CRAFT Beer & Brewing Magazine®

BREWING INDUSTRY GUIDE // SPRING 2025

YIELD & EFFICIENCY
GET MORE JUICE FROM THE SQUEEZE

ENTICE THEM OUT
HAPPY HOURS & EVENTS THAT CAN FILL TAPROOMS

HOPS INSIDER
WHAT TO ASK YOUR SUPPLIER

SALES VELOCITY
ADVICE FROM DISTRIBUTORS

CASE STUDY
SUNRIVER

THE SEED

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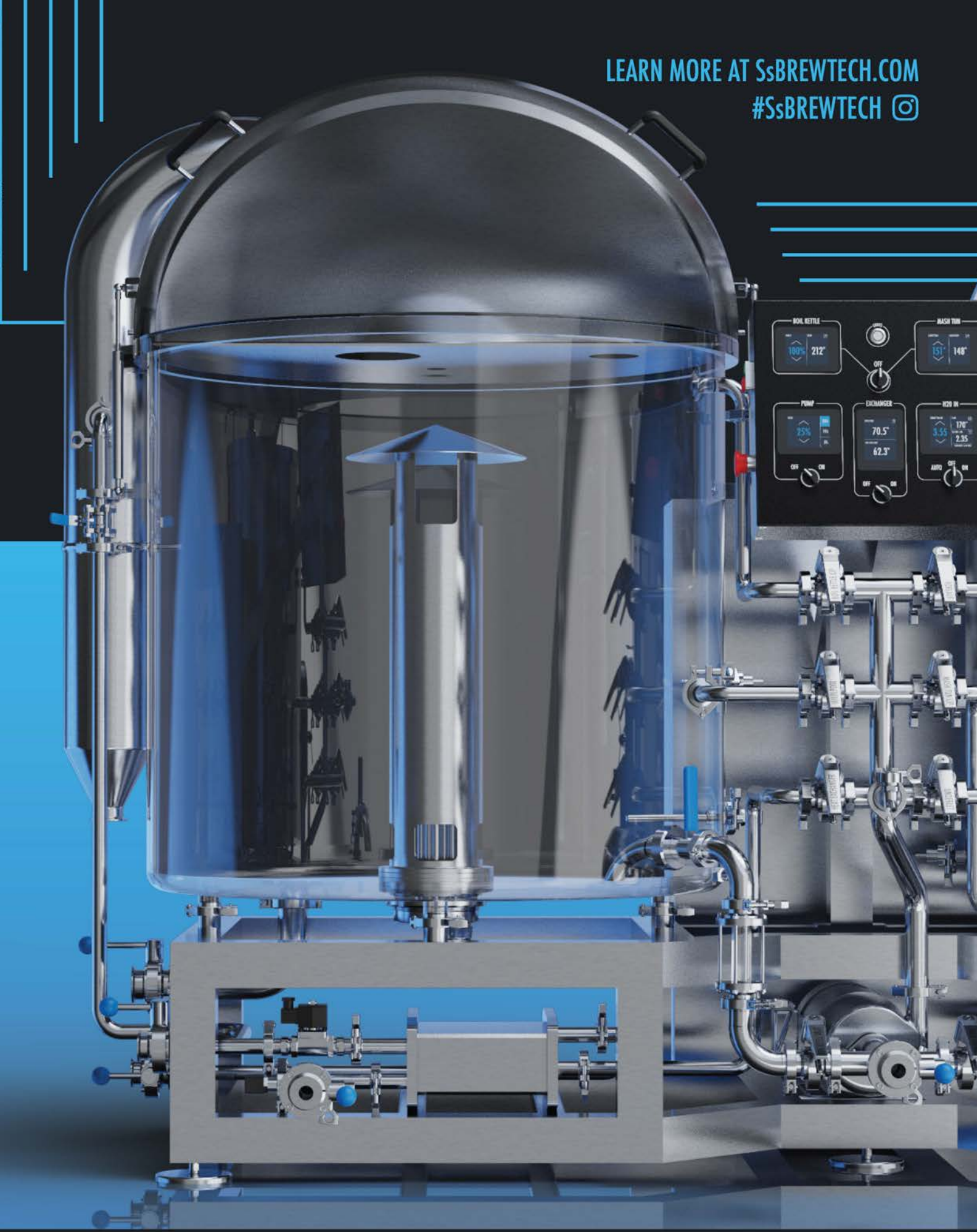

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Beer&Brewing
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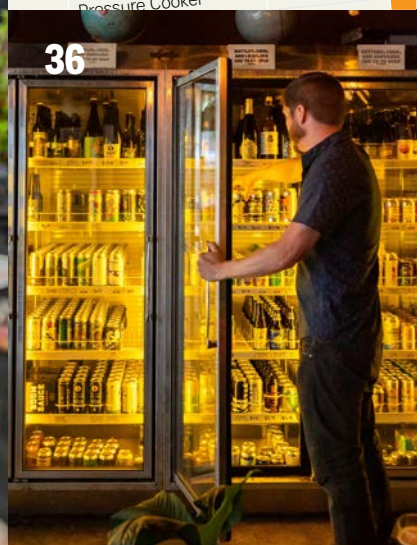
CONTENTS

42

LAB EQUIPMENT BY SIZE

	Under 1000 bbl	1000-5000
Thermometer		
Water Bath		
Refrigerator		
pH Meter		
Density Meter		
Hot Shelf		
Pressure Cooker		



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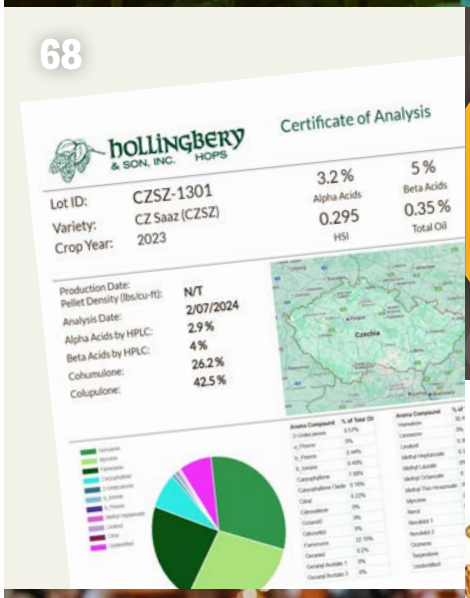

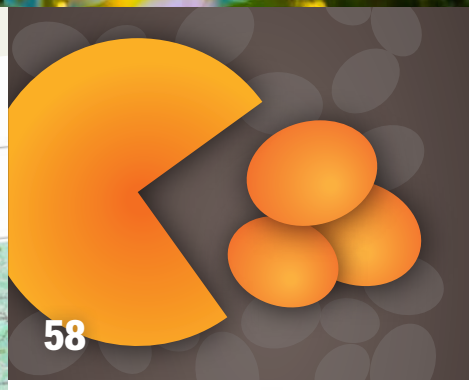

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// FROM THE EDITOR

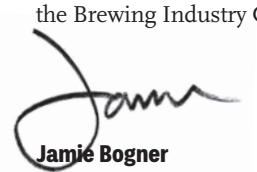
THE UNCERTAINTY IN TODAY'S MARKETS IS UNSETTLING. We all feel it, this magazine staff included. In the current market, anyone who makes things can't escape the fluctuating prices of raw materials, yo-yoing because of things out of our immediate control—whether environmental impacts such as drought and fire, widespread shifts in consumer behavior, or the on-and-off-again policy announcements of tariffs and trade wars.

Canadian barley, aluminum cans, and steel brewing equipment may be the most prominent cost concerns at breweries, but tariffs on paper pulp and printing ink impact all of us; the costs of case packs, cartons, and carriers are rising alongside that of the giant rolls of paper on which we print our magazines. Media, brewing, and the farming that supports brewing are all tight-margin businesses. There's very little cushion to absorb these swings, and the increasing frequency and magnitude of pricing moves make it nearly impossible to plan—or reserve cash—for the more severe of them. In business, unpredictability can be just as debilitating as chronic declines.

The effects are compounding—for brewing, for hospitality, and for media, too—as we vie for consumer attention that's increasingly limited because of external forces. In a way, we're all fighting the same battle, whether that's trying to convince busy people to spend time with each other in a taproom rather than doomscroll on a couch or to put down their devices and pick up a mash paddle for a few hours. Ironically, social media have driven less and less actual social *interaction*. The algorithms optimize for engagement and outrage, and there are real costs attached. Even our politicians, and thus the policies they set, have reoriented toward this negative attention cycle.

So, what does it all mean for beer—and for brewing businesses? There isn't a clear answer right now, and the data are mixed. Despite sensationalist headlines, the craft-brewing world is doing better than similar beverage categories. As Kate Bernot reports in her article on bright spots (page 26), about half of brewers who answered a recent Brewers Association survey mentioned growing over the past year. Industry-wide, pricing will need to keep increasing to offset the growing costs; efficiency, quality, and discipline are more important than ever. We simply won't be able to grow our way out of the problems we face today, neither in brewing nor in media.

We deeply appreciate you sharing your attention as you navigate these uneven challenges with your brewing businesses, and we don't take lightly our responsibility for sharing the most compelling, valuable, and impactful perspectives from fellow brewers facing the same. It's our hope that we can find the best paths forward, together, despite the myriad challenges we all face. Because we don't just produce Craft Beer & Brewing and the Brewing Industry Guide *for* you. We produce it *with* you.



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EP.390 Sam Calagione Says the Spice Must Flow

EP.391 Kevin Ely of Wooly Pig Finds Small Tweaks that Make Big Impacts in Robust, Farm-Brewed Lagers

EP.392 Zichovec Nods to Czech Tradition While Exploring Modern Craft Beer

EP.393 Your Favorite Craft Beer & Brewing Podcast Episodes of 2024

EP.394 Marcin Ostajewski of Browar Grodzisk Is Spreading the Gospel of Grodziskie

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

UPCOMING CRAFT BEER & BREWING EVENTS AND DATES TO KNOW

FOR TIMELY UPDATES, SIGN UP FOR OUR NEWSLETTER AT BREWINGINDUSTRYGUIDE.COM.

Apr 26 The **8th annual Minnesota Craft Beer Fest** returns to the Minneapolis Convention Center for a celebration of great brewers and great beer. Information and registration are at **minnesotacraftbeerfestival.com.**

Apr 28–May 1 Look for us at the annual **Craft Brewers Conference & BrewExpo America** in Indianapolis. Make sure you're subscribed to our email list for updates about our sponsored events.

Sept 14–17 Planning a brewery? The **Brewery Workshop: New Brewery Accelerator** brings together experienced operators and respected industry pros in Fort Collins, Colorado, to help in-planning breweries explore, define, and achieve their goals. Learn more at **breweryworkshop.com.**

Nov 2–5 The **2025 Brewer's Retreat** brings together passionate pros and hobbyists in Asheville, North Carolina, for an unforgettable "fantasy homebrew camp" experience. It's almost sold out! Visit **brewersretreat.com** for more info.

// CONTRIBUTORS

KATE BERNOT is a contributing editor for *Craft Beer & Brewing Magazine®* and a Sightlines contributor to *Good Beer Hunting*. She was previously the beer editor at *DRAFT Magazine* and is a certified beer judge. She lives in Missoula, Montana, with a black lab and three backyard chickens.

STAN HIERONYMUS has been writing about beer for more than 20 years, including three books popular with brewers—*For the Love of Hops, Brew Like a Monk,* and *Brewing with Wheat.* His most recent book, *Brewing Local: American-Grown Beer,* is a field guide to brewing with foraged ingredients.

COURTNEY ISEMAN is a Brooklyn-based journalist whose work has appeared in *VinePair, Good Beer Hunting,* CraftBeer.com, and *Thrillist,* among others. She writes a monthly beer column for the heavy-metal mag *Decibel* and produces a free newsletter called *Hugging the Bar* about beer and drinking culture.

DON TSE is an internationally recognized beer writer and beer judge, working from his home base in the middle of North America's barley belt. He has sampled almost 24,000 different beers in the 20-plus years he has been working with beer, and he has admired the malt in all of them.

JESSIE SMITH is a biochemist who started her brewing career at Houston's Saint Arnold, where she focused on yeast health and propagation. She then became the quality manager at SingleCut Beersmiths in Clifton Park, New York, ensuring the quality of multiple brands. She is currently the owner of Queen City Quality, a lab-testing service designed with New York state breweries in mind.

JOHN M. VERIVE is a freelance journalist based in Los Angeles. He's covered the craft-beer scene in his native California and beyond for more than a decade, including his technically focused Gearhead column for *Craft Beer & Brewing Magazine®*. He's also a Certified Cicerone, and he's always looking for the next great pale ale or pilsner.

PHOTOS: JESS SUWOROFF; COURTESY STAN HIERONYMUS; COURTESY COURTNEY ISEMAN; COURTESY DON TSE; COURTESY JESSIE SMITH; COURTESY JOHN M. VERIVE

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The Isuzu NRR is built for strength with a 19,500-lb (8,845-kilo) gross vehicle weight rating (GVWR), easily handling heavier payloads. Paired with the Summit refrigerated body, the truck offers more than 6,000 pounds (2,720 kilos) of total payload capacity. Powered by a 5.2-litre turbocharged diesel engine, the NRR delivers 215 horsepower and 452 lb-ft of torque—providing the power and efficiency you need to keep up with demand. The Maxon TE-25L liftgate features a 2,500-lb (1,134-

PHOTOS: COURTESY ISUZU

kilo) capacity and a pallet-sized platform (48 x 80 inches/1.3 x 2 meters), which makes loading and unloading a breeze.

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Isuzu trucks are built with low cost of ownership in mind. The NRR's 5.2-litre diesel engine boasts a 375,000-mile B-10 rating, ensuring long-term reliability and uptime. With exceptional fuel efficiency (16 mpg), durability, and a robust warranty, the NRR keeps you on the road and focused on what matters most: your business.

A Body Built to Work and to Party

The 16-foot (5-meter) Summit refrigerated van body—powered by a Thermo King T-690 MAX refrigeration unit with electric standby—keeps your beer cold from sunrise to sunset. A dual-gas system (CO_2 and N_2) powers the eight taps, allowing you to serve a variety of brews, whether from draft, bottles, or cans. The bomber door near the taps gives you easy access to your stock, while the integrated glass rinser ensures every pour is served in a clean glass. With a 15-gallon (57-liter) waste tank to catch any spills, cleanup is simple—just lock the tap door, retract the awning, pack away your gear, and hit the road. No more hassle with jockey boxes and coolers; just quick-and-easy setup and teardown.

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With its eye-catching design, the Isuzu Ultimate Craft Beer Truck is more than just a delivery vehicle—it's a rolling billboard for your brewery. You can customize it with your branded graphics to ensure your brewery gets noticed at every turn.

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– J.R. L. (2024 ATTENDEE)

"I HAD BEEN TO ANOTHER BREWERY START UP WORKSHOP AND DIDN'T GET A LOT OUT OF IT, SO I WAS WORRIED THAT MIGHT HAPPEN AGAIN. IT DIDN'T AND I WAS NOT DISAPPOINTED. I LEARNED WAY MORE THAN I THOUGHT WAS POSSIBLE."

– ALEX N (2024 ATTENDEE)

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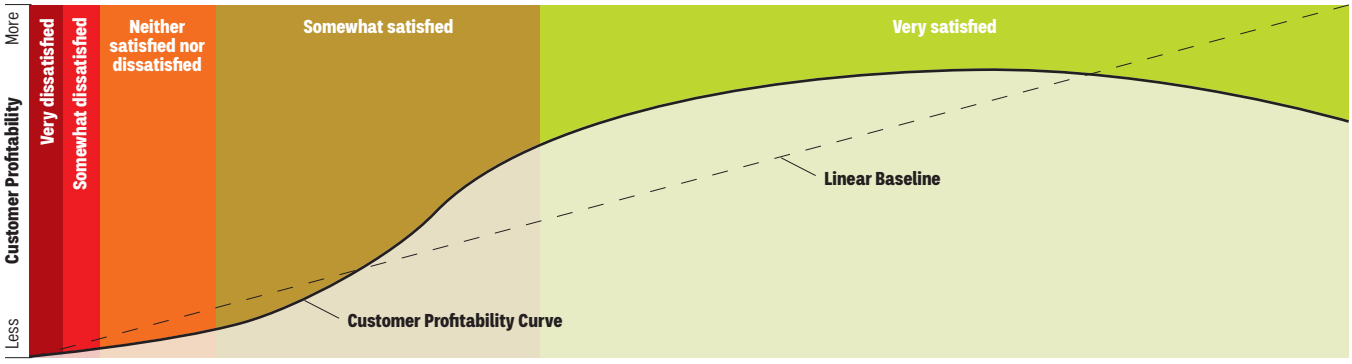
INFOGRAPHIC

The Power of Great Customer Service

A study conducted by four Cornell University professors and researchers, published in 2023 in the *Agricultural and Resource Economics Review,* offers insight into just how valuable the customer-service experience at breweries can be and where breweries can get the most bang for their buck when investing in that experience.

The Relationship between Customer Satisfaction and Profit Isn't Linear

Earlier research by Anderson and Mittal—published in 2000 in the *Journal of Service Research*—shows that there isn't a consistent relationship between customer satisfaction and profit. The 2023 Cornell study by Li, Wagner, Gómez, and Mansfield applies that to the brewing world, showing how moving a customer from "somewhat dissatisfied" to "neither satisfied nor dissatisfied" may be less valuable than moving a customer from "somewhat satisfied" to "very satisfied." There's also a point at which promoting higher levels of satisfaction becomes unprofitable again, but the broad takeaway from the 2023 study is that "the rate of change in purchase decisions is heavily weighted to the more satisfied end of the spectrum."



Five Customer-Service Factors

The study examined these five factors, loosely in order of importance to customers: **Brewery Interior Ambience,** including tasting room lighting, soundscape, cleanliness of the bathroom, overall ambience, and the helpfulness of staff; **Server,** associated with staff-member interactions while being served beer, including impressions of the server's knowledge, friendliness, and personal neatness; **Beer Tasting Execution,** related to the range of choices available, presentation method for flights, the wait time for a place at the tasting bar, any fee related to tasting, the number of samples offered, and the overall quality of beer tasted; **Retail,** associated with making purchases at the brewery, including the availability, price, and presentation of beer as well as nonbeer items, such as bottle openers, T-shirts, and souvenirs; and **Location,** which includes two attributes: the helpfulness of directional signs to the brewery and the appeal of the building exterior.

8.1%
$5.31
30.7 oz

"Higher reported overall customer satisfaction was associated with a greater likelihood to purchase, more fluid ounces purchased, and more dollars spent on that trip. These results indicate that, holding all else constant, visitors who were overall highly satisfied on average were 8.1 percentage points more likely to make a purchase after tasting, spent $5.31 more, and ended up buying 30.7 ounces more beer on this trip."

Source: Li, Wagner, Gómez, and Mansfield, "Customer Satisfaction and Sale Performance in New York State Brewery Tasting Rooms," *Agricultural and Resource Economics Review., 2023;52(1), pages 132–150.*

Q&A

Finding Growth and Taking Risks in 2025 and Beyond

In this excerpt from their conversation for Craft Beer & Brewing Podcast Episode 400, editorial director **JAMIE BOGNER** and WeldWerks founder **NEIL FISHER** look back on the industry's past decade, seeking to shed light on its present and future.

JB // I know I've told this story a bunch of times, but our history goes way back. So much of this industry came from a group of passionate beer drinkers and homebrewers. It's kind of fascinating—this is our story, this connection over a shared passion for beer, but it's not just *our* story. It's so many stories throughout craft beer—so much of what we now refer to as the craft-beer industry is made up of passionate individuals who are driven by that interest, by that shared connection. It's amazing to see how business connects us now, but it was friendship and the shared passion that got everything started. I think that's just one of those beautiful, unique features of the craft-beer world.

NF // I couldn't agree more. I think it was especially evident [on February 8], hosting the WeldWerks Invitational for the first time since 2022 and having you there and 44 breweries, including WeldWerks. … Sometimes it's easy to get caught up in [whether] the industry, as a whole, is down right now. And I think some of that gets overblown. Some of that worst-case scenario creeps in too much, the doom and gloom. And you forget that at its core, and the reason this has been successful, why so many of us love this, is that passion. It's that excitement for craft beer. The Invitational for me was just a huge reminder that there's still so much excitement, there's so much momentum, there's so much growth. At the core of why we're all so excited, it's that passion for beer and for craft brewing and homebrewing and all the things that make it so special. And it's the people.

JB // It's been a couple of years since we last talked in any kind of serious and personal way outside of a group panel. Get us up to date on WeldWerks. What's been the story for the past two years?

NF // As part of our kind of 10th anniversary celebration, we brought back the Invitational as kind of a way to celebrate. It's surreal. Obviously 10 years is a milestone that you don't really think about when you open your business, your brewery. You just hope you don't close.

JB // And there have been so many milestones for you guys. You opened, and it was a pretty standard approach to beer. You didn't even sell 500 barrels that first year. And it was the standard, almost '90s-holdover craft-beer styles with a few exceptions. You pivoted quickly after that first year, and things kind of took off.

NF // I think a lot of it for us was a little bit of your influence as a friend. You put a bug in my ear about a new style, hazy IPA, and maybe I should consider it. And then Juicy Bits, shortly after our one-year anniversary, really changed that trajectory. I think a lot of it was just not being committed to "this is *exactly* how we have to do our businesses. This is what we're going to make, and this is who we're going to sell to." It was always having an idea of "we're not going to chase trends. We're also not going to be just shut off to things." I think diversification, creativity, innovation is kind of how we got there. I'd love to know more about you guys. It's been more than 11 years, right?

JB // We incorporated in September 2013, were operational by December 2013, and had our first issue out in March 2014. And it's the same story—I think that this is a common story, not just within beer, but in business. … These days, people are talking about how craft beer's keg has kicked and it's dead. But statistically speaking, we're a couple of percentage points down after just an epic tear—a growth streak that is unprecedented in the history of industrial beer production. We all see stock market run-ups, right? There's always a correction. Maybe we're in a correction phase right now. But the idea that somehow this isn't relevant, or it's done—it seems vastly overstated. We started a multifaceted media business with print magazines. If you were to ask someone, "What do you think of the idea of starting a media business with print magazines?" in 2013, everyone would have said, "Are you insane? That's the worst idea that you could possibly come up with." And they're not wrong. I think that's kind of a corollary to where we are with craft breweries today. Should you start a craft brewery? The default answer should probably be, "No."

NF // And if all of us agreed that is the most sensible thing, no brewery would open.

JB // But every act of entrepreneurialism is an act of optimism. You have to be an optimist. You have to think that tomorrow is going to be better than today.

NF // In 2014, 2015, we started talking about opening a brewery in Greeley, Colorado. For those not in Colorado, Greeley is just a very different place from Denver, Boulder, Fort Collins, the Front Range as a whole, and obviously the Western Slope. There was a lot of skepticism that you could create a

PHOTO: COURTESY WELDWERKS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successful brand based in Greeley—making beer that would sell not just to the rest of the state, but maybe to the rest of the country. And I think that if I had listened to everyone who gave me advice, we absolutely would never have opened—and certainly not in Greeley, and we certainly wouldn't have called ourselves WeldWerks in a kind of homage to our area. I think if everyone were to take the most solid, sound advice, it'd be to never take these kinds of risks.

JB // Even in 2013, 2014, there was a lot of talk out there that craft beer was already too big, that the growth phase was over, that there was no room for any more breweries, that the bubble was going to burst. It was the end of growth, and why would anyone start another brewery? When we launched Craft Beer & Brewing, that was a prevailing narrative. Maybe there is just an inbuilt "sky is falling" kind of nature. There's an optimism, but also, an inbuilt pessimism that goes along with that. And everyone was convinced that it was so good that it couldn't last forever, that the other shoe had to drop. But it was growing 300 percent.

