

CRAFT **Beer & Brewing**
Magazine

BREWING INDUSTRY GUIDE // 19.1 WINTER 2019

**INGREDIENT
INTEGRITY:
TOP BREWERS
TALK MATERIALS,
PROCESS, AND
TECHNIQUE**

**QUALITY
APPROACHES
FOR SMALL-SCALE
PACKAGING**

CASE STUDIES

RISING TIDE
Quality Is the
Driver of Success

FERNSON BREWING
Selling "Craft" in
Unfamiliar Markets

CONFLUENCE BREWING
Strategically Growing
Self-Distribution

**Q&A:FOUNDERS'
DAVE ENGBERS**

BAGBY BEER: TRADITION IS INNOVATION

Jeff Bagby served a series of long apprenticeships with some of the best in the business (Stone, Pizza Port) before launching the brewery with his name on it. Today, he's finding customers in a crowded market not by chasing trends, but by making nuanced beers and training staff to educate consumers.



NONCOMPETE AGREEMENTS: WHAT YOU NEED TO KNOW /// HOW TO AVOID COMMON ESOP MISTAKES



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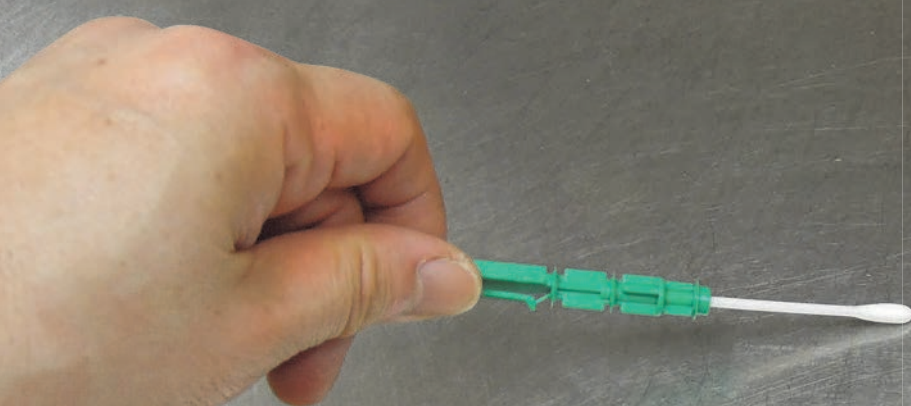
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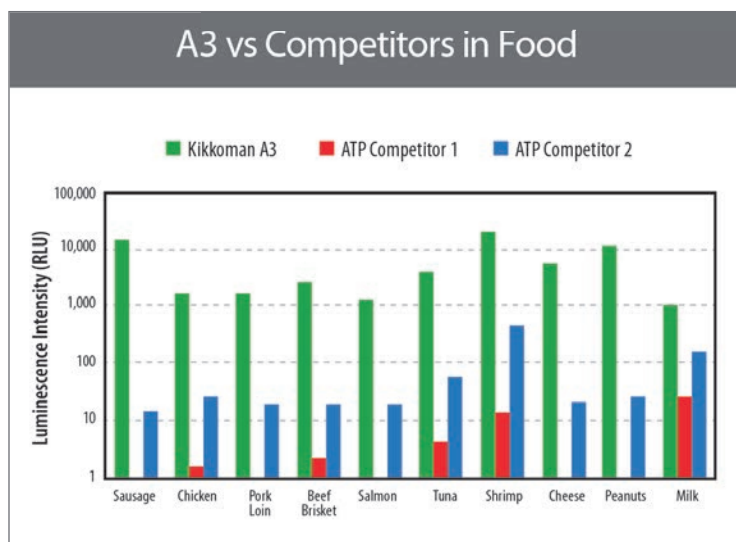


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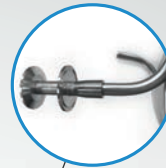
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One of the largest craft breweries in Iowa, Confluence Brewing Company has decided to grow by controlling its own distribution. From early days of growlers to the current growth of cans (and draft, of course), they’ve discovered that a personal touch with their accounts has helped keep them top of mind and capable of supplying beer to all those who want it.

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*“How many liberators really want to be dictators?
Every theory has its holes when real life steps in ...
What better way to turn people off than to twist ideas for change
Into one more church that forgets we’re all human beings
Where do ya draw the line? I’m not telling you. I’m asking you.”*
—Dead Kennedys, “Where do Ya Draw the Line”

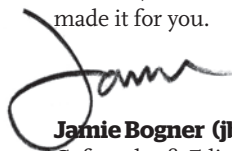
THEY SAY YOU ALWAYS REMEMBER your first time, and I can definitely remember mine. It was 1985, in central Florida, and I was a fifth grader who talked my dad into driving me to Peaches Records and Tapes to buy my very first cassette. I had other music, of course, but it had all been bought for me or gifted to me. This tape was one I wanted to buy for myself, for the first time.

The cassette in question was one from the Dead Kennedys, and yes, it was worth the parental argument that ensued. I think about that moment when I became an active participant in the development of my own taste because it has plenty of corollaries with the way consumers discover craft beer. I wanted it because the music was different, edgy, slightly dangerous, and expansive. It made my world bigger and challenged what I thought I knew about music and politics. It felt more meaningful than the music I had listened to up to that point—more conscious and more engaged. It wasn’t just entertainment, but something that spoke to deeper values and a DIY connectedness. And it was music that rejected any notion of rules from its own scene—that smartly mocked the conformity that even countercultural movements fall victim to.

A couple of decades later, craft beer (once again) finds itself in a situation where those lyrics are as poignant as ever, as we argue about definitions and criteria and who is and isn’t inside this Venn diagram we collectively define as “craft.” While the Brewers Association has proposed dropping the “traditional” language from the definition, others have pounced on this change as another nail in the coffin for the very idea of craft, promoting the argument that something is meaningless if it changes.

I think the truth is exactly the opposite, however, and any definition of craft that does not evolve with the creativity and growth of craft brewers would simply be dogma for the sake of dogma—the very thing that craft brewers have sought to reject since those earliest of days. There are limits, of course, but we shouldn’t purport to know where those limits are at any given point, as dialogue and engagement around that collective definition are more important than hard-and-fast rules. Taking this approach is much messier and open to much more debate, but ultimately results in a living definition that’s dynamic and responsive rather than dogmatic and dictatorial.

I hope this issue of *Craft Beer & Brewing Magazine*® *Brewing Industry Guide* helps you process challenges facing your brewing business, whether technical, legal, or philosophical, because we made it for you.



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Cofounder & Editorial Director
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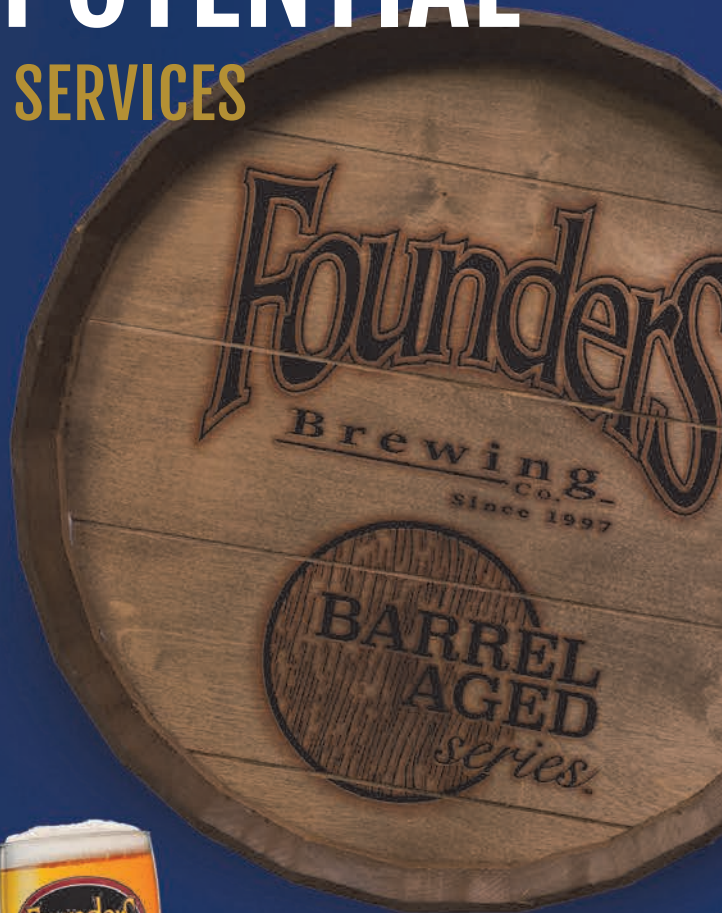
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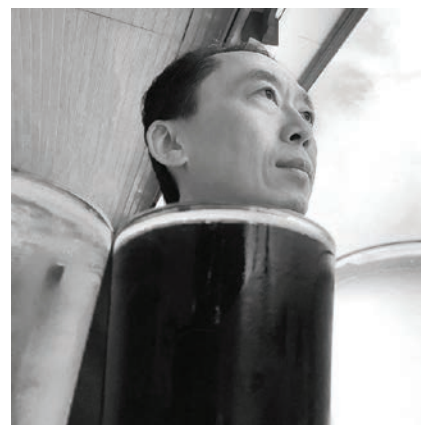
CHAD MELIS was the driving marketing force growing Oskar Blues Brewery from a small Colorado craft brewery of 13,000 bbl to an iconic national brand producing more than 200,000 bbl. As marketing director with CANarchy Craft Brewery Collective, he played a key role developing the CANarchy go to market strategy and narrative. In 2018, Chad and his wife, Marily, started Turn It Up Media, a brand strategy, media relations, and content development company.



ANDREW SMITH is a visual content creator and digital marketer based in San Diego, California. He has traveled to thirty-four countries searching wide for adventurous sights, food, and beer. In 2015, he helped open Perth, Australia's first major craft-beer bar, Petition Beer Corner. He believes there's nothing IPAs and video games can't solve. Follow him on Instagram @craftereverything.



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DON TSE loves beer and loves to travel. When he can combine his two passions, life is perfect. He travels the world looking for the world's best beers and the world's best pubs. Follow him on Twitter and Instagram @thedonofbeer.

PHOTOS, TOP ROW: COURTESY MATTHEW FARBER; COURTESY PRAIRIE CAPITAL ADVISORS; COURTESY CHAD MELIS; BOTTOM ROW: COURTESY ANDREW SMITH; COURTESY PALEY ROTHMAN; COURTESY DON TSE

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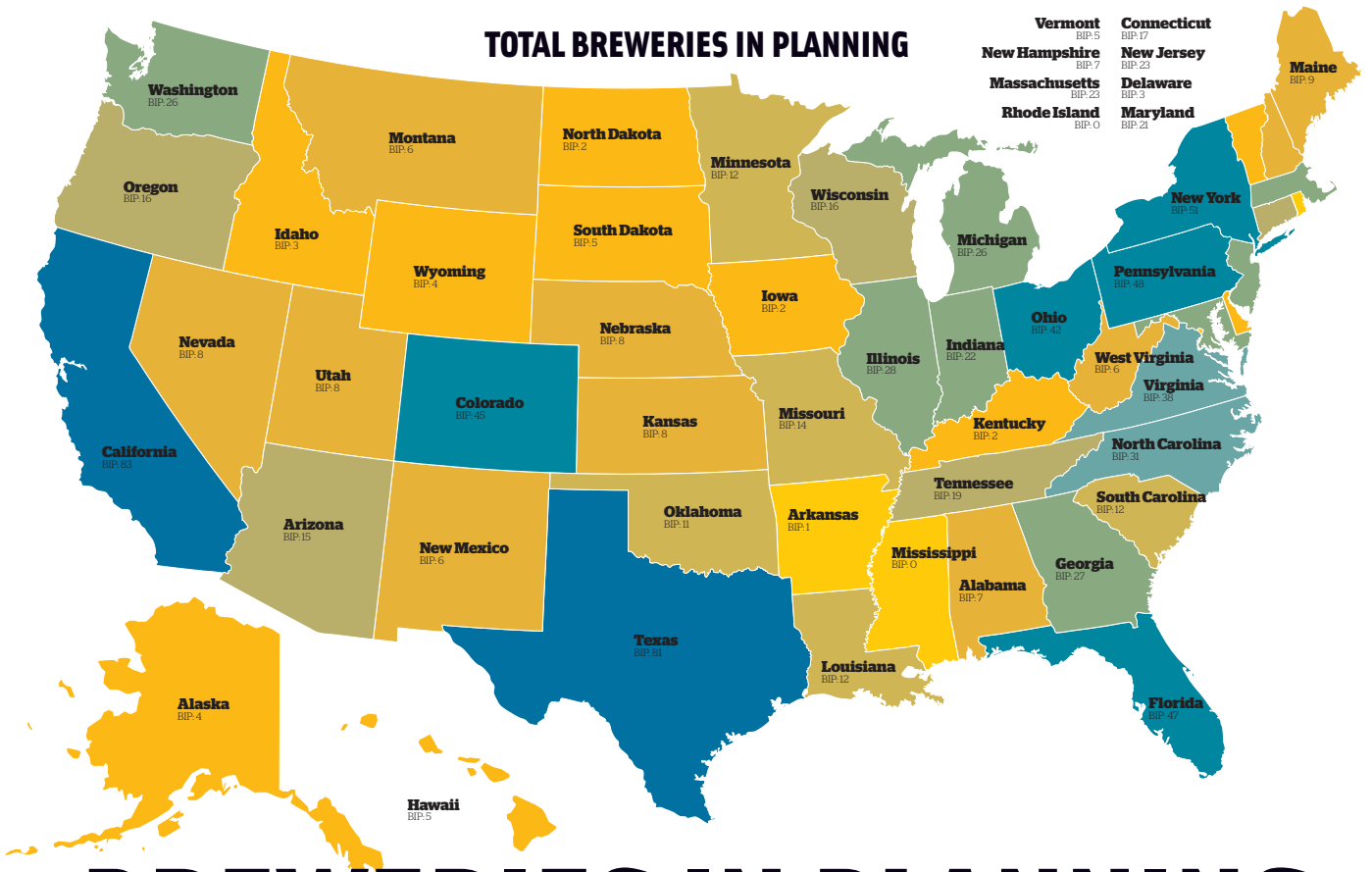
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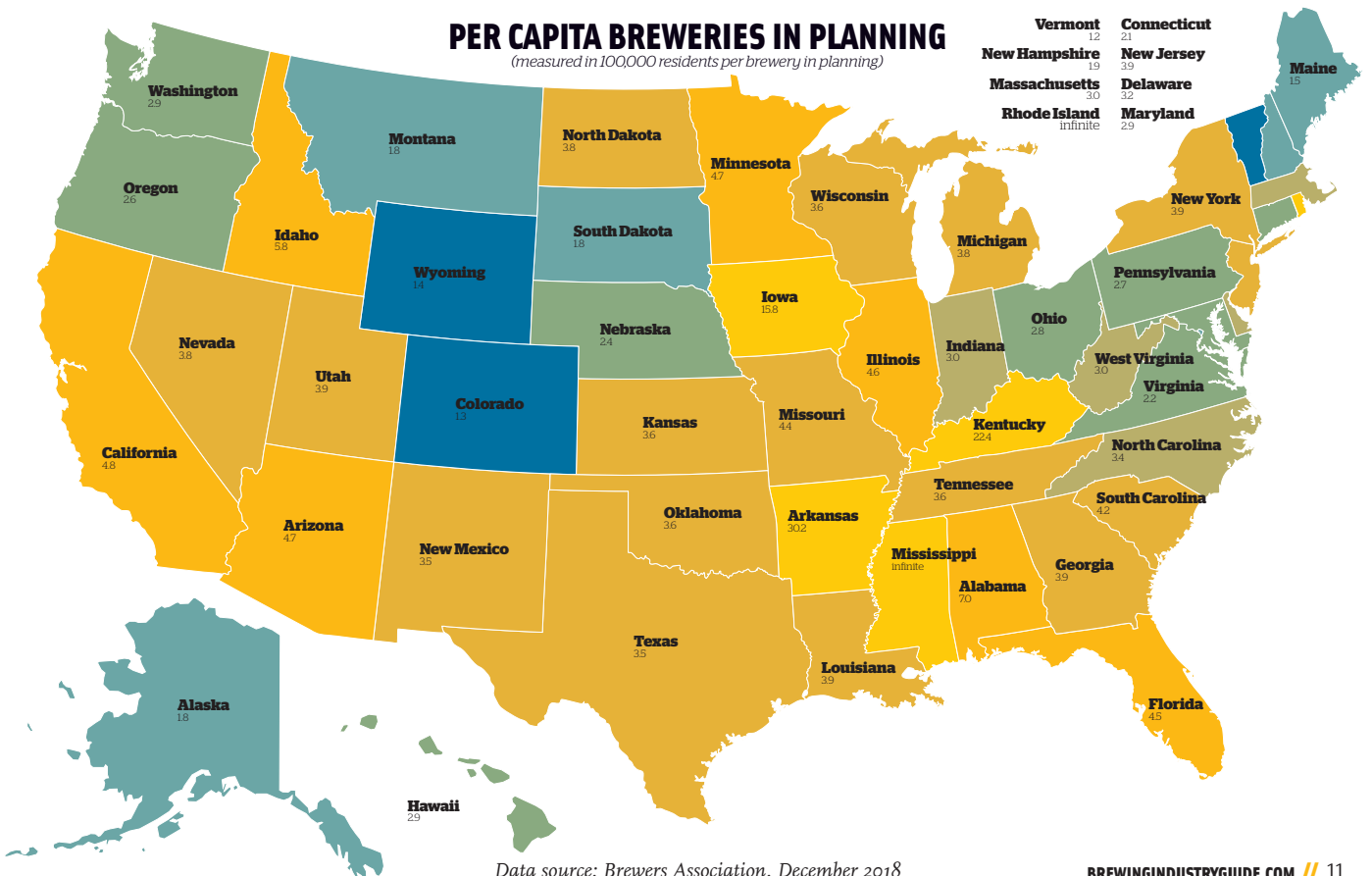


BREWERIES IN PLANNING

Where is short-term growth coming to the brewing market? We've plotted the Brewers Association Brewery-In-Planning data aggregate and against state populations to predict opportunities and challenges.

