

CRAFT **Beer & Brewing**

BIG

BREWING INDUSTRY GUIDE

2016

DIRECTORY OF BREWING EQUIPMENT AND SERVICE PROVIDERS

David Walker
On Brewery Growth
Cycles and Investment

Right-Size Your
Brewhouse

Grow Bigger
By Getting Smaller

How Surly Built
Their Brand Through
Taproom Design

How Will The
European
Hops Harvest
Affect Your Business?

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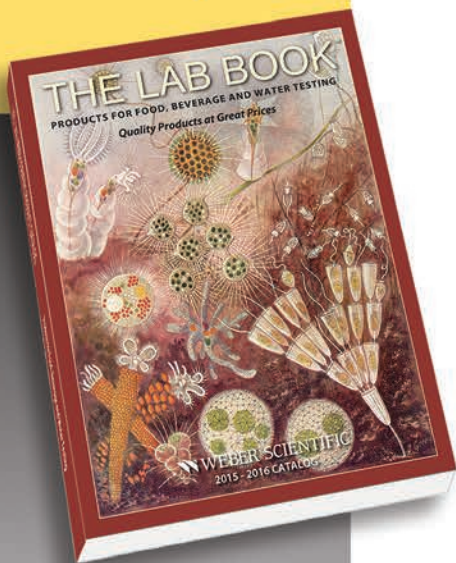
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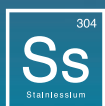
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Guiding a new brewery from its infancy into a well-rounded, productive, and functional business is no easy feat. There are bound to be growing pains along the way. Here, successful craft-beer entrepreneurs, including Upland Brewing's Doug Dayhoff and Firestone Walker's David Walker, share their key strategies and guiding principles for realizing sustainable and satisfying growth.

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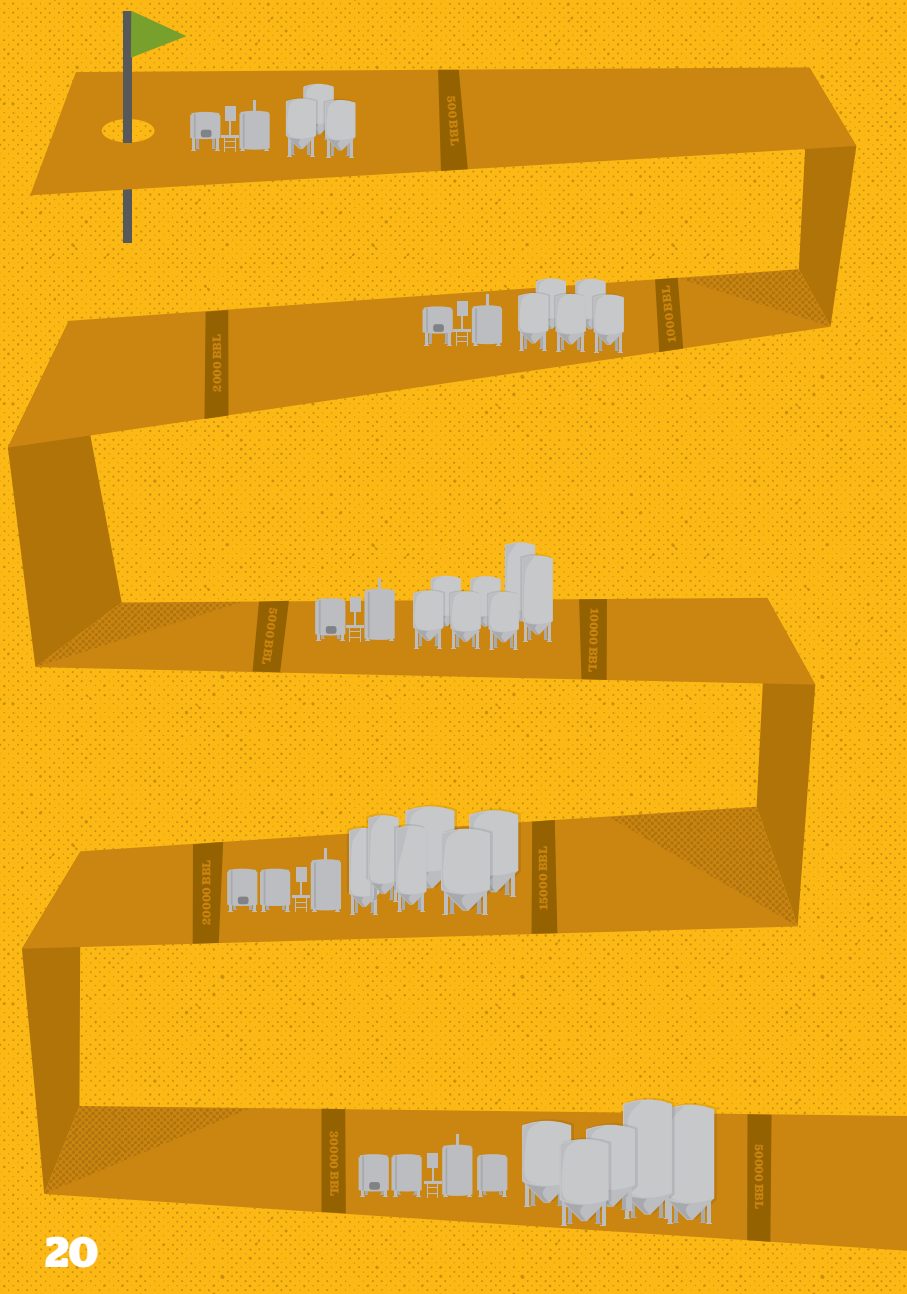
Surly Brewing Co.'s new flagship brewery, restaurant, and beer hall reflect design guidelines that breweries of all sizes can learn from.

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Evaluate your brewing style and production goals to find a system that will move your business forward. Bluejacket's Greg Engert, Columbus Brewing's Eric Bean, and Surly Brewing's Todd Haug elaborate on how they chose systems tailor-made for their goals and ambitions.

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Given recent shortages and the overall volatility of the world's hops market, a smart brewer knows the safe bet is on soundly reasoned contracts. Hops growers, Stone Brewing Co.'s Mitch Steele, and Victory Brewing's Ron Barchet share their recommendations for successfully "playing the market."

82 | The Growth of Specialty Malts

Where craft brewers used to be somewhat limited in the varieties and specifications of their malt, large and smaller producers alike are beginning to provide more options with craft in mind.

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Effectively working with mixed-culture fermentation and barrel aging can be a tricky, time-intensive business. Three of the industry's best—Jester King's Jeffrey Stuffings, The Bruery's Patrick Rue, and The Rare Barrel's Jay Goodwin—offer their insights.

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It's not enough to make decent beer these days. Seek that special something that differentiates your brand from the rest.

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Set yourself up for success by evaluating the far-reaching implications of your business decisions early on.

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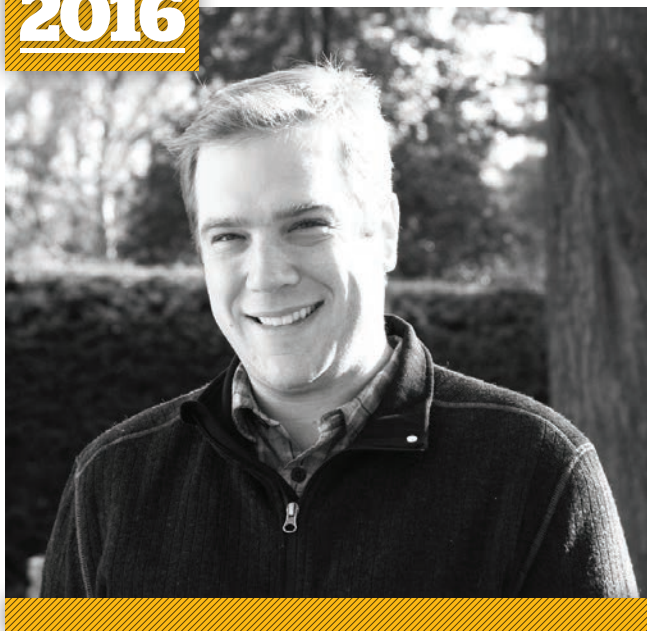


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The idea for this industry-focused special issue of *Craft Beer & Brewing Magazine*® originated, as so many ideas do, over a couple of beers. In this case, Editorial Director Jamie Bogner and Publisher John Bolton were enjoying a casual lunch with Firestone Walker Brewing Co. Cofounder David Walker and Brewmaster Matt Brynildson, when they landed on the topic of the challenges and opportunities a brewery faces as it grows.

In Walker's experience, there are key decision points in the evolution of a brewery that impact how quickly and broadly it develops: What are your brewing goals, and how do you design your systems accordingly? How are your partnerships structured? Do you reinvest profits back into the brewery? Where and how much? What's your distribution strategy, and how does it adjust—if at all—in response to increased demand?

How a brewery owner chooses to address these and myriad other decisions shapes how the business looks, feels, and functions. Of course, every craft brewery is a unique entity with its own reason for being and way of coming at things—that's the beauty of craft—but there are a lot of commonalities and a tremendous amount of collective wisdom in the industry.

Idea time. What if we tap some of that insight from brewers large and small, newer and established, to see whether we can extract some best-practice advice and instructive examples?

As is usually the case in the craft-beer industry, every owner, brewer, and representative with whom we spoke for this issue was incredibly frank, forthcoming, and generous in sharing their time and personal stories for the benefit of their brethren. Think of this issue as one giant conversation loaded with insight gleaned over many, many barrels of beer.

And while the outlook is overwhelmingly optimistic as craft beer continues its red-hot growth—opportunities abound for the crafty entrepreneur with a clear idea of where he or she fits within the landscape—not everything is as rosy as it may appear. Brewers are encountering more challenges and stiffer competition as the industry matures, and there will continue to be some shake out. There's also anxiety around forecasting for continued growth and what happens if business slows. Of course, some owners will gamble bigger than others, but it seems that a reasonable, consistent, and conservative business plan will help most weather whatever uncertainties are to come. That—and the guidance and support from their fellow brewers.

So crack a beer and let's dive in. There's never been a better time to talk craft.

Cheers!

Tom Wilmes

Editor

Craft Beer & Brewing Magazine® *Brewing Industry Guide* 2016

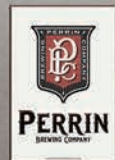


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In a market growing as fast as craft beer, the biggest challenge isn't lack of information—there's plenty of it out there—it's separating the signal from the noise. Stories hit the Web daily about buyout rumors, intellectual property disputes, and the unprecedented growth rate of the craft-beer market, and it's easy to get sucked into the short-term back-and-forth at the expense of staying focused on the long game—what this business, your business, will look like in three years, five years, ten years.

The long-term questions about what we want to be, how we build our brand, and how we invest so that our businesses become what we hope for them to be are ones we ask ourselves almost daily. We're sure you do, too. These are the questions we wanted to thoughtfully explore in this first-ever *Brewing Industry Guide 2016* from *Craft Beer & Brewing Magazine*®.

As Tom Wilmes mentioned in his note (page 6), it all started with a conversation (before the Duvel acquisition-merger of Firestone Walker), with David Walker and Matt Brynildson. As a business grows, the stakes get higher, and each round of growth involves increasing risk and leverage for the business. Choosing to grow—or to not grow—is a crucial and impactful decision that all breweries face, and, in the words of one of our favorite songwriters, Jonah Matranga, “We never underestimate the destructive power of change.”

So in this industry-only special issue, we tasked Tom with getting inside what's happening now in the craft-brewing industry. Poor European hops harvest impacting your contracts? Printed can shortage affecting your canning line—purchase decisions? Considering overhauling your branding? Concerned about such brewing trends as sour beer? Planning a brewery addition or replacement? Read what your contemporaries are saying about their experiences with each.

We say this to our consumer audience in each issue, but the same is true for you, the brewers, owners, and industry professionals—we hope you enjoy this issue. We made it for you.

John, Jamie & Steve

Cofounders

Craft Beer & Brewing Magazine®

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Craft Beer & Brewing Magazine® *Brewing Industry Guide 2016* is published by

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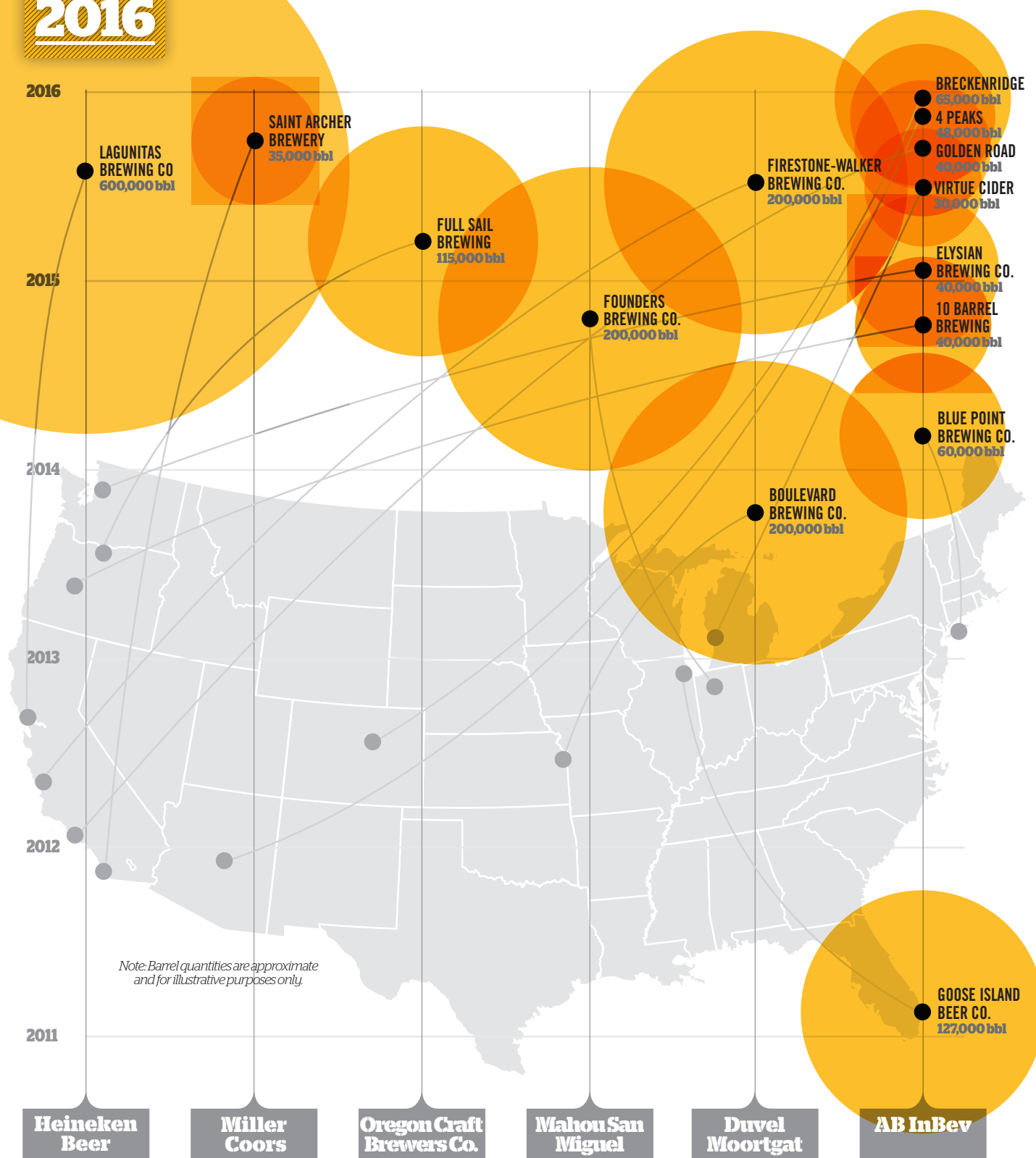
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Consolidation Nation

The unflappable growth rate of craft beer has driven a flurry of acquisitions that have shaken up the craft-beer landscape. Here, we've plotted the major deals on a timeline with circles representing the barrel-production volume of the acquired brewery and vertical lines representing the acquiring company (with connecting lines to show the location of the actual brewery on the map). **By Brian Devine**