NF // Even now, I think the resounding sentiment is that there's just no growth to be had. Meanwhile, we've not had a year without growth since our opening. Even last year, even 2023, we had much more modest growth than in the past, but over 7 to 10 percent over the past two years, and [there's] still growth on the horizon. I think anybody who is going to invest the time to learn about opening a brewery or finding the resources they need, [that] just demonstrates that if you're passionate and you can find the resources you need, you can be successful, even when maybe the industry as a whole is not growing like it was 10 years ago. We're all getting kind of fatigued by the headlines like, "Is Craft Beer Done?" And I can't say for sure, for everyone. I can say definitively, for a good number, that it's far from that. There's still some optimism and growth.

JB // I've had a bunch of conversations with brewers about that. And I think that this is the thing: When the markets are going nowhere but up, it creates a lot of opportunity for anyone who wants to get into a business. And there's just success because things grow. I think we saw that for a lot of craft beer's history, a lot of businesses maybe weren't managed as well as they could have been. They didn't need to be well-managed because growth just means more cash, and more cash means we can take on some more risk, and we can grow, and we can buy new things, and we don't have to worry about it because we're always going to keep growing. I think what we've ultimately found is that there are a number of businesses that just didn't have the discipline with that kind of growth. They forecasted incorrectly. They planned for growth that didn't materialize. They took risks based on some of that growth, and they stepped out off the overhang and didn't have enough rope to hold them up. So there have been some real challenges around that. Some really great breweries that I think were making incredible beer have, unfortunately, not made it through this. It's not simply a story of, "you didn't make good product, and now you're not in business." It's not that simple. And there's no easy answer as to what is causing these things. Some of it is very geographical, down to street and city level. Some of it is state-level challenges. Some of it is economic operations. Some of it is different kinds of state laws.

NF // I think what you're saying is that every recipe for success is different. With someone who wants to open a brewery in 2025, the immediate reaction—if you were to ask a group right now in craft beer—they would groan.

What do you think in 2025 will make a new brewery, or even an established brewery, successful? I think there's some real positives to no longer just being able to put out a product, whether it's quality or not. We've had to get sharper as businesses, as breweries, in order to succeed. Today, the quality standard is so much higher.

JB // The quality is table stakes. You've got to make great beer to even be in the conversation. And if you don't, your business is not going to go right, so I think that's now almost the given.

NF // So, what is it beyond that? I'm excited for the fact that we won't have to have this quality discussion as an industry like we did five years ago, where it was like, "Those of you who are putting out bad beer are really hurting the rest of us." That's not a conversation anymore. … So, what is past that baseline? What do you think will really help those that stand out in the next 24 months?

JB // If I look at it for craft beer, and especially small craft breweries, I think that probably one of the biggest challenges that small craft breweries face today is being too small and finding it incredibly expensive to operate the business. … Any hospitality business is going to have a large number of staff, and the more people in your business, the more challenging operating that business is. It's just math—people are the most wonderful and the most challenging part of every business, even more so than cash flow and marketing and everything else. So, in that sense, finding a critical mass of revenue that can support the resources that you need to build into that business, so that you can operate it properly, so that financially you can reserve cash, you can manage your cash flow, make sure you've got the money that you need when you need it—to build resources, to manage the staff in a more efficient way that's fair to them and fair to you. And I think that that scale piece is probably one of the most challenging things. How do you feel about that as a brewery operator?

NF // I think that's exactly the challenge: How do you overhead labor? There's a certain scale—and I think we've crossed that threshold, where the efficiency gains from going from 6,000 or 7,000 barrels a year to more than 15,000 barrels a year. On paper, it seemed really scary, but the efficiencies you gain, and helping amortize that overhead over a bigger footprint than some of these positions are—you kind of need them. No matter what size brewery you are, you need that kind of personnel. You need specialized labor. … Some of it does scale. Obviously, you make more beer, you buy more ingredients—those are easy. The COGS side of things is easy. But it's the overhead, it's the fixed costs that you really—especially as labor costs come up, and everything else—you have to figure out that critical mass.

For us at WeldWerks, that was one thing we were really cautious about—growing and adding our biggest expansion to date, a little over two years ago, to add our 30-barrel brewhouse and everything that came with that. [We were] hovering around 10,000 [barrels a year], giving us the runway to go above that and be

"SOMETIMES IT'S EASY TO GET CAUGHT UP IN [WHETHER] THE INDUSTRY, AS A WHOLE, IS DOWN RIGHT NOW. SOME OF THAT GETS OVERBLOWN. THAT WORST-CASE SCENARIO CREEPS IN TOO MUCH, THE DOOM AND GLOOM. YOU FORGET THAT AT ITS CORE, AND THE REASON THIS HAS BEEN SUCCESSFUL, WHY SO MANY OF US LOVE THIS, IS THAT PASSION. IT'S THAT EXCITEMENT FOR CRAFT BEER."

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coming over the 15,000 mark that we're at today. But the challenge is that it's a lot of risk, a lot of taking on debt at a scale we hadn't before. Talking close to $2 million—that was significantly more than we'd ever taken on to do anything. But in the grand scheme, it wasn't as big a risk as we've seen. We'd seen some pitfalls of going too big—like "let's do a $10 million buildout and renovation." And by 90 days from that completion—or even from financing that—you have to have the tanks full. So, you have to go from a 10,000-barrel brewery, you have to be 25,000 within 12 months or you're not going to make it. And we've seen so many of those stories, especially legacy brands that today are so different than they were. We just wanted to make sure we could position ourselves where we could still grow but not be pigeonholed to where if we don't [grow] by 50 to 100 percent in the next 10 years, we're out of business. I think that's a challenge a lot of businesses are figuring out. How do we right-size our growth, our team, our personnel, our resources? And then how do you get from where you are today to where you want to be? Maybe that's 5 percent, and maybe it's not. Maybe it's flat. Flat is not necessarily bad, if you can figure out how to accomplish your goals as a business and as an entity.

JB // The other thing is also being honest about what those opportunities are. When you find yourself going down a road and the circumstances change, and it doesn't look like it's going to be the right thing for you, then not being afraid to say, "Hey, that's not the thing for us. We're going to do something else."

NF // What makes you excited about continuing to tell the craft-beer story? Because I think it's more valuable than you probably even think about. From the industry's perspective, you guys have done a job that no one else has done. In terms of the last decade of telling stories, giving people opportunities to learn, to interact, to engage. There's plenty of events and festivals and things that do that in different ways, but I just don't know of any one entity that's kind of carried that torch more than Craft Beer & Brewing. What makes you excited about doing it in 2025?

JB // What else can I do? I still love it. I get to do this thing—work that I love to do in a community that I love to be around, working with friends of mine in the industry all the time, and that just bleeds across. It doesn't feel like work when it's something that you love to do. And I joke about that—if you love what you do, you'll work every day of your life. But I know that the things that drive me, like last year in writing an editor's review of a Kros Strain barleywine that ended up making it into our Beers of the Year—I remember tasting that beer, and it's going to sound cheesy to say it, but I just felt this welling up of emotion and this excitement that beer could be *this*. And I taste those beers from time to time that are like, "Oh my god, I just can't believe beer can taste like this—that it can bring back the sense memories." I am constantly thinking about time, place, smells, and tastes and how those connect to those things. And it's almost like the movie *Ratatouille*, when the critic tastes this dish, and you go through the historical montage of life. And I think about that, and I still experience that. I think most of us do, when you have something that's really, really special. And that's the space that beer is still at for me. I mean, I know that if it's ever not, then it's probably time to hang it up.

This excerpt from Episode 400 of the Craft Beer & Brewing podcast has been edited for clarity and length. To listen to the full podcast, go to beerandbrewing.com/podcasts.

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BEHIND THE BAR

For Craft Beer, Moderation Is a Strength

Despite recent headlines, we have an opportunity to position beer as the alcoholic beverage of moderation and a healthy social lifestyle. **BY GREG ENGERT**

RECENT REPORTS ON THE HEALTH impacts of alcohol have added a dizzying wrinkle to craft beer's comeback plan for 2025.

After another year of sales declines—one in which brewery closures finally outpaced openings for the first time in two decades—the National Academy of Sciences offered some good news on the imbibing front: Moderate drinking could actually *lower* the risk of cardiovascular disease and of all-cause mortality more generally.

Almost immediately, and in seeming response to that conclusion, the Interagency Coordinating Committee on the Prevention of Underage Drinking claimed that even a modest intake of alcohol would increase the mortality risk among drinkers. In the interim, the World Health Organization declared that *no* level of alcohol consumption is safe for our health, and the Surgeon General recommended that the health warning on alcoholic beverages expand to include language on the risk of cancer.

CRAFT BEER—WHICH IS COMMITTED, AT ITS CORE, TO THE SINGULAR ALCHEMY OF MALT, HOPS, YEAST, AND WATER—REMAINS THE ULTIMATE BEVERAGE OF MODERATION. THUS, IT HAS AN OPPORTUNITY TO FLIP THE SCRIPT ON GOVERNMENT WARNINGS ...

While some drinkers settled into their annual post-holiday detox, these well-publicized reports suggested that we should keep Dry January going through the winter and beyond.

Rather than reinforce our understanding of the negative effects that excessive alcohol consumption can have on a drinker, these studies serve to condemn alcohol more broadly. In so doing, they distract us from data that struggle to show that moderate drinking is responsible for negative health outcomes.

While moderation has long been the guidance offered in the face of confusing and often contradictory claims about the risks of alcohol, I believe there's an important opportunity for the craft-beer industry to more fully embrace this concept today.

CORRECTING THE NARRATIVE

Craft beer needs a new story to tell in 2025. It no longer benefits from the rebellious, anti-corporate identity that helped its initial ascendance, and many drinkers now overlook it in favor of other flavor-forward beverages, regardless of how they're made.

Yet craft beer—which is committed, at its core, to the singular alchemy of malt, hops, yeast, and water—remains the ultimate beverage of moderation. Thus, it has an opportunity to flip the script on government warnings and reposition itself as the drink of choice for a balanced, well-moderated life.

Though age-old maxims and marketing campaigns would have you believe that all alcoholic beverages have a similar impact

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on your body, this is simply not the case. High-octane beverages—most notably spirits and spirit-forward cocktails—deliver more concentrated levels of ethanol to your system than even the strongest ales and lagers. Although distilled beverages increase ethanol intake and trigger more quickly, we've long been told that a shot of booze equals a 12-ounce beer. That kind of thinking has transformed the alcohol industry over time, contributing to the ubiquity of cocktails and spirits, now found plastered to billboards and stocked alongside draft beer at baseball stadiums across the country.

But beer is different, and not just because of lower alcohol levels.

For one thing, beer is a wonderfully inefficient intoxicant. Even as we drink, our bodies process alcohol at a rate close to one light beer per hour, depending on individual physiology. Strong drinks and binge drinking quickly overwhelm that process, but unhurried beer drinking makes it easier to relax without becoming incoherent or sloppy. (Still, don't drive.)

For another, ales and lagers of any strength deliver—through the malt and hops that form the backbone of all beer—a unique array of antioxidants, vitamins, and minerals that other alcoholic beverages can't supply. It's called liquid bread for good reason, and when you consider the reduced levels of ethanol, beer is the ideal option for drinkers in search of a more balanced and responsible way to enjoy alcoholic beverages.

LIGHTNESS ON TAP

Even better, beer can go really low when it comes to ABV. Whether less than 4 percent or all the way down to nonalcoholic, there is a storied tradition of styles—along with more contemporary riffs on the classics—that deliver full-flavor experiences in light packages. These offerings are vital to what makes beer distinctive.

While plenty of high-ABV brews continue to attract customers, that space is crowded with double IPAs and fruit-laden strong ales, to say nothing of high-powered flavored malt beverages and ready-to-drink cocktails. Low- and no-alcohol beers stand out in a sea of canned alcohol intensity, providing an alternate identity for what beer can mean to the consumer.

Lower-alcohol beer is also perfect for on-premise enjoyment. Whether dispensed on draft or from cask, beer is the perfect accompaniment to food, games, or socializing. The restrained levels of alcohol allow these beverages to be consumed without overwhelming the rest of the experience and—when enjoyed responsibly—won't affect plans for the rest of the day or night.

BEER IS A WONDERFULLY INEFFICIENT INTOXICANT. EVEN AS WE DRINK, OUR BODIES PROCESS ALCOHOL AT A RATE CLOSE TO ONE LIGHT BEER PER HOUR, DEPENDING ON INDIVIDUAL PHYSIOLOGY. STRONG DRINKS AND BINGE DRINKING QUICKLY OVERWHELM THAT PROCESS, BUT UNHURRIED BEER DRINKING MAKES IT EASIER TO RELAX WITHOUT BECOMING INCOHERENT OR SLOPPY.

Plus: When we sell more draft beer, we win. The margins on packaged products, particularly because of increased costs (and looming aluminum tariffs), are only getting slimmer, even while competition on the shelves—from FMBs, RTDs, and other beers—continues to grow.

Different modes of beer-dispense differentiate the drinking experience, providing a reason to get out of the house and drink in a social setting. The freshness of draft beer and the round, full-flavored experience of drinking cask ale set on-premise consumption apart from cracking bottles and cans at home. The flavor experience—from aroma and taste to texture—is unparalleled. And brewery taprooms, bars, and restaurants do more than just serve beer properly—they function as invaluable third places where communities are built and can thrive.

THE SOCIAL DIMENSION

Much has been written about the isolation epidemic that's only accelerated since the pandemic, with scores of people—and not only young people—choosing to stay home, looking to technology for connection. Less noted is the lack of a social infrastructure that used to draw people out of their homes and into social spaces.

Churches, community centers, library branches, public pools, and social organizations once provided the meeting points for a more *social* society. As the popularity of these gathering places declines, there's an opportunity for our on-premise locations to step in and encourage the kind of social and emotional health that meeting for beers can affect in a positive way.

And, because you're drinking lower-alcohol beers—flavorful and not without nutritional benefits—as you catch up with friends, throw some darts, and grab some food, you're integrating alcohol into a modern, healthy lifestyle.

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Bright Spots in the Economic Data

The boom days are over, but in many ways independent breweries are in a better place than other alcohol producers and other hospitality segments. Meanwhile, pockets of growth remain. **BY KATE BERNOT**

BREWERS WHO REMEMBER THE INDUSTRY'S double-digit growth last decade won't find anything comparable in today's reports—"headwinds," "challenges," and "heightened competition" are the triad that's replaced "explosion," "revolution," and "boom."

And yet... While the overall business landscape looks more difficult for small breweries than it did a decade ago, the reality is far from dire.

Two things can be true at once:

- The past few years have been as challenging as any the industry has experienced since perhaps the late 1990s.
- There are more independent American breweries than there have been at any point in history, making a wide range of beers at a high level of quality.

In fact, there are plenty of reasons to feel heartened by craft beer's resilience right now. Especially among industry economists—specialists in analyzing the big-picture data—there's a sense that breweries may be overlooking the good news that's out there.

"There's been a fair amount of growth in challenging times," says Matt Gacioch, staff economist for the Brewers Association. "Among respondents to our midyear 2024 survey, more than half experienced some level of growth. While there is likely some response bias there, the reality is that many craft breweries are growing in a time when most of the largest beer brands are not."

"COGNITIVE DISSONANCE"

There are small breweries that are growing right now, but topline—particularly chain retail—numbers tend to paint a gloomier picture.

In his address to CiderCon—the conference organized by the American Craft Cider Association—the National Beer Wholesalers Association (NBWA) chief economist Lester Jones said in February that the industry was experiencing "Stockholm data syndrome." He blamed an overreliance on retail scan data, which he says reflects just one piece of the overall picture for breweries.

For context, off-premise retail sales data—as tracked by market-research company Circana—found that craft-beer dollar sales dropped between 2 and 3 percent in both grocery and convenience stores last year.

"If you're convinced that the at-home stuff, the off-premise scan data, is the guide to your future, you're just batshit crazy," Jones told the conference. "You've got to embrace the whole data set and the whole market and think about everything together. Otherwise, you're missing the story."

Jones points to positive beer depletions last year, as well as strong consumer interest in travel, dining, and other experiences that overlap strongly with the on-premise experience. He paints a picture of consumers who are willing to spend and of breweries that just need to respond to their needs and preferences.

In fact, there's reason to believe breweries are doing better at this than others. Gacioch points to Bureau of Labor Statistics (BLS) data that indicate that breweries are closing at lower rates than comparable leisure and hospitality businesses. Businesses in that broad statistical sector—which includes arts venues, recreation, hotels, restaurants, and more—tend to close at a rate of about 9 to 10 percent annually. For craft breweries, that stat is around 4 to 5 percent.

"The demand for craft beer by consumers has remained relatively strong and has been able to sustain businesses across geographies," Gacioch says. "My takeaway is that craft breweries on the whole remain a relatively solid business to be in."

Yes, 2024 was the first year in decades that brewery closures outpaced openings, but that's far from a death knell. In its Quarterly Census of Employment and Wages, BLS data actually show the number of people working at breweries was flat to slightly up in 2024, despite those closures and a dip in beer production.

"While we may not still be in the days where opening a brewery meant all-but-guaranteed success, for those established breweries with solid business strategies, the market isn't forcing them out as quickly as [it is] other leisure and hospitality businesses," Gacioch says.

CRAFT'S SEAT AT THE TABLE

Scan data hasn't been rosy for craft, and even draft beer has been tough lately. Kegged beer sales are still below even what the pre-pandemic downward trendline would have predicted, which can be partially attributed to fewer retail locations for beer since the pandemic.

Jones told the CiderCon audience that the number of alcohol retail accounts per

"THERE'S BEEN A FAIR AMOUNT OF GROWTH IN CHALLENGING TIMES. THE REALITY IS THAT MANY CRAFT BREWERIES ARE GROWING IN A TIME WHEN MOST OF THE LARGEST BEER BRANDS ARE NOT."

TOTAL U.S. RETAIL ESTABLISHMENTS SELLING BEER PER 100,000 LEGAL DRINKING AGE CONSUMERS YEARLY 2008 TO MAY 2024

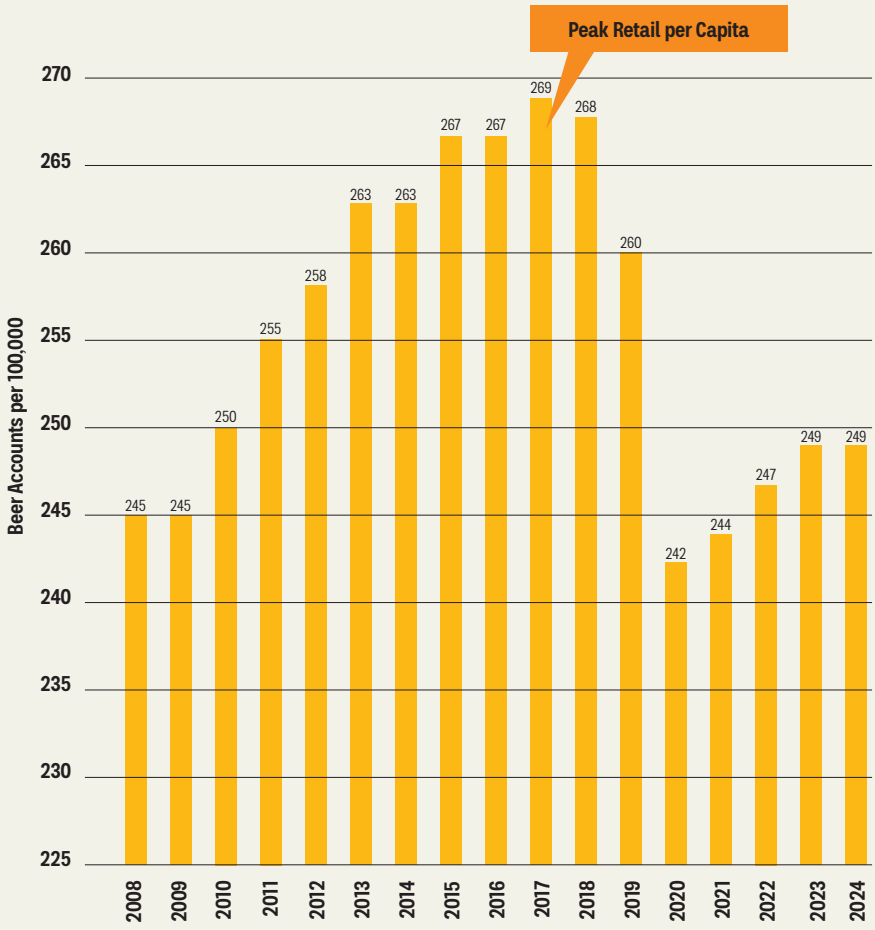

CHART PRESENTED BY NATIONAL BEER WHOLESALERS ASSOCIATION CHIEF ECONOMIST LESTER JONES AT CIDERCON IN FEBRUARY.
SOURCE: TDLINX ACCOUNT TRACKER REPORT, BEER SELLING ACCOUNTS, 2024

100,000 drinking-age adults peaked nationally in 2017 at 269; last year, that number was 252. "We don't have all the points of distribution and all the shelf space that we had prior to 2017," Jones said. "That's part of the malaise that we're seeing."

One bright spot for craft emerged in the on-premise late last year, however: fine dining.

According to Matt Crompton, VP of beverage alcohol on premise (Americas) for CGA by NIQ—a firm that specializes in on-premise data—craft beer saw increases in volume and dollar sales in the fine-dining channel in the last quarter of 2024. For 2024 *overall,* craft beer was down in fine dining at a rate similar to the rest of the on-premise—but those trends reversed in the last quarter of the year. Why? Because of organic consumer demand. Craft's rate of sale in fine-dining restaurants improved 6.2 percent year over year during that crucial holiday time period.

Fine dining will never be a huge volume play for craft breweries, but the data indicate that there are opportunities in that channel for beers that fit at elevated restaurants—approachable, not-too-extreme beers that complement food and, ideally, tell a story that's similar to the restaurant's.

At Echelon Kitchen & Bar—a high-end, vegetable-forward restaurant that opened in Ann Arbor, Michigan, in January—beverage director Taylor Johnson offers 12 beers ranging from Belgian imports to local craft. For a brewery to stand out, she says, it helps to have a "hook" that aligns with Echelon's sustainable and seasonal focus. On her menu, she points to an oak-aged grisette made by Barrel and Beam in Marquette, Michigan. Brewed with Michigan-grown spelt and hops, the beer fits with the restaurant's local sourcing, and it offers servers a talking point when guests ask about the beer.

"It's been really rewarding for me as a beverage professional to witness the desire in our community to have a better understanding of the beverages they're choosing," Johnson says. "Guests want to know where their dollar is going."

For breweries whose beers are a stylistic fit, a presence on fine-dining menus can act as a "seal of approval" to diners and industry professionals alike.

Greg Hall, founder of Virtue Cider and former brewmaster at Goose Island, was an early advocate of beer's place on fine-dining menus. He recalls the launch party for Goose Island's Belgian pale ale, Matilda, at the Michelin-starred, white-tablecloth restaurant Blackbird. Hall estimates that the brewery sold about six cases of Matilda a year at Blackbird, but volume wasn't the point: Placement at a restaurant such as Blackbird gave the beer cachet and name recognition among customers who might not otherwise choose beer.

"People that went to Blackbird for lunch and had a glass of Champagne, they'd go into Harry Caray's [sports bar] after work, they'd see Matilda and say, 'Oh they have that at Blackbird,'" Hall says. "Matilda didn't sell a ton at Blackbird, but it got us on tap at bars where we sold 10 sixth-barrels a month."

Hall says not every brewery or beer is a fit for its city's elite restaurants. But breweries that produce beers that are food-friendly, tell a culinary story, or otherwise fit a fine-dining ethos shouldn't overlook the marketing power of being on those menus.

"Those four-star accounts tend to magnify, within the food-and-drink community, your relevance," he says. "If you can influence the influencers ... that gets people understanding that your beer is good."

BLACK-OWNED BREWERIES OUTPACE NATIONAL STATS

According to the National Black Brewers Association (NB2A), Black-owned breweries in 2023 grew production 19 percent faster than the broader craft industry the same year. Meanwhile, 70 percent of Black-owned breweries produced less than 1,000 barrels each in 2023; those breweries grew 9 percent faster than other similar-sized U.S. breweries. The NB2A says it will release updated member production data later this year.