PER CAPITA BREWERIES IN PLANNING

(measured in 100,000 residents per brewery in planning)



Data source: Brewers Association, December 2018

TRENDSPOTTING

NEXT-LEVEL LABELS



Southern California's Brouwerij West is redefining what beer labels can be by taking an artful and chaotic approach.

They say you drink first with your eyes, and nothing puts drinkers in the right mood to enjoy your beer like a gorgeous label. But innovation in the label space is hard to come by; most breweries trod familiar branded territory with either brand-centric designs or quietly modern and minimal artistry. But Brouwerij West (San Pedro, California) has rewritten the playbook with a series of label designs that engage with independent artists while pushing the limits of labeling equipment itself.

Dimensionality is a relatively new concept with can labels, but Brouwerij West has embraced it with overlapping die-cut sticker dots that build a complete image, apparently intertwined die-cut labels that use negative space as a graphic element, and duplicating designs that feel like graphic glitches or pitched-up samples in a dubstep track. There is work involved—dialing in labeling gear to handle the longer wraps, managing the additional errors that the complex die cuts sometimes create, and visualizing the finished design on screen in a way that truly represents the finished wrap. Nevertheless, the eye-catching results are visually stunning and represent some of the most creative packaging thought in craft beer today.

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BEST OF TIMES WORST OF TIMES

It has been a tumultuous few months for the brewing industry. As brewery owners worry about the bottom line and others face closure, it seems that some of the brewing equipment manufacturers might be in a similar situation. **BY JOHN HOLL**

DIVERSIFIED METAL ENGINEERING, more commonly known as DME, was founded in 1991. It calls itself “the preferred supplier of equipment to craft-brewing customers around the world”; it is capable of manufacturing brewhouses that range in size from 5 barrels to 100 barrels and fermentors up to 600 barrels. At the annual Craft Brewers Conference, DME would take up a good portion of the convention-center floor, and company representatives would try to entice new brewers to entrust them with their business while maintaining relationships

with existing customers. But while all this was happening, the company had been accruing lots of debt.

Canadian court documents filed by the Royal Bank of Canada indicate that the company owed more than \$18 million dollars as of November 22, 2018. The Royal Bank of Canada, in an affidavit, said DME blamed its financial woes on the “challenges related to the acquisition of the assets of Newlands Systems Inc., a drop in revenue due to increased competition, dealing with certain unfavorable customer agreements, and significant infrastructure costs.”

Alvarez & Marsal, a consulting firm, announced that it had received receivership for DME Limited Partnership, DME General Partner Inc., Atlantic Systems Manufacturing (2016) Ltd., DME Canada Acquisitions Inc., and DME US Holdco Inc. Alvarez & Marsal has stated that it hopes to sell the business to a buyer who will re-open the company and that in the meantime, it will coordinate with employees to finish existing open orders. It will also be paying wages, as well as owed vacation time, for the more than 250 employees of DME. Meanwhile, the Canadian government’s labor department has been meeting with affected workers to find them new employment.

DME, which also has a location in South Carolina that was not included in the receivership, did not return a message seeking comment and, as of press time, has not publicly commented on the receivership via media release or through its various social-media channels, which had been actively used before the announcement.

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While owners and employees of the struggling companies take stock of the situation, some of their seemingly more financially sure-footed competitors are taking advantage of the news. For instance, Specific Mechanical Systems in Victoria, British Columbia, put out a note to brewing-industry professionals saying, "Our business has never been better."

"To the established breweries who now face equipment-supplier issues and to the new start-up breweries who are faced with stresses related to the uncertainty of recent or pending equipment orders, we offer our help," the announcement read. "We will do everything we can to meet your timeline and will provide the best pricing possible for your equipment needs. To our customers unaffected by the recent events, we thank you for your continued support."

It was a similar tone from Portland Kettle Works (PKW), whose CEO, Ken Massheimer, published a letter assuring

customers that the company and the investments clients are making are "safe."


"We have and will continue to include multiple vendor and credit references in our quotes. These are important because they clearly demonstrate PKW's excellent record of timely payments to the vendors who supply raw materials used in fabricating your brewery," he wrote.

Meanwhile, late in 2018, ICC, Inc., a St. Louis-based industrial engineering consulting firm, took over operation of JV Northwest (JVNW). According to the company, the "JVNW facility in Canby, Oregon, near Portland, will continue operations as ICC Northwest while retaining all of the former company's production employees."

"JVNW's client return rate has been a phenomenal 80 percent, and we know that our skilled workers are the reason for that," says ICC Northwest President Kyle Sawyer—former general manager of JVNW. "They are the dedicated backbone of the industry, and we plan to keep them working. We have

orders waiting and plans for further expansion, so we're back to business as usual with full production and, soon, double shifts."

Under the terms of the deal, ICC presented the existing JVNW employees "with job offers that honor their seniority and skills and is structuring an improved benefits package." And ICC has "pledged that all terms and conditions, warranties, and payment structures for client projects already in production will remain in place."

All this turmoil is another reminder that it's important to do due diligence when searching for a company with which to partner for a brewery expansion or build-out of a new facility. Spend time with a company to fully realize their situation and have honest conversations in advance of signing contracts to make sure that both sides can fulfill obligations. No business is perfect, but the sudden closure of DME should serve as a warning to everyone in the beer industry that caution should be exercised with all business dealings. 

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Q&A

FOUNDERS BREWING CO. COFOUNDER DAVE ENGBERS



From the rocky early years and nearly declaring bankruptcy in 2001, Michigan's **FOUNDERS BREWING CO.** has emerged from trouble and is on track to brew a million barrels a year, due in part to the success of beers such as All Day IPA and Solid Gold. In an interview with Senior Editor John Holl, brewery Cofounder **DAVE ENGBERS** opens up on the investment by Spanish brewer Mahou San Miguel and how timing helped Founders reach a level of brewing that might not have been possible otherwise. **INTERVIEW BY JOHN HOLL**

CBB // Four years after you sold 30 percent to the Spanish brewery, Mahou San Miguel, how have things changed?

DE // I'll tell you what, the partnership with Mahou San Miguel has been nothing but remarkable. What a spectacular family. What a great partnership. And it truly is a partnership. We spend a decent amount of time in Spain, they've got people in Grand Rapids, and they are really interested in what we do as a category in the beer industry. They see what we've done as North American brewers, and they think this is the future on a global scale. They think this is the model that will take on the competition globally.

CBB // With the partial sale, do you still consider yourself a craft brewer?

DE // Oh, absolutely. But first of all, I think we should just get rid of the word "craft." We've been saying that being small doesn't mean quality. Being local doesn't mean quality, doesn't mean fresh, doesn't mean consistent. We've worked our asses off for 20-something years to hone our craft and to be really, really good at what

we do. Maybe it's juvenile, but I consider a craft brewer on the quality and consistency of their liquid, not their size.

CBB // The larger you get as a brewer, the more data-driven your brewery has to be. Where do those numbers come into play for you? And how has the business evolved?

DE // Certain markets out West and in the Pacific Northwest are crowded markets, mature markets, so our brand is a little different there. We see that our consumers' buying habits are a little bit different there. We tended to look at our business from a big step back, saying, "Okay, we built our reputation off of Kentucky Breakfast Stout (KBS), Devil Dancer, Curmudgeon, and Dirty Bastard." And then 14 years into it, we introduce a session IPA, All Day IPA, and all of a sudden we have a high-volume brand that's taken over.

CBB // Just how big is All Day IPA in the world of Founders?

DE // It's a little bit less than 60 percent. But we have a pretty diverse portfolio. Solid Gold [a lager] is now the brand that is kind of going after that domestic premium

drinker. We look at it and say that the beer consumer today needs something that has an emotional tie-in. They look at a brewery that is really only 22 years old, and I think our brand resonates with a younger generation. They can see the dream and the adventure that we've been on, and they are part of it. It's been a hell of a ride.

CBB // When you first released All Day IPA, did you think it would become as big as it is?

DE // The brand is really only 5 years old, and it's humbling. At the time we launched it, sessions weren't all that popular. We knew IPAs were hot, and our challenge was to create a beer that had all the flavors you'd expect from Founders but was lower in ABV, had huge aromatics, and would be a volume driver. We had a bunch of beers such as Backwoods Bastard or KBS that had defined the brewery. So when we were developing All Day IPA, it wasn't something that we were looking to market to a new customer. It had to be for the hardcore Founders fans, the hardcore beer enthusiasts who we were getting older. Quite honestly, I had a bunch of young kids at the time, and after drinking three or four of our other brands, I was trying to be a dad and reading to my kids; I wasn't loaded but I was tired. I love our Centennial IPA, but at 7.2 percent ABV, it was leaving a mark. So the goal was to make a beer that was all Founders, just lower in ABV.

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WE'VE BEEN SELLING CRAFT TO CRAFT: CRAFT CONSUMERS ARE 13 PERCENT OF THE MARKETPLACE, AND WE MARKET AND ARE BREWING BEERS JUST FOR THESE PEOPLE. WITH THIS INTRODUCTION OF SOLID GOLD, THERE'S A MUCH BIGGER SWIMMING POOL ON THE OTHER SIDE OF THE FENCE. SO I SEE IT AS ONE, LET'S PUT BEERS OUT THERE THAT CAN BUILD UP THE MARKET SHARE AGAIN AGAINST SPIRITS AND WINE; AND TWO, LET'S BUILD THE CATEGORY TO MAKE IT SEXY AGAIN.

Back then, we weren't doing a lot of sampling or surveys, but we kept hearing from other friends in the industry who really liked the beer. And a lot of us were looking for a beer that had flavor but still allowed you to run a business. You have to be responsible. What we realized really quickly was that the brand belonged in a can (at that point we hadn't gone into aluminum yet) and that it was creating a bridge between craft-beer drinkers and drinkers who were curious about craft. So, it opened the door to a whole new generation of beer enthusiasts.

CBB // With the success of All Day and now getting into the market with Solid Gold—is that the way forward for a brewery of your size?

DE // If you look at the category in general, we've been selling craft to craft: Craft consumers are 13 percent of the marketplace, and we market and are brewing beers just for these people. With this introduction of Solid Gold, there's a much bigger swimming pool on the other side of the fence. And it's no secret that some of the biggest guys—Bud, Miller, Coors—are losing market share. It's not just to craft; there are people who aren't drinking beer anymore. So I see it as one, let's put beers out there that can build up the market share again against spirits and wine; and two, let's build the category to make it sexy again.

CBB // The larger you get, the harder it can be to forge an intimate relationship with consumers. How do you combat that?

DE // Quite honestly, we have two taprooms, and that's the personality, that's the heart of our brewery. We brew at both taprooms, we have experimental brands that go in there, and we listen to the people. We have an app, our own app, where people can give feedback, and our brewers get all the feedback and comments. We are data-driven, and this helps us keep



HEAR HERE!

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making interesting things, experimental things.

CBB // Do you think you'll be one of the last million-barrel breweries?

DE // I think all of the national players are already here. If you're opening up a brewery now, your business plan is you're starting a brewery for your local community or maybe your region. There are great brewers all over the

world right now. The space is really busy right now so you need to figure out your business model. Can you be a local brewery or a tap house that serves great beer. The local thing, honestly, has been a thorn in our side. We make great liquid, and there are a lot of places that say 'we only serve local.' I think we had a year, maybe two to shit or get off the pot.

[For sales] we had a lot of white space in chain, and now have a chain department, field sales is killing it for us. I look at national numbers, and something like nine out of top twenty breweries were negative, and we grew 30 percent last year and we're on the same track for this year. We continue to buck the system. We're going to continue to do what we do.

My goal is to continue to grow this thing. We want to be known as some of the best brewers in the world. When we hit that million-barrel mark, I see the writing on the wall that we might be able to be a multi-million barrel brewery.

This interview has been edited for clarity and length.



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THE BARRISTERS

PROTECT YOUR COMPETITIVE EDGE WITHOUT SACRIFICING YOUR CULTURE

The recent high-profile news of Toppling Goliath Brewing Co. enforcing a non-compete agreement has left many breweries wondering whether they are striking the proper balance between protecting their information and interests and keeping the brewery an appealing place to work. **BY JESSICA SUMMERS, ESQ.**

THE BEER INDUSTRY MAY BE known for its collegial vibe, but with the ever-growing competition for customers, maintaining a competitive edge continues to be critical for most craft breweries. According to the Brewers Association, this summer, there were more than 6,500 active breweries and somewhere between 2,500 to 3,000 more breweries in the planning stages.

This crowded field creates two potentially conflicting quandaries for breweries. The first is how to recruit skilled employees who may have a wide range of brewery employers from which to choose. The second is how to protect the information and other elements that help a brewery distinguish itself.

This year, we have seen at least one very public effort by a brewery (Iowa's Toppling Goliath Brewing Co.) to enforce a non-compete agreement and restrict a former employee from going to work for a competitor. This has left many breweries wondering whether they are striking the proper balance between protecting their information and interests and keeping the brewery an appealing place to work.

There is no question that non-competition and other similar agreements can be a powerful way of preventing competitors from draining a brewery's talent or information—but at what cost? These types of agreements, which contain what are known as “restrictive covenants,” are targeted at limiting what an employee can do after (s)he leaves the brewery. While they are the norm in some industries, their use tends to be more inconsistent across craft breweries.

So what are some of the biggest things that breweries should keep in mind as they consider whether to ask employees to sign a non-compete or similarly restrictive agreement?

RESTRICTIVE AGREEMENTS AREN'T ONE-SIZE-FITS-ALL

One of the biggest missteps that a brewery can make in this area is requiring all of its employees to sign the exact same restrictive agreement without taking the time to consider whether doing so is reasonable or necessary. There would be obvious concerns if your head brewer went to work for another brewery, but would you have the same concerns about a bartender or someone who works on the bottling or canning line? What actions are you really concerned about preventing? These are the types of questions breweries need to ask themselves before implementing any restrictive agreements.

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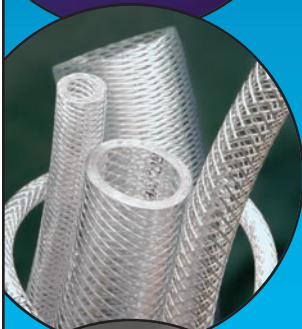
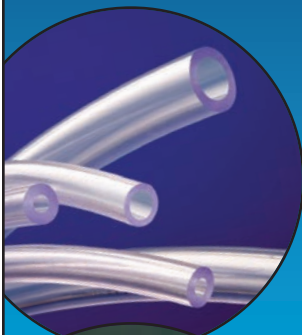
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Restrictive covenants can pose a barrier to recruiting good employees (who place high value on their rights to change jobs at will). Thus, restrictive agreements should typically only be used where the employee possesses, or will be endowed with, skill, know-how, or information that, if used improperly, could really threaten the brewery's business interests.

As a general rule, low-level employees should not be subjected to the same types of restrictions as their higher-level counterparts. Similarly, while online or other templates can serve as a useful starting point, they should not be the end point. Each agreement should be drafted with the specific job and the overall nature and culture of the brewery in mind. For example, a brewery that distributes might reasonably want an agreement with restrictions to prevent interference with distribution customers. But a brewery that just serves at their taproom would run into issues (both legal and practical) trying to get employees to sign an agreement preventing them from interfering with that brewery's customers (which would be anyone who might visit the taproom, rather than a discrete list of distribution accounts).