#TEAM GOOSE



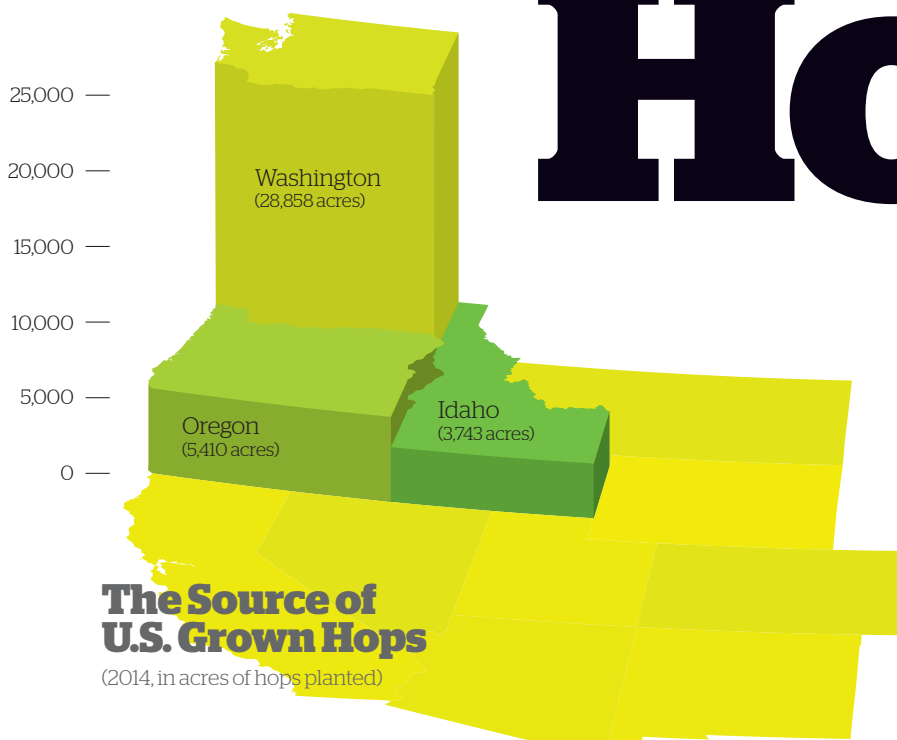
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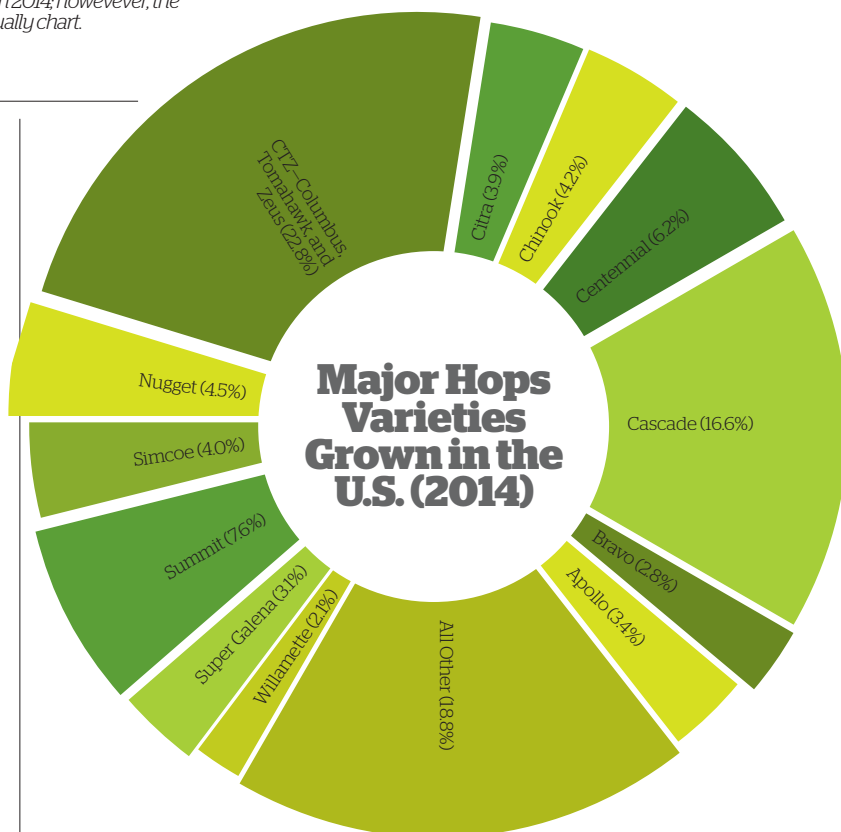
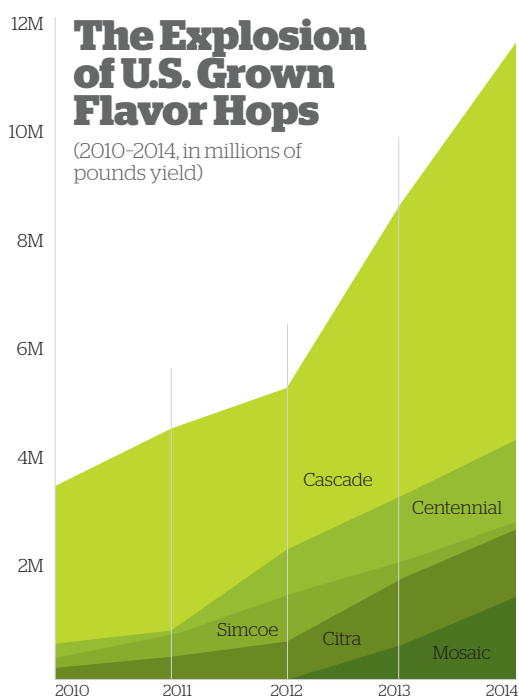
Hops



It wouldn't be beer without hops, and the United States is the second largest producer, worldwide, of these precious green cones that give so much flavor to beer. There's a monumental shift underway in the type of hops grown, as hops varieties with higher alpha acids replace lower alpha bittering hops, and as fruit-forward flavor hops such as Citra, Simcoe, and Mosaic in high demand from brewers are planted as fast as growers can get them in the ground.

Data source: U.S. Hop Growers Association

Note: Hops were reported as commercially grown in 16 states in 2014; however, the production of the other 13 states is too small to visually chart.



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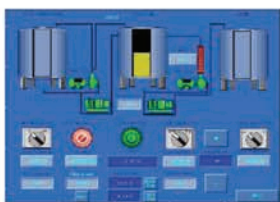

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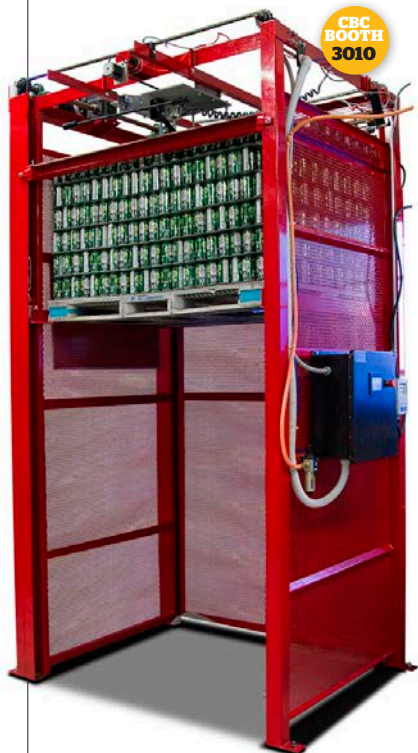


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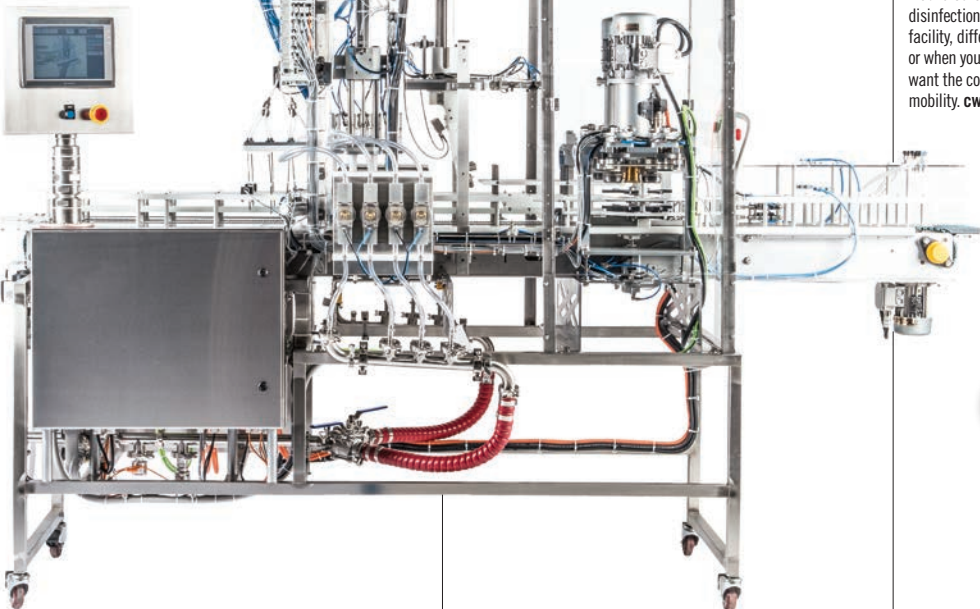
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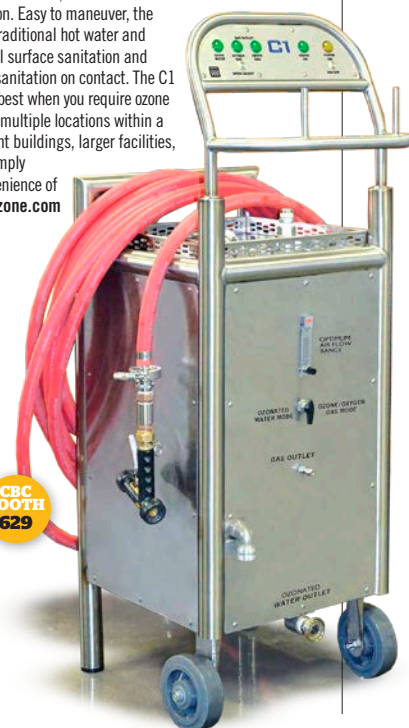
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Bringing Up Baby: Ages and Stages in a Craft Brewery's Development

Guiding a new brewery from its infancy into a productive, well-rounded, and functional business is no easy feat. There are bound to be growing pains along the way. Here, successful craft-beer entrepreneurs share their key strategies and guiding principles for realizing sustainable and satisfying growth.

IT'S AN UNPRECEDENTED TIME for craft beer. The industry continues to gain market share from domestic big beer (nearly 18 percent and rising), and a historic number of craft breweries of all sizes are in operation across the country (more than 4,100 and counting).

By many estimations, the craft-beer industry is nearing an adolescence marked by rapid growth and change—in baseball terms, Upland Brewing Co. President Doug Dayhoff likens it to somewhere around the fourth inning—but is maturing rapidly as more veteran and rookie players alike get in the game. For those who are bullish on beer, it's a tempting proposition to try to claim some of the action.

Developing and running a brewery, however, is more involved than your average enterprise. As with any business, there are critical junctures in the lifecycle of a brewery that affect how effectively and at what rate it grows. That equation tends to be more complicated, however, given the number of moving pieces involved.

There's the manufacturing and distribution side—infrastructure, raw materials,

the brew system, fermentation space, and packaging, as well as sales and marketing—and, often, a hospitality component in the taproom or restaurant. Not to mention the various licensing, tax codes, insurance, trademarks, and other considerations at both federal and state levels.

Everything needs to line up just so in order for an operation to run smoothly. But stress points can easily arise when aspects of the process are thrown out of balance, most often when growing consumer demand or an owner's ambition starts to outpace a brewery's capacity.

"The evolution of a brewery is an extraordinary journey—it's constantly

changing," says Firestone Walker Co-founder David Walker who, over the past twenty years, has helped shepherd his brewery for a small start-up to the nation's sixteenth-largest craft brewery.

"I think that you go through more chapters taking a brewery from a notion to 100,000 barrels than you do taking a brewery from 1 million barrels to 10 million barrels," he says. "It's like growing up."

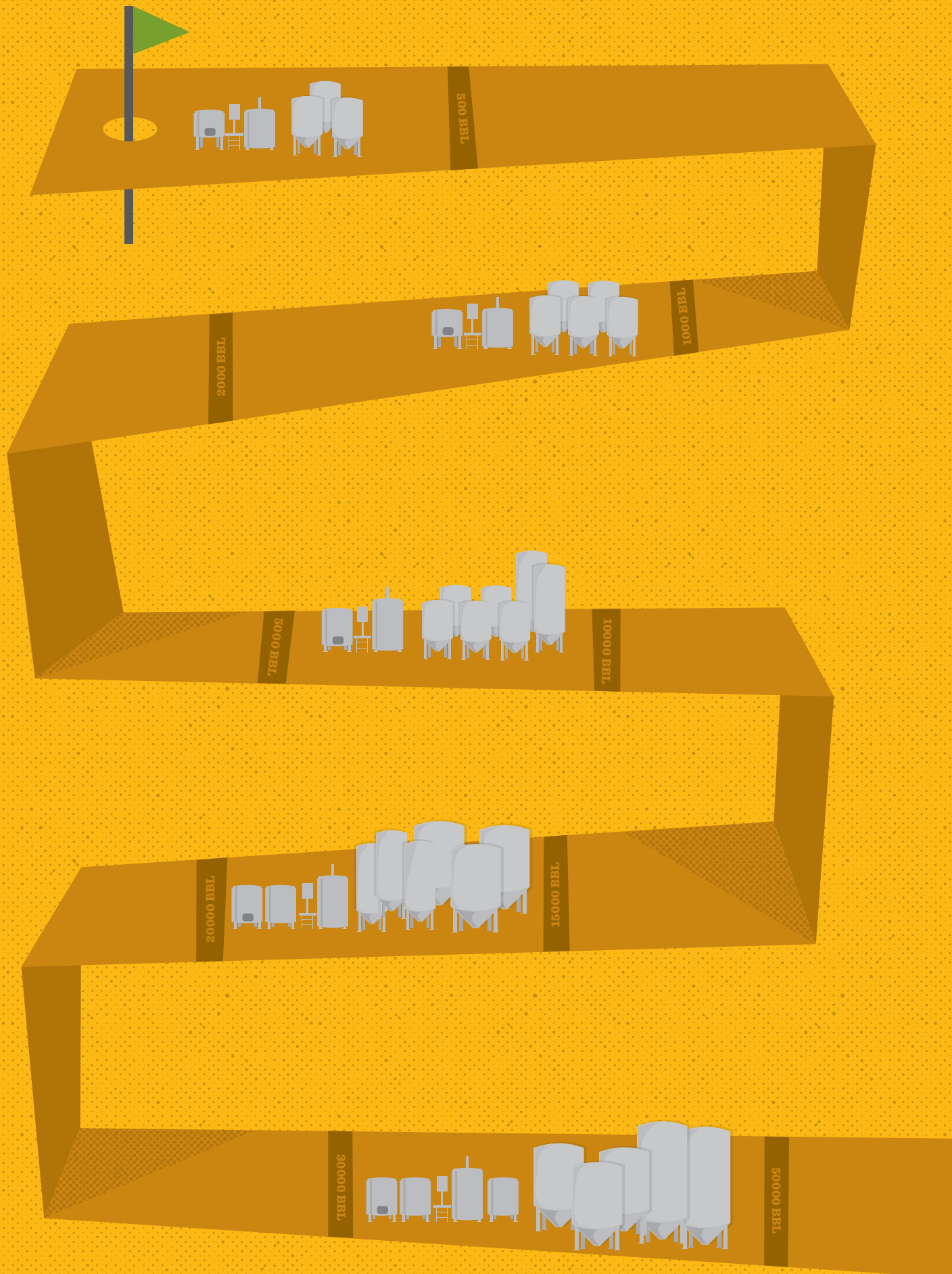
Plan for healthy growth

When crafting an initial business plan, very few would-be brewery owners aspire to be the next New Belgium, Sierra Nevada, or Firestone Walker—at least not within the first few years or even decades of operation. Most have more modest, reasonable, and conservative ambitions, such as brewing enough beer to service a tasting room, town, or region.

"I don't think any craft brewer was

"I think that you go through more chapters taking a brewery from a notion to 100,000 barrels than you do taking a brewery from 1 million barrels to 10 million barrels. It's like growing up."

—David Walker, Cofounder, Firestone Walker Brewing Co.



dreaming this big,” Walker says, when reflecting on how far Firestone Walker has come over the past two decades. “Our original business plan was based around, I think, 10,000 barrels of beer and whether we could make it hunt, pay the owners a salary, and be a worthwhile enterprise. We went through a huge learning curve until about year twenty (laughs) and have just sort of been repeating the same riddle.”

Walker and Cofounder Adam Firestone largely bootstrapped the brewery through private financing, growing in leaps and spurts along the way. One of the brewery’s first major tests was when it invested in a new facility in 1999. The owners purchased an existing brewing facility, equipment, and land that were in receivership. The move immediately increased Firestone Walker’s capacity from about 10,000 barrels annually to, at the time, a facility capable of producing 30,000 barrels, but it was also a capital-intensive investment with no immediate return.

The owners successfully navigated the transition through strong leadership, an organized approach, and buy-in on the mission from everyone involved. Most importantly, Walker and Firestone remained true to the tenets of their partnership.

“Quite early on, Adam and I realized that you have to have separate disciplines with a true partnership. If a partnership is a disproportionate one, then it’s very easy for the majority owner to make the decisions,” Walker says. “But when you’ve got a true partnership, it’s a collaborative experience.

“You have trust each other and, within the framework of some guiding principles, go to work. And that’s essentially what we did.”

Firestone Walker built around the framework of its facility, reinventing itself and reinvesting regularly to grow the brewery to where it is today. A key to that steady, sustained growth has been to hold its debt to a very conservative level while always keeping up with production.

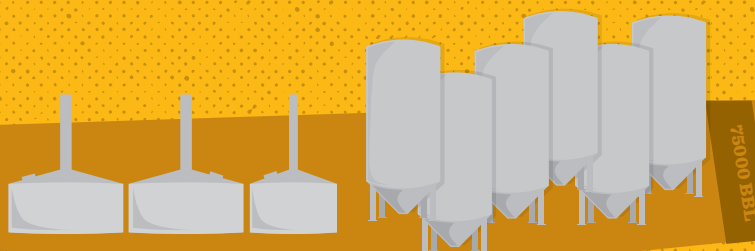
“It’s one of the reasons why we’re still in less than 40 percent of the states in America,” Walker says. “But what’s happened to us over the past three or four years is that our growth has been so strong—30 percent plus a year—that our ability to keep up with it very quickly became difficult, which brought us to where we are today.”

