, so we start to take into consideration that if we want to

dry hop with 2.5 to 3 pounds per barrel, we need to consider the hops we're using and what their oil contents are.

Recently, we got our hands on some Sabro and paired it with some Citra. We went 60 percent Citra and 40 percent Sabro; the net result was that the Sabro just punched its way through. It was the more intense of the two. So we asked, "How the hell did that happen? We used 60 percent Citra, and it's the banger here." Then we looked at the oil content, and Sabro is a 3.8 at max, and Citra is maybe a 2.5. That's why this beer netted out as it did.

For the next beer, we did a Mosaic beer with Sabro, and we took a look at the oil contents and said, "We know what the variable was like with Citra and Sabro at 60/40. Let's keep the variables consistent and just replace Citra with Mosaic, and learn what's going on with Sabro." The Sabro was intense, but not nearly as intense as it was with Citra. So then you're starting to form this catalog in your mind of things going on. You have to brew it and take that chance, but that's how we're starting to learn what these hops are all about.

Then when you rub certain hops in Cryo form, it can change your perception of those hops. One of those hops for us was Ekuanot. It's a hop we liked using in smaller amounts because the classic T-90 pellet version contains a decent amount of vegetal/green-pepper characteristics. When we use it in large amounts, that starts to come out and can get a little overbearing. However, when you use Ekuanot Cryo, that vegetal matter is nonexistent. It's straight tropical fruit to the highest extent. It's like "Where was this hop my whole life? Why can't I use this all the time?"

PHOTOS FROM LEFT: SHUTTERSTOCK; MATT GRAVES/WWW.MGRAVESPHOTO.COM; 5 ON 5 PHOTOS; MATT GRAVES; COURTESY PIZZA PORT; COURTESY FAHHEAD'S; JAMIE BOGNER; MATT GRAVES

usually more than you think it is. But, it's personal. You can tell from drinking different beers which one you like more than others. For me, personally, I don't want it to be over the top, so we start off by asking how much residual sugar we want in the beer and how we can get there with the mouthfeel we want.

I think lactose has become as popular as it is as an ingredient because it offers a rounded sweetness but isn't super-cloying like some malt-forward beers. Think of some of those American Oktoberfests that are all Munich malt or beers made with 100 percent Marris Otter. You get all that malt sweetness, and it's just heavy. With lactose, you get sweetness, body, and that creamy mouthfeel.

If you're brewing with lactose at home, start at 5 percent of your malt bill and go from there. Boil it up so it's sterile and use it in a recipe that you've done in the past, so you have some historical knowledge of where it will finish and where you know the beer can be.

Using lactose isn't much different from using any other ingredient; it's about practice. But adding it to your existing recipes, you can taste the difference and learn about it and what it does with other ingredients and how it presents in the final beer.

Lactose gets a lot of attention, and it adds a whole new dimension to IPAs, but it's still always important to remember that it's just one ingredient that is part of a much bigger package. 



# FIVE ON FIVE

The India pale ale is the best-selling category in craft beer, and there are a lot to choose from. What stands out and is worthy of your glass? We asked the brewers behind the gold medal-winning beers in the various IPA categories at the 2018 Great American Beer Festival to share their picks.

## Half Acre Beer Company Bodem

Aaron Dahl, Head Brewer at Alarmist Brewing in Chicago, Illinois

"I have admired and been inspired by Half Acre's IPAs for years. I love everything about their new go-to IPA, Bodem. It's their riff on what the IPA is, was, and will be. Late hops/tropical, juicy, fruit hops saturation rides a clean grist presence into a bright and beautiful beer—a true nod to the IPA currents of today, while maintaining the hops foundations that Half Acre has worked hard to establish in Chicago."



## Pizza Port Ponto

Doug Constantiner, Founder & CEO, Societe Brewing Company in San Diego, California

"Generally, I'm a fan of anything from the wide variety of styles from Pizza Port (Solana Beach, California), but I think they really excel when it comes to IPAs. And of their IPAs, I'm particularly fond of Ponto, their SIPA (sessionable India pale ale). Since it's almost constantly summer in San Diego, it's nice to have the IPA flavors we love so much but in a super-sessionable package. It has all of the hoppy, piney, and citrusy flavors with a low ABV. It's the definition of crushable."



## Fat Head's Brewery Head Hunter

Steve Bischoff, Head Brewer at Root Down Brewing Company in Phoenixville, Pennsylvania

"There are many fantastic IPAs out there, and it can sometimes be hard to choose which one will fill your glass next. One of my favorites is Head Hunter from Fat Head's Brewery (Middleburg Heights, Ohio). Loaded with flavors of citrus and pine, not too strong but not thin either. It's always reliable and delicious. A great decision in a sea of options."



## Pinthouse Pizza Electric Jellyfish

Brad Kominek, Head Brewer at Noble Ale Works in Anaheim, California

"What Joe and the team over at Pinthouse Pizza (Austin, Texas) are doing is a downright blessing for IPA lovers. They layer those hops flavors throughout the entire brew process with these amazing hops they've chosen, and it just makes for some of the most beautiful and complex hoppy beers I've ever had. In Electric Jellyfish, it seems as if there is an overall complexity from layering hops that makes their beer an excellent experience. The body is medium and pleasant with just enough bitterness to clean up but not linger. These guys are super-fire!"



## La Cumbre Brewing Company Elevated IPA

Chris Keeton, Duke of Alchemy at Alaro Craft Brewery in Sacramento, California

"Elevated IPA from La Cumbre in my hometown of Albuquerque, New Mexico, is the perfect IPA, in my opinion. A perfect balance of C-hops and new-age hops in the dry hop give it a beautiful pine and citrus that you can smell before you even pick up the glass. The malt backbone gives this beer the mouthfeel and body to handle the 100 IBUs and keep the hops balanced and oh-so-enjoyable."





## BREWER'S PERSPECTIVE

# FINDING THE RIGHT YEAST TO CREATE HAZY IPAS

When you're turning out New England-style IPAs and pale ales, you need a workhorse of a yeast. **Nick Soulias**, the head brewer of **Tin Roof Brewing Co.** in Baton Rouge, Louisiana, has found one, and the medals his beers rack up (including Great American Beer Festival gold) show that it's working.

**OUR HOUSE YEAST IS** Imperial Organic Yeast A38 Juice, and I love it for the ester profile. It has these esters of mango and a lot of citrus pith and zest—especially lime zest. When combined with the hops we like—Simcoe, Citra, Amarillo, Mosaic—it just vibes. And it really responds well to the conditions we put it under.

For brewing our regular IPAs, we whirlpool the collected wort to homogenize any salts or nutrients before cooling the wort into a fermentation tank. We pitch the A38 Juice yeast inline with this wort.

When the yeast gets going—our standard operating procedure is about 15 percent attenuation or 2° Plato down, and that's usually less than 20 hours in—we hit the fermenting wort with the dry hops.

Most of the hops go into the fermenting wort, and then we spund the fermenting wort for 24 hours at one bar. (Spunding is a process often used by lager brewers to naturally carbonate their beer. A spunding valve attached to the tank carefully controls the release of carbon dioxide and keeps the tank pressurized.) At this point, our pales ales and IPAs are about 40 percent through primary fermentation, so we close the spunding valve and allow the temperature to free rise a few degrees and build some pressure. The fermentation vessel is essentially closed a day into fermentation. We allow the beer to sit on the hops for about 5 days after closing the spunding valve before cooling the beer to packaging temperature.

By day 7, we smell the beer and check for anything off. If it's okay, we crash on day 8. It takes about a full day to get the tanks cold, and then the beer hangs out. On day 12, we rack it out to the bright

tank to package it. The beer comes out really fresh and fresh-tasting, too.

For hops, we use about 3.3 pounds per barrel, but the beers aren't coming out super-grassy. I know a lot of brewers have an issue or struggle with green beer, and we did too. But we don't anymore. I think that's because we put the hops in contact with the yeast, which is going after everything. And making that yeast work under pressure for a few days does something to clean up that vegetal matter.

I know a lot of people use Conan or London III, but those yeasts seem better suited for letting fermentation do its thing and then hitting the beer with the hops. For us, A38 Juice works well with the hops and under pressure.

A38 Juice also plays well with other yeasts if we're doing a blended fermentation with styles such as a sour IPA. We recently did a few sour IPAs in collaboration with WeldWerks (Greeley, Colorado) and Parlor City Brewing Co. (Cedar Rapids, Iowa). In that case, we followed our normal mashing process, collected the wort, and pasteurized it. We then put it into our sour tank where we allowed the pH of the wort to drop and some of the fruit character of our house sour culture to build. We then transferred the soured wort back to the kettle and boiled it before cooling into ale fermentation. A38 Juice was a reliable workhorse with these sour IPAs. At a very low pH, it still fermented those beers out as consistently as in a clean fermentation. Also, the character of our sour culture with the tropical esters from A38 Juice just really boosted the overall funk with these thick fruity, even plum-like, esters. 

## MAKE IT

# Tin Roof Juke Joint IPA

Mosaic and Amarillo hops dominate the flavor of this American IPA. Heavy dry hopping results in berry, citrus, and tropical-fruit aromas, with earthy and melon background notes.

## ALL-GRAIN

**Batch size:** 5 gallons (19 liters)

**Brewhouse efficiency:** 85%

**OG:** 1.059

**FG:** 1.014

**IBUs:** 35

**ABV:** 6%

## MALT/GRAIN BILL

6.9 lb (3.1 kg) Pilsen malt

1.8 lb (817 g) flaked oats

1.3 lb (590 g) malted oats

1 lb (454 g) DextraPils

1.4 oz (40 g) acidulated malt

4.16 g calcium chloride in the mash

## HOPS AND ADDITIONS SCHEDULE

5 oz (142 g) Bravo [15% AA] at FWH

4.16 g calcium chloride, 2 g calcium sulfate, and 1 g of yeast nutrient at 10 minutes

10.4 oz (295 g) Mosaic [12% AA] at late whirlpool

4.2 oz (119 g) Amarillo [8% AA] dry hop

3.2 oz (91 g) Mosaic [12% AA] dry hop

2.1 oz (60 g) Centennial [11% AA] dry hop

## YEAST

Imperial Organic Yeast A38 Juice

## DIRECTIONS

Mash the grains at 154°F (68°C) for 45 minutes. Vorlauf until your runnings are clear, then run off into the kettle. (Remember to add the FWH hops.) Sparge the grains and top up as necessary to obtain 6 gallons (23 l) of wort—or more, depending on your evaporation rate. Boil for 30 minutes, adding the salts and yeast nutrient with 10 minutes left in the boil.

After the boil, spin the wort, add the whirlpool hops, and cover. Let rest for 10 minutes. Chill the wort to slightly below fermentation temperature, about 64°F (18°C). Aerate the wort and pitch the yeast. Ferment at 64°F (18°C). When the yeast gets going, add the dry hops. Let the beer sit on the hops for 5 days. Crash the beer and package.



OMEGA YEAST



OMEGA YEAST  
TROPICAL IPA  
OYL-200  
YEAST SLURRY

ESTD 1987  
WHITE LABS  
PURE YEAST & FERMENTATION

Purepitch®

"You're holding the industry's first  
pitchable yeast grown and  
delivered in the same package.  
White Labs Purepitch is the result  
of a continuing journey to create  
the absolute purest yeast ever.  
Yeast that's never been exposed  
to the environment, in its  
most perfect, and natural state"

MFG: JUN 11  
Best By: DEC 08  
Lot #: 1058019  
★  
[Barcode]



## BREWER'S PERSPECTIVE

# OPEN FERMENTATION FOR INDIA PALE ALE?



**Above** » An open top fermenter at Anchor Brewing in San Francisco; **Below Left** » Yeast collecting from an open top fermenter at Russian River Brewing in Windsor, California.

It's hard not to smile at the sight of an open-top fermenter. Krausen either spilling over the sides or resting on top of the wort like foam on an angry sea is a sign that the yeast is happy and working hard. Fewer breweries than ever are employing the method, and not many of the ones that are use it for IPAs. **Anchor Brewing's** Head Brewer **Scott Ungermann** explains some of the benefits and potential drawbacks to running an IPA through the process.