LEANING INTO VALUE

Breweries serving food may also find reassurance in the National Restaurant Association's (NRA) most recent State of the Restaurant Industry report for 2025. Three out of the four key findings of the report would seem to be directly applicable to brewpubs:

- **There is elevated, pent-up demand across all types of restaurants:** Customers say they're eager to visit restaurants of all types, from fast food to fine dining.
- **Value propositions matter more than ever:** As food generally costs more, diners are looking for bang for their buck. (It's partially why Chili's has had a gangbusters start to 2025.) This is a place where brewpubs can excel, offering good portions and a comfortable atmosphere at a reasonable price compared to higher-end restaurants.
- **Loyalty programs are increasingly important—for both operators and consumers:** A majority of operators served by the NRA say their loyalty program helped increase their customer traffic in 2024. This is potentially good news for the mug club—but also think about expanding those programs to also include dining rewards that can be earned and used by the whole family, not just one drinker.

Leaning into "value" should be a core tenet for brewpubs this year, as diners seek high-quality but affordable meals. For many families, brewpubs offer just that. They're friendly, clean, and hospitable, offering a sit-down meal experience without too high a price tag, generally, compared to full-service restaurants. There are many ways to exhibit value, including portion size, happy hour or other limited-time specials (see "On Special," page 52), and offering loyalty reward discounts. Among casual dining restaurants surveyed by the NRA, operators said limited-time offers were the most successful value play for them in 2024.

Value-seeking among customers can also benefit beer sales outside their own brewpubs and taprooms. Beer is often priced much less per drink on beverage menus compared to wine or cocktails, which could entice budget-minded customers to choose it over other alcohol categories. (This is one hypothesis that's been floated to explain craft beer's uptick in fine-dining restaurants at the end of 2024.)

On Johnson's beverage menu at Echelon, beers range from $5 to $8; the most expensive is a large-format bottle of Jolly Pumpkin La Roja for $30. Meanwhile, cocktails cost nearly double what a beer does, and wines can reach triple-digit prices. She doesn't explicitly say that guests choose beer because it's less expensive, but selling beers at that price point does help her offer guests quality beverages across price points.

"Even with our elevated experience, you can showcase things that are not only really unique and delicious, but also affordable," she says. As a brewery in the fine-dining space, "you're able to hit another audience that wouldn't have experienced [craft beer] otherwise."

Whether in taprooms or brewpubs or restaurants, there are reasons for small breweries in 2025 to feel optimistic. Despite a more difficult business climate than pre-pandemic, the industry has proven resilient, vital, and adaptable. Pockets of growth exist for those with the tenacity and creativity to pursue them.

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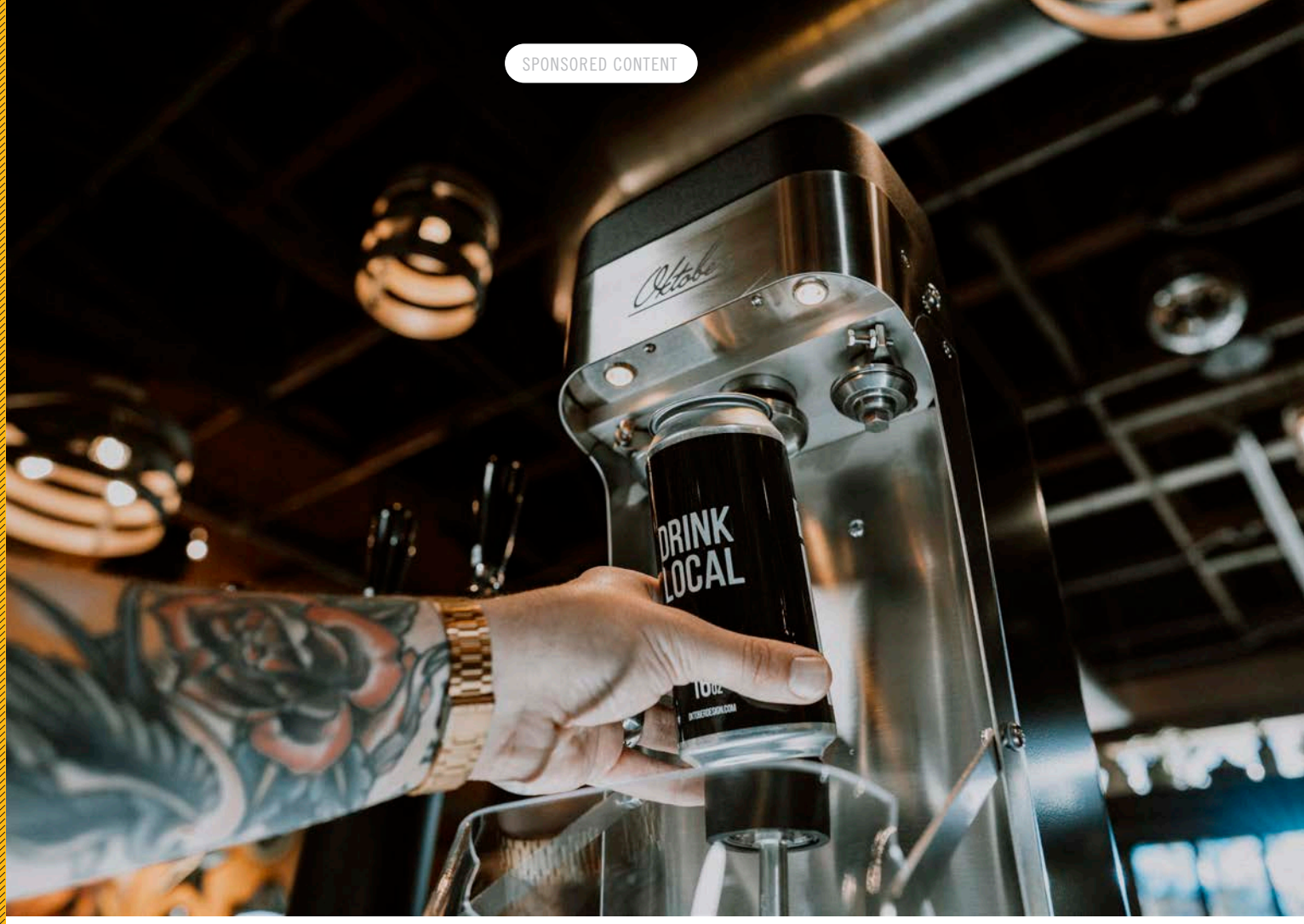

Oktober Design: Craft Engineering

GREAT BEER AND GREAT ENGINEERING share the same foundation. Like every great craft brewery, Oktober Design is a small company that takes genuine pride in our products and the customers we serve. Every Oktober machine starts as a passion project, built by hand with the same attention to detail that goes into brewing a well-crafted beer.

Oktober Design began with a simple manually loaded can seamer—because that's what the industry needed at the time. For the past nine years, the success of those machines has kept us busy. Now, it's time to grow alongside our customers and return to our roots in precision design and automation engineering with new tools to help you get the job done.

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For most brewers, stepping into packaging is an expensive leap of faith, requiring technical expertise and valuable floor space in already-cramped breweries. With those challenges in mind, we designed our first fully automated Oktober Canning Line.

The Oktober Canning Line features a 4-head filler and runs up to 20 cans per minute, accommodating a variety of can and end sizes. We kept costs low with an "everything you need, nothing you don't" approach—delivering simple, efficient performance without unnecessary complexity. It's designed for self-reliance, with an intuitive touchscreen interface, easy maintenance using common tools, and direct access to our expert technical support. Plus, it fits neatly on a standard 24" x 36" (61 x 91 cm) rolling cart.

The Oktober Canning Line is designed from the ground up to be affordable and attainable. Staying true to our commitment to customer service and customization, our engineers will work with you to ensure that add-ons and modifications are tailored to create the best workflow for your operation.

A Smarter Way to Depalletize

We designed Oktober Depalletizer because we needed a simple, manual depalletizer that could handle full-height pallets—and we weren't alone. Most depalletizers lift the entire pallet at once, making them bulky, expensive, and overcomplicated.

PHOTOS: COURTESY OKTOBER CAN SEAMERS

Oktober Depalletizer takes a different approach, lifting one layer at a time and lowering it to a working height. This eliminates the need for overhead conveyor systems, wire trackways, and the headaches (... and ladders) that come with them.

After talking to our customers, we realized many breweries needed a depalletizer that could fit under an 8-foot (2.5-meter) ceiling. It was an easy adaptation of our design. Oktober Depalletizer keeps floor space to a minimum—taking up little more room than the pallet itself—while still allowing you to depalletize pallets more than 6 feet (1.8 meters) tall, helping you cut per-can costs and maximize efficiency.

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Presales for the Oktober Canning Line and Oktober Depalletizer begin Spring 2025. Get on the list now to be notified about updates by visiting us at oktoberdesign.com *or emailing* info@oktoberdesign.com.

OPERATIONS

Congrats, You Got Your Beer on the Shelf! Now What?

What does it mean to generate consistent sales velocity? Here, wholesalers share what they wish breweries knew about it. **BY KATE BERNOT**

FOR SMALL BREWERIES, landing your beer on shelves or in draft lines can feel like reaching the top of a steep, hazardous mountain. Unfortunately, it's a false summit—the real work comes after your brewery has earned that placement.

Businesses sometimes overlook sales velocity in favor of other metrics, such as points of distribution or sales growth. But it's a critical data point for telling a brewery's story, internally and externally, because it can help make a case for consumer demand—even when a brand is relatively small. It can also be a wise move, financially: At a time when every brewery is trying to reduce costs and maximize efficiencies, generating repeat sales from one placement is more efficient than seeking out additional points of distribution.

However, it's a mistake to leave that job entirely up to wholesalers and retailers. Even without dedicated sales reps or large marketing budgets, breweries can do plenty of things to ensure pull-through, and to avoid becoming the slowest-moving SKU on the chopping block come spring resets.

GET REAL ABOUT PRICING

When it comes to levers small breweries can pull to increase their sales velocity, "pricing is the number one thing," says Xandy Bustamente, who co-owns the Colorado-based craft-beer distributor Culture Beverage with his wife and business partner, Sheila.

Culture Beverage currently distributes beer from about 30 breweries, including some from out of state. "Most breweries are too small to have a dedicated rep in the market ... but having beer properly priced opens the door," Bustamente says.

He's quick to clarify that this isn't a race to the bottom: Out-of-state breweries don't need to price their beers below local options, but they should be nearly even. Factoring in the cost of shipping, that often means that out-of-state breweries make less money on a case sent to Culture Beverage than they'd make in their home markets. But expecting to make the same margin on a case of beer sold in-market versus one that's traveled across multiple states just isn't realistic, Bustamente says.

"You want to be able to generate pull-through, and you want to make sure that retailers are excited to get it again, and customers are excited to try it again," he says. "And part of that is them not spending $30 a four-pack."

Robby Roda, founder of craft wholesaler Day One Distribution in Portland, Oregon, shares a similar view. In recent years, he says he's seen consumer attention shift from hunting down the latest hyped can drop to supporting local and regional breweries. That's what craft beer has always purported to be about, on some level, but it means that out-of-state brew-

"IF YOU WANT TO COME IN AND BE AVAILABLE QUARTERLY OR EVEN MONTHLY, THEN WE NEED TO HAVE CONVERSATIONS ABOUT WHETHER IT'S FEASIBLE TO DROP YOUR PRICES TO BE COMPETITIVE WITH LOCAL BRANDS."

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eries—even those used to selling all their beer in their home markets—need to be realistic about price and volume expectations when coming to Oregon.

If a brewery is unwilling to lower its pricing to compete with local brands, Roda says, then it needs to lower the quantity or frequency of its shipments.

"Even if people want your beer, if your prices are going to be exorbitant, then we should bring in beer every six months or 12 months," he says. "If you want to come in and be available quarterly or even monthly, then we need to have conversations about whether it's feasible to drop your prices to be somewhat competitive with local brands."

What it means to be competitively priced with local brands varies by geography. Breweries shouldn't assume that what they can charge per pint in San Diego or Austin is going to fly in St. Louis or Pittsburgh.

Bustamente says that draft beer is very price-sensitive in Colorado, for example, noting that a half-barrel of great local IPA goes for $165, compared to $240 or $250 in, say, Boston. When that Massachusetts brewery wants to sell the same IPA in Colorado, they're also tacking on $30 in shipping and, suddenly, retailers might be looking at a half-barrel for close to $300.

"Breweries will say, 'Why can't you sell this?'" Bustamente says. "Well, you can get locally owned beer that's just as good for a hundred dollars less a keg."

Some specialty beer bars will be interested in those rare, higher-priced kegs, but not at significant volume—maybe one or two kegs, period, not one or two per week. Again, there's a trade-off between pricing and volume that breweries need to calculate before adding new placements.

"As a brewery," Roda says, "you need to be ready for a distributor to tell you, 'I think we should do this quarterly and bring a limited amount into the market, so your brand still maintains excitement.'"

"THIS IS A SMALL, DYNAMIC MARKET. WE'RE SO SPOILED WITH LOCAL BREWERIES NOW THAT DAY ONE COULD NEVER BRING IN ANY BREWERIES EVER AGAIN FROM OUTSIDE THE WEST COAST OR PACIFIC NORTHWEST, AND [WE'D] STILL HAVE A LOT OF DRIVE AND MOMENTUM."

ENGAGE WITHOUT A SALES REP

Brewery sales reps, particularly in expansion markets, are costly to maintain and sometimes result in diminishing returns, Bustamente says.

Before 2020, sales staff were bombarding retailers, and breweries weren't seeing the sales needed to justify boots on the ground in every territory. Today, many of those sales-rep positions are gone—but what hasn't changed is that retailers and distributors want to feel like they matter to breweries.

When drinkers can choose from more beers and other beverages than ever, consistent recommendations from a bartender or bottle-shop employee can make all the difference for a brewery's sales velocity. There are lower-cost ways than sales reps to maintain that connection. Bustamante, for example, tells Culture Beverages' breweries to send holiday cards to top accounts.

"There's a lot of stuff like that you can do that doesn't cost a ton of money," he says. "People want to buy beer from other people. They don't want to buy from some megalith company. They buy beer from people they like."

Collaborations with other breweries can also be a creative way to market your brand throughout the year, Roda says. Collabs leverage a local brewery's fan base and can spark (or re-spark) interest in a brewery that may need a boost in a particular market.

Traveling for a collab is also a great excuse to visit your wholesaler and their top accounts.

"Spend time with the people who own these bottle shops and beer bars," Roda says. "Make sure they know you. Make them feel special."

Timing matters, too. For Colorado's market, Bustamente recommends that breweries do that kind of engagement outside of the madness around the Great American Beer Festival or the WeldWerks Invitational. He also prefers that breweries visit Monday through Wednesday because the end of the week is when distributors are busiest hand selling or running hot-shot deliveries. Those earlier days of the week are when wholesalers and beer buyers are more likely to have time to create the meaningful connections that can nudge them into becoming true champions for a brand.

He says he's seen the power of small gestures really move the sales needle for small breweries. It's obvious when an account wants to help sell a brewery's beer: They're more likely to recommend it or to give it pride of place on the shelf, creating consistent pull-through beyond an initial launch.

"Budweiser doesn't have the time, and Stone probably doesn't have the time, but you probably have the time [for] a handwritten note saying, 'Hey, thank you for the support. If you ever need anything, let us know. If you ever come to California, here's my email, my cell phone,'" he says. "We've had that happen where that account turns into a really good account for a brewery. And it cost them one dollar to do it."

COMMUNICATE ON STYLES

A taproom gives brewers leeway to brew what they like to drink. Shelves aren't always so forgiving.

Having open communication with distributors and retailers about stylistic trends they're seeing in the market is critical to maintaining momentum, wholesalers say, because national data aren't always reflective of what's working locally. Nor should breweries automatically set out to brew the most popular style; sometimes, bucking trends and brewing a less-common style can help a brewery stand out at retail.

Hazy IPAs still sell best in his portfolio, Bustamente says, but he also points to the surprising success of an ESB in his portfo-

Collaborations are a great way to spark interest by leveraging a local brewery's fan base.

PHOTO: COURTESY DAY ONE

lio—Chosen Family, from Lady Justice in Englewood, Colorado. Yes, Lady Justice's Sandra Day IPA still outsells the ESB, but retailer demand for the ESB often outpaces supply, simply because it's a rare style to see.

Especially for an easy-drinking style, being one of the only options on a shelf or draft list can create repeat sales by default. "Sometimes going outside the box and making something that's a little bit more unique can generate sales, too," Bustamente says.

In the world of specialized craft retailers, consumer preferences can change quickly. Smoothie sours, which Roda says were a huge trend in the Portland market during the height of the pandemic, have seen demand slow significantly. Now, West Coast IPAs, hazy IPAs, and lagers are dominating—but, again, that doesn't mean every brewery should chase those styles. It's challenging to move the same volume as beers in those styles that are already in Day One's portfolio, such as those from Ruse, Great Notion, or Hetty Alice.

"This is a small, dynamic market," Roda says. "We're so spoiled with local breweries now that should Day One never again bring in any breweries from outside the West Coast or Pacific Northwest, [we'd] still have a lot of drive and momentum."

Both Bustamente and Roda encourage breweries to communicate with distributors as far in advance as they can about upcoming releases, to ensure that reps can pre-sell as much as possible and develop a strategy around those beers. ("Market to your distributor," Bustamente says.)

Tools such as a dedicated trade-marketing newsletter, sent monthly and featuring an upcoming release schedule, social media and photo assets, plus FAQs, are a way to streamline and standardize that outreach to retailers and wholesalers. That also enables a wholesaler to always have something new to show accounts about a brewery—if not a new beer, at least some new point-of-sale material or images they could use for social media, or just a fun update about the brewery's events programming.

Small details like those can arm a wholesaler with a reason to bring up a brewery in conversation with accounts regularly, keeping them top of mind.

Alphabet City Beer

OPERATIONS

Don't Overlook Occupancy Costs

With rents increasing and sales growth slowing, keeping costs in check can make or break a brewing business. **BY KATE BERNOT**

OCCUPANCY COSTS aren't generally breweries' largest expense by dollars. Lately, however, they've become what Chris Farmand calls "the silent killer."

A certified public accountant, Farmand also is the founder of brewery consulting firm and financial agency Small Batch Standard. As many breweries' revenues decline or flatline, leases may come up for renewal at a higher rent than what breweries initially paid. It can bump the per-square-foot rent on an industrial space into near-retail territory.

In short, bad leases can combine with lagging beer sales to set up a financial scenario that's simply unsustainable. "Leases are coming up, and those are being marked to market," Farmand says. "And breweries say, 'Wait a minute, I was paying $10 a foot. Now you want me to pay $17?'"

Occupancy costs are simply higher in most places than they were five years ago. Some of that is general inflation, but it's also related to years of high demand for industrial real estate. That's according to Kary Shumway—also a CPA and the founder of the Craft Brewery Financial consulting service.

Following a period of "white-hot demand" for industrial real estate in 2021 and 2022, supply began to outpace demand in 2023, according to investment management company Colliers. Still, industrial rents peaked at 20 percent growth in 2023 and exceeded $10 per square foot for the first time—then, they continued to grow by 9 percent year over year going into the third quarter of 2024. Colliers' analysts expect that growth to slow to 3 to 6 percent this year, but the net result is that industrial rents are still much higher than they were in 2019.

Shumway also was the CFO at Wormtown Brewing in Worcester, Massachusetts. Hendler Family Brewing, owners of nearby Jack's Abby, bought Wormtown in April 2024 amid rising economic pressures.

"Everything's going up—lease expenses, rent expenses, property taxes, insurance, repair, and maintenance," Shumway says. "Everything is more expensive. That's the fundamental change."

But what's a brewery to do? Leave? That's an unappealing or even impossible proposition when a business has already entrenched itself in a particular neighborhood and designed its operation to fit that space and when rents are simply higher across the board in their wider area.

While real estate is a fundamentally localized game, there are some general tactics breweries can take to secure more affordable rents and build flexibility into their lease agreements.

DO YOUR HOMEWORK

When brewery owners ask, Shumway says that occupancy costs should be less than 10 percent of a brewery's revenue. However, he's quick to point out that this number can be all over the map depending on a brewery's business model, sales volume, and location.

"I'm going to tell you [less than 10 percent], but I'm also going to say that number doesn't mean anything because what really matters are the total econom-

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ics of your business," he says. "Basically, what does your financial plan look like? We want these benchmarks, but more often than that, that's all they are."

Rather than focusing too hard on tacking to a particular benchmark, Shumway advises breweries to approach a new lease or lease renewal with a clear understanding of the lease contract—not just its per-month rent payment, but its inclusions, exclusions, and provisions. Monthly rent matters, but so do the contract's other terms.

"It's really so important to just understand the basic rent structure," he says. "What are the clauses for increases? What are your renewal options? Are there any tenant improvements? What about free rent periods?"

Being prepared for lease negotiations is key, and some breweries will hire a lawyer or real estate broker to assist with this. (If you hire a broker, consider incentivizing them to get you a better rate by compensating them with a bonus for doing so.) With or without one, Shumway advises brewery owners to get a good grasp on lease details themselves. With occupancy costs being one of the "big three" expenses—alongside cost of goods and labor—it's a significant blind spot for an owner not to know the nitty-gritty of their brewery's rental agreement.

In New York City, the lease on Alphabet City Beer's bottle shop and bar space came up for renewal during the height of the COVID-19 pandemic. At the time, owner Zach Mack says he had no experience with renegotiating a lease. He knew he was in a highly desirable location in the East Village, and he saw aggressive landlords in his neighborhood pushing tenants out during the pandemic.

To prepare himself for negotiations, he and his business partners mapped out the cost of commercial rents within a quarter-mile of their location. This showed the landlord that they'd done their homework, that they had a grasp of what fair market value was, and that they were prepared to negotiate if needed. Thankfully, their preparation (and history of being a good tenant) paid off, and the landlord proposed a modest 2 percent annual rent increase over a 10-year period. For Alphabet City, those annual increases were preferable to a larger jump at the end of the decade.

"If that increase is clear and on the books, you can prepare for it," Mack says.

BE PLEASANTLY PERSISTENT

As Alphabet Beer's experience illustrates, preparation is key. So are basic negotiation tactics, Shumway says. Agreeing on new or renewed lease terms is essentially just a back-and-forth, with each party attempting to secure more favorable terms. As with any negotiation, preparation and persistence are advantages.

"Those who ask for more get more," Shumway says. "If you really want something, you have to be very clear about it to yourself first, so you can negotiate and get what you want. ... Get that down on paper and practice it, as silly as that sounds."

He tells clients to set goals for the lease negotiation: Are they asking for no increases to the base rent? More cost reductions for ancillary services, such as landscaping? The addition of a subletting clause? Prioritize those in order of importance—and prepare to over-ask.

If the goal is to avoid a rent increase, Shumway says, don't only ask for that—"overshoot" and request a $25,000 tenant improvement fund or a 10 percent reduction in allocation of triple-net charges. In his experience, brewery owners tend to be nice people who don't want to ask for more than they expect to get. But asking for more can be an important strategy for securing fair lease terms.

"It's just negotiation tactics, but it actually works," he says. "The worst they can do is say no. And your landlord probably will say no. No doesn't mean no forever. ... No basically means, 'I'd really rather not.' So, don't let them off the hook. I always operate with the approach of being *pleasantly* persistent—but being persistent."

SCRUTINIZE THE DETAILS

A baseline monthly rent number can sometimes obscure a nesting doll of charges within it. If a tenant is bound by a triple-net lease, that means their monthly rent includes property taxes, insurance, and maintenance. Shumway says breweries should take a microscope to those charges, which can sometimes make up 40 to 50 percent of the base rent.

"One thing that's overlooked are these triple-net charges," he says. "I've seen it time and again. They're one way you can get a cost reduction. ... You've got to scrutinize these costs."


Alphabet City Beer

SET GOALS FOR THE LEASE NEGOTIATION: ARE THEY ASKING FOR NO INCREASES TO THE BASE RENT? MORE COST REDUCTIONS FOR ANCILLARY SERVICES, SUCH AS LANDSCAPING? THE ADDITION OF A SUBLETTING CLAUSE? PRIORITIZE THOSE IN ORDER OF IMPORTANCE—AND PREPARE TO OVER-ASK.

