

CRAFT **Beer** & Brewing Magazine®

164

IPAs Tasted & Scored
Our Biggest Review Issue, Ever!

Grasp the
Intangibles
of Beer Flavor

FOR THOSE WHO
MAKE AND DRINK
GREAT BEER

IPA on the World Stage

A User's Guide to
New Zealand Hops,
Haze That Stays,
Modern Midwest IPA,
Decode the Aroma Matrix,
New Czech Hops, and more!

Artificial Intelligence in the Brewhouse

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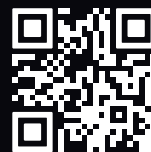


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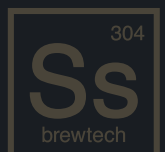
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Grasp the Intangibles of Beer Flavor

In the world of brewing, we can precisely measure and define certain things—and those things don't have a lot to do with how we smell, taste, and feel about beer.

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Midwest IPA is a unique approach, rooted in modern tradition while evolving for the future.

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Intense, complex, and punchy, the hops of New Zealand are special. Here are specific tips from the brewers who know New Zealand hops best.

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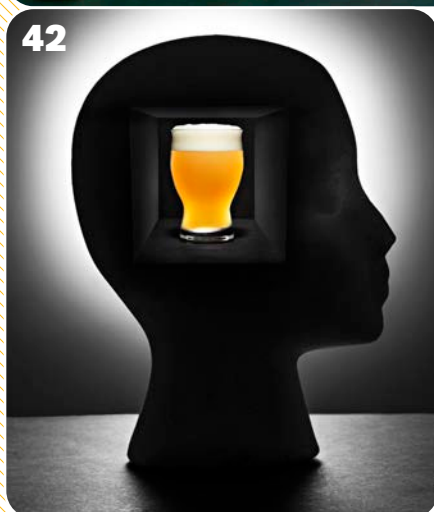
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HOP REVOLUTION X SYCAMORE

A HAZY IPA GAME-CHANGER



Sycamore's Juiciest Hazy IPA Yet, Powered by Hop Revolution's Pacific Sunrise and Riwaka

Sycamore's latest hazy IPA is turning heads, and it's all thanks to the vibrant flavors of Hop Revolution's Pacific Sunrise and Riwaka hops. Dubbed their best hazy in years by brewing director Brad, this beer delivers a tropical tidal wave—think ripe mango, tangy grapefruit, and a hint of resinous pine, all in a lush, hazy package that screams craft.

The secret? Pacific Sunrise, a rare New Zealand hop championed by Hop Revolution that's criminally overlooked, and Riwaka, the darling of bold brewers. "Pacific Sunrise is a game-changer," Brad says. "It brings guava and passion fruit vibes with a clean, sturdy backbone that makes every sip pop. Pair it with Riwaka's punchy citrus and stone fruit, and you've got a hazy that's unforgettable."

At Hop Revolution, we're passionate about hops that inspire. From our fields in Tapawera, New Zealand, we grow Pacific Sunrise and Riwaka—plus 7 other varieties (including Nelson Sauvin & Motueka)—with precision, delivering unmatched aroma and quality. We're not just suppliers—we're partners in pushing craft beer forward.

Brewer's Take: "This hazy IPA is next-level," Brad shares. "Pacific Sunrise gives it a unique tropical edge, and Riwaka cranks the juice. It's the beer I can't stop pouring."

Availability: Grab Sycamore's hazy IPA in North and South Carolina, Georgia, and Virginia. Their NZ Pils with Hop Revolution's Motueka and Riwaka hits taps soon—don't miss it!

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Evan Rail, originally from California, writes about beer from his home in Prague, where he has lived for more than 20 years. He is the author of *The Brewery in the Bohemian Forest* and many newspaper and magazine articles about food and drink in the Old World.



Annie Johnson is an experienced R&D brewer, IT specialist, and national beer judge. Her awards include 2013 American Homebrewer of the Year honors. As an influential voice in American brewing today, her recorded oral history is preserved in the Smithsonian National Museum of American History's Brewing History Initiative.



Randy Mosher has spent most of his career working on creative projects revolving around beer. Author of *Tasting Beer* and four other books, he also teaches, consults on recipes and branding, and is a partner in two Chicago-area breweries: 5 Rabbit Cerveceria and Forbidden Root.



Matt Graves is a Fort Collins-based photographer who has been turning dad jokes into pictures since 2007. Along with shooting photos for every issue of *Craft Beer & Brewing Magazine*® since issue No. 1, he shoots for various commercial and editorial clients. See more of his work at mgravesphoto.com.

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THERE'S A CORE TENSION AT PLAY IN CRAFT BEER. On one side, we embrace innovation and experimentation—fresh new techniques, ingredients, and flavors have become the baseline expectation at many breweries today. Rapidly evolving styles branch into defined substyles over just a year or two or three. Brands are birthed, raised, and often fizzle out in a year or two. Like the old tech adage goes, we move fast and we break things. If we're not taking risks and failing at times, we're not moving fast enough.



On the other side of the push-pull is our deep love of tradition. We want to take for granted that historical breweries we love, whether they're in Bamberg or the Bay Area, will always be there providing the reassuring comfort of the familiar.

We want all the modern conveniences, but we also love visiting those places with deep history and soaking up the aura earned over centuries of brewing.

Squaring these competing impulses is easy enough in the United States—our brewing culture

is longer than we tend to acknowledge, but there are precious few pre-Prohibition breweries making beer at all, much less doing it with a focus on quality rather than market saturation. It gets tougher in various corners of Europe, as brewers in countries such as Belgium, Czechia, and Germany—all with rich brewing histories going back many hundreds of years—negotiate the tightrope between cultural preservation and dynamic exploration. It's easy for those of us in North America to view certain places as historical beer museums for us to visit then leave, while the reality is that brewers in all of these corners of the world are engaged in the same modern dialogue of innovation, and today the connected nature of our communication means that dialogue happens in real time, all over the world.

This issue touches on some of these tensions—with a look at IPA, hop-forward beers, and hops themselves—through a global lens but also with an eye toward regional specialization within the United States. I've been inspired by the beers I've experienced through travel over the past year—whether it was drinking hazy IPA made with experimental Czech hops at Zichovec in Louny, Czechia; judging some truly excellent hazy IPAs made with New Zealand hops at the Polish Kraft Roku competition; or enjoying a different take on pilsner made with local hops on the South Island of New Zealand. At the same time, we can't help but dig deeper when a brewery like pFriem in Hood River, Oregon, sends us a bottle of a beer they call "Midwest IPA." Is our own sense of preservation (with a bit of adaptation) becoming a new wave of innovation? Only time will tell, but we hope to keep that conversation going with the articles in this issue.

One thing is certain, though—the strength of this world of brewing is in its global diversity. The core tension at the heart of it isn't a problem to solve, but rather makes for experiences to embrace, and there's real joy for us in finding and sharing them.

Whether you prefer your beer timeless and unchanging or constantly evolving, I hope you enjoy this issue. After all, we made it for you.

Jamie Bogner

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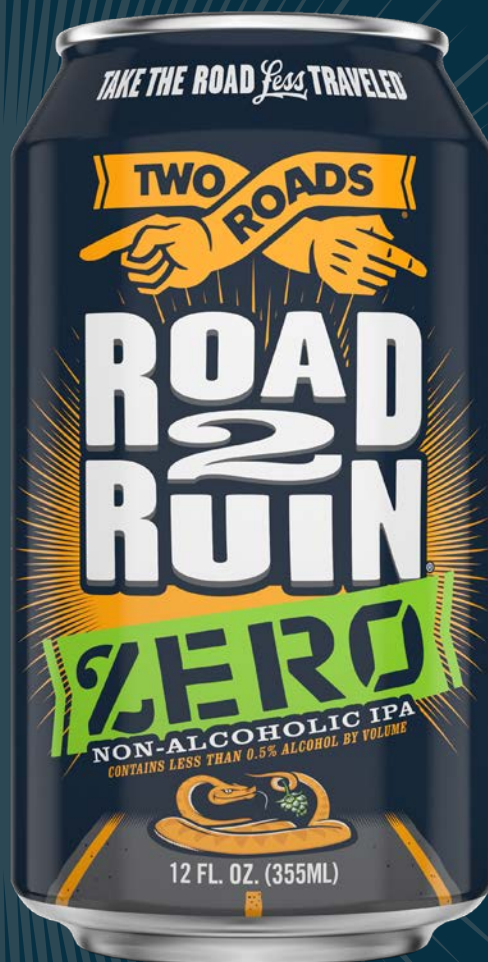
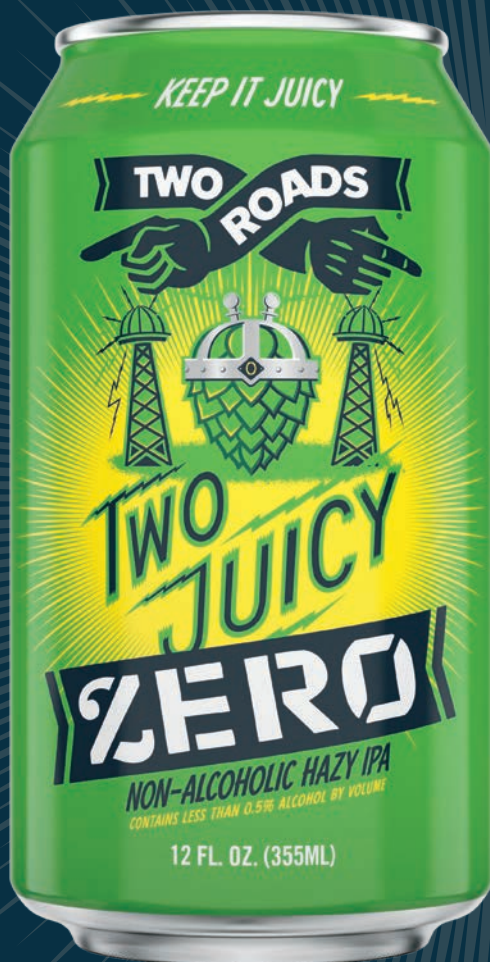
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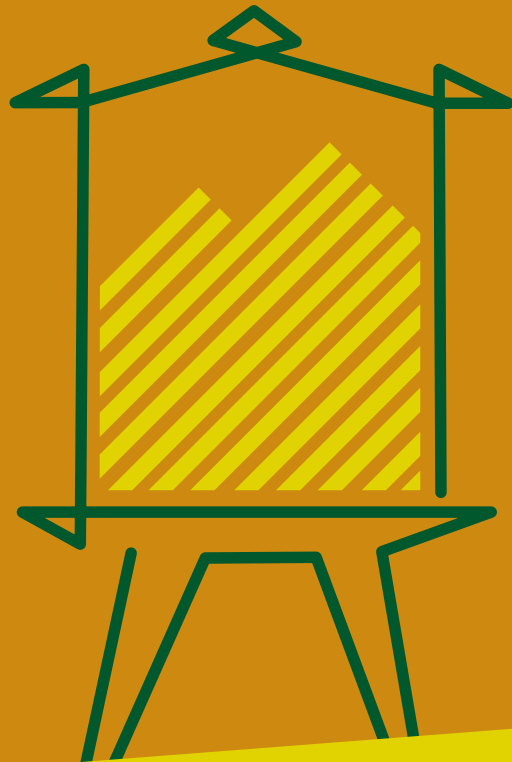
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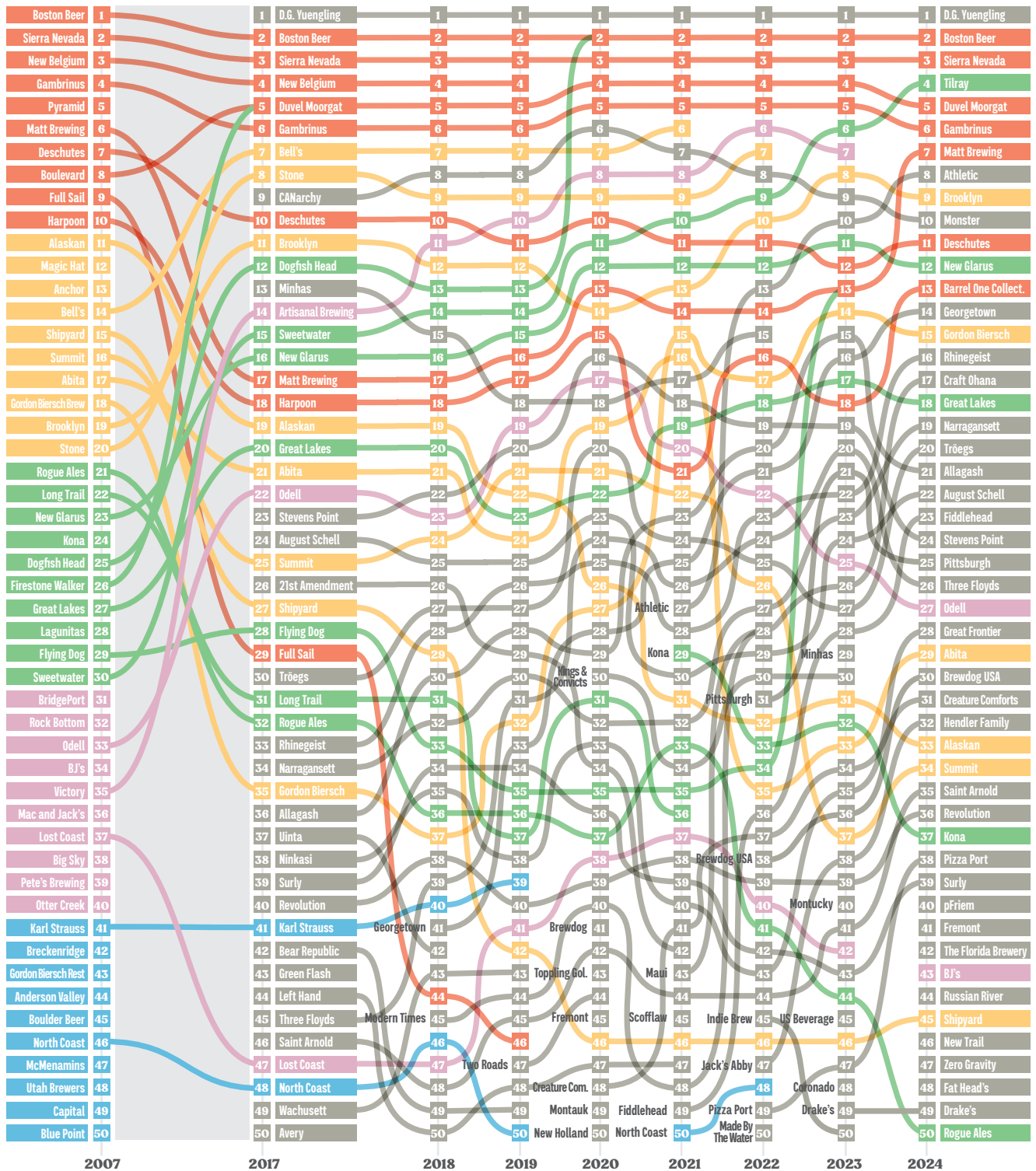
RahrBSG

Arayvedl



Craft Top 50

In this yearly update, we plot the moves in the Brewers Association's top 50 craft brewers by production volume, from 2007 to the present. To simplify the data and make it easier to follow, we fast-forward from 2007 to 2017 and pick up from there.



Editors' Picks

Bespoke Bottles, Blends, Books, and Bobbleheads

Fonio

RahrBSG, 50-pound bags, bsghandcraft.com

The West African grain championed by brewers such as Brooklyn Brewery's Garrett Oliver and Russian River's Vinnie Cilurzo is now more widely available in the United States via RahrBSG. This gluten-free grain is known for its sustainability—it's drought-resistant and requires minimal resources to grow—as well as its unusual flavor notes of mango, lychee, and gooseberry. There's also no need to mill fonio, which works well as an adjunct at 10 to 20 percent of the grist. (For much more about fonio and brewing with it, check out CB&B Podcast Episode 380 with Oliver and Cilurzo.) —JS.

Bespoke Barrel-Aged Beer

The Bruery, \$550–\$1500

While bottle clubs and barrel programs are nothing new, the Bruery is offering an unusual program that includes personalized bottles from a specially blended batch of their Black Tuesday barrel-aged imperial stout. The Bruery's Private Barrel Program doesn't involve selecting and having your own barrel. (You, uh, gonna drink all that yourself?) Instead, it's a more manageable number of bottles—12,

24, or 36—of a special blend pulled from blender-selected bourbon and port barrels. Buyers can choose a template and customize the front and back labels—perhaps adding the name of their homebrew club, an inside joke among friends, holiday wishes, or other personalized messages. Those

who buy three dozen get the additional option to add either Vermont maple syrup or Madagascar vanilla beans to the barrels from which their bottles are filled. Buyers at all levels also get an invitation to attend the Private Barrel Pickup Reception—a fun party among like-minded folks to celebrate a particular sort of generosity, or excess. —JS.

The 2025 MJF Hop Blend

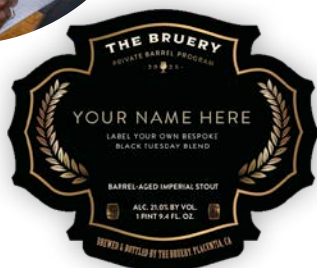
John I. Haas, \$14/pound from Yakima Valley Hops

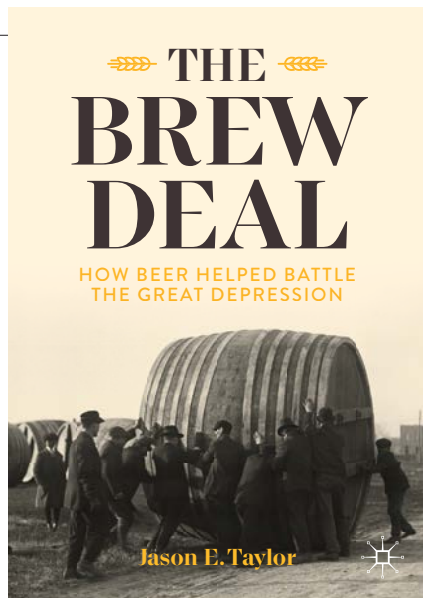
John I. Haas has released a special hop blend to raise funds for the Michael James Jackson Foundation for Brewing & Distilling (MJF). Each pound includes a \$5 donation to support scholarships for people of color who are continuing their education in the brewing industry. Members of the MJF board came together to choose the blend from 16 different varieties, going through two selection rounds before arriving at the final blend: equal parts Citra, Citra Lupomax, Elani, and El Dorado (alpha acids 12.4%, beta 5.7%, total oils 2 ml/100 g). The Citra comes from Loza Farms, the country's only Latino-owned hop farm. —JS.

Beer Baron Bobbleheads

\$35 each or \$130 for four, store.bobbleheadhall.com

Finally: action figures for all the would-be lager tycoons among us. Now available for presale from the National Bobblehead Hall of Fame and Museum in Milwaukee, this special set celebrates the city's history with bouncy likenesses of Valentin Blatz, Frederick Miller, Frederick Pabst, and Joseph Schlitz. According to the museum, this is the first time anyone's ever made bobbleheads of these influential figures, and we are inclined to believe them. Pre-sale open now, with orders shipping out in October 2025. —JS.





The Brew Deal: How Beer Helped Battle the Great Depression

By Jason E. Taylor, Palgrave Macmillan, \$32.99

Historical economics can make for dry reading, but “dry” is the point of this dive into the history of Prohibition, its impact not just on the brewing industry but the American economy as a whole, and the mechanisms by which cooler heads found space for a “Brew Deal” that led to a four-month period in the United States where one-third of those unemployed found work. With distance, it’s easy for us to dismiss 3.2 percent ABW beer as a historical anachronism, but Central Michigan University economics professor Jason Taylor makes a compelling case for this “nonintoxicating” beer’s central place in an interconnected economy, with impacts from manufacturing and refrigeration to agriculture, hospitality, glass, textiles, printing, and beyond. History buffs will enjoy the winding stories of bustling late 19th and early 20th century breweries, but the economic story is the one we shouldn’t forget—the sheer power of the beer business, how shuttering it helped bring on one of the worst economic disasters in the nation’s history, and the political wrangling it took to open space for 3.2 beer, jump-starting the economy once again. —JB.

PHOTO: COURTESY PALGRAVE MACMILLAN

The Rundown

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

Upcoming Craft Beer & Brewing Events and Dates to Know

Sign up at newsletter.beerandbrewing.com for timely updates.

- June 6** It’s the deadline for submissions to our annual lager issue. Learn more at help.beerandbrewing.com.
- Sept 5** It’s the deadline for submissions to our annual Best In Beer issue. Learn more at help.beerandbrewing.com.
- Sept 14–17** Launching or acquiring a brewery? The **New Brewery Workshop** will help you build a successful business from the ground up. Learn through panel Q&As, technical tours, hands-on demonstrations, and working sessions. Learn more at breweryworkshop.com.
- Nov 2–5** The **Brewer’s Retreat** heads south in 2025 for an unforgettable experience at Sierra Nevada in western North Carolina. Don’t miss what we colloquially refer to as “fantasy homebrew camp.” Join the waitlist at brewersretreat.com.



The Latest from the Craft Beer & Brewing Podcast



- Ep.395** For Marcin Chmielarz, Baltic Porter Day Is Every Day
- Ep.396** Matt Manthe, Formerly of Odd Breed, Is Drawn to Doing the Hard Things
- Ep.397** Brewing Scientist and Historian Greg Casey Builds a Case for the Worldwide Impact of American Lager Brewing
- Ep.398** River North Explores the Outer Limits of High-ABV Brewing
- Ep.399** James Herrholz of Corporate Ladder Lays It on Thicc with Award-Winning Dessert Stouts
- Ep.400** Craft-Beer Vibe Check With Special Host Neil Fisher of WeldWerks
- Ep.401** Superior Stouts and Standout Sours with Louisville’s Atrium
- Ep.402** Colorado West Coast–Style IPA Roundtable With Cannonball Creek, Westbound & Down, and Amalgam
- Ep.403** Offset’s Conor Brown Is Lying to You about Low-ABV IPA
- Ep.404** Bright Spots in Beer’s Economic Data with Contributing Editor Kate Bernot
- Ep.405** Pete Gillespie of Garage Project and Hapi Research Is Fighting the Forces of Homogenization
- Ep.406** Dr. Tom Shellhammer and Dr. Ron Beatson Discuss the Impacts of Genetics, Terroir, and Pick Timing on New Zealand Hops
- Ep.407** Biotransformation Myths and Realities in Hoppy and Nonalcoholic Beers, with Dr. Peter Bircham
- Ep.408** Brent McGlashen of Mac Hops Is Harvesting Sunshine on the Family Farm in Motueka
- Ep.409** Paweł Lewandowski of Mount Puts New Zealand Pilsner in Perspective

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Stein's Deli

New Orleans

Market and deli draw crowds for its sandwiches, personality, and surprising beer selection.

What it is: Featured in a 2023 episode of *Queer Eye*, Dan Stein's Jewish-Italian deli offers an impressive array of sandwiches front and center, along with coolers filled with all types of beer. A small section of to-go provisions might entice home chefs waiting for their lunch. Large crowds can form, along with multiple lines of patrons at various stages of ordering and eating—the touch of chaos adds to the charm. The space feels like a cross between a vintage record shop and a collectibles store. Beat-up floors and a mishmash of “stuff” everywhere make the space feel honest and interesting.

Why it's great: Stein's dedication to stocking some of the best local, national, and international beers makes this a must-visit for beer aficionados in New Orleans. If the front coolers don't entice you, walk back through the prep kitchen, out the back door, and into the courtyard. The door on the right opens up many more possibilities—the back room is stocked with even more liquid goodies and hidden gems. While you can't actually drink *inside* Stein's, New Orleans has liberal public consumption laws. Ask the front counter to pop open your bottle, and you can legally sip out front at one of the picnic tables while enjoying a bomb sandwich. —*Ryan Pachmayer*

Hours: 8 a.m.–5 p.m., Tuesday–Friday; 9 a.m.–5 p.m., Saturday & Sunday; closed Monday
Address: 2207 Magazine St., New Orleans
Web: steinsdeli.com



The Dirty Truth

Northampton, Massachusetts

A place for farmhouse ales and local lagers to shine

What it is: In a city known for Smith College, writers, artists, and indie rock, the Dirty Truth fits right into its surroundings—you could call it “hipster,” if you didn't know any better. Here since 2006, this bar makes a point of showcasing local art, seasonal farm-to-table fare, and (of course) some of the finest beers in the world. Dive into a tap list more than 25 strong or bring a friend to help you enjoy the treasure-trove bottle list.

Why it's great: Artsy and casually chic yet unpretentious, the Dirty Truth boasts a killer selection of domestic craft and imports alongside amari, sake, mead, cider, and cocktails—this is one of those “bartender's bars.” The vibe is less conducive to throwing back drinks than it is to savoring the complexities of gueuze from Tilquin or Cantillon, the local hibiscus grisette, or an American oak-aged saison. Or, if you're looking for a simpler form of refreshment, there's a fantastic selection of lagers and hazy IPAs from across the region. However, should you be one to relish access to a Tommie Sjeff Cuvée from the Netherlands, or a barrel-aged farmhouse ale with heirloom apples and smoked peaches from Amory's Tomb of Massachusetts, or a spontaneously fermented wheat ale from Black Project of Colorado, you're in the right place. —*Courtney Iseman*

Hours: 4 p.m.–10 p.m., Tuesday; 12 p.m.–10 p.m., Wednesday–Saturday; closed Monday
Address: 29 Main St., Northampton, Massachusetts
Web: dirtytruthbeerhall.com



Woodside Inn

Mumbai, India

Local fans of beer and burgers dance for this casual craft outpost in the home of Bollywood.

What it is: Established in 2007 in the bustling Colaba neighborhood, this charming gastropub has played a pioneering role in Mumbai's beer scene. Woodside offers a welcoming, laid-back atmosphere for great beer, great food, or both. House beers come from the nearby Rolling Mills and include their signature hazy IPA, Heady Freddie, seasonal beers such as a refreshing Mango-Pineapple Ale in summer, and a constant stream of surprises.

Why it's great: What sets Woodside apart is its deep connection to Mumbai's local brewing scene. They proudly pour beers from some of the city's finest, including Gateway, Bombay Duck, Rolling Mills, and Doolally, so there's always something new and interesting on tap. For locals who hanker for a Western pub experience or expats who hanker for a taste of home, the menu ranges from double tenderloin cheeseburgers to crispy thin-crust pizzas and bangers & mash. Woodside's annual Craft Beer & Burger Festival is a highlight on the calendar, featuring expertly chosen burger-beer pairings conceived in collaboration with breweries across India. With all that plus the inviting charm of its exposed brick walls and wooden accents, you've got the perfect place to unwind in the heart of Mumbai—or, if you're farther afield, there are now two more locations in the city, in Andheri and Bandra. —*Abhinav Reddy*

Hours: 11:30 a.m.–1:30 a.m., daily
Address: Indian Mercantile Mansion, Wodehouse R, Colaba Causeway, Colaba, Mumbai, India
IG: @woodsidemumbai

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PICK SIX

Beers of Love and Dedication

Ashleigh Carter, cofounder of Denver's Bierstadt Lagerhaus, focuses solely on lager in her own brewing, and she's drawn to those with similarly singular approaches. Her six-pack honors intentional commitment to a style, to a single beer, to presentation, and to experience. **As told to Jamie Bogner**

BIERSTADT LAGERHAUS ISN'T THE only craft brewery in the United States focused on lager brewing, but their dogged approach to quality—from ingredients and brewhouse through cellar and service—has earned them the respect of brewers around the world. It's no surprise, then, that cofounder Ashleigh Carter is drawn to similar intention in the breweries she loves.

"I am inspired by the commitment to doing a thing," Carter says. "I make exactly the beer I'm trying to make, but every day I try to do more and narrow that gap to perfection."

Her six-pack is filled with breweries and beers that share that intentionality, no matter the style.

Schönramer Hell

Schönram, Germany

"Bill [Eye] and I met Eric Toft when he visited us at a past brewery, but the first time I had his beers, Bill and I were looking for a brewhouse in Germany. It was early 2014, we had negative dollars, we were destitute, but we arranged with Eric to visit Schönram on a Sunday. We took the train

to Teisendorf. It was a Sunday, when most things are closed, and we weren't sure how to get to the brewery since it was about six kilometers from where we were. We found a phone bank and called the Bräustüberl, and no one picked up because they were closed, but we eventually found an open restaurant in this tiny town with a young waitress who spoke some English. She called us a cab, and the cab driver got us to the brewery, but again the Bräustüberl was closed. The cab driver didn't give up, though, and went around knocking on peoples' doors asking for the brewmaster. Turns out Bill had his number in his phone the entire time, and we could have just dialed Eric directly, but we didn't!

"It was pouring down rain, and we were ready to give up, but the cab driver eventually found him, and Eric came down. We drank bottled helles for hours, and it ended up being the most incredible day ever. At that point, I hadn't made the caliber of beer that I think we make now, but that experience helped define the upper echelon of beer. I've been there so many times now, and Eric's an incredibly generous host. The experience, the consistency, seeing how it's made with the open fermentors—everything that Eric knows about beer has been so influential on the way that I make beer. Flotation tanks are a big one that we picked up from him—there are only maybe 10 paragraphs across a number of books that mention them, so it was great to see the design in practice.

"That first experience drinking fresh helles off the bottling line, having it there, with Eric... it's the best place, the best beer. Bill asked me to marry him in the *brauereitische* at Schönram. It's a very special place for us, and it all started with a day that almost didn't happen."

Guinness Stout

Dublin

"I think Guinness Stout is the first beer I had on draft, in England, in a town called Rugby when I was 20. But the story starts years earlier, when I was a competitive soccer player in seventh grade. We played in a tournament in Colorado Springs, and this boys' team from England came over. I became long-term pen pals with one of the guys, through college. I saw him when my high-school soccer team went to England. When I turned 20, my dad gave me savings bonds he'd bought for me when I was young, so I took all my bonds, exchanged them for British pounds, and arranged a trip to visit him. They made fun of me for

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drinking Smirnoff Ice—it was so dumb—but one evening we went bowling, and he asked me if I wanted a beer. I knew nothing about beer but at least recognized the Guinness name, so that's what I ordered.

"Now, there's a really cool bar down in LoDo [Denver] called Nallen's, and the Guinness is super-fresh. If we're not here at the brewery, we're probably there, even as a team. I don't split the G, but it's a beer I want to drink a lot of. I don't care for cask beer, at all, but Guinness is a fallback comfort beer for me. Even Guinness Extra Stout in the bottle. It's a beer style I don't make and don't know how to make, so I'm at Nallen's once or twice a week.

"When Bill and I were opening Bierstadt Lagerhaus, we looked at things that were remarkable to us. The idea that you almost always get Guinness in a Guinness glass is part of the reason we serve our beer in our own glass. Why is that only for European breweries? Why are they fancy and we're not fancy? Guinness is a big reason why you get our beer the way you do in the pils glass or the helles glass."

Bohemia Pilsner

Monterrey, Nuevo León, México

"When Bohemia is fresh, it's excellent. It's Saaz hops, which I discovered while on a podcast with Will Kemper [of Chuckanut]. I have wild respect for Will Kemper, all their beers are excellent—their helles, their Kölsch. What they did at Thomas Kemper paved the way for what I'm able to do now. I love Mexican beer, and I love pale lager, obviously. But Bohemia always struck me as a macro beer that—if you get it at the right time—the hops pop. They're bright, bitter, Noble, and off the charts. For the podcast, I had to select three beers for the audience that they could go out and purchase, and chose Coors Banquet, Bohemia, and my beer. We didn't prepare beforehand, and I'd never done anything professionally with him, but as it turned out, Will had amazing stories about all three of these beers. I didn't know he had background with Bohemia, and when I said, 'I think it's Mittlefrüh,' he corrected me with, 'No, it's Saaz.' It was great to have it explained to me by the guy who knew.

"I check the date when I see it at retail, and if it's fresh, I'll buy it every time. That bright and clean hop character is hard to beat."

U Fleků Tmavy 13°

Prague

"This will surprise you. I'm a known hater of Czech beer. But the last time I had it, it didn't have the same effect. It spurred a collaboration we did, in the best way. I love collaborations and think that they need meaning. They should come out of the

cool things about hanging out with people and never out of left field. A lot of people ask me to do collabs, and I turn them down because I feel so genuinely that collaboration shouldn't be manufactured; it should be natural and organic. It's about learning something, whether it's using a certain ingredient or technique, and quite frankly most of the collaborations I do are about a single malt or single hop, which is boring for everyone else but very insightful for me. Also, the only way I like to try new things is on other peoples' brewhouses!

"We were on the tail end of one of the most exciting things to be invited to, Birrificio Italiano's Pils Pride, in Milan, and getting to taste Tipopils on draft was an exceptional experience that I recommend anyone have. I'm annoyed at people who like it but have never had it on draft, as it's an entirely different experience, and actually not as hoppy as everyone's trendy Italian-style pils. But we were at Birrificio Italiano, Jeff Bagby was coming from Estonia, and we decided how cool it would be if we extended our trips and met somewhere we'd never been before. We settled on Prague, and it was our business partner Chris Rippe's first trip out of the country, ever. It was my first time in the Czech Republic, but Bill had told me how dogshit the beer was in the country—all diacetyl, U Fleků is a tourist trap, whatever. But we went, and first of all, they have accordions—it's in my top four favorite instruments, and I want one at my funeral. We sat down and got this dark beer—because they only had one. (Now they also have a pale beer, which I think is a terrible idea.) It was just so good—dark and roasty, but roasty in the right way. It's definitely not schwarzbiere, and it's not as sweet as some of the other tmavys we had had. It's a different degree—13°, not 12° or 11°, as a lot of them are. We were drinking the beer, listening to the accordion, trying to avoid this person swindling us into shots, eating Czech food in a gigantic beer hall. There was no diacetyl in it, and it was utterly perfect.

"That's how we decided to collaborate on tmavy with Jeff, because I wanted to bottle up that experience and have it again. It was the first time since developing our Helles that we actually tried to emulate something, to re-create a beer. Not riff on it, but actually tried to re-create a specific beer, time, and place. Jeff came out and made it with me after GABF. He had judged with the brewmaster of U Fleků, who had been brewing it for 40 years. He gave us some hot tips on malts, and we were pretty close. We still make that beer every now and then, so that beer, that experience, that time has had a lasting effect on me. The flavor lives in my head, and I keep trying to find it again."

Comrade Superpower

Denver

"Superpower is what I think of when I think of West Coast IPA. I wish it weren't 7 percent ABV—c'mon guys—but it's still a beer where whenever I see it, I order it, no matter what. It's obviously changed over the years, not for good or for bad, but every time I drink it, I love it. It's not fruitastic, it's not too dank, it's not too piney—it's the perfect balance of all those things, all the time. It's a cool name. I've known founder David Lin for a long time and even worked with him. I watched them start the brewery from a concept, long before they opened. I've gotten to know Marks [Lanham] well, and years ago, before we had a brewery, I called up Marks and said, 'Hey man, I just need to be in a brewery. Can I grain out for you?'

"I have so much respect for how they think about beers and put together beers. It's the opposite of what I do and think about, and I don't think I could make that beer. It's dry, it's bitter, it's grapefruit, but it's not over the top. It's firmly bitter but not abrasive. It's aromatic. I would drink three of them right now, and I wouldn't get tired of it. I'm a creature of habit and like a known quantity. I need beer I can count on and that will deliver to my expectations every single time, and Superpower does that. It's always spot-on."

Godspeed Sklepník, Pitch-Lined

Toronto

"I met Luc (Lafontaine) in Japan, as his wife is Japanese, and they split time between there and Canada. He happened to be in Toronto while I was there, so we connected for a beer along with a mutual friend from the Czech foreign office in Toronto. This pale lager is really interesting—he has a large Pilsner Urquell barrel, and he showed me videos of them rolling pitch in it. We drank some of the beer from that tank, and it was one of the first experiences I've had with wood-aged lager that felt real, not manufactured. It didn't feel like something he did just to say he did it. It's one of the cleanest breweries I've ever been in—beautiful brewery.

"Drinking out of that barrel made me so grateful that I got to be there with him and have that experience. It was good, solid lager. Could have used a filter, but that's my hang-up. You could taste the environment in the beer, and that connection between beer and place was inspiring. There was so much intention behind it—him traveling to Plzeň and building the barrel with them, shipping it over, lining it—it's not something you just do for a press release. It's nothing I want to do myself, but I love that someone did that. It's so cool."



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Somtum

This fresh, vibrant, spicy Thai dish is a powerhouse of flavor, from its lime-driven acidity to its fiery chiles, crunchy peanuts, and briny little sea creatures. Should you put it in beer? Yes, obviously, you cowards. **By Joe Stange**

JUST TO MAKE CLEAR what sort of a masochist I am, there are three styles that I have an ironclad policy of ordering, no questions asked, whenever I see one on a tap list: saison, black IPA, and chile beer. I'm a supporter of the lost arts, you might say.

And that's how I end up drinking a *somtum* ale in Bangkok: It's on draft at the excellent United Peoples Brewery, and I ask whether the beer—being *somtum*-flavored—has chiles in it. “Yeah,” says the brewer, Supapong Preunglampoo, aka Toon. (All Thais go by a short nickname.) “Also dried shrimp, and salted crabs, and...”

It doesn't matter what else Toon says. The policy is the policy: It has chiles, so I must have it.

Wait, Stop. Salted Crabs? What's Somtum?

Somtum is a salad, technically, but that word doesn't do it justice. If it's a salad, it's the most exciting, flavorful salad you've never had, unless you have.

The salad's base is green papaya, crisp and slightly tart, julienned into a neat mess of shreds. (Some Asian supermarkets have green papaya, but if not, green mango or even green apple can work.) Add a few juicy grape tomatoes, crunchy green beans, roasted peanuts, fresh Thai chiles, fresh-squeezed lime (throw the peels in there, too, for smells), dabs of palm sugar, fish sauce—this is Thailand, there is fish sauce in everything—tiny dried shrimp, and maybe a few little salted crab guys, and there you have it. Then, all you need then is an icy-cold Singha to quench that sweet fiery pain, so you can keep eating.

In Thailand, of course, all that stuff is commonplace, and you can have it on the street for the equivalent of \$2, maybe less. But we know how this goes in the States and other Western countries: If you find a great Thai restaurant in your city that sources the right ingredients and throws together an authentic *somtum*, it may cost you a small fortune.

Maybe *that's* why you should brew it: For a fraction of the cost, you don't need to eat *somtum*. You can drink it.

Brewing a Somtum Beer

Toon is head brewer at United Peoples and founder of the Sandport brand. (His Thasai West Coast-style IPA made my critic's list last year, but only because it was delicious and I kept drinking it.) With some brewer friends in Bangkok, he's got an occasional side project called Sour City.

So, one of the lessons that can be drawn from the Special Ingredient archives is this: If you can brew a nice, clean, *Lacto*-acidified base, then you can throw all kinds of crazy shit in there, and it's probably going to be all right—and that's the Sour City series, in a nutshell. A previous release—Soi Cowboy, named after a street infamous for its density of thirsty tourists and go-go girly bars—included Thai guava, sour plums, and edible glitter.

They named their *somtum* beer Hua Lamphong. Why? “The truth is,” Toon says, “back in the day, sex workers around Hua Lamphong used to disguise themselves as *somtum* vendors. It's an old Thai inside joke: When someone said they were going to eat *somtum* at Hua Lamphong, it was usually a cheeky way of saying they were up to something—not just food.”

This is all new to me—I just love the dish—but hey, it's always nice to learn some culture. Anyway, here's how they pack all that flavor into the beer while still keeping it drinkable.

The first key is the *Lacto*-acidified base. Keep it simple, purge with CO₂ to keep out oxygen, and control your pH—Toon aims for 4.5 pre-*Lacto* and halts acidification at 3.3 or 3.2. Note: There is no papaya in this beer. Sure, you could add it, but the truth is that if you get your base right—crisp and tart, which is the essence of green papaya—then the fruit would have nothing else to add.

PHOTOS FROM LEFT: PHOTOGRAPHY/SHUTTERSTOCK.COM; PAPA WOLF/SHUTTERSTOCK.COM



The second key: control the capsaicin. “Not too spicy,” Toon says. Note that most Thais have a very different idea of what that means. This is a spicy beer—but you can drink it. In the past, Toon says, he’s added chiles to the boil—but he thinks it’s better to add the chopped Thai bird’s eyes to the secondary, where you’ll get a fresher flavor and where it’s easier to control the heat with quantity and contact time.

Then, there’s the fish sauce and other sea-critter elements. “For all the stinky stuff, we need to make sure that it’s not going to be too much,” Toons says. “Make sure that it’s not overpowering.”

In the current version, many of the most flavorful ingredients come together in a somtum “dressing” that goes in after fermentation. That means you can add it to taste—chiles, stinky stuff, and all—to make sure the beer stays in your own drinkability zone.

Bird’s Eye View

Guess what? The beer is great.

It helps that I love somtum—especially the classic somtum Thai that’s brighter and less fishy than some variations—because that’s the aroma that wafts from the glass, with nutty, briny hints alongside bright lime and fresh chile. On the tongue, a nicely balanced acidity—tart, not sour—evokes crisp, green papaya and fresh-squeezed lime, carrying a moderately fiery kick, while the umami is restrained but reminds you what this is supposed to be.

I also love spicy food, and I’ve got a pretty high heat tolerance—my son says it’s because I’m old, so my taste buds are dead—and I can enjoy a chile beer that kicks... up to a point.

But the mark of a great chile beer *isn’t* that you could drink it all night. Who does that?

If you’d drink a *second* spicy beer, however, that already is exceptional. And with this one, I did. 🍷



MAKE IT

Sour City Hua Lamphong Somtum Ale

Supapong “Toon” Preunglampoo, founder of the Sandport brand and head brewer at United Peoples Brewery in Bangkok, shares this recipe for a beer with nearly all the ingredients that go into somtum, Thailand’s popular spicy papaya salad.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.049 (12.2°P)

FG: 1.011 (2.8°P)

IBUs: 14

ABV: 4.6%

MALT/GRAIN BILL

8.4 lb (3.8 kg) pilsner

8.8 oz (250 g) Weyermann Carafoam

5.3 oz (150 g) caramel/crystal 10°L

YEAST

Lactobacillus plantarum, such as
Lallemand WildBrew Sour Pitch, and
Fermentis SafAle US-05 or similar

DIRECTIONS

Mill the grains and mash at 149°F (65°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed to get about 6 gallons (23 liters) of wort, depending on your evaporation rate. Boil for 15 minutes, cool to 86°F (30°C), and use lactic acid to adjust the pH to 4.5. Pitch *Lacto*, use CO₂ to purge the headspace of oxygen, and seal tightly. Keep at 86–95°F (30–35°C) until the pH has dropped to 3.2, typically 2–3 days. Then boil for 60 minutes, adding tomatoes, crabs, shrimp, peanuts, and hops according to the schedule. After the boil, chill to about 64°F (18°C), aerate the wort, and pitch the yeast. Ferment at 64°F (18°C) until complete and gravity has stabilized. Crash, drop the yeast (or rack to secondary), and add the chiles and somtum dressing to taste—start with a little and go from there. When the flavor and heat are where you like it, package and carbonate to about 2.5 volumes of CO₂.