KNOW AND ASSESS YOUR OPTIONS

Non-compete agreements are not the only type of restrictive covenants. Moreover, as the most aggressive, they are often not the right fit. Other lesser restrictions can meet the same goals. There are, in fact, four core types of restrictive covenants that an employer can use:

- Non-competition provisions, which place limits on where and for whom an employee can go to work after (s)he is no longer employed by the brewery.
- Non-solicitation of employees provisions, which prevent a former employee from trying to recruit or hire away the brewery's other employees.
- Non-solicitation of customers or interference with business relationships provisions, which prevent a former employee from trying to encourage those doing business with the brewery to end or change their relationship with the brewery.

- Non-disclosure provisions, which prevent an employee from using or disclosing the brewery's confidential information.

Particularly when combined with one another (for example an agreement that includes a non-solicitation of employees provision and a non-disclosure provision), the lesser restrictions can successfully target the behavior that a brewery is concerned about while being more palatable for employees. While most folks would at least hesitate before signing an agreement that would completely bar them from taking certain jobs after they leave, restrictions on solicitation and disclosures are more understandable and justifiable to employees and let them retain continued control over their future career paths.

KEEP THE RESTRICTIONS AS NARROW AS POSSIBLE

Hand in hand with the earlier points, the fact that there are multiple types of restrictions available allows breweries to craft agreements so that, for each position, the restrictions are only as broad as necessary to protect the brewery's core interests. Many employers will use an agreement with non-disclosure provisions as the floor for any employee who might have access to the business's confidential information and then only add non-solicitation or non-competition for higher level employees who are the ones developing the business relationships or the recipes and methods.

For example, there is no reason for an employee who has no interaction with or relationship with a brewery's business partners or customers to be subject to a non-solicitation provision because that employee doesn't have any sway or foundation with the business partners or customers to use to interfere with the existing relationships. On the other hand, if that same employee has access to the list of customers and their order history or pricing schedules, it would be appropriate to subject them to a non-disclosure agreement to prevent them from sharing that information with a competitor or using it themselves to try to draw away the customers by offering better terms.

IMPLEMENT AND NEGOTIATE THE AGREEMENTS WITH CAUTION

The best time to implement an agreement with restrictive covenants is at the

NON-COMPETE AGREEMENTS AND NON-SOLICITATION PROVISIONS GENERALLY NEED TO BE NARROWLY TAILORED TO PROTECT A LEGITIMATE BUSINESS INTEREST AND REASONABLE IN THEIR DURATION AND SCOPE. EMPLOYERS ARE WELL ADVISED TO MAKE SURE THAT WHAT THEY ARE PROPOSING IS PERMITTED AND ENFORCEABLE IN THEIR STATE.

outset of the employment relationship. Not only does it ensure that the brewery and the employee start the relationship on the same page, but it helps to make the agreement legally enforceable down the line.

A contract is only enforceable if both parties commit to take some action or give something up (referred to as giving "consideration"). When a new employee signs a restrictive covenant when they are hired,

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the employee is agreeing to the terms of the agreement while the employer is agreeing to give him/her the job.


Once an employee has worked for the business for some time, establishing consideration to make the agreement with restrictive covenants enforceable gets more complicated. The cleanest approach is just to give the employee a bonus or other type of benefit (such as extra vacation days) in exchange for signing the agreement. In some jurisdictions, the employer agreeing to continue to employ the employee after (s)he has signed the agreement can be sufficient give-and-take to make the agreement enforceable. However, in this situation, if the employee leaves or is let go shortly after the agreement is signed, there may be questions about whether the continued employment lasted long enough after the agreement was signed to be adequate.

In addition, if an employer requests that a group of employees sign restrictive covenant agreements as a condition of their continued employment and one employee refuses to sign, the employer will have to choose whether to abandon the agreement for all employees or let that one employee go. Otherwise, keeping that employee on without him/her signing the agreement will signal that, for the others, signing the agreement wasn't really a condition of continued employment because another employee who didn't sign was kept on.

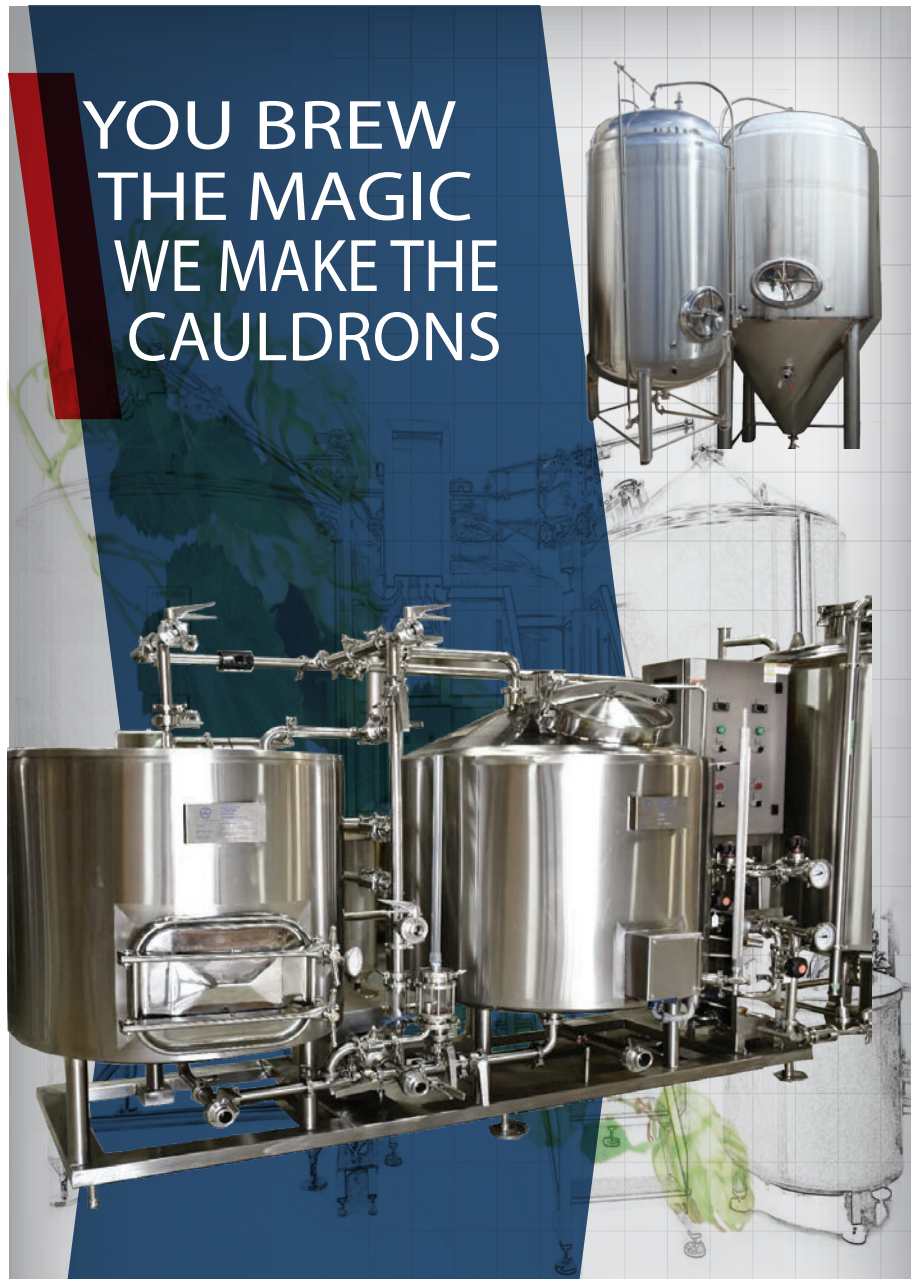
DON'T FORGET TO CHECK STATE LAW

State and local laws play a huge role in the crafting and enforceability of restrictive-covenant agreements. Just because an employee signs an agreement doesn't mean it is permissible or enforceable everywhere.

Some states, such as California, restrict the use of non-competition provisions altogether while others, such as Illinois, prohibit lower paid employees from being subjected to non-competition provisions.

Even where non-compete agreements aren't expressly prohibited, non-compete agreements and non-solicitation provisions generally need to be narrowly tailored to protect a legitimate business interest and reasonable in their duration and scope. What is considered a legitimate business interest or a reasonable duration and scope will be governed either by state statute or case law or a combination of the two. Before trying to implement any restrictive-covenant agreement, employers are well advised to take a long hard look to make sure that what they are proposing is permitted and enforceable in their state. 

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ESOPs: AVOIDING THE PITFALLS

All things considered, ESOPs present a very compelling tax-effective exit strategy that can balance the change of ownership while maintaining control, but ESOPs are not without pitfalls. Here are seven of them that you should avoid at all cost. **BY ROCKY FIORE**

IT IS ALMOST INEVITABLE THAT, at some point in time, craft-brewery owners will face the question: should we sell to big beer or preserve our independence and reward our employees? We all know about the stigma of selling out to big beer, but does that mean an Employee Stock Ownership Plan (ESOP) is the right ownership-transition strategy for every craft brewery? The answer is a resounding NO. Although ESOPs can be an effective strategy, they are not right for every situation. Here are seven pitfalls to carefully consider if you are contemplating an ESOP for your brewery.

PITFALL #1: VOLATILE REVENUES AND EARNINGS

ESOPs are typically paid for with cash on the balance sheet and/or loans from banks and other financing sources. As a result, ESOPs work best in businesses that have stable cash flows and the ability to meet debt-service requirements. Breweries with unstable and unpredictable income streams should be very careful when implementing an ESOP. Your bank will require you to meet certain loan covenants to avoid defaulting on the loan. Failure to comply with these loan covenants can result in a technical default

and/or an inability to meet debt-service payments, either of which may result in a series of actions by the lender that are less than desirable. The economy is uncertain, and the craft-beer industry is dynamic. Regardless, implementing an ESOP in a craft brewery with a volatile or poor financial performance track record is never a good idea.

PITFALL #2: POORLY STRUCTURED ESOP DEBT

Just because a craft brewery has a successful track record of delivering strong financial results does not mean that an ESOP will be successful. Using all of the company's debt capacity to finance an ESOP transaction without giving consideration to working-capital requirements and future expansion plans is a surefire way to run into financial trouble and negatively impact the brewery's operations. In the initial ESOP feasibility and design stage, you want to spend time thinking about the future of the brewery. What is the growth strategy? Do you need more equipment? A new facility? Perhaps a new bottling or canning line? Evaluate and consider all of these when structuring an ESOP transaction so that you don't end up strangling the golden goose. Also, working with experienced ESOP lenders will increase the likelihood that you can achieve the optimal financing package.



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PITFALL #3: POOR MANAGEMENT TEAM

A successful employee-owned company has everyone working toward a common goal, and it all starts with great leadership. Effective managers of ESOP companies champion the concept of employee ownership, and that enthusiasm permeates throughout the entire workforce. Unfortunately, not all companies have great managers to lead the way. Managers who lack transparency, communicate poorly across the organization, and fail to lead by example negatively impact employee morale and contribute to a poor workplace culture. In my nearly two decades of working with ESOP companies in various industries across the country, I have yet to see one achieve long-term success with poor leadership. If your brewery is lacking senior leadership or management depth, I suggest that you *stop* the ESOP process immediately and address these issues before proceeding down the ESOP path.

PITFALL #4: LACK OF FINANCIAL CONTROLS

If there is one common thread among businesses across all industries, it is the need to have good financial management. I've seen few situations where a company can thrive and succeed in the face of poor financial processes and controls. In situations involving an ESOP, it is even more important to have strong financial management. Consistent, detailed, and timely financial reports are paramount to running an ESOP company. In addition, the ability to budget and forecast financial performance is a great way for a business to anticipate bumps in the road ahead. Avoid the major pitfalls of poor financial

management by investing in a talented finance manager and keeping accurate books and records of the business and its performance. This information is critical for the day-to-day management of the business. In addition, these books and records are important to help the leadership team assess performance and shape the strategy of the business going forward.

PITFALL #5: POOR CULTURE

I have always thought that craft breweries have incredible organizational cultures. These cultures are rich with passionate and energetic people who are proud of the company and their work. Their love of beer and their desire to create brew styles that are both traditional and evolutionary are infectious. ESOPs work best in companies with employees who are highly engaged and value teamwork. Employees who don't trust management and management that doesn't trust the employees is a bad recipe for ESOP success. Companies that empower employees to make important decisions create a trusting environment where people feel valued and are an integral part of the success of the organization. A poor culture can lead to high turnover and a workforce that lacks motivation, the result of which is underperformance and a declining market position. Implementing an ESOP in a poor culture with the hopes of improving employee morale is a bad idea. First work on improving the culture; then focus on the implementation of an ESOP.


PITFALL #6: TOO OPTIMISTIC

Business owners often focus intently on the opportunities in front of them, assuming that the successes they have enjoyed

to date will likely continue into the future. Perhaps your always-successful brewery will continue its meteoric rise and avoid all competitive threats. However, known and unknown risk factors may surface at any time, and failing to acknowledge them in structuring an ESOP transaction can be a significant pitfall. Consider the scenario where a brewery is experiencing declining sales and margins in the face of growing competition and slowing industry-growth trends. Should the owner and management team disregard this new reality and focus only on the opportunistic return to historical levels of revenue growth and profitability? If they do so, it is likely that the company may find itself in a liquidity crisis at some point in the future due to overleveraging. To avoid this pitfall, be realistic about the future and stress test various assumptions in order to provide the company with the relief it needs should it hit a rough patch in the road.

PITFALL #7: LACK OF MANAGEMENT INCENTIVES

ESOPs can provide meaningful and, in some cases, exceptional retirement-plan benefits. However, ESOPs are nondiscriminatory qualified retirement plans that are designed to provide benefits to a wide range of employees, not just a select few. Still, an ESOP alone may not provide a sufficient level of rewards to key members of the management team. For this reason, it is important to craft management incentive plans that attract, retain, and reward top-level talent. These rewards, which are often tied directly to the performance of the ESOP stock value, are designed to align key members of management with ESOP participants. Unfortunately, I have, on many occasions, seen great managers and leaders leave an otherwise successful company because the proper incentives were not put in place to reward exceptional performance. Avoid this ESOP pitfall by designing a well-thought-out compensation plan at the time of ESOP inception.

Most successful craft-brewery owners have a multitude of ownership transition alternatives available to them. However, when all things are considered, ESOPs present a very compelling tax-effective exit strategy that can balance the change of ownership while maintaining control...if you can avoid the pitfalls. 

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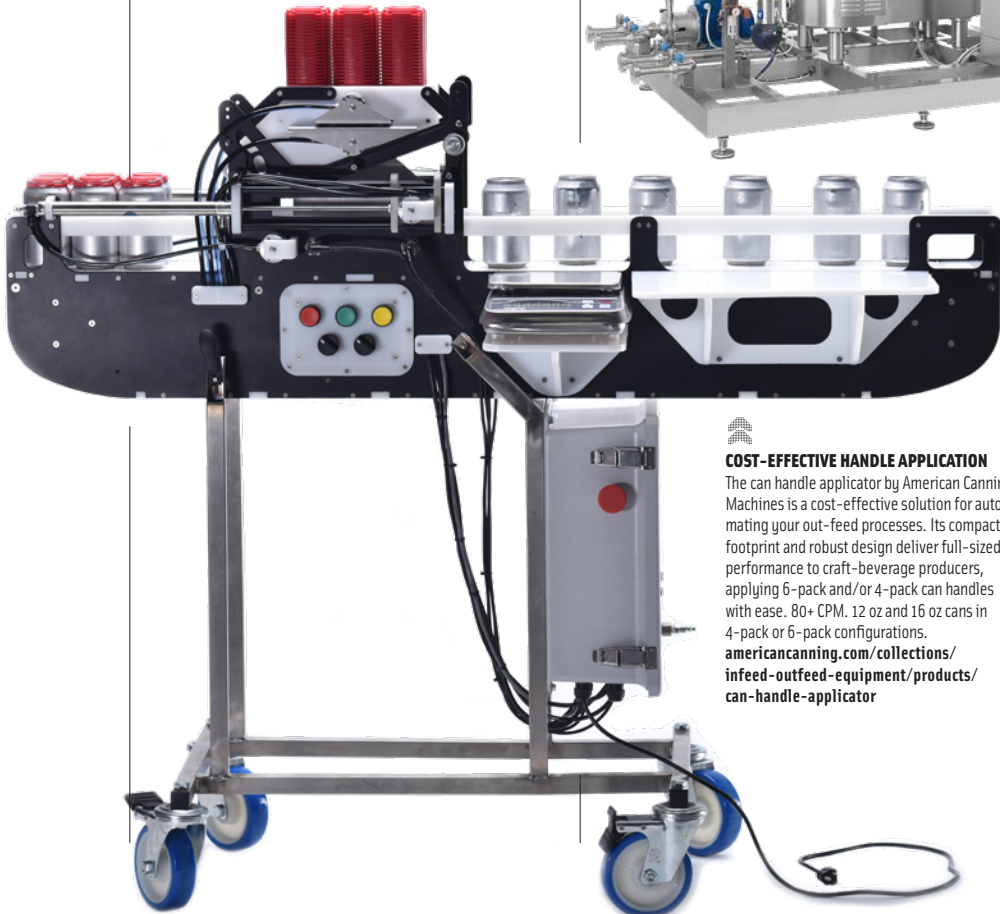
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MARKETING & BRANDING

DEVELOPING A UNIQUE BRAND VOICE

Do you want to break through the clutter and noise that exists in beer marketing today? We asked **Chad Melis**, the founder of Turn It Up Media and a driving force behind the branding of Oskar Blues Brewery, to share his insights to help you connect with beer drinkers and move more beer. Here, he offers four essential points to keep in mind as you develop your brand.