Before a lease is up for renewal, breweries should ask their landlords for itemized invoices that show the breakdown of costs, including landscaping, snowplowing, insurance, and other triple-net charges. If a tenant is paying for those services automatically, it gives the landlord little incentive to seek the best rate. It can also be helpful to talk to other tenants within the same building or complex to confirm that the costs for such common services are being allocated fairly.

Triple-net charges can combine to create remarkable rent increases when left unscrutinized, Shumway says. Meanwhile, negotiating for lower maintenance or landscaping costs can be a way to save money when a landlord won't budge on the base rate.

For breweries that are subject to a triple-net leases in older buildings, it's especially important to lay out which maintenance and upgrades are covered by that lease—and which ones aren't. Routine maintenance may be covered, but a tenant brewery will want to make clear in the lease that certain capital expenditures won't be billed back to the brewery—for example, an upgrade to more energy-efficient power sources or bringing a building up to new codes.

BUILD IN FLEXIBILITY

Especially when signing new leases, it's critical to build in flexibility and options. It's impossible for any brewery operator to see 15 years into the future, but there are ways to structure lease agreements that offer more exit options, should the brewery need to move or to close.

Think about the worst-case scenario at the outset, Shumway says—what will happen if the brewery needs to exit its lease? That could mean including a subletting clause that defines how subletting will be executed: Will the brewery be able to find a replacement tenant, or is the landlord responsible for that?

Shumway recommends an assignment release or subletting clause that allows the brewery to find a replacement tenant.

"If you need to get out and someone else will rent the space, you want to have the mechanism by which that will happen predefined because a lot of times that's really not clear," he says. "There's little incentive for the landlord to find [your replacement] because they're already getting your money."

An exit strategy might also take the form of a straightforward buyout, requiring whichever party is prematurely terminating the lease to compensate the other party—generally for less than the remaining terms of the lease contract. Here's an example: A brewery agrees to a five-year lease with a landlord but builds in a six-month buyout clause. Eighteen months into the lease, the brewery realizes the location isn't a fit and plans to exit the contract. Rather than having to stick it out for three and a half years paying for a suboptimal location, it can invoke that predetermined buyout clause and get out for a sum equivalent to six months' rent.

Of course, it can be difficult to think about the end of a lease when business is going well and the brewery is excited about a new or bigger location. Real estate can be highly emotional, Shumway says, because locations generate feelings and attachments that can cloud the more rational, financial realities of a lease.

"People can fall in love with a building or location without thinking through some of this nitty-gritty," he says. "But it doesn't make sense to just start from that place of love. Make sure the lease sets you up for success."

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QUALITY CONTROL

Starting Up (and Sizing Up) Your Brewery's Own Lab

Adding a quality lab can seem daunting to a small brewery, but it's not so bad when you know what equipment you need and which tests are appropriate for your scale. Here, we outline exactly what you need. **BY JESSIE SMITH**

SO, YOU KNOW YOU'RE READY to start growing your brewery lab—but it can be intimidating. Which tests are the most important to focus on? Which pieces of equipment are crucial? And most importantly, *why are they so expensive?!*

First of all, relax: The nice thing about starting a brewery lab is that there are no set rules for how it needs to be run. In this industry, we're lucky in that we have less of the oversight and regulations that can often limit labs in other industries. Your brewery can start a lab and grow it at whatever pace feels appropriate.

However, every brewery, no matter its size, should focus on quality testing. Here, we'll share some guidelines that can be used to get started with testing and equipment.

A quick disclaimer: These points are merely suggestions based on your brewery's annual production volume. As owner or brewer, you can choose to implement tests based on your brewery's different priorities at any given time. If budgetary restrictions are a big issue, you can start slow and implement tests later. On the other hand, if you're rapidly expanding, or you've already encountered some quality issues, you may want to implement some of these tests sooner.

Regardless, as long as you're prioritizing quality in your growing brewery, you are on the right track.

GROWTH CAN CHANGE THE EQUATION

You already know the importance of quality testing in your brewery. However, there are many phases that growing breweries might not be aware of when it comes to the importance of lab testing.

The increase in quality concerns and consistency issues are directly correlated with increasing brewing volume. Why? As with anything, growth results in things becoming more expensive. That can result in budget cuts elsewhere.

Let's say you'd like to hire another brewer or cellar person, but you aren't quite at that point yet. Your current brewer might become overwhelmed with the workload and make a mistake, such as forgetting to sanitize a hose. That may result in a micro-infection that gets to the final product before it presents itself as an off-flavor, ultimately requiring a recall. Instead of waiting for something bad to happen, implementing quality tests *as you grow* can be a wiser path.

Another quality concern with growing breweries is distribution conditions. As you begin to package your beer and send it out to farther locations, you can't be certain of the temperature or transport parameters once your product leaves the facility. Having these quality checks in place before you begin that phase will help you to ensure that the customer receives a consistent product, regardless of where they buy it.

THE BASELINE

Before we get into the test and equipment breakdowns based on your brewery's production, I want to go over some basic equipment and tools that all breweries should have, regardless of their current lab status.

Two of the main items that every brewery should employ are a density meter (or hydrometer) and a pH meter. These tools should be used on every brew day and over the course of fermentation.

Besides those two, here are some miscellaneous items that you can begin to order and collect as you think about starting your lab: gloves, disposable pipettes, graduated cylinders, Erlenmeyer flasks, and plastic sampling bottles. You can purchase many of these items online, including the glassware, for a reasonable price. Having these articles in place before you begin testing will let you get the ball rolling right away.

Now, let's begin with the first category of brewery production volume.

FEWER THAN 1,000 BARRELS PER YEAR

Within this range, your brewery should already have two main lab-related measures under your belt: forced diacetyl tests and the beginnings of a sensory panel.

Forced diacetyl is a test that can give you or your brewers insight into beer sensory and yeast health with minimal effort and cost. During a diacetyl rest, many brewers monitor their yeast and crash their tank after a certain number of days. However, the best method for determining when the yeast are done clearing up diacetyl is to smell and taste it. The forced diacetyl test is a way to "force"

PERFORMING YEAST COUNTS AND BEGINNING TO PLATE FOR DETECTION OF MICROORGANISMS WILL HELP TO SAVE MONEY ON YEAST, PREVENT DUMPED BATCHES, AND IMPROVE CONSISTENCY AMONG BATCHES.

the diacetyl out of solution faster, to get an idea whether the compound is still present in detectable concentrations. Heating the sample and comparing it to a control sample allows you to determine whether diacetyl is still present, and whether the yeast still need time to clean it up. A thermometer and water bath allow you to quickly heat up your sample for the correct amount of time. Then, you can place it along with the control sample in the refrigerator to cool down before performing sensory.

When it comes to starting your sensory panel, that refrigerator becomes dual-purpose. Storing cans, bottles, or crowlers from every run in the fridge and having employees perform regular tastings is a great way to begin accumulating true-to-brand data. This is also valuable training, getting your employees started on what to look for in each brand, so they can help make sure the beer is up to standard for release.

Having these regular tastings to compare fresh beer to "hot shelf" samples also gives your brewers and other employees valuable insight into how a beer ages over time, and it can help you decide whether to take measures to improve shelf life. The "hot shelf" doesn't need to be a *hot* area of the brewery, but room temperature or a bit warmer is ideal. You can then put these samples in the refrigerator at predetermined windows, so you can compare to fresh versions at the same temperature.

BETWEEN 1,000 AND 5,000 BARRELS PER YEAR

Ironically, perhaps, this is the size where breweries need to start thinking in *smaller* terms—microscopic, that is. This is when it's time for yeast health and unwanted brewery microbes to be a greater focus of quality testing.

Performing yeast counts and beginning to plate for detection of microorganisms will help to save money on yeast, prevent dumped batches, and improve consistency among batches.

Yeast health and cell counting become crucial during this phase of a brewery's growth. While the jump to liquid yeast from dry yeast can be intimidating, it will ultimately save you money and create better beers. Performing cell counts on every pitch and harvest will tell you ahead of time exactly how much yeast to pitch and whether the yeast are going to perform the way you want them to.

Here's the equipment you need for cell counting: a microscope, hemocytometer, pipettes, and tubes or vessels for measurement and mixing.

This is a test that requires accurate measurements, so the pipettes are important. However, the microscope and hemocytometer will be the pricier items on this list. I won't go into the method for cell counting because there are many resources available to help brewers get started with this. But it's a good habit to be in once you've reached this size.

The other micro-investment will be to monitor your beers for microorganisms besides brewer's yeast. These can include unwanted *Lactobacillus* and *Pediococcus*, beer- and wort-spoilage organisms, and wild yeast. This category of testing can be intimidating for someone without a science background, but you can start with the easy media types and work your way up from there.

For example, HLP media—that's Hsu's *Lactobacillus* and *Pediococcus* media—are what you can use to test for those microbes. They're also the most user-friendly media for brewers when it comes to making your own plates and tubes. HLP media don't require the use of an autoclave—just a hot plate to heat up the media, and tubes with caps to store the

LAB EQUIPMENT BY SIZE

	Under 1000 bbl	1000-5000 bbl	5000-20,000 bbl
Thermometer	■	■	■
Water Bath	■	■	■
Refrigerator	■	■	■
pH Meter	■	■	■
Density Meter	■	■	■
Hot Shelf	■	■	■
Pressure Cooker		■	■
Microscope		■	■
Hemocytometer		■	■
Stir/hot plate		■	■
Incubator		■	■
Spectrophotometer			■
Shaker			■
Centrifuge			■
Distillation Set Up			■
Off-Flavor Spikes			■
Fume Hood			■

LAB TESTS BY SIZE

	Under 1000 bbl	1000-5000 bbl	5000-20,000 bbl
Forced Diacetyl	■	■	■
Sensory Panel	■	■	■
Cell Counts		■	■
Sterile Sampling		■	■
Micro		■	■
Advanced Sensory			■
VDK			■
ABV			■
IBU			■
SRM			■

media. Once you've made the tubes, you can inoculate them with wort, fermenting beer, or finished product. You'll need to store these in an incubator or warm area and to check the tubes daily to see whether anything has grown.

Once you get some experience with HLP media, the next step up would be to invest in a pressure cooker or autoclave, so you can use other media types. When making plates, you usually need to sterilize the media through the proper temperature and pressure conditions before pouring the plates. However, the upside to this is that you'll be able to identify more types of wild yeast and bacteria that could result in off-flavors and/or exploding cans.

BETWEEN 5,000 AND 20,000 BARRELS PER YEAR

This is a wide size range, but the tests outlined here can be critical when it comes to taking your brewery's quality to the next level. These tests also require some additional safety standards, so a chemical fume hood will be important.

The other pieces of equipment will include a centrifuge, spectrophotometer, shaker, and distillation setup.

While this is the most expensive category, the data that come from this equipment are extremely important for your beer's consistency. Using the spectrophotometer, shaker, and centrifuge, you can test for IBUs and SRM together. These tests can help you save money on raw materials while ensuring that your color and bitterness aren't drifting too far from batch to batch or over the course of years.

The next test, which also involves the spectrophotometer, is VDK testing. Rather than relying on a sensory test for forced diacetyl, this test involves a distillation step before the chemical reaction, and having quantitative diacetyl concentrations can help you make better decisions about your beer and yeast health. Finally, you can also use the distillation equipment for ABV testing, to ensure that you're properly labeling your core brands—as well as your one-off barrel projects, for which it can be tricky to calculate ABV.

Besides those tests, it's crucial to take the next steps in your sensory panel training. If you haven't already, invest in off-flavor spikes that can be used to train your staff. Your sensory panel members become real assets to your brewery once they're able to identify what's wrong with beers out in the market, helping the team to determine the root cause of an issue. This involves an investment of time each week to set up the panel and go through the exercises with the panel members.

QUALITY AT ANY SCALE

Granted, this is a lot of information, and some of it might not be pertinent to your brewery yet. So, save this article for later, and you can look back and have an idea of what the next steps may be in your journey toward higher quality.

Also, "growth" may mean something different for your brewery. It doesn't have to mean getting bigger if your goal is to build a sustainable business and repeat clientele as your beer grows in quality and consistency.

Whatever your brewery's path, implementing these tests at the right time can be critical to setting it apart from the competition, ensuring opportunities for steady growth in the years to come.

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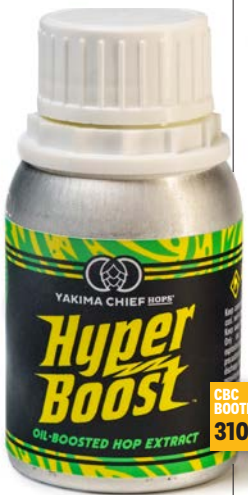

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Opposite, clockwise from top left: Talea Betterfest, goat yoga at Nine Mile, Devil's Canyon market, Bonsai Bar

SELLING BEER

Building an Events Calendar that Drives Traffic

People are going out less often, generally, and brewery taprooms have had to get more creative to keep those beers pouring and margins healthy. Here are specific tips on how to entice customers out and make it worth their while. **BY COURTNEY ISEMAN**

ONE OF THE MOST URGENT questions brewery operators face today is how to get more people into their taprooms.

The answers have shifted in recent years. In 2019, hyping a beer release might have been enough to do the trick. As we get into 2025, however, customers need more motivation—they can drink great beer at home, so what else can you offer?

Often, the answer lies in planning compelling events.

"Since the pandemic, everyone's lives have become more at-home," says Timothy Arsenault, founder of Bonsai Bar, which brings bonsai classes to brewery taprooms, wineries, and other venues. The team has members in Florida, New England, and on the West Coast. Arsenault says Bonsai Bar has proven to be a great taproom-traffic motivator because it's such a new concept—most people have never learned to groom bonsai trees at all, let alone in a brewery.

"People aren't coming home from work and passing a brewery; they're home and need to leave to go out," he says. "So, *why* are they going out? You need to do more to get them out."

"WE VIEW OURSELVES AS COMPETING WITH ANY OF THE MILLION AMAZING THINGS YOU CAN DO ON A SATURDAY AFTERNOON IN NEW YORK CITY. BREWERIES [THAT] ONLY FOCUS ON BEER ARE LEAVING SO MUCH ON THE TABLE. I DON'T THINK IT'S ENOUGH ANYMORE TO BREW GREAT BEER."

THE NEED TO EVOLVE

Breweries aren't competing only with the comfort of people's living rooms; they're also competing with other local breweries. "It comes down to differentiation," says Adam Romanow, founder and CEO of Castle Island Brewing in South Boston and Norwood, Massachusetts. "You have to give a reason for people to come visit you and spend money in your taproom versus others."

Because post-pandemic consumers have branched out in what they eat, drink, and do, bars and restaurants are also part of the competition. Attracting the attention of customers can be an even bigger challenge if they're surrounded by options.

"We view ourselves as competing with any of the million amazing things you can do on a Saturday afternoon in New York City," says Tara Hankinson, cofounder of Talea Beer, which has four locations in Manhattan and Brooklyn. "People can picnic in the park, see a Broadway show, go to a quaint wine bar. ... I believe breweries [that] only focus on beer are leaving so much on the table. I don't think it's enough anymore to brew great beer."

It's become essential to think outside the box and beyond the trivia night when building your taproom's events calendar. A diverse lineup of events can be highly impactful:

- Events can draw the regulars more often while also attracting newcomers.
- Recurring events can build their own steady following of repeat customers.
- Popular events on slow nights can turn Monday crowds into Thursday or Friday numbers.
- Events can set you up for success with younger customers who are looking for experiences more interesting than just visiting a brewery.

"Part of the reason we're doing these programmed events now is that you *have* to, with the attention span of the younger drinking demographic," says Kenzie Carpenter, VP of revenue at Devil's Canyon in San Carlos, California. "They're always looking for something new, so you have to be interesting continuously and have this constant revolving door of new events."

PHOTOS, CLOCKWISE FROM TOP LEFT: COURTESY TALEA; COURTESY NINE MILE; COURTESY DEVIL'S CANYON; COURTESY BONSAI BAR


BONSAI BAR

GET CRAFTY

These events can take a variety of forms, as long as they're fun or genuinely intriguing to customers.

At Castle Island, a favorite of Romanow's is the Beer Can Derby—a grown-up play on pinewood derbies, where participants get kits to make cars out of Castle Island beer cans and then compete on race day.

Devil's Canyon is open only on Friday nights, often with food trucks and live music. But the brewery also brings in stand-up comics, themed holiday and artisan markets, dog-friendly meet-ups, Hispanic heritage nights, and classes on making pretzels or line dancing.

At Nine Mile Brewing in Bloomington, Minnesota, owner Bob Countryman says they've just started a beer education program with a hops class, aimed at getting people more engaged with what they're drinking. They've also hosted local vendors and teachers with events such as epoxy classes (people make their own cutting boards), wreath-making classes, and cookie-decorating nights.

Countryman says they have had substantial success with niche games such as euchre and crokinole—an old-fashioned board game that involves flicking discs into position to earn points. Crokinole enthusiasts who may have never thought to step into Nine Mile now come regularly to play, Countryman says, including members of an official Minneapolis Crokinole Club.

Like Nine Mile, Lazarus Brewing in Austin plans family-friendly events—and some that are specifically kid-friendly. Storytime with Kester is a regular half-hour of story time for children, giving families a third space to enjoy together. Lazarus also hosts comedy nights, flea markets, and Bonsai Bar classes—plus a monthly book club, which has been a great way to keep people coming back.

At breweries across the country, it's become more common to see event calendars populated by jewelry making, flower arranging, improv, drag wrestling, drag bingo, music jam sessions, poetry nights, Tarot readings, and more.

In New York City—besides kid-friendly sing-alongs, craft classes, and taproom yoga—Talea often brings career development to the table. Hankinson and cofounder LeAnn Darland share their own entrepreneurship journeys to help others, especially women, find their own paths. They recently held their first Betterfest, a reimagined beer festival where attendees could network and attend sessions on

"EXPECT A HEAVY LIFT ON THE LOGISTICS SIDE AND REALIZE THAT EVENTS SPAN ALL PARTS OF THE BUSINESS. THE EVENT NEEDS TO BE CONCEPTUALIZED, FLESHED OUT WITH KPIS [KEY PERFORMANCE INDICATORS], AND THEN EXECUTED INCLUDING MARKETING, PR, AND ACTUAL EVENT COORDINATION."

building a personal brand, assembling a business plan, and personal finance.

Caitlin Jewell, former owner of Boston's Somerville Brewing—the brewery closed in 2020—says that breweries can provide a better "third space" than other bars or restaurants. Jewell now runs Grainbakers, teaching classes on how to bake bread from spent grains at breweries across the country. She's also now the chief marketing officer of Bonsai Bar.

"For [breweries] to truly deliver on that, they need to be more than a space where you go sit at the bar and drink a beverage," Jewell says. "For breweries to survive the next few years, it doesn't have to be every night of the week, but they need to provide something more mindful, engaging, and exciting for their community."

FIND YOUR PROGRAMMING GROOVE

The first step to diversifying your calendar is thinking up the events.

It's essential to consider what might appeal to your audience—but there's also room to grow because you want to pull in new audiences if you can. More than one brewery operator and taproom manager says that their events rise out of things that their teams find fun—their enthusiasm is important, fueling the work of putting these events together.

If your brewery has a specific theme, that can be a built-in channel—you can lean into all things music, food, gardening, or sports. To branch out further, Countryman recommends looking at other breweries' calendars and asking them about what works. You can highlight your team's hobbies and skills, too—can someone on your team lead a knitting night or teach Pilates or paper-marbling?

It also helps to get to know vendors and educators in your community. Anyone doing something intriguing could lead to an event—local artists and craftspeople could bring in art shows, makers' markets, and classes. Helpfully, many of these vendors already are seeking out taprooms or other venues that can host events. For example: At Nine Mile, Countryman says the leaders of the wreath-making and cookie-decorating nights approached the brewery first. Meanwhile, Bonsai Bar and Grainbakers reach out to breweries but also get requests from those who want to try out the events—for them, all the brewery must provide is space. Both Bonsai Bar and Grainbakers bring everything they need to set up in the taproom, run the class, and clean up. They sell tickets through their own websites—often $75 each for Bonsai Bar or $60 for Grainbakers—and people show up to sip beers and snip trees or make bread.

They make sure to spotlight the brewery itself, too—Jewell says she finds this especially important considering how many attendees may have never been there, or potentially to *any* breweries, before. The brewery owner or head brewer can greet the group and share stories, and she, Arsenault, or another instructor can talk about why taprooms are special spaces for these community-building events.

INVEST TIME AND RESOURCES

Many of these events require little in the way of direct financial investment. Grainbakers and Bonsai Bar, for instance, don't charge breweries anything.

The investment boils down to time and labor. At Devil's Canyon, Carpenter says the amount of planning depends on the event's magnitude—some take months, others a couple weeks. Inviting someone else in to lead their event is less of a lift, while assembling your own is more—if your brewery is doing both, it helps to alternate, so you can work on the more intensive events while others fill that week's calendar.

"We're small, and our biggest resource is time," says Romanow. Something like the Beer Can Derby can take about three or four months of planning, he says, although the process gets smoother and easier each year. "The more you can plan ahead, the more you make sure you get your best return."

"We have a programming team, and we meet weekly to brainstorm ideas," says Jenna Williams, brand ambassador at Lazarus. "I'm in regular communication with Kester for the Storytime events. With our partner for our movie nights, We Luv Video ... it's email lists, coordinating mov-

ies for the upcoming months, creating graphics, and posting to social media."

At Talea, Hankinson says planning for their bigger events starts three to four months ahead of time—she estimates that Betterfest took 200 hours of work.

"Expect a heavy lift on the logistics side and realize that events span all parts of the business," she says. "Is there a collaboration beer or custom cocktail? That impacts production and taproom service. The event needs to be conceptualized, fleshed out with KPIs [key performance indicators], and then executed including marketing, PR, and actual event coordination."

That work is worth it for the differentiation it achieves for your brewery. It may sound daunting, so start with enough time to ensure you're in a good position to execute. For smaller breweries without dedicated event and marketing teams, smaller DIY events such as game nights can be just as effective with less labor, and partnerships with local vendors can go a long way.

GET RETURN ON THAT INVESTMENT

"These events are a perfect marriage," says Kerri Morgan, community and culture manager at Lazarus Brewing. "We're creating demand, we're bringing new people in, and we're providing community."

With low-cost promotion via taproom fliers and social media, these unusual events have proven to not only drive taproom traffic—especially on slower nights—but also to effectively expand audiences.

At a Lazarus crawfish-boil event, for example, Morgan says they asked who had been in before—and half of the attendees hadn't. She's seen some of those event newcomers become brewery regulars; some others were local micro-influencers who spread the word on their own accounts.

It's easy enough to add up a night's bump in sales, but word of mouth and repeat business make it challenging to have a more quantifiable ROI for these events. Yet seeing the number of Monday-night patrons double for a unique event is compelling evidence of success.

Regular events—such as Lazarus's aforementioned book clubs—can build a recurring audience, too. Arsenault says that when people see him setting up the bonsai classes, they ask about it—and they often buy tickets for the brewery's next class right then and there.

Unique events also have a way of encouraging people to bring friends and tell others. It may not be enough to brew great beer anymore, but your great beer will be in high demand while people groom bonsai trees, play crokinole, race beer-can cars, or bake spent-grain bread.

Princess Story Hour at Nine Mile

Betterfest in the Talea brewhouse

PHOTOS, FROM TOP: COURTESY NINE MILE; COURTESY TALEA

SELLING BEER

On Special: Evaluating Happy Hours for Your Brewery Taproom

As taprooms seek more creative ways to attract customers, it's worth considering how happy-hour specials might (or might not) work out at your brewery. **BY COURTNEY ISEMAN**

HAPPY HOUR IS MORE THAN a limited period of discounts—it's a tradition and a fixture of American society. It's also a tactic that has long worked well for bars. But how effective is it for brewery taprooms, where discounting the liquid that you're producing translates to different margins?

As breweries seek more creative ways to get people out of their homes and into their taprooms in 2025 and beyond, it's reasonable to consider happy hour among the options. But how do you evaluate whether it's a good fit for your taproom or brewpub, how do you plan and implement an effective one, and what do you need to know before slashing prices?