Thanks to a recently inked partnership with Duvel Moortgat, Firestone Walker is poised to embark on the next phase in its evolution. Walker says the brewery’s current expansion strategy is still centered on measured conservative growth—although at a much larger scale. The next expansion phase will require at least twice the investment over the next three years as the owners have made in the past twenty, Walker says.

“Building breweries on this scale is extraordinarily capital intensive—I’m not talking about turning the heat up, I’m talking about exponential leaps—which is why we chose to seek a well-connected and strong financial partner,” he says.

“That’s also why you’re seeing some of these acquisitions and mergers [within the industry]. These breweries are at a point where they can’t borrow money from banks, give up equity, or cash out.

“The only way we were going to do it was by essentially what we did with Duvel,” he says. “Obviously that changes the dynamic of the partnership that Adam and I had on our own because now we



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“That’s why I love the beer business. There’s so much creativity, smarts, and ability within the craft-beer industry. It floors me how this industry has attracted some of the best and brightest people.”

—Doug Dayhoff, Owner, Upland Brewing Co.

have another partner in the room. But the thought and structure that went into our partnership worked very well and will continue to do so. I would say the single most important element remains trust.”

Fuel for the engine

Along with a high degree of trust, it takes a strong, financially astute leader to uphold the company’s vision and ensure that it’s consistently executed. And that doesn’t always mean the owner or original founder.

Upland Brewing Co., for example, was founded as a brewpub in late 1988 in Bloomington, Indiana. The business was successful and profitable by its standards, but when frequent patron Doug Dayhoff learned that the owners were looking for an exit strategy, he recognized the growth potential and purchased the brewery in 2006.

“They did a nice job growing it,” says Dayhoff, whose business background includes experience growing small businesses in high-growth, niche industries. “They had a nice brewpub and were doing some packaging, but they realized that they didn’t have the ambition or the capital to grow the business beyond their current model.

“I’ve always found my place at the point of coordination among different disciplines,” Dayhoff says. “That’s why I love the beer business. There’s so much

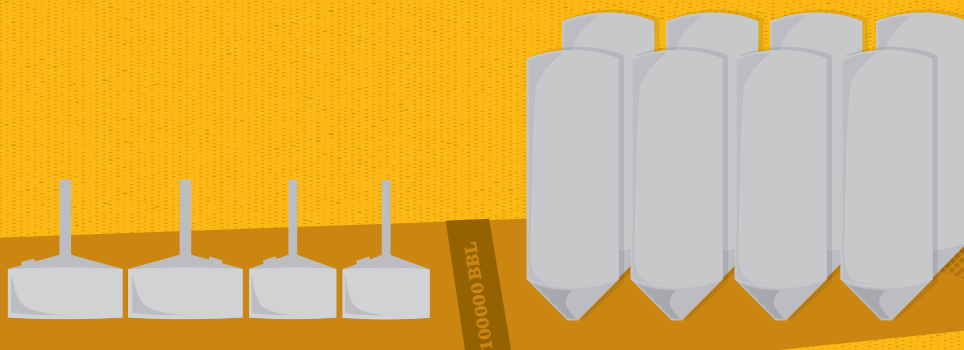
creativity, smarts, and ability within the craft-beer industry. It floors me how this industry has attracted some of the best and brightest people.”

There’s no doubt that the craft-beer sector is filled with extremely bright, motivated, and creative individuals who are passionate about their businesses and innovating within the industry. That high-involvement culture creates a healthy spirit of camaraderie, as well as a healthy amount of competition.

“To succeed, you’ve got to be able to keep reinventing and pushing yourself and your team,” Dayhoff says. “Or else other guys will show up and eat your lunch.”

Dayhoff began by working to build sales and marketing for Upland’s existing portfolio, as well as by increasing capacity as “incrementally and inexpensively as possible,” he says, primarily in fermentation capacity and the size and speed of the bottling line. He soon reached a critical decision point, however, where it became clear that adding capacity to the existing facility was not going to satisfy his long-term ambitions.

“We were trying to get as much blood as we could out of the original stone, but there comes a day when the expense of trying to build a marginal amount of additional capacity doesn’t make sense if you think your business is going to grow



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“We were trying to get as much blood as we could out of the original stone, but there comes a day when the expense of trying to build a marginal amount of additional capacity doesn’t make sense if you think your business is going to grow dramatically beyond that capacity. That’s the moment when you have to look at yourself in the mirror and decide, ‘Am I committed for the very long term and to getting larger over time?’”

—Doug Dayhoff, Owner, Upland Brewing Co.

dramatically beyond that capacity,” Dayhoff says. “That’s the moment when you have to look at yourself in the mirror and decide, ‘Am I committed for the very long term and to getting larger over time?’”

Dayhoff decided that owning its own facility, rather than leasing, was important to Upland. He broke ground on a new 40,000-square-foot production brewery in 2011, which began operation in 2012. It was a gut-check decision that tested the ability of the business to support itself over time.

“We’re very conservative when it comes to our balance sheet, so we’re almost entirely equity financed, but you don’t earn back the cost of the facility anytime quickly,” Dayhoff says. “It’s a moment, in terms of conflicts as you try to grow, where you’re going from the most capital efficient that you’ll ever be to the least capital efficient you’ll ever be.

“You either have to have investors who are willing to make that sort of investment and be committed to the long term, or you take an awful lot of risk to borrow money to build the facility.”

Seeing the forest for the trees

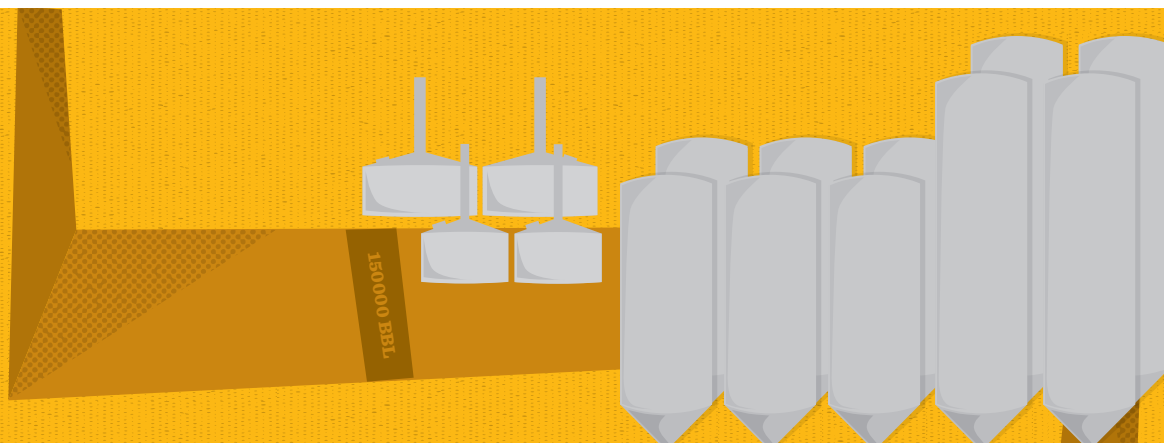
The way forward is rarely easily defined and linear. It will no doubt be fraught with anxieties and uncertainties, false starts, unrealized potential, and other challenges and compromises. Many owners find it difficult to project two steps ahead, much less what ultimately lies at the end of the journey.

“My biggest struggle [in opening a brewery] was going from being a creative-oriented person to having to think about our distribution strategies, or managing employees, making money, and managing banks—all that fun stuff,” says Patrick Rue, founder of The Bruery in Placencia, California.

A former homebrewer, Rue was studying to become a lawyer when he changed course and opened The Bruery in 2008. His high-gravity, flavor-forward beers quickly gained favor with consumers. As a result, he also faced some tough decisions from the outset.

“The very first one was whether or not to build a tasting room,” Rue says. “This was before they were popular, and it was more of a marketing opportunity than a revenue-generating opportunity. We wanted to provide a great experience for our customers and quickly learned that’s where the money is made for small craft brewers.”

Encouraged by the success of the tasting room, Rue decided to invest more heavily



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Lessons Learned

- » Plan for healthy growth: reasonable, conservative, and consistent.
- » In a partnership, develop separate disciplines. When you've got a true partnership, it's a collaborative experience. Trust each other and, within the framework of some guiding principles, go to work.
- » Hold debt to a very conservative level while always keeping up with production.
- » Invest in strong leadership.
- » Keep reinventing and pushing yourself and your team, or else other guys will show up and eat your lunch.
- » Don't get in over your head on projects. It's easy to have success in one area and think it's going to translate to success in every area that you endeavor, but that's not always the case.
- » Ensure that your product meets or exceeds your standards as you grow.
- » Remain in direct control of your process. When something goes wrong, you can react faster and get your processes dialed in quickly.
- » Never ever forget why you got into the business in the first place.

in retail, including a retail store at a separate location, a beer bar, a bottle shop, and a beer-and-cheese store.

"I learned the opposite lesson there, which is don't get in over your head on projects," Rue says. "It's easy to have success in one area and think it's going to translate to success in every area that you endeavor, but that's not always the case."

Along with maintaining focus on your core business, ensuring that your product meets or exceeds your standards as you grow is also a primary concern, especially during an event such as incorporating new equipment into your brewhouse or relocating to a new facility.

"That's always been a concern: How do we grow without sacrificing the flavor or quality of our beer?" says Todd Haug, head brewer at Minnesota-based Surly Brewing Co. "And also, how do you minimize any noticeable differences when you do change your process?"

Haug estimates that some element or another with potential to affect the beer has changed in Surly's process at least every three to five months over the past decade, and especially as the brewery worked to open its new destination brewery last year.

"I don't think people realize how often those sorts of things happen—changes like a new malt mill, new fermentors, raw materials, adding a new centrifuge—all those things have the potential to affect your flavor profile immensely," he says. "Given all those different things, I think we've handled it well. With [Founder Omar Ansari's] support,

we've never tried to make our beers cheaper or cut corners on anything."

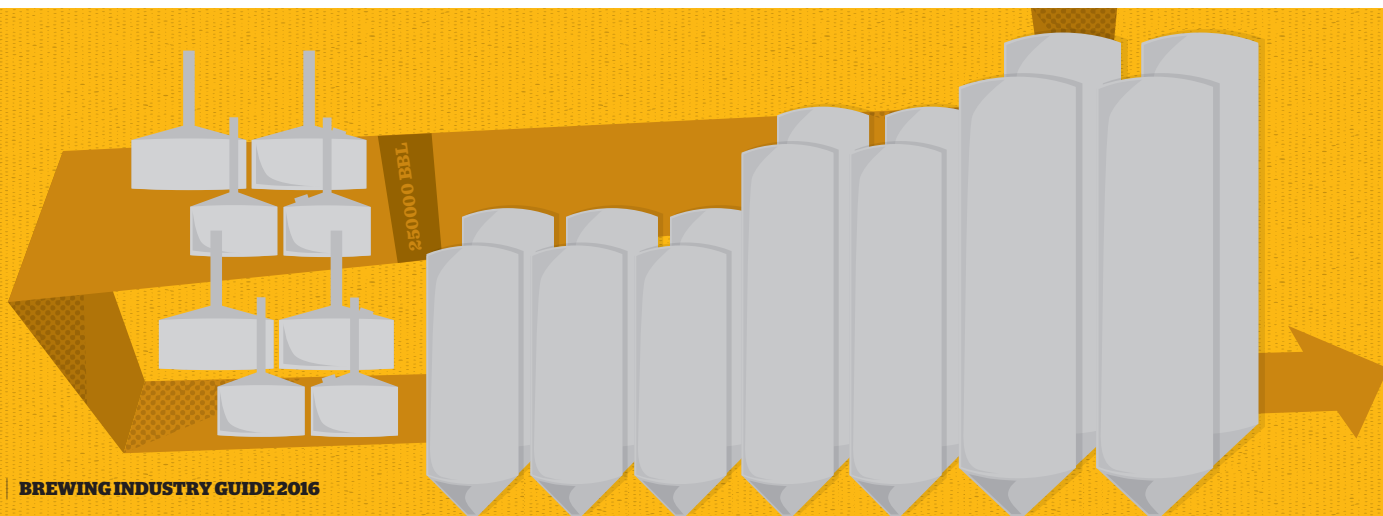
While it may be tempting to make compromises in the short-term for potential long-term gains, Haug emphasizes that the quality and consistency of your beer is paramount, as is remaining in direct control of your process.

"Some breweries need to grow, but the brewery isn't ready yet, so they'll hire a contract brewery to increase capacity, and there's been some bad results lately with that," he says. "A lot of contract breweries can make great beer, but they're still not you making *your* beer. We've had our fair share of issues, too, but at least we have our fingers on it. We know what's wrong and can react faster and get our processes dialed in quickly."

Greg Engert, beer director at Bluejacket restaurant, bar, and brewery in Washington, D.C., underscores another primary and profoundly simple maxim that brewer owners should heed—which is to never forget why you got into the business in the first place.

"We don't just make beers that are quick because we need beer to sell—we opened up the brewery so that we could brew the beers that we wanted to make," Engert says. "Stick to your flavor game plan and what's gotten you the name that you have. Don't adjust your approach just to be able to sell more beer or to get beer to people who are asking for it."

"If you make great beer, people are always going to want it."





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The Case for Growing Bigger by Getting Smaller

As the craft-beer industry continues to mature and gain market share, top brewers foresee a future where the largest growth opportunities are found on a smaller scale.

THE CONTINUING SHUFFLE OF acquisitions, mergers, and reorganization in the craft-beer industry has been a consistent attention grabber in recent years, as larger brewers seek means to grow their operations exponentially, smaller breweries consider their limited exit strategies, and big beer looks for a foothold in craft.

"You can't help but notice the consolidation pressures," says Doug Dayhoff, president of Indiana-based Upland Brewing Co., when asked to prognosticate on what we might see in the near future.

"There are some basic laws of business gravity that the brewing industry will ultimately conform to, one of which is that you can't have an unlimited number of beers available for sale in the off-premise world and that those retailers have to have a return on their investment," he says. "So, to the extent you're going to be a packaging and distributing brewery, there is a finite universe of opportunity. Consumers will buy way more craft beer

ten years from now than they do today—that's the exciting part—but the laws of economics still apply.

"On the brewpub side, I think that's much more flexible and unbound by the finite amount of space. If you're producing great beers and you do a really good job with customer service, I think there's always room for another great brewpub. Those are businesses that are not nearly as capital intensive as trying to build the infrastructure of a regional packaging brewery.

"The old adage that you should be able to see your market from the roof of your brewery is still pretty good," he continues. "There will be very few breweries who are able to sell their broad product lines very far away from their home territory."

Jay Goodwin, cofounder and head brewer at The Rare Barrel in Berkeley, California, also anticipates less movement among larger distributing breweries and more opportunity at the local level.

"As the number of craft brewers grows,

I feel like we're running out of open spots for the number of wholesale, large regional brewers that the United States can support," he says. "So the new craft brewers are more likely going to be the neighborhood or the county brewery—someone who's local and keeps distribution within fifty miles or so of the brewery.

"And those brewers, especially, are going to need to sell as much of their beer as possible directly to the consumer in order to survive and have that business model make any sense at all."

Firestone Walker Cofounder David Walker, who last year brokered a major merger with Duvel Moortgat USA, foresees the craft-beer industry maturing into something that resembles the diversity of the American wine industry.

"Just as with the American wine market, there will continue to be consolidations and there will continue to be more and more independent brewers, especially on a local and regional level," Walker says. "I don't think [craft] is going to disintegrate or morph into something that we can't recognize. It will have the same heart and the same goals, but it will just get bigger and more diverse."

ILLUSTRATION: JAMIE BOGNER



“There are some basic laws of business gravity that the brewing industry will ultimately conform to, one of which is that you can’t have an unlimited number of beers available for sale in the off-premise world and that those retailers have to have a return on their investment,” says Doug Dayhoff of Upland Brewery. “So, to the extent you’re going to be a packaging and distributing brewery, there is a finite universe of opportunity. Consumers will buy way more craft beer ten years from now than they do today—that’s the exciting part—but the laws of economics still apply.”

Like it or not, he also anticipates incremental degrees of separation between larger regional craft brewers and local breweries in terms of how they’re organized and represented.

“Currently one of the great, satisfying things about the craft-beer movement is that we all speak with one voice, which is the Brewers Association,” he says. “We argue a lot, but ultimately we speak with one voice. I’d hate to see that change, but it’s certainly changed in the wine industry.”

Jester King Founder Jeffrey Stuffings operates his farmhouse brewery on a bucolic patch of land in Texas Hill Country, where he distributes a large portion of his beer directly from the tasting room, much like a small winery.

“I’ve always looked to the wine industry as an example,” Stuffings says. “Last I looked, there were about 7,500 wineries in the United States, and only a relatively small number of them distribute beyond their own [state], county, or their own tasting room. I see beer going that way as well. There will definitely be regional players, but I think there will be fewer of them, and breweries will focus on a spe-

cific geographical location and individual tasting rooms.”

While the majority of new breweries and breweries-in-planning are built around that local model, there are plenty of ambitious owners with designs on becoming the next big brewer. But the potential for great reward comes with great risk.

“It’s easy to get caught up with all the potential that you could be the next half-million-barrel brand, but there are definitely going to be some losers in that game,” says The Bruery Founder Patrick Rue. “The constant growth can’t go on forever, and the brewery buyouts are probably going to slow down.

“I see a lot of brewers just being happy with where they are,” Rue says. “It’s kind of like musical chairs: Can you grow to that perfect point to where, when the industry growth slows, you’re going to have the right debt load and the right capacity to do what you do and succeed in the market?”