**A BIT OF A HISTORY LESSON FIRST.** In 1975, when Anchor Brewing savior and previous owner Fritz Maytag decided to make Liberty Ale, he needed to come up with a method for dry hopping because it wasn't something that was really being done. Open fermentation was all he and the brewery had known, and late-addition hopping wasn't an established method outside of some folks doing it in casks.

So he would ferment in the open fermentors and then transfer to closed secondary fermentation where the whole-cone hops would go into a mesh bag. When you do it that way, you see diminishing returns. Obviously, in the ensuing decades, it has evolved quite a bit. There are whole new methods to achieve dry hopping and to get the flavors and aromas that we expect from IPAs into the beer.

We evolved in a lot of ways over the years. When we expanded the brewery a few years ago, we installed conical fermentors, and now we only really do our classics and a few small beers in open fermentation—beers such as Steam Beer, our California lager, and others such as porter, Christmas Ale, and Liberty Ale.

When we released our first IPA, Anchor IPA, we used the open fermentor for the first batch and then moved production to the conical fermentors. Then with our second IPA, Go West, we just used conical fermentors because when you use open fermentation, you're using two vessels when you really need only one. We were recirculating the beer through hops to impart aromas and flavors, but it wasn't terribly efficient.

We have been experimenting with our open fermentors on a double IPA, and it's been interesting. What we're working on now will be just for our taproom. The beer is quite alcoholic, and because it has experienced that warmer fermentation, it's still very estery, no matter how much we dry hop it. It's really coming off more like a strong English ale with hops than a double IPA.

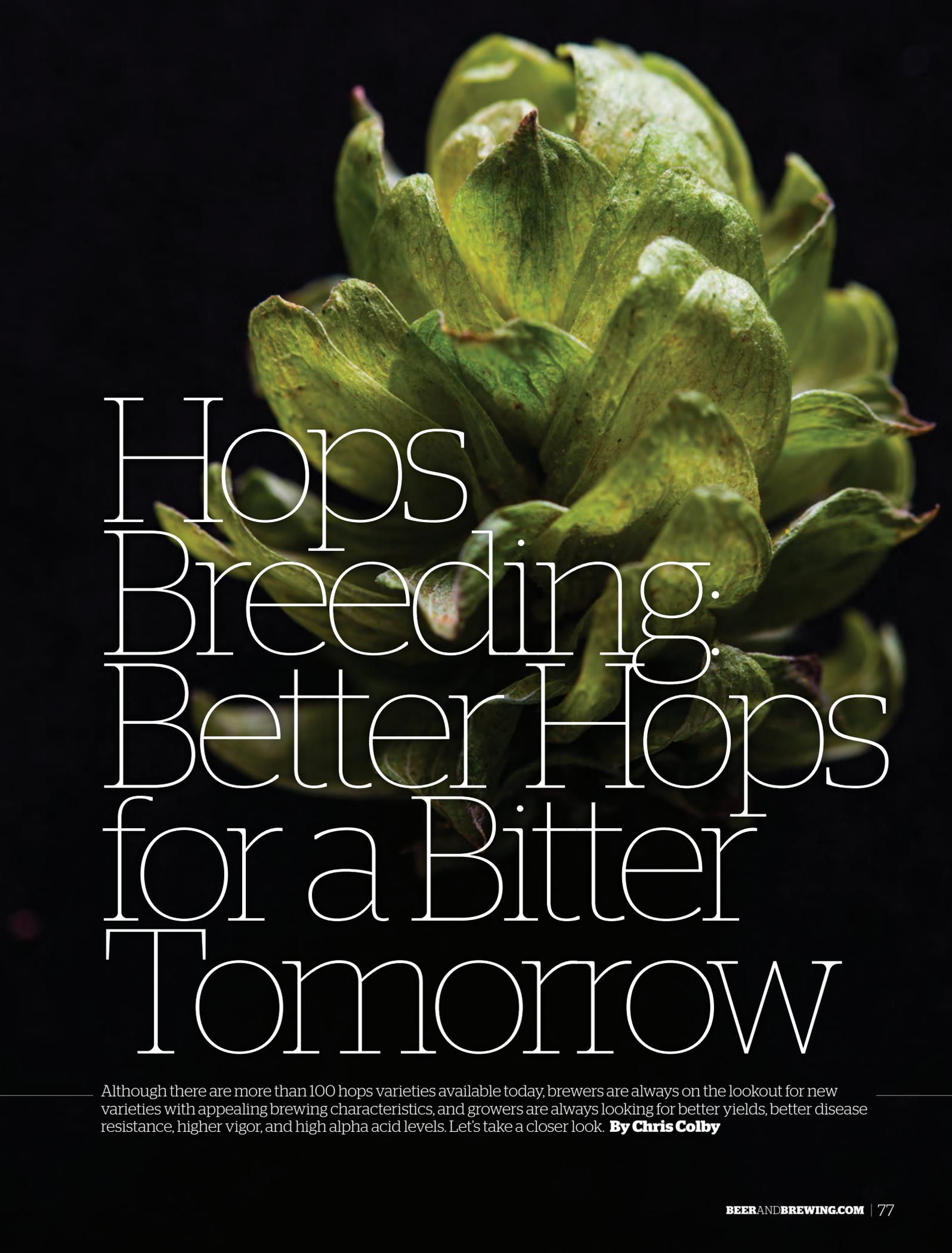
Today's IPA drinkers believe the style must be excessively hoppy or at least have a lot of hops. It no longer has to be bitter, but the aromatics need to be there. Open fermentation doesn't help with that. It creates other things that are wonderful but not necessarily what we think about with IPAs.



## Open Mic!

For an alternate take on open fermenting IPAs, listen to Vinnie Cilurzo of Russian River Brewing on episode 85 of the *Craft Beer & Brewing Magazine*® podcast. [beerandbrewing.com/podcasts](http://beerandbrewing.com/podcasts)

PHOTOS: JAMIE BOGNER; OPPOSITE PHOTOS: MATT GRAVES/WWW.MATTGRAVESPHOTO.COM



# Hops Breeding: Better Hops for a Bitter Tomorrow

Although there are more than 100 hops varieties available today, brewers are always on the lookout for new varieties with appealing brewing characteristics, and growers are always looking for better yields, better disease resistance, higher vigor, and high alpha acid levels. Let's take a closer look. **By Chris Colby**



# When you lift a glass of IPA to your nose and smell the complex, floral aroma, you probably aren't thinking about botany or genetics.

However, those aromas—and the hops varieties that they come from—are the results of generations of hops breeding. New hops varieties appear all the time, and more are in the pipeline. Here's how they come into being.

Let's start at the beginning to get the big picture. We all know that beer is made from malt, hops, water, and yeast. Brewers yeast (*Saccharomyces cerevisiae*) is a fungus and water (H<sub>2</sub>O) is a molecule. Malt is most often made from barley (*Hordeum vulgare*), which is a flowering plant (or angiosperm). Like all grasses (including all cereal grains), barley is a monocot (its seed contains only one embryonic leaf), one of the two types of angiosperms.

## That's Classified

The hops plant (*Humulus lupulus*) is also a flowering plant, but it is a dicot (or eudicot), the more abundant type of angiosperm. Its seed has two embryonic leaves. Of the more than forty orders of dicots, hops plants belong to the Order Rosales, which comprises roses and their relatives—including apples, strawberries, and peaches. Of the nine families within Order Rosales, the hops plant belongs in the Family Cannabaceae, along with hackberries and—of course—hemp and cannabis. There are three species of hops—*Humulus yunnanensis*, *H. japonicus*, and *H. lupulus*—the last of which is the species used in brewing.

## Let's Talk About Sex

Hops plants are dioecious, meaning they have male and female flowers on separate male and female plants. Hops plants don't produce showy flowers with large petals. Instead the flowers are small spiky-looking structures.

Wild hops varieties are diploid, meaning they have two sets of chromosomes—one inherited from the mother and one from the father. A few commercial cultivars

are triploid, meaning they have three sets of chromosomes. Hops plants have ten chromosomes, nine of which are autosomes (“regular” chromosomes). The final chromosome is the sex-determining chromosome.

As in humans, hops have sex chromosomes labeled X and Y, and an XX individual is female and an XY is male. (Note: Although labeled as X and Y chromosomes, hops chromosomes are not homologous to human chromosomes.)

In the wild, hops reproduce sexually. Pollen from the male plant—carrying one copy of each of its ten chromosomes—lands on the female cone and fertilizes an egg. The egg, of course, carries one copy of each of its ten chromosomes. The fusion of the pollen and the egg creates a zygote that contains two copies of each of its ten chromosomes.

This diploid zygote is encapsulated in a seed and the seed grows into a seedling (either a male or female plant) and the cycle continues. Hops also produce rhizomes (underground storage stems that can sprout both roots and stems) and can also spread asexually via lateral rhizome growth.

## Let's Talk About Cloning

Commercially, hops plants are made to reproduce asexually (clonally), and only female plants are grown for brewery use. Female plants yield the seed cones (or strobiles) containing the lupulin glands that contain both the alpha and beta acids, plus the essential oils used in brewing. Males lack cones and their presence near female plants will additionally cause the female cones to bear seeds, which reduces their brewing value.

Hops plants are perennials and, once established, sprout each spring from rhizomes. In a commercial setting, the first set of bines is cut back each spring, and the second set to emerge is trained to trellis wires when they are tall enough. A bine is a type of vine that lacks tendrils.

In the wild, hops bines grow on whatever support is available—trees, fences, etc. Hops plants can grow up to thirty feet vertically. In the late summer, they flower and then produce cones.

Typically, the density of cones is greatest at the top of the bine. It generally takes 3 years for a newly planted hops clone to begin yielding a worthwhile crop of cones.

## On the Farm

On a hops farm, female hops plants are planted as rhizomes. The rhizomes come from splitting existing rhizomes into pieces. At planting, the rhizome pieces can be as small as the length and width of a human finger. But they grow in size each year.

I grew hops a few years ago and found that, after 3 years, the underground hops rhizome was a roughly basketball-sized tangle of rhizomes. These large masses of rhizomes are called crowns. Many new hops plants can be established by breaking up a single crown.

On a commercial hops farm, the rows of hops trellises can stretch almost from horizon to horizon. When you stand in a hops field where a single variety is being grown, you are surrounded by a single hops plant that emerged from a single seed many years ago. In the case of some classic hops varieties, that seed might have sprouted centuries ago.

In addition, you are surrounded by a cultivar of hops represented by a single female and for which no male exists.

Name any variety of hops used in brewing, and there is no male of that variety. (There are, of course, males that share part of the cultivar's genetics, but never all of it. For starters, the father of any brewing cultivar shares 50 percent of its genetics with that cultivar.)

## Hops Breeding

Although there are more than 100 hops varieties available today, breeders continue to produce more. Brewers are always on the lookout for new varieties with appealing brewing characteristics. Growers are always looking for better yields, better disease resistance, higher vigor, and high alpha-acid levels (because some growers get paid by alpha, not weight of the hops). In addition, new hops varieties have to work well with the existing machines that harvest the plants and separate the cones from the bines.

“Storageability” is also an important characteristic; you can breed the best brewing hops in the world, but if its alpha

is mostly gone after a few months, no brewery will want to use it.

Hops plants have a high level of heterozygosity (a measure of genetic variance). Diploid organisms carry two copies of every gene. Each of these copies is called an allele. If an organism has two different alleles for one gene, it is heterozygous for that gene. (Or heterozygous at that locus, using the terminology of geneticists. A locus is a location.)

If the organism had two of the same alleles at that locus, it would be homozygous.

As an example, let's take the human blood type gene. In the population, there are three alleles, A, B, and O. If an individual were AA (or BB or OO), (s)he would be homozygous. Individuals who were AB, AO, or BO would be heterozygous. Heterozygosity is a measure of what percentage of loci (genetic locations, or genes) are heterozygous in an organism or population.

New hops varieties begin with the cross of a female hops plant (almost always a known brewing variety) and a male plant with a desirable characteristic. When the female flowers emerge, they are bagged to block airborne pollen. Pollen from male flowers is swabbed and applied to the female flowers, which results in seeds being produced. These seeds are planted in small planters—usually in a greenhouse—and germinated. An interesting observation about the seedlings produced from hops crosses is that none of the offspring match either of the parents exactly. For example, if a Cascade female were crossed with a male—even a male with some Cascade genetic material—none of the seeds would grow into a Cascade plant. Hops are heterozygous to the extent that each seed contains a novel mix of alleles. And, although all the seedlings are obviously hops, each is a unique hops variety.