IS YOUR TAPROOM THE RIGHT PLACE FOR HAPPY HOUR?

The make-or-break distinction in your plan to implement a happy hour is whether it's reactive or strategic, says David Klemt, director of business development at consulting firm KRG Hospitality.

Specials cut into your margins, so if your happy hour is a last-ditch effort to drive profits, it likely won't pan out well. You need to consider your neighborhood, the crowd, and what other breweries, bars, and restaurants are doing. Then you need to factor in whether your staff can handle a possible rush and whether you can currently afford to provide specials.

There's an equation to figuring out what might actually help you, says Scott Novick, cofounder and CEO of Alternate Ending Beer in Aberdeen, New Jersey. Is it "more people spending less, or less people spending more?" he says.

"It needs to make sense for your customers," says Brendan Arnold, Alternate Ending's head brewer. "You need to get to know who your customer is and what they want."

When in doubt, try it out. Adrian Kalaveshi, co-owner of Clandestine Brewing in San Jose, California, says that in the past year, their team has decided to "try everything to see if it sticks. ... My advice is, there's no reason not to try. If it works, it works. If not, it's easy enough to reverse."

Ultimately, people are always looking for deals, says Brennen Young, general manager of Tucson's Barrio Brewing. That's especially true now, with living costs on the rise.

NAVIGATING RED TAPE

First things first: You'll have to determine whether your business is even allowed to have a happy hour. Offering any kind of discounts on alcoholic beverages remains illegal in Alaska, Massachusetts, North Carolina, Oklahoma, Rhode Island, Utah, and Vermont. In states where it's legal,

HOW DO YOU EVALUATE WHETHER IT'S A GOOD FIT FOR YOUR TAPROOM OR BREWPUB, HOW DO YOU PLAN AND IMPLEMENT AN EFFECTIVE ONE, AND WHAT DO YOU NEED TO KNOW BEFORE SLASHING PRICES?

PHOTO: COURTESY BONSAI BREWING PROJECT

there still might be restrictions, such as a ban on selling drinks below cost or the requirement that food be available. Research what's allowed in your city and state, and stay up to date on that information, which does change at times: Happy hour was illegal for 40 years in Indiana, for example, but that changed in July 2024, and Hoosiers can now officially enjoy specials at the bar.

Also check on your insurance. Kalaveshi at Clandestine says their liquor-liability insurance prohibits "severe discounts."

Even where discounts are allowed, Klemt says, breweries can take certain steps to lower their insurance rates—such as having security measures in place for those rare occasions when a patron is overserved. In general, he says, it's important to have a good lawyer, ideally one who specializes in hospitality. Talk to other business operators, too, about how they've navigated legalities and insurance issues.

TIMING IS EVERYTHING

Once you've decided a happy hour could be worthwhile and ensured you're in the clear legally, there's the question of which hours will be the happy ones.

Consider your surroundings and listen to your customers. Is your taproom near offices where people might take note of an after-work special? Is it near theaters or sports venues where people might want late-night specials? Or, maybe you're in a residential area where a specials-driven spike doesn't make sense—or could work on a Sunday.

Remember, happy hours don't have to be 3 to 5 p.m. or 4 to 7 p.m., Klemt says. Consider when your taproom could really use a traffic boost.

"Ask yourself … where are you falling short?" says Keelah Smith, cofounder of Bonsai Brewing Project in Whitefish, Montana. "What do you want to see improve? What sales trends do you see? You might see a pattern, like, 'Okay, we need to boost lunch, that's where we're slowest.' Or, 'People aren't coming in on Mondays.'"

Here are some examples:

- Bonsai has happy hours every day they're open—Tuesday to Sunday—from noon to 1 p.m., 3 to 5 p.m., 7 to 8 p.m. However, they do those happy hours only in the winter months, when it's slower.
- Clandestine hosts its happy hours on Mondays and Tuesdays, typically their slowest days.
- Boise's Sockeye Brewing has happy hours from 3 to 5 p.m. Monday to Saturday, says VP of sales and marketing Ben Sopchak.
- Michael Anderson, creative director at Fat Pants Brewing in Eden Prairie, Minnesota, says they take the more traditional approach of Monday to Friday, 3 to 6 p.m. So does Barrio in Tucson.
- In New Jersey, Alternate Ending has customized their happy hours to fit their traffic goals and customers. There are beer, wine, and wings specials on Mondays; a beer-and-burger special from 4 to 10 p.m. Wednesdays; an all-day happy hour on Thursdays; a teachers' happy hour from 2 to 5 p.m. Fridays, plus a "reverse happy hour" from 10 p.m. to close that night; and, finally, industry-night shot specials on Sundays.

Post–happy hour sales are another factor to consider. A crowd that's only there to spend on discounted items won't make a dramatically positive difference. On the other hand, if you time yours correctly, you could benefit from the happy-hour traffic that lingers into the next hour or so, ordering at full price.

"Our foot traffic goes down tremendously after happy hour, but we get one

Happy hour at Clandestine

hour from 6 p.m. to 7 p.m. that's our bread and butter," says Anderson at Fat Pants. "From the 3 o'clock hour onward, we get groups of six or seven, and they'll typically linger for a few drinks more after happy hour ends at 6 o'clock."

MAKING OFFERS THAT CUSTOMERS CAN'T REFUSE

Deciding between those beer-and-burger-type combos or dollar-off pints—or any other special that could help draw a crowd—also comes back to your customers.

Are they beer nerds who would jump at the chance to try limited runs at a buck off? Are they families looking for affordable dinners out? Are they groups of friends who may want rounds of beers and appetizers on game day?

Consider what would excite your customers and what could potentially broaden that crowd. Consider which hours of which days you're running specials, and where your margins have a little wiggle room. Then the right path should start to become clear.

Clandestine's happy hour offers a dollar off customers' first beers, which Kalaveshi counts as a net neutral: It neither hurts their margins nor drives big profits, but it does get more people through the door on slow days—even if they're spending slightly less. Barrio also offers dollar-off draft beers.

Similar to Alternate Ending's approach, Bonsai's specials vary by their respective time slots: a Lunch Combo Hour, with $1 off beers with a meal purchase; an Après Hour, with $1 off all beers; then Taco Power Hour with $4 tacos.

In Boise, Sockeye's happy hour also is a bit more complex than dollar-off drafts—there's buy-one-get-one draft pints and house wines, $2 off barrel-aged beers, call drinks, or wines, and a selection of appetizers for $5.

Don't be afraid to experiment—it may take a few tweaks to find the right specials. In the past few years, Fat Pants has streamlined their specials because different discounts on different items led to customer confusion. They swapped item-specific deals for $2 off drinks and $3 off appetizers. They later dropped the latter to $2 off, adjusting for what their margins could handle.

Sockeye's happy hours also have been "a bit of a moving target over the years," Sopchak says. Their current location, where they've been since 2013—Sockeye's been operating since 1996—has a large base of regulars who include many families. Meanwhile, a new spot they opened in 2024 attracts more of a downtown, after-work set. Sopchak says they've tried different things to engage different audiences.

"We see a huge [number] of regulars at our location that's been here longer, so we've wanted to focus on giving them great value," he says. "Our new place is more about bringing in new people, so we want to get them to try the beer with things like flight specials—it's more introductory."

Offering food can be a major advantage. At Fat Pants, Anderson says being able to provide both drink and food specials helps to bring in nonlocals searching for options on their travels because they also need a place to eat.

However, food can also be a complication. Both Anderson and Sopchak say they've seen happy-hour food deals encourage customers to order *only* discounted items, even when they stay into dinnertime. That's one reason why Fat Pants trimmed its discount to $2. Sockeye, meanwhile, is moving from an isolated, happy hour–only food menu to a regular menu of items that would be discounted.

Food can also help provide a fresh angle on happy hour, Klemt says.

"We really don't like discounts," he says. "A not-insignificant portion of your guest base will start to think that's the price of those items, and they're only going to come in when they're at that price. We suggest using happy hour to highlight certain beers, limited styles, and seasonal foods with pairings."

Essentially, try *not* discounting the drinks and dishes you serve all the time, but instead make happy hour–exclusive combinations you can offer at a special price. Those should intrigue customers while communicating that these items are still valuable and only discounted when paired together.

WHAT'S YOUR MOTIVATION?

Determining the success of your happy hour starts with determining your motivation.

You're lowering prices, so people are spending less. But if you're just trying to fill seats and the specials are doing that, you're doing something right, and it's time to strategize ways to capitalize on the bigger audience—and, vitally, to make sure quality and service don't drop during happy hour.

Put your best foot forward, so that any new customers drawn to those discounts like the experience enough that they want to come back, even when it means paying full price.

"We do take a small hit on margins, but we just want to get people in the door," says Young at Barrio. "It's worth it for us. In Tucson, we're one of the bigger breweries in the state and city. A lot of people come to the area as tourists and are looking up where to go and for specials and see us."

Especially as you first get happy hours off the ground, keep checking in with customers and, crucially, your staff. Your customers will say whether specials are worth it for them or whether they'd like to see certain food items offered, for example. Your employees, meanwhile, will keep you posted on whether they can handle being slammed for two hours a day and how the discounts are impacting them.

Clandestine's Kalaveshi notes that most customers tip based on percentage, which means staff earn less during happy hours—something else to factor into what you offer and when and how worthwhile it is for your business.

PHOTO: COURTESY CLANDESTINE

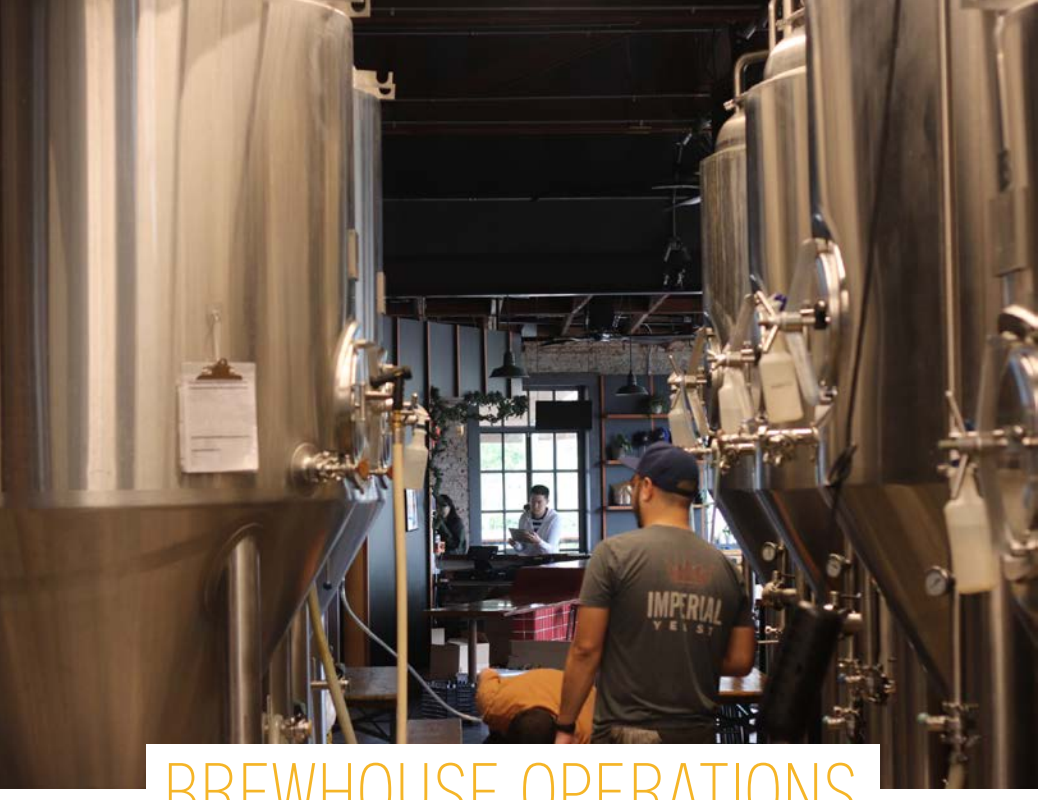


PHOTO: COURTESY HIGHLAND PARK

BREWHOUSE OPERATIONS

Yield and Efficiency: How to Get More Juice from the Squeeze

With costs up and growth flat, here's how skilled brewers are making the most of every brewhouse turn. **BY JOHN M. VERIVE**

SINCE OPENING IN 2024, Highland Park has evolved from the scrappy upstart attached to its neighborhood bar into a destination production brewery and taproom in L.A.'s Chinatown. With a metaphorical trophy case full of accolades and awards—including *four* gold medals at the 2024 Great American Beer Festival—Highland Park has earned its national reputation.

However, while Highland Park is bigger in size and prestige, founder Bob Kunz says the spirit of the brewery isn't far from its roots.

"It feels like we're still just as scrappy," he says. "Quality has always been the focus. We've always had a mind for frugality when making operational choices, but we've prioritized making the best beer possible, not thinking too much about cost of goods."

Still, you can't grow a business without adapting to changing conditions in the marketplace. Kunz and his team built Highland Park on a direct-to-consumer model, first at the Hermosillo—the neighborhood bar that was home to the OG brewhouse—then in Chinatown, where can deliveries began during the pandemic lockdowns.

Along the way, however, wholesale demand has grown alongside the brewery's reputation, and meeting that demand means accepting thinner margins on the product.

"We were adding 5 or 10 percent production annually [to meet wholesale demand], but not seeing the same increase to revenue." The challenge, Kunz says, wasn't squeezing more brewhouse turns into a busy schedule—instead, it was squeezing more finished beer out of those same turns.

"YOU START PAYING CLOSER ATTENTION TO YIELDS AND COSTS TO PRODUCE EACH BARREL, AND IT EMPHASIZES YOUR INEFFICIENCIES. WE MAKE A LOT OF IPA, AND WHOLE AND PELLET HOPS SUCK UP A LOT OF BEER."

FINE-TUNING WITH RAW MATERIALS

While bigger batches mean better economies of scale, the lengthy ROI on those big-ticket items also means more risk. There are easier ways to improve yield, even if such improvements are incremental. You can make a whole meal out of low-hanging fruit, and cost of goods was an area ripe for improvement at Highland Park.

"You start paying closer attention to yields and costs to produce each barrel, and it emphasizes your inefficiencies," Kunz says. "We make a lot of IPA, and we use a lot of hops, and whole and pellet hops suck up a lot of beer."

INSTALLING A SILO WASN'T FEASIBLE FOR HIGHLAND PARK, BUT SWITCHING FROM BAGS TO SUPER-SACKS WAS A WORTHWHILE INVESTMENT. MEANWHILE, AN UPGRADED FOUR-ROLLER MILL ALLOWED FOR A MORE CONTROLLED CRUSH AND MORE EFFICIENT MASHES. INTEGRATING BETA-GLUCANASE ENZYMES INTO THE MASH PROCESS ALSO FURTHER JUICED YIELDS.

PHOTO: COURTESY HIGHLAND PARK

Integrating new hop products into production was an easy decision, but the exact products and methods are evolving. Kunz says they've by no means mastered these new ingredients, but it's an exciting area for R&D. They're already seeing better yields, he says, with no hit to quality or flavor.

Grain handling was next on the list of inefficiencies to tackle. Installing a silo wasn't feasible for Highland Park, but switching from bags to super-sacks was a worthwhile investment. Meanwhile, an upgraded four-roller mill allowed for a more controlled crush and more efficient mashes. Integrating beta-glucanase enzymes into the mash process also further juiced yields.

Best of all: Those grain-handling improvements also helped to improve the flavor in the glass, Kunz says.

TANK TIME

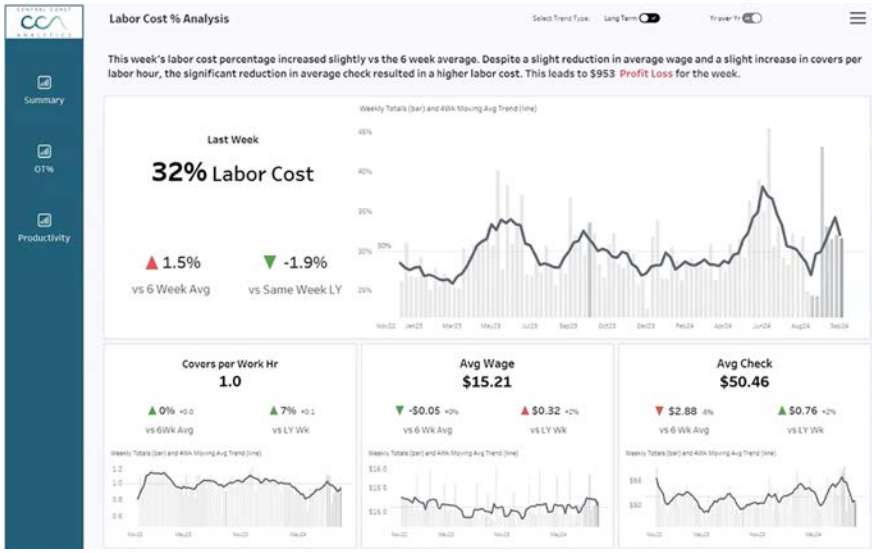
Inefficiencies can hide in plain sight at times, and a collab brew day can provide the perspective needed to make them more obvious.

"For the last five collaborations, almost all the other breweries were faster than us," Kunz says. He wasn't fully content with his brewery's dialed-in fermentation routines, where tank residency averaged 21 days for IPA. The 14-day cycles he saw at other breweries were compelling examples of different approaches on the cold side.

That expeditiousness was on display during a recent collab just up the coast, at MadeWest in Ventura, California. While the brewery opened two years later than Highland Park, its placement in grocery stores such as Trader Joe's and Whole Foods has fueled growth and demanded streamlined production. The brewery produced 16,000 barrels in 2024, most of it IPA. Cofounder Mike Morrison says they've seen a steady increase of about 2,000 barrels annually every year except 2020.

Morrison says the most important things for speedy turnarounds are tank geometry and yeast performance. With a cellar full of 90-barrel unitanks, MadeWest's team doesn't spend time transferring from fermentors to brites; there are fewer production bottlenecks. "We just get a better workflow [with unitanks], and we see quick turnaround times," he says.

The typical IPA at MadeWest gets seven days of primary fermentation, a four-day dry-hop cycle, then one day to crash, a day to add Biofine and carbonate, and another day to rest and clarify. The team packages



IMAGES: COURTESY CENTRAL COAST ANALYTICS

the beer on Day 15, and the cycle begins anew. "It's really about getting healthy fermentations," Morrison says.

A change in procedures as simple as weighing pitches instead of pitching by volume led to better attenuation and cleaner fermentations. "We were over-pitching before, but cell counting and knowing the oxygen levels of the wort let us be more accurate," Morrison says. Monitoring oxygen levels throughout the process also led to an unexpected efficiency benefit.

"The shortest path is the most efficient—at least, that's what we assumed," Morrison says. However, their dissolved-oxygen meter helped them to find an issue between their heat exchanger and the unitanks in the cellar. The tanks nearer to the brewhouse were taking longer to ferment; investigations with the DO meter revealed that wort in the slower tanks was less oxygenated than it was in others.

As it turned out, the wort that had a shorter hose-run was getting less contact time with the inline oxygenation stone. Simply using a longer hose allowed the oxygen to saturate, and the slower tanks caught up with the rest of the cellar.

USE THE DATA

The hoses at MadeWest were an easy fix to a small problem, but the problem was obscured until data exposed the variance. That underscores the fact that overall facility efficiency is the aggregate of hundreds of processes, and small improvements in many places can lead to more product for less money.

"If you want to be laser-focused on maximizing yield with every turn, there are two major paths," says Ben Edmunds, brewmaster at Breakside in Portland, Oregon. "And data leads you down both."

The first route is cutting tank days and getting beer out of the facility. Like Morrison, Edmunds says yeast performance is key here: Healthy yeast make better beer, faster, so you should keep a close eye on vitality and viability of yeast to sustain perfect pitches.

A quick hand helps, too. "Harvest as soon as the beer hits terminal gravity, and re-pitch as soon as you can," Edmunds says. Better yeast management shaved a day of tank time off their flagship, he says—and that meant an additional 4,000 barrels per year of production.

Besides tank time, the other path is maximizing volume out of the brewhouse—influenced by everything from whirlpool design to fining agents—and knowing the actual volume of wort knocked out is critical.

Good data here also unlock one of Breakside's methods for efficiency: high-gravity brewing. (For more on their approach, see Edmunds' video course, "Breakside's Guide to Institutional Beer Quality," brewingindustryguide.com.)

"If we can squeeze another three barrels out of the brewhouse, it means four-and-a-half extra barrels into the fermentor," he says. "It's a nonlinear relationship." Yet they must be confident in the volumes and gravity readings to take advantage of watering up. "It's easy to balk at the cost of good data, but bad data costs more when you make bad decisions based on it."

Total brewery automation and full-featured software suites are outside the reach of most small breweries, but standard processes and simple spreadsheets should be well in the brewer's comfort zone. Make no assumptions, test and track as much as possible, and make the resulting data accessible.

KEEP AN OPEN MIND

All three brewers we talked to say they opened up to new ideas and unseen solutions because they challenged their own assumptions.

Before they started looking, the bustle and distractions of day-to-day operations were camouflaging the low-hanging fruit. However, once they were able to shift their mindsets, those small inefficiencies that drag on the business became obvious, and fixable, with no need to reduce quality or flavor.

"We've always been really proud of the beer we brew, but we've never been proud of our inefficiencies," Kunz says. Reducing waste, however, has made the brewery a stronger business, and focusing on achievable optimization goals has emboldened broader sustainability initiatives at the brewery.

"Scrappy is still in our DNA."

UNDER THE MICROSCOPE

Could Killer Yeast Give New Life to Beer Quality?

Researchers and yeast labs are looking more closely at whether yeast-killing yeast—such as those that snuff out diastatic strains, preventing cross-contamination—may have broader applications in brewing. **BY DON TSE**

DO KILLER YEAST HAVE THE potential to solve all your post-fermentation problems? Maybe not *all* of them, but the potential is intriguing to brewers and quality-assurance specialists.

Cincinnati's Rhinegeist Brewery has helped to pioneer research into killer strains that may solve issues with diastatic yeast. The research is new, but labs already have developed yeast that can kill diastatic strains—and, in the future, it may be possible to apply the same approach to other post-fermentation problems.

KILLER YEAST

Nick Ketchum, Rhinegeist's quality-assurance manager, also has worked as an instructor in Cincinnati State Technical and Community College's Brewing Science department. While there, he taught students about killer yeast strains as something brewers needed to avoid, lest they contaminate the brewery and inhibit fermentation.

At the time, Rhinegeist was having a problem with a diastatic yeast infection. That was when Ketchum wondered whether killer yeast could be harnessed for good, rather than be feared as a brewhouse evil. He set about to solve the *diastaticus* problem with killer yeast. (For more on that particular problem, see "Dealing with Diastaticus in the Brewhouse," brewingindustryguide.com.)

Killer yeast include certain strains of *Saccharomyces cerevisiae* commonly used in wine fermentation. These strains contain double-stranded RNA viruses known as M1, M2, and M28, which cause the yeast to produce toxins known as K1, K2, and K28, respectively. In nature, these strains produce toxins to compete against other yeast strains. Importantly, the production of that toxin occurs when a cell grows; it's not related to the strain's fermentation process.

To prove that yeast containing M1, M2, and M28 could kill diastatic strains, Ketchum brewed a saison fermented with Lallemand's Belle Saison strain—one of several known diastatic strains. He then pitched a strain of killer yeast, and he found that it did indeed inhibit the growth of the diastatic yeast.

KILLING DIASTATIC YEAST, IN PRACTICE

If a brewery finds unwanted diastatic yeast via PCR or culture-based testing, it's possible to inhibit the growth of that strain by pitching a killer yeast after the initial, intended fermentation is complete.

The toxin produced by killer strains is only effective against other *S. cerevisiae* strains—and, notably, all known diastatic strains are *S. cerevisiae*. Pitching the killer strain inhibits the growth of the diastatic one, ensuring that it can't continue to chew up and ferment sugars in the package—the kind of contamination that can push beers out of spec, alter flavors, and lead to gushing cans or bottles.