Greg Engert purchases beer for fifteen different venues as beer director for the Neighborhood Restaurant Group, as well as produces beer at Bluejacket, a Washington, D.C.-based bar, restaurant, and brewery. He

wonders why more brewery owners aren’t pursuing a more niche, local market.

“It’s kind of surprising that there are so many production breweries coming out, especially as some of these classic production breweries are doubling down and building two or three other breweries themselves,” he says.

“I know it’s not easy to run restaurants and bars, believe me, but people will never, ever get tired of going to a brewpub and drinking the beers made within those walls,” Engert says. “And there’s such a higher profit margin for beers you brew and sell on-site versus the production method, where you’re creating huge volumes of beers at very low margins and then heading into a scene that is increasingly beyond crowded to try to get shelf space and tap space.

“It’s going to be interesting to see what happens, but I think there will always be room for smaller local breweries that make outstanding beer.”

Perhaps no brewery epitomizes the idea of staying small, even when faced with intense demand, as much as The Alchemist (Waterbury, Vermont). Founder John Kimmich is adamant about his reasons for holding production of its flagship beer, Heady Topper, to 9,000 barrels annually and its distribution to Vermont.

“Isn’t that the best? When you find something that’s great and you can’t get it all the time? Doesn’t that make it that much more special?” asks Kimmich. “That’s what drew people to craft beer in the first place, that idea that it was a local beer and different from everything else.

“Now you see these craft brewers who are having success, expanding, and opening other breweries in distant places so they can cover that part of the country, and that’s fine,” he says.

Just don’t expect The Alchemist to change its business model any time soon.

“We’re not Budweiser,” Kimmich says. “Why would you ever expect us to act like it?”



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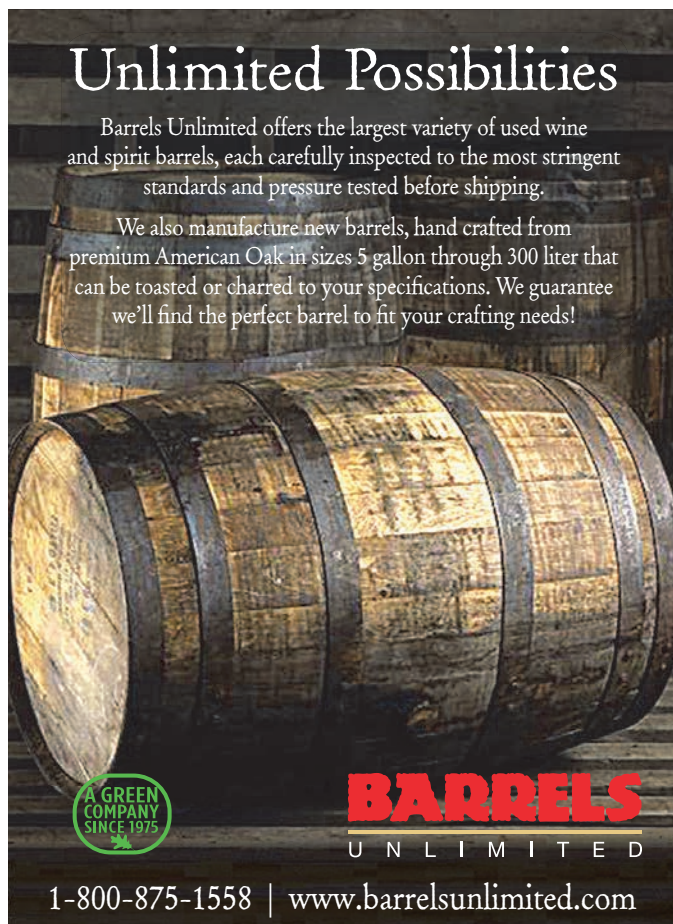
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Successful Branding

In today's competitive craft-beer market, brand resonance and engagement are more important than they've ever been. Whether you're updating an aging brand or creating a fresh brand from scratch, here are some fundamental considerations for creating brands that connect with your audience. **By Jamie Bogner**

BREWING GREAT BEER IS the most important thing any brewer can do, but in a market where differentiation isn't measured in good versus bad but great versus also great, it's increasingly important for breweries to put time, thought, and effort into the brands they're building. Whether your focus is taproom sales, limited releases of tradable bottles, or main-line core brands in a multi-state footprint, these eight elements of branding should be first and foremost in your mind.

At the Core of Every Great Brand Is Values

Before they named their company or brewed their first beer, Urban Chestnut Brewing Company (St. Louis, Missouri) Founders David Wolfe and Florian Kuplent started with a statement of values. As former AB-InBev employees—Wolfe on the marketing side, Kuplent on the technical-brewing side—they were familiar with building brand-positioning statements when launching new beers for the international behemoth, but this was personal

and a departure since it focused not on the customer they were trying to attract for a certain beer, but on the very nature of the company they wanted to create.

"We looked at ourselves and decided ... to focus on the tension between Florian's old-world technique and styles and a modern, creative approach to brewing," Wolfe says. "We articulated that by defining the divergent ideals of 'reverence' and 'revolution,' and that philosophy expresses itself in everything from the beer styles we've focused on (from reverential traditional German-style lagers to very contemporary hoppy IPAs) to the name of our brewery. 'Urban' expresses that contemporary energy, while 'Chestnut' is a nod to the trees and roots commonly found in German beer gardens."

While most brewers start with the beer they want to brew and their brewery name, this values-first approach to branding and naming has proven particularly successful in a market dominated by customer loyalty to that exceedingly large brewer known for its light lagers.

On a smaller scale, Side Project Brewing's Cory King staked out his values before naming and launching his boutique brand.

"The Side Project brand means two things," says King. "All the beer is aged in oak, and I make all the beer."

Whether one's values are adherence to tradition, an unwavering pursuit of excellence, a dedication to constant experimentation and discovery, a ragtag punk-rock rejection of the status quo, or something entirely different, that value statement should be the first thing on every brewery's mind as it fundamentally informs all brand development that succeeds it.

Defining a Niche

After crafting that statement of values, it's important to consider the niche you intend to fill. With significant competition throughout the craft-beer marketplace, it's no longer good enough to make great beer for everyone in every style or to make a single beer that you will market to every consumer. The days when a brewery could attempt to be everything to everyone are long gone as consumers focus on value propositions such as "fresh and local," "authentic," "award-winning," and "style-focused."

This increasingly broad market of consumers is often looking for different things in its craft beer, and that creates opportunities for brewers who focus on a more

Right » Before embarking on any packaging design, Josh Emrich works with clients to develop a backstory, “expanded universe,” or similar unifying theme for the brand. Pictured is his work for (clockwise from top left): Speakeasy (California), Bottle Logic (California), Copper Kettle (Colorado), Bottle Logic, Uinta (Utah), and Grimm Brothers (Colorado).

limited set of specialties. The challenge, of course, is building a brand that is large enough to embody these different impulses while still remaining cohesive. Josh Emrich, of branding agency Emrich Office, has helped a number of successful brands (including Uinta, Speakeasy, Grimm Brothers, Bottle Logic, and Copper Kettle) find their voice, and in his experience, the hard work is balancing the need for the brand to be easily understood as craft beer with the need for each brand to stand out and differentiate itself from its local, regional, and national competition.

“How you read to a consumer is really important,” Emrich says. “You have to be different to differentiate yourself, but craft beer still has to feel like craft beer and can’t look like anything else. You have to take the risks that the big guys cannot—a lot of times, a brand won’t feel like ‘craft’ to the consumer if it plays it too safe or tries to appeal to everyone.”

Building Emotional Investment: The Importance of Storytelling

“When I work with brands, we do quite a bit of work to develop that very detailed [back] story,” says Emrich. “The consumer may not see all of it, but the story creates an authentic reason and logic for everything that we do. The best brands on the shelf think this all the way through.”

One of the best examples of this branding through storytelling is that of New Belgium Brewing (Fort Collins, Colorado): Their historical “creation myth” of Cofounder Jeff Lebesch’s 1989 bike tour of Belgium manifests itself in everything, from the brewery logo to the retelling by brewery tour guides to their primary beer brand (Fat Tire Ale) and their major source of community outreach and experiential marketing, the Tour De Fat bicycle parade series. It’s a depth of brand storytelling that is relatively unmatched, not just in the craft-beer industry, but in any industry.

Personal brewery history isn’t the only building block for storytelling, however. Emrich has built fictitious back stories for



Left» Before and after photos of the iconic Fat Tire Ale, showcasing New Belgium's 2014 packaging rebrand.



brands such as Speakeasy that similarly form a basis for product naming and imagery.

“My packaging work for Speakeasy subconsciously ties this bigger story together, and in fact the illustrations across all of the Usual Suspects Series packaging connect into one long, continuous scene,” says Emrich.

Visual Identification and Rebranding

If you're wondering how we've gone so far in a discussion of branding without talking about logos, there's a very good reason for it—too many brands focus on logos first without building a framework, logic, and story for the brand that supports it. This is the most common mistake that new businesses make—hurriedly conceiving of a logo mark then slapping it onto product and pushing it out the door in order to meet a business's financial goals.

But even in brands with firm foundations, fast growth can lead to new products and product lines that expand on the original brand vision but do so in a way that, in retrospect, creates confusion rather than cohesion on crowded store shelves. This was the situation New Belgium found themselves in back in 2013. The historical core brands, such as Fat Tire, Sunshine, and 1554, maintained a legacy look and feel while the Explorer Series beers such as Ranger and Rampant IPAs sported a more contemporary flat feel and their risk-taking “Lips of Faith” bomber-only releases each featured cool, contemporary abstract illustrations, drawn by one of their in-house artists, that changed with every release.

“We took a long look at our portfolio,” says New Belgium Spokesperson Bryan Simpson, “And decided we wanted more consistency across the cold box. We needed to look like one family of brands—to freshen up the watercolor look—and innovate and progress in our product and look.”

But altering the packaging of a core brand that makes up a significant percentage of the brewery's overall output—a single beer brand whose production is measured in the hundreds of thousands of barrels per year—is no small feat. The process took the company more than a year, involved two outside firms as well as a large in-house team of strategists and designers, included testing and focus groups for consumer

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What Does Brand Development Cost?

When launching a new brewery or rebranding an existing brewery, it's important to budget not just the right amount of money for the project, but also the right amount of time. Here are some basic cost ranges for brand development based on numbers provided to us by experienced and successful design firms.

Overall Brand Development (\$15,000-\$20,000)

If you're willing to spend a quarter of a million dollars on a new brew-house and fermentors, you should be ready to spend 5-10 percent of that on how you present yourself to customers. For this, expect a logo; a full range of initial tasting room swag such as coasters, glassware, and growlers; initial apparel designs, etc. Most importantly, you are investing in a design partner for the long run.

Packaging Development (\$3,500-\$20,000)

Creating a template for tap handles or product packaging is generally less expensive than developing individual brands for each style, so if budget is a concern, think "Anheuser-Busch Pilsner" versus "Budweiser." Illustration is the primary X-factor in this brand development, and for the work and full rights buyout, that illustration alone can run \$3,500-\$10,000. In addition, the fee for designing a single 22-ounce bomber runs on the low end of the range, while the fee for designing a six-pack with cardboard exterior pack (requiring work on both the can design and the holder) is at the very top of the range.

How to Save Money

Design firms tend to be less busy in the summer months. If you're embarking on a launch or redesign, plan the work for those slower months, and you'll typically find you can either save a bit of money on the project or get more time from the designer or firm for the same price.



Left» Urban Chestnut (St. Louis, Missouri) uses the colors in their logo to reinforce their concept of "beer divergency" and carries on the color schemes for the two beer series in their packaging as well.

Opposite» Brands are increasingly using color in bold ways to differentiate product brands within a cold case, evidenced by the strong color billboard effect in New Belgium's packaging. Note, also, how the colors used suggest the beer inside.

perspectives on the changes, and by all accounts, was a big success.

"While it's difficult to quantify the results [of the packaging refresh], we rolled it out in 2014 and had an excellent year with 19 percent growth. Some of that could be attributed to opening new markets, of course, but the rebrand gave us a nice lift throughout the year," says Simpson.

Color Strategy

One trend that continues to gain steam in craft-beer branding is the use of color in driving brand recognition. While the concept is taken for granted in macro beer—Bud is red, Bud Light is blue—craft brewers historically have been less reliant on color as an identifying factor for their product brands. With New Belgium's 2014 rebrand, color billboards became a fundamental piece of the new design, as half of the bottle label and six-pack carrier were now covered in solid fields of a single color.

"We typically use color in a way that's evocative of flavor," says Simpson. "But with Fat Tire, the blue references our historical red and blue color scheme, and in our recent seasonal Portage porter, the bluish teal evokes a feeling of water."

More importantly, the consistent brand presentation in a retail cooler draws consumers in, and the color increasingly serves as a way to quickly differentiate and navigate through a range of different product brands in that cooler. Humans have a strong memory for color, and over time, customers no longer have to read the

name of a beer and simply learn to grab the six-pack with the familiar color on it.

"The best way to use color is to differentiate products within a family," says Emrich. "Stores tend to merchandise brands together, so if you're looking at a case full of Uinta, you're buying the parent brewery, and that color provides subtle cues about the individual beer brand."

But color can be used as much more than just flavor signifier, when it serves other brand goals.

"Color should also tell the story and feel appropriate to the overall brand," says Emrich. "One brand I'm working with now is located in a port city, and the shipping containers at the port have inspired the color palette. It's another way to use something simple [such as color] to reinforce the story of the brand."

For Urban Chestnut, color is another way to reinforce their concept of beer divergence, and the competing ideals of reverence and revolution each have their associated color—blue and orange, respectively. Each of those thematic colors plays a prominent role in everything from the company logo to retail packaging to taproom beer lists.

"Our brand is defined by the interplay between old and new, reverence and revolution. The colors in our logo emphasize that contrast, with the blue representing the reverence side and the orange representing the revolution. Whether it's the colors the beer names are written in on our taproom chalkboards or color bands on our retail packaging, we use color to



reinforce this play and identify our two primary series.”

Product Naming

Branding can be powerful when it reflects the customer, and not every craft-beer consumer in North America is an outdoors-loving adventurous spirit looking for the hidden glacial ponds that dot so many beer labels. While an appeal to the outdoors and clean water certainly makes sense for a product such as beer, adventurous brands are pushing beyond these branding themes to make connections with different audiences.

“A great example is my work with Bottle Logic (Anaheim, California),” says Emrich. “They’ve really taken off with a strategy of releasing hard-to-get whales, so in cultivating the brand identity, we thought about the kind of customer who is drawn to that level of fandom, and we tapped into the Bottle Logic founders’ love of movies, sci-fi, and comic books. It’s beer-geek beer for geeks. We treated their entire product lineup like the expanded universe of a sci-fi movie franchise, with a whole story line behind the brand names that appeals to science and futurism. The concept of the brand is rooted in the idea of exploration, and that’s expressed in the experimental beers they brew and release.”

Matching the psychographic of the craft-beer consumer—that individual who loves to try new things, who craves authentic experience, adventure, and exploration—is key, but adventure means different things to different people. Now that beers are collected



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Five Questions That Every Brewery Brand Should Ask

At a previous firm, Josh Emrich enjoyed watching how crisis-management public-relations firms dealt with preparing clients for difficult circumstances, working through the most challenging questions they would be asked. “Brands that aren’t willing to ask themselves the really hard questions are the ones that will fail,” says Emrich. Here are five questions that every craft-beer brand should ask before undertaking the process of branding and building a beer business.

Why would someone buy your beer instead of someone else’s beer, and would you buy it if you were a consumer?

If you can’t answer a consumer’s question honestly and in a compelling way, then how can you ask them to buy your beer?

On the shelf, does this look like someone else’s?

Am I emulating someone else? Am I inspired, or am I inspiring? Would this look good in my fridge, and is this something I’d be proud to serve to friends?

As a customer, would you want to be treated like this?

In tasting rooms, it can be as simple as “would you want to sit in this chair? At a table this dirty?” Brewers are always in a crunch to meet demand and raise money for their next capital investment. But they can’t let customer-service standards slip along the way. Brewers talk about ingredients and brewing, but a lot of customers can’t distinguish between a beer that’s a 7 and a beer that’s a perfect 10. However, if the tasting room is nice and presentable and the packaging is attractive, it goes a long way. These things don’t have to be slick and polished, just authentic and considered.

Do I have enough money to do this the right way?

Lots of brewers jump in, bootstrapping it, but you get what you pay for. This has more to do with timing than budget—rushed product launches because speed-to-market is a big deal. The lead-time for great design is longer than your lead-time for brewing and fermentation, so balance this drive to get new product to market against the precedent you’re setting and put the work in before you make the beer.

Have you done due diligence on trade names?

Competition is stiff. The cost of joining this industry now is so much more because of the crowded marketplace. You’re going to be dealing with cease-and-desist orders on product names because so many are produced, and this adds to the cost to create and protect a brand. Do the search. Do it again. And trademark it before you invest the creative energy into developing the brand. I can’t tell you how many times folks have had to go back to the drawing board after discovering that someone else is using a name that they thought was original.

and traded like comic books, is it so strange for beer labels to look like them? It’s a direct contrast to the message of big beer, which relies on history, solidity, and unwavering consistency.

“Craft-beer branding themes are most potent when they speak to the craft-beer customer,” says Emrich. “That’s why themes of adventure, liberation, and rebellion are so popular.”

Room to Grow

A new challenge facing brands is building an identity that can grow with the brewery. Rebellious outsider themes are great at 5,000 or 10,000 barrels, but come across as less authentic or even disingenuous as the brewery climbs past the 100,000 mark. And that same branding can lead to cognitive dissonance in the event of a sale or merger.