SOMTUM DRESSING

In a saucepan on low heat, melt 8 oz (227 g) palm sugar into a liquid, then add 4 oz (113 g) tamarind paste and 2 oz (57 g) fish sauce, stirring to combine. Switch off the heat and add the juice of 3 fresh-squeezed limes.

BREWER’S NOTES

Water: For this beer we use a 2:1 sulfate-chloride ratio.

Chiles: Optionally, first soak them in vodka to make a tincture that can be added carefully.

Special ingredients: The small, brined rice-field crabs (*boo kem*) used to season somtum in Thailand may be difficult to find elsewhere; if looking for a substitute, keep in mind that they’re more shell and salt than meat. The tiny dried shrimp are available in many Asian supermarkets or online. Before adding the sauce to finished beer, it’s wise to bench-test it with a small, measured amount of beer, to find the ratio you like. With fish sauce, as with chile, a little goes a long way.

HOPS & ADDITIONS SCHEDULE

4 oz (113 g) grape tomatoes, coarsely
chopped, at 60 minutes
2 oz (57 g) salted crabs at 5 minutes
2 oz (57 g) dried shrimp at 5 minutes
2 oz (57 g) roasted peanuts, chopped,
at 5 minutes
1.5 oz (43 g) Citra at 5 minutes
[14 IBUs]
1 oz (28 g) Thai bird’s eye chiles,
chopped, at secondary
Somtum dressing at secondary, to
taste (see dressing recipe below)



STYLE SCHOOL

Classic Saison:

“It’s Something You Feel”

While modern brewers continue to push the creative envelope with their evolving takes on farmhouse ales, there is nothing quite like the old-fashioned Wallonian beers that inspired them in the first place. **By Jeff Alworth**

IN 2015, WHILE I WAS WORKING on my book *The Secrets of Master Brewers*, I happened to look up BeerAdvocate’s list of saisons.

While that list includes some foreign beers, it’s largely populated by saisons brewed in the United States. The number of beers listed there under a particular style is one way to track its popularity, simply based on how many breweries have made one—there are tons of IPAs, for example, but precious few dark milds. A decade ago, however, only pale ales and IPAs had more entries than saison. Even now, it’s still in the top five among styles on that site.

Anyone who was into craft beer 10 or 15 years ago may recall that saisons were not a commercial juggernaut. Though a few breweries made regular examples—such as Ommegang Hennepin or Brooklyn Sorachi Ace—only Boulevard Tank 7 ever really enjoyed wide distribution or sales.

So, why did saisons briefly capture the imagination of seemingly every brewer in the country, despite the evident lack of demand?

When saisons first appeared stateside, the style was nearly extinct in Belgium, and the few surviving examples were what we might call “clean” today—that is, fermented by house *Saccharomyces* strains rather than funkier mixed cultures. Yet they were exotic—they tasted like nothing else, and they came with this romantic story about rustic farms and the workers who slaked their thirst with beer out in the fields.

In his books and articles, the famous British writer Michael Jackson championed Saison Dupont, which became an archetype for brewers who wanted to capture the long-lost rusticity of a preindustrial age. Here, we consider these “clean” saisons inspired by the Wallonian tradition and how they managed to transfix so many brewers.

The Most Hand-Crafted of Craft Styles

We know a lot more about home and farmhouse brewing traditions today thanks to the work of Lars Marius Garshol, Mika Laitinen, and others. Twenty years ago, however, nearly all our interest was refracted through a single style.

For drinkers in a country whose beer production had been entirely industrialized, the stories of saison were magical. I toured Brasserie Dupont in 2011, driving out through the crazy quilt of mismatched fields in Hainaut, about eight miles from the French

PHOTOS: MATT GRAVES/IMGRAVESPHOTO.COM



border. It was a bucolic tableau, and the lovely old brick brewery looked like the old farmhouse I'd hoped it would be.

Brewer and co-owner Olivier DeDeycker told the story of his process, which led naturally to the history of saison. "With this barley malt they are brewing some beer, and that beer had second fermentation in wood barrels," he said softly, in French-accented English. "It was drunk in the summer by the people who worked in the fields. So, we speak of a beer with a low alcohol content, high bitterness, no

residual sugar—so, a refreshing beer. It was what we call in Belgium *bière de saison*, saison beer, brewed in the winter and drunk in the summer."

Writers called it "rustic," and it was.

"A way to give rusticity is to use noble but rustic grains. Spelt was *extremely* common in saison-making back in the days. We also use an ancient variety of winter barley. Winter barley has always been *the* barley for making saison. There are also two ancient types of hops there."

(Literally: The word comes from the Latin *rusticus*, meaning "from the country.") For American brewers familiar with Dupont or Vapeur, saison looked like a playground for anything nonindustrial: unmalted wheat, spelt, rye, old hop varieties, additional ingredients such as herbs, spices, or fruits. And that yeast! It was the most Belgian of all the Belgian strains, with prominent phenols, plumes of fruity esters, and occasional musty funk or acidity that hinted at something wild.

Saison Dupont was and remains one of the most impressive beers made anywhere—incredibly effervescent orange-gold, the intense peppery hop, and that spicy-phenolic yeast. It was as far out as you could go on the nonindustrial spectrum—the last stop on the line.

Yet it also hinted at a hidden world of flavor and character waiting to be discovered, if you could only visit enough farmhouses. Writing in these pages, Joe Stange calls saisons a "story," and he's surely right about that. Americans fell in love with the style because it was the antithesis of homogenous industrial beer, and they wanted to capture some of its story in the glass.

In Search of Rusticity

In 2019, I visited the Brasserie de la Senne's Yvan De Baets at the brewery in Brussels. Near the end of our time together, I asked him about saison.

In the past 20 years, Yvan has emerged as one of the candle-keepers of the Belgian flame. He has studied his country's tradition extensively, collected many historical texts, and wrote memorably about saison in Phil Markowski's 2004 *Farmhouse Ales*. Yet when I asked him about saison, he grew silent and shook his head.

"Honestly," he confessed, "it's very difficult to explain to someone else because we always have our own definition. For me it's more like an absence of cleanliness—but even that's not a definition. It's something you feel."

De Baets eventually came back to that rustic quality and how he approaches it at Senne. "A way to give rusticity is to use noble but rustic grains. Malted barley is of course there, but using grains like spelt and rye and possibly wheat will help. Spelt was *extremely* common in saison-making back in the days. We also use an ancient variety of winter barley. Winter barley has always been *the* barley for making saison. There are also two ancient types of hops there. ... The Belgian variety is Groene Bel—it means 'green bell' or 'green cone.' It was the typical hop."

When it comes to its ingredients, at least, the most famous saison isn't especially rustic. Dupont is an old brewery and farm, but its saison is made solely with pilsner malt. It's not spiced. And unlike many contemporary interpretations of saison, it contains no funky yeast.

Yet the brewery and its processes are traditional. Until the 1980s, Dupont still malted its own barley. Its gas-fueled, direct-fired kettle and squat, square fermentors remain throwbacks to the 19th century. Dupont does everything it can to coax flavor out of its beer; mashing begins with a ferulic acid rest at 113°F (45°C), and the brewers slowly ramp the temperature up to 162°F (72°C).

The open flame darkens the pale gold wort into an orange-like hue over a 90-minute boil. Most famously, Dupont allows the fermentation to rise to blood temperature in those fermentors, and they are sticklers about refermentation in the bottle.



Dry-Hopped Tradition

Yeast may be the essence of saison, but hops are at least a close second. Dupont's saison is notably bitter, with herbal-spicy hopping—as are many other saisons from around Belgium, including those from Blaugies, De Ranke, and Senne.

Even if we often associate dry hopping with American craft, De Baets points out that the practice was very common in Belgium in the 19th century. “Not for every style,” he says, “but for instance the saisons, it was very often used, the technique of dry hopping.” While hops are an important part of Dupont's profile, the brewery only started offering a dry-hopped version in 2010.

And of all those thousands of saisons that American brewers have produced, the one that really caught fire was dry hopped. In 2008, as the brewery was expanding, Kansas City's Boulevard introduced its Smokestack series of stronger beers. One of them was a saison brewed by its brewmaster at the time, the Belgian-born Steven Pauwels—Tank 7.

Other U.S. craft breweries were producing saisons by then, but Pauwels often found them too sweet and overly spiced. “It was just the wrong expectation of the beer,” says Pauwels, who's now the co-CEO at Great Lakes in Cleveland. “It was supposed to be super dry, super effervescent, very drinkable.”

Tank 7 was unusual by the standards of the time. It came in at a booming 8.5 percent ABV, and the rustic grains Pauwels chose were those grown around Kansas City—wheat and corn (although the latter is no longer part of the recipe). And while many breweries wanted yeast strains associated with classic saison producers, Pauwels chose Westmalle's for its versatility in the brewhouse. In so doing, he showed how brewers could branch out to other Belgian yeasts and find plenty of character.

Finally, he topped off Tank 7 with Amarillo in the conditioning tank. “It was during the rise of Amarillo in those days,” he says, but he chose lots that had more of an earthy quality. “Amarillo was one of those hops where it was *that* lot from *that* grower that we needed to make Tank 7.”



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The Spirit of the Belgian Story

One of the best saison brewers I know, Upright's Alex Ganum, offers a synonym for "rustic" when I ask him about saisons.

"Another way to look at it is *character*," he says. "Just about everything that goes into producing the beer will play into it." He then goes on to list five qualities he likes to see the yeast produce:

- earthiness, or else it should help to draw herbal-earthy character from the other ingredients;
- a dry, mineral-forward finish;
- pleasant spicy character;
- a broad spectrum of esters; and
- a slight twang, like you might find in a weissbier strain.

I'm not sure American brewers tackle any Belgian style as well or as entertainingly as they do saison. The limitations of other styles appear to inhibit them, with American versions often fine but safe. Saison is so amorphous—more story than style—yet American brewers

somehow find the essence of it, whether that's a rusticity or Belgian-ness. Sometimes a story offers better insight into a beer than technical details.

Ganum drives this point home when he tells me a fittingly farmy story about one of his early saisons: "Back when we were running [our butcher shop], our hog rancher kept bugging me about using his triticale, which was the animal feed," Ganum says. "He grew it himself and was proud of the quality, but I dismissed it early on, thinking, 'How good can animal feed be?' Well, that was dumb. ... He eventually just dropped off a bag and it turned out to be incredible, so we asked him for a pallet and worked it into the Five."

Brewers love the vivid, unexpected flavors that can be found in saisons. They're complex but dry, often stellar with food. For people who've devoted their lives to beer, saisons offer a rare

combination of delicacy and complexity, intensity and harmony. Somehow, American drinkers still haven't fully taken to them—yet—but that hasn't stopped brewers from trying to convert them.

Pauwels says he hopes that will change.

"Everything is cyclical," he says, suggesting that saisons could mount a comeback. He still loves Belgian beers, in general, and we spend a moment talking about how CO₂ integrates in a bottle-conditioned beer. He then returns to the realm of story: "I think if people start traveling again and go to Belgium and come back and say, 'My God, in that pub I had a Saison Dupont—it was an amazing beer. How can I get it?'"

Might they then return home to find their local brewer already makes something like it? We can hope. 

Want More on Saison?

For much more on this style, including a range of perspectives from respected saison brewers, look for these articles at beerandbrewing.com:

- » "Brewing Saison: The Taste of Rustic"
- » "Saison: A Story in Motion"
- » "Yvan De Baets Explains Saison's Greatest Myth: The Yeast"
- » "More Roads: Rethinking Farmhouse Ales"

MAKE IT

Upright Saison Elani

Alex Ganum, founder and head brewer at Upright in Portland, Oregon, shares this recipe for a light, easy-drinking saison whose citrus-tropical fruit character is balanced by yeast-driven earth and spice.

When aiming for rustic character, Ganum says, that can be your yeast or "whatever lends character." With saison, that can also mean "avoiding a singular note, where the ingredients are grossly outcompeted by the fermentation profile. I think rusticity often avoids novelty, but—being saison—there are no strict rules and plenty of exceptions.

"For instance, our Saison Vert has tons of black lime in the nose, but a lot of the other elements ... are still there, just in less balance," he says. "Spices or alternate ingredients like the black limes can be great additions, and ultimately the vision for the beer lies with the brewer. When we're trying to do something more delicate than the Vert, I'll add some ingredients earlier in the boil to help layer flavors and to keep them from sticking out too much."

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.044 (11°P)

FG: 1.007 (1.8°P)

IBUs: 20

ABV: 4.8%

MALT/GRAIN BILL

6.8 lb (3.1 kg) pale two-row malt

1.25 lb (567 g) wheat malt

7 oz (198 g) dextrin malt

HOPS SCHEDULE

0.4 oz (11 g) Hallertauer Magnum at 75 minutes [20 IBUs]

2.5 oz (71 g) Elani at flameout

YEAST

Imperial B56 Rustic, Wyeast 3726 Farmhouse Ale, or similar

DIRECTIONS

Mill the grains and mash at 147°F (64°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed to get about 6 gallons (23 liters) of wort, depending on your evaporation rate. Boil for 75 minutes, adding hops according to the schedule. Chill the wort to about 74°F (23°C), aerate, and pitch the yeast. Ferment at 74°F (23°C) to start, allowing the temperature to free-rise as high as 88°F (31°C) but not higher than 90°F (32°C). Once fermentation is complete and gravity has stabilized, crash and keg or bottle-condition to about 3 volumes of CO₂.

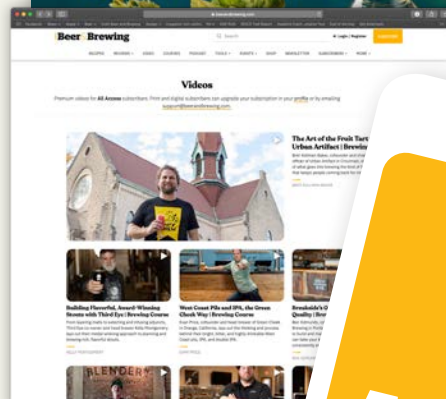
BREWER'S NOTES

Ingredients: You can sub in pilsner or another base malt for slightly different character, and any bittering hop early in the boil will do.

Water: Our local water is super-soft, but for a beer like this we're adding salts and looking for the following minimum concentrations: calcium above 50 ppm, sulfates around 100 ppm, and chloride above 30 ppm. Adjust the pH as needed to aim for 5.3 in the mash and 5.5 for last runnings.

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STYLE SCHOOL

The Baked Beer of the Baltics

There are many kinds of dark beer, but there's one that stands out as profoundly different from the others, with a deep, caramelized flavor that can only come from a nice, hot oven. **By Lars Marius Garshol**

KEPTINIS WAS VIRTUALLY UNKNOWN outside Lithuania until about a decade ago—and even today, sadly, it's seldom brewed anywhere else. I'd love to say that it's been unfairly overlooked but, frankly, there's another reason why so few people brew it: It's not easy to do.

Keptinis hails from Lithuania, and its name is short for *keptinis alus*, meaning “baked beer.” Northern Lithuania, a rich agricultural region, has become well known for its farmhouse ales, and keptinis comes from the eastern part of that region. The keptinis area starts about 19 miles (30 kilometers) east of Panevėžys and runs right to the Belarusian border.

As the name implies, when brewing keptinis, you bake it—the mash, that is—in an oven. Why? Because, historically, metal cauldrons for brewing were

far too expensive for most farmhouse brewers. That made it difficult to heat the mash; one solution was to brew with hot stones. (See “Fire & Brew-Stone: The Real Story of Steinbier,” beerandbrewing.com.)

An oven, essentially, is a more technologically advanced solution to the same problem.

Oven Beers

Wherever farmhouse brewers used an oven, there were a couple of different ways they did it, leading to two different kinds of oven-based beer.

One way is to put a cold mash in the oven and heat it there, producing flavors that are only subtly different from ordinary mashing. The other way is to first do an infusion mash, then bake that mash in the oven. Lithuanians have called both types of oven beer *keptinis*, but the two are very different in flavor—and the one baked post-mash is by far the most important of the two.

The ovens used for these beers are called *duonkepis*—literally, “bread-baker”—in Lithuanian. They're huge brick monsters, usually about 6 feet tall by 5 feet wide by 13 feet long (1.8 x 1.5 x 4 meters). The opening is a bit like that of a pizza oven, where a fire can be lit, both to heat the oven and to heat the opening for cooking (or brewing).

Every Lithuanian farmer's house was literally built around one of these ovens, and it was the heart of the house. While these ovens are important to Lithuanian culture, they're not uniquely Lithuanian—you can find similar ovens throughout Eastern Europe, where it's also possible to find other baked-beer traditions.

Keptinis in Lithuania

In 2017, I was lucky enough to watch the brewing of keptinis—baked post-mash and all—by father and son Vytautas and Ignas Jančys in Vikonyš, in northern Lithuania.

They started by mashing in a wooden vessel, adding hot water in the usual way. They then scooped the mash out of the vessel into metal trays (more like boxes) about 8 inches wide by 16 inches long by 4 inches high (20 x 40 x 10 centimeters). Before putting these box-like trays into the large brick oven, the Jančyses carefully added water to some of them, to ensure that each had the right amount of moisture. They also put out the fire, so the heat that remained in the bricks baked the mash.

I asked how hot the oven was but, because it was wood-heated, they didn't know for sure. I'd brought a thermometer, but—after seeing Vytautas don a

PHOTOS: LARS MARIUS GARSHOL





plexiglass face mask and huge gloves to put the boxes in the oven, I didn't dare stick the thermometer in there. It's safe to conclude that the oven was very hot—my guess is about 570°F (300°C) at the start.

The mash boxes baked in the oven for three hours. When they came out, the top layer of the mash had turned a deep brown. Wort had boiled out of the boxes and congealed into globs of baked sugar. The top was hard, from the sugars sticking together, and it tasted like caramel and honey.

It was only when we tasted the beer from the previous batch, however, that I really understood keptinis. They were mashing with 100 percent pale malt, but the beer they poured was black, verging on brown at the edges. The flavor was unforgettable—huge, earthy caramel of enormous depth. It was like nothing I've ever tasted.

More on the Process

Seeing the baking happen helped me figure out why this beer is so different from other dark beers.

Beers such as porter or schwarzbier get their color, obviously, from malts kilned at high temperatures—what gets

roasted, then, is starch and husk because the malt hasn't yet been mashed. Not so with this keptinis, whose pale malts are first mashed—and what gets roasted is the sugar. That's why it tastes so different from any other dark beer I've tried.

After baking the mash, the Jančyses removed the trays, used a big wooden spatula to break up the crust, then dumped the contents into their lauter tun—to which they had already added straw to act as a filter. They added some hot water, and the wort lautered out a porter-black color—despite

the fact that it had been pale malt. They then cooled the wort and pitched their yeast—boiling wort appears to have been virtually unknown in Baltic farmhouse brewing.

They did, however, boil hops in some water on the side, making a hop tea to add to the wort in the fermentor. The keptinis recipes I've seen use a lot of European hops; I estimate they take the beer to about 50 IBUs. From experience, that seems to be necessary to counter the perceived sweetness of the caramel flavors. For the same reason, you may want a relatively low mash temperature of about 149°F (65°C)—the same mash temperature I observed when visiting the Jančys family.

They fermented their keptinis with commercial brewing yeast, but some other keptinis brewers use baker's yeast. And at least one keptinis brewer I know has his own family yeast culture.

It may sound odd that a beer style that developed in the absence of metal cauldrons would make use of metal boxes or trays, but it makes sense. From ethnographic videos and older descriptions, it's clear that the keptinis brewers originally shaped the mash into bread-like loaves, often held together with straw, and baked them without any containers at all. So, the metal trays are just a modern convenience.

Keptinis in the Kitchen

Fascinated by this beer, I tried to reproduce it at home. That turned out to be harder than I expected.

For my first attempt, I baked the mash for three hours at about 360°F (180°C), which turned the surface nicely brown—but only the surface. The rest was as pale as when I started. The finished beer tasted like ... vossaøl. That is, caramelly, but the wrong kind of caramel—like that of the long-boiled Norwegian farmhouse ale. (See "Heimabrygg: Homebrew from the Fords and Valleys," beerandbrewing.com.) In my case, the water in the boxes kept the temperature at 212°F (100°C) or lower,

It was only when we tasted the beer from the previous batch, however, that I really understood keptinis. They were mashing with 100 percent pale malt, but the beer they poured was black, verging on brown at the edges. The flavor was unforgettable—huge, earthy caramel of enormous depth. It was like nothing I've ever tasted.

so I got no true caramelization. Only the edges heated to about 320–356°F (160–180°C)—where true caramelization happens, not just Maillard reactions.

I tried again at 480°F (250°C), which baked the surface of the malts pitch black—but, again, only the top. A meat thermometer showed that I still wasn't getting it above 212°F (100°C) in the center of the trays because of the water. The taste of the beer was strange, too—more toast and mineral than caramel—but interesting. Not a bad beer at all. And there's a lesson there: It takes a lot to completely ruin a keptinis, and you get an interesting beer almost no matter how you bake it.

For my third attempt, I turned on the oven fan, to blow out as much moisture as possible, and I set the oven to 375°F (190°C). This time I watched the browning of the surface, stopping after a bit more than two hours, when the color looked right. I still didn't get the center above 212°F (100°C), but I managed to get a flavor closer to the original, even if it lacked the same depth and intensity.

René Rehorska, an Austrian researcher, reports that he tried baking the mash for two hours at 570°F (300°C) in a combination steamer set to dry heat, but he still only got the center of the mash up to 216°F (102°C). It's possible that you can't get the center temperature up to caramelization temperatures above 320°F (160°C) in your home kitchen—and maybe you shouldn't even try. The Jančys family only browned theirs at the edges, too, but that provided enough flavor.

An electric kitchen oven probably isn't ideal for keptinis because it may not be good at pushing the heat into the mash trays. Pizzas are best baked in stone ovens because the surface transfers heat into the pizza much more quickly. To help with that, you can buy pizza stones, quarry tiles, or pizza steel for your home oven, and using those for keptinis may be a good idea. Using the fan also helps. So does putting the mash in a shallow, wide container, which offers more surface-to-volume ratio, increasing the baked surface. However, a stone or brick oven is very likely the best alternative.

Other Practicalities

The biggest obstacles to brewing keptinis, however, might be finding an oven and containers that are big enough for your mash—then, once you've brewed it, doing the cleanup. Keptinis can be labor-intensive.

I did speak to one small Lithuanian brewery that produced a keptinis. To bake the mash, they collaborated with the local bakery, which had big ovens with racks for bread pans—so they could bake a lot of trays in one go. Even so, they managed to bake only about half the mash.

If you want to taste a keptinis, there are commercial options, but not many. The easiest place to buy it by far is Lithuania, where several different breweries have made it. Unfortunately, I have yet to taste a commercially available keptinis with the same depth of flavor as what the Jančys family brewed.

If you make it to Vilnius and want to find keptinis, head for the Alaus Namai pub. In a basement that feels like a student bar, you can reliably get the keptinis from Ramunas Čižas on draft—and it's a true farmhouse ale, fermented with his family yeast. It doesn't *quite* taste like that dark monster from the Jančys family, but it's still an experience worthy of any true beer lover's bucket list.

The best option, however, is probably to find a friend with a pizza oven and ask if you can borrow it. For science. 

MAKE IT

Dundulis Keptinis

From Dundulis in Panevėžys, Lithuania, comes this recipe based on their interpretation of keptinis beer, brewed from an oven-baked mash. Dundulis production manager Simonas Gutautas says this beer—like traditional keptinis—should be dark brown and full-bodied, with flavors of caramel, vanilla, and toasted bread.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.060 (14.7°P)

FG: 1.018 (4.6°P)

IBUs: 23

ABV: 5.5%

MALT/GRAIN BILL

11 lb (5 kg) pilsner

17.6 oz (500 g) rye malt

HOPS SCHEDULE

3.5 oz (100 g) whole-leaf Saaz or other Noble variety for hop tea (see below) [23 IBUs]

YEAST

White Labs WLP4046 Simonaitis Lithuanian Farmhouse Ale, another Lithuanian farmhouse culture, or your favorite Norwegian kveik

DIRECTIONS

Preheat your oven to 340–350°F (171–177°C). Mill the grains and mash thick—about 0.7 quarts per pound, or 1.5 liters per kilo—at 144–149°F (62–65°C) for 60 minutes. Scoop the mash into metal pans or trays, giving the mash at least 1.3–1.5 inches (3.5 cm) of thickness, but still allowing some space for the mash to expand while baking. Bake the mash for 3½ hours. You should notice the caramelization while baking, including the dark brown crust developing on top—if not, you can increase the temperature to 390°F (200°C), but don't leave the oven unsupervised.

While the mash is baking, brew your hop tea: Put the hops in plenty of water—about 1:10 hops to water by volume—and boil for 1 hour, then filter the boiled hops from the tea. After baking, transfer the baked mash to a lautertun, breaking up the crust with a paddle as needed. Add the boiling hop tea to the mash, then lautertun and sparge with boiling-hot water to collect about 5.5 gallons (21 liters) of wort. Cool the wort to about 86°F (30°C) and pitch the yeast. Ferment in an ambient range—64–75°F (18–24°C)—allowing the fermentation to free-rise as high as 90°F (32°C). Once fermentation is complete, package and carbonate to about 2.5 volumes of CO₂. It should be ready to drink in about 2 weeks.

BREWER'S NOTES

Malt: Avoid well-modified pale malt if possible and look for a relatively less-modified variety, such as one that's been floor-malted or even wind-dried. Instead of or in addition to the rye, you can also use any other type of grains, including oats, wheat, spelt, buckwheat—or mix them up, to be as much as 50 percent of the malt bill.

Tea: Besides hops, you can also add other herbs or botanicals such as wormwood, mugwort, raspberry stems, or any others that you think would fit the recipe.

Ask the Pros...

Techniques, ingredients, and histories behind some of the world's most compelling beers as shared by the brewers themselves. **By Ryan Pachmayer**



Halfway Crooks Sanguine

Halfway Crooks Beer, Atlanta

SANGUINE—THE BELGIAN-INSPIRED, hop-forward pale ale from Atlanta that this magazine named one of its Best 20 Beers in 2022—is a harmonious marriage of hops and yeast.

The beer “balances moderately expressive fermentation—some fruity esters and a light touch of spice—with zesty hops,” our editors write. “Lemon, lime, herbs, and pepper sprawl across the canvas of lightly sweet pilsner malt, before the bitterness takes charge and keeps you coming back.”

Shawn Cooper and Joran Van Ginderachter, cofounders of Halfway Crooks, had a vision for this beer from the earliest days of conceiving their brewery, which they opened in 2019. “We wanted to serve low-alcohol beers,” Cooper says. “We both

love Taras Boulba. We wanted one of our mainstays to be a Belgian pale ale.”

The duo had specific traits in mind.

In 2011, the Belgian-born Van Ginderachter also had cofounded Verzet in West Flanders, where they’ve long brewed a beer called Super NoAH. Its name is an acronym. “It means ‘no American hops,’” Cooper says. Instead, the pale ale of 4.9 percent ABV is packed with Belgian-grown hops.

“There’s also Taras Boulba,” Cooper says of the bitter, floral, dry, Noble hop—saturated pale ale of 4.5 percent ABV from the Brasserie de la Senne in Brussels. “You can’t even really touch it. It’s a lot of brewers’ desert-island beer.”

Cooper and Van Ginderachter knew that they wanted something along the lines of those two beers—“subtle, yet complex,” Cooper says. Yet finding that balance would prove challenging.

Dialing in the Hop Character

Sanguine was among the first beers they brewed at Halfway Crooks, and the original recipe called for German hops. “It was what we could get,” Cooper says.

In their second year, the team formed a relationship with Forrest Farm in Warrenton, Hainaut, on the French border and not far southeast of Poperinge—the town most often associated with Belgian hops. (Forrest Farm’s notable clients include the nearby De Ranke brewery, which uses its whole cones year-round.)

Halfway Crooks added Forrest Farm to their existing imported hop orders, and suddenly they were receiving Belgian-grown Brewers Gold, East Kent Goldings—and a once-wild hop called 7784, named for the farm’s postal code. That hop, found in 1994, “kind of reminds me of Amarillo and its story,” Cooper says, referring to that hop’s accidental discovery in Washington state in 1990.

The 7784 hop is expressive, he says. “You’re getting a lot more fennel, spicy, pepper characteristics,” he says. “Any expression from German hops, it’s kind of amplified. American hops are very, very expressive. German hops are kind of subtle. [These] Belgian hops are in between.”

In their case, the terroir of the hops seems to have more influence than the traits of specific varieties. The Belgian

PHOTO: COURTESY HALFWAY CROOKS

hops can be interchangeable—as when this beer gets a charge of Belgian-grown Cascades in the whirlpool. “It’s extremely orange zest,” Cooper says. “Very citrusy and kind of in-between a lemon and an orange.”

That whirlpool addition provides most of the hop flavor. Because the beer is naturally carbonated, Cooper sees no reason to open up the fermentor for a dry-hop addition. “Some of the Noble hops can start to get into an intense, vegetal-like, green-tea or hay character” when dry-hopped, Cooper says. Instead, they pack them into the whirlpool.

The beer is bitter, too—to the tune of just over 50 IBUs. “We want a lot of hop presence in this beer,” Cooper says. “And all of our saisons [also] have a significant hop presence.”

A Three-Strain Blend

Cooper says the ingredients for the beer have been somewhat fluid—except when it comes to yeast. That is consistent with Sanguine. It’s also unique.

“A lot of saisons in America, especially cleaner ones, were very ester-forward to me, with not a lot of hop character,” Cooper says. When trying to balance the characters driven by the yeast and hops, they looked for a *relatively* neutral strain—“understated, subtle,” Cooper says—yet one that still had some of the hallmark Belgian qualities.

Instead of one strain, they chose three.

To reach their goal, Cooper and Van Ginderachter arrived at a blend of two dried ale strains and one lager. The “base” yeast is Fermentis Saflager W-34/70, making up 70 percent of the blend by weight. Then, SafAle S-33 makes up 27 percent, while SafAle T-58 makes up just 3 percent. Cooper says the more neutral character of the 34/70 and S-33 strains really helps to temper the spicy T-58, while the fermentation still produces some desirable Belgian-ish esters.

They ferment Sanguine at about 64–65°F (18°C) in noninsulated, glycol-chilled transport vessels. “We’ve tried different temperatures, but this gives us the expression that we want [and] a healthy fermentation between all three yeasts,” Cooper says.

Sulfur can be a problem. They’ll condition the beer at 50°F (10°C) for three weeks, and that can help drive away the sulfur—but they’ve also, at times, had to blow it off just before packaging. “It’s one of the hardest beers we make,” Cooper says. “It’s just very finicky, and you need to taste it. But when it’s done right, it’s beautiful.”

A Brewers’ Beer

Why Sanguine? The name stands for optimism and for being at ease.

“We named this beer with the optimism that people would fall in love with it,” Cooper says. “We [hoped] it would embody our vision of a community-driven space, one that offered lower-ABV options and became a place to be at ease for a post-work beer or gathering of the community around us.”

How has that fared for Halfway Crooks, more than five years on?

“I don’t really know anyone who comes here for these types of beers anymore,” Cooper says. “They’re definitely falling out of favor with most craft-beer drinkers.” Still, he says Sanguine sells enough for the brewery to keep making it—even if, sometimes, the brewers feel like they’re just making it for themselves. “I hope that [changes] one day.”

Meanwhile, the beer does have some dedicated fans who are grateful that it remains a fixture. “We chased this beer for four years, trying to find the flavor profile,” Cooper says. “This is where we ended up.”



MAKE IT

Halfway Crooks Sanguine

While its ingredients evolve, the DNA of this modern Belgian-inspired pale ale includes ample bitterness, plenty of Belgian-grown hops for flavor and aroma, and a unique blend of three dried-yeast strains.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.048 (12°P)

FG: 1.010 (2.5°P)

IBUs: 53

ABV: 5%

MALT/GRAIN BILL

7.8 lb (3.5 kg) Dingemans Pilsen

1.2 lb (544 g) Dingemans Wheat Malt

HOPS SCHEDULE

0.25 oz (7 g) Magnum at 60 minutes [12 IBUs]

0.7 oz (20 g) Belgian Brewer’s Gold at 20 minutes [11 IBUs]

0.7 oz (20 g) Belgian Styrian Golding at 15 minutes [8 IBUs]

3.3 oz (94 g) Belgian Cascade at whirlpool [22 IBUs]

YEAST

A blend of Fermentis Saflager W-34/70 (70% by weight), SafAle S-33 (27%), and SafAle T-58 (3%)

DIRECTIONS

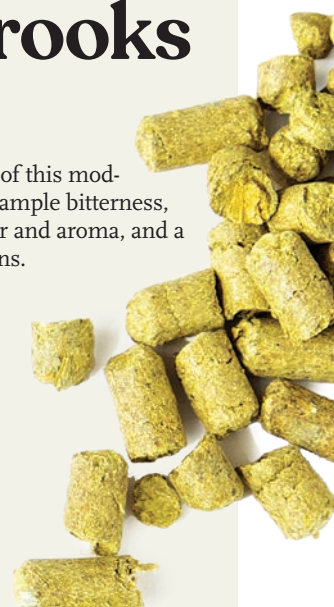
Mill the grains and mash at 147°F (64°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as necessary to get about 6 gallons (23 liters) of wort, depending on your evaporation rate. Boil for 60 minutes, adding hops according to the schedule. After the boil, do a whirlpool step: Stir or recirculate to create a vortex, cooling the wort to 180°F (82°C) if possible; add the whirlpool hops, spin 5 more minutes, and allow 10 minutes to steep. Chill to about 61°F (16°C), aerate the wort, and pitch the dried-yeast blend. Ferment at 64°F (18°C). Once fermentation is complete and gravity has stabilized, cool to 50°F (10°C) and condition 3–4 weeks, or until any sulfur has subsided. Package and carbonate to 2.5–3 volumes of CO₂.

BREWER’S NOTES

Water profile: 109 ppm chloride, 71 ppm calcium, 71 ppm sulfates, 15 ppm magnesium, 7 ppm sodium.

Mash: Among the variations, we sometimes include about 5% Weyermann Spelt Malt, reducing the wheat according to maintain the OG. We’ve also sometimes used IREKS malt in place of Dingemans. Our mash pH target is 5.4.

Boil: Our direct-file kettle gets good evaporation, so we have no concerns about DMS there—optionally, boil for 75 minutes if that’s a concern. For IBUs, we first calculate what the later additions will contribute, then adjust the Magnum accordingly. At the 20-minute addition, we adjust the pH to 5.0.





Hércules Pueblito

Cervecería Hércules, Querétaro, Mexico

BEFORE HE MOVED TO MEXICO to become head brewer at Cervecería Hércules, Josh Brengle cut his chops in Tampa, brewing for Cigar City.

With his Irish background—including cousins who live in Ireland today—an export stout was an important style for him to brew. A surprise gold medal at the 2024 World Beer Cup only bolstered that importance.

With just one beer remaining in the competition, Brengle was packing up his things for the night at the watch party in Mexico when he heard them announce, “Gold, Pueblito, Cervecería Hércules.” He compares that moment to a favorite sports team’s last-second, comeback victory.

Here, he shares the story and process behind the beer that won gold at the world’s most prestigious beer competition.

The Soul of a Stout to Quaff

Brengle’s early drinking days were filled with pints of Guinness, creating lasting memories.

“I grew up drinking the nitro can, the regular draft, and the bottled stout from the supermarket,” he says. “This was a

beer that teaches you right away the [impact] nitro has on a beer.”

That nostalgia was top of mind when drinking a tropical stout that he and the team had previously brewed at Hércules. “The beer was good, but it was a bit sweeter, stickier, and fruitier,” he says. “It had a lot of caramel malts, and you would think it was the last beer you might want to drink on a tropical island. ... The traditional tropical stouts that you would find back in the day, like Lion Stout, were a little less sticky, a little more refreshing.”

Brengle’s goal, then, was to design something more drinkable than the tropical stout’s 8 percent ABV. He set out to create what would eventually become Pueblito.

“The goal was coffee roast,” he says. “We wanted the roast to come out significantly but not be super acrid.”

Balance would be critical, and he says that brown malt came to mind immediately. “The idea to push the coffee notes—different types of coffee, different toasts—that’s where the brown malt came in,” he says. “You almost get a kind of tannic coffee flavor from it. It’s such a unique malt.”

Brengle used the brown malt to add lighter coffee notes to the beer, while Briess Victory adds a supporting toast element. “I’m just trying to keep the roundness, the fullness on point as a background support, without the beer finishing sweet,” Brengle says.

Hércules waits until vorlauf to add roasted barley from Weyermann for color and smoother roast flavors, without over-extracting. Brengle says they usually use Thomas Fawcett’s roasted barley, but the supply chain in Mexico can get slow: “If we don’t order it way in advance, we might not get it,” he says. His fellow brewers at Hércules told him they’d used the Weyermann before in similar beers, and that it works great and tastes fine. “I was highly skeptical,” he says. “Why would we use *German* roasted barley?”

In the end, it did indeed work great. Weyermann’s roasted barley is a bit lighter in color than Thomas Fawcett’s version, so they add a little more of the Weyermann to make up that difference.

Pueblito’s base is Maris Otter, staying true to the British Isles, but Brengle says that may not be the most important part of the grist.

“I don’t know how much difference it’s making in the final beer,” he says. He suggests that Vienna could be a reasonable substitution, especially if you can avoid oxygen on the hot side of the brewing process. And some Munich might be fine, he says, since the bit of toastiness from that malt might give something valuable back to the beer.

“British pale malts [would also] work,” he says. “It doesn’t have to be Maris Otter. That’s kind of turned into a namesake; the marketing of [other British malts] is just

so far behind Maris Otter. I would even venture to say that a good pils malt or two-row would be totally fine in this beer.”

Hops and Fermentation

Brengle says they achieve Pueblito’s bitterness with a single hop charge.

“We usually lean towards more complex bittering, lower-alpha and a rougher bitterness,” he says. “But we were so focused on malt [here], the coffee notes and everything.” The beer comes out to 50 IBUs calculated, but Brengle says that after filtering or fining, it probably drinks like it’s in the lower 40s.

RVA Chiswick, known as a Fuller’s strain, is what Hércules typically pitches for its Irish-style beers. “This is a cleaner-fermented beer, so we’re not looking for a lot of yeast contributions,” Brengle says. Given the stout’s ample malt character, he says they could have used a Chico strain, and it probably would have gone unnoticed.

They ferment Pueblito at 64–65°F (18°C) throughout primary fermentation. After it passes a forced diacetyl test, they bring it down to 50°F (10°C) for a few days, then drop to 41°F (5°C) for a few more days, then down to zero (32°F/0°C). That slow step-down “helps us if we’re going to re-pitch the yeast, since the yeast doesn’t love crashing, and it doesn’t like pressure either,” Brengle says. They then condition the beer at 32°F (0°C) for up to two weeks.

The Bottle as a “Mini-Cask”

Hércules packages the beer at a fairly typical 2.5 volumes of carbonation. What isn’t typical is how it reaches that level of carbonation.

“We add the first runnings of the beer directly to the brite tank,” Brengle says. “We took everything we learned from weissbier—some of those smaller, traditional breweries still use the first runnings.” That *speise*, as it’s known in Germany, is just another intangible. “I don’t know what it does, but along with everything else, maybe it’s something that stands out. Maybe a judge or consumer can’t put their finger on it, but they might say, ‘Wow, this is really nice.’”

That *speise* component adds a couple of hours to the process, but it hardly seems to phase Brengle. “We already spend a lot of time on these beers, [between] the recipe and the process and everything else, so we’ll just follow it home; it’s no big deal,” he says.

In Brengle’s view, drinking Pueblito from cask elevates the experience. “I wish we could send a cask to World Beer Cup, but obviously that’s impossible.” So, instead, he devised a plan to bottle-condition Pueblito. “We’ve done that with some of our weissbiers, our wild beers, and some Belgian styles, so I [figured] we could send them a ‘mini-cask’—just a bottle, but it’s bottle conditioned.”

At bottling, fresh yeast meets the sugar from the *speise*, and natural carbonation is the result. It can also lengthen the beer’s shelf life. “It’s not just the beer experience for the judge, but a freshness thing,” Brengle says.

Mexican breweries can be at a disadvantage when shipping beers to make deadlines for competitions based in the United States—such as the World Beer Cup. They have to ship beers up to four weeks earlier than an American brewery does.

Bottle conditioning, then, “was like a weapon” for Hércules, Brengle says. The hope is that a judge’s final impression is similar to what it would be if they could drink it on cask. “It’s just immaculate on cask,” he says.

In the end, several rounds of judges agreed.



MAKE IT

Hércules Pueblito Export Stout

From Josh Brengle and his team at Cervecera Hércules in Querétaro, Mexico, here’s a recipe for the export stout that won gold at the 2024 World Beer Cup.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.070 (17.1°P)

FG: 1.020 (5.1°P)

IBUs: 50

ABV: 6.5%

MALT/GRAIN BILL

6 lb (2.7 kg) Simpsons Maris Otter
3.1 lb (1.4 kg) Thomas Fawcett Brown
2.1 lb (953 g) Crisp Plumage Archer
1 lb (454 g) Weyermann Roasted Barley
14 oz (397 g) Briess Victory
14 oz (397 g) flaked oats

HOPS & ADDITIONS SCHEDULE

1.2 oz (34 g) Magnum at 60 minutes [50 IBUs]
1 tablet Whirlfloc or similar kettle finings at 15 minutes
1 tsp (5 ml) yeast nutrient at 15 minutes

YEAST

RVA 131 Chiswick, Wyeast 1968 London ESB, Imperial A09 Pub, or similar

DIRECTIONS

Mill the grains and mash at 149°F (65°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed to get about 6 gallons (23 liters) of wort, depending on your evaporation rate. Boil for 60 minutes, adding hops, finings, and nutrients according to the schedule. After the boil, chill to about 61°F (16°C), aerate the wort, and pitch the yeast. Ferment at 64°F (18°C). Once fermentation is complete and the beer has passed a VDK test (see “Hunting for Diacetyl,” beerandbrewing.com), drop to 50°F (10°C) for 3 days, then drop to 41°F (5°C) for 3 days, then drop to 32°F (0°C) for 2 weeks. Package and carbonate to 2.5 volumes of CO₂—or, better yet, condition in bottle or cask.

BREWER’S NOTES

Package conditioning: Hércules adds a small, calculated percentage of fresh wort and yeast before bottling or racking to cask; the Pueblito that won World Beer Cup gold was bottle-conditioned. (See “Brewing and Conditioning Cask Ale at Home, Simplified,” beerandbrewing.com.)



Make Your Best...