1. KNOW YOUR AUDIENCE (AND LISTEN TO THEM)

In terms of getting to know an audience, craft brewers have a leg up on nearly every other industry. We can actually invite people into our taprooms or tasting rooms, experiment and be creative with beers and experiences, share beers with people, and then go sit down next to the bar and talk to customers and get feedback. What an amazing opportunity!

I know that in our industry, everything is moving so rapidly that sometimes you get caught up in the business side of things or in pushing your system to brew more batches. You don't think you can take the time to sit at the bar and listen to the beer drinkers. *But that needs to be a focus.* Get up from the desk or away from the brewhouse, take a deep breath, and listen. Take advantage of the feedback. If you don't know your beer drinkers and

aren't listening to their feedback, you have the potential of doing the wrong things or things that don't resonate.

But if you listen to and resonate with your customers, it can re-energize you and help you stay true to what you got into the business for. It can help you stay authentic and stay true to your mission. It can help you sell more beer.

2. CONSISTENCY IS MORE IMPORTANT THAN EVER

Once you have defined your brand voice and engaged with your audience, it's imperative to be consistently on brand. If you're all over the board, you're not resonating with beer drinkers the way you otherwise would. A lot of this goes back to authenticity. If you get into something for the right reasons and you're following your passions and you're doing what you love and what feels natural and right to you, that

will help your business with consistency. And it will help create a roadmap for your brand, making it easier to stay constantly moving forward and motivated.

But that being said, the beer drinker has so many options. There is so much clutter, so much messaging and data coming at them. You need to give them a reason to recognize you. If you are fortunate enough to reach and engage the beer drinkers, you damn well better offer them something that resonates, something of value that translates what your brand stands for and reminds them why they picked up a 6-pack of your beer or chose your pint over all the options in front of them.

Sometimes this happens even without using words. Imagery can be a huge part of telling your story, but it has to be consistent. Telling your brand story through consistent imagery makes an impression in the split second you have with a customer before they move on.

Remember, if you're not consistently on brand and offering beer consumers something of value, that's dangerous because they'll just move on to the next brand that they think does.

THERE IS SO MUCH CLUTTER, SO MUCH MESSAGING AND DATA COMING AT [THE BEER DRINKER]. IF YOU ARE FORTUNATE ENOUGH TO REACH AND ENGAGE THEM, YOU DAMN WELL BETTER OFFER THEM SOMETHING THAT RESONATES, SOMETHING OF VALUE THAT TRANSLATES WHAT YOUR BRAND STANDS FOR AND REMINDS THEM WHY THEY PICKED UP A 6-PACK OF YOUR BEER OR CHOSE YOUR PINT OVER ALL THE OPTIONS IN FRONT OF THEM.

3. INVEST IN AND CULTIVATE INNOVATION

True innovation takes time, investment, and commitment because it is often ahead of its time. Consider Oskar Blues Brewery as an example of true innovation. They put craft beer in cans...in 2002! And then it was about education, one damn can at a time. It took investment and stick-to-it-ness. Yes, now cans are everywhere, but as the first, they innovated and pushed it forward.

In our modern world of 140 characters and the quick scroll or swipe, gimmicks often get attention while true innovation is simply passed by for something easier to digest. There's a difference between a gimmick and innovation, and it's important to keep an eye on that. Gimmicks can be of value in the short term, especially thanks to Twitter and Instagram where you have people just scrolling all day long. People can digest gimmicks quickly. But innovation takes a long time and a commitment.

Continued innovative thinking and the drive to do things differently are tools that will allow you to stand out for the long term, even in this super-competitive market. Take Sam Adams for example. At their size, it's expensive to grow, but they continue to invest, and for them innovation is the biggest area for growth in the industry, so they commit.

The industry is moving so rapidly, and even for the creative folks, the innovation pace is insane. However, the beer drinker is used to it and expects it. And it's one of the biggest opportunities to differentiate yourself in the marketplace. Sometimes, it can happen quickly, but for the most part, true innovation is hard, and needs focus, time, and energy. And in this market, innovation has no finish line. You can't rest on your laurels.

4. ARTICULATE AND TELL THE STORY OF QUALITY

Quality beer is not an option; it is mandatory. But I do believe offering beer drinkers valuable and high-quality content and experiences goes hand in hand with the liquid and is something that can help your brand stand out.

I was fortunate to work with Oskar Blues Brewery, where they make consistently high-quality beers. If you have a brand that you want to be highly distributed, you can't get to that point without quality beer.

Maybe you're a neighborhood brewpub, and you have a good population around, and you can sustain yourself. That's great. But, even if you're not distributing, if your beer is not high-quality, it's bad for everyone and bad for craft beer. If you're trying to compete in markets where you're not local and you don't have high-quality beer, it's not going to go well for you.

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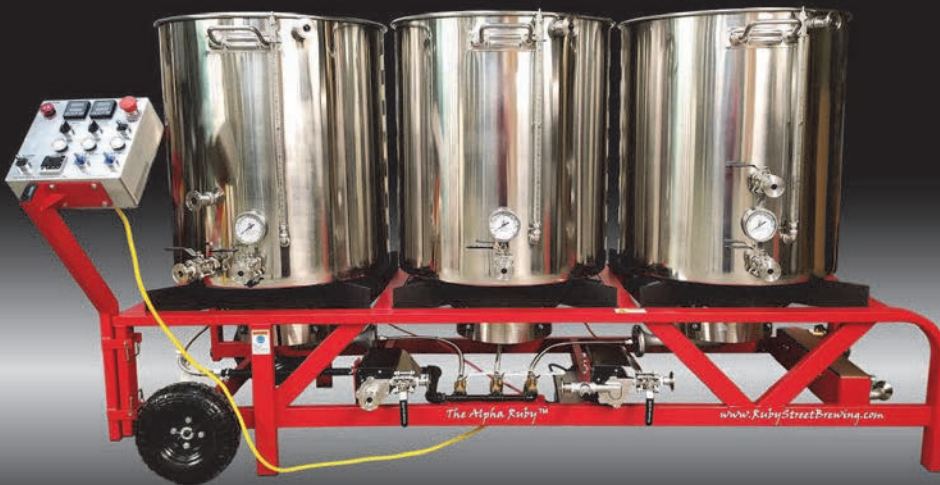
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BREWING INGREDIENTS HELPING HAZY: KEEPING YEAST (AND THE BOTTOM LINE) HEALTHY

To re-pitch yeast or to “pitch and ditch”—that is the question. Doing a cost analysis can help hazy IPA brewers of all sizes really think about the best yeast option to not only create a desired beer but also to keep the bottom line in the black. **BY JOHN HOLL**

LAST YEAR'S MOST POPULAR STYLE at the Great American Beer Festival, the hazy IPA, seems unstoppable both in consumer demand and brewer enthusiasm. A lot of work goes into making sure that batch after batch, specs are met and flavors are intact, and so much relies on the yeast and keeping it healthy.

HISTORICAL KNOWLEDGE

While New England-style IPA might be relatively new in beer, at Springdale by Jack's Abby—the experimental and barrel-aging arm of Jack's Abby Brewing—they have applied a lot of historical knowledge in their approach to making hazy, hops-forward ales, thanks largely to the lagers for which the brewery's original business is well-known.

“We wrote standard operating procedures for 5 or 6 years with our lager yeasts,” says brewery Cofounder Jack Hendler. “We knew what it liked and what it didn't. When we started with IPAs, we struggled because we tried to use the things we know for lagers as our best practices on the IPA, and that wasn't best for the beer.”

He says that individual brewers at the company ran test batches with different strains to see what worked best for the New England-style IPA they wanted to brew. Over the past 2 years, they've tried “a lot” and finally settled on one that works well for them and isn't too extreme in its variations on viability.

“There's still a lot to be discovered about the role of hops as part of the fermentation profile,” Hendler says. “There are definitely ale yeast strains that don't behave well with hops in the fermentor, and there are some yeasts that do. We happened to get lucky with the yeast strain that we use. Not only does it have a

“EVEN THOUGH WE WILL RE-PITCH YEAST THAT HAS SOME HOPS IN FERMENTATION, WE DON'T RE-PITCH YEAST THAT HAS BEEN DRY HOPPED,” SAID HENDLER. “THERE'S ONLY SO MUCH HOPS PARTICULATE YOU CAN PUT INTO A FERMENTOR AND HAVE REASONABLE REFERMENTATION AND GROWTH.”



fermentation profile that we like, but from our perspective, there is a limited impact from its interaction with the hops.”

To keep the yeast strain they use healthy and viable, Hendler says the brewery pulls it from fermentation before the beer is dry hopped, which could be as early as day two or three. From there, they work out their brewing schedule to re-pitch that yeast into another beer, one that doesn't require hops during fermentation, such as a stout. He says the brewery can go ten or so generations going back and forth between a hazy IPA and another ale.

“Even though we will re-pitch yeast that has some hops in fermentation, we don't re-pitch yeast that has been dry hopped. There's only so much hops particulate you can put into a fermentor and have reasonable refermentation and growth.”

He knows that not everyone will agree with this approach and cites his more than dozen years brewing and how “some things just get ingrained in your head whether it's for an actual purpose or just a habit developed that you stick with.”

About the breweries that go thirty plus generations with yeast, Hendler says, “If you see a positive or negative change, I know people put that up for debate, but at a certain point, you're rolling the dice to see whether you're going to get the finished product you're looking for.”

While some breweries are turning out hazy IPA weekly, or more frequently, Hendler says that Springdale releases just two or three per month, and because those IPAs can go into distribution, the brewers are “pretty conservative and overly cautious” about making sure secondary fermentation doesn't happen in the can, running the risk of ruptures.

“If the beer is going right out the door, some breweries won't have that issue. But we want to make sure that if it gets into distribution, it adheres to our standards, and that means closely monitoring a lot of things all throughout the process.”

A LITTLE LIGHT WITH THE YEAST

At New York's Prison City Pub and Brewery, Brewer Ben Maeso says he treats his hazy beers “the same as any other beer, although maybe we go lighter with the yeast.” Too

aggressive, he says, and the yeast tends to kick the fruity esters. So he shoots for seven to ten million cells per milliliter.

Like Hendler, Maeso re-pitches the yeast and says that with the hazy IPA, they will do a small crash, ferment as efficiently as they can for 6 days, and then pull the yeast before dry hopping. He can usually get a good four generations out of the yeast.

Of course, both Hendler and Maeso are talking about already propagated yeasts.

DRY YEAST ALTERNATIVE?

Some breweries are using dry yeast for their hazy IPAs, an alternative that is popular to “pitch and ditch”—because it's economical or simply practical, depending on a brewery's size. Maeso says he's tried using dry yeast in the past, but his opinion is that it doesn't work. “It pulls up the hops tannins, and you get that astringency.” Still, there are a few strains that aren't

available as a liquid, and starters can be expensive, so both Hendler and Maeso say to proceed with knowing as much about the product you're using as possible.

Maeso actually prefers a blend of two yeasts, Chico and London III. Because he gets four generations out of them, he's spending about \$100 per batch from one starter pitch. In hazy IPAs, hops are usually the most expensive ingredient, especially when double dry hopping is involved. Doing a cost analysis can help brewers of all sizes really think about what the best yeast option is for them to not only create a desired beer but also to keep the bottom line in the black. For the breweries that just simply buy a new batch of yeast for each new brew, such a cost analysis might show that the \$1,000 that they can spend on new pitches for, say, a 20-barrel batch could be invested in a good or better lab to help keep the existing yeast healthy. 



BREWING INGREDIENTS

MALT HANDLING: AVOID COMMON SIZING MISTAKES



If you're designing a malt-handling system for a new brewery or brewery upgrade, these considerations and calculations can save you time and money as you avoid costly mistakes from misunderstandings of manufacturers' speed and volume ratings. **BY WILLIAM E. CAMACHO & LARS GILMAN**

MALT OR GRAIN HANDLING is a line item that most brewers rely on others to advise them on, but with a bit of basic knowledge, any brewery owner or brewhouse planner can take a more active roll in designing and developing their own malt-handling systems. While most very reputable brewhouse and tank-equipment providers' intentions are good, there are many common mistakes that every brewery professional in a design phase should be aware of in order to avoid costly change orders and redesigns down the road.

MEASURE THE RIGHT THING

The most basic oversight is one of the most simple to correct—the volumes specified for most grain-handling equipment are for *whole-grain kernels*; once the grains are rolled through the mill, the grist created is less dense. Grist is about 30 percent less dense than unmilled grain kernels, so any system planning should account for that lower density of milled grain and not the high density of whole kernels.

AUGER SIZING AND CALCULATIONS

So let's dive in to our first calculation. A 3" flex auger is rated for 50 pounds per minute—for whole kernels. This calculation works for pre-milled grain, such as from silo to specialty hopper and specialty hopper to the top of the mill.

Post-mill grist will transport through a 3" flex auger at a rate of 35 pounds per minute—a figure that accounts for that 30 percent lower density.

If you take anything away from this article, this should be it—many manufacturers' auger rates for post-milled grains fail to take the reduced density of grist into consideration, so a specification on a sheet may seem appropriate for your brewery build, but reality will come in the form of long mash-in rates, especially for heavy grain bill loads.

Instead, consider using these parameters to size a proper grain-handling system. Target your mash-in rate at 30 minutes max and roughly calculate your grain conveyance at 1,000 pounds per barrel brewhouse capacity. So, for example, a 15 bbl brewhouse calculates out to 1,500 lb of mash grist with the goal to mash in at 30 minutes or less. A 3" auger (at 35 lb/min) would be short of that target mash-in (35 lb/min x 30 min = 1,050 lb). In that case, you would specify the next auger size up and calculate out the feed rate taking the grist load into consideration.

GRIST-CASE SIZING AND CONFIGURATION

A cubic foot of whole barley weighs about 36 lb. A cubic foot of grist weighs about 25 lb, but it occupies the same physical space. Grist cases are often sized based on the space requirements of more dense whole kernels and not your less-dense grist. Again, you need to take the fluffiness of cracked grain into account. A "2,000 lb" feed grain hopper is really a 1,400 lb grist case (70 percent of 2,000 lb is 1,400 lb). But that's not where the story ends.

Another physical reality that is often overlooked is the angle of repose of the grain. To explain, when grist from the mill enters the grist case, it settles in a cone with a 30° angle at the base. This forms an upside-down cone that does not settle out flat. Space needs to be accounted for to make room for the cone; otherwise your grist will back up into your mill, and that is no fun. The calculations are more complex and outside of the scope of this article, but for more resources on formulating and calculating grist-case volume with the angle of repose, please visit HRVST.com.

THE TAKE-AWAY

The simple take-away is that grist, or post-milled grain kernels, is about 30 percent less dense than whole-grain kernels, and target mash-in time should be 30 minutes or less. Grain also forms a cone when it enters the grist case and doesn't settle flat like liquid, so the added volume of that cone angle needs to be taken into consideration when sizing the grist case. If you're currently in the design phase of a brewhouse build-out or expansion, your best bet is to consult a grain-handling specialist for your grain-handling needs rather than simply relying on a turnkey brewhouse package that includes grain-handling components. But if a package deal makes more sense for economic or logistical reasons, consider the parameters here and ask the right questions to make sure what you specify can handle the needs of your brewhouse. 

William E. Camacho is principal and Lars Gilman is project manager for HRVST, LLC, a brewery consulting company headquartered in San Diego County, California, that has focused exclusively on production breweries since 2008. Learn more at HRVST.com.



BREWING INGREDIENTS

DRY-HOP METHODS FOR BEST EXTRACTION

As popular styles such as IPA evolve in even more hops flavor-forward directions and popular hops varieties climb in price, brewers are increasingly tweaking dry-hopping regimens to drive greater efficiency while also managing unwanted flavor contributions from the larger loads of vegetal matter. Here, we explore some of the varying ways that brewers do more with more. **BY JAMIE BOGNER**

TALK TO MANY IPA BREWERS 5 years ago, and they'd tell you their dry-hopping process was based on Vinnie Cilurzo's Pliny the Elder process—pulling yeast out of the tank, dry-hopping relatively warm (high 60s Fahrenheit), and leaving hops on the beer for as long as 2 weeks. But today's explosion in hazy beers that push the flavor contributions of hops over bitterness have necessitated new techniques and hops loads that make Cilurzo's then-aggressive 4 pounds of hops per barrel look quaint.