“The breweries that are no longer independent face a difficult challenge,” explains Emrich. “Many have projected an ‘outsider’ image but became ‘insiders’ when they teamed up with InBev, Heineken, or Corona. They face the real possibility of being rejected by savvy craft-beer drinkers who might see them as sellouts. These brands must continue to be aggressive in terms of staying authentic and experimental, while doing good for their community and staff. That’s key to the idea of ‘craft.’”

Branding Challenges

Whether you’re building an internal team to manage your brand, visual identities, packaging, website and social media, and other consumer touch points or you’re working with outside creative or design firms, it can be challenging for any brewery decision-maker to give up some control over the creative direction of the work. But that trust is absolutely necessary to get the best, most creative work out of those you’re working with.

“Look for designers willing to say ‘no’ to stuff,” says Emrich. “With someone who says ‘yes’ to you all the time, you’re not getting more from that creative than you already know. When someone understands your business but is willing to say ‘no’ [and intelligently defend that position], you’re getting someone who wants the best for your business. I need clients to be okay with arguing about things that are important.”

It’s equally important to consider the age range of your consumers in your decision-making. The twenty-one- to twenty-nine-year-old age bracket is one of the fastest-growing consumers of craft beer, and brands that don’t resonate with consumers in that bracket don’t have much of a future.

Another significant challenge is the pace at which new breweries and product brands are entering the market. It’s important to protect your intellectual property as you create it—or risk having to deal with the consequences. But it’s not just an issue of doing a trademark search or a search for names on popular beer-rating platforms such as Untappd. Every reputable brewer (or their attorney) is searching, but if more than a couple of days elapse between your search and the filing, you’re at risk.

On a related note, as the market grows more and more crowded with brands, it can be tempting to forego the challenging work of creating original work. But it’s more imperative than ever to think creatively and push into new territory, however uncomfortable that might be.

“What I never want to hear is, ‘I really like what you did for so and so, and I want to do my own version of that,’” says Emrich. “To ultimately be successful, a brand has to look past what contemporaries are doing.”

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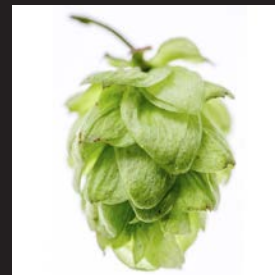
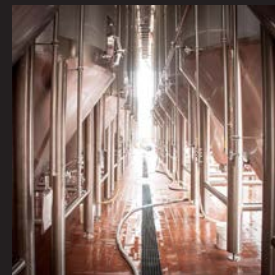
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Opposite from top »

The clean minimalist modern aesthetic of the new Surly brewery is highlighted by industrial materials that tie into the reclaimed brownfield location and punctuated by a very restrained use of color; inside, communal tables reinforce the modern beer hall feel while a second floor walkway allows access to the Brewers Table restaurant and better views of the brewing operations.

Building Your Brand: Taproom and Brewery Design

Surly Brewing Co.'s new flagship brewery, restaurant, and beer hall reflect design guidelines that breweries of all sizes can learn from.

WHEN MINNESOTA'S SURLY BILL

became law in 2011, it allowed distributing breweries with a brewpub license to serve pints of beer on-site for the first time. Its passage ushered in a spate of new breweries across the state and also underscored how critical tasting rooms are to a craft brewery's success.

Surly Brewing Co. Founder Omar Ansari championed the law and capitalized on its passage by breaking ground on a new production brewery, restaurant, beer hall, and event center, which opened in late 2014.

Far from the more modest scale of a typical brewery's operation, however, Surly aspired to greatly increase its capacity while also constructing an iconic showplace where beer fans could gather to partake in the beer and participate in the Surly brand.

"The vision was to create a destination brewery not only for the Twin Cities region but also for out-of-state and even international visitors," says Steven Dwyer, senior project designer and vice president with HGA, the architecture, engineering,

and master-planning firm that oversaw the brewery's design and construction.

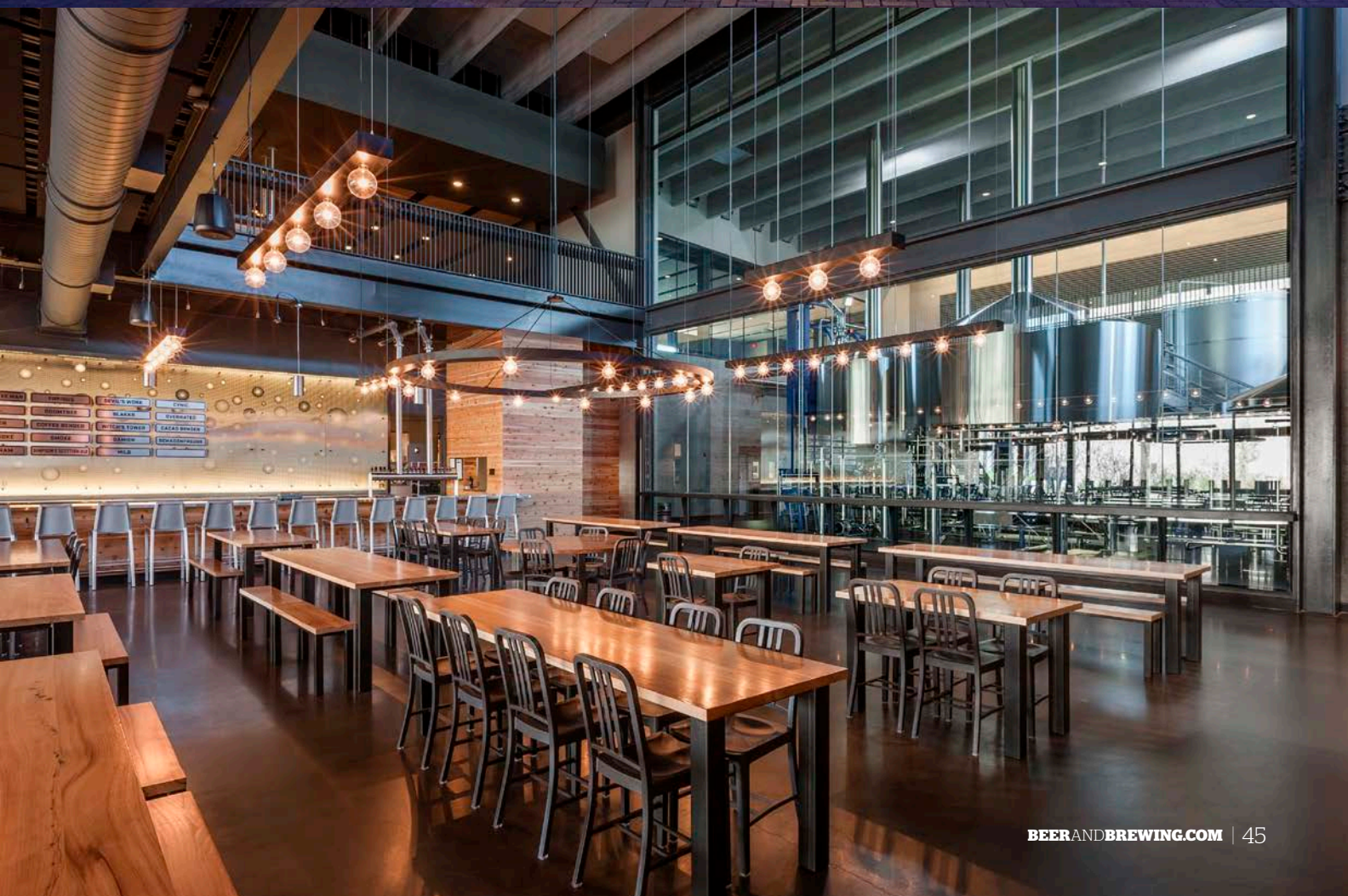
And while only a fraction of American craft brewers are in a position to join the elite club of breweries with multimillion-dollar destination facilities, the ambition and planning that went into the Surly project exemplified a best-practice process from which brewers of all sizes can gain valuable insight.

Start with clearly defined criteria.

Before decisions were made on any definite ideas about how the space should look and function, the planners began by defining an overarching vision for the project.

Surly's leadership talked about building a facility that would be for everyone—a "democratic" gathering place for the community, says Dwyer, with distinct yet visually connected spaces.

They wanted the brewery to be located in town, near lodging and with access to multiple modes of transportation, including light rail, bus routes, and bike paths.





From top » Embedded stone ground covering, fewer plantings, and younger trees were all budget-driven accommodations for Surly; fire pits create visually striking points to congregate outdoors.

They also wanted the building to not only help connect people with the brewing process and the Surly brand but also with one another.

On the brewing side, maintaining the consistency and quality of the beer while increasing production and efficiency were also paramount.

Municipalities from throughout the region courted Surly, and they looked at almost eighty sites before deciding to purchase a plot of land in a transitional area of Minneapolis. Although the location had seen more than a century of industrial use and would require substantial clean up, the process of first establishing a clear vision for the project helped all involved to see the site's potential.

The site also featured two wells that drew water from the same aquifer as Surly's original brewery in Brooklyn Center, Minnesota, which was a huge plus for Head Brewer Todd Haug.

"My big concern when looking at sites was how we were going to match the water character," Haug says. "We were building a new brewery to brew our flagships, and the water is a big part of that.

"It's amazing how similar the beer tastes," he says of the completed brewery. "It was seamless."

Seek advice from those who know.

When planning their new facility, Haug and Ansari also consulted with and visited many breweries, including 3 Floyds Brewing Co., Victory Brewing Co., Bell's Brewery, and Founders Brewing Co.

"Anyone who had recently gone through a growth spurt like we were experiencing and had built a new facility," Haug says. "One thing about this industry is most people are pretty eager to help and tell you about their experiences—both good and bad."

Rather than focus primarily on equipment and technical specifications, however, Haug and Ansari were after the kind of practical advice that's only gained by doing. What had other brewers and owners learned from the process? What, if anything, would they have done differently? What didn't go as expected and how did they recover?

"We also tried over the past three to five years to outfit Brooklyn Center as a base model for the new brewery," Haug says. "We didn't want to change umpteen things process-wise with the new brewery."

Allow for some give and take.

Although Surly allocated a substantial budget for the project, there were some neces-



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Clockwise from top left » The gleaming brewhouse is front and center behind a wall of glass, putting brewing operations in full view of taproom guests; Surly's outdoor garden includes less furniture than initially planned—a nod to budgetary concerns that is less noticeable to customers; color is used strategically in the Brewers Table restaurant to reinforce the dark and theatrical nature of Surly's brand.

sary compromises made during the process to keep project costs from ballooning.

For example, the cost of restoring the brownfield site to a state that could safely support the 50,000 gross-square-foot building and its infrastructure was substantial, even with the help of \$2 million in public grants. And there were the hidden costs and inevitable delays that come with any construction project.

"As costs kept going up, we had to react quickly and, with HGA's help, revisit some things we could change that would still get us to where we needed to be but maybe without everything in place," Haug says.

Some of those decisions included dedicating more space for the public areas at



the expense of building more offices right away. Plans to outfit the two-acre outdoor garden with furniture and plantings were also scaled back and purchases spread out over time.

Haug and Ansari also installed or fabricated as much of the equipment as they could themselves, which allowed them to invest in higher quality tanks and equipment.

"Omar did an amazing job of keeping the project funded," Haug says. "He bobbed and weaved throughout the process."

Strive for design that personifies your brand.

When it came to the design itself, planners knew that they needed distinct separation between the public and manufacturing areas, but they also wanted to visually connect the two with "strong moments of transparency," Dwyer says.

"We took an approach that we called the 'reverse mullet,'" he says. "If a mullet is business in the front and party in the back, then this is the opposite."

Whether arriving by bike, bus, train, car, or on foot, visitors approach the brewery through a central entry plaza, which is anchored by a fountain on one end and a large fire cauldron on the other. Corrugated metal and red cedar siding on the exterior lend an industrial touch that's also consistent with the brand. The main entrance is through a vestibule that offers a long, unobstructed view into the fermentation



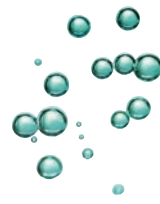
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Planning & Design Advice

Start with clearly defined criteria.

Define an overarching vision first. Then define how the space should look and function.

Seek advice from those who know.

Consult with and visit other breweries that have planned and built a new facility. Find out what they learned from the process, what—if anything—they would have done differently, and what didn't go as expected and how they recovered.

Allow for some give and take.

Be willing to compromise to keep the project within budget and reasonably on time but still get you to where you think you need to be.

Strive for design that personifies your brand.

Choose building materials, colors, and floor plans that embody your vision for your brand.

Plan for future growth.

Even if you don't intend to expand any time in the near future, let the planning and foresight that go into your new facility give you room to comfortably and sustainably grow your footprint when the time comes.

"Surly has a certain edge and a kind of darkness to it, with all the black and dark grays in the artwork," Dwyer says. "The dark paint was meant to be a little theatrical, and when we do introduce color—whether it's red in the restaurant or wheat in the event center or stainless steel in the brewhouse and other places—those elements pop and create an overall ambiance that we feel is consistent with the brewery's brand."

cellar through floor-to-ceiling glass walls. A retail store and restrooms are also located near the entrance.

Visitors then pass through a gallery lined with artwork that Surly has commissioned for its cans and promotional materials before arriving in a large, open beer hall with dramatic two-story window walls that look into the brewhouse on one end and can open onto a large deck and gardens on the other. The upper level houses a full-service restaurant as well as an event center and pre-function spaces, with a large deck overlooking the gardens.

Visual cues also play a role in helping to define and reinforce the experience.

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The entire experience is choreographed to immerse visitors in what the designers call the "Surly Brewing Destination Experience," with lots of social interaction and energy throughout.

"When I go there now, it's almost as


if I'm going to the state fair or a large concert," Dwyer says. "It's a happening every night."

Plan for future growth.

The production side is laid out in a U-shape and designed for maximum efficiency and flow. Raw materials arrive via a dedicated loading dock near the grain silos and mill room. The brewhouse is located in the heart of the building, with fermentation, packaging, and shipping completing the process loop.

The facility is also designed for growth. A few of the walls are non-structural and can be knocked down to make way for a planned second-phase expansion that would increase fermentation capacity by as much as 200 percent and add another packaging hall and additional office space on the upper level.

Not that Surly is looking to dramatically grow its operation again any time soon. The planning and foresight that went into building the current incarnation of its new facility will let Surly comfortably and sustainably grow its footprint for years to come without overextending its reach in order to recoup costs. For now, they're busy making the most of the new facility.

"You don't get to build a new brewery every day," Haug says. "This is definitely the biggest project I'll ever be involved with." 

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FEW PEOPLE SPEAK AS passionately about the superiority of craft beer in a can—and why you should drink *his* beer directly from one—as The Alchemist Owner John Kimmich, maker of Heady Topper.

“The benefits of using a can for an IPA are well documented. We print it right on the side of the can,” he says. “It’s the perfect vessel for maintaining the quality of a beer like that.”

Kimmich lovingly describes the sensation of popping the top on a Heady Topper and enjoying the aroma as it bursts from the can and then enjoying that first fresh sip.

“Beer you pour into a glass is rapidly dying, but [in a can], even if you set it down for ten minutes, the beer is still sitting perfectly preserved under a layer of CO₂,” he says. “It might take me an hour to drink a can of Heady, but I know that that last sip will be as good as the first. In a glass, that beer would be a shadow of its former self.”

Kimmich is not alone in his conviction. The advantages of aluminum cans for packaging craft beer have become widely known. The most often cited benefits include lower oxygen levels and protection from ultraviolet light; a lightweight, inexpensive material that’s readily recyclable; decreased breakage, and cost savings in weight, fuel, and space when shipping and distributing.

Cans reach a tipping point

Ever since Oskar Blues Brewery became the first American craft brewery to go all-in with cans in 2002, the momentum toward canned craft beer has continued to increase pace.

Buoyed in no small part by craft, cans reached a tipping point in 2014. The annual report on national domestic beer shipments from the Alcohol and Tobacco Tax and Trade Bureau (TTB) showed that cans grew 2 percent and comprised 55

Coding is a craft

Marking and Coding Solutions at Every Step of the Production Line

Starting in 1893 with the invention of the Stencil Cutting Machine, Diagraph engineers have worked meticulously over the past 123 years to craft world-class solutions that meet evolving product identification needs. A leading manufacturer and distributor of inkjet printers, laser coders and all-electric automated labeling systems, Diagraph matches customers with the right coding technology for their packaging substrate – from empty container to point of sale and beyond.

Craft brew producers need marking and coding solutions that enable easy message change over, have minimal maintenance and service requirements and can withstand harsh, wash down environments.

Scott Bruckerhoff
Director of Engineering & Innovation
Diagraph Marking and Coding

Diagraph's technology solutions span every coding step of the brewery production line.

COMMITMENT TO CUSTOMERS

Diagraph treats each customer with as much care and attention as it puts into designing and building coding machines. Customers enjoy personalized attention from their dedicated product identification expert, local service technician, specialized application engineer, telephone support technician and dedicated customer service specialist. It takes more than just consistently reliable coding equipment to make a marking and coding operation a success. That's why we have assembled a team of specialists dedicated to providing top class customer support.