In the study—published in September 2024 in the journal *Applied and Environmen-*

PITCHING THE KILLER STRAIN INHIBITS THE GROWTH OF THE DIASTATIC ONE, ENSURING THAT IT CAN'T CONTINUE TO CHEW UP AND FERMENT SUGARS IN THE PACKAGE

PHOTO: COURTESY RHINEGEIST

tal Microbiology—Ketchum and researchers at the University of Idaho found that a K2 toxin variant inhibited 95 percent of the diastatic yeast strains they tested. A K1 toxin also inhibited 91 percent of the strains.

For brewers who want to try out this solution, there's welcome news: These killer strains are widely available from the wine catalogs of many yeast suppliers. (For the study, the researchers used Lallemand's Lalvin D-47 white-wine strain and Renaissance Viva, a wine strain that also prevents the formation of hydrogen sulfide.) The killer yeast strains are inexpensive, unlike new pasteurization and filtration systems. Plus, pitching yeast is easy, requires no new equipment, and doesn't require any extra water use or energy. These killer strains are also available in dried form, so they can be easily stored and kept on hand for use when needed.

However, preventing diastatic-driven over-attenuation isn't as simple as pitching some dried wine yeast. "There are a number of variables at play which could make this ineffective, such as the relative yeast-cell concentrations and the amount of time the infection has been present in the beer," Ketchum says.

OTHER APPLICATIONS OF KILLER YEAST

Killer yeast strains can kill all competing strains of *S. cerevisiae,* not only diastatic ones. Although it wasn't part of Ketchum's research, he says you could add a killer strain to a beer before packaging. There, it may help prevent the fermentation of sugars created by hop creep, or it could kill yeast—diastatic or otherwise—that have infected a packaging line and gotten into the beer.

Killer-yeast strains do produce some flavors of their own, so there are consequences of adding them to beer. For example, wine yeast can produce clove-like 4-vinyl guaiacol—"something we cannot explicitly prevent," Ketchum says. "We are working on a method to eliminate this, but it is not published and is still in the research phase." Possibilities may include inserting the relevant killer RNA virus into existing yeast strains or creating new killer brewing strains through hybridization.

To virtually eliminate the risk of *diastaticus* contamination, a brewery would need genetically modified or hybridized versions of every strain it uses, so that every fermentation would produce the toxin and inhibit any diastatic yeast present. In that context, a brewery could also use a diastatic saison yeast, for example, without fear of cross-contamination.

Another possibility Ketchum notes is that it would be possible to isolate the killer toxin, then carefully use it to dose beer when necessary. However, the toxin is a protein and, like all proteins, subject to oxidation. It's also unknown whether Brewers Clarex—an enzyme that breaks down proteins and is often used for clarity and stability—might affect the efficacy of the killer-yeast toxin. Also, using such a toxin would preclude package conditioning.

Finally, Ketchum says that for killer yeast or the toxin to be effective, there needs to be a convenient way for breweries to measure and confirm the killer yeast's efficacy. In their initial experiment, the killer yeast was 95 percent effective—not 100 percent.

"That 5 percent is important," he says. "There are a lot of genes that could be providing protection from the toxin, and the same way overuse of antibiotics can create antibiotic-resistant [super-bacteria], that 5 percent of surviving yeast could become 'super-yeast,' resistant to killer yeast. We've got to be able to answer why that yeast survived."

OTHER CONSIDERATIONS

Because either the killer yeast (or the toxin it produces) must be present in the beer for it to be effective, there may be concerns about its health effects. However, people already have been consuming these yeasts and their toxins—they're common in winemaking. Nor are these toxins any ecological danger because they already exist in nature among all manner of other yeast and microbes.

As a side note, Ketchum speculates that the extremely rare auto-brewery syndrome—whose sufferers have so much yeast in their gastrointestinal tract that they can produce intoxicating levels of ethanol without drinking alcohol—might potentially be cured by the consumption of killer yeast.

While the preliminary research is promising, there is work to be done before the use of killer yeast can be more widely applied. However, as a brewhouse solution, pitching certain wine strains in case of infection is relatively low risk.

On down the road, once the killer strains or toxins can be made totally effective—and there are reliable tests of that efficacy—they promise to be a simple, economic solution to the problem of diastatic contamination.

MALT INSIDER

Lighter Wheat Malts for Distinctive Hazy IPA

Amid the enduring popularity of soft, pale, hazy IPAs, maltsters have worked to develop wheat malts specifically meant to fit the (grain) bill. Here are two examples, with insights from brewers who use them. **BY DON TSE**

WHILE THE STYLE MAY HAVE PEAKED from its giddy heights of a few years ago, hazy IPA remains enduringly popular—and brewers continue to tinker with pale grists that support haze as well as big, juicy hop flavors.

Often, a key component in hazies is wheat malt on the lower end of the color spectrum. While many options are available, this is another area where maltsters are competing to create the kind of product that could help a hazy IPA stand out in a crowded field.

Here are two such products, with some specifics about how brewers are using them.

MALTEUROP CRYSTAL WHEAT 3L

When Malteurop released Crystal Wheat 3L at the Craft Brewers Conference in 2021, it was the first malt the company had ever designed for a specific beer style. That style, of course, was hazy IPA.

"It is not necessarily that something was lacking in the market," says Dustin Craft, Malteurop's craft sales manager. "But we reevaluated the market and asked if we could do a better job giving brewers what they need."

As its name implies, Crystal Wheat 3L is a crystal malt made from wheat and kilned to a low color (2.8–3.8 SRM). The company's product description says it "brings a lightly sweet character to beer, with hints of honey and subtle fruit notes, while maintaining a clean finish. Crystal Wheat 3L also improves head retention and helps maintain both flavor and colloidal stability."

Craft says it also lacks "the big doughiness" of most other wheat malts. To describe the sensory benefits of Crystal Wheat 3L, he uses an analogy: "If you make strawberry shortcake, there's a difference between making it on a biscuit base or a shortbread base," he says. "When you use a shortbread base, the flavors are more complementary, and the strawberry pops."

Likewise, Craft says, the malt's character is more complementary to the juicy hop flavors of a hazy IPA, and it doesn't mask or work against the flavors of New World hops. Plus, Craft says, turbidity tests confirm that Crystal Wheat 3L contributes to a substantially more stable haze than flaked wheat or flaked oats.

Despite Malteurop's original concept, the malt's softer wheat flavor makes it versatile for styles beyond hazy IPA. "It's found its way into fruited sours and other wheat beers," Craft says.

At Launch Pad in Aurora, Colorado, head brewer and partner Paul Mahoney says he uses Crystal Wheat 3L in a few different beers.

"I really enjoy the flavor profile the most," Mahoney says. "It has that soft wheat profile with a wonderful honey-like, almost golden-treacle character. It allows us to increase head retention and add some exciting flavor nuances."

Mahoney also agrees that the malt is versatile. "It adds a great honey profile to some of our lighter beers, which is harder

"THERE IS A DIRECT CORRELATION BETWEEN HIGHER-COLOR MALT AND OXIDATIVE FLAVORS AND A MORE PRONOUNCED BITTERNESS. SO, IPAS WITH LOWER COLOR TEND TO HAVE BETTER FLAVOR STABILITY—ESPECIALLY FOR MODERN IPAS, WHERE YOU WANT A CLEAN, FRESH FLAVOR."

to achieve with standard honey malt, due to honey malt's darker color profile," he says. "We also use it in some of our beers that use *actual* honey, to give it another dimension from the malt bill. It is also a good flavor-profile builder in darker beers as well, while aiding in better foam retention."

Malteurop recommends a usage rate of 5 to 15 percent of the grist, but Craft suggests that it's more forgiving than that. "It's the opposite of honey malt, where a *little* too much is *way* too much," he says. "Even if you use quite a bit of Crystal Wheat 3L, it will always just be a good supporting player and will never upstage the main flavors in your beer."

To that end, Craft suggests starting at 5 percent of the grain bill and moving up from there, as high as 15 to 20 percent. However, he says he knows of one brewery that has used Crystal Wheat 3L to the tune of 62 percent in a wheatwine—and even at that percentage, he says, it lauters fine, with no rice hulls needed.

Another brewery in Aurora, Colorado, Dry Dock, also reports positive experiences with Crystal Wheat 3L. "I think it is a good malt," says head brewer Sam Winslow. "It's worth giving it a try for added depth and character."

At Dry Dock, Winslow used Crystal Wheat 3L as 10 percent of the grist in a hazy IPA. "It has a nice, bready, honey flavor to go with the hops," he says. "I just kind of like the light color of the crystal. And it lauters great. … I'm going to use it again. I'm super-happy with it."

Craft also says that brewers shouldn't be frightened by the word "crystal" in the product's name. The malt *is* crystallized, so it is a little hard, but it mills fine, with no need to adjust your mill's gap settings. In the bag, the malt looks darker than 3L, Craft says, "but it won't be dark in your beer."

CANADA MALTING RED WHEAT MALT

As brewers have worked to lighten the color of their grists—particularly for IPAs—maltsters have worked to produce lighter wheat malts.

Canada Malting's Red Wheat Malt is another example, malted from a higher-protein, older wheat variety grown on just one farm in Alberta. The company lists a spec of 16 percent protein, compared to 12 to 14 percent protein in its malted white wheat. (Malteurop's Crystal Wheat 3L is 12.5 percent protein.)

"The protein in wheat is a part of the protein complexes needed for a hazy beer," says Don Moore, commercial sales manager at Soufflet Malt, which owns Canada Malting. "The structure of the protein is different."

Yet Canada Malting also kilns Red Wheat Malt to a lighter color, partly with hazy IPA in mind.

"Brewers are trying to lighten the malt load to make the hops shine more," Moore says. "There is a movement away from higher-color malt, like English-ale malts and crystal malts. And there is a direct correlation between higher-color malt and oxidative flavors and a more pronounced bitterness. So, IPAs with lower color tend to have better flavor stability—especially for modern IPAs, where you want a clean, fresh flavor."

Moore, who also was a longtime professional brewer, says he always preferred wheat malt over dextrin malt for promoting head retention and body because dextrin malt has more beta-glucans that can complicate lautering. With respect to hazy beers, Moore suggests that brewers try out different grains, including Red Wheat Malt, chit malt, and flaked oats, to get an array of different protein structures.

At Cabin Brewing in Calgary, Alberta, head brewer Jonas Hurtig says the Red Wheat Malt solved a problem he had when brewing Super Saturation New England Pale Ale, one of the brewery's flagship brands.

"When we first started, we used raw wheat," Hurtig says. "We mill into [the] grist case above the mash tun, so we had to run the raw wheat through our mill to get it into the grist case. The sound it made was terrible. I was worried about what the raw wheat was doing to the mill." To remedy that problem, Hurtig tried flaked wheat—but it didn't want to go through the mill at all, given its size and shape.

When Canada Malting created Red Wheat Malt, Cabin had the chance to trial it. "We really liked it," Hurtig says. "We like the higher protein—16 percent compared to 13 percent for white wheat or flaked wheat—and we get better extract. We get better haze stability, and there is no flavor difference." And it goes through the mill easily.

For Hurtig, using Red Wheat Malt was just a better solution to his problem. While a slightly higher extract is a bonus, he says, "haze stability is the selling point."

HOPS INSIDER

Federal Cuts Hit Hop Research

Cuts to the federal workforce are directly hindering programs that breed new hop varieties and work to solve agronomic problems. **BY STAN HIERONYMUS**

IT WAS FEBRUARY 22 when federal employees received Elon Musk's first "What did you do last week?" email, directing them to list five accomplishments. Had that email arrived one week earlier, hop-research scientist Francisco Gonzalez says he knows exactly how he would have replied:

- Began collecting photosynthesis parameters from hops in a diversity study conducted under greenhouse conditions.
- Continued setting up our lab's Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) instrument for upcoming soil and tissue analyses.
- Started drafting a manuscript based on collaborative research with another scientist.
- Began tissue preparation for total carbon analysis in a carbon stocks study.
- Worked on revising my RPES [Research Position Evaluation System] case write-up, which was due to the area office by March 20.

However, Gonzalez didn't get a chance to respond—he was one of thousands of U.S. Department of Agriculture probationary employees who were told the week before that they'd been fired.

Gonzalez was also one of four scientists central to the USDA-ARS hop-research program—the same that developed such varieties as Cascade, Centennial, Triumph, and Vista. The firings of support staff who offered administrative, IT, and facility services further crippled the program.

While federal court cases related to the federal layoffs were ongoing—for example, a federal judge ruled February 27 that the probationary firings were probably illegal—there was no indication that the researchers would be reinstated. Meanwhile, the remaining researchers say that a federal hiring freeze leaves them unable to recruit the key technicians and staff necessary to meet their program objectives.

"It has been a devastating hit," says Maggie Elliot, science and communications director for the Washington Hops Commission and Hop Growers of America. "All of that being eliminated overnight is very frightening."

RECOGNIZING THE IMPACT OF CLIMATE CHANGE, STAKEHOLDERS IN THE HOP INDUSTRY LOBBIED SEVERAL YEARS FOR THE USDA TO ADD A HORTICULTURAL SCIENTIST FOCUSED ON *ABIOTIC STRESS*—CAUSED BY NONLIVING FACTORS, SUCH AS DROUGHT AND HEAT.

A CENTURY LATER

The USDA established a hop-research program based at Oregon State University in 1930. Oregon produced about half the country's hops—twice that of Washington or California, at the time—and the Willamette Valley's abundant rainfall made it prone to downy infection. Initial research focused on identifying genetic sources of resistance

PHOTO: STAN HIERONYMUS

in downy mildew, to use them for hop breeding and to establish ways to control the disease with chemical applications.

The Agriculture Research Service (ARS), the USDA's in-house research agency, also cooperated with state scientists in each of the hop-growing regions on various research projects that included hop chemistry, pathology, agronomy, and physiology.

In the 1970s, the breeding program began releasing cultivars variously notable for their alpha-acid content, agronomic attributes, and aroma qualities. Cascade is the best known of those—although, 20 years ago, farmers in the Pacific Northwest planted three-and-a-half times as much as Willamette. Also, at that time, nearly all the aroma hops grown in the Northwest were products of the public program.

Today, privately controlled varieties account for about 70 percent of aroma acreage. It is not exactly surprising that, eight years ago, the agency targeted the breeding program—although not hop research altogether—for reduction. John Henning, who has been at the USDA since 1996, devoted only one-third of his time to breeding at that time.

A joint effort by industry participants—the Brewers Association, Hop Research Council, Hop Growers of America, and others—helped to revive the program. Based in Corvallis, Oregon, Henning is once again focused on hop breeding and genomics, although he plans to retire at the end of 2025. Kayla Altendorf joined the USDA staff in 2020. Based in Prosser, Washington, she also works in hop breeding and genetics.

RESEARCH FOR THE NEXT CENTURY

Congressional funding for the Hop Plant Initiative underwrites the USDA-ARS hop-research program. Until Gonzalez was fired, that funding supported the work of four scientists—the others are Henning, Altendorf, and David Gent, a plant pathologist based in Corvallis.

Hops are only part of Gent's work, but since 2004 he's earned an international reputation for developing innovative solutions for controlling biotic stress in hops—that is, the damage caused by living organisms such as insects, fungi, viruses, and weeds.

Recognizing the impact of climate change, stakeholders in the hop industry lobbied several years for the USDA to add a horticultural scientist focused on *abiotic* stress—caused by nonliving factors, such as drought and heat. Since Gonzalez began building out the Hop Stress Physiology Lab at Washington State University's Prosser worksite in March 2022, USDA-ARS invested more than $1.6 million in the project, and industry members contributed another $300,000.

The primary objectives of his research were "to understand hop responses to abiotic stress, mitigate crop damage from abiotic stress by developing improved production methods, and contribute to the identification of stress-tolerant cultivars and germplasm."

"I started with one measuring tape in my lab," Gonzalez says. He was 42 days shy of completing the three-year probationary period required for scientists.

Brandon Sandoval, a biological science technician who worked for Gonzalez, also had probationary status and was fired. The laboratory is stocked with sophisticated, specialized equipment, such as ICP-OES—inductively coupled plasma

optical emission spectroscopy. In the 1,054 days since he started in Prosser, Gonzalez also had built a specialized six-acre hop yard—the first facility capable of individual-plot irrigation control, enabling precise water-management experiments.

Neither the laboratory nor the field will likely be used in 2025. "This research is gone," he says.

WHAT CAN'T BE MEASURED

Gonzalez's RPES case write-up is part of a process that ARS-USDA uses to evaluate scientists. The copy he was working on the week he was fired was 14 pages long. It included peer-reviewed research with (almost) immediate value to hop farmers.

To name two examples:

- He had identified a water-management strategy to reduce the impact of sudden water loss late in the season, during the hop-cone development stage, in mature Cascade hops. He also had quantified the loss in hop-cone yield and quality caused by late-season drought.
- He had conducted research related to drip-line cleaners, providing data that American hop growers could use while requesting that the European Union relax its maximum residue level restrictions on chlorate. That would allow farmers to use less expensive line cleaners. In 2022, the United States exported more than $211 million worth of hops and hop products to the European Union. "I hope that is influential," Gonzalez says of the research.

When he discusses what he expected to accomplish in 2025, now that the necessary infrastructure was in place, it's clear that Gonzalez thought he was just getting started.

The loss of those accomplishments is impossible to quantify. "I think he is a prime example of all that is being eliminated overnight," Elliot says.

"Our goal is to maintain the high level of hops [in the Northwest], to make everything more resilient," Gonzalez says. "We need to adapt to the new reality of high temperatures, the possibility of water being cut off."

Hop research is focused on the future. In the context of breeding, that future can be several years' distant. Altendorf's lab sits across the hall from a room full of equipment that Gonzalez won't be using. He expected that his research related to abiotic stress would aid the breeding program when phenotyping hops. That will not be happening.

PHOTO: JAMIE BOGNER

"YOU'RE COMPETING AGAINST LARGER COMMODITIES AND OTHER SPECIALTY CROP INDUSTRIES. WHILE THE GOVERNMENT WANTS TO DIVERSIFY AND PROVIDE SUPPORT AND RESOURCES TO ALL U.S. AGRICULTURAL PRODUCERS, THE HOP INDUSTRY REALLY NEEDS TO MAKE A STRONG CASE FOR THE POTENTIAL IMPACT OF ITS PROJECTS."

2025 AND BEYOND

In recent weeks, there have been hundreds—maybe thousands—of stories published and broadcast about workers whose jobs were eliminated. There are fewer stories about those who remain at the agencies, in part because many of them have been told not to talk about their former coworkers or about what this means for their own work.

Heading into 2025, Altendorf was finishing up the paperwork to commercialize—that is, to give them names and make them available to farmers—two experimental hops that have proven themselves ready for brewers.

One, known as HRC 003, has been a favorite among those who assessed it through a Brewers Association program; it smells of mango, peach, tropical fruit, and citrus punch. The other, 2001006-084A, is rich in geraniol, with a floral aroma that includes notes of rose and lemongrass.

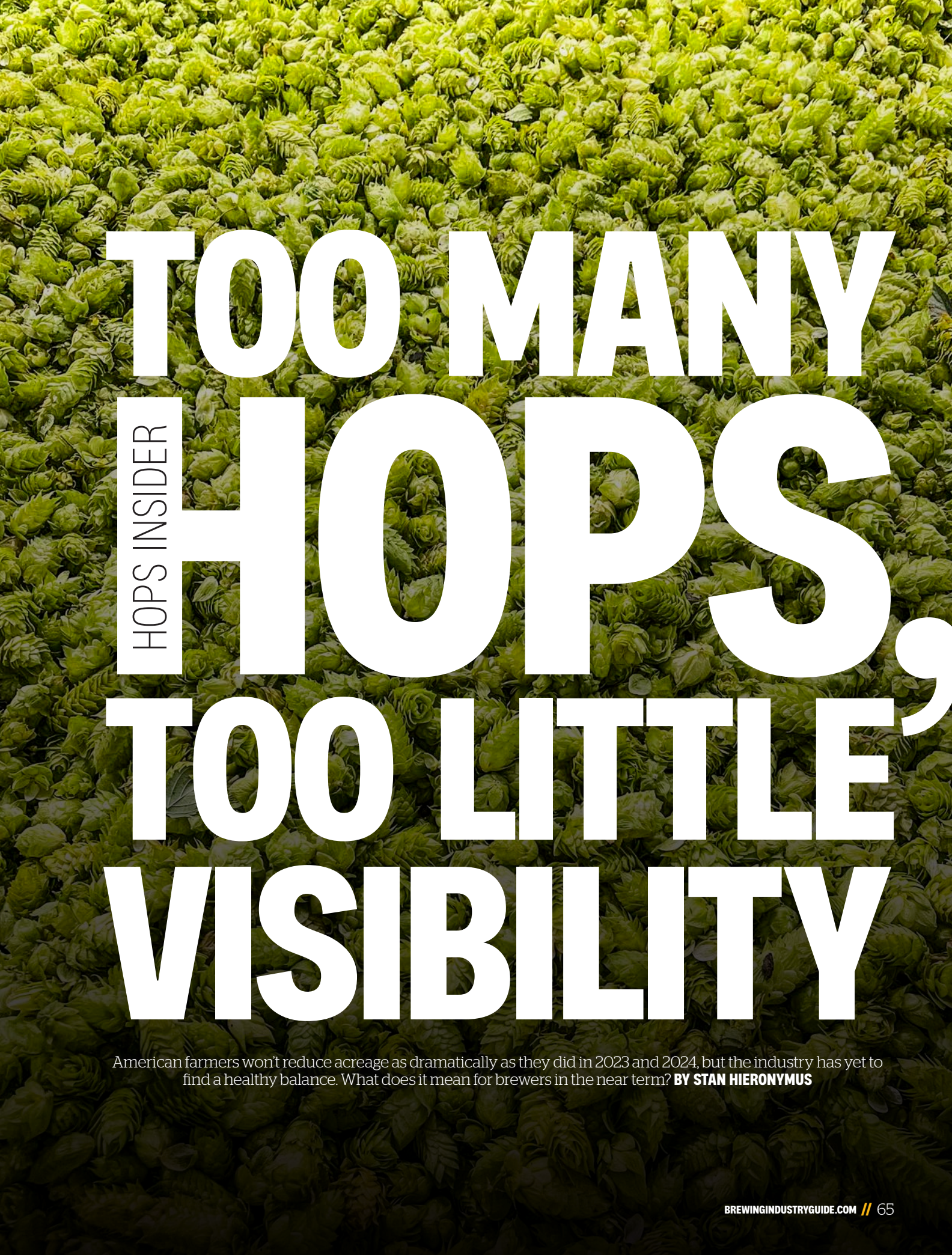
Both varieties come from the material that Altendorf inherited when she went to work in Prosser in 2020. "I'm seeking to move on from the historical material," she said in 2024. "I want the program to continue to move forward."

When Altendorf arrived in Prosser, the hop facilities were in disarray. She's cleaned those up, turned an empty room into a laboratory, published peer-reviewed research, expanded breeding stock, and otherwise energized the program. In 2024, she supervised a crew of five—two of whom were hired to work through the field season in 2025. Hiring restrictions will keep her from filling out a new team; if she knows how that will impact research this year, she can't talk about it.

Not long after the USDA announced funding for the Hop Plant Initiative, Hop Research Council director Alicia Adler discussed the industry effort that was involved in securing that support.

"You're competing against larger commodities and other specialty crop industries," she said. "While the government wants to diversify and provide support and resources to all U.S. agricultural producers, the hop industry really needs to make a strong case for the potential impact of its projects."

Since February, that suddenly looks much more difficult.



HOPS INSIDER

TOO MANY HOPS, TOO LITTLE VISIBILITY

American farmers won't reduce acreage as dramatically as they did in 2023 and 2024, but the industry has yet to find a healthy balance. What does it mean for brewers in the near term? **BY STAN HIERONYMUS**

TRÖEGS INDEPENDENT BREWING in Hershey, Pennsylvania, has already contracted for virtually all the hops—about 175,000 pounds, or 80,000 kilos of them—that it plans to use while brewing about 100,000 barrels of beer this year.