Today's less-efficient but more gentle and flavorful methods with hops loads of 6, 8, or even 12 pounds per barrel require new thinking, so we set out to ask a few prominent brewers how they manage through the challenges of producing intense flavor in dry-hopped beers.

HOPS VARIETY IS THE SPICE OF LIFE

The first thing to consider when developing your dry-hopping process is that there is no one-size-fits-all technique for hops. Certain hops behave differently than others and require more conditioning time, different temperatures, additional rousing, etc. Vic's Secret, in particular, is one that many brewers love but are forced to manage around. One brewer (who asked not to be identified) recounted a story of dry hopping an IPA with a blend containing Vic's Secret that stubbornly refused to condition out. After a few days, the brewer crashed the tank to 36°F and held it for a week, in an attempt to drop hops particulate matter out of the beer to decrease the herbal "burn" of the beer, but still the sensation persisted.

TORPEDOS, CANNONS, AND DOSING TANKS


The prevailing concept in modern dry hopping is reducing oxygen pickup. For many leading brewers, gone are the days of opening the top of the fermentor to drop in buckets or mesh bags of whole-cone or pellet hops. That classic process served its purpose, but brewers looking for the soft and volatile citrus and fruit aromas from hops cannot risk oxygen pickup as hops carry oxygen through that blanket of CO₂ in the tank and down into the liquid.

Instead, three different devices that attack the problem in different ways have come into vogue—hops torpedos, hops cannons, and recirculating dosing tanks.

The torpedo allows the brewer to CO₂ purge dry hops in a tank before shooting them up through

the blowoff tube into the fermentor where the loose hops free float in the tank through the dry-hopping process. The upside of this method is that the tank remains sealed and hops can be purged for as long as a brewer feels they need to be before they're added to the tank. However, because the hops are free in the tank, there is additional tank cleanup required.

Hops cannons accomplish a similar goal of moving purged hops material into the fermentor but do so by circulating beer from the fermentor through a purged vessel containing hops and allowing that circulating liquid to then carry the hops into the main tank. Sean Lawson of Lawson's Finest Liquids prefers this method because it is gentle yet effective, and it has become standard practice at their Waitsfield, Vermont, production brewery. In less than 30 minutes, they can circulate enough beer through the cannon to move all the hops into the larger tank.

A third option is continuous recirculation through a dosing tank. This option, used by breweries such as Odd13 in Lafayette, Colorado, significantly shortens the dry-hop process by pumping liquid continuously through a purged tank containing hops, in a process similar to using a hopback. With this process, the hops never leave the dosing tank, facilitating tank cleanup, and the constant movement of liquid over the surface of the hops speeds extraction time considerably. It's not uncommon to find breweries completing dry-hop regimens in 12–18 hours as opposed to 4–7 days. The downside, however, is the potential for a more intense sensation of herbal hops "burn" that can be mitigated by conditioning time or through centrifuging. 



BREWING INGREDIENTS

WORKING WITH ADJUNCT INGREDIENTS

As a brewer, part of your primary education involves how to store and care for beer's primary ingredients. But with all manner of new ingredients being put into lagers and ales, learning about how to properly house adjuncts can mean the difference between a vibrant beer and a stale one. **BY JOHN HOLL**

WE SPOKE WITH TWO BREWERS about what they've learned from brewing with specialty ingredients and what special measures they take to ensure that the ingredients stay as fresh as possible.

WORKING WITH FRUITS AND NUTS

Travis Camacho, Barrel Program Manager, Drake's Brewing Company, San Leandro, California

At Drake's, we try to get most of the ingredients we're going to use as fresh as possible and use it right away. We use a lot of fruits, and we're lucky when we can source them fresh and locally from the valley. Depending on the recipe, we try to start processing whole fruit as quickly as possible, but sometimes it can take a few days to process, so we have to be on the lookout for anything that doesn't look good and then toss it.

We know it's not always an option to use fresh fruit right away. For instance, we make a barrel-aged beer called Cult of the

Sun with yuzu fruit and Buddha's hand (fingered citron). The flavors go really well together, but the fruits aren't harvested at the same time. In addition, both of these fruits, as with other exotic fruits, can be hard to find. So just for this beer, we invested in a few medium-sized chest freezers that let us hold onto the fruits for long periods of time and even use the ingredients year-round.

From May to August, we get in the Buddha's hand, we process it, and then we vacuum seal it in bags and store it in the freezers. That works because the fruit shreds easily and stores really well until we're ready to use it (typically up to 4 months), and it tastes great. We just add it to the beer with the yuzu when that's ready.

We have used nuts, and with those you need to be careful. They are a lot like coffee. It's not that they necessarily will go bad or moldy, but with the oils, they will go rancid pretty quickly, so you want to make sure they don't get too much oxygen while

you're waiting to use them. We like to get them minimally processed so we can do the chopping and roasting ourselves.

You need to spend time learning about the ingredients. For us, coconut is a perfect example of that. You can buy coconut already shredded and toasted, but it might not give you what you want. Once you realize that it's not that hard to toast coconut yourself, you can get the exact flavor that you want. It takes patience and time, but the end result of doing it right and treating the ingredients right is worth it.

The bottom line is that you want to make sure you treat everything well. You want to be cognizant of how you store and care for these ingredients because often they aren't cheap. And we like to control as much of the processing as possible.

The biggest thing for me is the relationship with the suppliers. That's really what most of my job is. I've been in charge of the barrel program for 4 years, and I've grown the program from the ground up.





Because we want everything fresh, being top of mind with people is important. A lot of the ingredients that have gone into the beers have come from going around, meeting people, and making friends with winemakers, farmers, and coffee companies. It can be something as simple as telling folks you're on the lookout for a specialty barrel or just asking what is exciting in their world.

WORKING WITH COFFEE AND COCOA

Jordan Schupach, Director of Brewing Operations, Epic Brewing Company, Salt Lake City, Utah

Here at Epic, we've learned a lot from brewing Big Bad Baptist and its variants such as Double Barrel and Big Bad Baptist when it comes to coffee and cocoa. It used to be these beers were annual, but now we do some of them year-round.

When it comes to the coffee, we have local roasters who crush the beans for us


because we don't have the specialty equipment for that or the means to store all that coffee fresh. So we have to work closely with them to make sure we're getting things on time and that we're ready with the beer when the coffee comes in.

It's all about time management. We don't want the coffee around for more than 3 weeks, 4 at the most. And because of the amount of coffee we use, we couldn't manage that if we didn't have the relationship we do with our local roaster.

One of the fun challenges is when we barrel age our own coffee. We have Blue Copper, our coffee partner, roast up a batch. Then we split the batch and add half to a wet whiskey barrel. Every 2 weeks, we take a small portion of the beans out and roast them: When they start to smell a bit like banana bread, that's what we want. Then we take the beans out, grind them, and store the ground coffee in those bags with the one-way valve to make sure no unnecessary oxygen is getting into the

coffee. It's a method that works for us, and over time, as we add the ground coffee to the batches of beer, you can taste a slight difference between the first batch of coffee we use and the last, but it's not something that most people notice.

When it comes to cocoa, we do cuppings, just as you would with coffee. You're able to really taste the different nuances and roasts and better picture how it will relate to the beer. That kind of sensory analysis is really important with every ingredient. The ability to put a magnifying glass to every part of the process—specialty ingredients included—makes all the difference in the world.

We've learned a lot over the years using all kinds of ingredients, but perhaps the biggest lesson is sanitation. We can never forget that these are food products and that proper handling is very important. When brewing beers like these, we need to think of the facility not only as a brewery but also as a food-handling plant. 

BREWING INGREDIENTS Q&A

CLOSING THE LOOP ON BEER'S BIGGEST INGREDIENT: WATER

The quality of and commitment to the beer that comes out of **The Alchemist** in Stowe, Vermont, is never in question. Heady Topper is the hazy IPA of legend that we should drink from the can. The brewer's artwork is intricate and immediately recognizable, and the founders, **Jen and John Kimmich**, are rock stars in the beer world. On any given day when the brewery is open for business, a line of excited and eager customers wait for their cases. Pictures will be snapped of the fermentors and other brewing equipment, and then most will simply get in their cars for the next Vermont beer adventure. Only a very few ever ask, or even want to see, a sealed-off back room at the brewery—one with an immediately identifiable unpleasant odor. It's where the brewery houses its wastewater-treatment equipment, and it's the room John Kimmich wants everyone to see. Senior Editor **John Holl** spoke with Kimmich about the brewery's long-term environmental efforts and how its impact is already being felt.

CBB // When you opened your new brewery, a lot of folks had hops on the mind, and I'm sure you did as well, but you were also thinking about water and how brewers use it. What do you see as your responsibility when it comes to using great quantities of this natural resource?
JK // Jen and I are huge environmentalists, and our hope and dream from the start was to create a brewery that was as zero waste as possible. When we bumped up from a pub to a commercial brewery, we went through a steep learning curve in the world of state regulations. It was eye opening and difficult, and we learned a lot and realized that there was so much that was just "out of sight, out of mind" for people. People have blinders when it comes to properly disposing of waste, be it from flushing a toilet or washing dishes. People don't think about it, but it all—to use the term—runs downhill until someone has to deal with it.

So, when we were building our new brewery, we got an intimate look at Vermont's wastewater-handling facilities and saw that many of them are underfunded and at or over capacity. You hear people complaining about taxes and "Oh, what are they good for." Well, here they should be going to this infrastructure because it's vitally important.
CBB // In what ways, aside from the obvious, of course?
JK // We're facing the reality that 90 percent of the municipal water-treatment plants in the state are understaffed and undersized, and you can't have proper economic growth without the proper infrastructure. What we're witnessing now is people resisting pitching in for that infrastructure. But if you want the economy to grow and people to move in, where do you think that waste is going to go? We see wastewater that the facilities can't handle being dumped into Lake Cham-

plain. When people think of Vermont tourism, they don't think of red tide and the beaches being closed because of algae bloom or a proliferation of zebra mussels. It's not just agriculture that contributes to all of this; it's people.

CBB // So what did you install and why?
JK // It's called an MBR (membrane bioreactor). It's an aerobic digester—a living, breathing organism. We built the thing and added a special culture of bacteria that is designed for brewery wastewater. We baby it and treat it as well as we treat our beers. It's basically just another part of our ecosystem. Because of it, we're sending less than one pound per day of Biochemical Oxygen Demand (BOD)—a measurement of the amount of dissolved oxygen (DO) that aerobic microorganisms use when decomposing organic matter in water—to the overall system. It does an amazing job and does exactly what it's supposed to do. This was a business decision in a lot of ways, and installing this is good business. In 20 years, I don't think you'll be able to be a business like us and not have something like this. For us, this is it, this brewery is our final resting place, and we wanted to make sure that we did things early, rather than retroactively.
CBB // Where else is the brewery focused on sustainable practices or utilizing natural resources?
JK // We have a long way to go. We have all kinds of exciting ideas, but like so much else, it's about time and money. We have the motivation; it's just finding the time to do it all and manage the cash flow. Right




now, we're about to activate our new solar array, and it will provide 50 percent of the brewery's electricity. It's completely state-of-the-art and the first of its kind in Vermont.

When we built this brewery, we thought ahead. We are in an industry that creates organic waste, so down the line, we'll connect our fermentors to outside greenhouses that will grow food for senior centers and people in need and even grow native species that have been threatened in recent years.

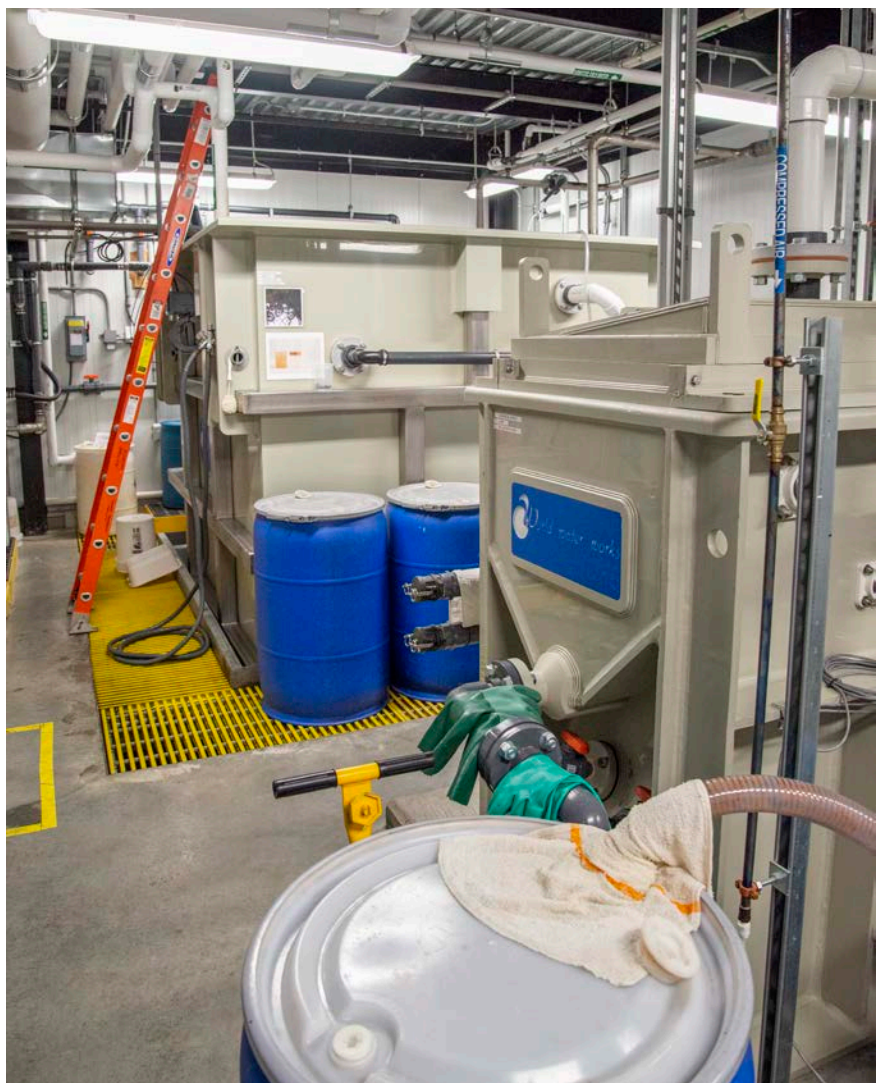
The plan is to pump the blow-off into specially formatted shipping containers that will house the greenhouses. We already built out the plumbing for that when the brewery went up. Inside we will also grow saplings and can plant them around waterways to prevent further erosion that's happening in the area.

We'll be able to make that an educational outlet as well and invite people in to see what we are doing and hopefully get them interested in doing the same. In a perfect, aggressive world, we could get our initiatives going in 2 or 3 years, but in a realistic world, it's more like 3 to 5.

Jen and I have also started a foundation that gives scholarships and recently funded a course to help train high-school graduates who are not going to college to give them soft skills to help them find a job or advance in their jobs.

You can't just focus on one thing, such as beer. We have so many things we want to do. We have so many irons in the fire. 

This interview was edited for clarity and length.



BREWING INGREDIENTS

LARGE BREWERY, SMALL MALTSTER

TIM MATTHEWS of **OSKAR BLUES BREWERY** is working to solve the “major illiteracy problem in malt in craft beer” by swapping out a portion of commercial malt in the brewery’s beers for grain from small, local maltsters. **BY JOHN HOLL**

TIM MATTHEWS WISHES BREWERS WERE thinking more about malt. As the long-time head brewer of Oskar Blues Brewery and now the director of brewing operations for CANarchy, the brewery collective comprised of Oskar Blues Brewery, Cigar City Brewing, Three Weavers Brewing Company, and several others, Matthews has long been trying to get the most out of the malt he uses, especially in Oskar Blues’s flagship, Dale’s Pale Ale.

Matthews has experimented with using craft malt in the past. When Oskar Blues released Beerito, a Mexican lager, it used about 5 percent craft malt for the upward of 12,000 barrels the brewery produced.

Now Matthews has gone a step farther and started tinkering around with the grain bill for Dale’s Pale Ale. At the brewery’s location in Austin, Texas, they have swapped out a percentage of base Munich malt, which had been coming from a commercial maltster, for some grown locally.

“This is really a microcosm of what we do with malt,” he says. Under the brewery’s ownership by Fireman Capitol, an investment firm, Matthews has been told to do “whatever it takes to make a competitive flavor and to follow the prerogative of the brewers.”

THE ROAD TO LOCAL

In a conversation that started in 2016 between Matthews and Brandon Ade, the founder of Blacklands Malt in Leander, Texas, roughly 30 miles north of Austin,

the two started talking about the possibility of using local malt in the beers produced from the Austin brewery.

“Doing something like that adds a bit of intimacy for the beer, the malt, and the maltster,” Matthews says. “That’s something that seems to be lacking. There is a major illiteracy problem in malt in craft beer.”

Working with local maltsters, he says, is a way to combat that because the local maltsters can get into the compounds and the processes and teach about malt styles and variabilities and how those affect the final product.