Get to the heart of every beer style, as **Josh Weikert** shares tips and philosophies for brewing the very best.

International Dark Lager

WHEN IT COMES TO LAGERS in the style guidelines, “international” tends to denote the kind of mass-market beer you can find in many countries around the world—including the United States. This one tends to fall squarely into the “not a whole lot going on” box—yet, done well, it can be one of your repertoire’s real crowd-pleasers. I call mine “Simply Dark,” but simple can be challenging. (Ever try to hit a golf shot perfectly straight?)

Style: It sounds so inconspicuous—little to no malt flavor, little to no hop aroma, and just a bit of sweetness. Sounds bland and flavorless, right? That *can* be true—but only if we take the “no” option instead of the “little.” In this case, all those littles can add up to highly drinkable lager that nonetheless has pleasant, evident character. Think of it like a cleaner and brighter version of a dark mild—sounds like a winner to me.

Ingredients: As recipes go, this one’s a breeze. We’re not looking for complexity of flavor, but characterful base malts can bring the subtlety. You can use basic two-

row if you want, but there’s a difference between “clean” and “sterile”—and I’ve never made a beer with pils and Vienna that was “too intense.” To that, we tack on half a pound of Carafa Special II—mostly a darkening agent, but it adds some subtle cocoa flavors and aromatics. Hopping is straightforward: a 30-minute addition of Hallertauer to the tune of 17 IBUs. That may impart a slight floral note, if you notice it at all. Finally, yeast: Wyeast 2308 Munich Lager is a great choice here. Relatively clean-fermenting with modest attenuation, it doesn’t leave much flavor behind.

Process: Although it’s a lager, I ferment this beer the same way I do my altbier and Kölsch, which actually makes it a bit of a “warm” lager or hybrid. I go 60°F (16°C) for about a week, and then I let it free-rise. Not only does that turn the beer around a little more quickly—which I often need, when an upcoming party sneaks up on me—but it should add a very subtle fruity note in the background. After about 14 days total, cold crash and package, carbonating to a little over two volumes. Done and done.

Finally: This beer can be a great base for other flavors. When brewing a raspberry porter, I found that the raspberries would blow away the porter profile. So I looked for something that was a bit dark but more basic—and Simply Dark was a perfect fit. Since then, I’ve used it as a nice, dark base for a number of experimental beers. Play around with it!



MAKE IT

Simply Dark Lager

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.055 (13.6°P)

FG: 1.014 (3.6°P)

IBUs: 17

ABV: 5.5%

MALT/GRAIN BILL

5 lb (2.3 kg) pilsner malt

5 lb (2.3 kg) Vienna malt

8 oz (227 g) Carafa Special II

HOPS SCHEDULE

1.7 oz (48 g) Hallertauer Mittelfrüh
at 30 minutes [17 IBUs]

YEAST

Wyeast 2308 Munich Lager

DIRECTIONS

Mill the grains and mash at 152°F (67°C) for 75 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed to get about 6 gallons (23 liters) of wort, depending on your evaporation rate. Boil for 60 minutes, adding the hops according to the schedule. After the boil, chill to about 50°F (10°C), aerate the wort, and pitch the yeast. Ferment at 60°F (16°C) for 7 days, then allow a free-rise to ambient temperature (68–70°F/20–21°C) until complete. Crash to 35°F (2°C), then package and carbonate to about 2.25 volumes of CO₂.

BREWER’S NOTES

I don’t like to add malts “just” for color—the cook’s instinct of “season everything” takes over for me. Hence the Carafa Special II here instead of something more neutral, such as Midnight Wheat. It’s a small addition that adds just the right touch of background flavor, and it doesn’t compromise the fundamental simplicity of this beer.

Berliner Weisse

BERLINER WEISSE—APPROACHABLE, FRESH, AND LIGHT—can be an incredible gateway for those who think they don't like “sour” beers. Best of all, brewing it is—or *can* be—easy. You can develop the clean, lactic acidity of Berliner weisse in just a couple days—or, if you're impatient, even a few seconds.

Style: The beer that Napoleon famously called the “champagne of the North” is a pale, low-strength wheat beer that features a bright and prominent (yet refreshing and balanced) acidity. The other prominent features are its dry finish and spritzy carbonation—the champagne comparison is valid. The flavor can be fruity but isn't typically hop-forward—though we're going to confound that a bit. The result is a thirst quencher that bursts with character.

Ingredients: The grist is simple—four parts pilsner, three parts wheat. That's it. Hops? Sure, why not? As I said, this isn't a conventionally hop-forward style, but here the right hops can complement our flavors in a way that really makes the beer pop. I like a flavor addition that splits the difference between Hallertauer Mittelfrüh and Sorachi Ace. Why the Japanese variety? Simple: It has the flavors we want. Sorachi Ace has lemon-lime and grassy/herbal character that meshes well with the Mittelfrüh, while the citrus notes accent the acidity beautifully, giving it an almost lemonade-like flavor. (It's true that New Zealand hops can bring the lemon-lime, but I've found them to be too much, making the beer seem like an acidified session IPA rather than a nice, tart wheat ale.)

You'll also need yeast and *Lactobacillus*. In the interest of simplicity, I stick to Wyeast 1007 German Ale—it's traditional enough and a pretty clean strain that adds just a touch of esters. And, when it comes to *Lacto*, a pure culture is your safest bet. (Note that traditional Berliner weisse also included *Brettanomyces*—for more on that, see “Will the Real Berliner Weisse Please Stand Up?” beerandbrewing.com.)

Process: There are many ways to acidify beer, and here I'll share three methods I can recommend: kettle-sour, pitch-and-wait, and “the cheat.” Regardless of method, just add all your hops at the start of the 15-minute boil.

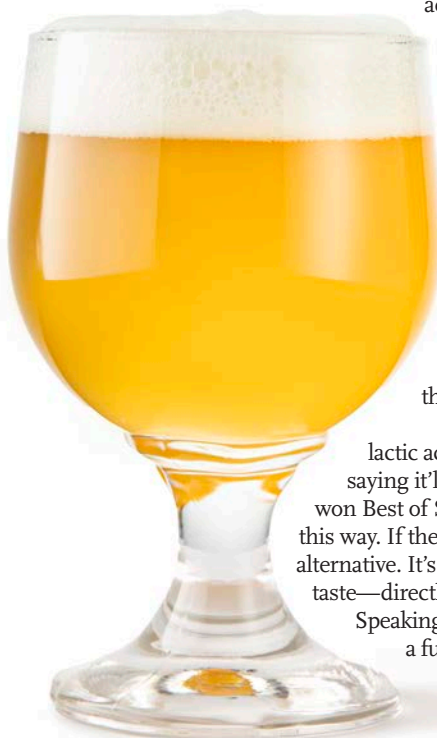
Kettle-acidification is straightforward: Mash, lauter, sparge, flush the kettle's headspace with CO₂, spike the wort with your *Lactobacillus* culture, and hold it at a specific temperature. After a couple days—or when the acidity is where you like it—come back and boil as usual. Besides allowing you to dial in your acidity, this method has the added benefit of killing all the bugs, halting the

acidification while keeping them out of your other equipment. Dead bugs contaminate no wort. Post-boil, just ferment as usual.

For the pitch-and-wait method, mash, boil, and chill as usual, then add your *Lacto* culture to the fermentor. After a reasonable interval to give the bugs a head start—a week or so—pitch your yeast. Here, the modest IBUs help to inhibit the *Lacto* and moderate the acidification. Pitch the yeast too soon, however, and they'll outperform your bugs, and you can end up with very little acidity at all. Be sure to clean and sanitize any equipment that comes into contact with the wort.

For the cheat, simply spike your beer with lactic acid. It works. Many will argue against this, saying it'll taste too artificial—ignore them. I've won Best of Show in competitions with beers acidified this way. If the other methods intimidate you, this is an alternative. It's inexpensive, and you can add it—again, to taste—directly to the finished beer at packaging.

Speaking of packaging: Carbonate this beer to at least a full *three* volumes of CO₂. Your bottles can handle it, and you'll love the way it brightens the flavor and fills out the mouthfeel. 



MAKE IT

Scared Sour Berliner Weisse

If you find sour beers to be intimidating, this is a great way to start learning the process of acidification and expand your repertoire. One last note: You can hit this beer with raspberry, woodruff, or other homemade syrup at service—and any color added can help make this a hit at parties.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.038 (9.5°P)

FG: 1.009 (2.3°P)

IBUs: 15

ABV: 3.8%

MALT/GRAIN BILL

4 lb (1.8 kg) pilsner malt

3 lb (1.4 kg) wheat malt

HOPS SCHEDULE

0.5 oz (14 g) Hallertauer Mittelfrüh at 15 minutes [4 IBUs]

0.5 oz (14 g) Sorachi Ace at 15 minutes [11 IBUs]

YEAST

Wyeast 5335 *Lactobacillus* and Wyeast 1007 German Ale

DIRECTIONS

Mill the grains and mash at 152°F (67°C) for 75 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed to get about 5.5 gallons (21 liters) of wort. Boil for 15 minutes, adding hops at the start of the boil. After the boil, chill to about 65°F (18°C), aerate the wort, and pitch the *Lacto*. Ferment at 65°F (18°C)—and yes, *Lactobacillus* will ferment some sugar. At 7 days from the first visible signs of fermentation, pitch the yeast. Raise to 68°F (20°C) and hold for 7 more days, or until fermentation is complete and gravity has stabilized. Optionally, taste and adjust the acidity with food-grade lactic acid, then bottle or keg the beer and carbonate to 3 volumes of CO₂.

BREWER'S NOTES

The key to a great Berliner weisse is that bright, sharp acidity. Getting there is a matter of trial-and-error, but I find that giving the *Lacto* pitch a one-week head start is just right. Just don't be shy about adjusting to taste with lactic acid.

GEARHEAD

AI in the Brewery

Artificial intelligence is here, and brewing will never be the same. But will it be death from a thousand cuts or a million little improvements? **By John M. Verive**

THERE ARE TWO WAYS THIS CAN GO: ugly or hard.

Ugly looks like life in the uncanny valley—color, but no cohesion. Aroma, but no nuance. Flavor, but no fizz. A glass of beer made by machines, just for you. A recipe designed by a computer, fermented in a lab, and marketed with brands and designs micro-targeted specifically at you.

Tastes fine, though. This Tears in the Grain IPA—okay, that's the name ChatGPT suggested when I asked it for a name referencing *Blade Runner* and featuring a cringe-worthy pun—is pretty good actually. It's just missing something. Hard to say exactly what. The human touch? A soul?

We are bombarded by AI. Every day, the intensity of the onslaught of buzzwords and startups and promises of disruption seems to intensify. It can be unsettling—a feeling of vertigo on the precipice of the AI revolution. We know it's all going to change; we just

don't know which future we'll get: the Jetsons (jetpacks! finally!) or *The Matrix* (oof).

So, about that hard way.

I don't mean hard like the open warfare against the all-controlling AI as seen in *The Matrix*. However, AI's ubiquity ensures it will change the beer industry. And change is always hard.

A New Way of Thinking

I don't want to give the impression that AI is a *new* force acting on the brewing industry. As Thomas Schlechter writes in the 2024 study “Impact of AI on the Brewing Industry: A Comprehensive Summary,” AI technologies have influenced brewing for more than 30 years.

The current wave of attention to—and excitement around—artificial intelligence rose with the launch of OpenAI's ChatGPT bot in 2022. In just three years, the agent has gone from a neat party trick to an indispensable

tool used by hundreds of millions of people every week.

ChatGPT and the whole field of competing AI chatbots are just one flavor of AI. Known as large language models (LLMs), these systems digest examples of written content and metabolize the resulting massive dataset into a predictive model. John Hughes, a brewing scientist at UC Davis, likens LLMs to the predictive text function on our smartphones—they're just much more advanced and complex.

Central to the theory of AI, and at the core of the LLMs themselves, is machine-learning technology. The field of study focuses on developing the algorithms behind all the intelligent systems. These algorithms apply statistical models to huge datasets and predict unknown values. Furthermore, the algorithms use these predictions to make decisions without human interactions. At the cutting edge of machine-learning technologies are concepts such as *deep learning* and *neural networks*, which further work toward making these machines more human-like in how they think.

“It's a useful tool,” Hughes says, “but we are really early in the curve.”

It remains to be seen whether the LLMs will continue to improve predictive capabilities into something akin to comprehension, or whether they'll drown in their own slop—might there a tipping point where the bots are trained more on AI-generated texts than human-written words?

Curiously, few of the brewers who've made beer based on AI-sourced recipes wanted to talk about their experience.



Hallucinations in the Brewery

Homebrewers and pros have been asking ChatGPT for recipes since the service launched to the public—even if just to see what it spits out—and there are several commercial beers marketed as being based on AI-generated recipes. Boston's Night Shift, Detroit's Atwater, and Albuquerque's Rio Bravo are among the companies that have released one.

Some intrepid brewers have even pitted their own recipes against the machine's creations in blind taste tests. Curiously, few of the brewers who've made beer based on AI-sourced recipes wanted to talk about their experience. The volume of beers based on AI-created recipes also appears to have dwindled after the initial excitement over the tech. And if we've learned anything from 30-plus years of craft-brewing ups and downs, it's that novelty is fun and exciting, but it eventually cools and doesn't ensure longevity.

In Massachusetts, Tree House runs a YouTube channel that goes beyond the typical brewery marketing content. Videos often feature cofounder Nathan Lanier sharing insights on topics from beer education to homebrewing tips to detailed looks into the brewery's technical and artistic processes. In March 2024, Tree House posted a video titled, "Can AI write a good hazy IPA recipe?" In the video, Lanier asks the Mistral AI chatbot to concoct a recipe for a New England IPA.

The LLM returns a serviceable if rote recipe for a haze-bomb, but there are enough odd details to give the brewer pause. It recommends an American ale yeast, then suggests London II as an example. It also suggests a post-fermentation cold crash to "clear" the proposed hazy beer. Lanier's recap of the experience has a positive slant, but there's a biting disdain beneath the surface. He calls the output "juvenile," and "relatively lacking," says he's "not sold on

AI" in the brewery, and reiterates that a chatbot's output is simply "an amalgamation of the information that's available to all of us." He also calls out the "loss of humanity" in the output of the machine.

A year on from that video, chatbots have become even more prevalent, and their algorithms have improved. Yet their output hasn't necessarily gotten any better. There appears to be an ouroboros effect happening, where the growing mass of chatbot output on the web means that chatbots are digesting more of their own content, and there's less humanity in the output.

"I wouldn't trust any recipe [an LLM] gives me," says Hughes at UC Davis. He warns that chatbot output appears to increasingly contain obvious factual errors and even wholesale fabrications. Called "hallucinations," the errors stem from the algorithms seeing patterns in data that don't actually exist or that are not meaningful. (One explanation of AI hallucinations likens them to humans seeing animal shapes in clouds.)

I experienced ChatGPT hallucinations for myself when researching this article. I had avoided engaging with the AI directly—I was deeply uncomfortable with the tech—but I rolled up my sleeves and sat down to "chat" with ChatGPT. I tried to get its perspective on how AI can help craft brewers.

The first three people whom it suggested I talk to for this article didn't exist. They appeared to be confabulations of several people wrapped up into one name. Several companies that it cited as examples of AI integration in the brewing space were either defunct or entirely fictional. It wasn't a reassuring experience.

A More Focused Tool

Many brewers do use, and even rely on, LLM chatbots. But none of the ones who spoke to me are asking AI for recipe advice. These brewers are using it like most people seem to be—for mundane tasks

such as scheduling, creating job descriptions, and writing SOPs.

Bob Kunz, founder of Highland Park Brewery in Los Angeles, says ChatGPT is like a personal assistant, speeding up research projects or streamlining the kinds of complex bureaucratic tasks that come with running a business.

There is at least one alternative to off-the-shelf chatbots that's more brewer-focused. ProBrewerGPT is an attempt to package the power and utility of ChatGPT specifically for the brewing-industry professional. ProBrewer cofounder Pat Hagerman says they developed the AI agent to help expose 30 years of ProBrewer content and community knowledge in a more user-friendly way. Using retrieval-augmented generation (RAG) to narrow the scope of the information indexed by the LLM, ProBrewerGPT is focused on technical issues and the kind of minutia that brewers have discussed on troubleshooting message boards over three decades.

"As a publisher, it's our job to expose people to facts, information, and opinions, and we've built an amazing archive of content," Hagerman says. Between editorial writing, the ProBrewer discussion boards, and even the classified ads, traditional search methods don't surface relevant details as well as the custom AI agent.

Placed between the user's questions and the LLM chatbot, the ProBrewerGPT agent works to constrain and guide the AI. "It's like giving ChatGPT a job description, fencing off a designated area for it to search, and making sure it prioritizes factual content."

The LLMs are like djinn who won't go back into the bottle, and brewers inevitably are learning how to make their own best use of the tools.

However, LLMs aren't even the most powerful incarnations of AI at work in the brewery.

An Industry Infestation

AI is already embedded in our pockets and desktops, and it feels impossible to avoid. AI is just as prevalent in breweries—but it's most visible in all the same ways it's visible in any business. It's helping workers to answer questions, off-load simple tasks, and manage administrative chores.

Yet AI's impact goes beyond user-facing chatbots. Machine learning is increasingly embedded in any equipment that's wired to the internet. Anything that uses digital sensors to collect data is a target for AI integration, and these systems can be found throughout many breweries and taprooms.

In Bend, Oregon, Deschutes adopted a machine-learning system to increase efficiency in the cellar. Using their historical,

Chatbots have become even more prevalent, and their algorithms have improved. Yet their output hasn't necessarily gotten any better. There appears to be an ouroboros effect happening, where the growing mass of chatbot output on the web means that chatbots are digesting more of their own content, and there's less humanity in the output.



manually gathered dataset of tank residency times and temperatures, the innovation team trained a machine-learning algorithm to predict the precise length of each phase of fermentation. The end result: Their beer spent less time in tanks, which meant they could turn each tank more often. They made more beer in the same amount of time with the same capacity, and the brewery rerouted funds allocated to growing the cellar back into the innovation project.

Other labor-intensive brewing processes are targets for AI intervention. From making cell counts in the lab to optimizing mash temperatures, machine learning is applicable whenever a process generates data. Anywhere that automation exists in the brewery, AI isn't far behind. Collect a large enough dataset, and the algorithms can predict results—even as variables change. Or, at least, that's the promise of the technology—but a brewer is equal parts artist and scientist, and placing trust in machine-made decisions can feel counter to the craft.

Speaking of art: The image-creation and design capabilities of generative AI systems such as MidJourney promise to “democratize” the artistic touch and allow anyone to create photo-realistic images simply by describing what they should look like. The technology is all over social media and ecommerce sites, and—much like chatbot-generated text—the images

have a hard-to-describe quality that is obvious. AI labels and can designs are certainly out in the marketplace, but they're still relatively rare. Craft beer trades on a sense of authenticity, after all, with a handcrafted appeal. Slapping AI art on the packaging may cost a brewery more in authentic appeal than it saves by not paying a designer.

Meanwhile, the biggest impact of AI and machine learning on the brewing industry is happening *outside* the breweries. From the barley fields and hop yards to the delivery trucks carrying kegs to the local pub, AI is reformatting the entire supply chain.

There are algorithms that can decide which strain of barley should be planted in each micro-plot. There are computer-vision systems that can grade the harvested barley. And there are automated kilns that can process the malt with less energy. AI is informing hop-breeding programs, yeast design, and hybridizations. The presses, extractors, and membrane systems that produce flowable advanced hop products or pull the ethanol from beer also use AI to increase quality and yields.

“We use AI as a thought partner, but not in a groundbreaking way—at least not yet,” says Nick Harris, cofounder of Berkeley Yeast in California. “I’m excited for the technology to improve, though. In the future, I imagine it will save a lot of

time when optimizing secondary metabolism or selecting mutations for protein engineering.”

AI, Breaker of Headwinds

AI's influence on the beer industry probably won't be in the invention of the perfect beer style or in the most compelling level ever seen in the history of packaged beer.

The most important changes will be those countless tiny improvements across the supply chain, within the brewery, and in the marketplace. A couple hours shaved off fermentation time isn't a big deal over one batch... but over 100 batches at a brewery in a year, it adds up to meaningful savings, across the whole industry.

Back when the rising tide was lifting all the craft-brewing boats—and even mid-dling breweries with questionable business practices were growing unchecked—operators could be a little loose with the details. But the tides have shifted, and craft beer has more competition than ever. Breweries have to trim the sails and tighten the ship if they want to weather the headwinds. Inefficiencies will sink a business that ignores them in the face of shrinking margins.

The trick to succeeding in the face of AI-driven changes will be to find ways to leverage the precision and inhumanity of the AI systems without sacrificing craft beer's foundation of authenticity. That's the hard road. It could become easier to give the reins to AI, as the tech improves. But I don't think craft beer's core customers would stomach the loss of humanity in the glass. Nor would craft breweries be eager to become de facto contract brewers for AI “brewmasters.”

Machines are learning how to read, write, and speak more like humans—they're getting better every day, and the hardware to allow machines to see, smell, and even taste is likewise continually advancing. But when an algorithm samples a beer with a gas spectrometer and a silicone-based “e-tongue,” is that really tasting?

Will a machine know the joy of a ray of spring sunshine glinting off a perfectly poured pilsner, Saaz aromas leaping from the foam to your nose, crisp-cracker malts sliding into zesty bitterness, and the holistic experience of that sip that echoes back to 19th-century Plzeň?

Or, will all those moments be lost in time, like craft beers amid a torrent of AI-generated lager-slop? Because *that* would be the ugly.



Disclosure: Exceptionally, we used ChatGPT-generated artwork for this story to illustrate the point. We remain committed to commissioning original, creative editorial work from human writers, photographers, and illustrators.

More FLAVOR FEVER than a Feeling: Grasp the Intangibles of Beer Flavor

In the world of brewing, we can precisely measure and define certain things—and those things don't have a whole lot to do with how we smell, taste, and feel about beer. **By Randy Mosher**

BEER OFFERS A DAZZLING abundance of sensory delights bestowed by its chemical components: water, a small amount of ethanol, and traces of sweet, bitter, acidic, and aromatic chemicals.

We can measure and express many of these in commonly understood numbers: OG, ABV, IBUs, SRM or EBC for color, and more. These basic parameters are well worth knowing, even for a casual enthusiast, because they give clues to how any given beer will taste and whether it will meet expectations for its style. Going further, it's also possible to measure and describe the hundreds of molecular players that give beer its taste, mouthfeel, and aroma.

Useful as these metrics can be for brewers, no analysis can capture how beer *actually tastes and feels* to each of us. When it's time to taste and drink, beer speaks to us purely in the sensory realm, with qualities far beyond the sum of its components.

Evaluating beers strictly by the numbers misses that important point, which is why beer competitions don't just run the entrants through a lab and hand out awards based on how closely their numbers match the style guidelines. As an art form, beer is a multisensory conversation between the brewer and the drinker.

Beyond basic tastes, there are a few sensory characteristics that we can define chemically—whether an amber beer is toasty or caramelly, for example—but they're quite complicated and don't lend themselves to a reductionist approach or easy conversations. Aroma is so complex that even with some training and experience, we struggle to describe its character in dispassionate terms. We do the best we can, but sometimes even talking about a beer's flavor can be an art form unto itself.

The closer we come to aesthetic characteristics we really care about, the more challenging this becomes.



Many qualities we value highly in beer are difficult or even impossible to define.

Beer is not alone here. Despite a lot of puffed-up talk, wine wrestles mightily with this, and I assume it's the same for all artisanal beverages. There is consensus behind many of these intangibles, so we all assume we know what we're talking about—even when, in reality, we don't.

When you actually try to precisely define things such as balance and complexity—or even basic concepts, such as quality—the more slippery they become.

What Can We Define?

Scientists have spent a fair amount of time on intangibles but, because they're psychological phenomena, research hasn't been that fruitful. Even so, there are some things we can say about a few of them.

Let's start with an easy one: **balance**. Our general notion is that it's a kind of counterpoint, preventing a beer from being too one-sided, whether cloyingly sweet or searingly bitter. This contretemps between hop bitterness and malt sweetness is the most common axis of beer's balance, but there are others. It's mainly about tastes and mouthfeel textures; aroma isn't a big player in balance, but it does contribute.

One aspect of balance can be defined numerically, to a point. Looking at the ratio of a beer's original gravity to its bitterness in IBUs gives a number that Cicerone founder Ray Daniels calls the **GU:BU ratio**. What it assumes is that to maintain a certain balance point, a beer's bitterness must increase with the OG. It's demonstrable: An American light lager of 45 IBUs will lean much more bitter in its balance than a barleywine with the same IBUs.

What the BU:GU ratio ignores is that not all beers with the same OG are equally sweet or dry. Some dark malts add astringency and/or bitterness that IBUs don't capture. That can set up a kind of three-

way balance, bouncing among sweet-malty, toasty-roasty, and hoppy. Creamy mouthfeel and aromatic fruitiness also can add to the sweetish side, as with wheat beers.

With sour beers, all bets are off—they're more like wine. Red wine's balance generally plays astringency/tannins from grape skins or wood against its acidity. In white wines, sweetness is sometimes at play along with its aromatic avatar, fruitiness. So, balance falls into the realm of "I know it when I taste it." Experienced tasters learn to assess it despite the lack of any precise metric.

Complexity is more elusive, with little agreement about what the term even means. One might expect the number of smellable/tasteable components to be a good starting point, but that's no help. Both the simplest and boldest beers have close to a thousand aroma chemicals—though, in most cases, just a few dozen of those are enough to create a believable mock-up.

That's still overwhelming, given that even trained tasters struggle to focus attention on more than three flavor sensations at the same time. The other thing at work is how the brain uses this complex chemistry—solely to recognize aromas and assign value in a given context. Our sensory system tosses out receptor responses to the chemistry before a smell actually enters the brain.

A more fruitful way to think about complexity is to consider it from a psychological point of view, more in line with what our brains are actually doing. We now know that most aroma chemicals in things such as wine or beer join forces with others of their kind, producing "configural" smells that may be unlike any single component. Further, the sensation we experience as "flavor" combines smell, taste, mouthfeel, and cognitive informa-

tion into a similarly unified whole. Could these agglomerated chunks of sensations play out as little tableaux in ways that capture our attention and imagination?

That's the best explanation we have: Complexity happens in the brain, not in the nose or mouth. This is borne out by the fact that the most highly experienced professionals in beer or wine are the ones who can extract the most complexity out of them. For beer people, that means ingredients, recipes, and styles; for wine folks, it's grape varietal, region, and terroir.

The sensation we experience as "flavor" combines smell, taste, mouthfeel, and cognitive information into a similarly unified whole. Could these agglomerated chunks of sensations play out as little tableaux in ways that capture our attention and imagination?



In other words, complexity is cognitive, depending strongly on one's ability to perceive it. This is why it's rarely on most consumers' radar.

Now, **quality**. If it were just about freedom from flaws, this would be an easy one.

Beer is an extraordinarily fragile product that's also complicated to produce. There are endless ways to screw it up; the minute it's packaged, it starts to deteriorate. The telltale signs of less-than-perfect beer are taught in brewing schools and in the Cicerone curricula. But are all flaw-free beers of equal quality?

Trying to define *positive* characteristics that contribute to beer quality is challenging. Here are some things I look for:

Freshness is often defined as lack of staling compounds such as papery (E)-2-nonenal and honey-ish ethyl esters, while many of beer's malt- and especially hop-driven characteristics are best when very young, fading rapidly with age.

Beer foam is a delight. That persistent head and "Brussels lace" on the glass depend on everything from ingredients to mashing, boiling, and fermentation to the carbonation process, and even how it's served. Foam's unique proteins also start to degrade as soon as the beer is packaged. To me, foam is the canary in beer's coal mine. If it's right, there's a good chance everything else will be, too.

Getting More Ethereal

What constitutes quality has been a more central question for wine than for beer.

Flawed wines are less common than flawed beers, mostly because wine endures the ravages of time much more gracefully. Some wines are so valuable that they're hoarded like rare coins. Are they really of higher quality? The wine world seems a little embarrassed to not be able to answer that question definitively. Sure, you can talk about prestigious estates but, in the end, whatever gets poured into the glass has to stand on its own.

Persistence or **length** are oft-discussed terms in wines, especially reds. That generally refers to the long tail of sensations after the sip, including the retronasal smell that hits your nose when breathing outward, plus the textural effects from tannins and other polyphenols. It can be desirable in beer, as long as it's not harsh and unpleasant—true for wine as well. In beer, the **quality of bitterness** also plays a major role—is it smooth, soft, firm, crisp, resinous, or rough?

Beyond this, we go from the realm of the sublime to the ridiculous fever dreams of marketers. One wine textbook defines **elegance** with a straight face as "a combination of balance and quality," two quasi-definable terms. Such generalities are endless: stylish, opulent, rich, harmonious, and others that are no more than fancy euphemisms for expensive.

I have my own ineffable term, though: **memorable**. This comes from years of judging, traveling, and tasting. At the end of a session, there are always beers that haunt my memory—sometimes for years.

I can't define it and won't attempt to, but for me that captures the mix of a great concept with some originality, all executed flawlessly. That's what moves me. But I encourage everyone to find their own intangible stairway to beer heaven.



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IPA on the World Stage

Hazy or bright, pale or amber, craft beer's headliner style continues to hone and refine its act, drawing inspiration and flavor from the Southern Hemisphere, the Midwest, Czechia, and beyond.

Midwest? Nice. IPAs from the Heartland

Midwest IPA is more than a middle ground between the two coastal substyles. It's a unique approach all its own, rooted in modern tradition while evolving for the future. **By Kate Bernot**

AS THE WORLD'S MOST POPULAR craft-beer style—by a long shot—it's no surprise that brewers view IPA through regional lenses.

The flagships of influential breweries become standard-bearers for a particular area, codifying their approach among a generation of brewers and drinkers like a mother hen imprints on her chicks. Slowly, successively, speciation occurs: A critical mass of these IPAs begins to look distinct enough from peers brewed in other areas and, ultimately, New England or West Coast or New Zealand IPAs are born.

But what of Midwest IPA? Some breweries use the phrase on packaging or even in their brand names, but its contours are far from clear. Is it a distinct substyle the way its coastal counterparts are? Should its recipe highlight Midwest-grown ingredients? Or is it simply any IPA brewed within the geographic confines of the Midwest?

C-Malts, C-Hops

In Hood River, Oregon, pFriem Family Brewers recently learned a lesson in how squishy the term can be. Last year, it released Midwest IPA, to “give a nod to how some of our friends over in the Midwest part of the country are making hop-forward IPAs.”

Brewmaster Josh Pfriem says he was particularly inspired by the IPAs from Fat Head's, the Ohio brewery that also had a Portland, Oregon, outpost from 2014 to 2018. Pfriem describes those beers as “big, impactful, full, a little raw and generally intense, but good.” Combining that approach with some of his own preferences, pFriem's Midwest IPA featured a malt bill of two-row barley and Carafoam plus clear invert sugar syrup, with a resinous-tropical combination of Citra, Mosaic, Galaxy, and Nelson Sauvin hops.

Unfortunately, the vision he had for a pFriem-ified Midwest IPA didn't translate to drinkers. “This was lost on most folks,” Pfriem says. “Most of them in the Pacific Northwest hadn't had an experience with [Fat Head's beers] in this realm. On the other side, we had die-hard folks from the Midwest that were looking for a heavy caramel, C-hopped, and busted IPA, which is not what we want to brew, so they were disappointed.”

Pfriem didn't brew that beer again, but Midwest IPA has thrived elsewhere. Breweries from Minnesota to Ohio to Missouri to Texas proudly label certain beers as Midwest IPA; for many, it's a core, year-round offering. Its precise boundaries are open to interpretation, but consensus appears

to have formed around the idea that they should contain a portion of caramel or crystal malts, some classic C-hops—Cascade, Columbus, Centennial, or Chinook—and a relatively even malt-hops balance.

If you're thinking that sounds an awful lot like good-old American IPA, you're not wrong. (See “American IPA, Remastered,” beerandbrewing.com.) As the hazy New England and bright West Coast styles drift toward opposite poles, Midwest IPA—like the region from which it hails—has proudly held the middle.

Divergent Histories

Regional IPAs are largely defined in contrast with each other.

The hazy IPAs that came out of New England and still dominate that region are instantly recognizable because of how different they are—visually, texturally, and in their flavor balance—from the American IPAs that came before.

Contemporary West Coast-style IPAs are much lighter and leaner in their base malts than they were even a decade ago. (Green Flash West Coast IPA, a beer that debuted in 2005 and inspired others, exemplifies this time warp, with a reddish-amber hue still driven by a dose of British crystal.)



Like generalizations about the region itself, Midwest IPAs are dependable, familiar, and maybe a little retro. They're repositories for drinkers' conceptions of what it means to be an American IPA.

If many West Coast IPAs today get 100 percent pilsner or two-row, it's partially a reaction to the brawny excesses of the chewiest New England bruisers.

Meanwhile, as those two substyles became more divergent, the middle space for Midwest IPAs became wider and more inclusive. For the average drinker—who has no need to discern particular beer-recipe nuances—today's Midwest IPAs are probably nearest to what they'd call "regular IPAs."

As the West Coast style shifted leaner and paler, the Fat Head's team started to rethink how they describe their flagship, Head Hunter, says brewmaster Matt Cole. The brewery no longer refers to it as a West Coast-style IPA. (Last year, Cole says, he entered Head Hunter in the Great American Beer Festival competition as a West Coast IPA. The judges picked it apart—the darker color alone was enough to knock it out of contention.) The brewery now calls Head Hunter an American-style IPA, while many brewers and retailers cite it as a foundational Midwest IPA—alongside beers such as Bell's Two Hearted, Surly Furious, Boulevard Single Wide, Founders Centennial, and others.

"There's closer alignment of old-school American-style IPA to Midwest IPA than there is Midwest IPA to West Coast IPA," Cole says. "We tend to run a little thicker mash profile, so you've got a little more color than what you'd find on the West Coast. We always still use Carapils to add body [to Head Hunter], and that doesn't seem like a common West Coast thing."

Where West Coast has become bone-dry and heavily late-hopped, Head Hunter and most other Fat Head's IPAs are focused on layers of hop additions throughout the brewing process, from the beginning of the boil to mid-boil additions and on through the whirlpool and into the hopback. (See "Recipe: Fat Head's Head Hunter IPA," beerandbrewing.com.) The goal of those mid-boil additions is to create a strong through-line across the palate, Cole says, and a consistently strong hop profile, from aroma to sip to swallow. That profile works best with a strong malt foundation. In contrast, today's West Coast IPAs tend to

focus more on later additions, and they can succeed with a less substantial grain bill.

"There's definitely some overlap between West Coast and Midwest IPAs," Cole says, "but I think the body, the terminal gravity, the color—Midwest IPA is going to set itself apart." He says Midwest IPAs also should have a bit of minerality, owing to the hardness of Great Lakes water.

"We're still brewing them pretty strong, too," he says. "Head Hunter is a 7.5 percent [ABV] beer, whereas elsewhere there's a trend to lower the alcohol a bit."

As today's West Coast IPAs chase greater drinkability with a stripped-back malt bill, their Midwestern cousins are content to let you take a little more time with them—before you order seconds.

That Midwest Attitude

At Pries Brewing in Minneapolis, Miraculum Midwest IPA is their best-selling beer. Director of sales Alex Jacoby half-jokingly describes it as "passive aggressive."

He's referring to the beer's punch of Simcoe, Centennial, and Cascade hops, delivered with a substantial enough malt bill to soften the blow.

"The goal with Miraculum was to craft an IPA that strikes the perfect balance—bright, citrus-hop bitterness complemented by a sturdy backbone of malty sweetness," says founder and head brewer Jeremy Pries.

Meanwhile, Cleveland's Great Lakes Brewing debuted its new, year-round Midwest IPA in February with the tagline, "the unofficial IPA of Midwest nice."

There's a nugget of truth within these slogans. Brewers are aiming for an IPA that has cushion to its bitterness—a friendly approachability that delivers classic hop flavors and comforting malts. For Great Lakes, that means a bit of honey malt alongside the two-row base.

"That honey malt, particularly for Midwest IPAs, I think it's somewhat of a critical factor," says Great Lakes co-CEO Steven Pauwels. "Our line is 'it's Midwest nice,'

and that's what we're trying to get to—an IPA that's not going to knock your socks off, but you take a few sips and you say, 'That's nice, and I think I'll have another.'"

It's easy to see a similar line of thought when comparing Pries Miraculum Midwest IPA to the brewery's more recently debuted West Coast-style IPA, Glamorama. Miraculum has a base of Munich with some caramel malt added, delivering what Jacoby calls "nostalgic" flavors of bread and caramel. Thanks to its leaner malt bill, Glamorama packs a punchier bitterness than Miraculum, and it gets newer-school hops such as Citra and Strata.

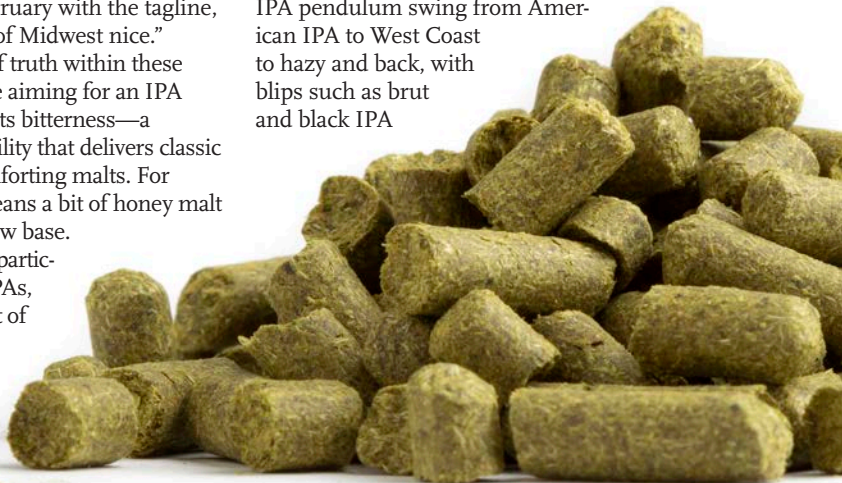
Miraculum, meanwhile, features classic C-hops for their citrus character—but "Simcoe is the real star," Pries says, "bringing the beer across the finish line."

However, Simcoe isn't what it used to be. "With the rise of Hazy IPAs, the breeding of Simcoe has shifted toward a more aggressive fruity profile," Pries says. "Because of this, hop selection has become crucial. Each year, I travel to Yakima for selection to ensure I get the classic Simcoe profile—one that leans more woody, dank, and catty rather than overtly fruity." That's the profile he wants to strike that balance with the malt.

Miraculum is a beer that avoids extremes and, in doing so, it's become a Minneapolis fridge staple.

Brewers love to talk about drinkability, and there's a dryness to modern West Coast IPAs that triggers another sip. In Midwest IPAs, meanwhile, the richer malt base rounds out what would otherwise be an aggressive bitterness, striking what can be an addictive balance. (Plus, we Americans tend to underestimate our collective preference for sweeter food and drink.)

Old-school or not, it's a combination that sells. Tim Costello owned 8 Degrees Plato—a beer shop with locations in Ann Arbor and Detroit, Michigan—for 14 years. During that time, he saw the IPA pendulum swing from American IPA to West Coast to hazy and back, with blips such as brut and black IPA



along the way. No matter the flavor of the week, though, Midwest IPA remained IPA's true north for most customers.

"People still come in and they'll try a can or a four-pack of the new stuff, which is usually hazy," Costello says. "They're buying individual cans of that, but they're walking home with a 12-pack of Two Hearted. They're still willing to try the new thing, but that American IPA is the standard you keep in the fridge."

Like generalizations about the region itself, Midwest IPAs are dependable, familiar, and maybe a little retro. They're repositories for drinkers' conceptions of what it means to be an American IPA—rooted in tradition but still evolving, subtly, with the times.

Evolving for the Future

If reverence for tradition is a part of Midwest IPA, that hasn't translated to inertia. These beers are still evolving. That's partially in response to the stylistic drifts of hazy and West Coast IPA, but it's also in response to the shifting palates of drinkers and a new understanding of ingredients.

Fat Head's Head Hunter offers a useful case study. In the early part of the 2010s, the beer was different from what it is today. Its balance was more malt-forward, sometimes using pale malt in place of two-row and even including Maris Otter in the mix. The beer's IBUs were creeping into the 90s back then, necessitating a rich malt balance. Cole calls the Head Hunter of those years "an IPA and a half," with all that malt contributing to a final gravity around 3.4°P (1.013).

That approach has evolved. Today, Head Hunter drinks much leaner, finishing around 2.8–2.9°P (1.011), getting lighter, glassy crystal malts such as Caramalt, Carared, or Crystal 15 to add body and mouthfeel but not much sweetness. "Those are the kind of malts that I think you wouldn't find on the West Coast, and you probably wouldn't find them on the East Coast, but you would find more of those in the Midwest," Cole says. "The malt character is much more subdued, and it's really just there to hold the rest of that hop profile together."

While part of Midwest IPA's identity is in its malt presence, its hop profile is the sensorial star. And here, too, brewers acknowledge contemporary drinkers' preference for fruit-forward flavor while maintaining classic C-hop character. For that, many are turning to Midwest-grown varieties.

Rob Malad, Midwest regional sales manager for Michigan-based Hop Head Farms, says that while some breweries use the term Midwest IPA as a marketing tool, there is a tangible difference in Chinook, Cascade, Centennial, and other varieties grown in the Midwest versus the Pacific Northwest. Generally, many Michigan-grown hops lean more fruit-forward than Northwest-grown versions of the same varieties.

"Michigan-grown Chinook is the prime example for us," Malad says. "It is a considerable pineapple bomb, with Juicy Fruit accents and light pine, compared to the PNW-grown version that is very pine-forward and resinous. Our Cascade and Centennial display more citrus meat and juice character, where the fruit character is more commonly citrus peel from Pacific Northwest-grown examples."

Those ingredients contribute to the heart of a true Midwest IPA built for 2025. The best examples of this substyle bridge the gap between the New England and West Coast approaches, but also between tradition and the future.

In doing so, they've created a lane within IPA that takes its inspiration from America's heartland while extending a warm welcome to everyone else. 

MAKE IT

Pryes Miraculum Midwest IPA

Jeremy Pryes, founder and head brewer at Pryes in Minneapolis, says they give this beer its regional designation "because of its distinct balance between the hops used and the sweetness from the malt."