### **Seedling Evaluation**

For the first year, the seedlings are grown in a greenhouse. Plants with obvious defects in their agronomic properties are abandoned, and the remaining seedlings are then moved outdoors. After 2 years of outdoor growth, the hops plants are evaluated for disease resistance, vigor, and yield. An initial assessment of brewing chemistry (alpha-acid levels, etc.) is also made.

### **Multi-Hill Evaluation**

Plants that advance to the next stage have their rhizomes broken up so that 15–30 clones of the seedling are produced. Each





clone is a “hill,” in the lingo, because the rhizomes are planted in a mound of soil. These plants mature and are evaluated as before to ensure the performance of the single seedling wasn’t a fluke or influenced by local conditions. (For example, a seedling may do better than others because by chance it was planted in an unusually rich bit of soil in the field.) Analysis of the plants’ properties continues, and those that perform well are planted to successively larger plots.

### Commercial Scale Trials

If any of the cultivars make it to this final stage, they are planted in a two-acre plot. This size plot can yield enough hops to cover the bottom of an oast (photo, right)—the hops drying “oven” (although it’s more like a building than an appliance) that commercial growers use. The grower can go through picking, cone separation, drying, and packaging to see whether this hops candidate is compatible with the machines and methods of hops growers. It’s also possible at this stage to conduct commercial-scale brewing trials. If everything works out, then the breeder needs to decide whether or not to release the cultivar. Given the large number of existing hops cultivars, a new hops variety needs something to set it apart from other cultivars in order to compete.

### Comparison to Other Plant Breeders

The goals of hops breeders and of other plant breeders are in many ways the same. Both want to breed varieties with increased disease resistance, increased yield (for crop plants), better storage potential, etc. They also want to produce plants that are more enticing to both growers and consumers—the public in the case of crop breeders and brewers in the case of hops varieties. However, there are also some notable differences.



Most crop plants, and commercially grown flowers, are annuals. They grow from seed, flower, and produce seed—and fruit or other edible plant parts in crop vegetables—in one growing season. A breeder working on beans or petunias can cross two plants and evaluate the outcome of the cross several months later. With a well-equipped greenhouse, the breeder could grow and evaluate at least a couple of generations of an annual plant per year.

Most other plants that other breeders work on do not grow to 30 feet and require large trellises to grow. A lot of crop plants and flowers can be bred in relatively small greenhouses and field-tested in comparably small outside plots without any infrastructure. For crop plants bred to be grown commercially, some large-scale testing with harvesting equipment is needed.

Most plant breeders work from plant varieties that “breed true.” For example, seeds from one variety of tomato plant—the result of the male part of a tomato flower fertilizing the female part—yield seeds of that tomato variety. This is usually because, after an initial cross is made, the hybrid offspring are repeatedly backcrossed to the parental type. For example, let’s say you took a tomato variety—which I’ll call Early Red Boy—with desirable characteristics and crossed it with another tomato variety with a gene that confers resistance to the tobacco mosaic virus (TMV).

The result would be hybrid offspring that were genetically half Early Red Boy and half the other plant. If offspring containing the TMV resistance gene were crossed back to an Early Red Boy plant, these second generation offspring would genetically be 75 percent Early Red Boy and 25 percent the other plant.

If offspring from this back cross that carried the TMV resistance gene were backcrossed to Early Red Boy, the resulting offspring would be 87.5 percent Early Red Boy and 12.5 percent the other type. Repeated backcrossing, with TMV resistant plants selected each generation, would eventually result in a plant that was almost indistinguishable from Early Red Boy but with a TMV resistance gene added.

Hops, which are very heterozygous, do not breed true. However, since they can be propagated by cloning (breaking up and planting rhizomes), a field of any given hops variety will consist of identical plants even if the parent plants do not breed true.

### Bract to the Future

So hops breeding entails crossing two highly heterozygous parent plants and sifting among all their offspring for one or more promising seedlings. Initially promising seedlings will be repeatedly cloned until they can undergo a full-scale test—with machine harvesting and cone separation.

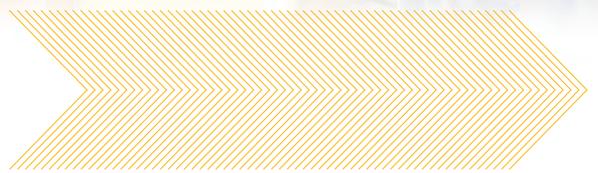
By the time a hops variety is ready to be released, a decade may have passed since the initial seedling was produced, and the number of clones of that seedling may easily be into the tens of thousands. Each acre of hops, when planted with the standard spacing, has 889 hills.

For every new variety released, hundreds of hybrid seedlings were not. So the next time you lift a pint of IPA, know that a lot of work—in labs greenhouses, and fields—has gone into the hops profile. 

Hops, which are very heterozygous, do not breed true. However, since they can be propagated by cloning (breaking up and planting rhizomes), a field of any given hops variety will consist of identical plants even if the parent plants do not breed true.



# Tasted



It's the hottest and most-brewed style in craft beer, and the range and breadth of beers called "India Pale Ale" is truly remarkable. For this issue, our intrepid blind reviewers tackled a palate-stretching selection that included **American IPA, Hazy IPA, Imperial** versions of both, as well as the emerging **Brut IPA** style and **fruited** versions of all.

PHOTOS: MATT GRAVES/WWW.MGRAWESPHOTO.COM

## INSIDE CB&B

# How We Taste & Test

Reviewing beer may sound like a dream job, but our tasting and review panel takes the role seriously. Composed of professional brewers, certified Cicerones, and Beer Judge Certification Program (BJCP) judges who have all studied, trained, and been tested on their ability to discern characteristics in beer, our panel is independent and diverse. The panel tastes all beer blindly—they do not know what brands and beers they are tasting until the tasting is complete.

Our goal is to inform you about the strengths and weaknesses of these beers as well as their relative differences (not everyone has the same taste in beer, so accurate descriptors are more valuable than straight numerical values). The quotes you see are compiled from the review panel's score sheets to give you a well-rounded picture of the beer. To add to that snapshot, we also include a brief review from an editor, although that editor's input does not impact the score.

As our reviewers judge, they score based on the standard BJCP components: Aroma (max 12 points), Appearance (max 3 points), Flavor (max 20 points), Mouthfeel (max 5 points), and Overall Impression (max 10 points). We've listed these individual component scores, and the bottom-line number is derived from adding then doubling these component scores to produce a rating on a 100-point scale.

Our judges use the following scale in valuing scores:

- 95-100 » Extraordinary**  
World-class beers of superlative character and flawless execution
- 90-94 » Exceptional**  
Distinguished beers with special character, style, and flavor
- 85-89 » Very good**  
Well-crafted beers with noteworthy flavor and style
- 80-84 » Good**  
Solid, quality, enjoyable beers
- 75-79 » Above Average**  
Drinkable and satisfactory beers with minor flaws or style deviations
- 70-74 » Average**
- 50-69 » Not recommended**

Keep one thing in mind as you read these reviews—your perception of a beer is more important than that of our review panel or editorial staff, and reading reviews in a magazine (or on the Web or in a book) is no substitute for trying the beer yourself.

TASTED: HAZY IPA



## New Anthem Brewing Songs Unsung

**100** AROMA: 12 APPEARANCE: 3 FLAVOR: 20 MOUTHFEEL: 5 OVERALL: 10

**What the brewer says:** "Pithy tropical grapefruit. Pale malt, oats. Galaxy and Citra."

**What our reviewers thought:** "The appearance of this beer begs the name to have the word 'cloud' in it. Deep golden haze with a billowy head. Wonderful nose with a blend of citrus and tropical fruits. Compelling flavor profile filled with a blend of orange, peach, pineapple, and guava. Soft pillowy body with a more assertive finish that brings some bitterness to the table to scrub the palate for another sip. Slight hops burn. Pretty awesome beer for which we would gladly regularly reserve a spot in our fridge."

**What our editors thought:** "A vividly intense grapefruit-meets-kiwi nose jumps out of the glass with a rarely found confidence and intensity of hops flavor. The sip matches the bold character of the nose, with a hint of dank diesel and asphalt, giving shape to the strong fruit notes. It's deftly balanced at maximum volume—a gorgeous achievement."

**ABV:** 7.5% **IBUs:** N/A  
**Loc:** Wilmington, North Carolina

## 4 Noses Single Hopped Citra Whimsy

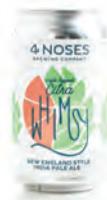
**97** AROMA: 12 APPEARANCE: 3 FLAVOR: 19 MOUTHFEEL: 5 OVERALL: 10

**What the brewer says:** "Grapefruit, melon, and gooseberry flavors from the Citra hops shine through from first sniff to last sip. Fluffier body and a mild malt profile perfectly balance this NEIPA."

**What our reviewers thought:** "The nose offers up pineapple and orange zest along with some pleasant spicy notes. The spicy hops step forward in the flavor, adding a nice touch. Nice backing malt. Bitterness is a little more pronounced than in some hazy IPAs, but it folds in nicely with the citrus flavor and soft finish."

**What our editors thought:** "A wide, round, buttery chardonnay nose with hints of honeydew and pineapple leads to a similarly round sip with similar fruity notes and just a quick hit of bitterness as it finishes."

**ABV:** 6.2% **IBUs:** 30  
**Loc:** Broomfield, Colorado



## Barrel Theory Beer Rain Drops

**96** AROMA: 12 APPEARANCE: 3 FLAVOR: 19 MOUTHFEEL: 4 OVERALL: 10

**What the brewer says:** "Citra and Mosaic hops provide the hops-driven hazy appearance, aroma, and flavor."

**What our reviewers thought:** "Tropical fruit-forward aroma with ripe passion fruit and orange. Sweetness is more restrained than the aroma suggests. Moderately low bitterness. A hint of acidity. Medium-full body and fairly balanced."

**What our editors thought:** "On the nose, a breadly malt character balances the strong orange notes underpinned by slight funky and dank notes. The sip is right down the middle for Citra-forward IPAs with prominent citrus and just enough bitterness."

**ABV:** 7.5%  
**IBUs:** N/A  
**Loc:** St. Paul, Minnesota



## Arches Brewing Low Viz

**96** AROMA: 12 APPEARANCE: 3 FLAVOR: 19 MOUTHFEEL: 4 OVERALL: 10

**What the brewer says:** "A variety of modern and experimental hops create silky, tropical, limey flavors. Cloudy and packed with tropical notes."

**What our reviewers thought:** "Rich and chewy malt backbone with an almost dank hops character and a finish that toes the line of American IPA. Finish has caramel sweetness that is cut by the somewhat aggressive bitterness."

**What our editors thought:** "A murky deep orange body offers initial concern, but the first whiff dispels fears with gentle mixed citrus fruit-cup notes and a slight touch of funk. The flavor is savory citrus with a good bit of pithy bitterness that pushes through to a quick and clean finish."

**ABV:** 7% **IBUs:** 50  
**Loc:** Atlanta, Georgia



## Black Shirt Brewing Okul Wheat IPA

**92** AROMA: 11 APPEARANCE: 3 FLAVOR: 18 MOUTHFEEL: 5 OVERALL: 9

**What the brewer says:** "Dry hopped with Simcoe and Galaxy."

**What our reviewers thought:** "Spearmint, pine, citrus, and light caramel malt create an unusual aroma. The flavor is also unusual with hints of onion, garlic, pine, and grapefruit pith in a light caramel malt backbone. Finishes a bit dry and lightly bitter, but it doesn't linger."

**What our editors thought:** "A rich deep nose offers roasted caramelized papaya and mango with a lime squeezed over them. The sip is sweet and expansive with a fruit-smoothie thickness and faint fruity notes."

**ABV:** 5.9% **IBUs:** N/A  
**Loc:** Denver, Colorado



## Coronado Brewing Rise East

**96** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 9

**What the brewer says:** “Notes of pineapple, mango, peach.”

**What our reviewers thought:** “Sweet mango and citrus aroma. Light bready malt in the background. Full-bodied with medium-sweet flavor. Medium bitterness with a lingering soft finish. Fruity, but not overdone.”