Blacklands’ Ade and Michael Harris, Oskar Blues’s head brewer in Austin, first started working together by incorporating Blacklands malt into a barleywine. Harris then used the local maltster’s product in the one-off, specialty beers that come out of the brewery, about four or five per year.

After those successful excursions, Ade approached the brewery about doing something larger and floated the idea of using Blacklands Munich malt in Dale’s Pale Ale.



It was a way, he said “to capture something unique and authentic going on in Austin.”

But tinkering with a flagship is something completely different from tinkering with one-offs. Oskar Blues brews Dale’s at three locations, says Matthews—at its first brewery in Colorado, at the one in Texas, and at a third location in Brevard, North Carolina.

“For years, we’ve been making Dale’s taste a certain way. We always know what we’re trying to target, of course, but even with that, people still have different experiences. In Austin, it’s more of a

“FOR YEARS, WE’VE BEEN MAKING DALE’S TASTE A CERTAIN WAY. WE ALWAYS KNOW WHAT WE’RE TRYING TO TARGET, OF COURSE, BUT EVEN WITH THAT, PEOPLE STILL HAVE DIFFERENT EXPERIENCES. IN AUSTIN, IT’S MORE OF A MALT BISCUIT FLAVOR; IT’S CITRUS NOTES OUT OF BREVARD; AND MORE PINEY OUT OF COLORADO.”

FIRST LITTLE MALT HOUSE IN TEXAS

Blacklands Malt (Leander, Texas) is the first modern malt house in Texas. Brandon Ade and his wife, Samantha, started it in 2012 “because I wanted to sit in a bar with my buddies, have a beer, and know that the malt in that beer was made in Texas,” says Brandon. “I wasn’t going to wait around for someone else to figure that out. People should be able to be proud that these products were made right here.”

Ade found farmers in west Texas growing barley for feed, collaborated with Texas A&M University on barley trials, and finally realized his dream of Texas-grown barley malt in 2016. The company uses equipment custom-designed and built in the United States and sources grain only from Texas and Colorado.

with local craft maltsters to dial in their local Munich to replace the commercial malt currently being used. Already having a relationship with Troubadour Maltings in Fort Collins, Colorado, and Riverbend Malt House in the Tar Heel State should make that process easier.

“Craft maltsters aren’t able to produce all the malt that all of the brewers in the United States need, so the commercial maltsters aren’t going out of business. But this is a good step in the direction of a deeper beer experience,” he says. “Craft malting has given all these brewers a chance to have this relationship. If you talk with your maltsters, you’re going to learn a lot and possibly become a better brewer.”

malt biscuit flavor; it’s citrus notes out of Brevard; and more piney out of Colorado.” All three flavors are components of Dale’s, he says, and all are big flavors.

With that in mind and with the blessing from the ownership, Matthews and the brewing team started thinking about how they could improve upon the Dale’s recipe and make it unique to place. But playing with a flagship beer doesn’t happen overnight. According to the brewery, what followed were months of research and development and collaboration between the two teams, including the Oskar Blues’s lab, headed by Brian Roye. Eventually, the kiln schedule and recipe were dialed in to develop Brown Field 10 Texas Munich, which meets the color and toasty flavor profile required to brew Dale’s Pale Ale.

“The brewery isn’t just a factory. We want to have our cake and eat it, too. This is a way to make a beer local,” Matthews says. The Austin-specific Dale’s Pale Ale was released in September 2018.

ONWARD

“I don’t know of any other iconic flagships doing something like this,” says Matthews. “And we hope people will start coming into the taproom and saying, ‘I want something with Texas malt in it.’ It’s sustainable, and contributing back to a sustainable world is definitely important to us. This is a major way we can illustrate that.”

Matthews says that some of the other breweries in the CANarchy collective, including Squatters Craft Beers in Utah, are considering adding local malts to their beers, including one beer that uses 100 percent Blacklands malt. All told, he says, the brewery collective is using about 200,000 pounds of craft malt each year, and that could rise.

Matthews plans to give the same treatment to the Dale’s Pale Ale being made in Colorado and North Carolina, working



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**Q&A: FOUNDERS'
DAVE ENGBERS**

BAGBY BEER: TRADITION IS INNOVATION

Jeff Bagby served a series of long apprenticeships with some of the best in the business (Stone, Pizza Port) before launching the brewery with his name on it. Today, he's finding customers in a crowded market not by chasing trends, but by making nuanced beers and training staff to educate consumers.

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BREWING INGREDIENTS

THE TERROIR OF BARLEY

People understand how terroir affects wine, hops, and even coffee, but how terroir affects barley hasn't really been explored in great detail. That's changing, and **DON TSE** explains how one Alberta brewery hopes to elevate beer's unexplored ingredient.

"WE WANTED TO DO SOMETHING to propel the industry forward," explains Charlie Bredo, cofounder and president of Troubled Monk brewery. "Alberta is very proud of its barley, but we don't do enough to pump up our own tires."

Troubled Monk is located in Red Deer, Alberta, a city of only 100,000 people in the heart of Canada's barley belt. In 2016, Troubled Monk won a medal at the World Beer Cup for its malt-forward Open Road American Brown Ale, so they know a thing or two about showcasing malt through beer.

BARLEY THROWDOWN

"People understand how terroir affects wine, hops, and even coffee, but how terroir affects barley hasn't really been explored," says Bredo of the motivation behind Troubled Monk's "Battle of Alberta

Barley" project, which involved brewing the same beer three times, each with the same type of barley, but grown in three different regions of Alberta.

Troubled Monk contacted Rahr Malting, their primary malt supplier, to see how this could be done. Normally, Rahr would malt barley blended from the hundreds of farmers with which it works to create consistency—something that breweries usually cherish. For this project, though, Rahr went through more than 2,500 individual batches of barley looking for three that were as identical as possible by objective measures.

The three that were eventually selected were of the same barley variety (Copeland) and had nearly identical levels of protein, alpha amylase, free amino nitrogen (FAN), and deoxynivalenol (DON). Such similar batches of barley were selected so

that any resulting differences in the beer could be attributed solely to the terroir, the three batches having come from northern, central, and southern Alberta.

"In wine, when you talk about terroir, you are typically talking about soil types," explains Bob Sutton, a vice president at Rahr. "But not for barley. The soil has to be the same because barley grows best in black loam soil. What is interesting about this project is that the differences in barley terroir come from differences in climate."

"I could see differences among the [batches of] barley right away," says Garret Haynes, head brewer at Troubled Monk, "though there weren't a lot of sensory differences from smelling and chewing the barley." Sutton explains, "The outer husk of barley is cellulose, so it darkens with rain, just like if you spill water on paper. Barley grown in wetter climates will be darker from this staining."

The three batches of barley were sent to Red Shed Malting, a local micro-maltster, for malting, since Rahr's Alberta facility is



ULTIMATELY, TROUBLED MONK'S PURPOSE IN UNDERTAKING THE BARLEY-TERROIR PROJECT WAS TO SHED LIGHT ON THE BEAUTY OF BARLEY AND TO START A CONVERSATION WITH RESPECT TO BARLEY SIMILAR TO WHAT HAS ALREADY BEEN GOING ON WITH HOPS FOR YEARS. WHILE THIS PROJECT MAY HAVE RAISED MORE QUESTIONS THAN IT ANSWERED, THAT WAS SORT OF THE POINT. DESPITE BEING THE FOUNDATION OF BEER, BARLEY REMAINS A LARGELY UNEXPLORED AREA FOR SMALL BREWERS.

far too large to make the small batches of malt needed for the project.

"Once we got our hands on the barley, we wanted to treat the batches of barley as consistently as possible," says Matt Hamill, maltster at Red Shed. The malting process plays an enormous role in the flavor of beer, and a maltster would normally manage the malting process to accommodate differences in barley, but for this project, Red Shed was careful to use the same steeping cycle for all three batches of barley.

The finished batches of malt were then sent to Troubled Monk. Haynes observed that the malt had retained the color differences he had noticed in the barley, "and now we could pick up sensory differences from chewing the malt and from steeped teas we made with the malt," he says. "One was more classically bready while the other two had some grass notes."

Haynes then brewed three versions of Troubled Monk's flagship Golden Gaetz Golden Ale with the three batches of malt. Where the regular recipe for Golden Gaetz calls for a small amount of Carapils malt, to honor the integrity of this terroir project, Haynes replaced the Carapils malt with raw unmalted barley of the same batch used to make each beer.

The beers were sold as a 6-pack, with two cans of each of the three beers.

SUBTLE DIFFERENCES

At the consumer level, people noted differences, though they were subtle. Despite

this subtlety, several batches of each of the three beers were made, and both Bredo and Haynes could consistently tell them apart, so differences were certainly present.

To the knowledge of Troubled Monk, Rahr, and Red Shed, this is the first time a barley experiment of this type has ever been conducted. "I'm hoping this gets the conversation started on terroir in barley," says Bredo. Red Shed's Hamill agrees. "It was great to see that there were qualitative differences and that everyone had a different favorite," he says. "This experiment expands interest in differences in base malt, and we've gotten good feedback."

While hops have been in the beer spotlight for a number of years, many in the beer industry predict that craft malt is the future. As brewers seek to differentiate themselves and connect drinkers to a sense of place, there is a growing interest in differences in barley variety and terroir.

"Unlike hops or even wine grapes, which aren't really processed, barley has to be malted, so the maltster has a huge impact on the final flavor of the malt," says Rahr's Sutton. "Plus, while hops, grapes, and even coffee grow in the same place on the same plant every year, barley farmers have to rotate their crops, planting barley on different parts of their land each year."

All of the extra variables at play in malt make the subject extra interesting, but it also makes it unlikely that there will ever be vintage-dated beers based on barley since there are too many things in motion. Also, since lighter-bodied beers, where

base malt shines, are generally intended to be consumed fresh, vertical tastings of vintages becomes difficult. Differences from beer staling would outweigh differences in terroir.

Despite these obstacles, there is enthusiasm among all the parties involved. Sutton observes that "there's an opportunity [for brewers to vary their] beer from year to year and tell a good story." Hamill, on behalf of micro-maltsters observes, "If there's a difference in terroir in barley, it's an advantage for [small maltsters], so it was great to see that there were qualitative differences in the malt and beer." Troubled Monk's Haynes has similar hopes: "I hope this creates interest in barley so people can feel more connected to where their beer comes from."

REPEATING THE EXPERIMENT?

This project was logistically difficult even for the commercial entities involved. It will be difficult for interested professional brewers to explore barley terroir without the coordination and involvement of farmers and maltsters in the testing process.

Getting batches of barley with identical objective measurements as Rahr did for this project would be challenging, but even so, such an experiment with barley from other growing areas and climates could yield more varied results, which might be just as interesting. A larger-scale coordinated test with more diverse terroir could potentially shine more light on the impact of terroir.

Ultimately, Troubled Monk's purpose in undertaking the barley-terroir project was to shed light on the beauty of barley and to start a conversation with respect to barley similar to what has already been going on with hops for years. While this project may have raised more questions than it answered, that was sort of the point. Despite being the foundation of beer, barley remains a largely unexplored area for small brewers.



PACKAGING

THE SCIENCE OF EXPLODING BEER CANS

MATTHEW FARBER, PHD, shares common reasons why beer cans fail and what you can do to prevent potentially dangerous or embarrassing packaging mishaps.

"IT WAS LIKE GUN SHOTS ringing out from the warehouse," said an anonymous employee of a distributor as an entire pallet of beer popped can by can. The brewery didn't assume responsibility but instead blamed the distributor for excessive temperatures in storage.

At a retail location, distended and ruptured cans from another brewery were strewn across the floor of a window display, having fallen from their shelves. Sunlight exposure and excessive temperatures were again blamed for the misfortune.

What causes exploding beer cans? Will a rise in temperature alone create enough pressure for a can to burst?

CAN INTEGRITY AND FILL VOLUME

Carbon dioxide (CO₂) gas is very soluble in beer, but as the temperature increases, gas solubility decreases. In other words, when a beer warms, it loses carbonation because the gas comes out of the beer. In a closed container, the CO₂ has nowhere

to go but the headspace of the can; thus the pressure increases.

But these internal pressure changes are expected and accounted for in can design. All can manufacturers supply quality standards that define *buckle resistance*, the ability to withstand elevated pressures and temperatures, commonly specified for beer cans at 90 psig (6.2 bar).

In addition to can integrity, accurate fill volumes are essential, not only for legal reporting, but for accommodating the increase in gas volume as it comes out of solution. The typical headspace for a standard 12 oz can is 0.47 inch (12 mm).

American brewers describe the amount of CO₂ in beer as *volumes*. Volumes (vol) of CO₂ can be thought of as the ratio of the physical volume of the gas at atmospheric pressure to the pressurized volume in beer. Levels of carbonation are very important for consumer perception because most people detect a difference as little as 0.2 vol. As a general standard, open to stylistic

interpretation of the brewer, normal carbonation values are 1.5–2.6 vol while highly carbonated beers may approach 4.0 vol, requiring specialized bottles with caged corks to accommodate the elevated pressure.

With can integrity and appropriate fill volumes, the pressure of CO₂ in beer at 2.6 vol and at 140°F (60°C) is about 70 psig (4.8 bar). This is within the buckle-resistance specifications of the can. (In tunnel pasteurization systems, canned beer temperature is briefly held at 140°F (60°C) to kill any contaminating microorganisms, so the ability of a filled beer can to withstand this temperature is critical.)

The key factor here is that under *normal* conditions, a canned beer should withstand higher temperatures. But in the example above, if the carbonation level increases to 4.0 vol at 140°F (60°C), the pressure increases to 126 psig (8.7 bar)! Pop! The root cause of an exploding can is not the elevated temperature alone but also excessive carbonation.

REFERMENTATION

Excessive carbonation is typically caused by refermentation by yeast or spoilage microorganisms after packaging. The beer

may be packaged at 2.5 vol, but it ends up at 4.0 vol over time. Small breweries are most at risk due to the use of mobile canning units, the packaging of unfiltered, unpasteurized beer (i.e., active yeast), and/or the presence of contaminating microorganisms. There are several factors that must be controlled in the brewery to prevent refermentation.

First, and most obvious, is that all beer should be fully fermented at terminal gravity before packaging. During fermentation, a 1° Plato drop yields 2 vol of CO₂! In addition, the recent trend of adding unfermented fruits and extracts to unfiltered beer just before packaging represents an extreme risk for refermentation.

Second, there is evidence that dry hopping causes refermentation. With excessive dry hopping comes the potential for “hops creep,” also called the “freshening power of hops,” where an additional drop in terminal gravity is observed after the hops addition. This refermentation is caused by glycolytic enzymes from the hops that convert remaining, unfermented polysaccharides (dextrins) into simple, fermentable sugars. After dry hopping, it is important to ensure that the beer has reached terminal gravity before packaging.


PHOTO: JAMIE BOGNER

And finally, excessive carbonation may be caused by contamination with wild yeast or bacteria. A thorough microprogram is highly recommended before venturing into canning operations.

SIMPLE TEST

Regardless of laboratory equipment, all brewers can do a simple test to check for refermentation. Simply store a selection of cans from each lot in an incubator or warm location. Over time, check for pressure and distension by simply squeezing

the can by hand.

Cans are rated to withstand common beer-carbonation volumes at elevated temperatures. Exploding cans are likely due to refermentation after packaging, which creates an initial increase in carbonation made worse with elevated temperatures. Simply insisting that consumers refrigerate their product is not adequate prevention because the average consumer doesn't understand explosion risk. The most important step to keeping cans intact and on the shelf is for brewers to prevent refermentation. 



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CASE STUDY

BAGBY BEER COMPANY

JEFF BAGBY, the longtime San Diego-area brewer, opened his own brewery 4 years ago and built it on a model that might seem quaint by today's standards. As a brewpub that focuses just as much on food and cocktails as the beer, **BAGBY BEER COMPANY** stands out in a crowded marketplace with a commitment to quality and beer history. It's an Old School approach built on a career of brewing, and it's working. **BY JOHN HOLL**

SAN DIEGO HAS LONG BEEN an incubator for great brewing talent and a center of innovation when it comes to great American craft beer. From early pioneers who pushed the lupulin beyond then-tested limits to ambitious wild and sour programs to imperial stouts of all kinds, local drinkers have never needed to travel far, and beer travelers regularly make trips to this Southern California city.

Amid all the forward-looking, boundary-pushing, seeking-to-do-the-next-big-thing breweries in the city, Bagby Beer Company is a welcome respite. Founded by Jeff Bagby, a longtime brewer in San Diego who cut his teeth and honed his skills at some of the best-known breweries in the area, the brewery, restaurant, and event space that opened 4 years ago is a return

to simpler times, offering balanced beers done to style and without too much fuss.

"We didn't even launch with an IPA when we opened," Bagby says. Although the brewery does serve one now, it's clean, bright, hops-forward, and bitter. Bagby doesn't do haze, yet customers still pack his place every night.