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.062 (15.3°P)

FG: 1.014 (3.5°P)

IBUs: 75

ABV: 6.4%

MALT/GRAIN BILL

10.5 lb (4.8 kg) Rahr Standard 2-Row

12 oz (340 g) Weyermann Munich II

4 oz (113 g) Weyermann CaraAmber

4 oz (113 g) Weyermann CaraHell

2 oz (57g) Weyermann Carafa Special II

HOPS & ADDITIONS SCHEDULE

0.45 oz (13 g) Super Galena at 60 minutes [19 IBUs]

1 oz (28 g) Simcoe at 20 minutes [23 IBUs]

1 tablet Whirlfloc, or similar kettle finings, at 15 minutes

1 oz (28 g) Centennial at 10 minutes [10 IBUs]

0.5 oz (14 g) Super Galena at 10 minutes [7 IBUs]

1 oz (28 g) each Centennial and Simcoe at flameout/whirlpool [16 IBUs]

3 oz (85 g) each Centennial and Simcoe at dry hop

2 oz (57 g) Cascade at dry hop

YEAST

White Labs WLP007 Dry English Ale

DIRECTIONS

Mill the grains and mash at 152°F (67°C) for 60 minutes, or until starch conversion is complete. Raise to 168°F (76°C) and mash out. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed to get about 7 gallons (26.5 liters) of wort, depending on your evaporation rate. Bring to a boil, adjust the pH as needed, and boil for 60 minutes, adding hops and finings according to the schedule. After the boil, do a whirlpool step: Stir or recirculate to create a vortex, add the whirlpool hops, spin 15 minutes, then allow 15 minutes to steep and settle. Chill to about 64°F (18°C), aerate the wort, and pitch the yeast. Ferment at 67°F (19°C). Once fermentation is complete and gravity has stabilized, add the dry hops for 5–7 days. Crash, drop hops or rack to secondary/keg, and optionally add keg finings (such as Biofine). After 5 days cold, carbonate to about 2.55 volumes of CO₂ and enjoy.

BREWER'S NOTES

We add salts to the mash to get a 2:1 sulfate-chloride ratio. At boil we add lactic acid to ensure a pH of 5.2.



UNDERSTANDING HOPS

The Hops of Aotearoa: A User's Guide

Intense, complex, and punchy, the hops of New Zealand are special—so, making the best beer you can with them deserves some special consideration. From the Land of the Long White Cloud—or Middle Earth, if you prefer—here are specific tips from the brewers who know New Zealand hops best. **By Joe Stange**

THE HOPS OF NEW ZEALAND—at the risk of understating what anyone who's brewed with them already knows—are not like the others.

The more aromatic varieties come with a punch as dramatic as the country's scenery and as intense as its sunshine. To put it lightly: They are expressive.

It's not only about intensity, of course—their profiles are unique. While the most popular American varieties tend to coalesce around citrus with bits of tropical, the most frequent descriptors for New Zealand hops make for an unusual basket: passion fruit, gooseberry, lychee, lime, white-wine grape, red currant, blackberry, apricot, feijoa, pink grapefruit, and more.

While these aromas can be bright and sharp, they can also be ripe and sweet—often smelling like the gummi or lollipop versions of any of those fruits. With certain varieties—depending on when they're picked and how they're used—that ripeness slips into a fascinating but divisive realm of dank weed, minerality, sulfur, and diesel. The compounds involved are many and complex, and—just to make things a bit more complicated—we all perceive them differently. One drinker's tiki punch might smell to another like a busy truck stop.

That gets to an important point: Because these hops are different, you shouldn't brew with them the same. Sure, you could plug Nelson Sauvin and Riwaka into wherever Citra and Mosaic normally fit in your can't-miss IPA recipe, and it might

turn out great. Maybe. If everything else is going right for you. More likely, it's going to be *okay*, with a fragrant ripeness but less drinkability—or worse.

Bottom line: Hops that pack this kind of punch tend to reward some finesse.

With that in mind, I asked some of New Zealand's top brewers—all of whom go to harvest in Nelson to select their lots, with specific ideas of what they want from them—for their best advice on how to get the most from their country's hops, and on how to avoid the pitfalls.

Broader Strokes, from Hay to Haze and Stone Fruit to Sulfur

Knowing what sets these hops apart can help you decide how best to use them.

Generally, "New Zealand hops are much more layered in flavor and aroma," says Elliott Menzies, founder and head of production at Altitude in Queenstown, toward the southern end of the South Island. "Where Citra and Mosaic can give you beautiful stone fruit and berries when grown well, New Zealand hops have more complexity with the good lots. Whether tropical-, stone fruit-, or citrus-first, there are normally many other descriptors tasters will pull out—umami, diesel, flinty, hay, etcetera."

That complexity means that New Zealand hops can work better than some others as stand-alone hops, or in single-hopped beers—but they also work great in blends, Menzies says, adding depth as a "key aroma driver."

However, there's a flip side to that distinctiveness: "Subbing New Zealand in for a U.S. hop, you might not get the definition of desired aroma you want," he says.

On the cold side, generally, there's another thing to watch with these varieties: "We think New Zealand hops have more potential for over-extraction and getting bad hop burn," Menzies says. "This is much like Aussie hops."

Definitely used, however, and with a clear idea of your goal, there are all sorts of uses for even the more intense varieties.

"What I really appreciate is their versatility," says Paweł Lewandowski, head brewer at Mount, a few blocks from the beach in Mount Maunganui on the North Island. "They are bold, expressive, and packed with unique character—but they can also show a lot of finesse when used thoughtfully."

While American hops can get tropical, the New Zealand varieties bring a different side of that broad family of flavors. "Think lime, zesty, nectarine, gooseberry, quite often diesel, grassy, sauvignon blanc, or—in recent releases—more toward pineapple, passion-fruit lolly, candy-like notes," Lewandowski says. (For those last two descriptors, he cites Nectaron and Superdelic, specifically.)

Kiwi hops bring "a different kind of intensity," he says. "I would look at them not as a substitute for classic U.S. varieties—like Citra, Mosaic, Simcoe, Amarillo—but as an equal companion. Those tropical notes I mentioned before meet, quite of-



The Nelson Lakes hop farm offers unique terroir and stunning views of the adjacent national park.

MAKE IT

Altitude Homeward Bound NZ IPA

From Elliott Menzies and his team at Altitude Brewing in Queenstown, New Zealand, here's a recipe for their NZ IPA that won gold in the Juicy/Hazy category at the 2023 New Zealand Beer Awards. It includes a voluminous Motueka addition as a dip-hop step that runs parallel to the whirlpool, promoting biotransformation.

ALL-GRAIN

Batch size: 5 gallons (19 liters)
Brewhouse efficiency: 72%
OG: 1.061 (15°P)
FG: 1.012 (3.1°P)
IBUs: 37
ABV: 6.6%

MALT/GRAIN BILL

8.3 lb (3.8 kg) German pilsner
 1.25 oz (35 g) flaked oats
 13 oz (369 g) wheat malt
 11 oz (312 g) Vienna
 6 oz (170 g) chit malt

YEAST

Lallemand LalBrew Verdant IPA

DIRECTIONS

Mill the grains and mash at 149°F (65°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed to get about 7 gallons (26.5 liters) of wort, depending on your evaporation rate. Boil for 90 minutes, adding hops, nutrient, and finings according to the schedule. Add the dip hops to the fermentor and purge with CO₂. After the boil, transfer about 25 percent of the wort to the purged fermentor (with the dip hops), cooling via heat exchanger or cold-water addition to about 167°F (75°C). With the rest of the wort, do a whirlpool step: Stir or recirculate to create a vortex, cooling the wort to about 176°F (80°C), and add the whirlpool hops; spin for 20 minutes, and allow 20 minutes to steep. Chill to 50°F (10°C) and transfer to the fermentor—the dip-hop wort will warm that a bit, once mixed—aerate the wort, and pitch the yeast. Ferment at 64°F (18°C), dropping the trub (if using a conical) once fermentation is active; raise the temperature a bit for a diacetyl rest once fermentation activity is slowing down. Once the gravity has dropped to about 1.014 (3.6°P) or a bit below, drop the trub again (or rack to secondary), and add the dry hops for 3 days. Crash and drop the hops or rack, and carbonate to about 2.5 volumes of CO₂.

BREWERS' NOTES

Water profile: 55 ppm calcium, 100 ppm chloride, 100 ppm sulfate.
Dip hops: During the dip hopping, we like to do two or three bursts through the bottom of the fermentor with CO₂. This helps to rouse the hops and blow off the myrcene, as well as unblock the bottom of our fermentor—which can clog with T-90 sludge and be a real headache. Remember to keep your CIP/blowoff arm open during dip hopping—smell the grass!

HOPS & ADDITIONS SCHEDULE

0.35 oz (10 g) Pacific Jade at 60 minutes [15 IBUs]
 0.5 oz (14 g) Riwaka at 10 minutes [5.5 IBUs]
 1 tsp (5 ml) yeast nutrient at 10 minutes
 5 oz (142 g) Motueka at dip hop [11 IBUs]
 1.6 oz (45 g) Riwaka at whirlpool [5.5 IBUs]
 3.4 oz (96 g) each Nelson Sauvin and Riwaka at dry hop

ten, herbal and unique characteristics that deserve their own space and spotlight.”

Lewandowski says he's noticed the hop-breeding programs chasing the big tropical notes—as with Nectarone and Superdelic—that brewers and drinkers seem to want. “But even then,” he says, “they still carry a unique New Zealand touch. It may be because of the unique New Zealand climate, terroir, or very talented hop growers that we have here. A good example of those differences is NZ Cascade, Taiheke, [which] is different from its older American sister—bringing quite intense piney, grapefruity layers, with herbal and passion-fruit touches.”

Unrelated to flavor, Lewandowski cites another trait that broadly applies to the country's hops: “I noticed that everywhere ... I use New Zealand hops in hazy IPAs, the haze is much more stable and opaque.”

We've heard that from multiple brewers, anecdotally, and there is research to back it up. Chicago-based Omega Yeast, the lab that identified the “hazy gene” in yeast, has investigated various factors that promote or inhibit that haze stability. Naturally, one of those factors can be the hop variety. (For more about brewing for haze that stays, see page 62.)

Laura Burns, director of R&D at Omega, says the most significant haze-promoting hop varieties include Australia's Galaxy and Vic Secret as well as New Zealand's Rakau and Motueka—and there's more haze to be had, generally, in Southern Hemisphere hops.

“We're definitely seeing this come through rather easily,” Burns says. “There's definitely an impact with Southern Hemisphere hops.” They're not exactly sure why that is, yet, she says, but it's well established that hop acids and polyphenols are important sources of haze.

Given that the aroma compounds within these hops are so different, maybe the corollary effect isn't surprising—and it's interesting that their sweeter tropical flavors are also a big part of what's driven the popularity of hazy IPA.

Another tip that broadly applies to New Zealand hops, and to sound brewing in general: Watch your pH.

“I think New Zealand hops are even worse than U.S. hops at raising pH,” says Vlad Petrovic, head brewer at Saint Leonards in Auckland. “Just keep it in check, or you'll extract plenty of undesirable compounds.”

Also, he says, be aware that even the best lots can come with a lot of sulfur.

“Maximizing thiol content is becoming more and more popular, and with that comes sulfur,” Petrovic says. “If your beer already has some low-level sulfur, this can send it over the edge. Smell the bag and trust yourself. If its sulfury, feel free to dry hop with [1°P/1.004] left to go—or even at terminal, with the blowoff open. You'll still get great hop character.”

Selecting for Flavor

Petrovic offers another piece of advice that sounds like common sense, but it's more easily said than done—especially if you're buying from overseas.

“Avoid shit hops,” he says. “I'm sure this is true for all hops and sounds obvious, but there are plenty of very sub-par New Zealand lots—especially if you hit the spot market.”

Among craft brewers worldwide, Australia is infamous for homogenizing its lots of Galaxy, removing the option to select for specific aroma traits—traits that brewers might prefer or even need for established brands. It can still happen in New Zealand, too, depending on your supplier and their source. However, the country's growers have been working to establish more direct relationships with brewers, wherever they are.



Mac Hops in Motueka

“My favorite New Zealand hops often tend to be the earlier-harvest, brighter varieties. Many of the U.S. hops I come across are super-tropical, and when you’re brewing a hazy IPA with an overripe fruit ester-driven London strain, and a huge dose of mango-esque Citra, it helps having a lemon-lime, gooseberry-driven New Zealand hop to brighten everything.”

“Stick to working directly with farms or with smaller cooperatives,” Petrovic says. “Not many have the resources to send their hops away [for] analysis, but make friends with your hop supplier and trust them. Some of the best lots I’ve worked with have [come] from asking the growers what their favorite is.”

His next suggestion: Figure out what *kind* of New Zealand hop you have, whatever its variety. Broadly, he sorts them into three categories:

- **Fresh/vibrant:** “These are your bright flavors—citrus, vinous, zesty.”
- **Tropical:** “All the thiol-driven mango, passion-fruit juicy flavors.”
- **Dank:** “Sweaty, diesel-y, and, to many, onion-garlic.”

Once you’ve got that figured out, Petrovic says, decide how that would interact with the rest of your load. “Vibrant-type hops can make a beer feel fresher, lighter, and brighter,” he says. “These are a great pairing with more jammy, sweet-sweaty U.S.-style hops. Something like Citra-Motueka works amazingly in a hazy IPA.”

Meanwhile, the danker ones “can accentuate the rest of your hops,” Petrovic says, “but be careful not to overdo it.” He compares it to spicing the dry-hop load with just a touch of CTZ, for example.

Then, “once you understand exactly what kind of hop you have, you can work on decisions such as dry-hop timing, temperature, or contact time,” Petrovic says. That doesn’t only vary by variety, but also by lot. “I’ve opened bags and thought instantly that I can’t [dry hop] more than 24 hours contact time with this lot.”

The hop’s ideal function and role isn’t always obvious at first, either, he says. “Sadly, this is something I tend to figure out after two or three brews using the same lot.”

One more point that Petrovic wants to underscore: There is much more to New Zealand hops than “tropical.”

“Look, I know juicy flavors are all the rage,” he says. “But my favorite New Zealand hops often tend to be the earlier-harvest, brighter varieties. Many of the U.S. hops I come across are super-tropical these days, and when you’re brewing a hazy IPA with an overripe fruit ester-

Kiwi Hops: A Cheat Sheet

Here are the key New Zealand varieties to know, with a few typical stats and common descriptors. As always with such descriptors—a potent mix of marketing and subjectivity—your mileage may vary.

Dr. Rudi: Alpha 10–12%, beta 7–8.5%, total oils 1.5 ml/100 g. Bittering/dual-purpose hop. Notes: pine, lime pith, lemongrass.

Green Bullet: Alpha 11–14%, beta 6.5–7%, total oils 1–1.5 ml/100 g. Bittering hop. Notes: spicy dried fruit, pine needles, woody, resinous.

Kohatu: Alpha 5–8%, beta 5–6%, total oils 1 ml/100 g. Notes: fresh tropical fruit, melon, stone fruit.

Motueka: Alpha 6.5–9.5%, beta 5.5–6%, total oils 1.3–2.8 ml/100 g. Notes: mojito lime up front, with lemon, tropical fruit, herbs.

Moutere: Alpha 17–19.5%, beta 7.5–8.5%, total oils 1–2.3 ml/100 g. Super alpha with low cophumulone. Notes: passion fruit, grapefruit, pine.

Nectaron: Alpha 10–12%, beta 4.5–5%, total oils 1.5–2 ml/100 g. Notes: citrus, pineapple, passion fruit, grapefruit, peach.

Nelson Sauvin: Alpha 11.5–14.5%, beta 6–6.5%, total oils 1.2–2 ml/100 g. Notes: white-wine grape, gooseberry, passion fruit, lychee. Lemon-citrus notes in early-pick Nelson can get floral then give way to more tropical-dank notes in later picks.

Pacifica: Alpha 4–6%, beta 5–7%, total oils 0.5–1.2 ml/100g. Notes: floral, spice, citrus, dried fruit.

Pacific Gem: Alpha 13–15%, beta 7–9%, total oils 1.1–1.3 ml/100 g. Bittering hop. Notes: blackberry, black pepper.

Pacific Jade: Alpha 12–14%, beta 7–8%, total oils 0.6–1 ml/100g. Bittering hop. Notes: herbal, citrus, black pepper.

Pacific Sunrise: Alpha 12–15%, beta 5–7%, total oils 1.5–2.5 ml/100 g. Bittering/dual-purpose hop. Notes: orange, lemon, melon, mango, tropical fruit, berries, floral.

Rakau: Alpha 9–10.5%, beta 3.5–4%, total oils 1.7–2 ml/100 g. Notes: apricot, stone fruit, plum, mango, fig.

Riwaka: Alpha 4.5–6.5%, beta 4–5%, total oils 0.8–1.5 ml/100 g. Notes: passion fruit, citrus, pink grapefruit, can verge into diesel/dank.

Southern Cross: Alpha 11–14%, beta 5–6%, total oils 1–1.3 ml/100g. Dual purpose. Notes: lemon zest, lime, tropical, pine.

Superdelic: Alpha 9–10.5%, beta 3–3.6%, total oils 1.3–2.2 ml/100 g. Released by NZ Hops in 2023. Notes: citrus, berries, red fruit, tropical fruit, candy, lollipops.

Taiheke/NZ Cascade: Alpha 6–8%, beta 4–6.5%, total oils 1–1.5 ml/100 g. Notes: citrus, grapefruit, lime.

Wai-iti: Alpha 2–2.5%, beta 5–6%, total oils 0.75–1.5 ml/100 g. Notes: lime, citrus, peach, apricot, stone fruit.

Waimea: Alpha 16–19%, beta 6–8%, total oils 1.6–2.3 ml/100 g. Super alpha. Notes: citrus, pine, grapefruit, tangerine.

Wakatu: Alpha 6.5–8.5%, beta 8.5%, total oils 1 ml/100 g. Notes: floral, lime, citrus.

driven London strain, and a huge dose of mango-esque Citra, it helps having a lemon-lime, gooseberry-driven New Zealand hop to brighten everything.”

And it's easy to go overboard with those sweeter, tropical notes. “One of the worst beers I ever made was a Citra-Nectar IPA,” Petrovic says, “which turned into an absolutely sweaty mess in two weeks on tap.”

When it comes to getting the best hops you can, like Petrovic, other Kiwi brewers stress the value of making direct connections with the farms, if possible.

“Form a relationship with the grower, and start forming your approach there,” says Menzies at Altitude. Otherwise, “we get some terrible lots, which we have learned to not even look at.”

Over time, they've learned that they tend to like certain varieties from certain farms. For example: “I like Nelson from Freestyle, I like Riwaka from Eggers, and I like Cascade and Motueka from Garston,” Menzies says, naming three different farms.

Garston Hops, just south of Queenstown, may be the world's southernmost commercial hop farm, and many brewers say the hops they get from there have a different character. For the first time this year, the Altitude team are also evaluating selections from Canterbury, a region on the South Island's eastern coast. While promising terroir doesn't guarantee a good lot, it does open up the options for a brewery that can connect with growers.

“For us, what makes a good lot is specific to our brews,” Menzies says. “We select Garston hops for some beers and Nelson [region] hops for others, due to the characters. Garston, we find, is far more subtle but has a deeper, riper fruit profile, and more floral—usually less sulfur and diesel. So, Nelson-grown, we select for the opposite—so we can blend or ‘pop’ beers accordingly.”

Broadly, Altitude is looking for “bright, intense aromatics with true-to-type profiles,” Menzies says. “There can be incredible differences within one variety from one farm, and I use Eggers Riwaka as an example here—everything from shiitake mushrooms to limestone.”

So, what makes a lot undesirable to Altitude?

“Bad lots in New Zealand are either very grassy, early-pick stuff, or green onion,” Menzies says. “Pitfalls to [watch] for are too-early Riwaka—as this is a hard window to pick, and it stays super-grassy and capsicum—and late-harvest Nelson, which dives into green-onion soup pretty quickly.”

Hot Side and Biotransformation

Like craft brewers anywhere else around the world, the Kiwis are willing to throw hops into any part of the process, anywhere

from the mash to a cold tank of beer before packaging. That flavor-driven flexibility applies to their local hops as well as aroma varieties from the United States, Australia, Germany, or anywhere.

Beyond mash and first-wort hops aimed at flavor, early-boil additions for bitterness are straightforward. Pacific Jade (12–14 percent alpha acids, 7–8 percent beta acids) is a popular choice, as is Green Bullet (11–14 percent alpha, 6.5–7 percent beta). One suggestion from Lewandowski at Mount: “In my opinion, Pacific Jade shouldn't be used in high-ABV IPAs, due to its spicy-warming character.”

At Altitude, Menzies says they don't often use T-90 pellets for bittering—instead, they use Flex, the flowable extract from BarthHaas. However, when they use pellets for bittering, it's exclusively Pacific Jade: “High-alpha, low cohumulone, nice and clean and cheap,” he says.

When it comes to aroma additions among Kiwi brewers, there is a key difference that has ripple effects: Those genetically modified, thiol-unlocking yeast strains such as Omega Cosmic Punch are prohibited in New Zealand. Thus, brewers in the country that gave us Phantasm—made from local grape skins, packed with thiol precursors just waiting to be unlocked by such a strain—

basically have no use for it.

On the other hand, they're blessed with local hops already high in free thiols. And their process remains focused on harnessing biotransformation, especially for hazy IPAs, often involving massive hop loads in the whirlpool, at “dip hop,” or early in primary fermentation.

The whirlpool is often a “cool pool” of 175–185°F (80–85°C), aiming to minimize the extraction of bitterness while preserving some of the more volatile aroma compounds. The dip hops get a similar temperature range, but the hops and hot wort (or water) go straight into the CO₂-purged fermentor to steep for a while. Once the chilled wort and yeast pitch join the party, the yeast's enzymes get a chance to work their magic on all that hop matter.

At Altitude, “the favorite New Zealand variety for cool pooling or dip hopping—which feature heavily in our recipes—is Motueka,” Menzies says. “We love how this hop performs from a biotransformative point, and [it] adds a baseline saturation to hoppy beers. This compares to the cold side, where we use it more sparingly and more as a tool to support the driving hops. Big differences in results, as during active [fermentation], the tropical fruit drizzled in lime comes out. But on the cold side, [it's] much more the lemon-lime-grapefruit.”

“Riwaka is also another good one here,” he says, “but we love Riwaka on the cold side, also. A lot of New Zealand varieties also work well [for] dip hopping. The grassiness-capsicum that can come—and thus go—from something like Riwaka is a great candidate for utilizing this technique,” as the fermentation can turn those compounds into punchier thiols.

Kiwi brewers don't necessarily limit those big whirlpool or dip-hop additions to hazy IPAs, either—they're almost as likely to appear in West Coast-style IPAs, pale ales, and hop-forward New Zealand pilsners, albeit with later finings and/or filtration as part of the plan.

Dry Hops

As on the hot side, there is a wide range of approaches on the cold side, from early in primary to post-crash. And, just as it is in the United States, cooler dry hopping after primary fermentation is gaining currency.

Peter Bircham, head of R&D at Garage Project in Wellington, says they recently tested cooler versus warmer dry hopping on their Fresh Hazy IPA. As it turns out, the warmer-hopped version was higher in terpene alcohols, while the cooler-hopped one was higher in free thiols—and they preferred the latter.

“It was kind of the opposite of what we expected, which is weird,” says Pete Gillespie, Garage Project's founder and head brewer. “It was the cold dry hop that seemed to be far more expressive.”

At Altitude, Menzies says they've tested a number of approaches with their dry hopping—at pitch, at kräusen, colder temperatures, hop oils, and more—but here is

Hear Here!

Want to hear from the brewers, hop growers, and scientists themselves? Check out these episodes of the Craft Beer & Brewing Podcast, recorded on location in New Zealand during harvest:

405: Pete Gillespie of Garage Project and Hapi Research Is Fighting the Forces of Homogenization

406: Dr. Tom Shellhammer and Dr. Ron Beatson Discuss the Impacts of Genetics, Terroir, and Pick Timing on New Zealand Hops

407: Biotransformation Myths and Realities in Hoppy and Nonalcoholic Beers, with Dr. Peter Bircham

408: Brent McGlashen of Mac Hops Is Harvesting Sunshine on the Family Farm in Motueka

409: Pawel Lewandowski of Mount Puts New Zealand Pilsner in Perspective

410: Brayden Rawlinson of Fork & Brewer

411: Matt Warren of Parrottdog



Sunset over the hop fields
at Freestyle



Hinetai Hops in the Tapawera valley



Nectarons on the bine

MAKE IT

Mount NZ Bright IPA

Paweł Lewandowski, head brewer at Mount in Mount Maunganui, New Zealand, shares this recipe for their bright IPA. This is an increasingly popular style in New Zealand and Australia that falls somewhere between West Coast and hazy—juicy but clear with moderate bitterness.

“It’s not an official style, so it’s our interpretation and how we see it in our brewery,” Lewandowski says. “There are a few breweries across New Zealand who are brewing their own thing.” At Mount, it’s “not hazy but has properties of hazy IPA—low IBUs, rounded and juicy flavor with soft bitterness—so it must be filtered and bright.” He compares it to what American brewers might call a “modern West Coast” but with a higher finishing gravity and more body.

Here we share the version with only New Zealand hops, but see the notes below for a version that includes American varieties, too.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.056 (13.8°P)

FG: 1.010 (2.6°P)

IBUs: 42

ABV: 6%

MALT/GRAIN BILL

9.1 lb (4.1 kg) pale two-row

12 oz (340 g) oat malt

12 oz (340 g) wheat malt

HOPS & ADDITIONS SCHEDULE

0.3 oz (9 g) Pacific Jade at first wort
[15 IBUs]

1 tsp (5 ml) yeast nutrient at 15 minutes

1 tablet Whirlfloc at 10 minutes

2.3 oz (65 g) each Motueka and NZH-101
at whirlpool [27 IBUs]

1 oz (28 g) Nectar Cryo at first dry hop

2.7 oz (77 g) NZH-101 at second dry hop

1.5 oz (43 g) Nectar Cryo at second
dry hop

YEAST

Chico or other clean ale strain

DIRECTIONS

Mill the grains and mash at 151°F (66°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle with the first-wort hops. Sparge and top up as needed to get about 7 gallons (26.5 liters) of beer, depending on your evaporation rate. Boil for 60 minutes. After the boil, do a whirlpool step: Stir or recirculate to create a vortex, cooling

the wort to about 185°F (85°C), and add the whirlpool hops. Spin for 10 minutes, then allow 10 minutes to steep and settle. Chill to 66°F (19°C), aerate wort, and pitch yeast. Ferment at 66°F (19°C), adding first dry hop after 2 days. Once the gravity drops to about 1.020 (5.1°P), raise to 72°F (22°C) for diacetyl rest. Once fermentation is complete, lower to 59°F (15°C) for 2 days, drop the trub (or rack to secondary), and add second dry hop for 2 days, occasionally rousing with CO₂. Once the beer has passed VDK, crash, and drop/remove hops. Optionally, add keg finings (such as Biofine) and/or filter for greater clarity. After 7–10 days, package and carbonate to about 2.6 volumes of CO₂.

BREWERS' NOTES

Adjustments: We target a calcium sulfate-to-calcium chloride ratio of 1.7:2, a mash pH of 5.3 and a dry-hop pH of 4.3–4.4.

Hops: Obviously, NZH-101 may be hard to get. A good substitute would be Motueka or a Motueka–Southern Cross blend; adjust as needed for the IBUs.

American-Kiwi Version: At 5-gallon/19-liter scale, the additions would be: 0.5 oz (14 g) each Mosaic and Motueka at 10 minutes

1.8 oz (51 g) each Mosaic and Motueka plus 1.3 oz (37 g) Nelson Sauvin at whirlpool

2.5 oz (71 g) each Mosaic and Motueka plus 1.1 oz (31 g) Nelson Sauvin at dry hop (post-fermentation)

1.7 ml Abstrax Quantum MOS hop extract at dry hop (post-fermentation)

their preferred method, for now: First, let the beer get to about 0.005 (1.2–1.3°P) above terminal; then, “mini-soft crash” by going 4–9°F (2–5°C) below fermentation temperature to encourage flocculation, harvest yeast, then dry hop, “whilst some active fermentation [is] still going on,” he says.

“This, for us, gets the most out of our dry hops, and we felt we were missing some depth when it came to doing it cold,” Menzies says. “We will then give the hops two days whilst [rousing], and start dropping them out, as any more than five days we find we start getting burn.”

Their favorite New Zealand hops on the cold side are “pretty classic,” Menzies says, before diving into the fun of pairing and blending specific varieties.

“Riwaka, Nelson—both amazing as single hops but pair so well, too,” he says. They also like Motueka, Nectar, NZ Cascade, Southern Cross, and Waimea as dry hops, but they prefer them paired with others, he says. “Our favorite pairings are Motueka-Riwaka, Motueka-Nelson, Nelson-Citra, and Nelson-Nectar—often with some other country’s hops as a third, to better drive a desired profile.”

At Mount, Lewandowski is an advocate for something he calls the “golden ratio” when blending hops. Typically, that means a lead hop at 50 or 60 percent of the load, followed by equal portions of two supporting hops. Here are some of his favorite combos:

- Southern Cross with Nelson Sauvin and Motueka: “Goes well for hazies, bigger IPAs.”
- Motueka or Riwaka with Nelson Sauvin and Taiheke: “Can be used for NZ pilsners.”
- Nelson Sauvin or Southern Cross with Riwaka and Motueka: “For hazies.”
- Nelson Sauvin with Rakau and Motueka: “For gooseberry, passion-fruit notes along with floral and citrus notes.”
- Nectar with Nelson Sauvin and Motueka or Riwaka: “For more modern NZ IPA [or] hazies, in the 50/25/25 ratio.”
- Waimea (“for woody-piney notes”) with Nelson Sauvin, Pacific Jade, and Motueka or Taiheke: “For what I would call old-school NZ IPAs.”

Lewandowski says he also enjoys mixing in some U.S. hops with the combos, such as Nelson Sauvin with Southern Cross and Simcoe; Amarillo with Motueka and Taiheke; or Mosaic with Motueka and Riwaka.

Another thing to consider on the cold side: hop oils and other aroma extracts made from New Zealand varieties. Clayton Hops, the country’s largest grower, produces its own Amplifire line of hop oils and concentrated lupulin pellets using state-of-the-art equipment.

Disclosure: This reporting and related Craft Beer & Brewing Podcast episodes were possible thanks to travel support from Hapi Research, which is jointly run by Freestyle Hops and Garage Project. That support came from market-development grants partly funded by New Zealand’s Ministry of Primary Industries and aimed at raising the profile of the country’s hops and beers.

Altitude is among the New Zealand breweries experimenting with these products, which “we are still getting to grips with,” Menzies says. “But two things to note are [that] they tend to take a week for that green terpene edge to mellow out, but [also that they] have an impressive true-to-type character that seems to retain that New Zealand sulfury-fruit angle well.”

Diving into the Varieties

When it comes to hops, brewers in New Zealand are like others around the world—they play favorites. Here’s some more advice on how to get the most from a few specific varieties.

RIWAKA

“Riwaka is the most expensive hop in the world because it’s not fun to grow,” says fifth-generation farmer Brent McGlashen of Mac Hops in Motueka. Growers hate Riwaka’s fussiness and low yield, but they like what brewers are willing to pay for it.

It’s a variety with fervent fans as well as risks: This is a hop often associated with those divisive diesel notes.

Those notes come from a rich, complex matrix of its thiols, which can vary considerably depending on when it was picked, how brewers use it, and how much they use. Broadly, late-pick hops, larger quantities, and cold-side use are more likely to push those diesel-dank notes—but not everyone is as sensitive to them. At lower intensities, those same compounds tend to smell more like passion fruit, kumquat, grapefruit, or lime.

“The diesel-mineral aromatic character is quite polarizing,” says Brayden Rawlinson, head brewer at Wellington’s Fork & Brewer, named the country’s Champion Micro Brewery at the 2024 New Zealand Beer Awards. “Some people like it, whereas others can’t stand it. To me, Riwaka smells like money, which is an associative smell.”

Rawlinson’s predecessor at the Fork & Brewer—Kelly Ryan, a veteran brewer now working with Freestyle Hops—says he believes that the diesel character in Riwaka hops is not as prominent as it was in years past. He also says that diesel-mineral character mellows over time.

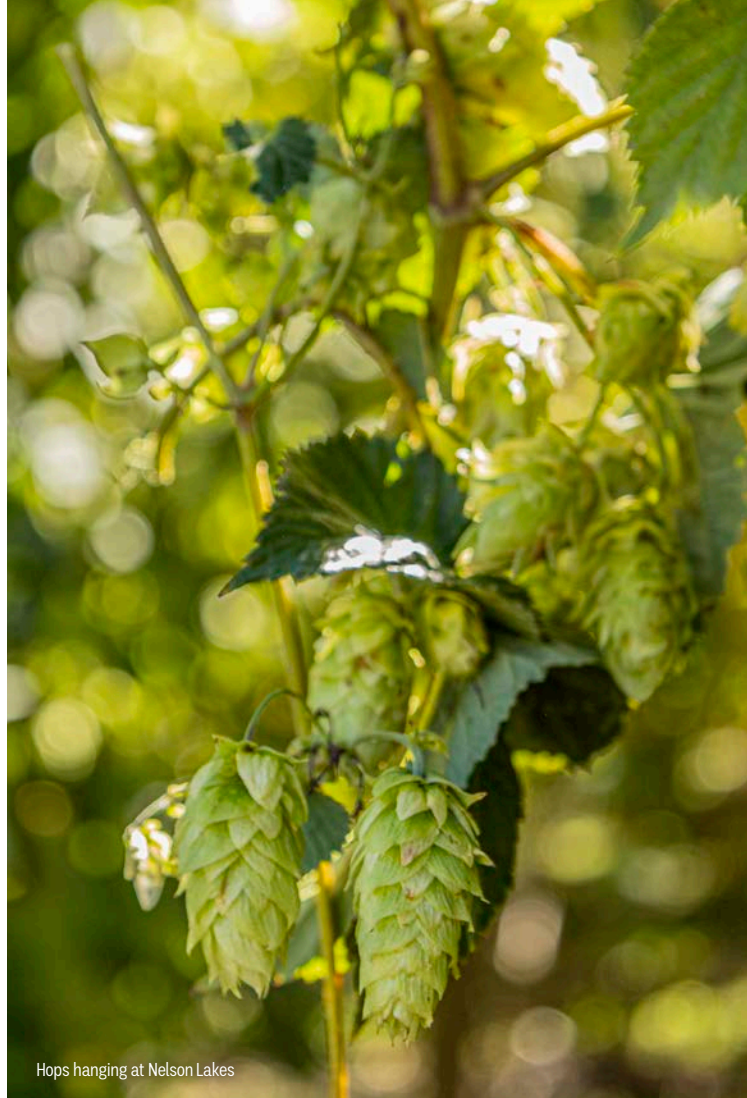
“One of the tricks I would use—and I actually believe that this cold aging would give a lot of positive attributes—was [to store] a more diesel-prone batch of Riwaka ... for 12 months or so,” he says, “and then when using it, the diesel would be gone. This was usually a necessity due to the fact that Riwaka was super-hard to get, and when you did have the chance to get some, you’d always over-order for your contract. I discovered that after eight to 12 months of cold storage, any of the more pungent sulfurous character associated with kerosene or diesel would dissipate, leaving behind the tropical and citrus goodness. Perfect for my beloved NZ pilsners.”

On the other hand, maybe you *want* that diesel aroma. In that case, Rawlinson says, you should use it as a later dry-hop addition. “If you want to reduce this character, use it on the hot side—or even in a dip hop, if you’re adamant on using it in the fermentor.”

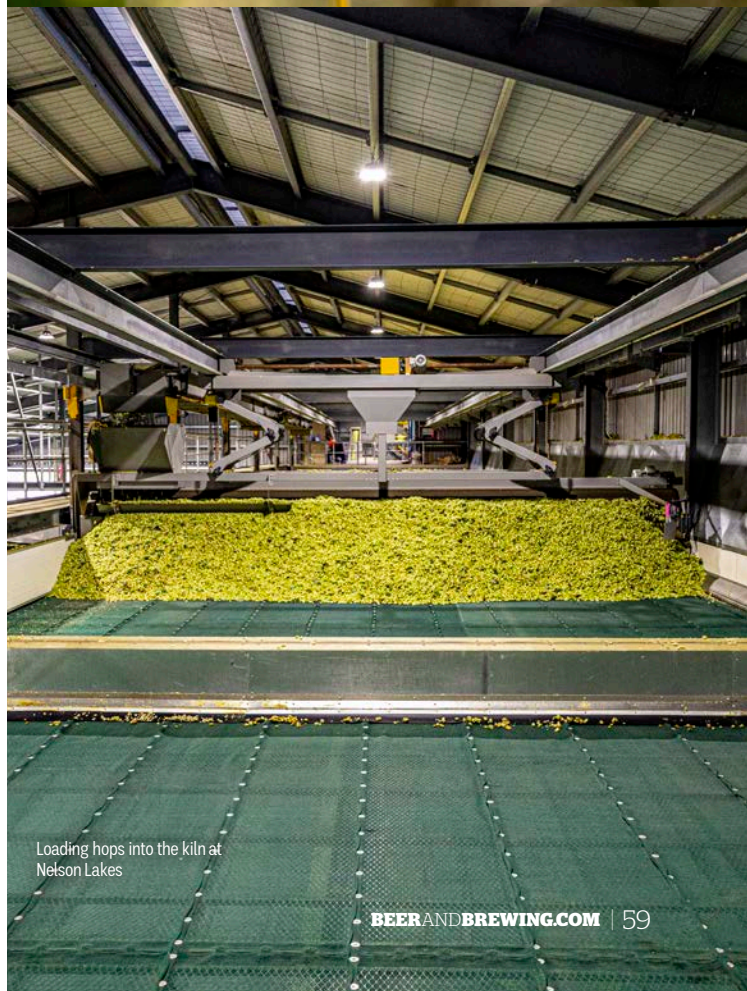
That suggests that whatever compounds are creating that character aren’t effective survivables, he says. (For more on hop compounds and survivables, see page 65). However, “it’s also important to add that this is all purely anecdotal—I’m a brewer, not a chemist.”

Despite the pitfalls, it’s hard to find a brewer who isn’t a fan of Riwaka.

Ryan—whose career has included four years brewing at Thornbridge in England—names Riwaka as his favorite New Zealand hop. With a flavor impact that outweighs its alpha and oil content, “it never ceases to amaze me,” he says. “Even at around 20 percent on hot-side/whirlpool or in dry hop, a good batch of Riwaka will make itself known, generally with an interesting combination of bright citrus—grapefruit and kumquat,



Hops hanging at Nelson Lakes



Loading hops into the kiln at Nelson Lakes

MAKE IT

Fork & Brewer Bohemian Hipster NZ Pilsner

Fork & Brewer's all-Riwaka take on New Zealand's signature beer style is clean and crisp, with a lean malt base that allows the pronounced tropical-hop character to truly shine. While the traditional approach is to ferment an NZ pils with Chico or other clean ale strain, head brewer Brayden Rawlinson opts for 34/70 and pressure fermentation. That's all part of a lager program that's winning recognition from peers, including two gold medals in the 2024 New Zealand Beer Awards, earning this Wellington brewpub the title of Champion Micro Brewery.

ALL-GRAIN

Batch size: 5 gallons (19 liters)
Brewhouse efficiency: 72%
OG: 1.046 (11.4°P)
FG: 1.008 (2.1°P)
IBUs: 35
ABV: 5.0%

MALT/GRAIN BILL

7.7 lb (3.5 kg) pilsner
 14 oz (397 g) wheat malt

HOPS & ADDITIONS
SCHEDULE

1 oz (28 g) Riwaka at
 mash hop [4 IBUs]
 1 oz (28 g) Riwaka at
 first wort [21 IBUs]
 1 tablet Whirlfloc at
 10 minutes
 4 oz (113 g) Riwaka at
 whirlpool [10 IBUs]
 4 oz (113 g) Riwaka at
 dip hop
 1 Tbs (15 ml) Biofine

YEAST

Fermentis Saflager W-34/70 or similar

DIRECTIONS

Mill the grains, add the mash hops, and mash at 152°F (67°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle with the first-wort hops. Sparge and top up as needed to get about 6 gallons (23 liters) of wort, depending on your evaporation rate. Boil for 90 minutes. When the boil starts, prepare the dip hop: In a pot with a lid, heat 1.2 quarts (1.1 liters) of water to 180–185°F (82–85°C), add the dip hops, and set aside. After the boil, do a whirlpool step: Stir or recirculate to create a vortex, cooling the wort to 180–185°F (82–85°C), and add the whirlpool hops. Chill to 54°F (12°C), add the dip-hop preparation, aerate the wort, and pitch the yeast.

In a pressure-safe fermentor or corny keg, attach a spunding valve set to 12–12 PSI, and ferment at 59°F (15°C). (For more on this method, see “Your Lager Can Take the Pressure,” beerandbrewing.com.) Once the gravity has dropped to about 1.020 (5.1°P), allow a temperature rise to 64°F (18°C). Once fermentation is complete, gravity has stabilized, and the beer has cleared a VDK test (see “Hunting for Diacetyl,” beerandbrewing.com), crash to 36°F (2°C) for 24 hours. Add the keg finings (such as Biofine) and drop to 31°F (–0.5°C) to lager for 10–14 days. Package and carbonate to about 2.7–2.8 volumes of CO₂.

sometimes approaching sweet blood orange—or passion fruit. ... Nothing else smells or tastes like it.”

“This is a very cool hop,” says Petrovic at Saint Leonards. “It has great market potential, as it makes every punter feel like a beer expert—it’s so recognizable.” In his view, the concerns about diesel-kerosene notes “are outdated or exaggerated. Modern Riwaka can be fruity and tropical as heck—sometimes too much so. Ideally, it should have a flinty minerality that makes a beer incredibly complex.”

However, he adds: “Be careful, as it can skew savory and/or drive vegetal compounds in a beer.”

At Mount, Lewandowski says that with Riwaka, he looks for “classic notes of diesel, passion fruit, with touch of lemongrass—that goes well in NZ pilsner, West Coast pilsners [or] IPAs, or even hazies. I use it as a supporting [hop] in companion with others, as on its own it’s quite intense and unique.”

MOTUEKA

“Motueka is “one of my favorite hops,” says Petrovic at Saint Leonards of Motueka. He says to ignore the usual aroma description on websites or brewing software. “It has an absolutely killer range, from pure lime zest to tropical to Riwaka-leaning.”

He says they like to use it in saisons, lagers, hazies, West Coast styles, and more. “Just figure out what type of Motueka you have and how you want to use it,” he says. “It can bring an excellent brightness, which works well with other hops.”

Ryan at Freestyle describes what he likes in Motueka: “Intense citrus, usually bright lime and lemon, zesty mint, and wisps of herbal, floral notes. ... Tropical papaya, lychee, and guava when choosing a later variety and matching it with just enough Riwaka and Sauvín.”

Motueka, Ryan says, “is chimeric in a lot of ways, with harvest windows showing it in all its glory—from the zesty early notes to the intense late tropical impact that can rival some of the American varieties.”

At Altitude, Menzies says they might use Motueka as 100 percent of their hot-side hops or up to 25 percent on the cold side—like many other New Zealand varieties, it’s punchy, he says, so a small amount works well to boost other types.

At Mount, Lewandowski says that he looks for “crushed-lime mojito citrus notes” in his Motueka, and that they use it as the lead hop in pilsners and pale ales, and as a supporting hop in their bigger NZ IPAs.