**What our editors thought:** “An orange/mango nose appears as you search for it, but a woody, earthy note competes with those softer fruits. The sip offers a slightly sweet reprieve, with a bit of yeast bite for bitterness. Settles into a tropical-fruit vibe, but stops short of the strong expression most expect.”

**ABV:** 7% **IBUs:** N/A

**Loc:** San Diego, California



## Ecliptic Brewing Phaser Hazy IPA

**91** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 3  
OVERALL: 9

**What the brewer says:** “Juicy and unfiltered, this hazy IPA stuns with a lively array of fruity hops notes. Citra, Mosaic, and Azacca hops give it its fresh aroma and flavor.”

**What our reviewers thought:** “Really nice haze with a brilliant orange color. Orange creamsicle nose. The mouthfeel jumps off the scale with big orange notes all the way through the retronasal. Sweet finish with more orange creamsicle flavors. Hits on the classic NEIPA notes.”

**What our editors thought:** “Cohesive and bright, belying individual aroma and flavor notes. Crisp fruit notes and a slightly sweet malt base make it a hazy IPA you can drink several of.”

**ABV:** 6.5% **IBUs:** 45

**Loc:** Portland, Oregon



## Great Notion Brewing Juice Jr.

**95** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** “Session IPA brewed with Mosaic hops.”

**What our reviewers thought:** “Hops aroma of garlic, onion, dankness, and pine with subtle hints of citrus hiding in the background. The flavors are much the same and are well integrated and complementary with notes of grapefruit, tangerine, and lemon much more present in the flavor than the aroma. A bit more softness to the mouthfeel would give it a bit more roundness in the way it expresses itself.”

**What our editors thought:** “Very soft peach and floral notes in the nose give way to a soft grapefruit/pineapple sweet yet pithy note. Subtle but less engaging.”

**ABV:** 6% **IBUs:** N/A

**Loc:** Portland, Oregon



## Grist House Craft Brewery Chameleon

**97** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Pineapple, papaya, and citrus dominate the nose.”

**What our reviewers thought:** “Bright ripe peach and apricot notes up front give way to juicy orange and a slightly grassy character. The bitterness balances the moderately high sweetness, and it is attenuated just enough. Finishes citrus and slightly tart.”

**What our editors thought:** “Tropical citrus and kiwi hint at sweet and delicious in the nose, but a soft yet assertive bitterness creeps into the sip under the guise of fruit pith. That perfectly placed gentle bitter note seems to amplify the juicy notes without cloying sweetness.”

**ABV:** 6.5% **IBUs:** N/A

**Loc:** Pittsburgh, Pennsylvania



## Crooked Stave Citra Exploratory

**95** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Brewed with Incognito Citra and double dry hopped with Citra.”

**What our reviewers thought:** “Brilliant light orange haze. Right out of the gate, it hits on all the right notes. Intriguing clean citrus and tropical-juice bomb highlighting pineapple. Vibrant mouthfeel with layers of pineapple and orange and a full and refreshing finish.”

**What our editors thought:** “Alternating waves of sweet citrus and musky, herbal, diesel funk offer an intriguing ever-changing nose. The sip is more citrus hops-forward but with a lingering herbal hops note that tastes the way freshly kilned hops smell.”

**ABV:** 7% **IBUs:** N/A

**Loc:** Denver, Colorado



## Firestone Walker Mind Haze

**94** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Juicy, balanced, hazy, lasting, and loaded with tropical-hops flavors.”

**What our reviewers thought:** “The citrus hops aroma has a bit of fresh-squeezed character. The flavor picks up a creaminess reminiscent of Orange Julius. Some mild pine notes. The malt supports and softens the mild bitterness in the finish.”

**What our editors thought:** “This balanced-on-the-lighter-side hazy IPA offers slightly sweet fruit-forward comfort without the heft of others in the category. Subtle peach and apricot aromas and flavors with a hint of tropical lychee and kiwi for depth.”

**ABV:** 6.2% **IBUs:** 40

**Loc:** Paso Robles, CA



## Green Bench Brewing Turbid 13

**94** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** “Triple dry hopped with Simcoe, Rakau, and Lemondrop.”

**What our reviewers thought:** “Big stone-fruit nose with layers of peach and apricot and tropical-fruit Jolly Ranchers. Vibrant mouthfeel with an almost prickly note up front. Retronasal of citrus notes. Lightly astringent/grainy on the finish. Nice blend of residual sweetness with bright hops flavors.”

**What our editors thought:** “Softly enticing nectarine and papaya notes segue into a creamy body with similar fruit notes and a mid-sip bitter hit that cleans it up before trailing off into a bit of gin-and-tonic juniper and lime.”

**ABV:** 6.5% **IBUs:** 55

**Loc:** St. Petersburg, Florida



## Hop Butcher Neon Green Relish

**97** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “Citra- and Sabro-hopped.”

**What our reviewers thought:** “Juicy aromas of pineapple, passion fruit, peach, and orange dominate the aroma. Subtle hints of coconut add to the tropical notes and impart a mild sweetness that works well within the soft mouthfeel but pushes the boundary of sweetness. The beer is well-balanced, and the finish is lightly bitter yet curiously (and deliciously) sweet.”

**What our editors thought:**

“Coconut and lime bring to mind Tom Kha Gai soup with orange slices. The body’s big, but the integration of fruit notes and bitterness is seamless. Quirky and compelling.”

**ABV:** 7.5% **IBUs:** N/A

**Loc:** Darien, Illinois



## Hop Butcher Halogen Farm

**98** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 20  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “Vic Secret— and Simcoe-hopped.”

**What our reviewers thought:**

“Dank, piney, and lightly citrus aromas suggest that this will deliver a hops punch; it doesn’t disappoint. Subtle malt sweetness tempers the assertive hops-derived bitterness. The bitterness lingers in the finish, and the mild alcoholic warmth seems to accentuate it.”

**What our editors thought:**

“Cucumber, juniper, lychee, kiwi—a refreshing cocktail of tropical deep cuts and quirky fresh hooks. On the tongue, it builds and drops in quick succession, with high-key mild, bitter, and herbal notes exploding into big tropical washes. Deliciously intense.”

**ABV:** 7.5% **IBUs:** N/A

**Loc:** Darien, Illinois



## Modist Brewing Dreamyard

**92** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 5  
OVERALL: 9

**What the brewer says:** “A hazy, juicy IPA hopped with Citra and Denali.”

**What our reviewers thought:**

“Dank cheesy hops aroma with hints of onion and garlic. A subtle malty sweetness integrates the herbal, vegetal, and lightly citrus hops flavors well. The mouthfeel softness works with the malty sweetness to provide a roundness and delicate drinkability, stripping away any harsh bitterness or astringency.”

**What our editors thought:** “A smooth and steady orange-lime-kiwi fruit nose offers hints of creaminess, and the sip delivers a very light orange-lime-zest smoothie. For the creamy nature of the beer, a remarkably light body.”

**ABV:** 7.1% **IBUs:** N/A

**Loc:** Minneapolis, Minnesota



## Resident Culture Causal Continuum

**93** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Hazy IPA hopped with Nelson Sauvignon, Citra, Mosaic.”

**What our reviewers thought:**

“Tropical-fruit nose with a bit of cedar and coconut. Lively mouthfeel with tropical-fruit flavors. Pretty standard NEIPA. Bright sweet finish feels a bit heavy but makes up for it in flavor profile. Feels like there is some lactose in there.”

**What our editors thought:**

“Nelson Sauvignon—style white-wine notes prevail with undertones of pear, lychee, and kiwi, but with only the mildest funky diesel notes that typically accompany. The sip is a touch chalky with a hint of herbal spice that gives structure to the tropical-fruit notes.”

**ABV:** 7% **IBUs:** N/A

**Loc:** Charlotte, North Carolina



## Standard Brewing OK Fine

**96** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 20  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** “Azacca, Mosaic, El Dorado, Sabro, oats, wheat, etc.”

**What our reviewers thought:**

“Decidedly citrus-forward aromas and flavors of orange peel, lemon, and tangerine with some earthy and piney hiding in the background. The soft mouthfeel accentuates the sweeter hops notes. The finish is bitter, but not harsh, and has a curious citrus tang to it.”

**What our editors thought:**

“Guava and chardonnay complement the light woody coconut note on the nose, while the mid-sweet sip and soft low bitterness amplify the fruit notes. A tad sweet, but refreshing.”

**ABV:** 6.5% **IBUs:** 7

**Loc:** Seattle, Washington



## Iron Hill Brewery Philly Special

**92** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** “Intense flavors and aromas of tropical fruit and resinous pine dominate.”

**What our reviewers thought:**

“A touch on the lighter side of haze. Hits on more of the stone-fruit aromas with some pineapple seeping through. A bit too sweet and heavy in the mouth with a lingering dark-fruit character in the background. Big sweet finish that falls off toward being dry.”

**What our editors thought:** “The nectarine-and-tangerine smoothie nose is creamy and inviting while the sip is equal parts light pithy bitterness and soft fruit. Bright and punchy.”

**ABV:** 6.7% **IBUs:** 16

**Loc:** Wilmington, Delaware



## Odell Brewing Mountain Standard

**93** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Hops aromas of pineapple, orange, and mango. Bright hops flavors, low bitterness, and a slight haze.”

**What our reviewers thought:**

“Green CO<sub>2</sub> burn on the nose gives way to peach, orange, and passion fruit. Rich, honey-like sweetness complements the esters on the retronasal. Low-moderate lingering bitterness is slightly chalky.”

**What our editors thought:**

“Bright, yet soft and unassuming—confident and self-assured, not afraid to balance on the lighter end of the flavor spectrum. A bit of soft tropical-fruit smoothie with a sprinkle of leek and the perfect touch of citrus sweetness to pull it all together.”

**ABV:** 6.5% **IBUs:** 40

**Loc:** Fort Collins, Colorado



## Sketchbook Insufficient Clearance

**96** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “Flavors and aromas of mango, guava, pineapple, and grapefruit all combined with a soft creamy body to create a bright, juicy, easy-drinking beer.”

**What our reviewers thought:**

“Sort of an old-school take on a new-school hazy, this beer delivers grapefruit and pineapple aromas with a bitter, easy-drinking, lower ABV mouthfeel. Session-style with a firm, bitter edge.”

**What our editors thought:** “Light and zippy grapefruit and mango notes float over a similarly weightless body expertly dialed in to an easy-to-drink package.”

**ABV:** 5% **IBUs:** 65

**Loc:** Evanston, Illinois



## Tampa Bay Brewing Hop Silo 5

**97** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “Citra and Motueka hops and fresh tangerines. Hazy. Sweet citrus aroma. Medium-bodied with floral, citrus, tropical flavors.”

**What our reviewers thought:**

“Big pineapple, passion fruit, guava, orange aroma. Even bigger and juicier flavor follows, with moderate sweetness up front into moderate pithy bitterness and slight acidity that helps clear the sweetness off the palate.”

**What our editors thought:**

“Funky peach and light citrus notes are highlighted by a bright hit that’s equal parts hops and citrus-pith bitterness and tangerine sweetness, but it finishes quickly and cleanly with just a hint of pith and rind.”

**ABV:** 6.5% **IBUs:** N/A

**Loc:** Tampa, Florida



## Victory Brewing Cloud Walker

92



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Tropical and fruity elements. Dreamy orange glow and pillowy soft mouthfeel."

**What our reviewers thought:**

"Thai lime with a spicy background. Distinctive grain bill with lots of toast and a round oatmeal character that leaves a chewy quality to the finish. A hint of mint or menthol at the end adds a bit of spiciness. Well-balanced, soft, and interesting."

**What our editors thought:** "A soft peach and sharp lime offer a nice contrast in the nose, while the sip offers a prickly carbonic bite highlighted by a pointed bitterness braced by light fruit notes."

**ABV:** 6.8% **IBUs:** 55

**Loc:** Downingtown, Pennsylvania



## Brewery Bhavana Grove

99



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 20  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Sunny, citrusy DIPA."

**What our reviewers thought:**

"Big tropical nose: pineapple, coconut, mango, peach. The flavor is a similar fruit-salad mix, although it favors the peach, and there's a nice spicy edge in the mix. The aftertaste has a touch of spicy alcohol warmth, and the fruit lingers on. The backing sweetness suggests lactose as well. It's all smooth sailing."