"Tradition is something we believe in, and we liked the idea of bringing classic styles to people while combining our experience brewing them and what we've learned while traveling and tasting traditional recipes at the source," Bagby says. "We wanted to bring our example of that to the table and try to teach along the way. We don't need to be too adventurous because if you follow the foundations of brewing, my feeling is that a lot of it has

been done before, but you can still have innovation and be creative."

A STUDENT OF SAN DIEGO

Bagby was hired by Stone Brewing in 1997 as a delivery-truck driver. Soon enough, however, a brewing position opened up, and Bagby, who had been homebrewing, jumped at the chance to work with Steve Wagner and Lee Chase. In that first year, he visited the Great American Beer Festival for the first time and was able to taste beers from around the country and taste both the good and the bad on the marketplace.

It was a crystalizing moment for him, even as he retells the story more than 20 years later. Seeing that there were beers with flaws making their way into pint glasses, he wanted to ensure that the beer he made from that day on never fell into that bucket.

While at Stone, Bagby helped create and shepherd along a number of beers that remain popular today, and he then went to White Labs as a brewer and then to Pizza Port, where he worked with Tomme Arthur. While at Pizza Port, he was able



to expand his brewing repertoire into German styles and English classics and to experiment with hoppy beers, barrel aging, and—of course—Belgian-inspired beers.

From there it was a hop to Oggi's, a brewpub where he was solo in the brewery, and as long as he made the set styles of beer that the owner wanted on the menu, he was free to experiment and hone his own recipes, and he was able to get instant feedback from customers.

All along, he remembers homebrewers coming into the professional breweries where he was working and announcing that after just a few months or brief years of amateur brewing, they were going to make a go of it professionally. He was often asked when he might do the same and open his own brewery, but he knew that he wanted to get his skills and recipes to a place where he was fully confident because often brewers have only one shot at going it on their own. His time came in 2011 when he finally decided to start to get a business plan together. After going through several different name ideas, he and his wife decided to put the family name on the brewery—as an easy way for locals to identify the beer but also as a commitment to the beers that they would make.

LESSONS LEARNED

In opening Bagby Beer, the couple looked at all the various options available to them and decided to go with the brewpub model. The majority of breweries for which Bagby worked had restaurants attached to them, and he liked the relationship between beer and food. Also, even 6 years ago when he was formulating the business plan, the taproom as we know it today wasn't nearly as prevalent or profitable.

"Having a one-stop shop helps fulfill all of our goals and showcase what we've learned and what's good quality when it comes to beer and to food," he says. "Both help bring people to the brewery."

So from top to bottom, they wanted to make sure that everything was a reflection of their attitude and respect toward tradition and quality. "From the way the space looked to the way the food was presented to the cocktails, wine, and spirits, we wanted everything to be on the same level as the beer."

They spent a while trying to find the right space. Ideally it would be able to house a brewery that would be able to accommodate all the customers onsite, and anything else that was left over could

LOOKING AT HIS BEER MENU IS LIKE A THROWBACK TO SIMPLER TIMES IN BEER. LONGTIME BEER DRINKERS LOVE COMING TO HIS PLACE BECAUSE THEY CAN FIND SKILL AND NUANCE IN EACH GLASS AND CHOOSE FROM A VARIETY OF STYLES. SOME OF THE NEWER CRAFT DRINKERS STRUGGLE A BIT WHEN THEY DON'T SEE NEW ENGLAND-STYLE BEERS ON OFFER OR NOTICE THAT THE BARREL-AGED BEERS DON'T CONTAIN ADJUNCTS. BUT THEY STAY, BAGBY SAYS, AND EXPAND THEIR HORIZONS AND ARE ABLE TO BECOME BETTER-EDUCATED BEER DRINKERS—HIS GOAL ALL ALONG. "MAKE THE BEERS YOU WANT TO MAKE AND EDUCATE THE CONSUMER," HE SAYS. "A SUSTAINABLE BUSINESS MODEL IS TO MAKE A LOT OF DIFFERENT BEERS FOR A VERY LONG TIME. YOU NEED TO CREATE A SOLID FOUNDATION AND BUILD UPON IT. IT MIGHT BE FRUSTRATING FOR SOME THAT WE'RE NOT FOLLOWING THE TRENDS OR FADS, BUT WE KNOW WHO WE ARE AND WHAT WE LIKE, AND WE'RE FINDING SUCCESS THROUGH THAT!"

head out to distribution. They found a sprawling lot in Oceanside, north of San Diego just 8 blocks from the Pacific, with a multi-story building that was once a BMW dealership.

"At first, we wondered whether it was too big, and we questioned why we did it, but this was always the goal, and we're still excited about it. It's been difficult, sure, but we knew it would be."

Bagby is quick to remind one that brewing and running a business is, first and foremost, hard work. There's a lot of fun with recipe development, the actual brewing of beer, and watching customers get excited, but without focusing on the business—even the less-than-fun parts such as paperwork—nothing is able to survive too long.


"One thing I learned after the first year is that nothing surprises me anymore. Most of that is related to staffing, but there are also things in maintenance, contractors, equipment, all of the millions of little things that come up daily or weekly; you need to get hardened to the challenges."

Routinely, Bagby reminds himself to go back to basics, to apply the lessons learned along the way, especially "the ones that sucked" and apply them to the original goal and mission. It helps keep him and the staff grounded and able to move forward in a meaningful way.

"We're here and keeping in check with what we do, and we won't change that much at all," he says.

BRIDGING THE GENERATION GAP

Bagby is quick to point out that he's not a big fan of hazy IPA. He still favors the traditional West Coast versions, and that's what his brewery serves. Same with Pilsners, a red ale, weizenbock, English pale ales, and a brown ale. Looking at his beer menu is like a throwback to simpler times in beer. Longtime beer drinkers love coming to his place because they can find skill and nuance in each glass and choose from a variety of styles. Some of the newer craft drinkers struggle a bit when they don't see New England-style beers on offer or notice that the barrel-aged beers don't contain adjuncts. But they stay, Bagby says, and expand their horizons and are able to become better-educated beer drinkers—his goal all along.

"Make the beers you want to make and educate the consumer," he says. "A sustainable business model is to make a lot of different beers for a very long time. You need to create a solid foundation and build upon it. It might be frustrating for some that we're not following the trends or fads, but we know who we are and what we like, and we're finding success through that." 



CASE STUDY

FERNSON BREWING CO.

Being one of the first craft breweries in South Dakota helped **FERNSON BREWING CO.** make inroads into the market, but it was listening to local customers and not necessarily the national trends that helped them succeed and create award-winning beers. **BY JOHN HOLL**

FOR DEREK FERNHOLZ, FOUNDER OF Fernson Brewing Co. in Sioux Falls, South Dakota, the strongest thread that has held his life and career together has been a desire to create things.

The pre-beer backgrounds of a lot of brewers usually fall into the engineering or scientific camp or the art bucket. For Fernholz, he was in the engineering camp, he worked in Web development, “and made things that people could enjoy.” He worked at a number of start-ups and then some “cool companies” and did work for big corporate clients while living in the Twin Cities of Minneapolis and St. Paul, Minnesota.

While there, he and some of his colleagues would go to the local Old Chicago restaurant and make their way through the expansive tap list, trying to hit all the different styles and brands. On one particular afternoon, the group got it into their heads that homebrewing seemed like a logical next step, especially because of their interest in creating things. Luckily, two of the country’s better-known homebrew shops, Midwest Supplies and Northern

Brewer, were a short distance away, so they went all in, bought a full kit, skipped bottle conditioning, and went right to kegs.

The first beer they made was a clone of Surly Brewing’s IPA, Furious, “and it turned out really well, which is like the worst thing that can happen to a homebrewer,” says Fernholz, a veteran of the South Dakota Army National Guard with which he spent 9 years including a deployment to Iraq for Operation Iraqi Freedom and left service as a sergeant. “So we were like, ‘we’ve got this.’ And then, of course, our next six batches were terrible because we were cavalier.”

Soon enough, Fernholz discovered that his friends preferred drinking beer to making it, so he inherited the equipment and soon fabricated his own system, building an all-grain brewery in his garage. He joined the local homebrewing club, became a BJCP judge, and eventually turned his attention to opening his own brewery.

“It was feeling the urge to create something and seeing people enjoy what you made,” he says. He and his fiancée, now

wife, Hilary, planned to settle in the Twin Cities, but finding a job for her proved difficult, so in 2011 they decided to head back home to South Dakota.

BIG EMPTY SPACE

It made sense to build a brewery in Sioux Falls. South Dakota is a big state, but nearly half of the population lives within 60 miles of the brewery, and at the time, there wasn’t a single brewery serving the area. Fernholz dusted off the business plan and got together with family and partners to raise the money needed to open.

Fernholz’s business partner is Blake Thompson, a graduate of the brewing school at University of California, Davis. Throughout early and mid-2014, they were licensed, ordered a 30-barrel brewhouse, and found space, but the usual delays meant they didn’t open until February of 2015.

Like so many others, their plan was to brew ales, not only because of the relative (assumed) popularity but also because of the quick turnaround time. But the following winter when sales slowed a little and they had some extra tank space, they decided to brew a European-style lager, Lion’s Paw Lager. Soon after it was released, it became a hit. By offering beer with which the local customer base was more



familiar, albeit one with more flavor, they hit upon the beer they needed to make inroads into a largely macro market.

“Lagers really weren’t on our radar at all. We weren’t going to do anything crazy; we wanted to do traditional four-ingredient beers,” Fernholz says. “Slowly and steadily, Lion’s Paw Lager became the beer of Sioux Falls.”

The beer now accounts for 70 percent of what Fernson brews annually.

“I’m glad we didn’t do it right away,” says Fernholz. “We had to figure out our chops and dial in everything before we were able to do this beer justice. In hindsight, it could have been amazing to start with a rocket ship, but at the same time, I think it would have pulled us too far too fast, and we would have lost sight of what we were doing.”

PRECAUTIONS IN THE MARKETPLACE

Fernholz is purposeful when he uses the term “distribution partners.” Since 99 percent of the beer the brewery makes goes into those channels, the brewery needs to make sure that the beer is taken care of at each step. It’s why they write cold storage provisions into distribution contracts and have invested so heavily in the quality controls.

They want to make sure that when the beer reaches the customer, they’ve done everything they can to ensure that the beer is fresh and not adulterated by outside forces. The lager has a 6-month shelf life, but even their farmhouse ale, a petite French saison (modeled on Saison Dupont and Boulevard Tank 7) that won a gold medal at last year’s

World Beer Cup, still tastes fresh after a year and a half in the can.

That’s why everyone on staff—not just the brewers—does triangle tastings, looking for anything that’s off, and if they find anything, noting it, and working to resolve the issue before it becomes widespread.

Fernholz also looks to the brewery’s customers to reach out and offer feedback. Sometimes it’s praise, and other times, it’s people noting a beer and a date code and offering a suggestion that it’s not quite what they expected or that something might have been off.

“And for every one of those, there are ten, twenty, a hundred people who don’t say anything,” Fernholz says. “I love it when people come forward. We can’t fix problems if we don’t know about them. We love feedback even though it hurts when it’s negative.”

He says that the brewery isn’t afraid to dump beer that doesn’t pass muster, often to the tune of several thousand gallons per year. “I call the city water department to give them a heads-up, and they just ask us to do it slowly over the course of 24 hours. It hurts for a minute, but there’s no alternative.”

WORLD BEER CUP BOUNCE

The Fernson Farmhouse Ale that won gold at the 2018 World Beer Cup was a recipe Fernholz wrote in his homebrewing days. Despite trying to monkey with it over time, he says that the original recipe still has worked out best. While it was a beer that was modestly well received in the local market, the win at the competition has helped bring new recognition to the brewery.



HEAR HERE!

For more of the conversation between Derek Fernholz, founder of Fernson Brewing Co., and John Holl, listen and subscribe to the *Craft Beer & Brewing Magazine*® podcast.

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“It’s validation in the sense that we’ve been doing this thing in the oasis that is Sioux Falls and thinking that we like what we do. But, to have someone else tell you on some level that you did a really good job brings the validation home.”

And while it hasn’t led to a huge bounce in sales just yet, Fernholz says that a win like that has brought new people into the fold, including customers who previously would avoid the beer.

DIVERSIFYING A PORTFOLIO

Fernholz is “hyper-aware” of the fraught nature of the beer business and what comes when your most popular beer accounts for more than two-thirds of your output. “It’s a tough place to be in if the market changes rapidly, and we’ve seen that with larger brands.”

To keep up with the changing times, the brewery recently doubled down on its quality-control initiatives, purchasing new dissolved oxygen (DO) meters, a centrifuge, and other tools that will help make sure that the brewery is putting out the best-quality liquid time and time again to avoid any of the slings and arrows that can hurt brewers. They also installed a 5-barrel pilot brewery from Ss Brewtech that will help them make a wider variety of styles for their two taprooms and for special releases, workshopping beers to see what resonates with customers and could potentially see growth in the overall portfolio.

The brewery currently distributes to five states (South Dakota, North Dakota, Nebraska, Minnesota, and Iowa) and has been steadily doubling volume, expecting to close out 2018 at about 6,000 barrels. Nearly all of their beer is sent through their eleven distribution partners.

And with that, they are looking toward the more discerning craft drinkers. “We’re trying things because yes, the older generation that is loving our Lion’s Paw Lager and loves to order the same thing every time is great, and hopefully that lasts until we find the next thing.”

EVERYONE ON STAFF—NOT JUST THE BREWERS—DOES TRIANGLE TASTINGS, LOOKING FOR ANYTHING THAT’S OFF, AND IF THEY FIND ANYTHING, NOTING IT, AND WORKING TO RESOLVE THE ISSUE BEFORE IT BECOMES WIDESPREAD. FERNHOLZ ALSO LOOKS TO THE BREWERY’S CUSTOMERS TO REACH OUT AND OFFER FEEDBACK. SOMETIMES IT’S PRAISE, AND OTHER TIMES, IT’S PEOPLE NOTING A BEER AND A DATE CODE AND OFFERING A SUGGESTION THAT IT’S NOT QUITE WHAT THEY EXPECTED OR THAT SOMETHING MIGHT HAVE BEEN OFF. “I LOVE IT WHEN PEOPLE COME FORWARD,” FERNHOLZ SAYS. “WE CAN’T FIX PROBLEMS IF WE DON’T KNOW ABOUT THEM. WE LOVE FEEDBACK EVEN THOUGH IT HURTS WHEN IT’S NEGATIVE.”



CASE STUDY

RISING TIDE BREWING COMPANY

In Portland, Maine, **NATHAN SANBORN** of **RISING TIDE BREWING COMPANY** is taking the lessons learned in his decade of beer making and putting them to use to guard against potential future pitfalls. From changes in packaging to walking the line between core beers and fads, above all else, he cares about quality and sees it as the driver of his success. **BY JOHN HOLL**

IN LESS THAN A DECADE in business, Nathan Sanborn has modified, disregarded, or completely shredded his business plan, all while trying to keep up with the whipsaw machinations that have been craft beer of late. Throughout it all, the founder, co-owner, and director of brewing operations at Rising Tide Brewing Company in Portland, Maine, has focused on quality about all else.

That sounds quaint, or like something that every brewer should say, but Sanborn and his brewery walk the walk, and it's one reason that as Maine's beer industry has grown, they've managed to grow and thrive in a crowded, often-focused-on-flash-in-the-pan market.

"In the grand scheme of the third wave of craft, we're Old School," he says. "When we started, there were maybe thirty breweries in the state, and now we have

130. Back then, there was a focus on your core beers, the ones that anchored your portfolio. Today we're doing that, but we're also producing a lot of one-offs. We need to balance between those things."

LISTENING TO THE MARKET

The brewery started off packaging in 22-ounce bottles and because of state laws at the time wasn't able to offer beer for consumption at the brewery, so everything went out to the market. A longtime workhorse for brewers, these bomber bottles were a way for craft brewers to stand out on shelves and offer consumers an attractive alternative package that could be shared (or not). Sanborn filled all the bottles by hand in the early days at their first location, but as they moved to a new space after just a year, he realized that

sales of the 22-ounce bottles were soft, a sign of the changing times.

Rising Tide then moved into 12-ounce bottles, which again did well, but as he started to see the move into cans, Sanborn began to work with a mobile canner to put out some of his beers, such as Maine Island Trail Ale (MITA)—a hoppy session ale—and a gose in cans. Soon enough, the brewery could justify purchasing its own canning line and about 2 years ago went exclusively into aluminum.

"We've been in every package, but this one works best," Sanborn says.

What has also worked well for the brewery is something that the younger-than-him generation has already mastered: limited releases. Like any brewer, Sanborn likes to experiment and try out different beers, but he also knows that his customer base was built on the lineup of core beers and reliable seasonals that have been turned out since the beginning.