Notably, the hop breeders at Plant and Food Research in Motueka, when testing experimental crosses in beer, always use Motueka and Nelson Sauvín as controls—those are the standards for intensity that they aim to reach with new varieties.

NELSON SAUVIN

One of New Zealand’s most cherished hops, released in 2000, is also one of its most variable. Nelson Sauvín’s character can differ more widely than most others depending on where it’s grown and when it’s picked. As such, every brewer in New Zealand seems to have an opinion on how they like their Nelson.

“An amazing hop,” says Petrovic at Saint Leonards. “I’ve had the privilege of trying early- versus late-harvest, and the difference that seven days makes is astounding. Like Simcoe, this hop can add an amazing brightness, even with just 10 percent of the hop bill.”

Ryan, the veteran brewer now with Freestyle Hops, says that Nelson, when used on the hot side, should be used gently. “But if used in the right amounts,” he says, it “brings a bright peel-like bitterness and sweet, tropical flavors.”

The hop can also add a sense of fullness, he says. “I believe that Nelson Sauvín really adds body to a beer, especially when used in something that is lower-alcohol. I don’t know if it’s the impression of a wine-like character that tricks the mind into this, but there seems to



Kiwi Hops on the Horizon

Ssssh, no names (yet). Here are some of the trial varieties that New Zealand breeders and growers are scaling up, each with the potential to catch on with brewers and get a wider release. Without knowing much about them yet, we can only share some descriptors we've heard, read—or scribbled down ourselves, after rubbing. NZH denotes NZ Hops trials with their Bract program, while the NZ numbers are up-and-comers at Hāpi Research.

NZH-106: Tropical, citrus, guava, mango, orange gummi, sweet nectarine.

NZH-109: Sweet lime, lemon, grapefruit, herbs, white grape, stone fruit.

NZH-111: Subtle citrus, spice, lime gummi, light diesel.

NZH-112: Citrus, stone fruit, lemon, dank, candied pineapple.

NZH-115: Spice, citrus, earthy.

NZ02: Lower-alpha, unique passion-fruit aroma.

NZ03: Higher alpha, earthy, alluvial.

NZ04: Strong, punchy, Nelson-like.

NZ05: Punchy, tropical, resinous.

NZ06: Moderate to high alpha, strong and punchy.

be an inherent viscosity that I associate with this hop and the flavor impact it yields.”

Ryan says he also loves pairing Nelson with American hops. “It acts as a binding and boosting hop,” he says, “accentuating the pine, citrus, tropical, and berry notes that come through from the U.S. varieties and highlighting the punchy intensity that is reminiscent of these beers.”

At Mount, Lewandoski says he selects Nelson for “intense notes of gooseberry, passion fruit, grassy,” and that they use it “quite heavily in our hazies and NZ IPAs and as a supporting hop in our pilsners.” It also has a place in almost all his favorite hop blends.

Simon Nicholas, chief brewer at Hop Federation in Motueka, says he looks for gooseberry and lychee notes when he's selecting his Nelson. “It's so in-your-face,” he says. “I feel it's probably one of the best hops to do a fresh-hopped beer with.” Their Green Limousine, at 6 percent ABV, is a fresh-hopped, all-Nelson IPA—and it's a top seller.

At ParrotDog in Wellington, cofounder and head brewer Matt Warren says that using Nelson in the whirlpool can sharpen its character—and that can be a good thing for some beers, but also that they would never do that for their hazies. (The same applies to Riwaka, which “is pretty expensive for the whirlpool,” he says, but a little bit there can be nice.)

NECTARON

While Nectarone is generally popular for its sweeter fruit notes, most New Zealand

brewers so far appear to prefer this variety, released in 2020, as a supporting hop rather than on its own.

At Mount, Lewandoski says he uses it for “big tropical notes of ripe pineapple, passion fruit that I like to use intensively in our hazies, along with Nelson Sauvignon or American varieties.”

WAI-ITI

“Personally, I'm a big fan of Wai-iti,” says Rawlinson at Fork & Brewer. Underrated and often overshadowed by other New Zealand varieties, Wai-iti is lower-alpha but “packs a serious apricot-peach aroma punch due to the high weight of oils it carries,” Rawlinson says. It's also versatile, he says, working well in a range of styles from Belgian-style witbier to lagers, pale ales, and IPAs.

“It's fantastic when used as a whirlpool addition,” he says. “The low alpha-acid percentage—in some years below 2.5 percent—means that you don't require the cooler whirlpool temperatures that you would otherwise need with varieties that are above the 10 to 12 percent alpha-acid range.” While the whirlpool can pull a lot of bitterness from those higher-alpha varieties, Wai-iti is more forgiving.

“It's an amazing support hop when used in dry-hop applications in New World, hop-forward styles,” Rawlinson says, “especially when you're looking for an extra kick of New World hop aroma [and] flavor.”



BREWER'S PERSPECTIVE

Haze that Stays

Looking to brew a beer with haze that's ready to commit to the long-term? We asked **Zach Coleman**, head brewer and co-owner at **TRVE** in Denver and Asheville, for some clarity on haze stability, and he turned to fellow pros for their best advice.

IF YOU'VE EVER FLIPPED kegs of hefeweizen upside down or had a beer start to look like one of those snow globes from the airport gift shop, then you understand the frustration of unwanted clarity.

Here, we're not going to focus on how to make the best hazy IPA, or even how to make the haziest one. Instead, we're going to focus on haze stability—how to keep that hazy beer hazy. (But if we happen to thread that needle along the way and learn something new about how to make our IPAs more delicious, so much the better.)

To help get a more complete picture of what contributes to haze stability, I reached out to several people across the industry for their thoughts and recommendations, breaking the considerations into two parts: hot side and cold side. I've also synthesized their advice into a recipe (page 64) that could be your jumping-off point for taking

all these tips out for a spin. With that, let's mill in and start with the grist.

On the Hot Side

For brewers, haze starts with the mash. Why? Because most stable haze comes from the malt matrix, via proline-rich proteins that later bind with the polyphenols in hops. With that in mind, you need to get some protein into the wort.

Wheat is probably the best source of this protein. Chris Schooley, cofounder of Troubadour Maltings in Fort Collins, Colorado, recommends making it about 20 to 40 percent of your grist.

"Wheat is such a key ingredient," he says, "as it has a higher percentage of [PRPs] than barley. But also, I wouldn't recommend messing too much with the parameters on your barley as long as it has solid modification to begin with."

Oats, on the other hand, aren't integral to haze stability, Schooley says—though he adds that including them at about 10 percent of the grist can help contribute a luscious mouthfeel.

Some brewers—including Brandon Capps of Denver's New Image and Doug Reiser of Burial in Asheville, North Carolina—say they focus on flavor over protein density, whether that's coming from wheat, spelt, or oats, without worrying too much about specific metrics. Yet there's another metric to consider: the acidity of the mash.

To best extract those proteins, Reiser says, they target a pH close to 5.2, only pushing beyond to potentially drive more attenuation. However, there is evidence that a slightly higher mash pH near 5.4 will keep more protein in solution.

The "pH is god over here," Reiser says. The commandment is "5.2 is the highest mash pH we will use, and often 5.1, with the aim of landing as close to 5.0 in the boil as possible."

Water plays a role, too. Without getting too deep into the chemistry, I'll just note that a higher chloride-to-sulfate ratio (2:1 or 3:1) helps set the colloidal particles that contribute to haze. While neither Capps nor Reiser emphasized water treatment, beyond the importance of achieving an ideal mash pH, it's a good idea to favor chloride while not necessarily abandoning your preferred water profile.

On to the whirlpool: Keep in mind that higher temperatures extract hop polyphenols, which can be haze-positive, along with bitterness and less desirable material—so, as usual, it's a balancing act.

Reiser says that at Burial, they prefer a lower-temperature whirlpool between 170 and 180°F (77 and 82°C). At New Image, meanwhile, Capps says he first considers which hops can best take the heat; he consults the Yakima Chief Hops survivables chart (see page 67) before making the call.

Most stable haze comes from the malt matrix, via proline-rich proteins (PRPs) that later bind with the polyphenols in hops. With that in mind, you need to get some protein into the wort.

Assuming you plan to dry hop—another source of polyphenols—you can worry less about extracting them in the whirlpool. Instead, you can use lower temperatures, such as those Reiser specifies, to get the aroma and flavor you want without excessive bitterness.

HOT-SIDE RECAP

- Use some form of high-protein malt; wheat is best.
- Target a mash pH between 5.2 and 5.4.
- Emphasize chloride over sulfate for water treatment.
- Consider a cooler whirlpool (around 180°F/82°C) with hops that are relatively high in survivable compounds, such as Centennial and Mosaic.

On the Cold Side

Now our beer is in the fermentor. How else can we contribute to stable haze, while also retaining what's already in the wort?

The most important players here are yeast, which can make or break haze stability.

When yeast are stressed, they release proteases, which begin to break down protein in an effort to scavenge nitrogen. That can cause haze to drop out or, even worse, create the dreaded snow-globe effect.

To prevent that stress, we should ensure a healthy fermentation. Oxygenation and nutrients can help there. Pablo Gomez, technical account manager at White Labs, recommends focusing on oxygen and zinc—specifically, 1 ppm of dissolved oxygen (DO) per degree Plato, and (regardless of gravity) 0.3 to 0.4 ppm of zinc. So, if you're brewing a hazy IPA with an OG of 1.063—like our recipe—that's 15.4°P; just aim for 15–16 ppm of DO but 0.3 to 0.4 ppm of zinc.

That zinc comes with a bonus: Having the right amount of it, Gomez says, helps to minimize hop creep by keeping yeast healthy and active throughout fermenta-



MAKE IT

Stable Haze IPA

Here's a recipe based on advice from a few of the best in the industry at brewing great, juicy IPAs with haze that sticks around.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.063 (15.4°P)

FG: 1.014 (3.6°P)

IBUs: 33

ABV: 6.5%

MALT/GRAIN BILL

8 lb (3.6 kg) two-row

2.4 lb (1.1 kg) wheat malt

1.4 lb (635 g) malted oats

HOPS & ADDITIONS SCHEDULE

0.5 oz (14 g) Citra at first wort [21 IBUs]

1 tsp (5 ml) yeast nutrient (including zinc) at 15 minutes

0.6 oz (17 g) each Citra, Galaxy, Nelson Sauvin at whirlpool [12 IBUs]

2.7 oz (76 g) each Citra and Galaxy at dry hop

1 oz (28g) Nelson Sauvin at dry hop

YEAST

White Labs WLP066 London Fog or similar

DIRECTIONS

Mill the grains and mash at 153°F (67°C) for 60 minutes, or just until starch conversion is complete. Recirculate until the runnings are clear of large particles, then run off into the kettle with the first-wort hops. Sparge and top up as needed to get about 7 gallons (26.5 liters) of wort, depending on your evaporation rate. Boil for 60 minutes, adding the yeast nutrient according to the schedule. After the boil, do a whirlpool step: Stir or recirculate to create a vortex, cool the wort to about 180°F (82°C), and add the whirlpool hops; continue to spin for 10 minutes, then allow 10 minutes to settle. Chill to about 66°F (19°C), oxygenate the wort—aiming for 15–16 ppm—and pitch a healthy yeast starter. Ferment at 68°F (20°C) until the gravity has dropped to about 1.016–1.018 (4.1–4.6°P), then raise to 74°F (23°C) until fermentation is complete and gravity has stabilized. Cool to 52°F (11°C) and drop the yeast/trub (or rack to secondary), then add the dry hops for 3 days. Rouse the hops each day using CO₂ (or other method that doesn't introduce oxygen), then crash and drop the hops again. Package and carbonate as desired.

BREWERS' NOTES

Water and pH: With your water treatment, favor chloride at a 2:1 or 3:1 ratio. Target a mash pH of 5.3 and a final wort pH of 5.0–5.1, adjusting with acid as needed.

Dry hop: You may want to sub in Cryo versions (or other concentrated lupulin pellets) for the varieties listed above, at half the amounts. Optionally, to prevent any diacetyl driven by hop creep, add ALDC enzyme before dry hopping.



tion, including the increased enzymatic activity that comes with dry hops. (For more on that phenomenon, see “Brewing with Hops: Don't Be Creeped Out,” beerandbrewing.com.) For most strains, a standard yeast nutrient should foster healthy fermentation; most of those contain zinc, but be sure to check.

For oxygenation, it may be a good idea to slightly increase the in-line level of oxygen, depending on your setup. Capps, for example, says he's tinkered with adjusting both New Image's yeast pitch rate and total DO target to achieve more consistent haze and attenuation. He's arrived at a pitch rate of 0.25–0.5 million cells per degree Plato and DO target of 18–20 ppm in wort, which is close to Gomez's recommendation.

For pro brewers, Capps also recommends purchasing a DO meter to dial that in. More affordable options include the sort of oxygen meter made for fish tanks.

When it comes to the choice of yeast strain, keeping haze stability in mind, brewers widely recommend the London III strain for its relatively consistent attenuation and, most importantly, flocculation. (While these aren't all identical, similar strains include Imperial A38 Juice, Lallemand LalBrew Verdant IPA, Omega OYL-011 British Ale V, White Labs WLP066 London Fog, and Wyeast 1318 London Ale III, among others.)

Both Capps and Reiser cite London III's ability to create flavorful beers that still have enough body—a key to the style—while not flocculating so much that all the solution-stable hop compounds drop out with the yeast.

Finally, dry hops. As I previously mentioned, warmer temperatures and more time will extract more polyphenols as well as hop astringency. So, you're best served with a cooler dry hop—say, 52–58°F (11–14°C)—and a shorter contact time that balances the amount of vegetative matter. A few days is enough; many brewers are happy with just one or two.

When choosing those hops, it helps to look at myrcene and overall oil content, as those nonpolar compounds can help to create lasting haze.

“The more hop oil, the better,” Reiser says, “but you have to buffer it with vegetation flavor issues and loss.” This is where many brewers these days are turning to Cryo (or other concentrated lupulin pellets) as well as flowable hop products. At Burial, Reiser says, they often go with a cold-side blend of 60 percent T-90 pellets, 20 percent Cryo, and 20 percent flowable.

“We still do plenty of 100 percent T-90,” he says, “but often not in hazy beer. There's just too much particulate left in suspension.”

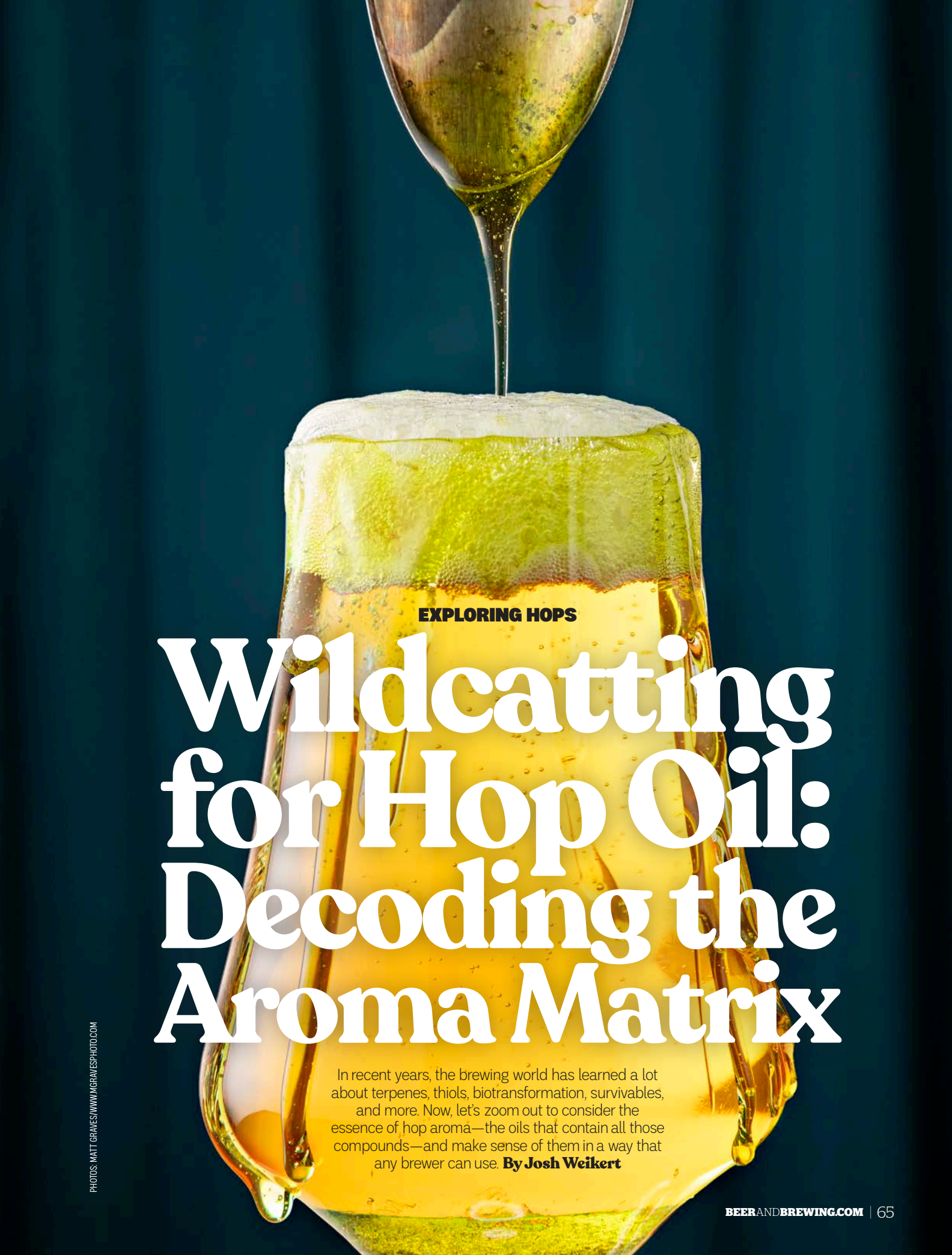
Cryo and other hop products are useful tools for better character and yield, and smaller particle size also helps with haze stability. (Look up the research by Karl J. Siebert at Cornell if you want to go deeper on that.) So, using these formats can help you to pack in more hop character while also contributing to a longer-lasting turbidity.

In whatever format, some of the higher-oil hops that brewers mentioned as key drivers of haze include Citra, Galaxy, and Nelson Sauvin, as well as Southern Hemisphere hops in general.

COLD-SIDE RECAP

- Use yeast nutrient, especially zinc.
- Oxygenate appropriately—1 ppm per °P—to keep yeast healthy.
- Use a strain, such as London III, that doesn't flocculate too quickly or dramatically.
- Dry hop at cooler temperatures (52–58°F/11–14°C), after primary fermentation, for shorter amounts of time.
- Use hops that are high in total oil content, such as Citra and Galaxy.
- Use different hop formats to balance particle size.





EXPLORING HOPS

Wildcattling for Hop Oil: Decoding the Aroma Matrix

In recent years, the brewing world has learned a lot about terpenes, thiols, biotransformation, survivables, and more. Now, let's zoom out to consider the essence of hop aroma—the oils that contain all those compounds—and make sense of them in a way that any brewer can use. **By Josh Weikert**

I'M FASCINATED BY HOPS.

That can surprise people who know me as a brewer—in my homebrewing circles, I'm notorious for rarely brewing hop-forward styles. That's not because I don't appreciate hops, though—far from it. In fact, one reason I lean more into malt- and yeast-driven flavor profiles is that hops are such a black box.

Let me share a quick anecdote to highlight what I mean.

If you ask anyone about what makes a great Czech-style pale lager, they'll probably tell you that it's the smell and taste of Saaz. Shovel it in—you can't get enough of it. But that's just it: I *was* shoveling it in, and I *still* wasn't getting a real, palpable expression of that Saaz flavor. Another ounce. And another. And another. They were solid pilsners, don't get me wrong, but they were clearly lacking that Saaz flavor.

So, one day I decide to go 50/50, Saaz and Styrian Goldings, and *voilà*—huge “Saaz” flavor. Why?

The answer is simple, even if the conclusion is frustrating: Hops are *complicated*. They're a lot more complex than the overly simplistic metrics we tend to use to describe them. (“What's an alpha acid?”) They're even more complex than the more detailed metrics we have available. (“What are the beta acid and cophumulone and myrcene levels?”) And they're light-years beyond the high-level descriptors we tend to hang on them. (“Tropical, spicy, floral”—seriously? Is that the best we've got?)

So, today we're going to dig deeper—deep enough to strike hop oil. It would be too much to promise that by the end of this piece, you'll be able to add linalool and 3-sulfanylhhexan-1-ol to get the exact flavor you want, the way you might add black pepper and garlic to a good steak. However, to quote the great golf teacher Harvey Penick, “take dead aim,” and your results will nearly always improve.

So, first things first: What's in a hop?

The Oils Are Essential

A lot goes into a hop cone and, as a matter of simple fact, we actually do taste a lot of it.

The leaves, bracts, bracteoles—the very plant matter within it—all contribute something to the flavor. Consider how the top of a strawberry tastes green and bitter, even while the rest of the flesh tastes more like what we usually associate with “strawberry flavor.”

Yet there's a very, very small percentage of the hop cone that's doing a lot of the lifting: its oils. Found in the cone's lupulin glands, the hop's essential oils are responsible for the unique aroma and flavor profiles that wind up in beer. The brewing process extracts those oils and their volatile compounds, typically during mashing, boiling, whirlpooling, and/or dry hopping.

Those oils play a crucial role in shaping the overall sensory experience of beer, contributing to its aroma, flavor, and even its mouthfeel. As they combine and interact with the wort before, during, and after the brewing process, we get what we often grossly oversimplify as a beer's “hop flavor and aroma.”

In the world of hop oils, each compound brings its own signature to a beer's aroma and flavor. You'll often find these oils listed in a hop's varietal description—as a percentage of the oils present—when you buy them:

- **Myrcene**, the big hitter, offers a resinous, green profile, lending that classic green, “dank,” almost sticky sensation.
- **Humulene** provides the piney, woody backbone, especially in Noble hops, contributing a spicy, herbal character.
- **Caryophyllene**—my personal favorite—also has that woody edge but with a bit more emphasis on earthy.
- **Farnesene** throws in a more delicate floral note, balancing the heavier aromas.
- **Linalool** is another floral player, often leaning into orange blossom and brightening things up.
- **Geraniol**, the rose-like floral oil, sweetens the profile with hints of pollen and perfume.

So, while hop oils might not always grab the spotlight, they're the unseen architects that shape many of our favorite beers, whether they're resinous, floral, earthy, fruity, tropical, spicy, sweet, or bitter. And we can make use of them: Comparing the percentage of each of these oils in a given hop variety, crop, or bale can give us a bit more control over the finished beer.

Besides, you'll sound a lot hipper among fellow brewers when comparing the caryophyllene levels, let's say, in Northern Brewer and First Gold hops.

Ready to Drill Deeper?

For more insights into making the most of those oils, I reached out to Scott Janish—author of *The New IPA: Scientific Guide to Hop Aroma and Flavor*, cofounder of Sapwood Cellars in Columbia, Maryland, and someone whose input I've been leaning on for years in my own brewing.

Besides providing guidance on the composition and utility of the oils mentioned above, Janish also gets into the weeds (so to speak) on even more esoteric compounds and combinations. So, let's talk thiols.

Thiols, generally speaking, are sulfurous compounds with strong flavor profiles that are found in hops and their oils—though they make up a tiny fraction of those oils, which are already a tiny fraction of the hop. In short, once unlocked, thiols can be powerful.

“Free hop-derived thiols can significantly impact beer aroma, even at very low concentrations,” Janish says, “contributing intense fruity notes like grapefruit, passion fruit, and black currant.” Yeast labs have been developing bioengineered strains that free up more of those thiols, which “can dominate beer ... compared to traditional dry hopping,” he says. However, “because their taste threshold is so low, even small concentrations can contribute to the beer.”

Specific thiol compounds are often responsible for highly specific aromas or

Up to 80 percent of linalool will boil off in just five minutes in the wort. Most essential oils in hops have a boiling point either at or below 212°F (100°C). In the boil, they're all bittering hops.



flavors. Here are a handful of the better-known ones in hops:

- **3SH (3-sulfanyl-hexanol)** brings notes of grapefruit, passion fruit, rhubarb, or gooseberry.
- **4SMP (4-sulfanyl-4-methylpentan-2-one)** contributes black currant as well as “catty” aromas.
- **3SHA (3-sulfanylhexyl acetate)** can offer notes of passion fruit or guava.
- **3S4MP (3-sulfanyl-4-methylpentan-1-ol)** brings vinous or grape-like flavors, most famously in Nelson Sauvin hops.
- **2MIB (2-methylbutyl isobutyrate)** produces apricot-like flavors.

While hop vendors often list the typical oil percentages with their varieties, not many explicitly list the thiol levels. However, some are beginning to note which varieties are especially high in thiols.

Also, besides the thiol-enhanced yeast strains, there are precursor products such as Phantasm—made not from hops, but from thiol-rich grape skins—as well as hop products enriched with those precursors.

While it's useful to know about thiols and those products, here's a word of warning: Thiols can be potent, and their expression can vary significantly depending on the beer, how it was brewed, and the drinker. One person's pine forest or passion fruit can easily be another person's kitty-litter box or diesel can.

Building a Well-Oiled Machine

When it comes to getting the most out of our hops, there are a couple of ways to tackle the challenge: by using a general approach or by following some specific-use cases. If you're systematic about it, either way can inform your recipe development or personal R&D.

Starting with the general approach: Depending on how long you've been at it, you may or may not have come of brewing age at a time when 60-minute additions were for bittering, 30-minute additions were for flavor, and 10-minute (or later) additions were for aroma. You can make great beer with that approach, obviously, but it basically ignores the physical reality of hops oils: They tend to be *highly* volatile at temperatures at or even below boiling temperature.

SURVIVABLE COMPOUNDS

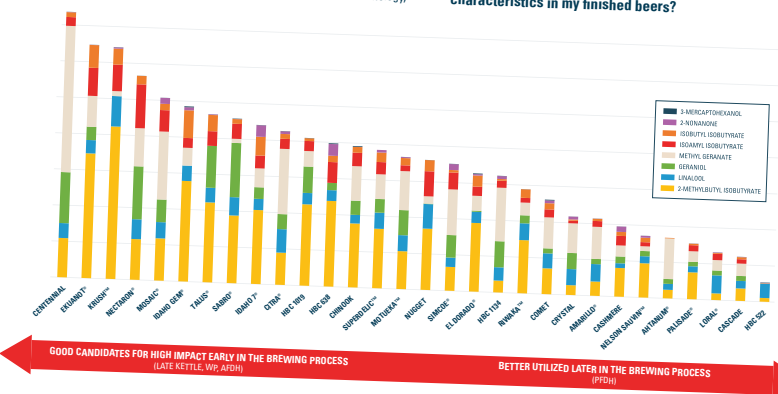
CROP YEAR 2024 GRAPH

Yakima Chief Hops has pioneered the use of cutting-edge hop lab analysis techniques to further unlock the maximum potential of aroma hops. The YCH R&D facility houses one of the only labs in the world with the capability to analyze hops via GC-MS with SCD technology and study previously undetectable aromatic components. This technology allows us to explore the aroma potential of novel hop compounds—specifically beer-soluble compounds that survive the brewing process.

GC-MS with SCD technology unlocks the potential to identify hop compounds that work synergistically and have greater potential of surviving into finished beer. Much historical attention has been paid to components that do not tend to make an impact in finished beer aroma, leaving brewers grasping to understand how to better translate raw hop aroma into the final product. Utilizing GC-MS with SCD technology,

the Yakima Chief Hops R&D Team is able to quantify concentrations of beer-soluble compounds within hop varieties, creating a framework that helps brewers utilize hop varieties to their maximum effect. This research provides a massively important link in answering questions such as:

- What variety should I use?
- Where in the process should I use it?
- Which hops work together in combination?
- How can I use a variety to its maximum effect?
- How can I have more control over the aroma characteristics in my finished beers?



1. USE HIGH SURVIVABLES HOPS EARLY (OR LATE)

Hops with higher concentrations of survivable compounds have a better likelihood of being successful when used earlier in the brewing process than hops with low concentrations of these same compounds. Early additions include late kettle, whirlpool, and active fermentation dry hopping (AFDH).

EXAMPLE

Ekuano® is likely a better choice for high-impact whirlpool hopping than Palisade®.

This is because Ekuano® contains higher concentrations of beer-soluble compounds that can survive heat and fermentation activity.

3. BLEND HOPS TO MAXIMIZE BENEFICIAL CONCENTRATIONS

Focus on balancing high concentrations when creating blends.

EXAMPLE

Because Loral® is high in linalool and Talus® is high in geraniol, the two of them are likely to work well in concert. Loral® and Crystal are both high in linalool and would therefore likely create a less dynamic and more one-dimensional blend.

2. USE LOW SURVIVABLES HOPS LATE

Similarly, we can say that hops with lower concentrations are likely to find better success and a more positive impact in beer when used later in the process, such as post fermentation dry hopping (PFDH).

EXAMPLE

Cascade will likely make a higher impact in finished beer if used later in the brewing process.

This is because Cascade contains smaller concentrations of beer-soluble compounds that can survive heat and fermentation activity.

4. LOAD WORT STREAMS WITH SURVIVABLES EARLY

High concentrations of survivables in whirlpool and active fermentation dry hopping can create conditions necessary for beneficial biotransformation.

EXAMPLE

A whirlpool addition of Idaho 7® combined with an active fermentation dry hopping addition of Sabro® and Simcoe® is likely to yield huge flavor impact because it loads the wort stream with a diverse array of “raw materials” needed to favor biotransformation.



YAKIMA CHIEF HOPS®

So, given that reality, please allow me to impress upon you one simple truth: In the boil, *they are all bittering hops*.

Yes, you might preserve some hop flavor and aroma by adding hops late in the boil. However, it's always going to be less than if you adopt the “don't boil them at all” approach that's become increasingly common in the world of IPA. Need some IBUs via isomerized alpha-acid extraction? By all means, then, toss them in the boil. If you want to maximize the aroma and flavor, however, keep them away from the bubbling cauldron.

In a blog post that changed my life—or at least my beer recipes—Janish notes

that up to 80 percent of linalool will boil off in just *five minutes* in the wort. Most essential oils in hops have a boiling point either at or below 212°F (100°C). I repeat: In the boil, *they're all bittering hops*.

That's where the whirlpool comes in. We want *some* heat to aid in extracting the oils, so just dumping them into cold wort isn't necessarily the best. For many modern brewers, whirlpooling at about 180°F (82°C) has become the answer.

Generally, Janish says, monoterpenes such as linalool and geraniol are relatively easy to get into the beer “and have good staying power once extracted.” Myrcene, on the other hand, can be more difficult to

MAKE IT

Sapwood Cellars Hidden Thiols

This lush, Riwaka-heavy hazy double IPA was a collab that linked the American East Coast with New Zealand's South Island. Two of the most respected hazy IPA brewers in the United States—Sapwood Cellars of Columbia, Maryland, and Fidens of Albany, New York, put their heads together to brew this in 2023 with an assist from Eggers Hops of Upper Moutere, New Zealand.

"Riwaka can famously have a strong diesel dankness," says Sapwood Cellars co-founder Scott Janish, "but it was a little restrained in Hidden Thiols—still apparent and clearly Riwaka, though—but that allowed more stone-fruit and citrus notes, primarily grapefruit, to shine."

Hop grower Kem Eggers sent a couple of boxes of Riwaka from his favorite lot of that year's harvest, Janish says. "He also sent some for thiol testing, which came back with a bunch of the usual suspects—3S4MP, 3SH—but nothing that really suggested it was the signature diesel-dank-grapefruit character we get from Riwaka. Likely it is 'hidden' in the more than 40 percent of the thiols detected that were unidentified—hence the name!"

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.086 (20.6°P)

FG: 1.020 (5.1°P)

IBUs: 44

ABV: 7.8%

MALT/GRAIN BILL

5.6 lb (2.5 kg) Briess Brewers Malt

5.6 lb (2.5 kg) Briess Pilsen Malt

1.75 lb (794 g) flaked oats

1.5 lb (680 g) white wheat malt

12 oz (340 g) chit malt

8 oz (227 g) rice hulls

HOPS & ADDITIONS SCHEDULE

0.75 oz (21 g) Chinook at mash hop
[5 IBUs]

11 oz (312 g) brewers crystals at 15 minutes

1 tsp (5 ml) yeast nutrient at 15 minutes

2.8 oz (79 g) Riwaka at whirlpool [13 IBUs]

2.3 oz (65 g) Chinook at whirlpool
[26 IBUs]

5.6 oz (159 g) Riwaka at first dry hop

5.6 oz (159 g) Riwaka at second dry hop

1 Tbs (15 ml) Biofine at tertiary/packaging

YEAST

Omega OYL-402 Cosmic Punch

DIRECTIONS

Mill the grains, mix in the rice hulls and mash hops, and mash at 156°F (69°C) for 60 minutes. Recirculate until the runnings are clear, then run off into the kettle. Sparge and top up as needed

to get about 7 gallons (26.5 liters) of wort, depending on your evaporation rate. Boil for 60 minutes, adding brewers crystals and nutrient according to the schedule. After the boil, do a whirlpool step: Stir or recirculate to create a vortex, cool the wort to 185°F (85°C), and add the whirlpool hops; continue to spin for 20 minutes, then allow 20 minutes to steep. Chill to about 65°F (18°F), aerate the wort, and pitch the yeast. Ferment at 66°F (19°C) for 2 days, then raise to 74°F (23°C). Once fermentation is complete and gravity has stabilized, drop the yeast and trub (or rack to secondary), and crash to 34°F (1°C). Drop the yeast again and add the first dry hops, occasionally rousing the hops with CO₂ (or other method that doesn't introduce oxygen). After 1 day, drop the trub and add the second dry hops, continuing to occasionally rouse. Drop the trub again and add the Biofine. Package and carbonate to about 2.5 volumes of CO₂.

BREWERS' NOTES

We add calcium chloride and calcium sulfate (gypsum) to the mash in a 3:1 ratio, respectively. We adjust with phosphoric acid to target a mash pH of 5.4 and boil/knockout pH of about 5.0.

hang on to in large quantities—although "more viscous hazy IPAs have been found to retain more of these compounds than drier West Coast IPAs," he says.

Cold Side, Hot Side, and Synergy

Dry hopping can also be useful for preserving some of these oils, though the cooler temperatures tend to limit their extraction potential.

True, the oils aren't going to boil away, but they aren't being pulled from the pellet or flower all that efficiently, either. However, your more fragile oils and thiols are going to survive here.

When it comes to hop oils, the primary consideration when dry hopping isn't so much the temperature but the time: If you're comfortable with the chance of bio-transformation—or actively seeking it out, to get some unique aroma compounds—then go ahead and add your hops at primary fermentation. If your goal is to get what you can from the hops themselves, then dry hopping in secondary—possibly after cold crashing—is preferable.

Also, it's wise to be conscious of what *else* you're getting out of those dry hops because some of that can interact with the flavors you're hoping to get from the oils. Here are a couple things to keep in mind:

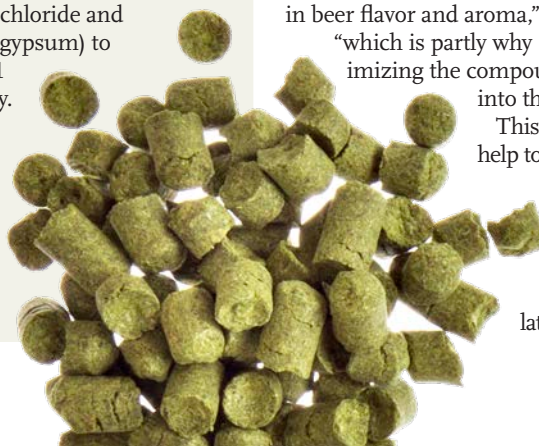
- First, you may be extracting flavor-altering phenols. While we often (correctly) think of phenols as a fermentation product, they can also be hop-derived—and those peppery, perfumy compounds can really out-shout the more subtle flavors from your oils.
- Second, while you don't need to worry about isomerizing alpha acids when dry hopping—and they're only of limited concern in the whirlpool—beta acids are still coming to the party. As they (and the beer) oxidize, their bitterness begins to come to the fore, and not necessarily in a way you'd like.

As with every ingredient, be intentional: Use what you need and want, leave out what you don't. Ultimately, this is about synergy.

"All hop compounds can play a role in beer flavor and aroma," Janish says, "which is partly why I focus on maximizing the compounds introduced into the fermentor."

This is where it can help to pay attention to "survivables."

These are the aroma compounds best able to endure a late-boil addition,



the whirlpool, and active-fermentation dry hopping. Certain hops—such as Centennial, Ekuanot, and Idaho 7—are richer in those compounds. Going with those sorts of hops at, say, two pounds per barrel—roughly an ounce per gallon, or 7.5 grams per liter—you can achieve a “layering effect” to help push a more hop-saturated flavor. To build on that, you may want to reserve varieties lower in survivables—such as Amarillo, Cascade, Willamette—as dry hops on the cold side.

Once you really dive into the compounds you like, which varieties have them, and when best to add them, there are other ways—many still waiting to be discovered—to get more from them than the sum of their parts.

“There is also a synergistic relationship between these compounds that can enhance one another,” Janish says. “For example, the presence of 3S4MP can make the fruity, apricot-like notes of 2MIB more pronounced, even when 2MIB is present at levels below its typical flavor threshold.”

Like so much else in brewing, it’s usually necessary to try, then trust—but you can still stack the deck in your favor.

More Discoveries Await

There’s no doubt about it: Hops can be challenging. They’re variable and complex, so there aren’t really any hard-and-fast rules to follow that can guarantee a certain outcome.

“There are definitely still unknowns when it comes to hop varieties and what makes them unique,” Janish says. “A prime example is one of my favorite hops, Riwaka. It’s one of the most aggressive and stubborn hops—even small amounts added to the kettle will still be detectable in the finished product.”

At Sapwood Cellars, he says, they brewed a collab beer with Fidens of Albany, New York. Called Hidden Thiols, it was an all-Riwaka double IPA.

“What thiol—like 3S4MP in Nelson—makes Riwaka truly distinctive?” Janish says. “I’m not sure! ... But whatever it is, I really enjoy it.”

It’s that degree of serendipitous uncertainty that makes hopping so much fun, despite its complexity and challenges. Having a clearer sense of the oils and thiols in your favorite hops—and knowing how best to get them into your beer and having the flexibility to roll with the unknown and unpredictable—will help you, as a brewer, keep things on the fun side of that ledger.

Meanwhile, there’s still plenty of challenge there to keep us intellectually engaged on this topic into the foreseeable future. After all: If we didn’t have to work for it, wouldn’t beer be a lot less interesting?

FIVE ON FIVE

Midwest IPA

These IPAs have followed their own evolutionary paths, embracing body alongside hops for smooth intensity.



Masthead Midwest Red IPA

Kelly Montgomery, co-owner and head brewer, Third Eye Brewing in Cincinnati

“Masthead’s Midwest Red IPA might wear a different color, but it’s got Midwest IPA written all over it. The caramel and toasted-malt backbone lays down a rich foundation, while the hops bring in bright citrus and pine without overwhelming bitterness. It’s that perfect harmony of flavor and balance that defines the Midwest IPA.”



Bell's Two Hearted

Colt Carpenter, head brewer, Pax Verum in Lapel, Indiana

“Hands down, my go-to is Bell’s Two Hearted, and I’ll always gladly toss one back. It didn’t run away from its amber hue when everything went hazy or super-light. The touch of crystal malt helps round out the upfront IBU load, but then mellows as the hops open up and express themselves. Traditionally, classic C-hops were the focus in Midwest IPAs, but the thing that matters is solid bitterness with some citrus, fruit, and dank notes to pull it together. If you’ve never floated down a river while sipping on one in the middle of summer, I don’t know if you have properly lived.”



Missing Mountain Power Outage

Chad Powers, chief of brewing operations, Narrow Path in Loveland, Ohio

“From a brewery that excels in hazies, this beer straddles both coasts and is dialed in on balance. Huge citrus notes mingle with the perfect bread-toast-biscuit malt structure. Good body and a slightly dry finish make sure the glass is never far from my hand.”



Pipeworks Ninja vs. Unicorn

Joshua Grubbs, owner & head brewer, Black Lung in Round Lake Beach, Illinois

“It’s been holding it down for years—and for good reason. It comes in swinging with a ridiculous amount of dry hops, showcasing a big, bold bouquet of citrus, tropical fruit, and a bit of dank pine. But what sets it apart is a malt backbone—it doesn’t try to be too sweet, just enough to support the hop attack and balance it all out. There’s a touch of chill haze, but it’s not trying to be a NEIPA. This is an OG Chicago-style IPA—loud, punchy, and unapologetically big.”



Maine Beer Lunch

Spencer Guy, head brewer, Atrium in Louisville, Kentucky

“I remember having it fresh for the first time and falling in love with the balance, drinkability, and nuance. The snappy bitterness makes you want another sip, and it’s fully saturated with modern tropical-hop character, while the slightly malty, clear, and clean base beer has gentle resin-and-pine dankness that echoes back to earlier days of West Coast IPA. I love that crisp zippiness, with an element of substance and heft for an added dimension, without going full C-malt bomb. It might not be Midwestern, but feels quintessentially ‘American.’”

THE WORLD OF HOPS

Beyond Saaz

Whether punching up lagers or adding interest to IPAs, newer Czech hop varieties—little known outside their country—are an overlooked source of distinctive flavors. **By Evan Rail**

FANS OF OLD-WORLD LAGERS can be forgiven for mistakenly thinking that the list of Czech hop cultivars starts and ends with Saaz. The most famous of the Continent's four Noble hop varieties, Saaz plays a key role in storied beers from Plzeň to Leuven, hailed by brewers across Europe for a millennium or more and considered a key part of the traditional Czech flavor profile.

Even today, the legendary cultivar that locals call *žatecký poloraný červenák*, or ŽPČ, represents about 82 percent of the Czech Republic's total hop acreage. (And "legendary" is hardly an exaggeration; Holy Roman Emperor Charles IV is said to have banned the export of Bohemian hop rhizomes—under penalty of death—sometime in the 14th century.)

Yet if Saaz represents the Czech Republic's hop-growing history, the other 18 percent just might be its future. The country's significant hop industry—the world's third-largest, by acreage—currently includes 28 registered varieties of *chmel*. Almost all of those are Saaz descendants, which often showcase some of its characteristics as well as compelling qualities of their own.

Secret Weapons

From unusual decoction schedules to open fermentation, long lagering, heirloom barleys, and floor malting, the Czechs are infamous for an array of brewing tricks. According to Zdeněk Rosa, chairman of the Hop Growers Union of the Czech Republic, those 27 other hop

cultivars are among those tricks, despite flying under the radar internationally.

"Even though we've got Sládek, Premiant, Agnus, and other great varieties," he says, "in a lot of other countries, they still associate the Czech Republic only with Saaz."