TOP 3 TIPS FOR CHOOSING A CODING PROVIDER

It can be difficult to choose a marking, coding and labeling equipment provider with so many available. These tips will help you find the best provider for your business:

- 1) Total Cost of Ownership (TCO)** — This seems like an obvious consideration, but year after year brewers new to marking and coding make equipment purchases that cost them big over time. Ensure you understand your ongoing costs for equipment parts, consumables and service as well as downtime costs associated with routine maintenance before making a purchase. TCO varies widely from manufacturer to manufacturer.
- 2) Ease of Use** — Can your line operators easily change messages, refill fluids or labels and perform preventive maintenance with as little impact to uptime as possible? Equipment that is the easiest to use and most reliable features design elements that are engineered directly into the machines (as opposed to being applied after-market).
- 3) Service Support Structure** — Coding providers who are most responsive to your needs have field service operations dedicated to your neighborhood. Look for providers that offer telephone support and have layers of expertise available within the organization to ensure that your unique application gets every consideration necessary.

PRIMARY PACKAGING SOLUTIONS

Whether you are coding expiration dates, best before dates, bottled on dates or require a discreet machine readable code to communicate shelf-life to both retailers and consumers, Diagraph has inkjet and laser coding solutions to meet your specific bottle coding and can coding needs.

- Our small character Linx inkjet printers feature a fully self-serviceable preventive maintenance module and the industry's best print head cleaning intervals – allowing for maximized uptime and greater control over equipment service schedules.
- Diagraph's Linx laser coders eliminate the ongoing cost of inks and solvents and require very little maintenance over the course of their life. Linx VisiCode technology allows Linx laser coders to produce the clearest code on cold glass while enhancing the life of the laser tube.

SECONDARY PACKAGING SOLUTIONS

Carriers, cases and boxes require high quality best before dates, date of manufacture and variable traceability data. Diagraph manufactures a wide range of secondary packaging solutions to meet a variety of budget and coding needs.

- Diagraph's thermal inkjet printers allow for high quality text, graphics, variable and machine readable codes to be printed in an area of ½ to 1 inch tall – ideal for carriers and cases. Thermal inkjet printers pair well with low speed, low volume packaging lines.
- Our high resolution inkjet printers allow brewers to eliminate their inventory of pre-printed boxes by offering a combined print area up to 8 inches tall that can accommodate machine readable barcodes, graphics and variable text.
- Our print and apply labeling solutions eliminate the need for plant air and offer the industry's most consistent and reliable all-electric labeling technology that will meet the requirements of even the most discerning beverage wholesalers and retailers.

PALLET LABELING SOLUTIONS

Diagraph's pallet labeling systems consistently print easily scanned "license plates" and offer a problem-free method of labeling shrink-wrapped pallets, which means no snags even while being labeled in transit. All of this made possible by our smart all-electric labeling technology.



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What to Look for When Selecting a Canning Machine

When you are making a significant capital investment in a canning line, these six tips from the canning experts at **Wild Goose Canning** will help you make the decision that's best for your business.

1. Oxygen and light are the primary enemies of great beer. Everyone in the canning sector is actively working to reduce the pickup of oxygen in beer, but the best way we've found to minimize this is limiting the distance the beer travels. When you're evaluating systems, take a look at how far and how long the can travels from the filler to the lid dropper to the seamer. If it takes two feet to put an end on the can before it hits the seamer, you're allowing oxygen to penetrate your product for that amount of time.

2. Balance affordability against reliability against customer service and support. As with all technology, consider the total cost of ownership, not just the purchase price. If something goes wrong, how long does it take the manufacturer to get you back up and running? If you're canning 40 barrels and your beer has to sit in the brite tank for a few days while you coordinate a repair or upgrade, how much does that cost you? We specifically invest in great customer service and support on top of the machines themselves because we know how that impacts brewers. When a call comes in, our techs are tools-down and focusing on the issue until it's resolved. With our team, the same guys who build the machines install the machines and troubleshoot any problems customers have because they have the most intimate knowledge of the machines.

3. Seamers aren't sexy but are incredibly important. They are your product's last defense against the elements. We got our start with canning by designing a better seamer for our friends and neighbors at Upslope Brewing—they asked us to fix theirs, but when we looked at it, we couldn't, so we built them a new and improved seamer instead. Ours is pneumatically actuated and cam driven, allowing for very precise adjustment from the user.

Just as important, users should understand what makes a good seam, so during an install we provide "seam school" training. At a bare minimum, you should be checking seams as they come off the line at the beginning, middle, and end of a canning run, but ideally that should be more like once an hour.

Before we ship a system, we test it with customers' cans and ends, and do a full seam cut and X-ray analysis so we're confident that it will perform as promised.

We're seeing more and more customers interested in date coding. If something happens during a run, it can be very helpful to track those time and date codes back to figure out when and why it happened.

4. Field upgradeability. Generally speaking, you should buy now for where you expect to be in a year or two rather than buying for your current production—with production lead times what they are, forecasting is the smartest strategy. But having said that, field upgradeability can be a strong selling point for certain customers. We specifically built our WGC 100 so that it can be upgraded to a WGC 250 by one of our techs on-site with only one day of downtime.

5. System integration. Our canning lines are built to work with our rinser and depalletizer, but they're also built to integrate with other industry-standard equipment such as the depalletizer from Ska Fabrication. We have great relationships with inline labeler makers, and those integrate seamlessly with our machines.

As an aside, the technology we're seeing in sticker application is great—stickers that can go onto cans that are fully condensating. It's come a long way. We're also seeing really creative answers to the high minimum orders for printed cans—more customers are doing partial prints, then sticking on those printed cans, and the look is gorgeous. It's almost indistinguishable from full printed cans.

6. Beyond budget, think about what you want to drink. If you're purchasing labeled cans from a third party, it's really important to wash the cans before the canning line. When can manufacturers palletize, the cans are pretty sanitary. But if they're coming off those pallets to be printed by a third party, the cans get exposed to contaminants and really

must be pre-washed. Not everyone thinks about that, but we wouldn't drink a beer if we couldn't be sure the can didn't have any debris in it.

Below » Cans of Trauger Pilsner roll off the Wild Goose Canning WGC 250 installed at Neshaminy Creek Brewing Company in Croydon, Pennsylvania.



PHOTO: ANTHONY STULL

Below» Lone Tree Brewing (Lone Tree, Colorado) started with a manual canning solution from CASK and upgraded to an automated ACS unit within a year.



percent of the total packaging segment in 2014 over the previous year, while bottles (a 1.8 percent decrease) and draft (a 0.4 percent decrease) both diminished as a percentage of combined domestic and import volumes. CraftCans.com, a website that tracks American craft brewers that package in cans, currently includes 544 brewers in its database that package at least one of its beers in cans.

Domestic sales also demonstrate consumers' continued acceptance of canned craft beer. The Brewers Association reports that sales of canned six-packs were up 89 percent in 2014 compared to 14 percent growth of bottles.

Firestone Walker reacted to the trend when it introduced canned six-packs of three of its core beers—Union Jack, Easy Jack, and Pivo—in early 2015.

"We saw a trend among consumers [toward cans], and we wanted to make sure we had beers for them to drink," says Firestone Walker Cofounder David Walker.

"Quality was one of the first elements we considered. We make some very elegant but not hugely robust hops-forward beers, and they survive better in cans if we're going to ship them outside of California."

Walker expects that about 15 percent of the brewery's volume will go into cans this year. It's a significant proportion and one that he expects will grow over time.

"It's a long-term investment," he says.

PHOTO: COURTESY LONE TREE BREWING

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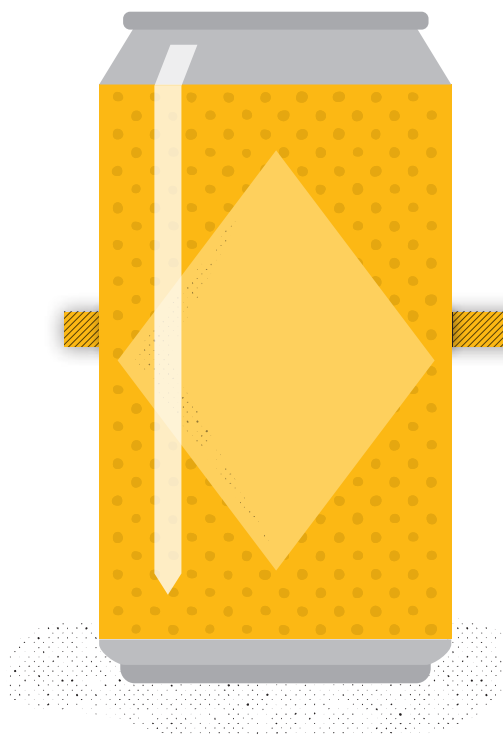
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“Shortage is not a concern”

As more craft brewers invest in cans, however, there have been recent reports of a can shortage and manufacturers upping the size of minimum shipments. There’s also been some consolidation among the three major manufacturers—Ball Corporation, Rexam PLC, and Crown Holdings Incorporated—as Ball and Rexam announced a planned merger in late 2015.

While there have been some temporary restrictions on the availability of some sizes of cans, those limits have since been removed as—similar to many craft breweries—manufacturers add capacity and reorganize in order to better meet the growing demand. This is encouraging because the availability of more modestly sized canning lines, as well as options—such as mobile canning, co-packaging, or leasing a canning line—make packaging in cans a more affordable and attainable option for smaller craft brewers.

“Shortage is not a concern,” says Peter

Says Firestone Walker Cofounder David Walker, “Quality was one of the first elements we considered. We make some very elegant but not hugely robust hops-forward beers, and they survive better in cans if we’re going to ship them outside of California.”

Love, founder of Cask Brewing Systems, which manufactures both manual and automatic canning lines.

Cask sells lines to many small- and medium-sized breweries that have been packaging in glass and are looking to introduce cans and expand distribution into new markets, he says, as well as many new breweries choosing to package only in cans. The size line a brewer chooses most often depends on projected volumes and their expectations for growth as well as on their financing, he says, although many are soon able to move up to a larger sized line.

“If you’re a startup, you don’t really know how your product is going to be received,” Love says. “But of course, as in life, some guys gamble bigger than others.”

Cans as fuel for growth

Lone Tree Brewing Co. in Lone Tree, Colorado, purchased a SAMS manual canning line from Cask, only to upgrade to a fully automatic ACS model about nine months later.

The manual machine “enabled us to enter that marketplace at a minimal investment risk,” says Lone Tree President John Winter, but canned sales “grew faster than we ever anticipated.”

Founded in late 2011, Lone Tree initially packaged only some of its specialty beers in 22-ounce bombers for distribution, which Winter says, “did not see a great deal of sales velocity.

“We recognized that, to continue our growth, we needed to be able to increase our production,” he says. “And that either

comes in the form of 12-ounce bottles or 12-ounce cans as the primary distribution packing methods.”

Winter was at first concerned about how the lining in cans might adversely affect the beer, he says, but found that there have been numerous improvements in the water-based polymer coating over the years. In some cases, manufacturers will tailor the coating to a specific beer’s acid and pH levels, Winter says, as was the case with Lone Tree’s Peach Pale Ale.

Cans have also become a primary vehicle of Lone Tree’s recent growth strategy. The brewery recently upgraded from its original 7-barrel brewhouse to a 20-barrel brewhouse and purchased a grain silo and three additional 40-barrel fermentors. Winter says that Lone Tree brewed about 2,400 barrels in 2015 and anticipates producing about 4,000 barrels in 2016. The brewery plans to expand its distribution into Nebraska this year as well as provide more beer for its Colorado and Kansas markets.

“All of that came because of our original purchase of the Cask SAMS machine,” Winter says.

And about that gently used manual machine? Its sale speaks to the demand for canning lines throughout the craft-beer industry. A Lone Tree employee mentioned to an acquaintance opening up a brewery in New Jersey that Lone Tree was looking to sell the line, and that person purchased the canning line sight unseen.

Says Winter: “I never even placed a public announcement or made a phone call, and it was gone.”



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Three industry leaders elaborate on how they chose systems tailor-made for their brewing goals and business ambitions.

The small-batch, do-it-all approach

Housed in a former boilermaker factory in Washington, D.C.'s Navy Yard neighborhood, Bluejacket restaurant, craft-beer bar, and brewery revolve around a small yet nimble 15-barrel brew system complemented by a wide array of fermentation vessels.

Although the brewery takes up a small portion of the massive 75,000-square-foot facility—the system and equipment are housed on a series of mezzanines that overlook the bar and restaurant—its prodigious and diverse output fuels the entire operation.

Bluejacket strives to offer fifteen to twenty of its own small-batch beers on draft at all times and hand bottles a wide selection of about twenty varieties for

on-premise retail sale, as well. Bluejacket brewers rarely make the same beer twice, preferring instead to explore across a broad spectrum of flavors and styles.

"We wanted to build something that's completely unique—a brewery that operates without boundaries," says Beer Director Greg Engert. "We outfitted it with a brewing kit and equipment that allow us to be able to brew anything we can dream of."

Bluejacket's annual production is currently about 2,400 barrels. Although Engert anticipates that, at full capacity and brewing seven days a week, Bluejacket is capable of producing between 4,500 to 5,000 barrels annually, the focus is far more on quality than it is on quantity. And that takes time.

"A lot of [other] brewers, once fermentation is complete, might dry hop the beer or not, then carb it up and serve it," Engert says. "We like to have a maturation period of at least a few weeks, sometimes as long as a month, for even a simple saison so that the flavors can mellow into a more nuanced whole."

Many beers—such as Bluejacket's barrel-aged projects, lagers, and its mixed-fermentation farmhouse-style saisons—take much longer to mature. That is why Bluejacket's diverse array of twenty fermentation vessels is the real workhorse in the brewhouse. In addition to open fermentors and coolships, along with both horizontal and conical fermentors, there are two separate barrel-aging cellars—one for inoculated beer and another for non-



PHOTO: COURTESY BLUEJACKET



“That’s a battle all brewers face as they grow. How do you reproduce at a much greater scale?” says Columbus Brewing Co.’s Owner and Brewmaster Eric Bean. “Especially with repeatable hops character and aroma.”



sour beers—eight brite tanks, and a host of specialized equipment.

All but two fermentors (at 30 barrels each) are matched to the brew system at 15 barrels. The relatively small batch sizes mean that, while Bluejacket turns a lot of beer, brewers must keep a close eye on production, brew schedules, and raw materials in order to keep up with demand.

“We don’t crank out a lot of fourteen-day beers here, so the struggle for us has been to make sure that we’re covering the brewery, restaurant, and bars while still having beer for retail,” Engert says. “We have beers when we have them and hope that people are interested in them when we can get [the beers] to them.”

The experimental, exploratory nature of the operation might not be as efficient or repeatable as other brewing programs, but the ever-evolving lineup of unique beers across a broad flavor spectrum suits Bluejacket’s artisan business model perfectly.

Says Engert: “If you make the beers in a time-honored fashion that takes longer and costs more money and if you keep your brewery small while doing it, then you get the double bonus of great flavors and consistency plus a scarcity that makes your beers all the more compelling to guests.”

Staying nimble for freshness and flexibility

Columbus Brewing Co. in Columbus, Ohio, recently completed a growth phase that saw the brewery move from a 6,000-square-foot brewhouse into a 50,000-square-foot production facility. Owner and Brewmaster Eric Bean projects that the expansion will allow Columbus to brew about 25,000 barrels of beer this year, whereas he “fought to make almost 8,000 barrels of IPA last year,” he says.

Although Columbus Brewing makes a variety of beers, it’s known for its IPA,

and especially its GABF-bronze-medal-winning Bodhi Double IPA. Bean was concerned about maintaining the quality, consistency, and nuances of his hops-forward beers as he grew the operation.

“At a brewpub, you can really sit and babysit your IPA and it’s a killer,” he says. “And then you start scaling it up and—not that you’re not paying attention—it becomes more difficult to continue to do everything that you’re doing and still babysit beers that you’re putting into larger tanks.

“That’s a battle all brewers face as they grow. How do you reproduce at a much greater scale?” he says. “Especially with repeatable hops character and aroma.”

For Bean, the answer lies in sticking with the same-size system as his old brewhouse—a 30-barrel system—but upgrading from a three-vessel system capable of just two brews a day to a more efficient four-vessel, 30-barrel BrauKon system capable of as many as eight brews a day.

The strategy allows him flexibility to fine-tune his production to closely control quality and quantity while minimizing the risk of producing more beer than his market can readily absorb.

“We want to grow our business, but I didn’t want to have to brew and chase volume to keep the bank away or oversell into a market where we’re worried about how fresh the beer is,” Bean says. “If we’re doing our job right and at the right volume, we don’t have to worry about how fresh the beer’s going to be when it’s all gone.”

The approach also requires an ongoing balance of supply and demand, as well as accurate forecasting, to stay in the sweet spot.

“We also don’t want to short the market,” Bean says. “Our distributor thinks that we’ve erred on the wrong side, but it’s not unheard of to find day-old IPA in our distribution area, which is great for consumers and the way we like it, too.”

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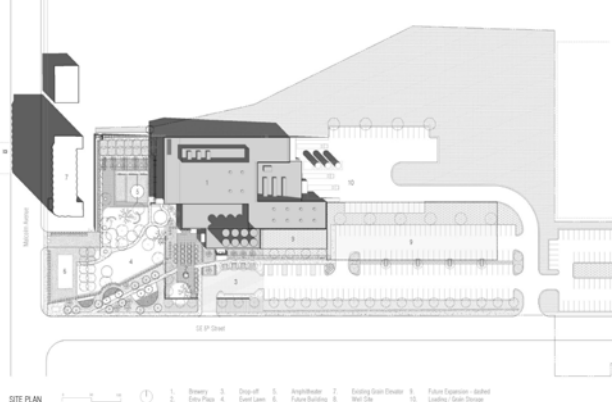
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Top » Scenes from Surly Brewing's new brewhouse; **Above** » Site plan for the Surly brewery.