At Segal Ranch in the Yakima Valley, John Segal knows exactly how many pounds of Mount Hood hops Tröegs will buy from him after the 2025 harvest.

That's called *visibility*, and it's something the hop industry could use more of right now. Farmers around the world have produced more hops than brewers can use for a variety of reasons since the onset of COVID in 2020. That surplus has been great for brewers without contracts, who can find almost any variety they want, often at a lower price than what brewers with contracts are paying.

However, it has not been great for growers. Fifty years ago, 250 hop farms operated in the Pacific Northwest. Last year, there were fewer than 70 of them harvesting hops. Not all of those may turn on machinery in 2025, and more will likely be gone before supply and demand are back in balance.

In recapping the 2024 USDA hop report, Crosby Hops sounded an alarm: "The declines ... reflect an industry seeking balance after years of rapid growth followed by contraction. However, these corrections must not give rise to new challenges of market concentration. To ensure a resilient and diverse industry, brewers and farmers must champion diversity—across varieties, regions, and suppliers—to safeguard the competitive dynamics that foster innovation and sustainability. ... As brewers plan for their forecasting needs in 2025 and beyond, it's vital to make purchasing decisions with a broad perspective on diverse sourcing and supporting a range of hop varieties."

Those brewers would be well served by paying attention to the state of the hop industry around the globe.

ENOUGH ALREADY?

Between 2012 and 2021, hop acreage in Idaho, Oregon, and Washington more than doubled, from 29,683 acres to 60,872. Farmers planted high-impact aroma cultivars bound for hop-forward beers almost exclusively on those acres. Citra acreage grew from a little more than 500 to 11,981—more acres of hops than any *country* in the world grows outside of Czechia and Germany.

Mosaic only got its name in 2012, and farmers harvested 6,417 acres in 2021. Simcoe acreage grew from less than 1,000 to 4,007, El Dorado from less than 100 to 1,734, and Amarillo from 760 to 1,907. Growers produced millions of pounds (each) of varieties that were first named in the teens—1,345 acres of Sabro, 833 of Strata, 814 of Cashmere, 980 of Idaho 7, and so on.

Since the 2023 American Hop Convention, when John I. Haas retiring CEO Alex Barth told farmers his company estimated the industry had an excess of 30 to 40 million pounds in storage, growers reduced acreage 25 percent, from 60,113 to 44,793. They harvested 14.5 percent fewer pounds in 2024 than in 2022—87 million—at an average of $5.12 a pound, compared to $6.10 in 2022.

The fastest-growing varieties of the past dozen years tumbled even more. Citra production declined 36.5 percent, from 17 million pounds in 2022 to 10.8 million in 2024. Mosaic production fell 40 percent, from 13 million pounds to 7.8 million.

Will those cuts be enough? Ben Smith at B&D Farms in the Willamette Valley left the American Hop Convention in January having learned, he says, that "it would take a couple more years."

Indie Hops CEO Jim Solberg says his company sold more Strata in 2024 than farmers harvested, but they'll string only enough acres in 2025 to fill 2026 contracts signed by February 15. They'll fill other orders from older inventory. Year 2022 hops, he says, are "brewing really nice right now."

At Haas, the expectation is that farmers will harvest 3,000 to 4,000 fewer acres this year than in 2024, split almost evenly between aroma and alpha. The result would be 41,000 to 42,000 acres under wire, and an estimated 80 to 82 million pounds at harvest. That would be marginally fewer acres than 2015 but marginally more production.

"We don't believe another double-digit cut is necessary, but we're not quite ready to see acreage stay flat with 2025," says Pete Mahony, Haas VP of supply chain and purchasing. "Possibly, 2026 will be the year we'll see this acreage correction level off."

READING THE ROOM

Farmers in Australia and New Zealand, exporting bold aromatic varieties similar to those from the United States, have been quick to adjust to diminished demand.

Hop Products Australia, which produces most of the Australian crop and all the varieties of interest to American brewers, idled acreage for a second straight year. Supply of Eclipse and Ella will increase—the former because younger plants are mature and the latter because of contracted demand. Heading into harvest, HPA forecasts that Galaxy production will shrink 13.7 percent, to 759 metric tons. Galaxy accounts for 63 percent of what HPA farmers harvest.

Enigma production, meanwhile, will shrink 21.8 percent, and Vic Secret 10.6 percent. Overall, HPA production will be down 9.8 percent.

For its part, New Zealand does not have a consolidated industry report. New Zealand Hops, a cooperative of growers, last issued a market summary in 2019, when 90 percent of production was sold before harvest. Co-op members harvested 1,884 acres and 2.3 million pounds; 44 percent of that was Nelson Sauvin and Motueka.

At the beginning of February 2025, Clayton Hops—one of several new farms established since 2017—put together a best guesstimate that this year's New Zealand harvest would be 2.8 million pounds. Unusually wet weather early in the year may impact that production. They estimate that acreage has decreased from 2,924 in 2023 to 2,072 this year, with total production also down 29 percent.

"The downturn in New Zealand hop production is largely the result of brewers managing existing inventories rather than seeking new stock, indicative of a current market trend," Clayton Hops says in its report.

FIFTY YEARS AGO, 250 HOP FARMS OPERATED IN THE PACIFIC NORTHWEST. LAST YEAR, THERE WERE FEWER THAN 70 OF THEM HARVESTING HOPS. NOT ALL OF THOSE MAY TURN ON MACHINERY IN 2025, AND MORE WILL LIKELY BE GONE BEFORE SUPPLY AND DEMAND ARE BACK IN BALANCE.

THE OTHER "A"

While farmers moved to reduce excess aroma supply, alpha inventory continued to grow. One result is that Hopsteiner will slash acreage of high-alpha, high-yield Helios in 2025.

"It really outperformed in Idaho and Oregon and added to the pile more than we expected," says Doug Wilson, VP of sales and marketing. Farmers harvested more than 3.5 million pounds of Helios in the first year of full production.

A couple of merchants did a back-of-the-envelope calculation during the convention, and they decided that U.S. farmers could idle all their alpha fields for one year, and it *still* would not bring the worldwide supply into balance. Of course, that would also be disastrous: Although aroma hops are what drove acreage expansion, alpha sales are just as vital to a healthy industry, and that ultimately impacts the availability of aroma hops, too.

Thirty years ago, the two highest-alpha hops grown widely in Germany were Northern Brewer and Brewer's Gold. "People here were not so sure it was a good idea to have high alpha," German farmer Florian Bogensberger says. "If too many ... started producing, it would eliminate others. On the other side, we would not stay relevant in the market."

The Hop Research Center in Hüll released Magnum and Taurus soon after—then Herkules, in 2006. Herkules became the most widely grown variety in Germany in 2013, and it now accounts for 36 percent of acreage and 46 percent of production.

Acreage in Germany has grown marginally in the past three years to 50,136 acres, surpassing the Pacific Northwest as acreage there decreased. Demand for its aroma varieties is shrinking, starting with the two most widely grown aroma varieties, Perle and Hallertau Tradition. In November, the "pool price"—a base price that farmers could expect for noncontracted hops—for either of those varieties amounted to less than a dollar a pound at the farm gate.

If growers plant what once were aroma acres with high-alpha hops, that will further add to the worldwide excess.

"The global alpha oversupply cannot be managed by the U.S. alone," Mahony says.

DOWN ON THE FARM

The Segal Ranch harvested 425 acres of hops in 2024. John Segal entered February uncertain how many acres they would grow this year. "It could be 200," he says. "I'm still waiting on offers. I'm not going to grow them on spec."

For the most part, Segal sells directly to brewers. They pay for baled hops and have them processed into pellets elsewhere—often at Hollingbery & Son, which also contracts for some Segal hops. Like Smith at B&D, Segal says he's turned down offers when it would cost more to grow the hops than buyers—who've seen prices of excess inventory decrease—are offering.

"It is almost a race to the bottom," Smith says.

"Why would you grow hops at these prices?" Segal asks. "Might as well plant corn." Several hop farmers in the Yakima Valley have indicated that they will, in fact, grow corn. Segal is considering high-protein clover, to supply the dairy industry, which produces Washington's second-largest agricultural commodity. "Not that we'd make money, but it would pay for taxes and water," he says.

At B&D, Smith planted 50 acres of wheat in idled hop fields when Russia invaded Ukraine, and he says he would do it again if it were still profitable. But the opportunity to grow row crops disappeared when Willamette Valley processing plants closed.

"I'm trying to make a living," he says, "and to pass this on to the next generation."

B&D harvested almost 900 acres of hops in 2021. In early February, Smith had contracts to grow 485 acres this year. "I'm still hopeful we'll hear from a few more buyers," he says. He hasn't removed any of his infrastructure. "Two years out, I'm optimistic, but [U.S. acreage] won't come back to where it was."

GOING SLOW

Other merchants, as well as farmers and brewers, share the cautious approach that Indie Hops is taking toward rebuilding Strata acreage.

"Brewers in the past were more afraid of running out" than overestimating their needs, Solberg says. "Now more owners are getting involved." Strata acreage reached 1,143 in 2021. Farmers harvested about half that, 574 acres, in 2024.

"We're not going to intentionally overproduce," he says. "We knowingly grew more than we should have. We can't do that again."

Tröegs isn't purchasing as many hops as it did in 2019, when the brewery produced almost as much beer as it does now. "We certainly overbought as the [beer] market was changing," says production manager Andrew Dickson. For instance, they forecast that they would need more Chinook than they've used; they won't be buying any of the 2025 crop.

Recent events haven't changed the brewery's commitment to contracts, whether with merchants or individual farms.

"We do not generally purchase on spot," Dickson says. "With direct from a farm, there are some risks. If there is a problem with the crop, we could end up shorted." For varieties that aren't widely grown, such as Mount Hood, Tröegs may contract with more than one grower or merchant.

There are other practical considerations. One possibility "is farms going out of business," Dickson says. However, he adds, "my biggest concern is with varieties going away."

We can blame low visibility for the possibility that these two things can be true: The world can have too many hops, and brewers may not be able to find the ones they want.

PHOTOS: JAMIE BOGNER

HOPS INSIDER

What Should Brewers Be Asking Suppliers?

There's a hop surplus now and a flush spot market, but that won't always be true. What do hop merchants say brewers should be asking, to ensure quality and spend wisely? **BY STAN HIERONYMUS**

THE FIRST EDITION OF *The Practical Brewer* from the Master Brewers Association of the Americas (MBAA) uses a question-and-answer format throughout. Written in 1946, it poses questions such as, "What are the effects of improper storage or excessive aging on hops?"

Not surprisingly, how the authors chose to word the book's 343 questions was often as important as the topics.

Chris Holden, director of sales and marketing at the Hop Guild in New York, appreciates the value of a properly formed question. "I wouldn't say the question should be, 'Should I, or should I not?' Or, 'Why should I contract?'" he says. "I think the question [brewers] should be asking is, 'What hops do we really need to contract?'"

In recent years, for brewers willing to forego the amenities that come with contracts—such as selecting which lots they'll use—the answer to the last question has been "Zero," or "Close to zero." As the industry works through a surplus that makes spot-market hops cheaper to buy than those through contracts, that is likely to change.

Brian Tennis at Michigan Hop Alliance has bought and sold hops without contracts for 18 years. While operating without contracts wouldn't work for every brewery, Tennis says spot buying, done right, is critical for many smaller operations. He has a list of questions they should ask, such as, "Do the hops have a certificate of analysis (COA)?" Or, "How were they packaged, stored, and shipped?"

There are more questions that hop merchants and growers think brewers would be wise to ask. Much has changed since the MBAA published the third edition of *The Practical Brewer* in 1999, including the requirements for proper storage and the quality of prior-year hops.

SHOULD I WORRY ABOUT MY HOPS SHOWING UP DEAD ON ARRIVAL?

"I believe the quality of the Mylar bags in general has dramatically improved over the years, and nitrogen purging is pretty much standard now," says Tennis in Michigan. "Both of those factors have made a huge quality difference."

However, he adds: "You would be surprised at how some smaller merchants, and even some larger merchants, package their hops. Some of the thickness of the bags that we receive from other merchants or growers is consistently poor, and we invariably end up with issues down the road. Those bags pop a lot easier than others. Some are so flimsy you can put your finger through it."

At a minimum, when purchasing hops from a merchant for the first time, brewers should ask about packaging—including about testing foils for leaks. For instance, the BarthHaas family of merchants uses multilayered bags that have a specific puncture strength and are tested multiple times. If there's a leak, says technical sales manager Mark Zunkel, the amount of oxygen ingress is minimal. In contrast, a vacuum-packed bag will suck in air when pierced.

Mylar won't protect hops from heat. The temperature inside a nonrefrigerated truck sitting in the sun, possibly idle over a weekend, can easily reach 95 to 122°F (35 to 50°C). When it's that warm, the formation of gas may cause the package to balloon—sometimes enough for it to burst. Even if it doesn't rupture, the quality of the hops may be compromised. The damage may not be obvious because the package will deflate as the temperature cools.

Spoiled pellets will usually appear brighter, like fresh green vegetables, and they may smell like solvent or herbs.

"I WOULDN'T SAY THE QUESTION SHOULD BE, 'SHOULD I, OR SHOULD I NOT?' OR, 'WHY SHOULD I CONTRACT?' I THINK THE QUESTION [BREWERS] SHOULD BE ASKING IS, 'WHAT HOPS DO WE REALLY NEED TO CONTRACT?'"

WHY SHOULD I PAY ATTENTION TO WHERE MY HOPS ARE GROWN?

As Nick Arzner, founder of Block 15 Brewing in Corvallis, Oregon, said a few years ago, "A Cascade is not a Cascade, is not a Cascade, is not a Cascade."

There are reasons that some brewers prefer Chinook hops grown in the Moxee region of the Yakima Valley and some prefer Chinook from Idaho's Treasure Valley.

Call it terroir or call it regional identity—either way, brewers making in-person selections at harvest time can request hops from a particular region or specific farm be among those on the table. The hop merchant Hollingbery & Son does something similar, contracting for specific varieties from specific growers.

Hollingbery & Son production manager Graham Ollard, who also handles farm relations, suggests that breweries buying on the spot market could take a parallel approach. A brewer could begin by identifying the profiles they want—for example, by buying three different 11-pound bags to try—"and then keep on ordering what you like," Ollard says. Next year, the same variety from the same farm may be available.

SHOULD I CONSIDER VINTAGE HOPS?

Hollingbery sales team members don't hesitate to recommend hops from past crop years.

"We don't say that because of the overall length in the market," says Steve Frith, Hollingbery's central region sales manager. "But we do feel, some years, certain varieties just have outstanding years and that brewers may want to consider those options to help with beer consistency and to help potentially lower costs."

Various studies have established that when hops are stored at sub-freezing temperatures, the Hop Storage Index (HSI) increases only marginally, just as alpha content and total oil decrease incrementally. Hollingbery originally tested a lot of 2017 Cascade with an HSI of 0.324. In 2020, its HSI was 0.346, and in August 2022 the HSI was 0.392. The rule of thumb most dealers suggest is that hops with an HSI below 0.3 are considered good quality, between 0.3 and 0.4 is acceptable, and above 0.4 is questionable.

"There is some truth to newer hops being fresher," Ollard says. "High-thiol/high-sulfur ones, like Mosaic, tend to drop off more."

In contrast, for hops with Noble-like aromas, age is not as much of a factor. "My general rule for those with intense aroma is not older than three years," he says.

WHAT SHOULD I BE LOOKING FOR?

"Every [single bag's COA] should have, at minimum, the following: variety, lot number, year, alpha and beta percentage, total oil, grower number, and HSI," Tennis says.

Not all do. Sometimes, the COA will have that along with additional information, but not always.

That information makes it easy to ask whether more of a desired lot is available, to identify a farm that a brewer may want to purchase more hops from, and to measure how well-preserved the hops are. The HSI number that comes with the COA represents a measure taken at the time of packaging, but many merchants can provide an up-to-date HSI for previous-year crop hops. In some cases, a dealer may offer a completely new COA.

WHAT IF I HAVE A SPECIFIC QUESTION TO ASK?

Brent McGlashen at Mac Hops in New Zealand says that brewers should not be afraid to make specific requests.

"For instance, 'I'm making a West Coast IPA [and] I want a Nelson Sauvin on the more fruity side. Is there a lot that you have of this, or a specific soil type [or] region I should be looking for?'"

WHAT DOES SUSTAINABILITY MEAN TO ME?

There are many ways to think about sustainability. Right now, for many breweries and hop growers, it means simply staying in business.

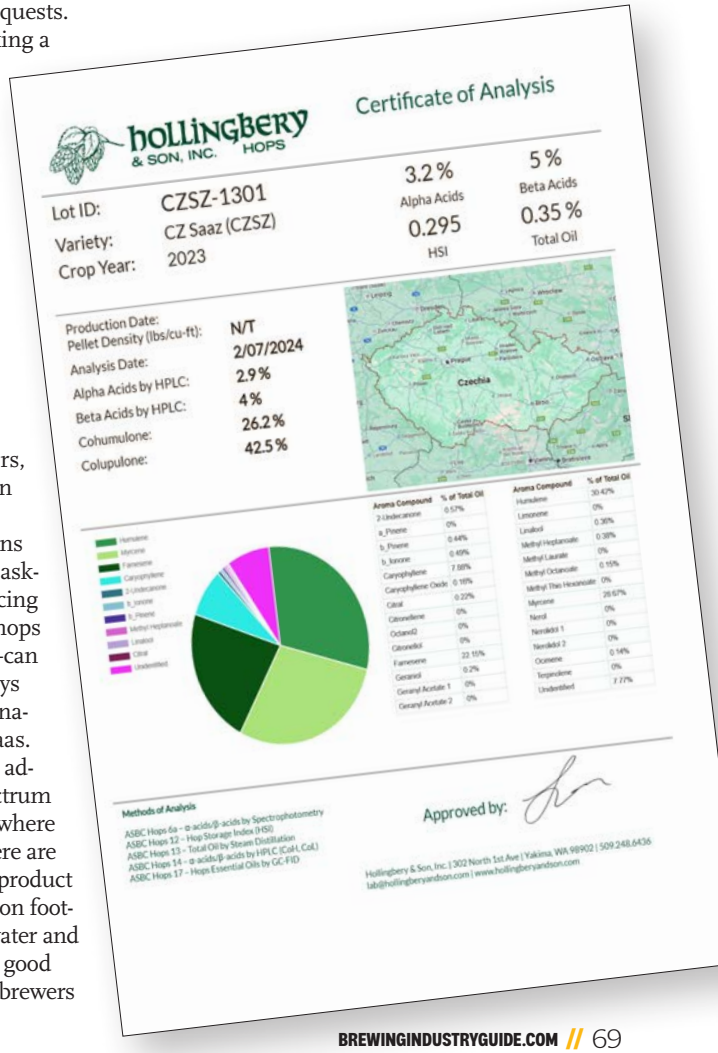
"One of the key questions I don't think brewers are asking is the *true* cost on pricing and what that product—hops or any other ingredient—can provide the customer," says Roy Johnson, director of national sales for John I. Haas.

"One example would be advanced products like Spectrum and Incognito," he says, "where the pricing is high but there are savings on beer loss, less product needed, and reduced carbon footprint due to lower wastewater and transportation needs—all good stuff. A lot of times, once brewers see a price, it gets them thinking small, and they have to think bigger than that."

Micah Cawley, key account manager for Haas Midwest, echoes the question that Holden says should be answered. "One [question] brewers aren't asking is, 'How should I structure future contracts in a volatile market?' Another question would be, 'What can I do to help stabilize the market?'"

"The problem is these probably sound like loaded questions from a hop merchant," Cawley says, "but the lack of communication between brewers and their main supplier can lead to important decisions being made on our best guess. The hop pendulum always swings too far one way or the other."

As it swings back—and, in some cases, demand exceeds supply—breweries may discover they should have contracted for more varieties. "Eventually, if you are not contracting, you will not find [hops from a] new crop year," Ollard says.



CASE STUDY

Sunriver Brewing

This lauded Oregon brewery proves that smart operational decisions can pay dividends—and land you on the awards podium. **BY KATE BERNOT**

HEAD BREWER PATRICK RAASCH HUMBLY describes Sunriver as a "brewery down in the woods."

Headquartered a 25-minute drive from Bend, Oregon, in the picturesque tourist destination of Sunriver, it feels—even to Oregonians—culturally removed from the state's brewing locus in Portland. No matter: Sunriver has put itself on the national map with enough major awards to necessitate their own page on the brewery's website.

Last year was a banner one for Sunriver, with medal after medal culminating in the title of Great American Beer Festival Brewery of the Year for its size (5,001–15,000 barrels), plus Large Brewing Company of the Year at the Oregon Brewing Awards. While the onslaught of accolades appeared to come all at once, it's the result of years of smart operational choices and, sometimes, hard decisions.

Unifying nearly 200 employees of a production brewery, a taproom, and four satellite pubs around a culture of quality takes time, structure, and resources. Sunriver opened as a restaurant in 2012, outsourcing beer production until it added its own brewhouse in 2014. Shortly afterward, its leadership faced what founding brewer and director of brewing operations Brett Thomas calls an identity crisis.

"We were really unsure if we were a brewing company that had multiple restaurants, or a restaurant company that had a great brewery," he says. A chance to rewrite the company's charter provided the needed clarity. "The first words to it are, 'We are a craft brewery.' So that allowed us to start organizing our thoughts and make decisions about how we align our business."

Compared to other operational imperatives, Thomas says, great beer is relatively easy for Sunriver to achieve. Some of the biggest improvements of the past few years haven't come from the brewhouse, but from operational changes. These include streamlining the brewery's upper leadership structure, empowering Warren Cruze—one of the pub general managers—with the title of "staff educator," and unifying the oversight of production, packaging, and sales teams.

Those incremental adjustments to managing the quality of food, packaging, and hospitality are just as important to Sunriver's longevity as beer medals—if not more so.

"Good beer, even great beer, is not enough to win the battle," Thomas says. "You've got to have the whole picture."

A CHANCE TO REWRITE THE COMPANY'S CHARTER PROVIDED THE NEEDED CLARITY. "THE FIRST WORDS TO IT ARE, 'WE ARE A CRAFT BREWERY.' SO THAT ALLOWED US TO START ORGANIZING OUR THOUGHTS AND MAKE DECISIONS ABOUT HOW WE ALIGN OUR BUSINESS."

CENTRALIZING PRODUCTION, BUT DECENTRALIZING SALES

Every drop of the roughly 13,000 annual barrels that Sunriver has brewed for the past four years comes off a single 15-barrel brewhouse. That ensures centralized quality standards, but it also requires three to four brews per day, year-round.

Sunriver sells just 17 percent of its production through its pubs, with the remaining 83 percent going through seven wholesalers. Almost all the brewery's volume is sold in Oregon, but it also sends limited amounts of beer to parts of Washington, Idaho, and northern California.

This model creates organizational complexity, which the company tries to minimize where it can. For example, there used to be wider variation between the types of beers brewed for distribution and those brewed for Sunriver's pubs. Today, that's rarely the case. Sunriver still produces the occasional one-off, pub-exclusive beer, but it sells the vast majority of its beer both via distribution and across the pubs and taproom.

"Very seldom anymore are we brewing something that we cannot sell through both sides of the business, which has created a bit of a safety net," Thomas says. "The main focus is on beers we can allocate to our seven wholesalers and then allocate the remainder to our pubs and taproom."

The nimble brewhouse combined with five on-premise outlets means brewers can explore a style they think might have legs (are amber ales back?) with a bit of that "safety net." Each of Sunriver's pubs has its own identity—the Oakway pub in Eugene, Oregon, is located beneath a hotel and gets busy during Oregon games,

PHOTOS: COURTESY SUNRIVER

From left to right: head brewer Patrick Raasch, production coordinator Steven Black, and founding brewer Brett Thomas

while the Eastside Bend pub caters to a neighborhood crowd.

So, in Bend, for example, drinker interest in hazy IPAs might be declining, but those are still strong sellers in more rural areas where Sunriver distributes. Head brewer Raasch keeps an eye on newer styles that are becoming popular in states such as California—but ultimately, the more important question is whether drinkers in Sunriver's pubs and distribution territory are interested.