That may be the case in general, but among those who know Czech beer, those other cultivars can be important players. Because of Saaz's low alpha acids (typically 2.5 to 4.5 percent) and relatively high price, many Czech brewers reserve it for later aroma additions. Instead, for bittering, they employ the more efficient Saaz-descended cultivars Sládek (5 to 7 percent alpha acids), Premiant (7 to 10 percent), and Agnus (9 to 12 percent). Sometimes, they even skip Saaz entirely.

PHOTO: MATT GRAVES/WWW.MGRVESPOTO.COM



“I wanted to prove that we could use all Czech hops that people have never heard of ... and show that you could get that flavor without using your typical American hops.”

At Sacred Profane in Biddeford, Maine, head brewer Brienne Allan takes that approach with her Czech-inspired lagers, generally sticking with Sládek throughout the process.

“Personally, I don’t really like working with Saaz,” she says. In part, that has to do with the wide variations she’s found among Saaz lots, which can swing from spicy and cedary to floral and citrusy. “They are so dramatically different. It’s hard to get a consistent flavor.”

Of course, Sládek can have its own variations, too. But it has another big plus: It doesn’t taste like everyone else’s idea of a *světlý ležák*. “Sládek is so much more citrusy and unique,” Allan says. “I really hate the idea that everyone thinks that a Czech pale lager has to be so rigid.”

Those preconceptions might be firm outside the country, but Sládek has been a go-to for Czech brewers since becoming a registered cultivar in 1994. Its popularity is growing—a 10 percent increase in acreage last year put it in second place by a country mile, making up almost 13 percent of the total Czech hop production in 2024.

When you get to third and fourth place, however, the figures get smaller fast: Premiant makes up about 5.4 percent of the total Czech hop crop, while Agnus accounts for just 1.8 percent—and, at that point, you’ve still got 24 officially registered Czech hop cultivars to go.

Overlooked Flavors

Many of those other 24 cultivars are variations on classic Saaz but bred for higher yields, greater disease resistance, and the ability to cope with the changing climate conditions that have hit landrace hops particularly hard in recent years.

Development takes place at the Hop Research Institute in Žatec, the ancient city once widely known by its German name: Saaz. There, soaring brick chimneys of old hop kilns still pierce the skyline, and historic mansions and grandiose villas testify to the immense wealth created during the 19th-century lager boom.

When you have a plant that defines its region the way Saaz does Žatec, you quickly see the benefit of having crops

that ripen at different times—such as Saaz Late, registered as an official cultivar in 2010. Otherwise, you’d have roughly one week a year when there is way too much work for farmers and processors, and suddenly *way* too many tractors, trucks, and harvesters on the roads for locals.

Even among the cultivars that are meant to imitate Saaz, it’s possible to find differences. Rosa says that two of the best new varieties for heat- and drought-resistance—Saaz Shine (2 to 5 percent alpha acids) and Saaz Comfort (4 to 7 percent)—each have their own character.

“Both varieties are very close to Saaz and descend from Saaz, but Saaz Shine has more floral notes, and Saaz Comfort has more bitter notes,” he says.

If the Planets Align...

Other new Czech hops go even further, including a drought-resistant line of flavor hops named after planetary bodies.

Just north of Prague, at Pivovar Chroust—a well-regarded brewery known

for its hop-forward ales—brewer Karolína Chroustovská says she was struck by the unusual fruitiness of Juno (4.5 to 6 percent alpha acids) and Eris (6 to 8.5 percent) when she recently used them to dry hop her hazy Union Czech IPA.

“I was pretty surprised how amazing the beer turned out,” she says. “[Juno and Eris] are very sweet, like berries, with a lot of floral notes, lemon zest, and mandarin zest. But they are very delicate, so in my experience, I prefer them in very light beers.”

For now, the Czech planetary lineup is more obscure than the band on a hipster’s T-shirt. The most widely planted, Saturn (6 to 8.5 percent alpha acids), covered just 0.014 percent of the country’s total hop acreage in 2024. (If you happen to come across Juno, Ceres, or Eris in person, buy a lottery ticket.)

While those numbers should increase in the next few years, Rosa acknowledges that the global market for flavor is already “overcrowded.” As such, those cultivars’ success and availability are far from guaranteed.

Bohemian Aromatherapy

What has seen clear success is Kazbek (5 to 8 percent alpha acids), created when the Hop Research Institute crossed traditional Saaz with a wild Russian hop from its collection—an origin story not unlike the Fuggle-Serebrianka liaison that produced Cascade, to which Kazbek is sometimes compared.

Officially registered in 2008, Kazbek is now the country’s seventh-most planted cultivar—though it still makes up only 0.7

Kazbek hops on a sample table in Žatec



PHOTO: JAMIE BOGNER

percent of total Czech hop production. Only 47 metric tons (about 52 U.S. tons) of it hit the market in 2024.

Despite the small numbers, Kazbek has found an audience both at home and abroad. Since 2019, Czech brewers compete in the annual Kazbek Cup, a style-agnostic spring competition with only two basic rules: Use at least 50 percent Kazbek on the hot side and use only Czech varieties on the cold side.

Because of its Old World connection, brewers outside the Czech lands often use Kazbek in bottom-fermented beers. At Olfactory Brewing in San Francisco, brewer Phil Emerson highlights Kazbek in their dark lager, The Lamp Industry is Booming During These Dark Days.

"We love it," he says. "It's like Saaz, but more citrusy, in my mind."

A fan of mash hopping, Emerson says he adds 11 pounds (5 kilos) of Kazbek to about 661 pounds (300 kilos) of grain—about half as much Saaz as he typically adds to the mash. He compares the experience to aromatherapy and says it leads to a complex, richly malty lager with layers of flavors. "It just smells great—the whole experience is lovely," he says. "It's a slight citrus note on this very silky, chocolate, ever-so-roasty dark lager."

While lagers seem like a natural fit, it's worth noting that the Kazbek Cup has two categories: bottom-fermented *and* top-fermented, with new-school Czech brewers regularly using Kazbek in their IPAs. Besides Juno and Eris on the cold side, Chroustovská used Kazbek for the kettle additions in Chroust's Union Czech IPA.

"It's spicy, raw, herbal, piney, green," she says. "It's like a forest, basically."

At Sacred Profane, Allan used Kazbek to dry hop a collab with Prague's Dva Kohouti. Both breweries made the bottom-fermented beer for their own markets, and Dva Kohouti labeled theirs as an IPL. Sacred Profane labeled its version as an "IPA" because of its flavor profile.

"It was definitely a lager, but it tasted exactly like your favorite West Coast IPA," Allan says. "I wanted to prove that we could use all Czech hops that people have never heard of ... and show that you could get that flavor without using your typical American hops."

High-alpha Agnus in the kettle gave the beer plenty of bitterness, while dry hopping with Kazbek added significant piney and resinous notes despite using just 11 pounds (5 kilos) in a 15-barrel batch. Allan says a few brewers had trouble believing that Czech hops could be solely responsible for what they were tasting.

That's practically the stuff of legends. (At press time, there were no threats from any emperors.)

MAKE IT

Sacred Profane IPA

Lager specialists Brienne Allan and Michael Fava at Sacred Profane in Biddeford, Maine, regularly brew iterations of this hop-forward in collaboration with Prague's Dva Kohouti. A decocted lager with expressive Czech aroma hops, it nonetheless drinks like an IPA—so that's what they call it.

ALL-GRAIN

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.065 (16°P)

FG: 1.019 (4.7°P)

IBUs: 50

ABV: 6%

MALT/GRAIN BILL

9.25 lb (4.2 kg) Bohemian floor-malted pilsner

2.5 lb (1.1 kg) Munich I

8 oz (227 g) Weyermann Carafoam

HOPS SCHEDULE

0.4 oz (11 g) Agnus at first wort [15 IBUs]

0.85 oz (24 g) Agnus at 15 minutes [20 IBUs]

1.3 oz (37 g) Agnus at whirlpool [15 IBUs]

2.6 oz (74 g) Kazbek at dry hop

YEAST

Any relatively low-attenuating Czech lager yeast, such as Wyeast 2278 Czech Pils

DIRECTIONS

Mill the grains, mash in at 144°F (62°C), and rest 10 minutes. Prepare for a double decoction: Move about one-third of the mash to a separate kettle, raise it to about 160°F (71°C), then bring it to a boil and boil for 20 minutes. Reunite with the main mash to bring it to about 163°F (73°C) and rest 10 minutes. Again, remove about one-third of the mash to a separate kettle and boil it for 20 minutes. Reunite with the main mash to bring it to about 169°F (76°C), then mash out. Recirculate until the runnings are clear, then run off into the kettle, adding the first-wort hops. Sparge and top up as needed to get about 6.5 gallons (25 liters) of wort, depending on your evaporation rate. Boil for 75 minutes, adding hops according to the schedule. After the boil, do a whirlpool step: Stir or recirculate to create a vortex, add the whirlpool hops, spin for 10 more minutes, then allow 15 minutes to steep and settle. Chill to about 52°F (11°C), aerate the wort, and pitch the yeast.

Ferment at 54°F (12°C). At first, don't ferment under pressure—leave the valve open. (If using a carboy or similar vessel, loosely cover the top with a piece of sanitized foil.) Once the gravity has dropped to about 1.040 (10°P), add the airlock; once it's dropped to about 1.024 (6°P), seal the tank (and add a spunding valve, if you have one) and add the dry hops. Once fermentation is complete, gravity has stabilized, and the beer has passed a VDK test (see "Hunting for Diacetyl," beerandbrewing.com), gradually drop the temperature over 8 days (2°F/1°C per day) to 40°F (4°C). Hold there for a week, then crash to 32°F (0°C) and transfer to a lagering vessel. Lager for 3–4 weeks, or it until it tastes great, then package and serve.

BREWER'S NOTES

pH: We adjust the mash to 5.2 pH.

Yeast: Any good Czech lager yeast is fine—something low-diacetyl, low-attenuation, high-flocculation.



NO RESTS FOR THE WICKED

Partake in the Passion for Pacific Pale Ale

Here's how homebrewers can punch up their pale ales and other hop-forward beers with the bright flavors of Middle Earth. Plus: a method for getting a whirlpool-like flavor burst without having to whirl anything. **By Annie Johnson**

EVER SINCE NEW ZEALAND HOPS

burst onto the American brewing scene, I've been hooked.

I'm sure New Zealand hops were on the U.S. scene long before they appeared on my radar in 2016, but I tend to drink what I know. Living in northern California, that means C-hops—Cascade, Centennial, Chinook—and other American varieties known for grassy, dank, and grapefruit flavors and aromas.

The first Kiwi hop to pique my curiosity was Nelson Sauvin, with its vinous, tropical traits—gooseberry, white wine, passion fruit, mango. Star varieties from New

Zealand tend to be boldly tropical, with big flavor and aroma bursts that transport the nose and palate to a sunnier, warmer place.

And they can work beautifully in pale ales, IPAs, and hop-forward lagers, offering a bright and often welcome change from the American hops that we tend to use in all sorts of beer styles.

A Journey across the Pacific

In 2018, I seized the chance to level up on New Zealand hops: A popular homebrew shop called the League of Brewers invited me to speak at the annual Homebrewers' Conference there in Nelson, on the South

Island. It also coincided with the annual Marchfest beer festival as well as the hop harvest. Naturally, I dove in.

While there, I got to visit several hop farms and breweries. For a geek like me, having the harvest happening at the same time was bucket-list stuff, not to mention almost overwhelming to the olfactory senses. But I survived.

In Wellington—on the southern tip of North Island, just across the strait from Nelson—I paid a visit to Garage Project. They were already popular at that time, and since then I've watched them grow further; I'm always looking for the collaborations they do with American breweries. Their offerings run the gamut, from New Zealand pilsners and triple IPAs to porters, stouts, mixed-culture foeder blends, and even a beer with tomato and basil. (For more about Garage Project, listen to Episode 242 of the Craft Beer & Brewing Podcast.)

At the core of many of their beers, of course, are New Zealand hops. Vibrant and complex, often expressing notes of pineapple, guava, orange, lime, and stone fruit—*juicy*, I must admit, and that is not a word I like to use. Down there, these hops are especially popular in pale ales and IPA, as well as hoppy pilsners.

Let's Punch It Up

Fast-forward to 2025. As I write this, I'm brewing in the spring for summer drinking, and memories of that trip to New

Star varieties from New Zealand tend to be boldly tropical, with big flavor and aroma bursts that transport the nose and palate to a warmer place.



Zealand are transporting me back to those farms and those flavors.

Now, let's talk pale ale—arguably the perfect platform for that punchy character.

For a modern, hop-forward pale ale, the grist is uncomplicated. If you're brewing all-grain, going with 100 percent two-row pale sets up just enough canvas for those vibrant flavors. For extract brewers, that means all you need is some pale dry or liquid malt extract. No partial mash necessary.

Some might argue that a bit of light crystal or dextrin malt, such as CaraPils or Carafoam, adds desirable character and body. But this beer really is all about the hops and a nice, clean malt backbone. We want these hops to shine and show off what makes them so unique.

For this beer, I go with Nelson Sauvin, Motueka, Riwaka, and Wai-iti—a potent tiki cocktail of tropical-fruit flavors:

- **Nelson Sauvin** is great for aroma or flavor—late kettle, whirlpool, or dry hop—with its distinctive white-wine notes that remind many of sauvignon blanc (another New Zealand specialty).
- **Motueka** brings distinctive crushed lime and mojito notes.
- **Riwaka** is a standout aroma hop, with citrus notes and powerful passion-fruit character. Some also find that it throws out diesel notes, but that hasn't been my experience—no doubt it depends on the hops, the quantity, and the smeller's own senses.
- **Wai-iti**, meanwhile, contributes fresh peach and apricot aromas and flavors.

These are hops that often reward restraint. Aiming for a session-strength ABV for this golden pale will keep it exceptionally drinkable while still getting an eye-opening burst from the assertive hop flavors.

Keep the yeast choice simple—stick with a neutral American ale yeast. Clean and

with minimal esters, there's a reason why Chico and similar strains have been the most important ones behind the rise of IPA: They highlight expressive hops and don't get in the way.

Now, about the hopping: There's no need for an early kettle addition—we'll get enough IBUs for this lighter frame from the later ones. We'll add some flavor hops at 20 minutes, and some more at the “whirlpool”—and here's where I'll share a handy homebrewer hack.

If your brew system makes it easy to recirculate, cool your wort a smidge, and do a proper whirlpool step, go for it. But if that's challenging on your system, or if you generally just prefer to avoid it, here's another option:

Grab a small portion of the wort, let it cool to about 185°F (85°C), then ladle it into a heat-safe, tempered glass container—such as a Mason jar or Pyrex dish. *Voilà!* A mini-whirlpool, which you can then return to the rest of the wort after the boil—and then you're ready to chill, with no need to kill another 20 to 30 minutes spinning and steeping. Like a whirlpool, this method also preserves some of those subtle nuances via the volatile oils that you might otherwise lose in the boil, or even at flameout.

Ferment as usual, then add the dry hops to build on that zesty lime-citrus character, which makes the final beer seem even more quenching on a hot, sunny summer day—just the thing for cookouts and other summer gatherings. Try it out with grilled skewers or even some tangy, smoked, barbecued goodness.

Cheers! And here's to summer, with its days of longer sunlight hours for brewing outside while enjoying those punchy things we brewed back in the spring. 🍷

MAKE IT

Annie's Hoppy Daze of Summer Pacific Pale Ale

EXTRACT

Batch size: 5 gallons (19 liters)

Brewhouse efficiency: 72%

OG: 1.046 (11.4°P)

FG: 1.010 (2.6°P)

IBUs: 35

ABV: 4.6%

MALT/GRAIN BILL

7.4 lb (3.4 kg) light liquid malt extract (LME)

HOPS SCHEDULE

1 oz (28 g) each Motueka and Riwaka at 20 minutes [25 IBUs]

1 oz (28 g) each Nelson Sauvin and Wai-iti at whirlpool/steep [10 IBUs]

0.5 oz (14 g) each Nelson Sauvin, Motueka, Riwaka at dry hop

YEAST

Fermentis SafAle US-05, Lallemant LalBrew BRY-97, or similar

DIRECTIONS

Heat 2 gallons (7.6 liters) of water to about 185°F (85°C) and add the LME, stirring to dissolve. Transfer a portion of that wort to a heat-safe, tempered glass jar or dish and add the steeping hops. Meanwhile, bring the rest of the wort to a boil and add the boil hops. Boil for 20 minutes, then switch off the heat. While adding 3 gallons (11.4 liters) of cool (about 65°F/18°C), sterile water, also add the reserved steeped hops. Ferment for 7–10 days at 65–70°F (18–21°C). After fermentation is complete and gravity has stabilized, add the dry hops for 3–5 days. Crash, remove the hops or rack to secondary, package, and carbonate to about 2.2 volumes of CO₂—or bottle condition. Enjoy!





Tasted

Craft beer's biggest beer style deserves our largest review section, ever. From 460+ brewery submissions, our blind panel narrowed it down to the 164 beers you see here, spanning styles from **West Coast, American,** and **Hazy IPA** to **Cold IPA, Specialty IPA, Pale Ale,** and **Session IPA...**

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. Note that the component scores are rounded automatically to the next whole number, so numbers here may appear to not add correctly. Rest assured that the score calculation is built off the numbers before rounding.

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

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 online or in a book) is no substitute for trying the beer yourself.

TASTED: WEST COAST IPA



pFriem Dave's West Coast IPA

98

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

What the brewer says:

"Dynamic yet harmonious drinking experience that finishes light, clean, and with a slight lingering bitterness."

What our reviewers thought:

"Pine and citrus aromas. Distinctive hop character (almost whole-cone) throughout, with notes of white pepper and grapefruit. Crisp malt character provides background and structure for the hops, leading to a fantastic clean bitterness with lingering notes of peach, grapefruit, and pine. Silky throughout the mid-palate, finishing a bit sweet, but it has the bitterness to match."

What our editors thought:

"Light hop notes capture a fresh-picked cone aroma. Brilliantly fresh in the sip, with subtle peach and peppery tropical fruit notes, and a light mineral bitterness that lingers."

ABV: 7.2% IBUs: 55

Loc: Hood River, OR

All Season 4th Lap

88

AROMA: 10
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "Tons of grapefruit zest/juice, peaches, and a firm resinous bitterness."

What our reviewers thought:

"Hop character leans white grape, earthy. Flavors of white grape and herbal lemon. Light malt body highlights the hop character. Finish is bitter but allows a light malt sweetness to linger. Well executed, balanced."

What our editors thought:

"Zingy grapefruit and pineapple aroma with a bit of kiwi. Softly structured in the sip with lower carbonation that softens the tropical bitterness."

ABV: 7%

IBUs: 63

Loc: Los Angeles



Amalgam Coastal Bias

94

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

What the brewer says:

"Featuring Mosaic, Krush, Simcoe, and Nelson."

What our reviewers thought:

"Raspberry and melon in the nose with floral and orange. Light-bodied mouthfeel finishes dry. Bitter up front, but quickly moves into a sweeter, mint-like hop flavor, along with grapefruit and bitter orange. A sneaky sweet malt character helps balance the hops."

What our editors thought:

"Buoyant aroma grounds kiwi and papaya highlights with peach and guava mid-tones. Very light body and low bitterness step aside while the fruit and subtle pith drive the sophisticated and understated flavor."

ABV: 7.2% IBUs: N/A

Loc: Denver



Alvarado Street Mai Tai P.A.

91

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Light on bitterness, but heavy on hop aroma, courtesy of 100 percent Mosaic hops."

What our reviewers thought:

"A nice diesel note punctuates the dank, resinous aroma with some hints of onion and green pepper in the background. Citrus and tropical notes emerge in the flavor. Very approachable, with a lenient bitterness. Crushable drinkability."

What our editors thought:

"Booming and magnetic passion-fruit and guava aroma. Generally lean body highlights a minty herbal edge to the hop bitterness, with a clever sparkle."

ABV: 6.5% IBUs: 45

Loc: Monterey, CA



Arizona Wilderness Refuge

94

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

What the brewer says: "With Arizona-grown Sinagua Malt base and citrus-forward American hops."

What our reviewers thought:

"Aroma of orange pith, white grape, and rose floral notes. Well-integrated hop flavors of white grape, dank weed, and stone fruit complement one another. Medium-light caramel malt. Clean, crisp bitterness. Quite quaffable. Integrates classic and modern flavors and aromas into a very drinkable IPA."

What our editors thought:

"Fragrant nose with warm citrus, sage, and a light hop-sulfur note with intriguing shape. Looser in the sip, with a woody bitterness that lingers."

ABV: 6.8% IBUs: 75

Loc: Gilbert, AZ



Atrium Disco Lizard

86

AROMA: 10
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 4
OVERALL: 8

What the brewer says:

"Dank, fruity, resinous, and bitter. Simcoe and Waimea Hop Kief."

What our reviewers thought:

"Muted nose with light citrus, melon, white grape, and bread notes. Clean, bright hop flavors of orange peel, lemon, lime, and stone fruit. Well-structured malt base lets the hops shine. Crisp finish with a bit of sweetness on the sides of the palate. Clean, lingering bitterness. Super-modern."

What our editors thought:

"Funky aroma with overripe passion fruit and guava with a strong composting earth undertone. Juicy but lean guava nectar in the sip with minimal bitterness."

ABV: 7.5% **IBUs:** 70

Loc: Louisville, KY



Big Friendly Switchboard Scientist

93

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "With Riwaka, Mosaic, Wakatu."

What our reviewers thought:

"Sweaty and dank aromatics of pine, onion, and cheese complement a hint of diesel for an inviting nose. A flash of clean malt sweetness sets the stage for waves of bitterness. Flavors of orange marmalade, pine resin, lemon, cedar, and onion blend and create a balanced, lingering bitterness. Dry finish."

What our editors thought:

"Deep wet slate in the aroma with touches of mango, coriander, tamarind, and passion fruit. Mineral bass notes in the sip sustain the fruity middle and herbal high frequency."

ABV: 7.2% **IBUs:** N/A

Loc: Oklahoma City



Breakside Bayside IPA

92

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

What the brewer says: "With Mosaic, Krush, and Nelson Sauvin."

What our reviewers thought:

"Everything a hop has to offer from the outset: a blend of citrus and stone fruit, white grapes, a dash of sulfur, and the best kind of diesel. Tangerine and pine emerge in the mouth, with lightly doughy under-baked bread. Medium-bodied. Crisp, dry finish."

What our editors thought:

"Cocktail nose with pineapple, passion fruit, Angostura bitters, and a bit of tamarind. Incredibly light in the sip with an equally light mineral bitterness and gleaming kiwi highlights."

ABV: 7% **IBUs:** 50

Loc: Milwaukie, OR



Cellarmaker West Kept Secret

91

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

What the brewer says: "With Krush, Riwaka, Nectarone, Mosaic, Mosaic Incognito. Tropical fruit and ganja all day."

What our reviewers thought:

"Very focused hop aroma: Bright fruits, citrus, berries, a bit of mango, but nothing soft or fleshy. Sits on the edge of dank. Light orange hop flavor. Hint of bread on the tongue, but the malt is here to deliver the hops."

What our editors thought:

"Cool and reserved white floral aroma with distant kiwi fruit. Crisp sulfur structure in the flavor with just a touch of pithy bitterness and softening tropical fruit as it fades."

ABV: 6.7% **IBUs:** 50

Loc: San Francisco



Beachwood Party Crusher

87

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

What the brewer says: "Welcome to the party! Now get to work and crush this dank West Coast IPA!"

What our reviewers thought:

"Floral, spicy nose: citrus and pine. Reminiscent of the brut IPAs that were popular a while back. Super-crisp, dry pilsner malt character with white grape, green tea, and orange peel hop notes. High carbonation creates a bright, almost austere finish. Pleasantly elegant, with layered complexity throughout."

What our editors thought:

"Green arugula spice in the nose with a touch of lychee. Softer pineapple in the flavor with a tight bitterness."

ABV: 7.1% **IBUs:** 60

Loc: Huntington Beach, CA



BKS Current Past (Green Label)

91

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "Dry-hopped with Mosaic, Krush, Nelson Sauvin, and Columbus Cryo."

What our reviewers thought:

"A healthy dose of diesel and gasoline in the aroma punctuates more delicate notes of pine, lemon, and green onion. Simple, light malt body gives way to an aggressive but balanced bitterness with notes of pine resin, onion, lemongrass, and subtle tropical notes. Bitterness lingers into the finish."

What our editors thought:

"Black currant, cedar, yuzu, and a touch of guava in the aroma. Flavor pulls grippy green tropical notes with bitter citrus punch."

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

Loc: Kansas City, MO



Breakside Turbomachinery IPA

91

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 10

What the brewer says: "With Simcoe, Riwaka, Chinook, and HBC 1019."

What our reviewers thought:

"Melons, tangerines, and soft strawberries show up in the aroma. A sharp hop bitterness. Mint, tangerine, strawberry, a touch of grapefruit, and a woody resin in the finish. Lingering bitterness. Light dankness noted on the finish."

What our editors thought:

"Bits of peach, pear, kiwi, and passion fruit in the aroma give way to a flavor that's all business with tightly integrated refined bitterness matched to its incredibly light body."

ABV: 6.9% **IBUs:** 53

Loc: Milwaukie, OR



Cinderlands NZ HAHPS

88

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 9

What the brewer says: "Gooseberry twang, Hawaiian Punch powder, Jarritos lime, and ripe passion fruit."

What our reviewers thought:

"Bright and tropical at the outset. Nose of candied orange gum-mies, mango, green dank. Hops overwhelm the minimal malts, with black pepper, herbs, citrus pith. Assertive but nuanced."

What our editors thought:

"Light hop haze. Aroma of passion fruit, gooseberry, red currant, and a touch of mango. Sparkly in the sip with glints of mineral bitterness, fruit pith, and berry-skin tannin that contrast the sweetly suggestive nose."

ABV: 6.5% **IBUs:** 70

Loc: Pittsburgh



Corn Coast More West More Coast

91

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

What the brewer says: "With Mosaic, Simcoe, and Riwaka."

What our reviewers thought:

"Light, spicy hops: lime, black pepper, grape, pine resin on the finish. Super-light and clean malt profile, just enough to support the hops. A new-school interpretation: Uses the crisp, simple body of a light lager as a platform to highlight interesting hop character, all wrapped in a refreshing and easy-to-drink platform."

What our editors thought:

"Pineapple and orange zest aroma with a custard flair. Thicker oily orange notes in the flavor with a slightly sweet kick as it finishes."

ABV: 6.8% **IBUs:** 50
Loc: Lincoln, NE



El Segundo Mayberry IPA

90

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Notes of pine resin, citrus, blueberry, and guava. Firm bitterness. Crisp, clean finish."

What our reviewers thought:

"Fruit Stripe gum fades into a piney resinous profile. Interesting and well-crafted combination. A flash of malt sweetness quickly fades into muted bitter notes of pine, white pepper, and garlic. Hop flavor is also on the lower end."

What our editors thought:

"Classic nose with herbal and forest tones alongside faint orange. Medium body foregoes today's ultra-lean trend but supports the peppery tropical bitterness."

ABV: 7.2% **IBUs:** 51
Loc: El Segundo, CA



Fort George Malefice

93

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "DDH with Krush, Mosaic, Nelson, Mosaic Cryo, Simcoe, and Strata goo."

What our reviewers thought:

"Bitter tangerine, resin, and dank on the nose. Firm bitterness up front leads into a soft grapefruit, slightly sharp orange, and pine-resin flavor. Very light-bodied with a moderate mouthfeel. Slightly creamy. Dry finish."

What our editors thought:

"Angular jabs of classic orange and modern passion fruit and kiwi in the aroma alternate in a rhythmic aroma then synthesize into a full-spectrum flavor that's both lively and expansive."

ABV: 6.8% **IBUs:** N/A
Loc: Astoria, OR



Gypsy Road Will He, Nelson?

86

AROMA: 11
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "Nelson Sauvignon in the whirlpool, then dry-hopped with Nelson and Citra."

What our reviewers thought:

"Grape and blackberry aroma. Lime zest and low herbal lemon-drop notes with a low sweet malt character. Eschews the caramel notes of traditional IPA in favor of more of a cold-IPA body. Restrained bitterness."

What our editors thought:

"Light passion fruit and red currant in the aroma with a touch of papaya. Melon and stone fruit in the flavor with a punchy gooseberry structure."

ABV: 6.5% **IBUs:** N/A
Loc: Kernersville, NC



Creature Comforts Los Angeles DTLA

97

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

What the brewer says:

"With Columbus, Mosaic, 586/Krush, Simcoe."

What our reviewers thought:

"Clementine, lemon-tinged whipped cream, vanilla, and guava on the nose. Blueberry, mint tea, herbal spices, and piney resin flavors with a mild bitterness and a touch of alcohol. A tiny bit of raisin and a sappy assertiveness that doesn't linger or cling very long."

What our editors thought:

"Jolly Rancher candy in the nose with bits of strawberry and green apple, buffered by a touch of peach. Intricately detailed fruit in the sip with kiwi, berry, orange, cherry, and a scaled bitterness."

ABV: 7% **IBUs:** N/A
Loc: Los Angeles



Fonta Flora Cowboy Coast

87

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Brewed with heritage rice and dry hopped with Mosaic, Motueka, Nelson Sauvignon, El Dorado."

What our reviewers thought:

"Resinous mint, pineapple, lemon-juice aroma, with a slight twist in the flavor toward piña colada with light grape. Malt grainy flavors clash a bit with the brightness of the hops but add to a smoother mouthfeel in the finish."

What our editors thought:

"Mango, fried plantain, guava jelly, and grilled pineapple in the hefty aroma. Oily and saturated in the sip as the fruit notes ooze past the light peppery bitterness."

ABV: 7% **IBUs:** N/A
Loc: Nebo, NC



Guggman Haus Great Day

87

AROMA: 12
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Brewed with our hand-selected Citra, Simcoe, and Krush."

What our reviewers thought:

"Super-juicy fruit aroma of bubble-gum, blueberry, mango, tangerine, grapefruit, rose petal, and pineapple. Underlayers of sticky pine resin. Flavor is a dank, sticky resin with pine, orange, grapefruit, and pineapple. Fruity esters add a rough edge. Surprisingly soft and smooth bitterness."

What our editors thought:

"Papaya and gooseberry with some fat mango midtones in the aroma. Pithy tropical bitterness in the flavor with a slight drying chalkiness that amplifies the rougher texture. Teases plushness then pulls it away."

ABV: 6.7% **IBUs:** 75
Loc: Indianapolis



Highland Park Hello, LA

94

AROMA: 11
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Dank blueberry, zippy citrus zest, passion fruit. Lingering residual bitterness."

What our reviewers thought:

"In the aroma, blueberries follow an initial burst of orange zest. More berries and melon in the mouth. Citrus brightness and earthy note keep it from getting flabby. Medium-bodied. Beautifully balanced. To use the word *familiar* may seem strange, but there is something familiar here."

What our editors thought:

"Orange and overripe guava aroma with just a bit of red berry. Low bitterness and big body contribute to a saturated sweet citrus in the sip."

ABV: 6.8% **IBUs:** 65
Loc: Los Angeles



Humble Sea 8-Bit Octopus

92

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

What the brewer says: "DDH with Mosaic, Mosaic Cryo, Simcoe, Simcoe Cryo, Strata."

What our reviewers thought: "Classic West Coast IPA aroma: piney, citrus, and just enough malt that it's not a hop-only party. Slightly sweet biscuity flavor gives way to piney resin, with just enough orange-marmalade fruitiness, but that malt backbone persists throughout. Drinks quite smooth and mellow."

What our editors thought: "Strawberry and pink guava in the nose with subtle lime structure. Bigger malt structure in the sip supports the fruit tones with a tucked-in minty bitterness."

ABV: 7.2% **IBUs:** N/A
Loc: Santa Cruz, CA



Lumberbeard Hop Choppin

92

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

What the brewer says: "With Mosaic, Nelson Sauvin, and Idaho 7."

What our reviewers thought: "Classic diesel and blueberry aroma with pine, lime zest, light resin, stone fruit. The malt is very light and stays in the background. Crisp fruity flavor mimics aroma: blueberry, pine, apricot with borderline dankness. Subtle malt sweetness on the backbone flushes out any lingering astringency. Smooth bitterness."

What our editors thought: "Dank aroma with orange zest undertones and higher key fleshy tropical fruit. Kiwi in the sip with a structured but supple bitterness."

ABV: 6.5% **IBUs:** 55
Loc: Spokane, WA



Maplewood Green Crest

89

AROMA: 10
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "Brewed with Chinook, Amarillo, and Comet hops."

What our reviewers thought: "Aroma of fresh-cut pine, orange peel, and some caramel notes. Bright and resonate citrus hop flavors atop a sturdy malt base with a touch of sweetness. Just enough bitterness to claim West Coast IPA status, but smooth enough to be deceptively drinkable. Strong yet evenly balanced."

What our editors thought: "Strong throwback vibes with citrus and forest aroma, a dark golden body, and forest canopy flavor with just a touch of orange. A bit austere as the prickly bitterness hits without more reassuring malt."

ABV: 6.8% **IBUs:** 70
Loc: Chicago



Moonraker Something Vicious

92

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

What the brewer says: "West Coast India pale ale."

What our reviewers thought: "Tropical-fruit aromas with mango taking the lead. Bright pine tips with a touch of dank. Soft pine flavor is round and balanced. A breath of tropical-fruit flavors. Singular focus on clean hop flavors without distracting malt flavors. Deceptively soft and smooth bitterness."

What our editors thought: "Layered tropical and dank aroma with papaya and kiwi. Bright on the palate with lifting kiwi and a light peppery pith bitterness."

ABV: 6.4% **IBUs:** N/A
Loc: Auburn, CA



Indio Mago de Siam

88

AROMA: 12
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 4
OVERALL: 9

What the brewer says: "Hopped with Strata, Citra, and Amarillo."

What our reviewers thought: "Aroma is a fun triad of cantaloupe, cannabis, and citrus. The cracker- and bread-like malt body nicely supports the medium-low bitterness that leans into notes of lemongrass, pine, and a touch of green onion. The finish is nicely dry but curiously lacks the expected modern snappy crispness."

What our editors thought: "Ranging aroma pulls everything from red floral notes to honeydew melon. Very light bitterness pushes the melon, rind, and lychee notes forward."

ABV: 7% **IBUs:** 55
Loc: Sugar Hill, GA



MadTree Seeing Colors West Coast

88

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 4
OVERALL: 9

What the brewer says: "Tropical fruit flavors, crisp bitterness, and a subtle hint of dank pine."

What our reviewers thought: "Super-clear deep yellow with a light head of coarse bubbles head. In the aroma, big mint and candied-tangerine, light grapefruit, honeydew melon. Soft, almost slick mouthfeel with grapefruit, tangerine, and medium-sweet orange. The finish is dry and bitter."

What our editors thought: "Big mango aroma with a touch of roasted yellow squash. Thin, sneaky bitterness jabs and dodges with a bit of tropical peppery burst."

ABV: 7.3% **IBUs:** N/A
Loc: Cincinnati



Meanwhile Secret Beach

89

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

What the brewer says: "Inspired by the bright, dank, and tropical IPAs coming from San Diego."

What our reviewers thought: "On the nose, complex combination of fruits—tropical and berry, plus—what is that? vanilla. Citrus in the fore on the tongue: grapefruit pith, tangerine, hint of marmalade sweetness, orange zest. Hop bitterness wrestles with malt sweetness. Crisp, dry finish."

What our editors thought: "Light orange and tangerine in the aroma with subtle berries and spruce. Leans sweet and soft in the sip with a deliberately understated bitterness that lets the oily citrus spread."

ABV: 6.2% **IBUs:** 65
Loc: Austin



Phantom Canyon Hop-eration: Citra

89

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

What the brewer says: "Notes of peach-nectarine, orange zest, and fresh flower."

What our reviewers thought: "Bright aroma of orange with light pine and soft floral. Flavor includes some citrus elements with a lavender floral note atop a well-structured malt base. Nice interplay of hops and malt. Assertive and bright hop flavors on the finish with proper bitterness."

What our editors thought: "Fresh orange and orange leaf aroma with just enough green to balance the fruit. Light body, accessible, with a faint woody bitterness."

ABV: 7% **IBUs:** 60
Loc: Colorado Springs, CO



Pinthouse Snake Dance Boogie

91

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

What the brewer says:

"Lime, blueberry, and tropical mischief. Notes of papaya, underripe mango, and passion fruit."

What our reviewers thought:

"Fresh, bright light fruit, white pepper, grass, grapefruit in the nose. Super-light body, just enough malt character and light sweetness. Real star is the finish: spicy with layered hints of tropical and ripe fruit with an aggressive carbonation that adds liveliness without coming across harsh or astringent."

What our editors thought:

"Ripe mango and papaya in the nose with a touch of locker-room punch. Vivid fruit in the sip with a light pithy bitterness."

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



Pure Project Cosmic Dancer

94

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

What the brewer says:

"Flavors of papaya, resin, and Peach Rings candy. Crisp, dry."

What our reviewers thought:

"Bright hop character throughout: a mix of old and new with some pine-citrus notes and funkier white grape, mango. Bright, sweet lemon and pineapple flavors. Pleasant light body with decent bitterness. Finish is a balanced bittersweet ending."

What our editors thought:

"Pink grapefruit, papaya, pineapple, and a touch of mineral funk in the aroma. A hint of sweetness in the sip with softer water lets the fruity hops shine through with just a bit of pithy bitterness. Refined and elegant."

ABV: 7.4% **IBUs:** N/A
Loc: San Diego



Roses by the Stairs Friday Jr.

89

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

What the brewer says:

"Strawberry, bright pink winter grapefruit, fresh juniper bushes."

What our reviewers thought:

"Rich hop character up front: old-school (grassy, pine), with some modern layers (peach, white grape). A smooth toffee sweetness leads the way to a finish with stone fruit, resin, and orange-peel bitterness. Maybe a bit sweet on balance, but it brings considerable bitterness on the finish."

What our editors thought:

"Stewed peach, a bit of oaky vanilla, and overripe tropical fruit in the aroma. Plush and full in the sip, sweetened by oxidation."

ABV: 6.75% **IBUs:** 70
Loc: Phoenix



Tarantula Hill All Work, No Play

91

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

What the brewer says:

"Classic hoppy West Coast IPA flavors and aromas. Nelson, Mosaic T90/Cryo, Columbus Cryo."

What our reviewers thought:

"Earthy, orange cotton candy aroma with doughy malt notes. Rich, full flavors with the malt and hops seamlessly working together. New World fruits but delivered with a floral edge. Hint of pine, more woody than fresh needles. Medium body. Semidry finish. Firm bitterness."

What our editors thought:

"Strong mineral edge pops the guava and kiwi aroma. Expansive yet oily in the sip with light sweet green-fruit notes and a medium-light bitterness."

ABV: 7% **IBUs:** 70
Loc: Thousand Oaks, CA



Pivotal Bristol to Branford

92

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

What the brewer says:

"Aromas of yuzu, dragon fruit, peach. Flavors of blueberry kush, apricot. Clean, dry finish."

What our reviewers thought:

"Aroma of crushed blueberry, stone fruit, sweet mango, hint of garlic. Fruit with a touch of dank in the sweet sip echoes the aroma. Dank quality is pure ganja green with a flip to sweet stone fruit. Clean, dry mouthfeel. Finish immediately brings you back for more."

What our editors thought:

"Enticing woody dank note in the aroma with a bit of passion fruit. Semi-lean in the flavor with light fruit notes and light bitterness."

ABV: 7.1% **IBUs:** 55
Loc: Bristol, RI



Radiant Pouring Sunshine

91

AROMA: 9
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Notes of pineapple, passion fruit, gooseberry, tangerine."

What our reviewers thought:

"Lemon and a touch of orange-zest aroma cuts through piney dankness. With zesty orange and lemongrass flavors, this is very approachable. Light, lasting bitterness is more akin to citrus-fruit pith. Drying finish scrubs the palate clean."

What our editors thought:

"Classic citrus and forest aroma with a light fresh petrichor edge. Thicker orange in the flavor, saturated and dense with light bitterness."

ABV: 6.7% **IBUs:** N/A
Loc: Anaheim, CA



Slice Crystal Ballin'

89

AROMA: 11
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Hopped with Mosaic, Mosaic Cryo, Nectaron Cryo, and Columbus."

What our reviewers thought:

"Modest nose with light tropical notes. Sweaty tropical-fruit flavors across the palate atop a slightly heavy malt base. Sweet caramel notes harken back to the past and come through with heavy hop flavors on the finish. Smooth, somewhat soft, bitterness."

What our editors thought:

"Fresh nose with a defined pineapple punch. Light and tight in the flavor with a punchy sweet tropical-fruit note that quickly scrubs into an equally quickly fading tropical fruit-pith bitterness."

ABV: 6.9% **IBUs:** N/A
Loc: Lincoln, CA



Trap Door Normcore

92

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

What the brewer says:

"New Zealand-style West Coast IPA. Expect proper bitterness with some rad tropical fruit notes."

What our reviewers thought:

"Aroma has notes of cherries, citrus, peachy sweetness, grassiness, and general tropical fruitiness. Lemongrass and citrus are up front in the flavor with a touch of pine. Pleasantly dry, lingering bitterness to finish."

What our editors thought:

"Fresh tropical-floral aroma with bits of pineapple and coconut. Fleshier fruit in the sip with a tight pith and mineral structure."

ABV: 7% **IBUs:** 70
Loc: Vancouver, WA



The Veil Vent

93

AROMA: 12
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Brewed with El Dorado, Nelson, Amarillo, CTZ."

What our reviewers thought:

"Earthy notes up front with a light candied-cherry note. Flavor follows suit with a light, sweet, resinous cherry front to back. Moderately light body with a dry, bitter happy ending. A crisp, well-defined beer with character that doesn't detract from its cohesion."

What our editors thought:

"Sparkly tangerine fruit and skin in the aroma with a touch of cooked peach. Lively in the sip with a pithy tropical bitterness and lifting touch of gooseberry."

ABV: 6.5% **IBUs:** N/A
Loc: Richmond, VA



Westbound & Down Westbound Select

94

AROMA: 11
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Aromas of tangerine, peach, strawberry, melon give way to a light darkness. Moderate bitterness."

What our reviewers thought:

"Pineapple, woody notes, tree bark, forest floor, and pine sap on the nose. Tannic berries, juniper zest, pineapple, and just enough grainy sweetness to counteract the bitterness. Zingy and lively. Moderate bitterness."

What our editors thought:

"Light fresh sulfur structure in the aroma with peach, pineapple, and honeydew melon. Friendly and sweet initially, yet the light tropical bitterness tightens through the sip for a sparkling finish."

ABV: 6.8% **IBUs:** N/A
Loc: Idaho Springs, CO



TASTED: WEST COAST & AMERICAN IMPERIAL IPA



Villains Brethren of Filth

97

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

What the brewer says:

"Mosaic, Citra, Krush, Simcoe in a drinkable DIPa. Tropical dankness."