Consistency and efficiency through automation

When Surly Brewing Co. was planning its new destination brewery in Minneapolis, Minnesota, Head Brewer Todd Haug invested a lot of time planning a new brewhouse that would provide maximum safety, consistency, and efficiency.

After extensive research and consultation, Surly chose German-based manufacturer ROLEC to outfit its new production facility, not only because ROLEC had several repeat customers among top American craft brewers—Stone Brewing Co., Victory Brewing Co., and Lagunitas Brewing Co. among them—but also because of ROLEC's U.S.-based crews and engineers who would help direct installation and commissioning and its reputation for customizing its systems to better match the more aggressive, flavor-intensive style of many American craft brewers.

"Germans are a bit more traditional with their breweries, but U.S. brewers are a little more open minded and need more diversity in what their brewhouse can do," Haug says. "ROLEC was the first company listening and actually making it happen."

Surly didn't want to change too much about its process as it moved to a fully automated system—even the water is the same in the new facility—however, new features and efficiencies afforded by automation have gone a long way toward

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The entrance to the new Surly brewery offers this window into their cellar operations.

“Automation allows us to look at each step and make sure that everything is as consistent as possible and minimize human errors,” Surly’s Head Brewer Todd Haug says. “That is an even bigger deal when you’re making 600 barrels at a time and not blending batches anymore.”

improving the beer and maximizing yield.

The system features a mash mixer in place of Surly’s old single-infusion mash/lauter tun, for example, as well as in-line turbidity meters that eliminate the need to manually evaluate wort turbidity with a flashlight and sight glass. Digital feedback devices also monitor pressure, temperature, and flow, and allow brewers to chart and graph each brew.

“That is really handy when you’re looking at something such as variances in malt and can look back at your lauter curve and see what’s different,” Haug says. “Some things that we never really thought would be that helpful have been amazing-

ly helpful, all because the automation is there and saved in the computer.

“Automation also allows us to look at each step and make sure that everything is as consistent as possible and minimize human errors,” Haug says. “That is an even bigger deal when you’re making 600 barrels at a time and not blending batches anymore.”

Increased safety is an added benefit of automation, from lockout systems during cleaning and reducing the need to turn levers and dials by hand to automating hops additions and dry hopping. ROLEC’s proprietary DRY-HOPNIK system automates the process and allows for more uniform hops distribution as the system circulates

wort through belchers loaded with hops and pushes it back into the kettle.

“At our small brewery, we’d just climb up an extension ladder, open a big port at the top, and carefully pour in [the hops],” Haug says. Not only were there safety concerns, but “each time you open that tank is another source of potential contamination.”

Everything is also matched speed-wise, with greater efficiency and control throughout the process.

“What we’re seeing now is it’s not necessarily that raw materials are cheaper at the new plant; it’s more about efficiencies in labor, energy, the brewing process,” Haug says. “Stuff that’s harder to quantify, but it’s there.”

Haug and the project’s designers also worked to determine the most effective flooring, wall, and ceiling materials, as well as mechanical, milling and grain handling, waste and other systems to best support the new brewhouse.

“It’s not always just the fancy stainless stuff,” Haug says. “A lot of times the greatest brewhouses can be a real pain if you don’t have the right flooring or ventilation or steam boilers—all the other things you need to support it and that make the brewery go.”



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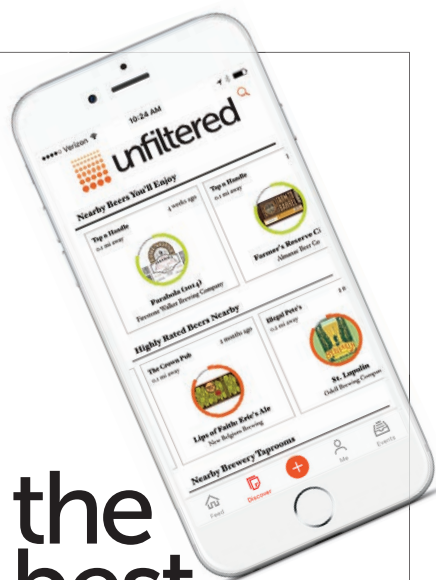
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Playing the Hops Market

Given recent shortages and the overall volatility of the world's hops market, a smart brewer knows the safe bet is on soundly reasoned contracts.

CHANGE IS A CONSTANT in the international hops market.

As a high-demand agricultural commodity, hops are subject to myriad forces that can greatly impact the price and availability of certain varieties. Weather conditions, total acreage, harvesting and processing infrastructure, consumer demand, and shifting tastes all affect the market.

Sometimes the equation temporarily swings out of balance and corrects, as is the case with the drought and unseasonable heat that caused a dramatic reduction in Germany's alpha hops harvest in 2015.

And other times a groundswell of sustained momentum—such as the red-hot growth of the American craft-beer industry—radically and permanently alters the global hops landscape.

America's hops growers have responded to the demand for high-intensity, high-value aroma varieties of American hops by switching over acreage from primarily alpha hops to aroma and dual-purpose hops, as well as by planting new fields.

Conversely, in response to softer demand for traditional Noble aroma varieties and a need for more alpha acreage from the world's macro brewers, German growers have switched over from primarily aroma varieties to mostly growing alpha hops—so much so that, over the past five years, the proportion of alpha-versus-aroma hops in each country has flip-flopped along a roughly 70/30 percent split.

While American craft brewers are largely insulated from the immediate impact of last year's alpha shortage—there's still plenty of surplus supply to cover

existing contracts, and it's not a variety that most craft brewers use anyway—the longer-term implications underscore the interconnected nature and volatility of the global hops market. Shifting dynamics and a tighter supply overall also highlight several reasons why American craft brewers of all sizes should think proactively and strategically about contracting for the hops they need, especially to cover their flagship brands and projected growth.

Alpha use is on the rise, and acreage is limited.

The last time there was a significant alpha-hops shortage, during the 2008 growing season, big brewers responded by stockpiling hops and driving up the prices. Growers responded to the proposition of a higher-dollar return per acre by planting more acres of alpha, and

the 2009 growing season resulted in a bumper crop—so much so that many of the macro brewers have since largely been out of the hops market as they've worked through surplus inventory.

"We did go into this past season with a fairly decent carry-over of alpha," says Ann George, executive director of Hop Growers of America. "But it's certainly going to get to the point where brewers who rely on alpha are going to be coming back into the marketplace and probably increasing their contracts sooner rather than later."

Macro brewers are also starting to use more hops in their beers. According to statistical analysis compiled by the German-based Barth-Hass Group, the world's largest hops supplier, hopping rates in mass-market beers had been in steady decline since the late 1960s until 2013 and 2014, when hops usage began to tick upward.

"That's one of the main reasons why the hops industry, over the past forty-five years, has been more of a boom-and-bust

"What I would classify as the bigger threat to the craft brewers is not from the variety that Germany was short, but from the longer-term consequence that more acres globally have to get devoted to alpha. And if the bigger brewers are short, they will run the price very high very quickly. It's much more challenging for craft brewers to compete in that environment on price."

—Eric Desmarais, owner of CLS Farms





“That’s one of the main reasons why the hops industry, over the past forty-five years, has been more of a boom-and-bust cycle, because it’s been in secular decline,” says Eric Desmarais, owner of CLS Farms in the Yakima Valley region of Washington state. “[Big brewers] are brewing huge amounts of beer worldwide, much more than they were in the 1970s, but they need way fewer acres of hops to do it. But that trend has bottomed out and has actually kicked upward.”

cycle, because it’s been in secular decline,” says Eric Desmarais, owner of CLS Farms in the Yakima Valley region of Washington state. “[Big brewers] are brewing huge amounts of beer worldwide, much more than they were in the 1970s, but they need way fewer acres of hops to do it. But that trend has bottomed out and has actually kicked upward.”

Craft brewers also use hops at a much higher intensity than macro brewers, and as more craft breweries enter the marketplace, the demand for hops only intensifies.

All of this leads Desmarais and other growers and hops brokers to conjecture whether, outside of what’s dedicated to the U.S. craft-beer industry, there’s enough acreage of hops in the world to supply macro brewers with what they need.

“At the grower level, we respond to what varieties give us the most gross revenue per acre,” Desmarais says. “Right now, the hops that craft brewers are demanding are easily providing us a higher revenue-per-acre proposition than alpha hops, and that’s why we’ve pivoted all our acreage there. But in 2008, that was a hops boom driven by the macro brewers, and the prices were two- to three-times higher than what they are right now.”

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There’s less leeway on the spot market.

Any stresses or shortages in the hops market typically show up first on the spot market, where brewers can purchase whatever hops remain after contracts have been satisfied for that year’s harvest.

As more brewers contract for a greater percentage of all of their projected hops needs, more of the available acreage is spoken for before the bines even begin to flower. Simply planting more acreage isn’t as easy as it sounds, as growers aren’t as limited by available acreage as they are by the infrastructure to harvest and process the hops in the limited time

PHOTO: MATT GRAVES/MGRAPESPHOTO.COM

window when they must be picked. Many growers are hesitant or unable to make the huge investment that it takes to put in a new unit, picking facility, and the related infrastructure, so they look to maximize efficiency and yield of their existing acreage to service their contracts.

Roy Farms, in the Yakima Valley, is unique in that it sells all of its inventory directly through contracted relationships to brewers, roughly 70 percent of which are craft brewers, says Jim Boyd, senior vice president of hops sales.

"Now that there's better communication between the end user and the grower, the ability for the merchants to play that buy/sell speculative spot market is going away," Boyd says. "It's still there, but the risk associated with it is greater than what it used to be.

"There's not a whole lot of room to put in new contracts, and a lot of farmers will not grow on speculation. The merchants are getting more adverse to risk, too," he says. "We're looking for customers who are looking for a long-term relationship."

Contracts are the best form of communication to let growers know what you need, although Boyd warns that over-contracting and hoarding behaviors—as typically happens during boom cycles when growth is at a fast clip—can result in miscalculation by both growers and the brewers. It's best to remain conservative in your estimates, while also considering contracting for most, if not all, of your needs.

"There's an organization that's sized to handle every brewer, whether you're a macro brewer or you're the new guy on the block and you need just 5,000 pounds," Boyd says. "There's no reason why you cannot have a contract."

Forecasting the unknown

Stone Brewing Co. has certainly seen its share of growth over the company's twenty-year history. As the company prepares to open new breweries in both Berlin and Richmond, Virginia, Head Brewer Mitch Steele reflects on how forecasting strategies have changed over the years.

"When I first got to Stone, the common industry practice was to contract for about 75 percent of what you thought you would need, and then in the late summer buy the remaining 25 percent on the spot market, if that turned out to be what you needed," Steele says. "And then, when we had that

"When I first got to Stone, the common industry practice was to contract for about 75 percent of what you thought you would need, and then in the late summer buy the remaining 25 percent on the spot market, if that turned out to be what you needed," says Mitch Steele, Stone Brewing. "And then, when we had that first hops shortage in 2007/08, I couldn't get some of our core hops on the spot market—they just weren't out there—and it really created a lot of problems for us. So now, we're a little more conservative, and we're contracting what we think we'll need, factoring in projected growth year-to-year."

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"So now, we're a little more conservative, and we're contracting what we think we'll need, factoring in projected growth year-to-year," he says. "You never know what the volume's going to be, so your projections are based on estimates, and if it doesn't pan out or if we sell more than what we thought, then you have to make adjustments.

"The beer industry is also changing so fast and the brand mix for a lot of breweries is so volatile—brands are coming and going at a rate faster than I've ever seen—and that's impacting our ability to successfully project what kind of hops we're going to need," he says. "It's very difficult."

Victory Brewing contracts about three years ahead for close to 100 percent of what the brewery anticipates needing, says Victory President and Cofounder Ron Barchet.

"Typically what happens is you have a couple of winners and a couple of losers in your portfolio in terms of how they're growing compared to what your projections were," Barchet says. "It becomes tricky because you want to have enough hops so that if a brand takes off you have that brand and you can roll it, and if another brand doesn't do as well, then you

have an excess of those hops."

Brewers might choose to reformulate their beers if they can't get enough of a particular hops variety or use the same base bittering hops or blend of hops across a variety of brands. It's best not to put all of your hops in one basket, so to speak.

"It would be probably wise to formulate beers that are not singular hopped, just for flexibility, and contract for what you know you need, because I think we're still going to be in tight supply for the foreseeable future," Barchet says.

"I think there's a little bit of hops hoarding going on right now because everybody wants to make sure that they have what they need," he says. "You do wonder if, at some point, [the hops market] is going to become saturated and the prices are going to go through a downward cycle this time, which will lead to the next upward cycle. It's really been that way for decades."

Barchet also agrees that better communication between farmers and brewers in the form of sound contracts has helped to minimize some of those swings, although future trends, available acreage, and the nature of market behavior will likely continue to drive periodic boom-and-bust cycles.

"Now the problem is predicting what the consumer is going to want," he says. "Everybody loves Citra and Mosaic, but what is it going to be in five years?"

The Growth of Specialty Malts

Where craft brewers used to be somewhat limited in the varieties and specifications of their malt, large and smaller producers alike are beginning to provide more options with craft in mind.

HOPS MAY GENERATE MOST of the buzz when it comes to introducing exotic new varieties. But, in recent years, malt producers have also been quietly innovating around hearty new hybrid varieties and heirloom grains as brewers seek to impart unique flavors and character in their beers.

"Malts are developing a little bit slower than hops, but they really seem to be picking up steam right now," says Ron Barchet, president and cofounder of Victory Brewing Co. (Downingtown, Pennsylvania). "They're bringing back some older grains and trying new crosses, all in an effort to make a barley that's better suited for malting for the craft brewer, as opposed to the macro brewer, who favors different qualities in a barley malt than we as craft brewers typically want."

Victory is a member of the American Malting Barley Association, which works to encourage the production of high-quality malting barley within the United States. It also endorses new grain varieties that are agronomically viable and well suited for malting and brewing.

Like most larger craft brewers, Victory

purchases the majority of its malt from major European maltsters who offer a much larger and more dependable supply of barley engineered for brewing all-malt beers. However, Barchet says that a stronger voice from craft brewers is helping to improve the overall quality, variety, and yield of American-grown-and-malted grains.

"We don't have as much luck getting the flavor match with American grains, but as they are trying these new varieties and lowering the protein, for instance, [American malts] are getting much closer to what we would expect to see in a European malt," Barchet says. "All the signs there are moving in a very positive direction."

Craft brewers exerting greater influence

Some of the world's largest malt producers are also starting to cater to the needs of American craft brewers.

For instance, Weyermann Specialty Malts, based in Germany and founded in 1879, claims an 80 percent export share of specialty malts worldwide, with the United States being its largest export market.

ILLUSTRATION: JAMIE BOGNER



“For years you basically got what you got” when it came to sourcing malts from large producers, says Mitch Steele, head brewer with Stone Brewing Co. “They were making the call on what varieties to use in their blends, where the malt was coming from, and on the analytical specs. What I’m seeing now though, is that craft brewers are taking malt to the same level as hops as far as their involvement in helping to develop and test new varieties. It’s coming.”

The company is attuned to what’s happening in craft beer and continues to develop new offerings around those preferences.

“We are inspired by customer requests as well as from new trends among the breweries,” says Weyermann Press Officer Beate Ferstl. “Even general consumer trends—such as organic, sustainability, and heirloom varieties—can be found in our new product creations.”

Weyermann’s line of Barke malts, for example, was introduced in 2014 and revives an heirloom grain known for producing base malt that’s well suited for brewing full-bodied, malt-forward beers such as craft pale ales and Pilsners. Although Weyermann reports that the yield for Barke barley is about 20 percent less than for the hybrid varieties favored by large-scale growers, the company cites a commitment to its network of contract farmers and to craft brewers as reasons for reviving the offering.

It all points toward a trend of increasing variety among specialty malts as well as a greater degree of communication and input from brewers as to the malts they would like to see.

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Regional craft malsters serving regional brewers

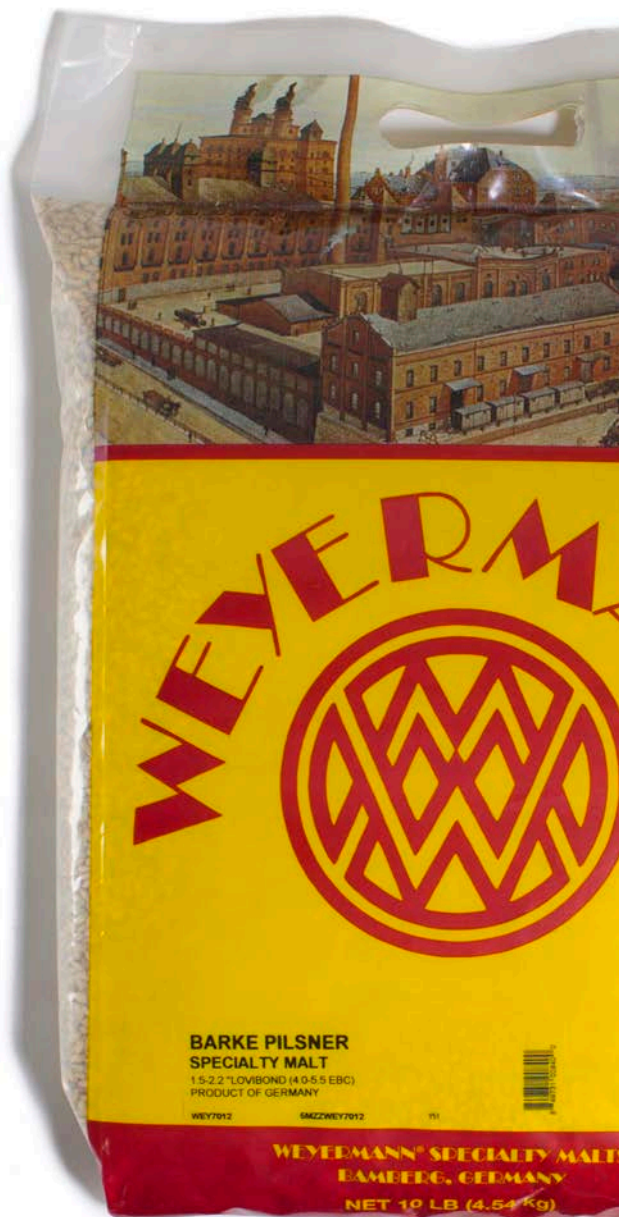
A growing number of American craft maltsters are also filling a niche by providing regionally grown and processed malted grains. The Craft Maltsters Guild, an organization formed to promote craft malting in North America as well as uphold quality and safety standards, counts twenty-seven independent craft maltsters across the United States and Canada among its membership.