**What our editors thought:** "Soft and cuddly, a strawberry and apricot teddy bear wraps its hands around your nose, vaping strawberry marshmallows and red Lucky Charms in a pillowy fruity haze. The sip is less amorphous, with a slow rolling light bitterness that gradually creeps in while it pushes toward a lingering orange bittersweetness."

**ABV:** 8% **IBUs:** 58

**Loc:** Raleigh, North Carolina

## Adroit Theory Now I Am Death

94



AROMA: 10  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Juicy aromas of pear, stone fruit. Pillowy malt body with a creamy full mouthfeel. Minimal bitterness. Semidry finish."

**What our reviewers thought:** "A

blend of onion and citrus hops in the nose. Soft across the palate with a blend of orange and vanilla. The initial onion whiff falls off after the aroma and settles into big citrus tones. Finishes strong with more citrus notes. Well-balanced throughout and definitely a sipper."

**What our editors thought:** "Rich tropical guava/lychee on the nose, highlighted with a touch of diesel funk. The sip is a restrained sweet-malt note highlighting tropical flavors in a compelling way."

**ABV:** 10.4% **IBUs:** 30

**Loc:** Purcellville, Virginia



## Calusa Brewing It's You, Not Me

91



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Citrusy, floral, lime-zesty. Double dry hopped with Simcoe, Mosaic, and Idaho 7."

**What our reviewers thought:**

"Slightly pungent orange-lime with a bit of black-pepper spice. The flavor amps up the same combo with a bit of bready malt. The spiciness and simpler hops pull it out of the classic NEIPA zone, but still a nice glass of rich hops flavor."

**What our editors thought:**

"Fruity with a slightly sharper edge than most, thanks to a sweaty lime note that rides up the side of the aroma. The sip is soft lime, a touch of sweet orange, a sprinkle of lemon juice, and a bit of kiwi. Any bitterness feels seamless with the overall fruit character."

**ABV:** 8.2% **IBUs:** N/A

**Loc:** Sarasota, Florida



## WeldWerks Sabro DDH Juicy Bits

95



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Brewed with Citra, Mosaic, and El Dorado hops and double dry hopped with Sabro hops."

**What our reviewers thought:**

"Perfect haze and color combination. Fantastic aroma with notes of coconut, lime, and pineapple. Striking flavor profile with big notes of pineapple, grapefruit, and passion fruit (which lends a bit of tartness). Somewhat abrupt finish with light astringency."

**What our editors thought:** "A blunt creamy vanilla-mint note drives the offbeat but intriguing nose. The flavor is coconut and wormwood with some mild citrus undertones. All in all, a curious and quirky beer that's oddly compelling."

**ABV:** 6.7% **IBUs:** N/A

**Loc:** Greeley, Colorado



## Alvarado Street DeLorean Dust

95



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Intense oily aroma and flavor. Fruity esters. Soft silky texture, light bitterness."

**What our reviewers thought:**

"Peach, orange, light papaya and banana come together for a tropical mix. The flavor brings the citrus forward into a slightly oilier version, with a bit of coconut and cherry. Mild alcoholic warmth and spice while the fruit cocktail lingers into the finish. Good malt sweetness in the main sip, but the finish is pleasantly dry."

**What our editors thought:**

"Sharp and intense with some hard-charging fruit diesel. The thick body offers a wide sure stance, but it eschews slow sluggish heft for a yeast-and-hops bite that keep it moving."

**ABV:** 8.1% **IBUs:** 45

**Loc:** Salinas, California



## Cerebral Brewing Scam Likely

92



AROMA: 10  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Brewed with Golden Promise and oats. Hopped with 2018 Galaxy."

**What our reviewers thought:**

"Dank and earthy aroma with hints of onion, garlic, and green pepper complemented by subtle pine and citrus notes. The same dank, earthy, and piney notes are present in the flavor, but they are balanced with notes of coconut, orange peel, tangerine, and peach. The soft mouthfeel complements the bitterness, and the alcoholic warmth is restrained."

**What our editors thought:**

"Kiwi and lemongrass on the nose. On the sip, a bright and drying bitterness quickly gives way to a spicy tamarind note."

**ABV:** 8% **IBUs:** N/A

**Loc:** Denver, Colorado



## Drekker Brewing Freak Parade

**93** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Brewed with local honey, lactose, and hopped with Magnum, Hallertau Blanc, Ekuanot, and Mosaic.”

**What our reviewers thought:** “Big peppercorn and lemon-peel notes on the nose. Peach and orange flesh come in on the flavor to support the bright spiciness from the aroma. Chewy malt body is cut by considerable alcohol content that dries out well in the finish to complement the smooth mild bitterness.”

**What our editors thought:** “Faint locker-room funk layers over bright orange and lemon notes. Assertively sweet yet a touch chalky, but the medium bitterness offers structure while highlighting the fruit notes.”

**ABV:** 8% **IBUs:** 70  
**Loc:** Fargo, North Dakota



## Melvin Brewing Cloudy 5000

**98** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “Hints of tropical and floral. Mild sweetness and bitterness, slightly mineral, medium body.”

**What our reviewers thought:** “Starts with a soft tropical sweetness with a dose of pepper spice that gives way to a moderate bitterness. Mango, orange, peach dominate with a lime and passion-fruit tartness to cut through the sweetness. Chewy with a medium-dry finish.”

**What our editors thought:** “Vivid tropical papaya and mango notes grounded by hints of earthy fruit skin. The sip offers a bit of fruit sweetness backed by a well-placed light bitterness that makes the fruit pop without stealing the scene.”

**ABV:** 8.2% **IBUs:** N/A  
**Loc:** Alpine, Wyoming



## Outer Range & Bearded Iris Sibirica

**91** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Brewed with Barbe Rouge and Nelson Sauvin. Subtle notes of honeydew and white peach.”

**What our reviewers thought:** “Fruity and earthy, some spicy notes. Override pineapple and tropical notes. Low malt sweetness in background. Smooth pineapple and peach flavors from initial sip to finish. Hops bitterness medium, smooth, does not linger into finish. Finishes clean, lightly fruity.”

**What our editors thought:** “Malborough Sauv Blanc notes of pear, guava, lychee, and kiwi push hard through the nose while the refined body and soft malt character thoroughly bury any hint of heat or strength. Finishes a bit sweet, but immensely satisfying.”

**ABV:** 9.9% **IBUs:** N/A  
**Loc:** Frisco, Colorado



## Prison City Riot in Maine

**94** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 9

**What the brewer says:** “Citra, Mosaic, Simcoe hops. English-malt backbone.”

**What our reviewers thought:** “Hints of peach, pineapple, and passion fruit complement the citrus and pine hops aromas. Soft mouthfeel, subtle malt sweetness. Tangerine, lemon, and pine flavors, with hints of onion, green pepper, and garlic. A faint note of boozy warmth.”

**What our editors thought:** “The *de rigueur* Citra and Mosaic nose takes a bit of a turn with strawberry and peach yeast esters for a broad soft aroma. The sip is pillowy peach, apricot, and strawberry with a very light bitterness.”

**ABV:** 8% **IBUs:** N/A  
**Loc:** Auburn, New York



## Great Notion Brewing Full Grown

**91** AROMA: 10  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “DIPA dry hopped with a heavy hand using a blend of Simcoe, Vic Secret, and Citra.”

**What our reviewers thought:** “Raw flour and alcohol on the nose. Hops character is more subtle than expected. Rich, chewy, fruity, and boozy. Comes across decently balanced. The heat works well with the lingering fruit notes to provide a rich warmth on the finish.”

**What our editors thought:** “Weedy fern, aspen leaf/bark, kiwi, and humid Southern forest make this equal parts intriguing and polarizing. In the flavor, white-wine notes push forward with comforting touches of oak, slight sweetness, herbalness, and citrus.”

**ABV:** 10% **IBUs:** N/A  
**Loc:** Portland, Oregon



## Narrow Gauge Brewing King Fallen Flag

**98** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 20  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Imperial IPA double dry hopped with Citra and Mosaic.”

**What our reviewers thought:** “Peach, mango, light coconut. Grainy mouthfeel with a fairly dry finish. Esters stay on the front of the palate. You can smell the alcohol and feel a touch of it, but this beer is quite drinkable. Starts lightly sweet and complex, then fades into wanting another sip.”

**What our editors thought:** “Sweet orange, pith, and a touch of herbal dankness combine for a sweet yet characterful beer. As it unfolds, the sweet notes subside, the dank herbal wormwood notes push forward, and a whole new complexity arises.”

**ABV:** 8.6% **IBUs:** 70  
**Loc:** Florissant, Missouri



## pFriem Family Brewers Hazy IPA

**95** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “Aromas of strawberry, mango, and papaya. Notes of grapefruit, white grape, and citrus.”

**What our reviewers thought:** “Aromas of tropical fruit, citrus, green onion, and pine. Some malt-derived sweetness balances the bitterness. The soft mouthfeel also tempers the bitterness, rounding out the profile, enhancing the drinkability, and softening the finish.”

**What our editors thought:** “Crisp mango on the nose, very pale golden body with a significant but not overwhelming haze, and a refreshingly crisp yet fruity body that splits the line between East and West Coast.”

**ABV:** 7.9% **IBUs:** 35  
**Loc:** Hood River, Oregon



## Triptych Brewing Batch 600

**95** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Dry hopped with Citra. Oats and British malt. Sherbet, mango, peach, and citrus.”

**What our reviewers thought:** “Moderately strong tropical and citrus up front. Pineapple, orange, and a bit of guava. Alcohol is evident in the aroma. Tropical continues into the flavor but is richer. Moderate sweetness throughout (but drops in the finish) with restrained bitterness.”

**What our editors thought:** “An orange-smoothie nose with glimpses of sharp orange curaçao liqueur flows into a loosely structured and quite sweet body that would benefit from a touch more bitterness.”

**ABV:** 8.9% **IBUs:** N/A  
**Loc:** Savoy, Illinois



TASTED: IPA WITH FRUIT



## Lawson's Finest Ruby Red Grapefruit Double Sunshine

**99** AROMA: 12 APPEARANCE: 3 FLAVOR: 20 MOUTHFEEL: 5 OVERALL: 10

**What the brewer says:** "This special edition of our American DIPA is made with ruby-red grapefruit, adding an extra layer of mouth-watering, juicy, lush fruit character along with dank tropical aromas."

**What our reviewers thought:** "Semihazy orange with a thin white head. Lingering grapefruit aromas that transcend into a well-executed balance of grapefruit and malt character. The grapefruit and the hops complement each other well while the malt bill plays a supporting role and rounds out the picture. Semidry finish begs for another sip."

**What our editors thought:** "Crisply gentle in its expression, the grapefruit expertly expresses itself on the nose with an enticing blend of sweet citrus while the sip walks a tightrope between pithy bitterness and citrus sweetness. Hops provide support, with a comforting lingering herbal note."

**ABV:** 8% **IBUs:** N/A  
**Loc:** Waitsfield, Vermont

## Bale Breaker Sesiones del Migrante Mango IPA

**91** AROMA: 11 APPEARANCE: 3 FLAVOR: 18 MOUTHFEEL: 4 OVERALL: 10

**What the brewer says:** "Fermented with mango puree. Dry hopped with Citra, HBC 630, and Ekuantot."

**What our reviewers thought:** "The mango is not too fruity, but an earthy sweetness on the finish adds body. The hops choice is a bit strange: we expected tropical-fruit notes and got more onion/grass/citrus. Finish has nice bitterness accentuated by a bit of hops burn."

**What our editors thought:** "A strong mango, backed by a slight herbal-hops note, sets the stage for a beer-forward sip, as the mango recedes and a soft bready malt punctuated by a firm bitterness presses forward to linger in the finish."

**ABV:** 5.9% **IBUs:** 30  
**Loc:** Yakima, Washington



## Perennial DDH Cave Torch

**93** AROMA: 11 APPEARANCE: 3 FLAVOR: 19 MOUTHFEEL: 5 OVERALL: 9

**What the brewer says:** "Fermented on mandarin oranges and double dry hopped with Citra, Amarillo, and Wakatu."

**What our reviewers thought:** "Orange aromas with a touch of biscuit. Soft over the palate with bright orange notes up front that complement the citrus-driven hops. Somewhat sweet finish with assertive orange flavors and some candy notes."