What our reviewers thought:

"Incredibly tropical-forward profile: piña colada, pineapple, mango, passion fruit, and coconut balanced by a nice pine note. As with the nose, the flavor is a nicely balanced blend of citrus and pine with tea-like bitterness that emerges late in the finish. Clean, crisp, clear—everything West Coast, including the complementary alcohol that carries the hops even further. Remarkably well crafted."

What our editors thought:

"Rich tropical tones in the aroma with guava, kiwi, and passion fruit. Light but oily in the sip, dripping with tropical fruit, just a bit of dank mineral structure, and a light pithy tropical bitterness that speeds into a quick finish. Much lighter than its ABV suggests. Packs a smooth punch."

ABV: 8.5% **IBUs:** N/A
Loc: Anaheim, CA

Absolution Wicked 2025

92

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

What the brewer says: "West Coast TIPA. Notes of tropical fruit, candied passion fruit, and a slight kiss of that sticky-icky!"

What our reviewers thought:

"Mild aroma of geranium and fruity peach. The flavor is orange-lemon, bright and cheery, with a little pepper spicy. Amazingly clean and crisp for a TIPA. A big beer but not overly sweet."

What our editors thought:

"Swirling red floral note with decaying forest logs in the aroma. Guava pith and peppery arugula in the sip with a bold lingering bitterness."

ABV: 10.25%

IBUs: 80

Loc: Torrance, CA



Wayward Lane Terraform

91

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

What the brewer says: "A restrained, crisp base lays the groundwork for mind-bending hop intensity."

What our reviewers thought:

"Complex mixed hops strike citrus, pineapple, mango, light coconut, and pine with a touch of good onion complexity. Vibrant tropical hop flavors flow across the palate with soft nuances of vanilla and cedar. Lean malt subtly supports the hops. Soft, sweet finish with a drying touch of wood notes."

What our editors thought:

"Sweaty but indulgent aroma with strong passion-fruit notes. Peppery fruit pith bitterness opens into lingering light fruit notes. Starts strong, ends lean."

ABV: 6.8% **IBUs:** N/A
Loc: Schoharie, NY



Wren House Wrenovation

93

AROMA: 10
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Balanced burst of grapefruit, pine, subtle raspberry, with a sturdy, supportive bitterness."

What our reviewers thought:

"Strawberry, bubble gum, cream puffs, biscuit, and peaches-and-cream on the nose. Woody, pine-forest edge to the flavor, with pops of resin and citrus. Satisfying amount of West Coast bitterness lays softly on the palate and doesn't overstay its welcome."

What our editors thought:

"Low-key earthy orange flesh and zest aroma. Intriguing orange in the flavor locks into a more savory lower midtone spectrum. A bit throwback, and a bit future."

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



Cellarmaker Monstrous Oils

94

AROMA: 12
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Quadruple IPA hopped with Galaxy, Krush, Nectarone, Citra, Citra Cryo, Citra DynaBoost."

What our reviewers thought:

"The aroma has sweet melon, pink bubblegum, mango juice, and spicy alcohol notes. The flavor is juicy with mango, passion fruit, and melon and warming alcohol. Very warming; definitely a slow sipper."

What our editors thought:

"Big haze, but the saturated orange and berry notes in the aroma feel more American, with just a hint of fresh edge. Sweet and bold in the flavor with tucked-in citrus and tropical fruit. Unapologetically bold."

ABV: 12% **IBUs:** 80
Loc: San Francisco



Mikerphone Misty MounTEN Hop

93

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

What the brewer says:

"Dry-hopped TIPA with Columbus, Amarillo, Simcoe, Mosaic."

What our reviewers thought:

"Peach, mango candy, and passion-fruit aromas. Sticky, honey-like sweetness on the palate with orange, melon, peach, passion fruit, and well-integrated low spicy alcohol. Dry finish with lingering spicy alcohol and fresh tropical fruits. Quite balanced for a TIPA."

What our editors thought:

"Big classic forest and orange with a clever herbal top note that pulls it together like a well-placed cocktail bitter. Thick and oily citrus in the flavor with a relatively light bitterness."

ABV: 10% IBUs: N/A
Loc: Elk Grove Village, IL



Slice Concentrated Evil

94

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

What the brewer says: "West Coast DIPA hopped with selected Mosaic and Strata."

What our reviewers thought:

"Arm-pit onion, unripe mango aroma, light pineapple. Grilled pineapple upside-down cake flavor from front to back. Super crisp and clean. Refreshing and easy drinking for a double IPA. Love the clear bitterness on the finish."

What our editors thought:

"Lean nose with brief glimpses of pineapple and dragon fruit. Cautious in the sip with a light impression of fruit sweetness gently buffered by a peppery tropical bitterness."

ABV: 8.3% IBUs: N/A
Loc: Lincoln, CA



Templin Family Ferda Double IPA

90

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

What the brewer says: "West Coast DIPA brewed 'ferda people.'"

What our reviewers thought:

"Bright aromatics of white grape, lemon, strawberry, orange peel balanced by hints of pine. Similar to the aroma, the flavor presents a dichotomy of bright tropical-fruit flavors and earthy resinous notes with a light hint of heat on the finish."

What our editors thought:

"Pulls and pushes with fresh green tropical fruits and a classic orange undertone. Very light in the sip with a modest bitterness matched to subtle pithy and peppery fruit tones. Reserved for its strength."

ABV: 8.2% IBUs: N/A
Loc: Salt Lake City, UT



West Sixth Burning Daylight

94

AROMA: 11
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Well-balanced DIPA with a big malty backbone supporting the fruity, piney, resinous hop notes."

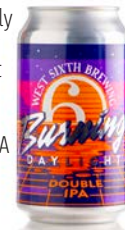
What our reviewers thought:

"Aroma of sour orange, papaya, berries, and crackers, and a bit of garlic and green onion. Flavor is candied orange, grapefruit, and sweet malt. Starts sweet, but a firm bitterness carries into a dry finish. Alcohol warmth is well balanced by the malt profile and medium body."

What our editors thought:

"Smooth classic aroma with polished citrus and distant spruce. Equally cohesive in the flavor as the medium forest bitterness structures the saturated citrus."

ABV: 9.5% IBUs: N/A
Loc: Lexington, KY



Pinthouse Sting Theory

88

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Imperial West Coast IPA. Dank blueberries, ripe mango, juicy papaya, and zesty orange peel."

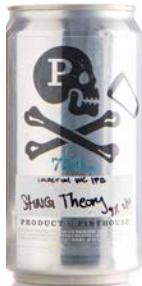
What our reviewers thought:

"Prominent dank and onion aroma. Pungent and sweaty tropical flavors of pineapple, stone fruit, and mango. Vibrant and lively. Sweet on the finish with some bitterness. Significant but smooth alcohol."

What our editors thought:

"Fresh green leaf in the aroma provides a foil for the papaya and mango notes. Peppery pith bitterness in the sip rolls in and out with a smooth restraint, while the sweet fruit bursts and lingers."

ABV: 9% IBUs: N/A
Loc: Austin



Stone She's the Brewer West Coast IPA

90

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Brewed in honor and support of the Pink Boots Society using the Pink Boots Blend of hops and malt."

What our reviewers thought:

"Mellow aroma of grapefruit and apples. A firm bitterness, followed by cherries, red currants, sweet strawberries. A touch of fresh peach in the middle of the flavor. A soft, sweet caramel flavor underneath. A dry, refreshing orange-mint, grassy finish."

What our editors thought:

"Guava and pink lemonade in the aroma with a slight hint of strawberry candy. Firm herbal bitterness in the flavor builds a rigorous structure for the friendly aroma."

ABV: 8.5% IBUs: 70
Loc: Escondido, CA



Trap Door D.R.E.A.M.

87

AROMA: 10
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"West Coast DIPA with layers of Mosaic DynaBoost, Mosaic Cryo, Strata, Nelson, Columbus."

What our reviewers thought:

"Has the basic shape of a modern IPA. Aroma and flavor lean garlic and catty with lime and tropical-fruit notes. Pleasant clean bitterness on the finish."

What our editors thought:

"Broad aroma with ranging orange and pineapple notes. Oily in the sip with a lower bitterness that allows the fruit to push forward with just a bit of pith behind it, then builds with lingering punch."

ABV: 8.2% IBUs: 70
Loc: Vancouver, WA



Wild West Utah Elder West Coast DIPA

95

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

What the brewer says: "Dry, fruity, and moderately bitter. Simcoe, Columbus, Mosaic, Nelson Sauvin."

What our reviewers thought:

"Lime, orange, and grapefruit on the nose. Complex flavors of oregano, ripe oranges, and light lemony note. Medium-bodied mouthfeel with effervescent carbonation and semidry finish. A slight dankness adds to the complexity. A little grassy. Almost a lemon-pepper spice. Well balanced, well made, with a wide array of pleasant hop flavors."

What our editors thought:

"Unusual, almost Italian-herb aroma with light peachy undertones. Soft and round in the sip with vivid orange notes."

ABV: 8.1% IBUs: 70
Loc: Chengdu, China



TASTED: AMERICAN IPA



Sunriver Escape from Escondido

95

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

What the brewer says:

"Crisp, dry, and moderately bitter with a light malt backbone. The hop character hits classic notes of fresh-cut evergreen, winter-citrus marmalade, and top-shelf cannabis."

What our reviewers thought:

"Solid hop aroma of pineapple, sweet oranges, grapefruit, and papaya leading to pine and dank. Medium-full body with light toast and touches of caramel. Malt sweetness starts on the front end of the flavor but quickly gives way to grapefruit, with hints of mango and pine. Bitterness is firm but not harsh and lingers well into the aftertaste."

What our editors thought: "Strong orange notes with a slightly dank sideline and bready aromatic tones that reinforce the fullness. Bold yet refined in the sip with an active energy, slightly woody but more honed than feral. Self-assured and confident yet adventurous in a classically modern way."

ABV: 6.9% **IBUs:** 70

Loc: Sunriver, OR

Beachwood Amalgamator

87

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"A massive dry-hop charge of Mosaic lays down an aromatic amalgam of passion fruit, blueberry, dank resin, citrus notes."

What our reviewers thought:

"Initially, orange-mint on the nose and in the mouth. Then pine quickly gives way to pineapple. Woody, piney, herbal, and a touch dank. Medium-bodied with medium-high carbonation. Firm medium bitterness with some creaminess."

What our editors thought:

"Orange and passion-fruit aroma with a woody fullness. Crunchy citrus chords in the sip with a midtone fuzz. Polished, with a warmer tone."

ABV: 7.1% **IBUs:** 70

Loc: Huntington Beach, CA



Burgeon Treevana

93

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

What the brewer says: "Our flagship American IPA hopped with Mosaic and Amarillo."

What our reviewers thought:

"Sweet orange and minty-herbal hop aromas with grainy malt notes. On the tongue, super-bright hops, expressive tangerine, lemon, and lime, combined with white grapes. Hint of sweetness is quickly swept away by understated but determined bitterness. Medium-bodied with medium-high carbonation. Crisp, dry finish. Slight sulfury dankness."

What our editors thought:

"Resinous piney aroma with a fresh forest rain-shower edge. Focused in the sip as the forest notes are buffed by softer orange."

ABV: 7.2% **IBUs:** 65

Loc: Carlsbad, CA



Odell IPA

93

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

What the brewer says:

"New varieties of highly aromatic American hops create a distinctive bitterness and an incredible hop character."

What our reviewers thought:

"Muted hop aroma of mango, soft grapefruit peel. Light apricot. Light biscuit malt with a hint of sweet caramel. Hops dominate the flavor: grapefruit, light mango, and passion fruit. Light balancing bitterness keeps this in the juicy realm."

What our editors thought:

"Subtle ranging hop aroma with integrated pieces impossible to pull out. Smooth and refined in the flavor, with faint citrus notes, polished herbal bitterness, and a beautiful cohesion."

ABV: 7% **IBUs:** 60

Loc: Fort Collins, CO



Blackbird Big Trees Celebration-Style IPA

86

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Cascade and Centennial hops provide a piney hop character. Dark caramel malts. Bitter and old-school, red-orange IPA."

What our reviewers thought:

"Pine hop aroma (needles and bark). Light orange peel. Soft caramel malt. Hop flavor of citrus, pine resin, and light black pepper. An old-school IPA, with a touch of crystal malt to add some balance to the smooth, lasting bitterness."

What our editors thought:

"Strong classic IPA aroma with woody hops and a touch of orange. A bit loose in the flavor, as cooler top notes compete with the warmer body."

ABV: 7.2% **IBUs:** N/A

Loc: Wake Forest, NC



Hideaway Park BruBrew

89

AROMA: 9
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Old-school/traditional approach to an American IPA. Dry-hopped with Cascade and Citra."

What our reviewers thought:

"Sweet orange marmalade hop aroma with a light bready note. A grapefruit vodka-like hop flavor throughout. Blueberries, blackberries, strawberries. Moderate bitterness. Candy-like hop flavor comes into play as it warms and adds pleasant layers of ripe, sweet fruit."

What our editors thought:

"Strong orange and woody notes in the aroma, with an oily intensity and vaguely herbal back note that rolls into the sip as an incredibly gentle bitterness. Classically refined."

ABV: 7.2% **IBUs:** N/A

Loc: Winter Park, CO



Ramblebine Habitual Sin

91

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

What the brewer says: "Dry and firmly bitter with tangerine, citrus, and subtle pine from Mosaic, Citra and Simcoe hops."

What our reviewers thought:

"Strong hop aroma: green onion tips, light diesel, guava, light pine, tangerine peel. Light biscuit malt. Flavors of green onion, guava, black pepper, and grapefruit peel. Soft lemon ester. Quite dry. Smooth bitter finish."

What our editors thought:

"Sweaty tangerine in the aroma and flavor, with very faint forest bitterness in the distance. Light and accessible."

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

Loc: Grand Junction, CO



Upslope India Pale Ale

89

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Coppery color, complex malty character, well balanced but offers that bitterness that IPA lovers seek."

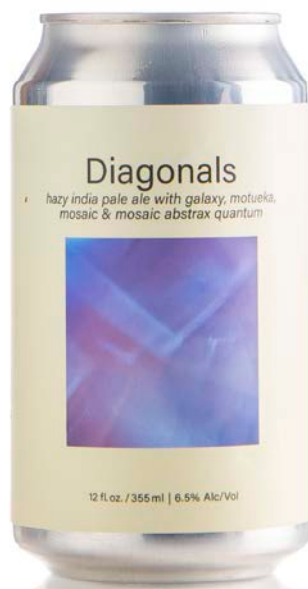
What our reviewers thought:

"Herbal woody hop notes with pine, citrus, pear on the nose. Berry esters. Medium-rich toasted malt aroma. Classic hop tastes of pine and grapefruit. Medium malt sweetness. Clean, crisp, assertive hop bitterness lingers."

What our editors thought:

"Grainy aroma with a touch of forest and just a hint of citrus. Classically old school in visual, aromatic, and flavor presentation. Resiny bitterness in the sip is softened by the full malt."

ABV: 7.2% **IBUs:** 65
Loc: Boulder, CO



Big Friendly Diagonals

98

AROMA: 12
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"With Galaxy, Motueka, Mosaic, Mosaic Quantum."

What our reviewers thought:

"More of a West Coast, bitter interpretation of the hazy style. Mix of new-school and old-school hops. Aromas of unripe mango, dank pine, pineapple, white wine, and fresh-cut orange slices lead to very rich, deep similar hop flavors. A somewhat resinous citrus bitterness. Has the body and residual sweetness to stand up to the more aggressive hops. An excellent summertime sipper."

What our editors thought:

"Exquisite aroma with notes of lychee, chartreuse, kiwi, and guava with a defining lemon through-line. Layered in the flavor as more stone fruit appears. Full, but the pinpoint herbal bitterness offers a very quick finish. Superb."

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

Loc: Oklahoma City



Wise Man Mountain Calling

91

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

What the brewer says:

"Dry hopped with Citra and Amarillo."

What our reviewers thought:

"Hop-forward. Moderate citrus and tropical hop aroma. Light briny/savory/seawater note. Light biscuit and breadly malt. Hop flavor of grapefruit, light pine resin, and tropical guava. Hints of white pepper. Nicely balanced with assertive, but not overbearing, bitterness in the finish."

What our editors thought:

"Chunky orange and blood orange in the aroma with a refined flair that carries through in the flavor. Rich with a lower-key cocktail bitters structure. More brooding than bright."

ABV: 6.6% **IBUs:** 82
Loc: Winston-Salem, NC

Alternate Ending What If?

94

AROMA: 11
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Crushable, with notes of pine and citrus."

What our reviewers thought:

"An aroma of dank pineapple, light cereal, and some alcohol spice. Full-bodied fruit extravaganza of hop flavors, including citrus fruit and zest and stone fruit, with moderate toasty malts and a balancing bitterness. Creamy and lush, with a semisweet finish."

What our editors thought:

"Pineapple with a woody and coconut aromatic undertone, soft and cocktail-like. Similar daiquiri note in the sip as the fruit plays off the woody bitterness with a full creamy texture."

ABV: 7.5% **IBUs:** N/A
Loc: Aberdeen, NJ



Ambitious Ales Professional Human Being

94

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

What the brewer says:

"Fruity with tropical notes, citrus, a touch of melon."

What our reviewers thought:

"Tropical citrus in the nose: tangelo, lemon, pineapple, and strawberry plus pine, green tea. The fruit flavors emerge in the sip with a nice blend of strawberry, green tea, and peach. Nicely soft body and smooth, lightly bitter finish."

What our editors thought:

"Perfumey tropical floral aroma with bits of lychee zest, dried floral tea, and hibiscus. Sweetness in the sip hits quickly but dissipates with the mildest bitterness into a light, zesty finish."

ABV: 7.2% **IBUs:** N/A
Loc: Long Beach, CA



Atrium Geaux Daddy

91

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

"Crushable, with notes of pine and citrus."

"An aroma of dank pineapple, light cereal, and some alcohol spice. Full-bodied fruit extravaganza of hop flavors, including citrus fruit and zest and stone fruit, with moderate toasty malts and a balancing bitterness. Creamy and lush, with a semisweet finish."

"Pineapple with a woody and coconut aromatic undertone, soft and cocktail-like. Similar daiquiri note in the sip as the fruit plays off the woody bitterness with a full creamy texture."

What our editors thought:

"Mango and floral notes in the aroma with a touch of iced vanilla cake. Sparkly sweet sip with high-key lychee and peppery guava, with a lingering vanilla retro-nasal sweetness."

ABV: 7.5% **IBUs:** N/A
Loc: Louisville, KY



Big Friendly Same Old Story

94

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

What the brewer says:

"With Nelson and Rakau."

What our reviewers thought:

"Aroma is stone fruit and honey malt. Sweet malt on the first sip transitions to dank mango and pineapple. The finish is a gentle grapefruit zest. The taste journey is one that changes from beginning to end, starting with something full and sweet but ending with dry and bitter."

What our editors thought:

"Peachy fermentation notes in the aroma play off minty herbs, radish, and guava. Initial heft in the sip quickly scrubs into an incredibly light finish."

ABV: 7.2% **IBUs:** N/A
Loc: Oklahoma City



BKS Concentrated

93

AROMA: 12
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 5
OVERALL: 10

What the brewer says: "Dry-hopped with Citra, Citra Cryo, Krush Cryo, Mosaic, Nelson Sauvin."

What our reviewers thought: "Tangerine and melon in the nose. Moderate bitterness, melon and red berries, followed by honey tangerines. A lot of pungent hop flavor. Juicy medium body with a big creamy mouthfeel and medium-high carbonation. Finishes semisweet with medium-high bitterness."

What our editors thought: "Gorgeous orange-juice color and aroma with a slight note of dusty hop field. Vividly orange in the flavor, semisweet with a bit of acidity that boosts the fruit."

ABV: 7% **IBUs:** N/A
Loc: Kansas City, MO



BlackStack Local 755

89

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "With Azacca, Amarillo, Citra."

What our reviewers thought: "Medium pine-hop aroma up front, with white grapefruit notes and light cracker malt. Flavor is white peach, white grape, white grapefruit, and guava. Finish is quite sweet. Medium hop bitterness. Medium body and carbonation."

What our editors thought: "Peach frosting, pomegranate, and red currant are equal parts lush and piquant. Lower carbonation lets the charred pineapple in the flavor spread and linger."

ABV: 6.8% **IBUs:** N/A
Loc: Saint Paul, MN



Burial Beer Unnamed

89

AROMA: 11
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Barley, oats, Super Sauvignon, Motueka, Nectarine Cryo."

What our reviewers thought: "Muted citrus orange and tangerine hop aroma. Light diesel and grassy notes. Light minerality. Light pie-crust malt. Smooth juicy citrus and tropical-fruit flavor is backed by a solid pie-crust backbone. Minerality continues, and grassiness increases in the flavor. A moderate clean malt sweetness buoys up the hops and softens the finish."

What our editors thought: "Grassy green aroma with avocado and papaya. Sweeter in the sip with a light yuzu note."

ABV: 7% **IBUs:** 30
Loc: Asheville, NC



Fonta Flora Hello, Gorgeous

93

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

What the brewer says: "Dry-hopped with El Dorado, Citra, Azacca."

What our reviewers thought: "Aroma and flavor are mango, lemon candy, and sweet orange. In the flavor, they are balanced by a light sweetness and a bitterness. Very light peppery alcohol notes. The finish tilts toward dry, though it is fairly balanced. Well executed, top to bottom."

What our editors thought: "Bold nose with big mango and guava backed by faint echoes of locker room and diesel fuel. Blooms in the flavor with oily tropical heft and a light structuring mineral edge."

ABV: 7% **IBUs:** N/A
Loc: Nebo, NC



BKS On the One

92

AROMA: 11
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 5
OVERALL: 10

What the brewer says: "With Nelson Sauvin, Super Sauvignon, and Nelson Sauvin (Bliss process)."

What our reviewers thought: "Bright pineapple and lime aroma with a hint of pine resin. Chewy body with an almost oatmeal-like creaminess. Subdued hop flavor adds pineapple and lime notes to the sweet bread malt. Finish has a restrained, nicely lingering bitterness."

What our editors thought: "Bold guava, passion fruit, lemon-grass, cacao husk, and wet slate in the aroma for a wild mix of juicy fruit and mineral edge. Lush in the flavor with sprawling fruit and a small petrichor lift."

ABV: 7% **IBUs:** N/A
Loc: Kansas City, MO



Burial Ratio-nality Shall Run Its Course

87

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Citra, Galaxy, Cashmere, Riwaka, Vic Secret, Amarillo Cryo."

What our reviewers thought: "Hop aromas of peach, pineapple, mango, and passion fruit. Big pineapple, juicy orange, and mango flavor with a touch of earth. Pithy bitterness. A touch of hot alcohol. Medium-light cracker malt and a dry finish. Medium body and carbonation."

What our editors thought: "Broad smoothie nose, peachy with lemon, guava, and a touch of pomegranate. Curiously rustic in flavor with a stronger classically Noble and lime-zest bitterness that rallies long into the finish."

ABV: 7.5% **IBUs:** 40
Loc: Asheville, NC



Corn Coast Hoppy Nugs

89

AROMA: 10
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Dry-hopped with Pink (ID-158) and Motueka."

What our reviewers thought: "Perfume aroma of passion fruit, lime, and grass. Flavor is lemon balm, passion fruit, and mango, with some allium. Full body without being overly sweet. Soft and pillowy carbonation and mouthfeel."

What our editors thought: "Gentle pineapple, lemon, and apricot in the aroma with a broad heft. Understated flavor pulls tropical-fruit pith under sweeter pineapple, but it finishes light and dry."

ABV: 7.1% **IBUs:** 20
Loc: Lincoln, NE



Green Cheek Wherever You Go

87

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Hoppy layers of strawberry pineapple smoothie, basil flowers, and pear. Finishes with white-frosting vibes."

What our reviewers thought: "Strong herbal, woody aroma of light garlic, passion fruit, mango. Light biscuit. Odd general fruity candy. Light malty sweetness with a light bread malt and pie-crust flavor with strong guava, grapefruit, and green onion. Notable hop burn and residual bitterness. Fairly heavy body."

What our editors thought: "Powdery papaya and yuzu in the aroma with tropical floral definition. Delicate sweet tropical notes in the sip, friendly and accessible."

ABV: 7% **IBUs:** N/A
Loc: Costa Mesa, CA



Guggman Haus Hazy Days Route #16

93

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Brewed with a blend of our newly hand-selected Citra and El Dorado."

What our reviewers thought:

"Aroma reminiscent of piña coladas—sweet and pineapple-like, with noticeable coconut and vanilla. Flavor includes pineapple, passion fruit, and coconut husk. Finishes slightly acidic, which helps to accentuate the dryness. Low hop bitterness. Medium-full body."

What our editors thought:

"Gorgeous pineapple-daiquiri aroma with just a bit of soft allium. Pillow in the sip, with soft mist clouds of fruit."

ABV: 7.4% IBUs: N/A

Loc: Indianapolis



Hazel Grove Robot Symphony

97

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

What the brewer says: "With Mosaic, El Dorado, Simcoe."

What our reviewers thought:

"Slightly muted ruby-red grapefruit, vanilla, cotton-candy aroma. Tangerine, mango, and white peach on the palate. Finish is slightly bitter. No hop burn, and well attenuated. Very enjoyable and drinkable hazy IPA."

What our editors thought:

"Vivid technicolor aroma with everything from higher-key yuzu and lychee to honeydew melon and apricot, with a fresh floral highlight. Refined in the sip with a lighter body, focused green fruit notes, and a light slightly tannic malt structure."

ABV: 6.6% IBUs: N/A

Loc: Pittsburgh



Humble Sea Tiny Umbrella

91

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "DDH with Citra, Mosaic, Nelson, El Dorado."

What our reviewers thought:

"Aroma is an interesting mash-up of tropical dankness with notes of grapefruit, pineapple, and lemon mixing with earthy pine and allium. Those same flavor notes emerge in the sip within a body that is somewhat dry. Crushable."

What our editors thought:

"Coconut, pineapple, and slim woody notes in the aroma drive cocktail comparisons. Round citrus in the flavor with smooth tropical-fruit highlights."

ABV: 6.4% IBUs: N/A

Loc: Santa Cruz, CA



Jester King Hazy IPA

91

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

What the brewer says:

"Hazy-juicy IPA."

What our reviewers thought:

"On the nose, lemon fruit and peel, orange zest, light floral, soft tropical passion fruit, and a hint of pineapple. Light raw sourdough. Flavors of mango, passion fruit, and light tangerine. Hint of grassy. While there is a light bitterness present, the focus is more on the flavor."

What our editors thought:

"Peppery guava nose with vague peach and pineapple notes. Spritely on the palate, with light green-fruit notes and a quickly dissipating bitterness."

ABV: 6.8% IBUs: N/A

Loc: Austin



Guggman Haus The Riverside

91

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

What the brewer says:

"Featuring a blend of our favorite hand-selected hops."

What our reviewers thought:

"Punchy fruit on the nose with grapefruit, pineapple, guava, pine, and a little green lychee. Flavors of pine, grapefruit, mango, a bit of yuzu supported by a pillowy body. Clean bitterness nicely balances the sweetness. A touch of hop burn is evidence that hops were sacrificed on the altar of this ode to hops."

What our editors thought:

"Sweaty and sweet aroma with over-ripe guava and pineapple. Medium body, not quite sweet, but just enough to buffer the tangy, pithy tropical bitterness."

ABV: 6.9% IBUs: N/A

Loc: Indianapolis



Highland Park High Spirits

87

AROMA: 12
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Mosaic, Nelson Sauvin, Columbus Cryo. Notes of an evergreen dankness, mango, passion fruit."

What our reviewers thought:

"Very bright tropical-juice aroma with a sharp twist of lime. Body leans into a dank, chewy character with hints of candy sugar and caramel. Soft, refreshing citrus-juice finish. A bit bitter in the end but well executed and balanced."

What our editors thought:

"Tropical fruit with a red floral throughline in the aroma. Pithy and punchy in the flavor, with passion-fruit and guava hits that defy the dry presentation."

ABV: 7% IBUs: N/A

Loc: Los Angeles



Indio Broke & Famous

86

AROMA: 9
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Hopped with Nelson Sauvin, Mosaic, Citra."

What our reviewers thought:

"Soft grilled pineapple, mango, guava, and sweetened lime juice aroma and flavor are nice treats. Soft, chewy, but quite sweet on balance. Showcases the light desert aroma and flavor quite nicely. Very-easy-drinking beer."

What our editors thought:

"Dynamic Peach Ring, mango, and lemongrass in the aroma. Lean sip with sharp tropical floral bitterness, but gentle lemon-lime notes round it off."

ABV: 6.5% IBUs: N/A

Loc: Sugar Hill, GA



Kros Strain Alpha Analysis

87

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says: "With Nelson Sauvin and Mosaic. A little dank with notes of citrus and stone fruits."

What our reviewers thought:

"Inviting aroma of pine, diesel, pineapple, citrus. The nose has a soft texture to it. Soft over the palate with some warmth surrounded by tropical-fruit flavors. A burst of sweaty fruit on the finish with layers of orange zest. Finishes with a soft bitterness and light sweetness."

What our editors thought:

"Pineapple-mango aroma with a dewy edge. Chunky fruit in the sip with a pulpy heft. Slight oxidation takes the edge off otherwise expressive hops."

ABV: 6.2% IBUs: 22

Loc: LaVista, NE



Ladd & Lass Swinging at Mirrors

87

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

What the brewer says:

"Krush with a supporting cast of Cryo Mosaic and Cryo Citra."

What our reviewers thought:

"Bright tropical, tart nose with a bit of sting. Grassy and pine-like with some minty notes. Dials up the mineral-water character to 11 for a chewy feel, almost thick on the tongue. Hint of hop burn toward the bittersweet finish. Heavy-handed and over the top."

What our editors thought:

"Fresh hop bine with pink grapefruit and guava in the nose and flavor. Peppery bitterness in the sip with a touch of lingering herbal hop sizzle."

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

Loc: Seattle



Lumen DDH Slice

87

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"DDH with Citra, Citra HyperBoost, Mosaic, Nelson."

What our reviewers thought:

"Inviting and moderately assertive swell of aromatics: citrus fruit punch with grapefruit taking charge and tropical fruit playing a supportive role. Tropical-fruit flavor over the palate atop a sweet, structured malt base with a zippy citrus note. Fresh and bright. Soothing, round tropical-fruit slam on the finish. Tightly structured."

What our editors thought:

"Orange and deep dried-flower notes in the aroma, earthier than expected. Gentle in the sip with very light sweet, and spicy hop flavors."

ABV: 6.4% **IBUs:** N/A

Loc: Omaha, NE



Old Thunder Tri-Clamp Bliss

91

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Brewed with wheat and oats. Hopped with Freestyle Hops' Nelson Sauvin Bliss."

What our reviewers thought:

"Punchy hop-salad aroma includes nectarine, orange pith, layers of tropical fruit, and a touch of dankness. Crisp orange-peel flavor hits the front of the palate with softer stone-fruit layers to the sides. Soft, smooth body. Soft, nuanced, semidry finish with tropical fruits peeking through and asking you to take another sip."

What our editors thought:

"Bright peach and pineapple with a mineral edge in the aroma. Round and peachy but very subtle in the flavor."

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

Loc: Pittsburgh



Prison City DDH Riot in Vermont

89

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 9

What the brewer says: "Nice balance between big tropical-juice notes and slight bitterness on the finish."

What our reviewers thought:

"Moderate tropical aromas of papaya and honeydew lead to a pleasantly sweet, light pilsner malt character. Moderate sweetness with a hint of spice. Moderate sweet and bitter followed by a balanced finish. Well made, balanced, and very pleasant."

What our editors thought:

"Round tropical floral aroma with green notes. Peppery tropical-fruit pith in the sip, with gentler guava and passion fruit."

ABV: 7.2% **IBUs:** N/A

Loc: Auburn, NY



LUKI Hop Juggling Hazy

90

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

What the brewer says:

"Featuring Taiheke, McKenzie, Krush. Grapefruit and citrus with a hint of pine."

What our reviewers thought:

"Aroma of orange peel, tangerine, light vanilla, pineapple, papaya, and a hint of minerality. Very juicy hop-forward flavor: passion fruit, light pineapple, orange, and mango. Hints of grass and light black pepper in the fruity and fairly refreshing finish. Very smooth and pleasant bitterness."

What our editors thought:

"Subdued aroma with light fruit edges. Clean tropical-fruit notes in the sip with a light peppery bitterness."

ABV: 6.8% **IBUs:** 21

Loc: Arvada, CO



Meanwhile Glitter & Doom

96

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

What the brewer says:

"We taste strawberry, marmalade, and peach."

What our reviewers thought:

"Jammy orange sweetness, peach, mango, and creamy pineapple on the nose; a hint of lime adds character. In the flavor, subtle lime sherbet drizzled with orange marmalade tempered by just a momentary bitter spike. Overall, this is a delicate hazy that showcases its fruit character."

What our editors thought:

"Airy and light aroma with subtle pineapple and orange. A bit of mineral bitterness, grilled pineapple, and glints of yuzu in the flavor, but the fullness is artfully balanced."

ABV: 7.2% **IBUs:** 40

Loc: Austin



Our Mutual Friend Neon Nail

86

AROMA: 9
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Hopped with T90 Citra, Cryo Citra, Galaxy, Vic Secret."

What our reviewers thought:

"Aroma is filled with overripe peach, mango, apricot, and a touch of lime. In the flavor, those stone-fruit notes, especially apricot, really shine. Just enough piney resinous hop qualities add a balancing bitterness to keep things in check. A very tasty and approachable hazy IPA that keeps the fruit forward."

What our editors thought:

"Curious green tropical fruit in the aroma, clean and bright. Chewier in the flavor, less defined with a general stone-fruit malt broadness."

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

Loc: Denver



Prison City HyperBoost Mass Riot

88

AROMA: 10
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Mosaic HyperBoost in the whirlpool and Citra HyperBoost in the dry hop for tropical notes."

What our reviewers thought:

"Raspberry jam, peach, guava, lime, orange, and pine on the nose. Orange Creamsicle on the tongue—smooth and sweetly creamy. Just enough bitterness to keep the sweetness at bay and the mouthfeel on the dry side."

What our editors thought:

"Spiced-peach and lemon aroma with fresher tropical fruit on the edge. Full papaya and guava in the flavor with a soft, semisweet body. Gently accessible with a mild bitterness."

ABV: 6.8% **IBUs:** N/A

Loc: Auburn, NY



Pure Project Experience Preferred But...

86

AROMA: 10
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Citrus and tropical notes from a blend of Riwaka, Citra Cryo, and a 50/50 mix of hand-selected Citra."

What our reviewers thought:

"Fresh pine boughs and orange pith and zest throughout. Fruity, piney flavor is moderate and smooth with no single flavor standing out. Pleasant and rounded. Well integrated throughout. Powerful and bright finish with a burst of citrus that melds into a lingering dryness."

What our editors thought:

"Lower-key overripe citrus in the aroma with a mineral back note. Sweet citrus in the sip with a latent funk."

ABV: 6.7% IBUs: N/A
Loc: San Diego



Ramblebine Boomstick

86

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Dank and peachy featuring Nectaron, Citra, HBC 1019 hops."

What our reviewers thought:

"Fruity aroma of pear, pineapple, lemon fruit and zest, and pine. Taste is bright citrus of lemons and limes with a touch of sweetness evoking Lemon Drop candy or limoncello. Smooth bitterness lingers pleasantly long into the finish that milds out with a hint of creaminess."

What our editors thought:

"Overripe melon and kiwi with a touch of lemon in the nose. Light but sweet in the flavor before the phase shifts into the gently tart, pithy finish."

ABV: 6.5% IBUs: N/A
Loc: Grand Junction, CO



Urbanrest Perpetual Fog

96

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

What the brewer says:

"Hopped and dry-hopped with Simcoe, Citra, Michigan Chinook."

What our reviewers thought:

"Layered aroma of juicy peach and apricot, candied pineapple, pear, maraschino cherries, and pithy orange. A lasting peach, lime, and orange blend seamlessly in the flavor against a thin backbone of bitterness that balances the sweetness and creates a nice dry finish."

What our editors thought:

"Buoyant and vivacious aroma with passion fruit and lychee. Incredibly smooth in the flavor with lighter pineapple juice. Remarkably restrained for a beer of its scale."

ABV: 7.5% IBUs: N/A
Loc: Ferndale, MI



Wren House Spellbinder

88

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

What the brewer says:

"Showcasing American hops. Bright citrus, tangerine, and peach flavors with a moderately dry finish."

What our reviewers thought:

"Muted aroma hints at pineapple, mango, cucumber, and lemon. The orange and pineapple flavor has a touch of dankness (legally required these days) and a light residual sweetness. Light green onion and grassy finish with almost no hop burn. Nice smooth bitterness."

What our editors thought:

"Bubbly passion fruit and honeydew melon in the aroma. Sweet melon with a fresh leafy note in the flavor."

ABV: 6.9% IBUs: N/A
Loc: Phoenix



Radiant Let Me Contemplate

94

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

What the brewer says:

"Mosaic, Strata, Galaxy, Simcoe. Aromas of jackfruit, mandarin, pineapple. Flavors of melon, guava, tangelo."

What our reviewers thought:

"Aroma of pineapple, grapefruit peel, light green onion, light biscuit. Smooth fruity flavor of grapefruit, guava, light mango, and hints of cedar. Slightly dank herbal hops host a more assertive bitterness. Quite enjoyable."

What our editors thought:

"Faint berry, melon, and hop cone just off the bine in the aroma, subtle and restrained. Fresh sweet tropical-fruit notes in the flavor with a green bitter backing. Bold and engaging."

ABV: 7% IBUs: N/A
Loc: Anaheim, CA



Russian River R&D Hazy IPA #54

94

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

What the brewer says:

"Brewed with Citra and Brewer's Gold. Notes of stone fruit, citrus, and currants."

What our reviewers thought:

"Pineapple, tangerine, lime peel, guava, pomelo, resin on the nose. The light malt body combines with a soft and lightly chalky mouthfeel to create a nice canvas to support the earthy, topical flavors the aroma promised."

What our editors thought:

"Juicy Fruit gum aroma, bold and enveloping, with a vague herbal note. Flavor follows with lean-sculpted pineapple and a touch of classic herbal spice."

ABV: 6.5% IBUs: N/A
Loc: Windsor, CA



Wallenpaupack Beer Garden Party

91

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

What the brewer says:

"Nectarone, Nelson Sauvin, Talus impart flavors of white grape skin, lime, pithy grapefruit, and dank tropical-fruit medley."

What our reviewers thought:

"Apple blossoms, orange, peach, crackers, and Meyer lemon on the nose. Pillowy soft and silky mouthfeel with flavors of grapefruit, orange, and pine. The fruitiness bounces off the tongue with a playful mix of a not-too-sweet/not-too-bitter balance."

What our editors thought:

"Pineapple and kiwi with a wet-slate note in the nose. Pithy tropical bitterness with yuzu and kiwi edges. Cohesive and restrained."

ABV: 6.5% IBUs: 50
Loc: Hawley, PA



Xul NZ State of Mind

89

AROMA: 10
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"With Nelson Sauvin, Rakau, Hop Revolution Blend topped off with Maui Nelson SubZero Hop Kief."

What our reviewers thought:

"Light orange, papaya, pineapple, snappy white cracker, and prosecco on the nose. Milky-sweet creaminess. Pithy, piney, citrus, and a hint of tropical fruits round out the plethora of flavors. Spritzy carbonation. Moderate bitterness, so it's not all fruit."

What our editors thought:

"Tight diesel aroma with passion fruit and white floral notes and a weighty mineral thrust. Airy tropical body with a firm petrol structure, surprisingly dry despite its fullness."

ABV: 6.8% IBUs: N/A
Loc: Knoxville, TN



TASTED: IMPERIAL HAZY IPA



Derive Super Basic

99

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

What the brewer says:

"DDH hazy DIPA brewed with Mosaic DynaBoost and dry-hopped with Mosaic, Citra, Citra Cryo."

What our reviewers thought:

"Zebra Stripe gum aroma with light dank pineapple, cantaloupe, fresh-squeezed mango juice, and light sweet malt. The flavor is a big bash of juicy fruity hops—sweet mango and candied orange—and light honey graininess. Bitterness dances in the mid-palate, then gives way to a quick sweet-tart finish. Well-hidden alcohol, very clean and fully intense in the DIPA tradition. Wonderfully complex yet balanced. Enjoyable drink."

What our editors thought:

"Passion-fruit and pineapple aroma notes are buttressed by lower mid-tone orange and peach, with a fresh tropical floral highlight. Expansive on the palate with a smoothie-like heft but cocktail-like precision, as gooseberry and lychee with a fresh herbal bitterness heighten contrast with the engaging fruit midtones."

ABV: 7.8% **IBUs:** 30

Loc: Columbus, OH

Alternate Ending Who's Next?

88

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

What the brewer says: "A single-hop DIPA brewed with Citra for notes of citrus, stone fruit, and honeydew."

What our reviewers thought:

"Sappy and bright aromas allow enough treble to cut through those bass notes. Very zippy in the mouth, which creates a high arch in the mid palate with a pithy bitter finish. Silky mouthfeel, moderate bitterness to balance, pleasant lingering sweetness."

What our editors thought:

"Override orange aroma with a bit of cardamom. Sweeter in the flavor with light bitterness that lets the rich orange push through."

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

Loc: Aberdeen, NJ



Bearded Brewer Scripted

96

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

What the brewer says:

"Hazy DIPA triple dry-hopped with Cryo Citra, Manilita, Nelson, Riwaka."

What our reviewers thought:

"Aroma of citrus and pine with some candied orange. Flavor is light mango, berry, and orange with pine and lemon notes in the finish, which leans bitter. A light citrus pithiness almost makes this like a West Coast hazy lemonade."

What our editors thought:

"Pungent sweet and sour lychee, tangerine, and guava aroma with a fresh tropical floral flair. Measured and metered on the palate as baseline stone fruit buttresses a gleaming gooseberry and herb crux."

ABV: 8.9% **IBUs:** N/A

Loc: Longmont, CO



Brotherhood Aliens vs. Cowboys

88

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

What the brewer says:

"Triple dry-hopped New England DIPA with Galaxy, El Dorado, Citra."

What our reviewers thought:

"Muted tropical fruits on the nose explode in the mouth: Bright orange mixed with mango and a minty herbal note. Orange sherbet lingers through the finish with alcohol standing in for hops to provide bitterness."

What our editors thought:

"Yuzu, mango, and a bit of allium in the aroma. Very sweet in the flavor with minimal bitterness and an undercurrent of locker-room funk."

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

Loc: Mokena, IL



Alvarado Street You've Got Skaze

91

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Hazy DIPA brewed in collaboration with our good friends at Green Cheek Beer."

What our reviewers thought:

"Aroma is candied citrus with grapefruit notes that emerge when roused. Flavor is nearly a screwdriver: intense orange juice with noticeable alcohol and notes of black pepper and herbal spice. Firm bitterness plays well with the malt sweetness."