The customers who want to seek only the new or rare make up just one part of his consumer base, but still it means



TALK TO JUST ABOUT ANY BREWER, AND THEY'LL TELL YOU THEY ARE CONCERNED—IF NOT OUTRIGHT WORRIED—ABOUT THE FUTURE. “WE’RE A LITTLE MORE RISK ADVERSE,” SANBORN SAYS. “IN THE NEXT YEAR OR TWO, I’M NOT REALLY INTERESTED IN CHASING BOTH GROWTH AND WHAT I THINK MIGHT BE THE NEXT GREAT THING. WE’LL SEE ADJUSTMENTS IN THE MARKET, AND FOR US IT’S ABOUT BEING MORE CAUTIOUS AND LESS BULLISH. WE HAVE A GOOD THING GOING, AND WE’RE GOING TO BE REALLY CAREFUL TO MAKE SURE TO NOT DUMP A HUGE CAPITAL EXPENDITURE ON SOMETHING UNLESS IT’S GOING TO HELP US IMPROVE THE QUALITY OF OUR BEER.”

releasing limited beers fairly regularly. Be the limited releases fruit-forward or IPAs with a single-hop addition (although many skew toward the West Coast model rather than the New England-style because that's where his heart lies) or lagers, Sanborn sees the benefit of bringing in new people and also hopes that they'll leave with cans of the core lineup—and often they do.

“It's a huge portion of our business,” he says of taproom sales, “and it drives innovation within the brewery and gives us an outlet for these small batches that in turn gives us immediate and direct feedback.”

Still, he knows the reason that people come back is not for something that is good for one time or in small doses; they want beers they can have reliable pints of time and time again.

COMMITMENT TO QUALITY

Within a few weeks of opening, Sanborn got a fright. Residual yeast was hanging out in the 22-ounce bottles, causing unintentional secondary fermentation that turned the glass bottles into virtual bombs. Beers were recalled and dumped, and the cause was rooted out, but the shock and fear of it all caused him to immediately hire a quality-control expert, Haley Campbell, to work at the brewery and make sure that every single beer and package that left the brewery was as clean as possible.

“It was scary as hell, and it was a wakeup call,” Sanborn says of those bottles.

“Someone could have gotten hurt, and I'm not happy it happened, but I'm glad it happened early on in the business.” Since then, quality has been top of mind for Sanborn, and it's drilled into the staff.

The current quality-control director,

Merritt Waldron, is working on a quality-control book for Brewers Publications.

“Even when we do something trendy or data-driven, the core focus is always on high-quality, drinkable, and technically sound beer,” he says. “It is the key to what we do regardless of what we create.”

The constant banging of the quality drum has paid off. Customers know that if they get a can of Zephyr, the brewery's IPA, it will taste exactly like the previous one and then the next one.

“I think that sometimes people forget that we're producing food and that we have a real responsibility to produce something that's safe. Quality goes beyond just asking, ‘Did you ferment it all?’ [to avoid exploding packages] to ‘Is it free from contaminants?’ and ‘Has everything been properly rinsed every step of the way?’ and so much more.”

Without the rigid commitment to quality, he says, “we wouldn't be where we are today.”

IMPORTANCE OF LOCAL

Mainers are intensely loyal to their state and that extends to its beer. For Rising Tide, being on the peninsula of Portland, the largest city in the state, has its advantages. They get not only the year-round residents as customers but also the serious influx of tourists who come through two-thirds of the year.

But it's not just location; it's a commitment to all things Maine, including using state-grown or processed ingredients in every batch of beer. This usually means malt and any non-malted adjunct grain, such as oats. Hops play a smaller role because of locale, but there are various herbs and plants that are grown in the state that

make appearances in beer. And Sanborn points out that each year, the brewery releases an all-Maine-hops wet-hopped IPA.

“We source local ingredients because it harks back to what Maine is all about—supporting other local businesses,” he says. “I'd like to see agriculture continue to be a part of the Maine economy, and this is the best way to support it.”

In fact, one local maltster, Maine Malt House at Buck Farms, has even increased its production because of the brewery. It had been a potato farm that grew barley as a rotation crop, but as the tuber business declined, the newest generation of farmers decided to embrace the beer staple.

“All in all, we use about 25,000 pounds of locally grown and processed grain each year,” Sanborn says.


Not bad for a brewery that is averaging about 4,700 barrels annually.

LOOKING TO THE FUTURE

Talk to just about any brewer, and they'll tell you they are concerned—if not outright worried—about the future. It's a crowded market with competition coming from not only the national level but across the street. Add in wine, spirits, and flavored-malt beverages, and it's tough out there for a beer maker.

Some brewers are doubling down and investing in infrastructure in the hopes of gaining more market share. Others have begun throwing in the towel.

Sanborn and his wife, Heather, own the brewery outright without any outside investors, so he's taking a wait-and-see approach to the next few years. The 15-barrel brewery is keeping up with demand, and the taproom—complete with a relatively new event space that is host to both private and public parties, concerts, and more—is thriving.

“We're a little more risk adverse,” he says. “We've reached a point where we're making beer, we're profitable, and we're happy. In the next year or two, I'm not really interested in chasing both growth and what I think might be the next great thing. We'll see adjustments in the market, and for us it's about being more cautious and less bullish. We have a good thing going, and we're going to be really careful to make sure to not dump a huge capital expenditure on something unless it's going to help us improve the quality of our beer.” 



CASE STUDY

CONFLUENCE BREWING COMPANY

One of the largest craft breweries in Iowa, **CONFLUENCE BREWING COMPANY** has decided to grow by controlling its own distribution. From early days of growlers to the current growth of cans (and draft, of course), they've discovered that a personal touch with their accounts has helped keep them top of mind and capable of supplying beer to all those who want it. **BY JOHN HOLL**

WHEN JOHN MARTIN, THE PRESIDENT and co-founder of Confluence Brewing Company in Des Moines, Iowa, opened his brewery in 2012, he wanted to make sure that he had control over every aspect of the business from brewing to distribution. By taking advantage of state laws, he decided to distribute his beer himself, and now as the brewery nears 6,500 barrels annually, he's showing no signs of stopping what has become an important and profitable part of his business.

"It's a lot of beer to get out into the market, but you have to look at it as a separate business," he says. "We're one team, but each part has different things to do to make sure we're being successful. Not being saddled with a distributor on day one has helped us, and we can control everything about the product from con-

ception of a beer to when it gets poured into a glass in the bar."

While the metropolitan area of Des Moines (about a 20-mile radius from the brewery and taproom) accounts for roughly 80 percent of the distribution business, Martin says some of their earliest accounts at the start of 2013 were 2 hours, roughly 130 miles, away in Iowa City.

Martin met John Watts, a brewery advisor, in Iowa City shortly after opening. Watts got the brewery a meeting with a local grocery store that immediately agreed to carry the brewery's beers—which had been exclusive-draft to that point—in growlers.

"We had a two-head can filler that we made a slight modification to, and we could purge oxygen and fill [the growler] with almost no headspace, so the dissolved oxygen was super low," says Martin.

"We were filling 1,000 [growlers] per week and sending them out to retailers."

The price point was right, he says, and it enabled the brewery to get onto shelves. Martin had hoped to move into cans within 6 months, but that didn't happen, although the brewery did switch to half-size (32-ounce growlers) and was sending out not only their flagship beers—Des Moines IPA and Farmer John's (a multi-grain ale)—but also a whole host of seasonals.

"We had twelve to fourteen facings of growlers," says the brewery's Sales and Distribution Manager Eric Selander. When the brewery finally converted to cans in late 2016, they were able to convert most of those.

Still, the growlers played an important role in the story of the brewery. At first the brewery was putting out etched growlers but soon switched to blank glass with paper labels. Being flexible with those labels allowed them to put out limited releases and seasonals, something that continues in cans today, to the tune of almost fifty different SKUs per year—which is still manageable by self-distribution.





Martin and Selander say that the growlers also helped forge a bond with consumers. They'd often get calls from folks who would say they had dozens of empty growlers asking what they should do with them.

"We'd tell them to just recycle them," says Martin. "Or if they had one of the etched ones, we'd tell them to bring it by the taproom, and we'd figure something out."

And while the retailers weren't necessarily complaining about the growlers, because they were moving well, they asked Selander almost weekly when the cans were coming in.

"We got away with it for too long," says Selander.

When the switch to cans finally happened, the brewery launched with its flagships, and orders were so big that they had to rent a larger truck to handle deliveries.

AN EVOLVING MODEL

In the early days, Martin was the sole driver. He would load up his Suburban with kegs and drive them to accounts. On the days when he had to get to Iowa City, he'd work a few hours at the brewery in the morning, drive the 2 hours to the accounts, make deliveries, take meetings, clean draft lines, and then several hours later, head back home to Des Moines.

The brewery added its first van in 2013,

and now the brewery has seven vehicles (five full-size cargo vans and two smaller trucks) with five full-time drivers and three full-time sales reps.

Iowa is a big state, and it's not always easy to get to one part from another. It's one reason that the brewery distributes mostly to its metro area, but Martin says it's been important for the brewery to service smaller accounts. When they open up a new market or area, they consult maps to see whether there are bars or accounts that might be on the smaller side that would be interested in carrying the beers.

For Martin, it was important that his beers be available in Imogene, Iowa, his hometown, about 2 hours away in the southwest corner of the state.

"We wanted to make sure there were places in between that we could serve as well, and there were," he says. "We found accounts in really small towns." If it's feasible for the route and timing, Selander says, they will find a way to make it work.

"Take the northwest part of the state, for example," says Selander. "There's not a good way to get there [from here], so that's part of the challenge when it comes to figuring out new markets because most of the low hanging fruit around us has been picked, and we need to figure out how much effort and expense we want to put into distant sales."

Looking forward, as they get outside of a 2-hour radius from the brewery, they might have to start looking for an outside distributor.

"Again, we're doing okay. We're in the black, and we pay our bills, so it just comes down to are we relevant in other places, and can we make money on it?" Martin says.

TAPROOM CONCERNS

One consequence of large production and distribution is "that the taproom suffers a little every time we add a new account," says Martin. Still, being in the marketplace and top of mind for folks does bring people into the brewery, especially those who are seeking out a more diverse beer list.

Last year, the brewery added a major outdoor expansion of a beer garden that has a direct pathway to a walking and biking trail near Gray's Lake Park, a popular recreation spot.

"If we hadn't done that, we might have seen taproom business decline," Martin says. "We need to remember to take care of this place and keep evolving to keep it interesting for visitors, especially when they can get our beer in a lot of other places."

GROWING DISTRIBUTION

After a few years of carrying their own product, Confluence decided to expand

AFTER A FEW YEARS OF CARRYING THEIR OWN PRODUCT, CONFLUENCE BEGAN TO DISTRIBUTE BEERS FROM OTHER AREA BREWERIES. TODAY THEY DISTRIBUTE SIX BRANDS: FOUR SMALLER IN-STATE BREWERIES, NEBRASKA BREWING COMPANY'S BEERS, AND CIDER FROM A MINNESOTA COMPANY. MARTIN NOTES THAT HE CAN SEE WHY THE ECONOMY OF SCALE WORKS SO WELL FOR THE TRADITIONAL AND LEGACY DISTRIBUTORS AND WHY THIS HAS BEEN AN ATTRACTIVE MODEL FOR CONFLUENCE, EVEN IF THEY ARE MAKING FAR LESS PER DELIVERY THAN THE LARGER PLAYERS. "WITHOUT A SALESPERSON IN THE MARKET, YOU'RE NOT RELEVANT," SAYS SELANDER.

its offerings and—taking a page from the Stone Brewing model—began to distribute beers from other area breweries.

Stone had been distributing its own beers in San Diego before adding other brands and, today, is the premier craft-beer distributor in Southern California. Selander thought the same could work for the brewery in Des Moines, so he scheduled a call with Stone, and “they were really kind to open their playbook and tell us what worked for them and

why.” It’s one reason Confluence has kept the brewery’s name on all the distribution branding, rather than creating a separate business name. It helps get the Confluence brand in front of more eyeballs.

Today Confluence distributes six brands: four smaller in-state breweries, Nebraska Brewing Company’s beers, and cider from an Minnesota company.

“There are others on the horizon,” says Selander. “We have the trucks and the routes

and the space, so this makes sense for us.”

Martin notes that only after a few years of operating this way, he can see why the economy of scale works so well for the traditional and legacy distributors and why this has been an attractive model for Confluence, even if they are making far less per delivery than the larger players.

“Without a salesperson in the market, you’re not relevant,” says Selander.

Still, because state law requires that the distributors clean their draft lines at each retail location and because the drivers for Confluence are part of the company or sometimes members of the sales staff, it means more face time with retailers, which can lead to deeper relationships and increased sales.

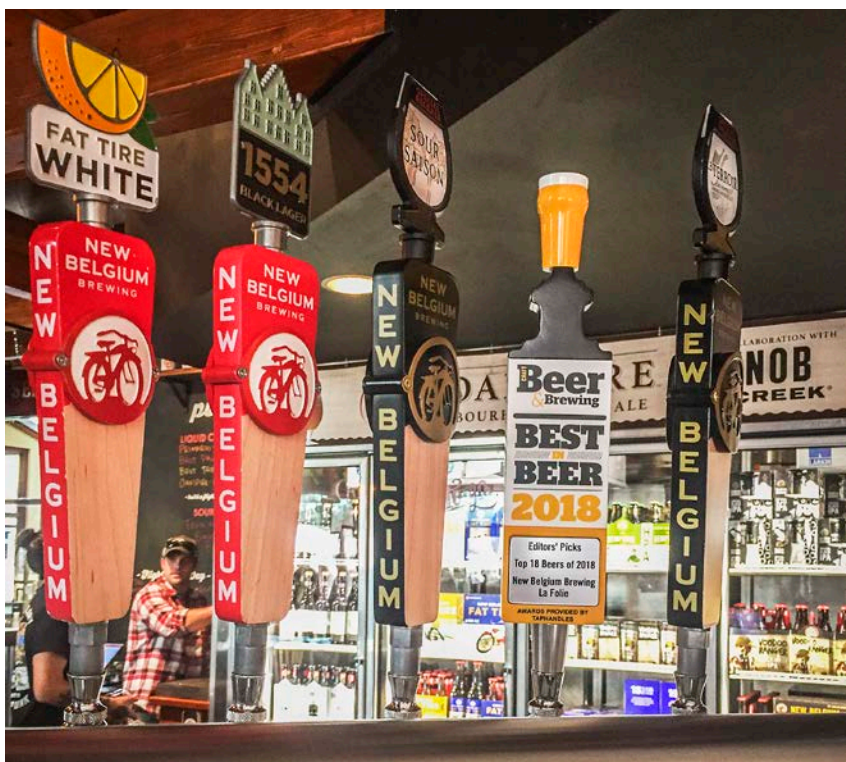
Draft beer still accounts for roughly 65 percent of sales for Confluence with the rest in cans, although the aluminum packaging is catching up. “Overall we need to make sure that every stop we do is worth it for draft because we have to be there every 2 weeks to clean lines,” he says. “But it does help keep us top of mind.”

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New Belgium Brewing displayed their Craft Beer & Brewing Best in Beer 2018 Editors' Pick trophy in their Colorado taproom.

CONGRATULATIONS TO BEST IN BEER 2018 WINNERS!

Craft Beer & Brewing Magazine® handed out more than 40 tap-handle trophies to winners in a variety of categories chosen by both editors and readers for the annual "Best in Beer" special issue. Here are some of the highlights:

EDITORS' PICKS TOP 18 BEERS OF 2018

- Weihenstephaner and Sierra Nevada Braupakt
- New Belgium La Folie 2018
- The Answer 3 Scoops
- 3 Fonteinen Cuvée Armand & Gaston
- von Trapp Oktoberfest
- Fort George Brewery 3-Way IPA
- Suarez Family Brewery Palatine Pils
- Anchorage Brewing A Deal With the Devil Double Oaked 2017
- Burial Beer Hawkbill IPA
- Austin Beer Garden Industry Pils, Velvet Revolution, and Rocket 100
- Bokkeryder Pjassel
- Societe The Swindler
- Alvarado Street Contains No Juice
- Fremont Brewing Brew 2000
- Hudson Valley Brewery Demiurge
- Epic Brewing Big Bad Baptist
- Bottle Logic Fundamental Observation
- Hill Farmstead Arthur

READERS' CHOICE BEST BEER OF 2018

- Sierra Nevada Pale Ale

READERS' CHOICE BEST BREWERIES BY STYLE

- American IPA: Stone Brewing
- Hazy IPA: Tree House
- Saison: Brasserie Dupont
- Belgian-style: Ommegang
- Sour or Wild Ale: Cantillon
- Stout or Porter: Founders
- Pale Ale: Sierra Nevada
- Lager: Samuel Adams

READERS' CHOICE BEST BREWERIES BY SIZE

- Under 15k bbl: Hill Farmstead
- 15k–100k bbl: Russian River
- 100k–500k bbl: Bell's Brewery
- 500k bbl+: Sierra Nevada

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