**What our editors thought:** "An orange Creamsicle note on the nose pushes close to milkshake territory, and the ever-so-soft bitterness on the sip foregoes typical orange pithy intensity for an engaging, subtle, and slightly sweet citrus note."

**ABV:** 6.7% **IBUs:** N/A  
**Loc:** St. Louis, Missouri



## Terrapin Beer Luau Krunkles

**95** AROMA: 12 APPEARANCE: 3 FLAVOR: 19 MOUTHFEEL: 4 OVERALL: 9

**What the brewer says:** "Flavors of passion fruit, orange, and guava."

**What our reviewers thought:** "Strong fruit aromas (mostly orange) up front. The passion fruit and guava come out nicely in the body, with a decent backing bitterness to keep it from being one-dimensional alcopop fruit juice. Finish is relatively crisp. The fruit additions are really well-balanced without being over the top or adding weird harsh edges."

**What our editors thought:** "Pineapple and passion fruit dominate the intensely fruity nose with tropical flair. The sip is a touch more beer-ish, with a mild pithy bitterness offering the lightest of structures to the fruit-forward flavor."

**ABV:** 6.5% **IBUs:** 72  
**Loc:** Athens, Georgia



## MadTree Brunch So Hard

**91** AROMA: 11 APPEARANCE: 3 FLAVOR: 18 MOUTHFEEL: 5 OVERALL: 9

**What the brewer says:** "Brut IPA with hibiscus and rose hips."

**What our reviewers thought:** "Pretty pink color. Generic red fruit up front in the aroma. It comes across a bit like raspberry. Lemon comes through a bit more in the flavor. There's slight sour from the hibiscus in the finish. Medium-light body and dry finish."

**What our editors thought:** "A savory nose of fleshy tropical fruit avoids 'sweet' while embracing 'fruity.' It's not quite as clean and direct as some brut IPAs, but avoids saccharine clichés nonetheless."

**ABV:** 6.4% **IBUs:** 44  
**Loc:** Cincinnati, Ohio



## Tampa Bay Brewing GuavaFeber

**98** AROMA: 12 APPEARANCE: 3 FLAVOR: 20 MOUTHFEEL: 4 OVERALL: 10

**What the brewer says:** "Double IPA with fresh guava."

**What our reviewers thought:** "An interplay of guava and citrus on the nose. The guava lays a solid foundation across the palate balanced by a dose of tropical and citrus hops flavors that turn the mouth into a playground of bursting flavor. Wonderful finish."

**What our editors thought:** "An almost-perfect mix of guava smoothie, slight sweaty funk, and bright malt sweetness on the nose leans into a sip with a sharp but quickly dissipating bitterness that settles into a fruity pithy finish. Satisfyingly fruit-forward without losing its beer character."

**ABV:** 8% **IBUs:** N/A  
**Loc:** Tampa, Florida



## WeldWerks Double Guava Milkshake

**96** AROMA: 12 APPEARANCE: 2 FLAVOR: 20 MOUTHFEEL: 4 OVERALL: 10

**What the brewer says:** "El Dorado and Amarillo hops, vanilla, milk sugar, guava puree."

**What our reviewers thought:** "Deep orange color with chunks. Distinctive guava nose with vanilla. Balanced mouthfeel between the lactose and fruit while allowing the base beer to show itself. Sweet by design, but restrained."

**What our editors thought:** "Possibly the worst-looking, best-tasting beer ever, this beer requires physical action from the drinker to get the gloppy fruit matter back into solution before drinking. Patient drinkers are rewarded with an intense flavorful beer that balances fruit and hops character masterfully."

**ABV:** 8.2% **IBUs:** N/A  
**Loc:** Greeley, Colorado





## Highland Brewing AVL IPA

**99** AROMA: 12 APPEARANCE: 3 FLAVOR: 20 MOUTHFEEL: 5 OVERALL: 10

**What the brewer says:** “This unfiltered American IPA is flush with notes of pineapple, mango, and grapefruit with a piney, resinous body. It features Chinook, Citra, and Centennial hops. Voted western North Carolina’s third-best IPA in the 2018 MountainX Best of Poll.”

**What our reviewers thought:** “Peach and orange dance on your nose with a light creamy biscuit undertone. Lighter citrus (lemon, especially) comes through on the retronasal, and the underlying lightly toasted bread quality carries the beer to a moderately bitter clean finish. The fine bubbles from the carbonation add to the creaminess but are cut nicely by the bitterness.”

**What our editors thought:** “Tropical and bold with notes of sweet reduced orange, mango, and papaya. Crisp medium bitterness with a light mineral note is accessible while engaging.”

**ABV:** 6.5% **IBUs:** 70  
**Loc:** Asheville, North Carolina

## Alaskan Brewing Husky IPA

**97** AROMA: 12 APPEARANCE: 2 FLAVOR: 20 MOUTHFEEL: 5 OVERALL: 10

**What the brewer says:** “Features Mosaic hops. Brilliant clarity. Medium golden color. Tropical and stone-fruit flavors. Aromas of tangerine and papaya.”

**What our reviewers thought:** “Pale golden with a white head that falls quickly without much effervescing. Light hops aroma with orange-peel and tropical notes. Very light malt body, so hops dominate the palate, bringing more fruit. Light and easy to drink. Finishes in balance with only a touch of bitterness.”

**What our editors thought:** “Weightless tropical fruit and peach Gummi notes on the nose offer an assured subtlety that pushes through to the flavor with low bitterness and a concise finish. A smartly contemporary take on the style.”

**ABV:** 7% **IBUs:** 50  
**Loc:** Juneau, Alaska



## Bend Brewing Tropic Pines IPA

**95** AROMA: 12 APPEARANCE: 3 FLAVOR: 19 MOUTHFEEL: 5 OVERALL: 9

**What the brewer says:** “English base malt. Simcoe, Mosaic, Falconer’s Flight hops. Tropical fruit and pine.”

**What our reviewers thought:** “Almost sticky resinous pine aroma. The flavor expands on this, with orange, grape, and a bit of green pepper. The bitterness blooms on your tongue but doesn’t overpower the rest of the flavor. Strong malt balance supports the beer.”

**What our editors thought:** “A sweaty locker-room funk settles into dank and citrus notes as it warms. On the tongue, it’s warm and familiar with a slightly sweeter approach that complements the citrus notes, but the finishing bitterness scrubs the palate for the next sip.”

**ABV:** 6.5% **IBUs:** 65  
**Loc:** Bend, Oregon



## Cape May Brewing Follow the Gull

**90** AROMA: 12 APPEARANCE: 3 FLAVOR: 20 MOUTHFEEL: 5 OVERALL: 10

**What the brewer says:** “Citra, El Dorado, Azacca, Amarillo hops. Tropical and citrus aromas.”

**What our reviewers thought:** “Resinous pine aroma offers little flashes of peach, mango, and a hint of gardenia. The flavor is assertively piney and bitter, close to the edge of harshness. The dry finish doesn’t offer much to soften it. It’s within scope of an American IPA, but a couple fewer IBUs would be nice.”

**What our editors thought:** “Override mango and papaya offer an alluring tropical nose, but a strong yet soft initial bitterness quickly shifts gears. An unfiltered IPA for those not afraid of bitterness.”

**ABV:** 5.5% **IBUs:** 45  
**Loc:** Cape May, New Jersey



## Alvarado Street Mai Tai P.A.

**94** AROMA: 11 APPEARANCE: 3 FLAVOR: 20 MOUTHFEEL: 4 OVERALL: 9

**What the brewer says:** “Light on bitterness, heavy on hops aroma. Mosaic hops, American 2-row malt. Notes of passion fruit, mango, and lychee.”

**What our reviewers thought:** “Muted tropical-fruit aromas. Very tropical and bright flavors fill the mouth with pineapple, passion fruit, and kiwi. Low-to-medium bitterness with a soft finish showcasing the hops flavors.”

**What our editors thought:** “Bold tropical fruit notes evoke passion fruit and mango with deeper layers of musk, coconut husk, almond. The sip hits quickly with a tight polished bitterness that softens into lingering citrus and bitter orange peel. A thoroughly new-school approach to West Coast IPA.”

**ABV:** 6.5% **IBUs:** 45  
**Loc:** Salinas, California



## Brouwerij West Bounce

**97** AROMA: 11 APPEARANCE: 3 FLAVOR: 20 MOUTHFEEL: 5 OVERALL: 10

**What the brewer says:** “Notes of grapefruit, pine, and passion fruit, thanks to Citra, Comet, Simcoe, and Chinook hops. Not overpoweringly bitter.”

**What our reviewers thought:** “Fruity tropical aromatics of peach, passion fruit, and sweet citrus are balanced by some subtle notes of pine. The flavor is equally enjoyable with a balance of malt sweetness and hops bitterness. Virtually no lingering or harsh bitterness.”

**What our editors thought:** “Sweet grapefruit layers over cypress wood for an intriguing entry. It’s a touch sweeter than expected, which exaggerates the citrus character, and a lingering lychee note makes for a gorgeous finish.”

**ABV:** 6% **IBUs:** 70  
**Loc:** San Pedro, California



## Cigar City Brewing Space Pope

**92** AROMA: 11 APPEARANCE: 3 FLAVOR: 18 MOUTHFEEL: 4 OVERALL: 10

**What the brewer says:** “Mosaic, Citra, Hallertauer Blanc, and Galaxy hops lend notes of passion fruit and melon.”

**What our reviewers thought:** “Grassy, catty, woody, dank hops aromas. Some cotton-candy sweetness in the aroma. Clean and crisp hops bitterness with a flash of berry flavor. Medium, lightly toasted malt with some soft sweetness.”

**What our editors thought:** “Unfiltered but not quite hazy, the subtlety of the nose feels almost English (are those esters or hops notes?), and the grassy hops underpinning the fruit only further the Brit-meets-American feel. The sip is more diverse, with herbal tea-like tannic bitterness, soft citrus, and gentle strawberry and apricot esters.”

**ABV:** 7.3% **IBUs:** 45  
**Loc:** Tampa, Florida



## Coronado Brewing Set West

97



AROMA: 11  
APPEARANCE: 3  
FLAVOR: 20  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Single dry hopped, fermented with Cal Ale yeast for a lingering dryness and notes of sticky pine and ripe stone fruit."

**What our reviewers thought:** "This is exactly what we want in an old-school IPA! Bright pine and spicy hops, clean malt profile with a hint of toast, and a crisp bitter finish that isn't overly tongue peeling. Really well put together."

**What our editors thought:** "Redefining what 'West Coast' IPAs can be, the nose is soft peach and orange candy with a slight hint of hops funk. The sip is a lightly bitter fruit salad of grapefruit, peach, orange. Its power is in its restraint, making for a remarkably nuanced 'West Coast' IPA."

**ABV:** 7% **IBUs:** 57  
**Loc:** San Diego, California



## Firestone Luponic Distortion 012

92



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Pacific Northwest and German hops provide flavors of tangerine, honeydew, and strawberry Gummi."

**What our reviewers thought:** "The dank, vegetal, piney aromas of onion, green pepper, and spruce tips carry through to the flavor and integrate well. The malt profile is noticeable, giving the beer enough body to stand up to the assertive hops notes. The finish is dry and bitter but pleasantly mouth-coating."

**What our editors thought:** "Faint strawberry and cantaloupe over French pastry dough evoke a well-crafted tart that's pushed aside on the sip by a mildly bitter lime shortbread cookie."

**ABV:** 5.9% **IBUs:** 59  
**Loc:** Paso Robles, California



## Great Lakes Brewing Great Lakes IPA

92



AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Bright and citrusy, with lemon peel, Simcoe, Mosaic, Azacca, and Lemondrop hops."

**What our reviewers thought:** "Pine and berry character reminiscent of spruce tips hit your nose first. Light orange zest notes give way to a dry, moderately bitter finish. A light cantaloupe-like quality appears as it warms. Low-moderate aroma with medium-full flavor."

**What our editors thought:** "Lemon and pine on blast with a super-light body and tight bitterness. Crushably bright with a lingering lemon-forest bitterness and fruitiness reminiscent of spruce tips."

**ABV:** 6.5% **IBUs:** 50  
**Loc:** Cleveland, Ohio



## Hardywood Park Craft Brewery VIPA

91



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Heirloom Virginia barley creates a perfect sense of balance with citrusy Virginia hops."