What our editors thought:

"Guava and passion fruit with a fresh berry skin top note and a touch of coriander. Broadly sweet but structured and fruit-forward in the flavor, tight and focused despite its big body."

ABV: 8.5% **IBUs:** N/A

Loc: Monterey, CA



BreWskey Shaolin

88

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"DIPA with Motueka, Nelson Sauvin, Rakau."

What our reviewers thought:

"White peach, passion fruit, tangerine, and mango aroma. Flavor brings pineapple, passion fruit, and mango, with medium-low bitterness, medium-sweet malt, low floral alcohol, and a medium-dry finish. Medium-full body. Approachable."

What our editors thought:

"Chippy cannabis and orange in the aroma settle into sweet yet nimble herbal orangesicle in the sip, far more drinkable than its ABV suggests."

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

Loc: Montreal



Ever Grain Ectonaut

98

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

What the brewer says:

"Hazy DIPA featuring Peacharine."

What our reviewers thought:

"Aroma of pineapple, green tea, orange, pine, grapefruit-meets-cannabis. The sip has a nice dose of tropical fruit that is grounded by a firm earthy and piney note with some herbal, tea-like elements that emerge in the finish. Soft mouthfeel slowly dries out as the bitterness elevates into the lightly dry finish. Super-fresh, well-crafted haze."

What our editors thought:

"Powdery kiwi and nectarine aroma with a fleshy fullness. Mango and pineapple smoothie in flavor with a stalky structure that doesn't linger."

ABV: 8% **IBUs:** 25

Loc: Camp Hill, PA



Great Notion Super Ripe

93

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

What the brewer says:

"Hazy DIPA hopped with Citra."

What our reviewers thought:

"Flavors and aromas of nectarine, white peach, mango, pineapple, pear, and Honeycrisp apple. Finishes pleasantly dry and slightly acidic. Excellent balance and drinkability. Slightly scratchy bitterness lingers."

What our editors thought:

"Big passion-fruit and pineapple aroma with a bit of tropical floral buzz. Bold orange, yuzu, and lychee in the flavor braced by an invisible but omnipresent fruit bitterness. Sneakily structured, despite its sweetness."

ABV: 9.1% IBUs: N/A

Loc: Portland, OR



Green Cheek DDH The Other Brian

90

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

What the brewer says:

"DDH Hazy DIPA with Citra. Flavors of ripe mango, fresh-squeezed orange juice, pineapple candy."

What our reviewers thought:

"Big orange-zest and grapefruit-pith aroma and flavor, with hints of mango, ripe melon, and white pepper. Rich on the tongue with the alcohol kicking in immediately. Juicy semidry finish. Subtle pepper helps balance fruit sweetness."

What our editors thought:

"Sweaty and thick tropical nose with intense pineapple and passion fruit, and lighter lime highlights. Satisfying in the sip with jeweled and sparkling fruit tones."

ABV: 8.5% IBUs: N/A

Loc: Costa Mesa, CA



Haven Plant Science

90

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"New England DIPA full of white grape, peach, and mango flavors."

What our reviewers thought:

"Mango, strawberry, peach, white grapefruit, and guava in the aroma. Strawberry, pineapple, and mango in the flavor. Full-bodied with low bitterness and a medium-sweet finish. Medium carbonation."

What our editors thought:

"Sweaty overripe tropical aroma with light earthy notes and a bit of forest floor. Big orange and tangerine in the sip with very light bitterness that lets the fruit soak in."

ABV: 7.8% IBUs: 25

Loc: Hamden, CT



Living Waters Nymph

88

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 4
OVERALL: 8

"New England-style IPA with Galaxy, Citra, Mosaic, Chinook, Centennial."

What our reviewers thought:

"On the nose, orange juice with lavender, grape, light pine, peach, and a touch of grapefruit in the background. Fruity on the tongue with peach, lavender, and grapefruit again and lightly dank pine. Firm but smooth bitter backbone. Bitterness lingers pleasantly. Alcohol is evident, but well integrated with the other flavor components."

What our editors thought:

"Ranging nose with grape, fennel, pansies, nectarine. Bold flavor with a blocky bitterness and a slightly vegetal reverberation."

ABV: 7.8% IBUs: N/A

Loc: Nashville, TN



Great Notion Synesthesia

91

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Hazy DIPA hopped with Citra, Nelson, Motueka, Phantasm."

What our reviewers thought:

"Slightly dank, ripe pineapple nose. Straight orange-juice flavor up front, moving into pineapple in the middle. Watermelon and green melons as it warms. Semisweet and dry finish."

What our editors thought:

"Guava jelly on toast in the aroma with a woody back note. Wide yet only semisweet in the sip, with drying earthy touches against the bigger tropical fruit."

ABV: 8.3% IBUs: N/A

Loc: Portland, OR



Guggman Haus Citra Single Hop

88

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Hazy DIPA hopped with our new hand-selected Citra lot."

What our reviewers thought:

"Prominent floral (lavender and rose) and dank aroma, with notes of alcohol and grapefruit. Generally fruity flavor of grapefruit and tropical undertones of coconut and guava. Tropical juice throughout. A well-balanced beer in which smooth alcohol supports the hop flavors and smooth bitterness."

What our editors thought:

"Dusty citrus-blossom aroma with a touch of jasmine and dragon fruit. Chalky body with significant sweetness and a light spicy bitterness behind."

ABV: 8.2% IBUs: N/A

Loc: Indianapolis



Kros Strain Same Page

86

AROMA: 12
APPEARANCE: 3
FLAVOR: 16
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Hazy DIPA dry-hopped with Citra Cryo, Rakau, Nelson Sauvin."

What our reviewers thought:

"Aroma is a nice balance of orange, lemon, tangerine, passion fruit, green tea, pine, and a hint of onion in the background. Strong green onion-like notes in the flavor initially, but more subtle tropical-fruit and pine flavors emerge. Finish is distinctly bitter, which is accentuated by the minimal softness in the mouthfeel."

What our editors thought:

"Mango, tamarind, and pineapple aroma with a creamy cohesion. Spicier minty herbal bitterness provides a sharp contrast to the sweet body."

ABV: 8.5% IBUs: 24

Loc: LaVista, NE



Lumberbeard Dreams Get Brewed

89

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Hazy DIPA with Idaho 7, Citra, Mosaic, Idaho 7 Cryo."

What our reviewers thought:

"Big herbal nose of parsnip and pepper with ginger and berry. Spicy herbal flavor follows with more green herbs, a touch of garlic and onion, Key lime zest, and green apple. Surprisingly dry, boldly bitter. Well-hidden alcohol strength."

What our editors thought:

"Spicy aroma with an earthy white pepper-beet note, a touch of waffle cone, and over-ripe passion fruit. Lanky and stretched out in the flavor with a gritty pith bitterness, some pink guava and Szechuan pepper, and a lingering chalkiness."

ABV: 8.7% IBUs: 22

Loc: Spokane, WA



Maplewood Methode Haze

90

AROMA: 10
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 10

What the brewer says: "DIPA double dry-hopped with Citra and Meridian. A tropical juice bomb."

What our reviewers thought: "Valencia orange and tangerine pith on the nose. A deep, sweet orange profile leads the flavor, followed by a sharp white grape, pithy grapefruit, and soft white peach as it warms. Well-hidden alcohol strength. Finishes very dry with a candied tangerine sweetness."

What our editors thought: "Big peach tones on first swirl, but guava and mineral voices join the chorus as it sits. Sharper acidity highlights the tart edge of tropical, but the chalky body boosts the pithy bitterness in the coda."

ABV: 8% **IBUs:** 35
Loc: Chicago



Moontown Anni VII

89

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

What the brewer says: "Hazy DIPA with Citra, Riwaka, Krush, Incognito, Nelson Sauvin, Pacific Sunrise."

What our reviewers thought: "Huge hit of tropical-juice aroma: pineapple, orange, grapefruit with a note of strawberry. Full body with oozing citrus flavors. Slight hop burn at the back of the palate. Sweet and zesty finish. Smooth alcohol is evident. Indulgent and enjoyable."

What our editors thought: "Murkier appearance with more color. Strong papaya and guava nose. Pulpy flavor with a pithy bitterness that constrains the sweetness."

ABV: 8.5% **IBUs:** N/A
Loc: Whitestown, IN



Parish Super Nova

90

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"DIPA with Mosaic, Simcoe, Cascade, Amarillo adding notes of passion fruit and peach."

What our reviewers thought: "Aroma of lime zest, pine resin, white pepper, and some light onion. Coconut, light, not-quite-ripe pineapple, and earthy flavors are bit muted at first but come through on the back end. Bitterness is served more by the alcohol than hops."

What our editors thought: "Papaya and yuzu aroma with a green floral freshness. Full spectrum fruit in the sip with a gentle but present bitterness that lingers in the drying finish."

ABV: 8% **IBUs:** N/A
Loc: Broussard, LA



Roses by the Stairs Self-Titled

94

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Hazy DIPA. Notes of vanilla, fresh papaya, melon."

What our reviewers thought: "Big Starburst Melon aroma leading into grapefruit. Medium bitterness and a touch of alcohol sweetness before going into candy orange, grapefruit, pink Starburst, lemon. Classic navel orange as it warms. Drinks very flavor-forward yet balanced."

What our editors thought: "Passion fruit and mandarin in the nose with a refined but chunky, fleshy fullness. Oily and thick in the sip, but the lighter tropical fruit draws an accessible highlight through the murky citrus layers."

ABV: 8.4% **IBUs:** 25
Loc: Phoenix



Moonraker Whole Lotta Grass

94

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

What the brewer says: "DIPA with Strata and Citra."

What our reviewers thought: "Nose is a blend of orange peel, passion fruit, and lemon with earthy pine and garlic. The pleasantly soft mouthfeel draws you into the gentle bitter notes of candied orange, pine, and herbal tea, and that softness pleasantly tempers the bitterness in the finish."

What our editors thought: "Lurid greenish gold color. Open and reserved aroma with very light pineapple and dank echoes that become sustained upper-midtone notes in the sip. Nimble despite the significant strength."

ABV: 8.5% **IBUs:** N/A
Loc: Auburn, CA



Outer Range In the Deep Steep

91

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

What the brewer says:

"Hops: Citra, Mosaic, Galaxy. Tasting Notes: grapefruit, peach, mango."

What our reviewers thought: "Up front, pine and ripe papaya that lean a bit toward 'sweaty.' Some pithy citrus notes followed by a subtle spicy spruce flavor. Love the body—chewy, smooth, and silky. Moderate sweetness with an equally matched bitterness throughout. Bittersweet finish."

What our editors thought: "Boldly aromatic with peach and yuzu notes that carry through with a plush, then taut, feel in the flavor. Thoughtfully structured. Not too sweet, with a finishing lift."

ABV: 9% **IBUs:** N/A
Loc: Frisco, CO



Pure Project Double Dust

97

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

What the brewer says:

"Easy-drinking juice bomb with Mosaic and Cashmere."

What our reviewers thought: "Spicy and minty aroma with sappy pine, citrus, and blueberry notes. Candied melon and papaya flavors. Creamy body. Enough bitterness on the finish to add structure. Full-bodied and bittersweet. Silky."

What our editors thought: "Angular aroma with off-axis planes of papaya, mango, and passion fruit with a fresh tropical floral edge. Sweet yet controlled in the flavor, with luscious and luxurious green tropical-fruit tones that play against the light pithy bitterness. Indulgent without the indulgence."

ABV: 8.7% **IBUs:** N/A
Loc: San Diego



Second Dawn Epic House Party Vol. 2

89

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

What the brewer says:

"Anniversary IPA. DDH with Krush, Idaho 7, Citra, Mosaic."

What our reviewers thought: "Sweaty, zesty, orange-smoothie aroma. Lime, coconut, banana, honey-glazed resinous pineapple flavors, with a moderately soft mouthfeel. Creamy body. Finishes with rich dessert flavors without being cloying. Somewhat aggressive alcohol note, not harsh, just lets you know it's there."

What our editors thought: "Attractive Peach Ring aroma with a light fresh edge. Deeper tropical fruit in the flavor—papaya, lychee, lime zest—but the off-dry body maintains a refined rigor."

ABV: 8.6% **IBUs:** 35
Loc: Aurora, CO



Shred Juice Master

92

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

What the brewer says:

"Hazy DIPA with Citra, Nelson, Mosaic. Orange sorbet, Fruity Pebbles, Kiwi Gushers."

What our reviewers thought:

"Green papaya, Key lime, low tangerine, and sweaty dankness aromas. Flavors of Meyer lemon, shiso leaf, lemongrass, tangerine, and mango. Medium-low bitterness. Slightly acidic finish has a distinct mineral profile. Alcohol is well disguised."

What our editors thought:

"Subtle peach in the aroma with a bright fern forest and tropical floral gleam. Concise and driving flavor brings passion fruit with a demi-sec body built for repetition, not indulgence."

ABV: 8.2% **IBUs:** N/A
Loc: Rocklin, CA



Tin Barn Juice Beast

87

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 8

What the brewer says:

"Hazy New England-style DIPA with Citra, Nectarone, Mosaic."

What our reviewers thought:

"Aroma of mango, citrus, herbs, and malty alcohol. The flavor is candied tangerines, peppery mango, and light cereal, with some herbal lemon zest in the finish. The aftertaste is orange juice and strong booze. Definitely a slower sipper."

What our editors thought:

"Big orange and mango aroma with hints of woody orange blossom and leaf. Broad and sweet in the flavor with a very light pith bitterness that cleans up the finish."

ABV: 8.5% **IBUs:** N/A
Loc: Chester, NY



Vitamin Sea Kiss and Spell

88

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 8

What the brewer says:

"Hazy DIPA that's hopped with Motueka and Nelson Sauvignon."

What our reviewers thought:

"Fresh bright aromas and flavors of orange, papaya, mango, and a hint of pleasant floral earthiness. Intriguing and delightful hop combination. Sweet up front on the finish but evolves into a dry and bitter ending."

What our editors thought:

"Strawberry cucumber aroma with a touch of stone fruit. Sweet in the sip but sulfur adds a funky edge."

ABV: 8% **IBUs:** N/A
Loc: Weymouth, MA



TASTED: SPECIALTY IPA



Fonta Flora Beets, Rhymes, and Life

92

AROMA: 10
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "A West Coast-style IPA aged on local beets and dry hopped with Mosaic and Strata."

What our reviewers thought:

"Beautiful ruby jewel color. Floral, sweet earthiness on the nose with a hint of ripe-cherry sweetness underneath. The hop profile in the flavor is piney and classic West Coast. Just a hint of beet sweetness on the tip of the tongue that quickly vanishes before the hoppy bitterness takes over and reminds you that you're drinking an IPA. A generous malt character keeps the beer's sweetness in line and the overall drinkability balanced."

What our editors thought:

"Earthy vinous aroma with a sculpted sweeter beet expression. Full in the sip, semidry, with lighter bitterness, while the beets provide an almost grape-skin tannic spiciness."

ABV: 7% **IBUs:** N/A
Loc: Nebo, NC

Templin Family Corduroy IPA

95

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

What the brewer says:

"Brewed with Mosaic and Strata. Smooth and creamy. Notes of tangerine, pineapple, and Smarties candy."

What our reviewers thought:

"Rich tropical, citrus, and stone-fruit. A touch of blueberry. Silky smooth body with a wheat-beer-like spiciness. Some warming alcohol notes add structure to the finish without needing much bitterness. Smooth, subtle, well crafted."

What our editors thought:

"Brightly defined tangerine and pineapple aroma and flavor with a light bitterness that disappears into shimmering fruit."

ABV: 7.7% **IBUs:** N/A
Loc: Salt Lake City



Tin Barn Queen Citra-Coleman Edition

97

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

What the brewer says: "New England-style TIPA hopped only with our newest selected hops from Coleman Farms."

What our reviewers thought:

"Subtropical meets tropical, with a bold combination of fleshy fruits, overripe bananas, and melons. Citrus is understated. Fleshy fruits are almost too balanced to pick out individual flavors to describe."

What our editors thought:

"Bubbly intense aroma with overripe mango and orange, a hint of pumpkin, and a clean tropical floral edge. Thick and sweet in the sip with plodding tropical notes, lighter lychee highlights, and a fresh herbal lift."

ABV: 9.3% **IBUs:** N/A
Loc: Chester, NY



Xul Lost to History

92

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

What the brewer says:

"DIPA with Citra, Motueka, Nelson. Bronze-medal winner at 2023 World Beer Cup."

What our reviewers thought:

"Resonant aromas of pineapple, mango, grapefruit, stone fruit, and pine. Bursting with vibrant tropical-fruit flavors with some citrus notes on top. Elegant malt base. Round, tight, and well-integrated finish with enough sweetness to balance the lingering bitterness."

What our editors thought:

"Peachy and tropical floral aroma with a fresh edge. Chewy in the sip, with a soft full texture, significant sweetness, toned-down fruit, and a light pithy bitterness."

ABV: 8.3% **IBUs:** N/A
Loc: Knoxville, TN





Open Air Solar Storm

92 AROMA: 12
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "An IPA base made with budo sansho, an herb grown only in a small rural town near Wakayama, Japan."

What our reviewers thought: "Aromatics are that of lemon peel, lime juice, Szechuan pepper, lemon-grass, and a slight singe of the nostrils. Taste is like a bright lemonade with a leftover touch of heat that tickles the back of the nostrils. Soft elegant body. Light carbonation. Balanced mouthfeel. Citrus hops play a complementary role. I want to pair this with something like sweet-and-sour chicken with pineapple. Well worth seeking out."

What our editors thought: "Tangerine, lychee, and lemon aroma with a pungent citrus punch and just a touch of zesty spice. Soft and citrusy in the sip with a plush body that stops short of sweet. Light peppery bitterness."

ABV: 6.5% **IBUs:** 46
Loc: Kobe, Japan

Firestone Walker Wookey Jack

91 AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "Includes pearled dark malts and rye. Dry hopped with Citra and Amarillo."

What our reviewers thought: "Classic West Coast hop aroma of grapefruit, orange peel, and pine. Sip follows the aroma. Dank, resinous bitterness carries through to the sip. Roast, chocolate, and coffee malt emerge in the finish, providing a counterpoint to the lingering bitterness."

What our editors thought: "Gorgeous spiced aroma as the hops and malt converge, deeply herbal with just a touch of roast. Buoyant in the flavor with lifting bright citrus and herbal spice over a dry light chocolate base."

ABV: 8.3% **IBUs:** 70
Loc: Paso Robles, CA



Jester King Juiceship

86 AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 4
OVERALL: 9

What the brewer says: "Hazy IPA chilled in a coolship, refermented with peach, orange, and pineapple."

What our reviewers thought: "Peach, peach skins, and a touch of funk at the outset. Tropical fruits, multiple interpretations of pineapple, black pepper, roses, black currant. Tartness and bitterness blend seamlessly."

What our editors thought: "Vivid aroma with strong pineapple, a touch of stone fruit, and a very light but complementary acetic-acid echo. Pineapple takes on a woody, charred bitterness in the sip with minimal acidity."

ABV: 6.8% **IBUs:** N/A
Loc: Austin



Roadhouse The Walrus

88 AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 4
OVERALL: 9

What the brewer says: "Hazy IPA with late-addition hops, a heavy dry hop, and Peach Sky-farms."

What our reviewers thought: "Aroma is hoppy and fruity: resin, papaya, white wine, peaches, and melon. Tempered by citrus, hinting at a bit of tartness in the mouth. Full bodied, with a grainy, bready sweetness that is quickly swept away with firm bitterness."

What our editors thought: "Big peach and passion-fruit aroma with subtle green and yellow tropical highlights. Remarkably well edited in the flavor, lean with subtle peach and a thorough but rounded mineral bitterness."

ABV: 8.3% **IBUs:** N/A
Loc: Jackson Hole, WY



Great Lakes Juicy Vibacious Double IPA

91 AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 10

What the brewer says:

"Good vibes and delicious interwine in every sip of this extra-juicy DIPA."

What our reviewers thought: "Delightful aroma of orange jellybeans—a really good *one note*. Orange continues through the flavor. Multilayered, like biting into a freshly peeled slice, then going back to the peel. Bready malt flavors support citrus/hoppy character. Not particularly bitter. Warming alcohol presence."

What our editors thought: "Strong citrus tones in the aroma with a candied edge. Gentle earthy citrus in the sip. Almost no bitterness, but the strong fruit-zest notes impart a fruit cola-like character."

ABV: 9.5% **IBUs:** 40
Loc: Cleveland



Off Square Pink Cowbell

86 AROMA: 12
APPEARANCE: 2
FLAVOR: 17
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Milkshake IPA with lactose, vanilla beans, and strawberry puree."

What our reviewers thought: "Tons of red fruit on the nose: strawberries, currants, raspberries. And whipped cream? Taste confirms the whipped cream but adds vanilla to the juicy strawberry-puree flavor. Enough bitterness and a touch of graininess remind you that it is actually a beer."

What our editors thought: "Intense strawberry-candy aroma with bold vanilla. Less sweet than expected in the flavor, with a gentle herbal bitterness."

ABV: 6.7% **IBUs:** 40
Loc: Crown Point, IN



Two Roads Road 2 Ruin Zero

88 AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 8

What the brewer says:

"Nonalcoholic version of Road 2 Ruin. Crafted with the same temptingly hoppy character."

What our reviewers thought: "Punchy hop aroma of tropical fruit with guava alongside fruity strawberry and light lemon. Low floral notes and light cracker malt complement. Firm bitterness. A fine IPA."

What our editors thought: "Soft floral and citrus-tea note in the aroma with a round recently kilned hop tone. Assertively bitter in flavor with a reasonably full body that deftly balances. A nonalcoholic beer for those not afraid of bitterness."

ABV: 0.5% **IBUs:** N/A
Loc: Stratford, CT





Pinthouse Gold Steps

99

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

What the brewer says:

"Bright, expressive hazy pale ale that highlights the best of New Zealand hops with layers of sauvignon blanc grape must, sweet sensimilla, and dank strawberries. Crisp with a smooth finish."

What our reviewers thought:

"Bright, spicy, tropical nose followed by a mouthwatering orange-pineapple juice and coconut flavor. Very distinctive hop character. Soft malt body with a lingering chewiness. Mouthfeel leaves a soft, great-tasting celebration of hops and a longing for another gulp."

What our editors thought:

"Pale hazy body. Aroma captures the striking note of fresh hops just pulled from the bine with lemon, tangerine, a bit of zucchini, tropical floral, some red currant, and an overwhelming freshness. Zippy in the flavor with a peppery, pithy tropical bitterness, medium carbonation, and just enough body to support the hops. As drinkable as hazy pale ale gets while delivering gorgeously expressive hops."

ABV: 4.6% **IBUs:** N/A

Loc: Austin

Black Spruce Sky Juice

86

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 4
OVERALL: 8

What the brewer says:

"New Zealand pale ale with Riwaka, Motueka, and Motueka terpenes."

What our reviewers thought:

"Fruity aroma of tree fruits, white grapes, mango, and lemon zest. Dank. Grainy, biscuit malt flavor with light citrus notes and a touch of grass. Light body and mouthfeel. Super-clean. Restrained bitterness."

What our editors thought:

"Sweet-and-sour sauce in the aroma with a range of citrus from orange to lychee. Incredibly light body feels underpowered with the strong hop load."

ABV: 4.5% **IBUs:** N/A

Loc: Fairbanks, AK



Full Frame Beer Obscura

98

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

What the brewer says:

"Notes of citrus, guava, pineapple, passion fruit. Low bitterness."

What our reviewers thought:

"Grainy malt aroma with melon, apricot, and pineapple hops. Straw grain malt flavor with notes of white grape, melon, strawberry, apricot. Crisp, dry finish accentuates the hops."

What our editors thought:

"Bright yuzu and lychee aroma with an earthy makrut lime note. Incredibly light body, pillowy and buoyant with gorgeous integrated bitterness tucked right into the seamless tropical citrus. Weightless, natural, and tightly refined."

ABV: 5.4% **IBUs:** 30

Loc: Denver



Green Cheek Josh's New Tiny Shoes

93

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

What the brewer says:

"Small IPA with just the right amount of body and all the hoppy vibes of fresh mandarin zest and pineapple spears."

What our reviewers thought:

"Vibrant and spicy. Big tropical aromas combined with herbaceous hop aromas. Starts off bright and finishes with a lively effervescence. Light, clean, and crisp but with a surprising depth of hop character. Pleasantly bitter. Super-refreshing, fantastic hot-weather beer."

What our editors thought:

"Fresh mango and passion fruit in the aroma with a bit of thiol twang. Crisp with light lychee in the sip, spritely in its bounce."

ABV: 4.8% **IBUs:** N/A

Loc: Orange, CA



Fort George Design Trends

86

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 8

What the brewer says: "Light West Coast pale ale with Nelson, Vista, Columbus, and Columbus Cryo."

What our reviewers thought:

"Initial onion and garlic hops with some twiggy-earthiness. Herbal and slightly diesel. Big crackery malt backbone. Medium residual malt sweetness. Restrained hop bitterness but lingering dank hops with garlic and onion. Pillowy mouthfeel. Dry finish."

What our editors thought:

"Lightly perfumed aroma with soft floral notes and just a hint of citrus. Modern and lean in the flavor with a firm bitterness that bullies the skinny body."

ABV: 5.5% **IBUs:** N/A

Loc: Astoria, OR



Ghostfish Vanishing Point

91

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says: "Pale ale with biscuity, toffee, sweet malt contribution and stone fruit-dominant hop flavor."

What our reviewers thought:

"Sweet fruit on the nose reminiscent of orange marmalade. Mostly neutral malt with low-toast and a sweet malt backbone. Medium-high berry hops (blueberry, red berry) with medium-high hop bitterness. Very low graham-cracker malt flavor. Dry finish with some lingering hop spiciness."

What our editors thought:

"Chewy, malt-forward aroma with orange edges. Firm bitterness in the flavor, but it scrubs quickly despite the overall light body."

ABV: 5.3% **IBUs:** 45

Loc: Seattle



Hopewell Outside Voice

93

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

What the brewer says:

"Extra pale ale with notes of dank tropical fruit and an undercurrent of citrus zest and piney bitterness."

What our reviewers thought:

"A pleasant hit of diesel on the nose with a light tangerine behind. Moderate bitterness up front with a big grapefruit hop charge, followed by a slightly rounded body. Dry without being harsh. Light-bodied. Effervescent carbonation."

What our editors thought:

"Herbal-tinged mango and papaya in the aroma with a light hit of green banana. Lean and peppery in the sip with a very brief bitterness."

ABV: 4.8% **IBUs:** N/A

Loc: Chicago



Lumen Wisp

97

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

What the brewer says:

"2024 GABF medal-winning hazy pale ale hopped with Citra, Riwaka, HBC 1019."

What our reviewers thought:

"Orange juice and Fruit Stripe gum in the aroma; the orange juice becomes the main player in the flavor. Full mouthfeel. A firm but soft bitterness helps dry the finish. A fresh-juice flavor lingers in the aftertaste."

What our editors thought:

"Evocative nose with finely grained tangerine, papaya, and passion fruit. Soft, silky, confident, but restrained in the flavor, as the fruit flavors find just the right amount of body without sweetness."

ABV: 5.2% **IBUs:** 30

Loc: Omaha, NE



Narrow Gauge DDH Sparkle Motion

92

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Hazy pale ale double dry-hopped with Galaxy and Citra."

What our reviewers thought:

"Pineapple hop aroma is very prominent. Some lemongrass. Juicy. Medium juicy pineapple and soft lemon-candy hop flavor. Medium-low hop bitterness; low cracker malt with some balancing residual sweetness. Dry finish with medium carbonation, sufficient for the hops to pop off the palate."

What our editors thought:

"High-key guava and kiwi with a lychee burst in the aroma. Lighter body defies its visual weight, dry with a tropical bitterness and lean but expressive fruit."

ABV: 6% **IBUs:** 30

Loc: Florissant, MO



Sunriver Rippin

87

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Award-winning strong pale ale with ripe tropical fruit, freshly squeezed citrus, resinous pine. Clean, crisp, hoppy finish, with a restrained bitterness."

What our reviewers thought:

"Citrus and tropical aromas are subtle on the nose. Clean toasted-malt character leads to a fairly bitter finish where most of the hop complexity lingers. Reminiscent of a hop-forward American lager."

What our editors thought:

"Very light aroma with faint berry and melon notes. Cleanly structured in the sip with light mineral bitterness."

ABV: 6% **IBUs:** 50

Loc: Sunriver, OR



Vail Pete's Stash Pale Ale

94

AROMA: 11
APPEARANCE: 3
FLAVOR: 20
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Crisp and clean hoppy pale ale."

What our reviewers thought:

"Fragrant fresh soft floral with black pepper backed by lightly toasted bread. Delicate, nuanced light lemon, spice, and pine. Zippy citrus notes on the palate with a sweet malt base. Lightly toasted malt provides balance. Finish is fairly dry but soft, with a touch of citrus hops and lingering bitterness."

What our editors thought:

"Updated classic nose with fresh orange and forest. Tightly integrated sip, refined and cohesive but defined and direct."

ABV: 6% **IBUs:** 40

Loc: Vail, CO



Maplewood Crushinator

90

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

What the brewer says: "In this session IPA, Simcoe and Azacca hops provide tropical and pine flavors, backed by a touch of fruit from El Dorado hops."

What our reviewers thought:

"Strong hop-forward aroma: grapefruit, orange, lemon, resin, hint of diesel. Soft grainy sweetness. Soft breadly flavor. Grapefruit and soft mango hop flavors dominate. Finish is strongly black pepper, with a prominent bitterness."

What our editors thought:

"Overripe pineapple aroma with a lightly sweaty back note. Spicy in the sip with a tropical fruit-pith punch."

ABV: 4.5% **IBUs:** 32

Loc: Chicago



Oskar Blues Dale's Easy IPA

93

AROMA: 12
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Session IPA. Aroma of tropical and citrus notes. Light bitterness and effervescent mouthfeel. Finishes clean, dry, and refreshing."

What our reviewers thought:

"Aroma features peach, pineapple, a touch of pine, hints of white bread. Flavor features the same cast, well blended to provide a pleasant fruity hop taste. A nice hint of lemongrass lingers in the finish."

What our editors thought:

"Light terpene-driven aroma with a pleasant dank note, light pineapple, and a touch of peachy malt. Light but reasonably full in flavor, cleverly balanced with mild bitterness that rolls in softly."

ABV: 4.9% **IBUs:** N/A

Loc: Longmont, CO



Tenma Onward from Yesterday

92

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

What the brewer says: "New Zealand-style pale ale brewed with Nelson, Riwaka, and Nectaron."

What our reviewers thought:

"Tropical from the outset. Papaya, fresh-cut melon, pleasant hint of lemon in the aroma with light grainy malt notes. Subdued malt flavor accompanies lemony hops. Semidry finish with effervescent carbonation. Earthy notes linger on the tongue."

What our editors thought:

"Fresh white floral nose with a touch of lychee and mineral back notes. Bright and crisp in the flavor, almost brut, with a scaled light bitterness that pushes contrast with the tropical tinges. Light and effortless."

ABV: 5.8% **IBUs:** 45

Loc: Oakland, CA



West Sixth Pennyrile Pale Ale

86

AROMA: 10
APPEARANCE: 3
FLAVOR: 19
MOUTHFEEL: 4
OVERALL: 9

What the brewer says: "Pale ale with a big fruity hop aroma and a taste that follows suit."

What our reviewers thought:

"Whiffs of orange, light pine, toast, and light caramel. Additional floral notes add complexity and interest. Malt-forward over the palate with bread notes and underlying hop notes of grapefruit and pine. Medium body balances the substantial bitterness."

What our editors thought:

"Light grain and faint orange in the nose. Brighter citrus in the sip, but the spicy spruce bitterness throws off the balance."

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

Loc: Lexington, KY



TASTED: COLD IPA



Cerebral Access Request

99

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

What the brewer says:

"Hopped with Amarillo, Mosaic, Krush, Krush Cryo, Riwaka."

What our reviewers thought:

"Powerfully dank aroma with green mint and a subtle blueberry-and-papaya undertone. More than a hint of cannabis. Just a smidge of honey-tinged maltiness gives a toehold for the complex hop flavors of herbs, lemon, pineapple, dank green, floral tea to shine. Rich malt, but no fermentation fruitiness. Finishes dry but still somehow leaves an impression of lemon Pixy Stix."

What our editors thought:

"Stunningly simple but compelling aroma with kiwi, passion fruit, honeydew melon, and a bit of pineapple, with a lively green-tea herbal thrust. Tropical fruit carries through in the flavor with a light mineral undertone, lively and nimble, with a fast fruity finish. Trim and modern with generational appeal."

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

Loc: Denver

Discourse Walkin' on Metcalf

97

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

What the brewer says:

"Brewed with jasmine rice. Dry-hopped with Mosaic and Simcoe."

What our reviewers thought:

"Bright combination of pine and topical fruit. Wisp of passion fruit. Wonder Bread grainy but not sweet, with a hefty bitterness. Light-bodied. Hop notes of lemon, orange marmalade, and herbs. Impressive how it holds all that aroma and flavor on such a lean base."

What our editors thought:

"Classic orange notes ground aromatic modern tropical-floral highlights. Extremely pale body supports the firm hop notes with a tea-like verve. Focused and simple yet deeply engaging."

ABV: 6.6% **IBUs:** 43

Loc: Overland Park, KS



Live Oak Death Putt

90

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Brewed to be the ultimate thirst-quencher, with classic and new Polish, German, and American hops."

What our reviewers thought:

"Delicious nose of marjoram, mango, and pears. Clean, rich mouthfeel of Hawaiian bread, white pepper, grapefruit, and pineapple. Touch of malt sweetness. Great bitter balance. A noticeable but pleasant alcohol note. Enjoyable."

What our editors thought:

"Darker purple floral notes with a touch of dried orange skin and just a hint of fresh lime. Boldly floral Noble hop flavor, ratcheted up in intensity and bitterness. Unusual yet intriguing."

ABV: 5% **IBUs:** 50

Loc: Del Valle, TX



Public Offering Ridin' Piggy Back

88

AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Galaxy, NZ Cascade, Riwaka, Idaho 7 Cryo hops."

What our reviewers thought:

"Herbal nose of spicy oregano and wheat bread followed by red berries, tropical notes. Tasting, the beer brings black pepper, white tea, and mint. A clean lager-like finish. Moderate bitterness."

What our editors thought:

"Herbal tangerine, papaya, slight diesel fuel, and kiwi fruit in the nose. Dry and direct in the flavor with a peppery pith bitterness highlighted by green fruit."

ABV: 6.4% **IBUs:** N/A

Loc: Denver



Hazel Grove Nippy B

88

AROMA: 11
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Cold IPA brewed with Mosaic, Simcoe, and Strata hops."

What our reviewers thought:

"Aroma of cantaloupe, white bread, and citrus with a pleasantly spicy note. More citrus in the mouth, with a touch of fermentation fruitiness. Pleasant, complementary bitterness. Ultra-clean yeast profile with no noticeable alcohol presence. Great beer, but could do with a bit more hop character."

What our editors thought:

"Gentle dried-flower bouquet with subtle tea-like notes that ramp up in the flavor to give it an almost German IPA feel."

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

Loc: Pittsburgh



Pax Verum Tremendously Chill

88

AROMA: 10
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Brewed with Idaho 7, Citra, and Simcoe. Finished with Gelato BrewGas."

What our reviewers thought:

"Surprisingly tart aroma of Lemon-head, white wine, and lilac, and a very slight solvent note. Lemon-line tartness in the mouth. Jasmine, white tea, berries, bubble gum, and grass stand on an angel-food-cake-like malt foundation. Full-bodied with a low bitterness for an IPA."

What our editors thought:

"Massive aroma with huge, dank lemon notes that carry through into the flavor with a weedy edge. Citrus heightens the perception of acidity for additional punch."

ABV: 7% **IBUs:** 40

Loc: Lapel, IN



Shred Zero Degrees

87

AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 4
OVERALL: 9

What the brewer says:

"Mosaic and Mosaic Cryo hops bring flavors and aromas of blueberry fields, mango, top-shelf herb."

What our reviewers thought:

"Bold hops in the nose: oregano, pine, orange and lemon zest, fresh tropical fruit. More subtle fruits in the mouth: tropical, papaya, touch of coconut. Medium bitterness, light body, and low carbonation."

What our editors thought:

"Peach, melon, and a light fennel back note provide a fresh intensity in the aroma. Balanced fruit notes and graphite in the flavor, honed with a clean attack and quick release."

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

Loc: Rocklin, CA



TASTED: IPA (HAZY TRIPLE)



Ever Grain Me Woolly Jumper

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

What the brewer says:

"Large amounts of dry hopping with hand-selected varieties add dense flavors of mango, guava, boozy citrus, and a superbly soft body."

What our reviewers thought:

"Intense aroma of Italian basil, mint, limoncello, citrus, and stone fruit, beautifully balanced. Floral touches and a hint of vanilla. Big, full body recalling challah bread and equally complex in the mouth, with herby, dank flavors along with the fruitiness of peaches, pears, and mangoes. Finishes sweet but with a lingering hoppiness."

What our editors thought:

"Pawpaw, mango, orange blossom, and cantaloupe in the aroma with a floral thrust. Bigger oily orange notes in the flavor, saturated with melon rind grounding."

ABV: 10.5% **IBUs:** 30

Loc: Camp Hill, PA

BreWskey Triple Cépage

87 AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 4
OVERALL: 8

What the brewer says:

"Sauvignon Blanc grape must and Waimea, Riwaka, Citra hops."

What our reviewers thought:

"Rich and earthy on the nose: orange pith, freshly sliced fruit, honeydew melon, and pineapple. Finishes semisweet with flavors of sweet tangerine, honeydew melon, and mint. Medium-bodied mouthfeel. Alcohol is obvious on the tongue."

What our editors thought:

"Cooked berries with minty spice in the aroma. Sweeter peach in the sip overwhelms the mild bitterness. Saturated with just a bit of minty edge."

ABV: 10.7% **IBUs:** N/A

Loc: Montreal



Hop Butcher for the World Peak Peacharine

87 AROMA: 12
APPEARANCE: 3
FLAVOR: 17
MOUTHFEEL: 5
OVERALL: 7

What the brewer says:

"Peacharine-hopped triple IPA."

What our reviewers thought:

"The aroma doesn't jump out of the glass but is still prominent with rose, pine, and a white-pepper spice. Combined, the aroma is borderline medicinal. No evidence of that in the flavor as rich orange with peach and pleasant rose notes dominate. Soft, creamy luxuriant mouthfeel reminiscent of Creamsicle treats."

What our editors thought:

"Restrained aroma with a bit of gooseberry and white pepper. Broader saturated orange in the flavor, with a decidedly creamy sweetness and just a hint of dried floral spice."

ABV: 10.5% **IBUs:** N/A

Loc: Chicago



New Image Quad Dub

91 AROMA: 11
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 10

What the brewer says:

"Featuring Citra and Citra Cryo."

What our reviewers thought:

"Light ethanol greets the nose along with pine, citrus, and plantain skin. First impression of the flavor is German stollen—sweet, rich, and bready, with some background candied fruit. A pleasant dankness. New layers of flavors come forth with each sip as the alcohol warms."

What our editors thought:

"Broad, fresh tropical-fruit blossom in the aroma with some very green unkindled-hop notes underneath, like fresh hops still on the bine. The same notes carry through in the flavor, with intense chlorophyll and green vegetative notes."

ABV: 10.5% **IBUs:** N/A

Loc: Arvada, CO



Discourse Airplane Money

87 AROMA: 10
APPEARANCE: 3
FLAVOR: 18
MOUTHFEEL: 5
OVERALL: 9

What the brewer says:

"Citra Cryo, Mosaic Cryo, Krush, and Galaxy hops."

What our reviewers thought:

"Muted aroma of grapefruit, pineapple, green pepper, and mild garlic. Hop-dominated flavor: orange, grapefruit, guava. Fairly sweet with smooth and lightly warming alcohol. Flavor and bitterness are smoothly intertwined. Very easy-drinking."

What our editors thought:

"Kiwi and gooseberry with a bit of lychee offer a slow build in the aroma and a gentle pace in the sip, as the tartness fades and saturated fruit notes layer."

ABV: 10% **IBUs:** 25

Loc: Overland Park, KS



Narrow Gauge Emperor Cloud City

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

What the brewer says:

"Double dry-hopped with Citra, Mosaic, Galaxy, El Dorado."

What our reviewers thought:

"Aroma of white wine, grapefruit, overripe mango and papaya, and Sweet Tarts. Full, chewy mouthfeel, but not cloying. White bread and notes of honeydew melon, sauvignon blanc, roses, mint, and some green dank. Could use more bitterness to balance the sweetness."

What our editors thought:

"Bold orange color. Pineapple and orange with an almost perfumy tropical floral edge. Thick orange in the sip with a light but dusty cacao-husk bitterness."

ABV: 10% **IBUs:** N/A

Loc: Florissant, MO



Vitamin Sea Three Times Three

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

What the brewer says:

"A hazy TIPA that tips the hop-saturation scale with Idaho 7, Citra, Citra Lupomax, Riwaka, Motueka."

What our reviewers thought:

"Spicy green-pepper nose with citrus, orange peel, and blueberry. Flavor has hints of mint, leather, and cooked sugar. Silky milkshake-like body, with notable sweetness that stops short of being cloying. Lingering spice, chocolate, and stone fruit on the finish."

What our editors thought:

"Lemon-lime Gatorade note in the aroma with light peachy support. Broadly sweet peach, papaya, and yuzu in the flavor, with an earnest zeal."

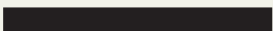
ABV: 10.1% **IBUs:** N/A

Loc: Weymouth, MA



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New Zealand Hop Harvest 2025. Here's a bonus reel of memorable moments from our March visit to the Nelson region. **Top row:** Baling at NZ Hops; tasting Mount Brewing's IPA made with experimental NZH-112; picked fields at New Hoplands in Tapawera; nursery at NZ Hops. **Second row:** a well-structured cone; brewers enjoy the Harfest Long Lunch amid the bins at New Hoplands; chief brewer Simon Nicholas at Hop Federation in Riwaka checks fresh cones from Mac Hops. **Third row:** Brewers tour the state-of-the-art processing facility at Clayton Hops in Brightwater; a pint of Townshend Sutton Hoo amber ale from the cask at the historic Moutere Inn; legendary hop breeder Ron Beatson's license plate; Freestyle Hops CEO Dave Dunbar makes the case for field sensory at the Hapi Symposium in Upper Moutere. **Fourth row:** Grape vines about a hop field. **Fifth row:** Oregon State University's Thomas Shellhammer talks pick times at the Hapi Symposium; pickers in action at Nelson Lakes Farm; bales of Riwaka at Nelson Lakes Farm; Stefano Annicchiarico, head brewer at Seattle's Fast Fashion, enjoys the view (but not the sandflies) with Garage Project founder and head brewer Pete Gillespie at Lake Rotorua in Nelson Lakes National Park.