"A great example of that: Boise was definitely not ready for West Coast pilsner," Thomas says. (Idahoans may just be temperamentally allergic to anything associated with the West Coast.)

One of Sunriver's best tools for right-sizing production is also one that causes inefficiency: its small brewhouse. Raasch can brew 15 barrels or 45 barrels of a given style, and he's designed the cellar to quickly throttle up or down when it comes to changes in production planning.

LIKE A GOOD NEIGHBOR

The brewery's mounting success is proof that dogged operational planning can lead to tangible wins—sometimes *literal* wins in the form of competition medals.

The challenge facing Sunriver is how to convey that momentum to a general audience who doesn't care what a World Beer Cup gold medal means. The goal is for guests to recognize Sunriver as excellent not because of external awards, but because of the experience they have with its beer or at its pubs.

Luckily, Thomas says, the company is aligned on that value. "Leadership has more faith in myself and Patrick than at any time in the history of the company," he says, "and we're generally well resourced and have a pretty wide lane to travel in."

Brewery leadership would be pleased with the feedback from Mike Bolt, who co-owns Final Draft Taphouse in Vancouver, Washington, with his wife, Kimberly Johnson. Bolt says Sunriver is in a rare stratum of breweries whose one-off beers he'll buy from his distributor without a second thought. While the Bolts already respected the quality of Sunriver's beers, they also found it matched by the on-site experience when they visited the taproom on a vacation last August.

"The reason we went to Sunriver, Oregon, was because of Sunriver Brewing," Bolt says. "We ended up at the taproom every afternoon on our trip because the service was amazing. The bartenders were great. I've been in the industry for a long time, and that goes a long way."

Another Oregon beer retailer echoes that sense of appreciation for—and from—Sunriver. Ami Shannon and her husband, Brian, co-own and operate Valley Public House in Portland. She says Sunriver puts in extra effort to let her and her customers know they're valued. The Sunriver team not only brews an anniversary beer for Valley Public House, but they also invite the Shannons out to help with the brew day; brewery staff also regularly visit the bar and interact with drinkers. "Just the fact that they come out and meet our customers and do things that make it an experience for our customers, that matters," Shannon says. "Some brewers, we'll be a top account of theirs, and they don't even know that we sell their beer. We like it when someone recognizes the hard work we do to get their beer out there."

Great American Beer Festival medals came up only occasionally in retailers' comments about Sunriver, and they mostly validated the brewery's existing reputation. (Awards don't help sales, Thomas says, but they certainly don't hurt.) Instead, retailers care about the nuts and bolts: consistent quality across styles, a varied portfolio, and good communication and outreach from the supplier.

GOING ALL-IN

The respect Sunriver has earned from retail partners and other breweries starts with the quality of its beer, but that's only the foundation.

When staff from Fort George Brewery and Public House in Astoria, Oregon, collaborated with Sunriver on a West Coast extra pale ale in August 2024, they weren't only impressed with the brewery's knowledge of lot-specific hops. They also admired Sunriver's commitment to employee training and support, as well as their investment in the full pub experience beyond the beer component.

"There's a lot to be said about the business and the way they treat their employees," says Brian Bovenizer, director of marketing at Fort George. "A lot of their crew has been [working there] for a long time. Like us, they have an overall desire to do things the best you can and try to get everyone to buy in. We want to be as welcoming to families as we are to beer nerds [and] people just dipping their toes into beer, and I feel like Sunriver does that really well."

Thomas says he's made it a priority over the years to increase employee wages and benefits to help Sunriver compete for talent with larger neighbors such as Deschutes and 10 Barrel. As a result, he says, staff retention has improved, with noticeable effects on both beer quality and the level of pub hospitality.

Bovenizer says that Fort George found the mind-meld so successful last summer that they've invited Sunriver back as one-third of their Three Way IPA collaboration for 2025. The invitation to this annual collab is prestigious—Fort George chooses the two visiting breweries "for their mastery in the art of IPAs," and they've previously included the likes of Cellarmaker, Georgetown, Level Beer, Alvarado Street, and more.

"What we really seek in a collaborator is someone who's going to be all-in," Bovenizer says. "Sunriver brought out their whole team, and they pretty much shut down their brewery to come out here. They were so open with their knowledge of hops, and that was surprising."

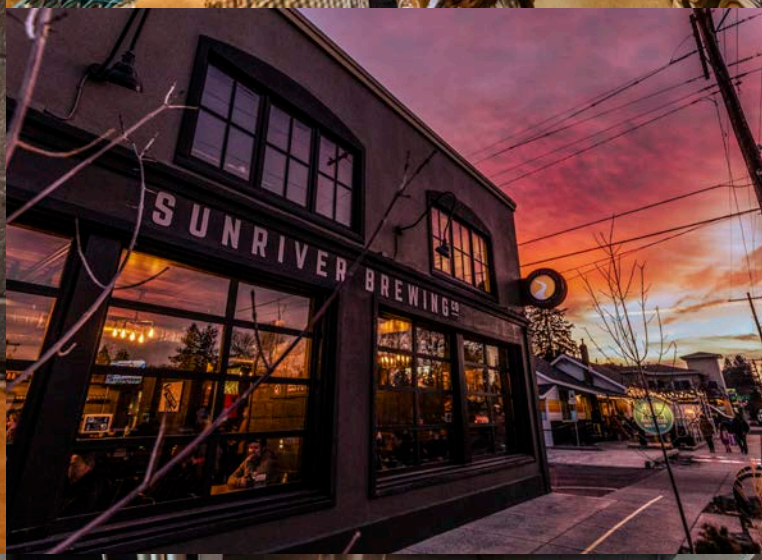
Sunriver is best known—and highly awarded—for its IPAs, but the brewery isn't staking its entire business on those. After Vicious Mosquito IPA, it's a hefeweizen called Fuzztail that sells the greatest volume for Sunriver, mostly on draft. Behind Fuzztail are a cluster of rotating lagers and various permutations of IPA, both hazy and West Coast.

The brewery also has a well-regarded wild and barrel-aged program, with one-offs such as an Italian-style pilsner and an amber lager. Thomas says it's important for diverse drinkers with their own palates to be able to find an entire flight of five beers that they love in the pubs—or to feel confident spending $16 on a Sunriver four-pack they haven't yet tried.

Competition medals confirm the brewery is on the right track, but Raasch and Thomas aren't resting on their laurels.

"We certainly seek perfection," Thomas says. "We don't always get there, but it's in our DNA just to keep chasing it."

GREAT AMERICAN BEER FESTIVAL MEDALS CAME UP ONLY OCCASIONALLY IN RETAILERS' COMMENTS ABOUT SUNRIVER, AND THEY MOSTLY VALIDATED THE BREWERY'S EXISTING REPUTATION. INSTEAD, RETAILERS CARE ABOUT THE NUTS AND BOLTS: CONSISTENT QUALITY ACROSS STYLES, A VARIED PORTFOLIO, AND GOOD COMMUNICATION AND OUTREACH FROM THE SUPPLIER.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CASE STUDY

The Seed: A Living Beer Project

Amid the attractions of Atlantic City, Amanda Cardinali's farmhouse-inspired Living Beer Project has taken root, embracing New Jersey ingredients, an open-ended creative process, and passion projects that intrigue customers. **BY JOE STANGE**

FOUNDED IN 2020, THE SEED is perhaps not what you'd expect to find in downtown Atlantic City, just 15 minutes' walk from the Hard Rock's giant guitar.

In contrast to the clanging casinos and bustling boardwalk, the Seed offers respite. Even the names of its beers are somehow relaxing: A Place to Rest, Stay Awhile, Unhurriedly, Quiet Fields, As Simple as Home?, and so on. It offers a refreshing downshift not only from the local action, but also from a craft segment drawn to extremes—whether that means pushing gravities as high as they can go or squeezing the most intense aroma out of the latest hop products.

A recent draft list offers a glimpse of what you might expect at the Seed. The first five of 10 beers on tap are all lagers—dark, rye, pale, light, and Italian-style. The next two are British-style and dark—mild and porter, the latter featuring chestnuts and cacao. Then we get into farmhouse flavors, with a mushroom saison and a *bière de coupage*—a mixed-culture blend.

Oh, and there's one IPA.

EVEN WHEN MIXED-CULTURE BEERS ARE A SMALL PERCENTAGE OF A BREWERY'S OUTPUT—AS THEY USUALLY ARE—THEY STILL COST MONEY AND TIME (WHICH IS MONEY) AND SPACE (WHICH IS MONEY).

"We make a variety of styles now," says Amanda Cardinali, who cofounded the Seed with partner Sean Towers. "But I would say the true passion behind the entire project is saison."

The Seed sold about 800 barrels of beer in 2024, and Cardinali says about 10 to 15 percent of that was saison—the word she uses for any of her mixed-culture creations, which often get fruit or other local botanicals and are always bottle- or keg-conditioned.

"It's definitely a lower percentage than I would like of saison," she says. "But that's also keeping in mind that we don't have a ton." With about 30 oak barrels plus four stainless tanks in her mixed-culture program, there's a limit to what she can produce—even if she could sell it all quickly. "It's also just a tie-up of space. I think if we had more, I would fill more."

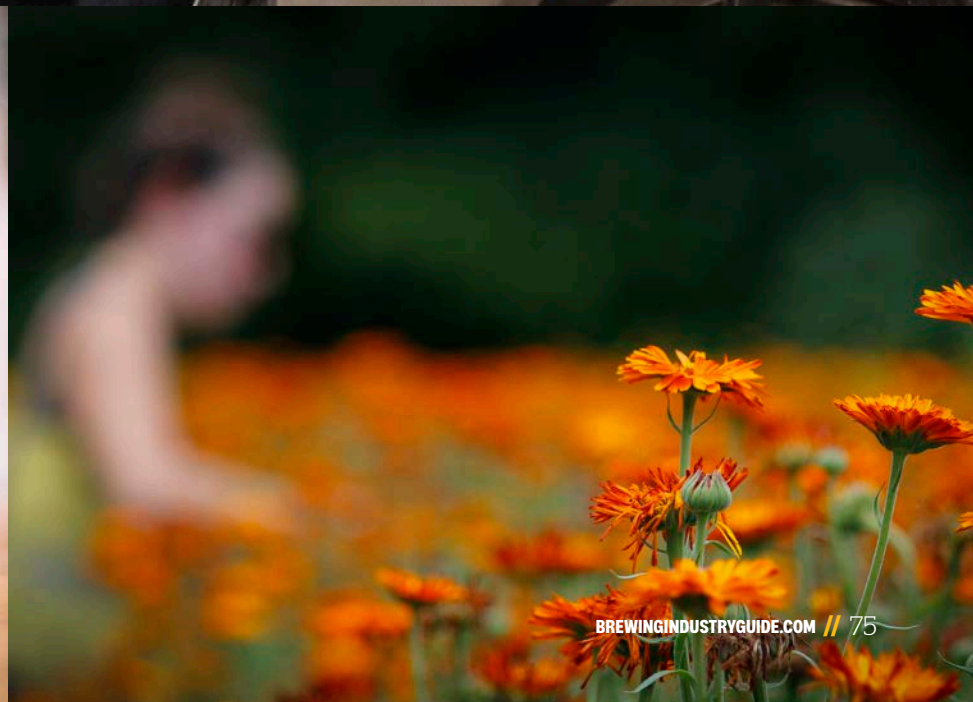
PLANTING THE SEED

Brewing was Cardinali's first job after graduating from college in 2012. She and Towers had become obsessed with homebrewing and heard about a brew-

PHOTOS: COURTESY THE SEED


ALPHA


THE SEED
A LIVING BEER PROJECT



FRIENDS OF THE WOODS

One of the ways the Seed has built a dedicated customer base for saison is through its membership club.

Cofounder Amanda Cardinali says she was skeptical at first that the club would prove popular—it includes six bottles of beer, and five are saisons—but she says the feedback has been overwhelmingly positive.

There are two tiers of Friends of the Woods: bottle-only and full membership. The bottle-only tier in 2025 costs $175 and includes members-only bottles plus a T-shirt and glass. Full membership costs $325 and includes all that plus extra privileges: early access to all bottle releases, a two-month pickup window for beers, and two members-only events.

Those events, which take place at Rabbit Hill and other farms that partner with the Seed, have become real highlights on the calendar for the brewery team as well as the 50 full club members. For a small charge, members can bring a spouse, friend, or other "plus one," and it's all-you-can-eat-and-drink, with the food coming from a local restaurant or food truck.

"And then we bring a ton of cans," Cardinali says. "We usually try to bring beers that we haven't released yet, to put on tap. And it's just a day—a few hours on the farm. And Rabbit Hill is really fun because they take us out on the tractor and around the farm and show all of our grain."

At another event—at Walking Bird Farm in Egg Harbor City, New Jersey—members got to participate in picking strawberries for the Seed's first fruit beer of the year.

"It's cool, also, just planning ahead and figuring out, 'How can we make these bottles special and different for our members?' Especially because it's not a huge run."

ery—Tuckahoe—that had recently opened in nearby Ocean View, New Jersey.

"I was their first and only employee for a while," she says. "So, I basically tried everything, but it was mostly brewing in the start, and working in the tasting room, and then packaging, more cellar tasks. And yeah, I just absolutely fell in love with it."

Tuckahoe would eventually close, in late 2023, but a decade earlier its owners were giving Cardinali room to learn and explore her interests. Despite the tight space at Tuckahoe's original location, Cardinali and Towers—a microbiologist—jumped at the chance to experiment with mixed-culture saisons and blends.

"They let us buy three oak barrels," she says, "and they were like, yeah, we can do whatever we want with these three oak barrels. So that was super-exciting for us." They put three different beers into those barrels, releasing the first one in 2015 as a mixed-culture saison with apricots. "That was very exciting and new and different," she says. "So, we just fell even more in love with it."

When Tuckahoe moved to bigger digs, the owners allowed Cardinali to add more barrels. "That just became my whole passion project," she says. "But with these beers, obviously, you need to be super-patient, and it takes a long time. And I never really had the answers of when they're going to be ready, when they're going to be packaged. It's just ... the beer tells us when it's ready. And, you know, sometimes that's difficult to hear."

Even when mixed-culture beers are a small percentage of a brewery's output—as they usually are—they still cost money and time (which is money) and space (which is money). Meanwhile, "as time went on, I just started becoming a little more obsessed with that whole project, and I eventually realized that it's going to be really difficult for me to do what I really want to do under someone else's brand."

With that in mind, Cardinali and Towers started thinking about opening their own space, "which is not anything that I ever wanted to do," she says. "I was very content making wort and cleaning tanks and going home, without all the stress of it. But I think we just became so wrapped up. And saison and mixed-ferm—just the beautiful world of it—that didn't really exist down here at all." In New Jersey, at least, "no one was really making beer like that at that time."

It took a while to pull it together. While Cardinali and Towers looked for investors and a space, Cardinali went to work at Ludlam Island Brewery in Ocean View—"with the caveat," she says, "that I would be leaving soon to open up my own space." She ended up staying there about three years. "I wasn't brewing," she says. "I was doing mostly cellar work and tasting room, which was amazing. It made me kind of free-fall in love with what I was doing."

The Seed's location, she says, "fell into our laps." While visiting Atlantic City's Little Water Distillery for a drink, they mentioned to the owner that they wanted to open a brewery. "Oh, that's crazy," he said, and he explained how his landlord had been holding a space next door for a brewery to take over. That deal was apparently falling through, however, so the landlord showed them the space.

"It was a pile of rubble," Cardinali says. "And I was like, 'This is it. This is our brewery.'" They hadn't even been considering Atlantic City as a location. "But the minute I saw it, I was like, 'Yep, this is the one.' I think I love it—I mean, I wouldn't trade it for anything. ... Our original vision—and it's still a vision that we have—would be on a farm, with access to all of our ingredients at our fingertips. But it's super-special here."

They started buildout in August 2019. Besides a few jobs for the electrician, HVAC tech, and plumber, Cardinali, Towers, and Towers' parents did all the construction themselves. "We were jackhammering the floor," Cardinali says. "We were pouring concrete, we were building the bar, building the walls—I've never painted so much in my entire life. So, it took a while."

"WE'RE MILLING INTO BAGS AND THEN TAKING THOSE BAGS TO OUR TINY LITTLE BREW DECK, AND GRAINING IN THAT WAY," SHE SAYS. "IT'S DEFINITELY VERY HANDS-ON. WE DON'T HAVE ANY BUILT-IN PUMPS, NO HARD PIPING. IT'S ALL CART PUMPS AND SOFT HOSES. AND THAT'S HOW I LEARNED. ... IT KIND OF FORCES YOU TO BE VERY *ONE* WITH THE BEER THAT YOU'RE MAKING."


THE SEE
A LIVING BEER PROJECT

They installed a seven-barrel, indirect-fire brewhouse and HLT with a mash tun made from a converted dairy tank. "We're milling into bags and then taking those bags to our tiny little brew deck, and graining in that way," she says. "It's definitely very hands-on. We don't have any built-in pumps, no hard piping. It's all cart pumps and soft hoses. And that's how I learned. ... It kind of forces you to be very *one* with the beer that you're making."

The Seed: A Living Beer Project started selling beer in October 2020—to-go cans only, amid the pandemic—finally opening its tasting room in February the following year.

A LIVING PASSION PROJECT

The beers in those 30 barrels plus a few stainless tanks are Cardinali's threads for the weaving.

For example, that bière de coupage recently on tap is from the third batch of her Poetry in Motion—a blend of hop-forward, tank-fermented saison with *Brett* beer that fermented and matured in the barrels. That other saison on tap—called Ghosts Are All We Are, a collab with Odd Colony of Pensacola, Florida—fermented and matured in the barrels before conditioning on locally grown pioppino mushrooms.

While Cardinali and her team aim to keep at least one IPA on tap—and it's usually the top seller, week to week—the lagers also sell well. Yet the saisons have their dedicated fans.

"I mean, definitely our other beer pays for this project," she says. "But overall, I'm very happy with how people have been responding. I think there's a very weird stigma around saison because they're all so different—like, every saison is *so* different—and, you know, not all of them are to people's tastes."

In the taproom, she says, they often explain to customers that these are going to be different from what you've had before, and they're also going to be different from each other. "We usually try to keep between two and three on tap, and even the two that are on tap are going to be wildly different."

She doesn't call them "sours," and they won't strip the enamel off your teeth. "Most of ours are not super-acid-forward, which I think helps, too. ... We definitely try to keep ours very yeast-driven [but] with an acid component."

Cardinali says they have a few regulars who started out as "IPA or bust." However, visiting the Seed has turned them on to saison. "Now, they send me photos—they trade for, like, Hill Farmstead and Floodland," she says. "I feel like a proud mom. I'm like, 'Look at you!'... Just kind of watching the evolution of people trusting us is also really special."

BEER OF ITS PLACE

Cardinali is New Jersey born and raised, and her saisons tend to be fiercely local in composition. Rabbit Hill Malt in Shiloh, New Jersey, about 50 miles west of the brewery, grows and malts all the grains. Fruits and other botanicals, when added—such as berries, spruce tips, honey, or flowers—are also local and seasonally driven. The Seed's house culture, meanwhile, lives in those barrels, providing expressions that have evolved over time.

"At this point, they're wildly different from even what we originally pitched in our barrels," Cardinali says. "Some barrels, I don't even think we ended up pitching [anything] into. We're not super-strict on our SOPs [for] our equipment on that side of the brewery. So, if we're transferring a barrel and then transferring another barrel, most likely we're not really giving it a thorough clean in between. So, everything's more cohesive at this point."

In the early days of their experiments, Towers would isolate cultures from any beers they enjoyed. "At one point, I think our refrigerator had an entire shelf dedicated to small vials of yeast and bacteria and ... dregs of bottles that we liked, or just cultures that we liked," Cardinali says. "So, at this point, I don't even know—I mean, they're all written down. ... But I would say they've also just evolved and come a long way from when we first started filling the barrels. But it's been a really fun evolution, and now we're getting to know our barrels."

Those barrels have their own personalities, too. "We know that *these* barrels usually lean more acid-forward, and *these* are usually a little gentler, and *these* usually need maybe some blending."

"WE ALWAYS DESCRIBE IT AS IF WE'RE CAPTURING THESE MOMENTS IN TIME. WE'RE CAPTURING THE PEACHES FROM LAST AUGUST. WE'RE CAPTURING THE DANDELIONS THAT WERE THE FIRST ONES TO POP UP AFTER WINTER."

And she takes advantage of those threads to maintain the variety, which then helps to maintain the interest among customers. "If you come here normally, and we have two saisons on—in my perfect world—I try to keep one that's a little more classic, and then one that is either dry-hopped or fruited," she says. "We try to keep both different enough that maybe—if you are into it or willing to try it—you try both."

There isn't always a set plan for how to combine those threads—and if there is, it can change. "I try to schedule—once a month, if I'm lucky—just a day where I literally write on the calendar, 'Saison Things.' It usually means, 'All right, we're going to sit down, we're going to pull nails. We're going to go through, we're going to take notes—we're going to try to map out the next few barrels that are tasting good."

It doesn't all end up in blends. An occasional series called Replete Trees usually comes from a single barrel, unblended.

"It depends on the barrel," she says. "We normally go into a barrel tasting just completely open-minded—like, these could all be blends, none of these could be blends—it's whatever the barrel is telling us."

BRANCHING OUT

Initially, the Seed sold beer out of its taproom only. It later added a few New Jersey accounts, gradually growing into a few more in Pennsylvania and New York. Since December, they now have a full-time salesperson focused on New Jersey.

Because the IPA is usually the taproom's top seller, they always try to have at least one or two on tap. "There are times where we have multiple, there are times where we have none," she says. "I try to avoid the none because it makes people very upset. But it's also a good opportunity."

In the Seed's early days, if they would run out of IPA, Cardinali says she would apologize profusely to her staff. "I'm like, 'I don't know what kind of reaction you're going to get from this, and I'm really sorry in advance.' And now they look forward to it because it forces people to step out of their comfort zone and try something different." That "something different" might be their dark lager, As Simple as Shadows?—it's a staff favorite, she says, "so I'm sure they also push it."

Besides Cardinali, there are three full-time staff: brewers Chris Howells and Brandon Almand, plus an operations manager who oversees taproom and sales. The number of part-timers can vary widely by season; Atlantic City gets a tourist

flow that swells all summer and especially on weekends. That ebb and flow also affect their local accounts, which buy far fewer kegs in the winter.

"It's very dependent on the weekend and what concerts are happening and what's going on in the city," she says. "And just trying to keep our finger on the pulse of that has been kind of fun and sometimes challenging."

Early on, she says, most of the customers they asked said they were from New York or Philadelphia. "New Jersey maybe didn't really know that we existed—and maybe still doesn't really know we exist, just because we haven't had a distro model and because we do kind of weird things for our state," she says.

"But I think everyone's kind of shifting a little bit of what they're brewing, and what people are drinking. So, I think it's hopefully a good time for us."

One thing shifting over the past few years, for example, is people drinking more craft lager—a brewer-driven trend, as customers often appreciate that it's what the brewer wants to drink. There may be a lesson there for brewers who love farmhouse-inspired, mixed-culture beers.

But even if drinkers don't shift that way, Cardinali says, that won't stop her from leaning into her passion project.

"That's my obsession," she says. "There was no part of me that was going to give that up. It's literally why we opened a brewery. I think people are starting to pick up on our love of it, and I think that's what makes them excited."

To communicate that enthusiasm to customers, she says, it's important to tell them the story of each beer. "We always describe it as if we're capturing these moments in time," she says. "We're capturing the peaches from last August. We're capturing the dandelions that were the first ones to pop up after winter. And that to us is so special, and I think we try really hard to convey that. … Because they're like, 'Oh, these people are so excited about this weed that they picked from this field that they put in a beer. I feel like I should try it.' … If you really love it and you're super-passionate about it, I think people pick up on that."

They also make it a point to openly celebrate saisons—for example, on Saison Day, once per year, when the Seed might put as many as eight of them on tap.

"I don't know; it's still very dreamy to me, I guess," Cardinali says. "So, maybe I'm still living in a little bit of a fantasy land. But I think I'm okay with that."

Cardinali and her dog, Brett

// PARTING SHOT

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