**What our reviewers thought:** "A straightforward, classic West Coast IPA. Dank, slightly vegetal, piney aroma gives way to much of the same in flavor. Just enough malt presence, but not enough to give the beer a bit of body, making it seem a little thin. The dry bitter, but not harsh, finish lingers a bit but not in a bad way."

**What our editors thought:** "Lemon-lime notes hover over a woody and slightly grainy aroma, but the flavor embraces the comfort of generic West Coast bitterness without offering much more."

**ABV:** 5.2% **IBUs:** 30  
**Loc:** Richmond, Virginia



## Creature Comforts Tropicália

93



AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Citrus and ripe passion fruit hops aroma. Full fruit-forward hops flavor ends with a subtle bitterness."

**What our reviewers thought:** "A touch of funk on the nose with lingering strawberry and lemon. Bright body with lemon and grapefruit. Finishes semidry with bright citrus notes and a lingering bitterness. Strays from the classic American IPA."

**What our editors thought:** "A soft peach and tangerine nose is supported by a smooth and restrained bitterness that's fully present yet disappears quickly. The touch of sweetness in the body highlights the fruity notes, creating an old-school IPA full of new-school flavor."

**ABV:** 6.6% **IBUs:** 65  
**Loc:** Athens, Georgia



## Fonta Flora Hulihe'e IPA

94



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Rye IPA with Simcoe and Mosaic hops."

**What our reviewers thought:** "Pine and floral notes dominate the nose with a hint of almost vanilla-like sweetness. Finishes with a very light touch of lime to brighten things up. Dry and moderately bitter throughout. Malt and fermentation are clean. As it warms, some richer orange notes peek through."

**What our editors thought:** "Broad but thoroughly integrated warm fruit notes sit over a touch of fennel, spice, and crusty bread. The sip is classic PNW bitterness initially, fading into a bittersweet linger."

**ABV:** 6% **IBUs:** N/A  
**Loc:** Morganton, North Carolina



## Half Acre Beer Bodem

94



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Ripe tropical fruit flesh with soft melon and berry."

**What our reviewers thought:** "Light pomegranate aromas with lingering citrus and biscuit. Tropical notes flush the mouth over a soft round body. Bitterness is on the low end with the hops flavors taking the prize. A clear IPA leaning toward the hops profile of a NEIPA."

**What our editors thought:** "Watermelon, strawberry, and mango aromas and flavors swirl into an almost creamy mouthfeel despite the clarity. A remarkably delicious fruit-forward IPA as confounding as it is rewarding."

**ABV:** 6.7% **IBUs:** N/A  
**Loc:** Chicago, Illinois



## Liquid Mechanics Lucid AF

94



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Our vision of the perfect West Coast IPA. Mosaic, Citra, and Amarillo hops."

**What our reviewers thought:** "Pale golden with an off-white head that falls quickly, but laces on its way down. Tropical fruit (perhaps guava) dominates the nose. Hops dominate mid-palate; more tropical notes, opening up to pine and grapefruit pith. Finish is dominated by a hops bitterness that coats the palate."

**What our editors thought:** "Soft lemon and lime on the nose feels classic yet not overbearing, and the flavor offers a similar soft and rolling bitterness that gently asserts itself. But a slight lingering malt note keeps it from finishing as crisply and cleanly as we'd like."

**ABV:** 7% **IBUs:** 78  
**Loc:** Lafayette, Colorado



## Migration Straight Outta Portland

**92** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Bright West Coast IPA with big, tropical, juicy aromatics and crisp finish.”

**What our reviewers thought:** “Medium-strong hops aromas: grassy, herbal, light berry note. Malt aroma lightly toasted, supportive. Hops bitterness firm, clean, crisp. Malt flavor lightly caramel, toasted. Plenty of hops, but the firm malt body carries the day. The semisweet malt lingers long into the aftertaste.”

**What our editors thought:** “Crisp peach and fennel notes on the nose offer a curious expression that avoids one-note clichés. The sip is similarly clean and direct, with an immediate medium bitter note that fades into lingering peach and peach-skin notes.”

**ABV:** 7.3% **IBUs:** 68  
**Loc:** Portland Oregon



## Sketchbook Brewing Orange Door

**95** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Made with five different hops and five different malts, creating a very complex, yet well-balanced, IPA.”

**What our reviewers thought:** “The nose is as much about breadly/toasty malt as it is hops. What hops there are offer a light orange, accompanied by some cherry ester. The flavor offers a similar combination, but the citrus hops flavor is deeper, with hints of lemon and lime.”

**What our editors thought:** “Perfumed citrus notes on the nose layer over breadly malt notes for classic appeal, and while malt-forward, the crisp sip offers a touch of citrus sweetness quickly resolved by the lingering medium bitterness.”

**ABV:** 7.2% **IBUs:** 76  
**Loc:** Evanston, Illinois



## Southern Tier Brewing IPA

**95** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** “Most akin to an English-style IPA Triple-hopped on its journey to your glass.”

**What our reviewers thought:** “The nose is big and herbal: lavender and a bit of rosemary. It may be the lavender, but it also seems fairly soapy. Underneath, there’s a bit of grape and blueberry. The flavor brings the blueberry to the fore, but the herbal backing is harmonious. The bitterness is clean and lasting.”

**What our editors thought:** “A floral and herbal nose offers a bit of throw-back English feel with a touch of orange peel and honeysuckle for good measure. But it’s elevated by a deft handling of malt, as the crisp but characterful body provides the perfect foil.”

**ABV:** 7% **IBUs:** 60  
**Loc:** Lakewood, New York



## SweetWater 420 Strain: G13 IPA

**95** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “The perfect botanically sourced, strain-specific terpenes are married proprietary natural hemp flavor.”

**What our reviewers thought:** “Your chosen cannabis strain with a little bit of blueberry and other fruits. The terpene character carries through to the flavor but unexpectedly simplifies a bit into a more normal dank hops flavor. The bitterness is fairly clean, lasting into the aftertaste without being harsh.”

**What our editors thought:** “Like a great day at your favorite dispensary, in liquid form, it delivers a weedy diesel intensity at first that settles into light tropical fruit braced unflinchingly by its dank structure.”

**ABV:** 6% **IBUs:** 48  
**Loc:** Atlanta, Georgia



## Oskar Blues Can-O-Bliss Tropical IPA

**92** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** “A wave of tropical-fruit flavors featuring Mosaic, Azacca, Galaxy, El Dorado, Idaho 7 hops.”

**What our reviewers thought:** “Classic pine/citrus hops aromas with a toast background, hints of fruity esters, and some sweetness. Not overly bitter, so the lighter malty/fruity notes can linger a bit. Perhaps a bit sweet.”

**What our editors thought:** “Effortlessly bold and bright tropical, nectarine, and tangerine notes offer a wildly compelling nose in this unfiltered-but-not-quite-hazy IPA. The body offers a zero-g parabolic dive, allowing the hops to float in virtual weightlessness with only a touch of bitterness grounding them.”

**ABV:** 7.2% **IBUs:** 68  
**Loc:** Longmont, Colorado



## Societe Brewing The Dandy

**94** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** “Flavors and aromas of grapefruit, citrus, and peppery hops with a sweet-malt character and a dry bitterness in the finish.”

**What our reviewers thought:** “Light peach and orange on the nose with a very light touch of toasted malt. The flavor adds light stone fruit and citrus. Moderately bitter with a clean, dry finish. Missing the assertive pine notes of a classic West Coast IPA, but the fruit character more than compensates.”

**What our editors thought:** “Clean with a soft floral nose. Bantam-weight body gives just enough support to the gentle bitterness.”

**ABV:** 6.5% **IBUs:** N/A  
**Loc:** San Diego, California



## Surly Brewing Sleek IPA

**96** AROMA: 12  
APPEARANCE: 2  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** “Simcoe dry hopping, Sleek’s grapefruit, pine, and melon flavors race across the tongue. Dynamic hops taste. Zero drag.”

**What our reviewers thought:** “Slight haze, tropical nose with layers of strawberry, citrus, and a touch of dankness. Perfect body with the tropical hops flavors coming to the front. Juicy fruit finish with lower bitterness than the style calls for. Leans toward the creative juicy side of the style.”

**What our editors thought:** “A citronella nose mashes up fruit with mint, tire rubber, and subtle cannabis. The sip is superbly smooth in its expression of bitterness despite the impossibly pale body. Excellent.”

**ABV:** 6.5% **IBUs:** N/A  
**Loc:** Minneapolis, Minnesota



## Victory Brewing No Brainer IPA

**87** AROMA: 10  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** “Fruity and citrusy hops lead the way in this go-to, everyday IPA.”

**What our reviewers thought:** “Nuanced aroma—with hints of lemon, orange, passion fruit, pine, straw, and peach—is interesting and inviting. Flavor is fairly well-balanced and finishes dry and bitter, but not harsh, yet it lacks a bit of the depth that the aroma delivered. A touch of astringency on the back end.”

**What our editors thought:** “A tame, safe, and straightforward take on American IPA with a dialed-down bitterness and dialed-up fruity hops character. The nose is a touch musty, but the flavor steps up the fruit intensity.”

**ABV:** 6.8% **IBUs:** 55  
**Loc:** Downingtown, Pennsylvania





## Lawson's Finest Triple Sunshine IPA

**99** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 20  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Triple Sunshine is the culmination of our Sunshine series. It explodes with juicy notes of pineapple, grapefruit, and lychee. The brew exudes potent floral and herbal aromas from a deluge of dry hopping."

**What our reviewers thought:** "Fruit-forward with lemon, white grape, orange, and a bit of pineapple. Malt is very in the background, but there's a bit of bread and a hint of toast. A bit of grass and grapefruit as it warms. Quite a bit of white wine super-late in the retronasal. Alcohol is evident but kind of fruity and not harsh at all. A bit fruit-forward but still with a hint of more classic IPA roots."

**What our editors thought:** "Like a Rick Rubin-produced song that's over-the-top intense but still keeps every note in the perfect place, it's a testament to the art of hops blending where individual characters serve the whole. Bold, strong, fruit-forward, bitterness-checked, and expertly balanced, this is a flavor-forward huge IPA that will convince you to rethink any assumptions you've made about the style. Let it warm for maximum effect."

**ABV:** 10.5% **IBUs:** N/A  
**Loc:** Waitsfield, Vermont

## Archetype Brewing Shoulder Devil

**94** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Peach and apricot notes with nuances of berries, cantaloupe, citrus. Mild malt backbone."

**What our reviewers thought:** "Very restrained aroma, hints of toast and light citrus. Citrus and pine hops flavors with a pleasant, clean, and aggressive bitterness on the finish. Great balance, lingering toast, and resinous bitterness. Bold bright flavors with great balance throughout. A down-to-earth classic DIPA."

**What our editors thought:** "A crisp clean nose hints at red peach and cantaloupe while a medium bitterness in the sip feels properly in place and substantial in weight as it nicely balances the fruit, ethanol, and malt sweetness."

**ABV:** 9% **IBUs:** 72  
**Loc:** Asheville, North Carolina



## Comrade More Dodge Less Ram

**91** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Triple dry-hopped version of Superpower IPA, brewed after a truck crashed into the brewery."

**What our reviewers thought:** "Rich tropical hops aroma with pine and resin notes to balance. Tropical fruit up front with a noticeably bitter finish that comes across clean instead of harsh. Enough malt character to balance. Some candy-like notes linger on the swallow."

**What our editors thought:** "Crisp peach and funk notes become a very soft, but present, bitterness in the sip that quickly lingers as more peachy funk. Confident and intense in its high-key balance."

**ABV:** 7.8% **IBUs:** 63  
**Loc:** Denver, Colorado



## Seventh Son Proliferous

**96** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Layers of tropical fruit and citrus with a bracing pine bitterness in the finish."

**What our reviewers thought:** "Caramel-malt notes in aroma and flavor temper the hops bitterness. Hops are a bit of sweet citrus coupled with some piney notes and a bit of dankness. The alcoholic warmth isn't boozy or harsh. The lingering finish is bitter but not astringent."

**What our editors thought:** "A gorgeous guava and apricot nose invites you to dive in. The sip offers a soft supportive landing with more defined fruit notes braced by a medium bitterness that builds with each swallow. A contemporary approach applying modern hopping to the (now) classic style."

**ABV:** 8.2% **IBUs:** 85  
**Loc:** Columbus, Ohio



## Bonfire Brewing WtFO

**91** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "This iteration is heaviest on Citra but also has Mosaic, Summit, and Amarillo."

**What our reviewers thought:** "Classic American-hops profile with a dank undercurrent backed by a toasty malt body that provides enough sweetness to balance but still come across dry. Clean finish with a well-balanced bitterness. Alcohol adds a warming note without being harsh. A great example of the style."

**What our editors thought:** "Vague citrus flesh and zest on the nose, with a clean but understated style. The sip is equally bright with a light and soft bitterness that quickly makes way for the soft lingering fruit. A light DIPA, if such a thing exists."

**ABV:** 8.5% **IBUs:** 83  
**Loc:** Eagle, Colorado



## Odell Brewing Hammer Chain

**95** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Notes of drippy tropical fruit, radiant peach, and sweet stone fruit."

**What our reviewers thought:** "Inviting pine, orange, tangerine, grapefruit hops aromas with subtle hints of green onion, strawberry, passion fruit. The flavor is a balance of subtle caramel-malt sweetness and bitter hops-derived flavors. The mouth-coating finish is dry and bitter, but not harsh or astringent."

**What our editors thought:** "Orange, lime, kiwi suggest sweetness on the aroma, and the flavor follows through with equal parts sweet fruit and palate-cleansing bitterness for a balanced and enveloping beer that splits the difference between dominant styles."

**ABV:** 8% **IBUs:** N/A  
**Loc:** Fort Collins, Colorado



## Sketchbook Brewing Night Game

**94** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "This DIPA, brewed with Mosaic hops and honey, offers up the intense tropical-fruit flavors of pineapple and grapefruit with a smooth lingering finish of soft honey."

**What our reviewers thought:** "Classic American DIPA with rich citrus and pine hops character and a caramel-malt profile. A bit sweet on balance, but enough bitterness keeps things mostly in check. Warming, rich. A well-made version of the style, but missing some brightness and definition to make it stand out in the crowd."

**What our editors thought:** "A soft and slightly sweet grapefruit nose segues into a softly bitter sip that allows the sweet fruit notes to shine."

**ABV:** 8.8% **IBUs:** 88  
**Loc:** Evanston, Illinois



TASTED: IMPERIAL AMERICAN IPA

## Stone Brewing Enjoy by 7.04.19

**91** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Hazy appearance. Peach and tropical-fruit hops aromas."

**What our reviewers thought:** "Combination of hops bitterness and smooth malt. Hops flavor shows up strongly in aftertaste, woody and spicy. Alcohol medium-strong but not oppressive or harsh. Very drinkable and balanced."

**What our editors thought:** "An integrated honey sweetness-meets-herbal-citrus nose is painfully subtle, but a soft and mild herbal bitterness plays against a mild malt sweetness for a softer take on classic American-hops flavor."

**ABV:** 9.4% **IBUs:** 90  
**Loc:** Escondido, California



TASTED: BRUT IPA



## Devils Backbone Brut IPA

**95** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Brut IPA is very light bodied with a clean dry palate, thanks to lively citrus and white-grape notes from Amarillo and Hallertau Blanc hops, plus a bit of malts. It's bubbly, sparkly, low carb, and hoppy."

**What our reviewers thought:** "Mango and nectarine hops aromas jump out of the glass. The fruit continues into the flavor with an initial blast of peach and nectarine and a fruity sweet finish. Dry and somewhat thin despite lively carbonation. Low malt flavor, subtle cracker notes in the finish."

**What our editors thought:** "Subtle yet pointed pinot grigio notes offer a gentle but characterful white-wine nose with a faint citrus in the background. The sip is effervescent and bright, with an airy and weightless body that underscores the subtlety of the experience. It's difficult to even approach this as beer, as only the slightest bit of malt hints at its beer origins. But the experience is fragrant, tightly nuanced, and thoroughly well-considered—an expertly crafted beer that offers a different vision of what beer can be."

**ABV:** 6.3% **IBUs:** 26  
**Loc:** Lexington, Virginia

## Metazoa Brewing Unicorn Splash

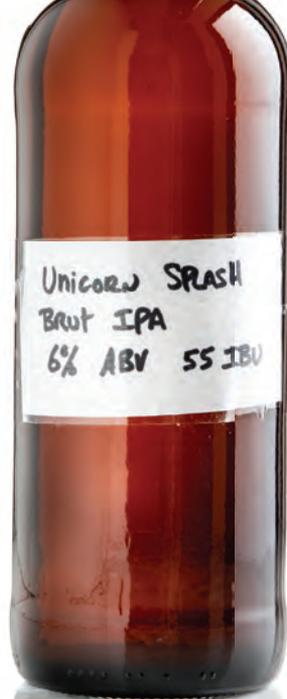
**95** AROMA: 12  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "As the brut name suggests, this is a very dry IPA. The use of flaked wheat and rice allows for the very dry character of this beer. Bittered with Citra hops and relying on Simcoe and Mosaic for its aroma."

**What our reviewers thought:** "Aroma of (maybe overripe) pineapple and dirt. Some earthy or wet hay also. Medium malt aromas of toasted white bread in the background. Hops flavor is strong and fruity with stone-fruit and tropical notes. Light malt barely supports the medium hops bitterness, with light lingering astringency. Hops flavor in the aftertaste turns earthy and musty."

**What our editors thought:** "Bold but bright, the nose is a bit like sun shining on pineapple and guava next to a white-wine spritzer with a citrus twist. Building this level of flavor into such a weightless beer is a feat, and the perfectly matched, very light bitterness still offers structure and rhythm to the airy sip. A considerable feat, thoroughly well executed."

**ABV:** 9% **IBUs:** N/A  
**Loc:** Indianapolis, Indiana



## Devils Backbone Clink

**94** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 19  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Hallertau Blanc, Nelson Sauvin, and Southern Passion hops create a fruity, tropical hops flavor."

**What our reviewers thought:** "Very high carbonation creates a beautiful head and a noticeably dry bite. Strong white-wine impression, grape notes over a spicy hops character. Light, extremely dry finish. More hops character would carry the IPA qualities better."

**What our editors thought:** "Subtly integrated hops nose offers a bit of California white, while the carbonated body floats on the tongue with mild yet sophisticated hops that pull out bits of apple and pear, light tropical fruits, and a touch of pineapple."

**ABV:** 8% **IBUs:** 26  
**Loc:** Lexington, Virginia



## Three Weavers Brewing Knotty DIPA

**94** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 5  
OVERALL: 10

**What the brewer says:** "Juicy and hops-forward, bold, sunny, and dank. Just like our friends at Knotty Woods."

**What our reviewers thought:** "The aroma has hints of peach, strawberry, tropical fruits, pine, citrus, and a subtle onion note. The flavor has a restrained caramel-malt sweetness tempering yet enhancing the hops flavors. It finishes mildly dry and somewhat bitter."

**What our editors thought:** "A clean and faintly fruity nose (peach, cantaloupe) offers an understated but intriguing approach, and those same flavors push forward matched by a firm but balanced tobacco and pine-tree bitterness offering interesting layers to explore."

**ABV:** 8.6% **IBUs:** 69  
**Loc:** Los Angeles, California



## pFriem Family Brewers Brut IPA

**91** AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Notes of papaya, watermelon, *vinho verde*, and pineapple with a quenching finish."

**What our reviewers thought:** "Earthy, spicy, and woody hops aroma, medium-strong, somewhat dank. Some tropical-fruit background aromas. Flavor follows aroma. Some cracker malt flavor in the finish. Berry-like hops flavors persist into the aftertaste. Clean and crisp."

**What our editors thought:** "A light and perfumy nose is gentle and engaging, while the softest of hops-bitterness profiles and dry body with a vague chardonnay-grape and oak-tannin note sell the brut idea well."

**ABV:** 5.9% **IBUs:** 25  
**Loc:** Hood River, Oregon



## Ska Brewing Moral Panic

92



AROMA: 12  
APPEARANCE: 3  
FLAVOR: 17  
MOUTHFEEL: 4  
OVERALL: 10

**What the brewer says:** "Galaxy and Citra hops give low bitterness and big tropical flavor. Citrus notes abound."

**What our reviewers thought:** "Initial strong pineapple, mango, and guava aroma. Light background bready pale-malt aroma. Light body with minimal sweetness. Fruity hops turn somewhat citrus in the flavor. Aftertaste has soft bitterness, drying without being astringent. Lively carbonation prevents the beer from feeling thin."

**What our editors thought:** "A touch of C-hops—style mustiness with a lemon streak shooting through it gives way to a slightly-less-crisp-than-expected body that is light on the brut and heavy on classic West Coast hops and English yeast esters."

**ABV:** 5.7% **IBUs:** 30  
**Loc:** Durango, Colorado



## Stoudts Queen of Hops Brut IPA

86



AROMA: 10  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 8

**What the brewer says:** "Brewed using Pilsner and pale-ale malts and flaked rice. Dry hopped with Citra, Amarillo, and Azacca hops."

**What our reviewers thought:** "High carbonation and wine-like nose with an aggressive resinous hops profile. The dry finish and high bitterness, with spice, onion, and tar hops notes combine for a bracing edge on the swallow. None of the light, fruity, tropical notes. More of an old-school West Coast IPA."

**What our editors thought:** "Brut goes Belgian as the phenolic yeast ester evokes a distinctly saison note. A touch of yeasty bitterness hits quickly on the sip and overwhelms any more delicate hops notes."

**ABV:** 7.9% **IBUs:** 20  
**Loc:** Adamstown, Pennsylvania



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## Sketchbook Brewing Brewery Witch

87



AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Brewed with the 2018 Pink Boots Society Hops Blend for a fruity, citrusy front to balance the dry finish."

**What our reviewers thought:** "Pours into the glass with a lively head. Waves of white-wine notes blended with light tropical fruits. Bright and full of life across the palate with sauvignon-grape flavors. Although enjoyable, somewhat one-dimensional and finishes abruptly."

**What our editors thought:** "Herbal lavender on the nose offers an almost saison-like character with a touch of yeast phenolics that cement the comparison. The sip is similarly saison-esque with a bit more malt sweetness and slight touch of citrus over a minimal bitterness."

**ABV:** 6.7% **IBUs:** N/A  
**Loc:** Evanston, Illinois



## Terrapin Beer Hoppin' Bubbly

88



AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

**What the brewer says:** "Celebrates the classic malt bill from 'The Champagne of Beers' and Terrapin's affinity for IPAs."

**What our reviewers thought:** "Toast and light fruit up front, pleasant and relatively delicate. Lush strawberry and hints of orange peel. Dry-ish on the finish but not as bracing as a lot of versions of the style. Finish has great balance with lingering pine bitterness."

**What our editors thought:** "Strawberry-orange-peel nose with a touch of breadiness. The sip is a bit too malt-forward for the nascent style but still resolves cleanly enough. A middling approach that's neither disappointing nor thrilling."

**ABV:** 6.5% **IBUs:** 26  
**Loc:** Athens, Georgia



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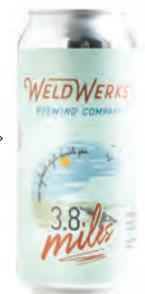
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#### Home Brew West

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*Bangkok's Brewing Equipment Shop and Thai Craft Beer Exporter (using Thailand's Grown Hops)*



**Scenes from the 2019 Craft Beer & Brewing Brewers Retreat**

Now in its fifth year, the annual CB&B Brewers Retreat has become a well-loved institution with many familiar faces returning year after year for the unique mix of brewing, learning, sharing, and socializing. The scenic waterfront Spruce Point Inn at Boothbay Harbor, Maine, played host to the 2019 edition, with Master Brewers Vinnie Cilurzo (Russian River), Jason Perkins (Allagash), JC Tetreault (Trillium), Henry Nguyen (Monkish), Sean Lawson (Lawson's Finest), Sam Richardson (Other Half), Neil Fisher (WeldWerks), and Phil Wymore (Perennial) leading small groups through brew days with ingredients supplied by BSG, brewing systems from Ruby Street Brewing, and fermentors from Ss Brewtech.