Although much smaller than industrial-scale producers, craft maltsters are helping to provide many local and regional craft brewers with distinctive malts that, in many cases, are grown by area farmers and malted in facilities less than a day’s drive from the brewery. Smaller batch sizes also mean that brewers often have more say over the specifications of how the grains are malted.

While the scale and consistency are not yet to a point to supply the largest craft brewers with all of the malt they need, many large brewers also look to craft maltsters when seeking to bring a unique quality and flavor to special projects.

When brewers at New Belgium Brewing Co. (Fort Collins, Colorado) were looking to impart a bit of local flavor into the second installment of its RyePA seasonal release, for instance, they turned to two of the country’s first craft maltsters—Colorado Malting in Alamosa, Colorado, and Riverbend Malt House in Asheville, North Carolina—to supply the malts.

Not only is the grain bill a nod to the fact that New Belgium will soon operate breweries in both states, but the specialty malts





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Riverbend Malt House

"Over the years, a lot of focus in craft beer has been put on hops, but too often, unique malts are overlooked," says Bill Manley, the beer ambassador at Sierra Nevada Brewing. "For many years, barley was bred and selected for its agronomic properties (namely yield and pest resistance), rather than flavor. Now the tide in brewing malt is turning, and maltsters are focusing on varieties that can have a different impact on beer flavor."

One such maltster, Riverbend Malt House in Asheville, North Carolina, is primarily malting 6-row barley (often called winter barley because it is planted in the late fall and harvested the following summer), whereas most craft brewers use 2-row (spring barley, which is planted in spring and harvested later that year). Historically, the kernels in the extra four rows of 6-malt barley have tended to be smaller, making six-rowed grain less uniform in size and plumpness, which can create consistency issues in brewing. Over time though, points out the American Malting Barley Association, "breeders of malting barley have increased the grain size in six-rowed types and greatly reduced the gap in kernel plumpness between these types of barley."

Despite the challenges of 6-row barley, the Riverbend maltsters chose to malt it as their main product because it is indigenous to their region. They also chose this winter barley for North Carolina's hot humidity. "We can't do spring barleys here," says Riverbend Co-owner Brent Manning. "There's a whole host of reasons including diseases and heat. So we started with winter 6-row and are attempting to adapt different kinds of 2-row to our climate."

Manning and his team are committed to local, and that is reflected in every step of their malting process, from crop selection to their honoring of neighborhood customers. Manning and his business partner Brian Simpson are firm believers in creating a sustainable business and that means starting, quite literally, with the roots of their raw materials.

"Working with smaller craft maltsters is great because their malts are often handled in smaller quantities and feature older heirloom grain varieties that add complexity to beer," says Sierra Nevada's Bill Manley. "In Riverbend's case, most of the grains are grown in North Carolina and other places in the region. The maltsters work directly with farmers who grow what the maltsters need specifically for them. This encourages the farmers to experiment with different grain varieties that offer more tools for brewers to work with and broadens the spectrum of flavors available in beers." —*Emily Hutto*

Colorado Malting Company

"Local grain means local beer," says Jason Cody, the president at Colorado Malting Company in Alamosa, Colorado. Until recently, brewers were seemingly more interested in local hops and yeast than in grain largely because of the industrialization of the malting industry.

"What we're doing is the roots of beer," Cody says. "We're taking beer back to its historical roots."

Colorado Malting Company prides itself on its location in Alamosa, where the climate is ideal for growing barley: "Mountain regions with dry climate and warm days and cool nights let the barley grow at optimum performance and keep the mold and bacteria down on the grain itself during harvest," Cody says. "Alamosa is one of the secrets of larger breweries. Coors and Anheuser-Busch have been using barley from this area of the country for years."

The growing conditions in Alamosa yield one-of-a-kind malts such as local rye, millet, and quinoa. Colorado is the biggest known producer for millet, Cody says, and especially lately craft brewers and distillers can't get enough rye. And although it costs \$5 per pound raw, the locally grown quinoa that Colorado Malting Company has access to is another popular item with many customers.

"One of the things we've been seeing is a demand for American malts in foreign countries," says Cody. "It's always gone the other way—for a long time everyone wanted German and European malts. We're coming to life on this side of the ocean." —*Emily Hutto*

"Since we run small batches, we also have a lot of options here to customize a malt," Simpson says. "We can make changes to the process to bring out different sugars and colors and still have a nice high extract and ease of use."

also bring a singular flavor and sense of place to the beer.

"Everybody in brewing is looking for something unique, and you can get a very unique product from [craft maltsters]," says New Belgium Brewer Matty Gilliland.

New Belgium ordered 17,000 pounds of Carolina Rye, an heirloom grain that's been grown in the same region of North Carolina for more than 200 years, from Riverbend Malt House for RyePA, which will be included as a special seasonal release in New Belgium's Folly twelve-packs.

"There's a *terroir* to [locally grown grains], especially if it's rye that's been grown in North Carolina since before the Civil War," says Brian Simpson, cofounder of Riverbend Malt House. "It offers a very unique flavor profile."

"Since we run small batches, we also have a lot of options here to customize a malt," Simpson says. "We can make changes to the process to bring out different sugars and colors and still have a nice high extract and ease of use."

Simpson notes that most small grains are grown for only a decade or two commercially before they need to be hybridized in order to overcome pressure from pests, disease, and bacteria, all of which can affect the yield.

"We think of a grain such as Maris Otter as being an old grain, but it's only been grown for about fifty or sixty years," Simpson says. "When you talk about something that's 200 years old, that really is an heirloom grain. It's a little bit smaller, a little bit tougher, and a little bit harder for a brewer to work with because it hasn't been developed for malting as much, but the flavor profile is unique."

"And, regardless of the story, at the end of the day it's all about flavor in the beer."



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Finding Success with Sours

Effectively working with mixed-culture fermentation and barrel aging can be a tricky, time-intensive business. Three of the industry's best offer their insights.

LIKE MANY MAKERS OF wild and sour ales, Jester King Founder Jeffrey Stuffings adopts a philosophical attitude when it comes to time and space. Namely, if allowed ample time and appropriate space, wild yeast and bacteria can coalesce to create a multitude of interesting and unexpected flavors and aromas in a beer. But of course, the results aren't entirely predictable, and the timeline is never linear.

"Everything takes a backseat to our microorganisms," says Stuffings, who notes that his beers typically require anywhere from four months to a year of fermentation time before release.

"Our most expensive ingredient is time," he says. "To paraphrase Jean Van Roy of Cantillon: 'I'm not a brewmaster. I'm simply a companion of the beer.'"

That's a common refrain among the top makers of wild and sour beers. Provide the best possible environment for a mixed-culture or spontaneously fermented beer to begin its existence and then leave it alone to mature at its own

pace and by its own design, all the while keeping close tabs on its progress and listening to what it might like to be.

It's best not to make too many promises or set too many expectations when it comes to mixed-fermentation projects. Even if you are using techniques such as blending to create a more harmonious finished beer or replicate a previous release, a beer's expression often varies wildly from one vintage to the next and even in the same beer as it changes over time. This can be a vexing dilemma for those bent on creating large-scale programs with consistent, repeatable results and widespread distribution.

But artisans who've built their entire operation or large chunks of it around mixed-culture fermentation—including Jester King, The Rare Barrel in Berkeley, California, and The Bruery and its new Bruery Terreux project in Anaheim, California—relish the creative experimentation, serendipitous discovery, and expressive character that arise when work-

ing with living organisms in beer.

So how do you set yourself up for success? Here are a few hallmarks of a sound mixed-fermentation and barrel-aging program.

It's in the Goldilocks zone

Managing a mixed-culture fermentation and barrel-aging program takes a tremendous amount of time, space, equipment, and labor. You also need an adequate number of knowledgeable professionals to brew and inoculate the base beers as well as shepherd the beer through its maturation process and keep sensory notes and other readings on each barrel, not to mention space to house all of the barrels.

"Based on all those hurdles, I think it's virtually impossible to scale this style of fermentation into something that's really big—like tens of thousands of barrels a year," Stuffings says. "I've seen some very large barrel programs and giant mixed-culture fermentation programs, but even within these very big programs we're still talking a relatively small sales volume."

The trick is to be large enough to experiment with multiple batches at once and have enough beer to work with and stay focused, yet not so large that beer languishes in barrels and the program becomes overwhelming.

Patrick Rue, founder of The Bruery, is currently making these calculations with regard to his cellar program, which includes the new Bruery Terreux, a distinct brand created to focus on farmhouse-style ales fermented with wild yeasts and oak-aged sour ales.

The Bruery currently has about 3,500 oak barrels, which represent about half of its production, says Rue, who estimates

Barrels full of sour beer are stacked six high at The Rare Barrel's Berkeley, California, barrel cellar and tap room.





that total production will grow from roughly 10,000 barrels in 2015 to almost 15,000 in 2016.

"We're still trying to figure out our sweet spot with the cellar program. If we doubled in size, I feel like we'd have some problems," Rue says. "We taste and do analytics on every single barrel—just 1 barrel in 100 thrown into a brite tank can ruin the whole thing.

"When you look at family wineries, the estate is what it is. If it's 50 acres, that's the amount of wine they can make without purchasing more land or grapes from elsewhere, and I think that's awesome. Let that restraint be what it is."

It's run like a small winery

As Rue alludes to above, many successful mixed-fermentation and cellar programs view their business model as more akin to a family winery than that of a production brewery. The beers are often tied to the land and native ingredients in some way, produced in limited quantities through barrel aging, and distributed primarily through on-premise retail or across a very limited regional footprint.

Although Stuffings expects Jester King to produce about 2,000 barrels this year, he's as not concerned about volume growth as he is in developing his farmhouse-style brewery on the outskirts of Austin into a destination that celebrates all things fermentation.

"We produce a very low volume, but we sell everything in large-format bottles and do make a good margin on the beer—our average retail ends up being about \$12 a

bottle and, fortunately, we can sell about 75 percent of our beer right out our front door," he says. "Being in every market under the sun isn't something I have much passion for. I like to go to different places and try what's unique to that place."

Many smaller sour- and wild-ale programs distribute primarily on-premise, often through exclusive beer societies or clubs such as The Rare Barrel's Ambassadors of Sour program and The Bruery's Preservation Society.

"This is a specialized process, and it requires a special way of selling the beer," says Jay Goodwin, cofounder and head brewer of The Rare Barrel. "Certainly we've borrowed a lot from what wineries do. We have different vintages of our beers and the production is variable. We can also make specialized small-batch blends for a group of people who are interested in that and give them other perks like being able to buy our beer online before it's available to the general public. It's a great way to connect with the beer drinker who not only supports what we're doing, but also has a passion for sour beer."

If a variable can be controlled, it is

Wild and sour programs may be experimental by nature but, like any well-founded experiment, it makes sense to limit the number of variables and set up controls wherever possible.

At The Rare Barrel, for example, Goodwin works with just three base beers—a golden ale, a red ale, and a brown ale—in all of his projects. Primary fermentation takes places in stainless steel, where the beer might ferment for several weeks or as many as several months.

"That's out of necessity for the experimental part of our operation," Goodwin says. "We're trying out new wild yeast strains and bacteria all the time in different combinations, amounts, and timings. To have twenty different base-beer recipes would complicate the experiment beyond our abilities to extrapolate anything from the results."

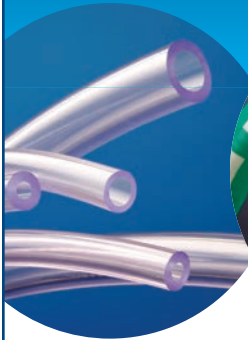
More than half all Rare Barrel releases are built around the golden-ale base, he says, which also serves as the starting point for all new projects. The malts bills in the darker beers tend to limit the types and quantities of secondary additions he

"This is a specialized process, and it requires a special way of selling the beer," says Jay Goodwin, cofounder and head brewer of The Rare Barrel. "Certainly we've borrowed a lot from what wineries do. We have different vintages of our beers and the production is variable. We can also make specialized small-batch blends... It's a great way to connect with the beer drinker who not only supports what we're doing, but also has a passion for sour beer."

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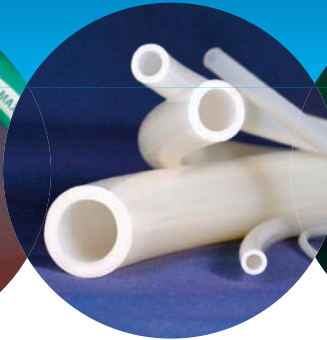
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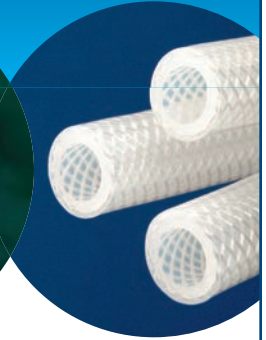
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Tricks of the Trade

- » Expect the results of mixed-fermentation or spontaneous fermentation to be unpredictable and the timeline to be nonlinear.
- » Relish the creative experimentation, serendipitous discovery, and expressive character that arise when working with living organisms in mixed-fermentation beer.
- » View your mixed-fermentation and cellar-program business model as more akin to a family winery than that of a production brewery.
- » Focus on on-premise sales for your wild and sour beers rather than widespread distribution.
- » Yes, wild and sour programs are experimental by nature, but as in any well-founded experiment, limit the number of variables and set up controls wherever possible.
- » Give the bugs all the time they need.



“You can make a nice-tasting sour beer at a younger age, but I think the trick to really making a sour beer successful is letting it age further and round out those flavors,” Goodwin says. “With our beers, we find that we get 80 to 90 percent of the way to a finished product fairly quickly, in three months or so, but it’s the next six, nine, twelve months—whatever it’s going to be—where we go from that to 100 percent.”

can use, Goodwin says, while the golden base lets the yeast and bacteria shine through.

“Especially with different strains of *Saccharomyces*,” he says, “where we want it to take the reins of initial fermentation and see how it affects the beer.”

Stuffings takes a similar approach at Jester King.

“We work with some pretty simple grist and hops bills,” he says, “typically 80 to 85 percent malted barley with some raw wheat and maybe some oats, as well as a blend of fresh and aged hops, along with adjunct ingredients such as fruits, grains, and spices.”

“We tend to start with those common variables, and we’re certainly thinking about how hopping rates impact acidity,” he says. “Time, temperature, and hopping rates are the levers we adjust to make beer where the acidity of all the bacterial components in a mixed-culture fermentation results in organic acids that are drinkable—that are tart, soft, and more lactic-acid focused—versus something that’s harsh, acetic, and, frankly, not very drinkable.”

The beers are ready whenever they’re ready

“You can make a nice-tasting sour beer at a younger age, but I think the trick to really making a sour beer successful is letting it age further and round out those flavors,” Goodwin says. “With our beers, we find that we get 80 to 90 percent of the way to a finished product fairly quickly, in three months or so, but it’s the next six, nine, twelve months—whatever it’s

going to be—where we go from that to 100 percent.”

Brewers at The Rare Barrel sample each barrel every ten days and also take sugar-content readings, as well as pH and temperature readings, to monitor its stability.

“We want to know not only does this beer taste good, but also when it’s ready to package,” Goodwin says. “We’re looking for two months straight of readings that tell us that the taste is not changing and the sugar content is at a low enough level that it’s not continuing to ferment.”

Stuffings notes that re-fermentation in the serving vessel is also a critical, if often overlooked, consideration.

“In our experience, the bottle-conditioning stage has a huge impact on a beer’s flavor profile,” he says, adding that he typically enjoys a sour beer best between six and eighteen months after bottling. “When we blend, we’re aware that that blend is going to change quite dramatically as the beer continues to ferment in the bottle or in a keg.”

But for all of the time and effort, and especially in spite of all of the mixed-fermentation experiments that just didn’t turn out, Stuffings and his fellow beer shepherds remain dedicated to the craft.

“The scope of what can be done with malts and hops, and certainly culinary-inspired ingredients and adjuncts, can be interesting and great,” Stuffings says. “But combine those with microbes that are diverse and unpredictable in nature, and that can lead to some of the most satisfying and delicious experiences in the beer world.”

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Quality:

The Indefinable X-Factor

It's not enough to make decent beer these days. Seek that special something that differentiates your brand from the rest.

WITH MORE THAN 4,000 craft breweries and counting operating nationwide, it's obvious that mediocre—or even worse, flawed—beer will not cut it. Many breweries are adept at producing flavorful, technically proficient beers, so how can a brand differentiate itself in an increasingly competitive marketplace, with limited shelf space and tap handles? Not to mention among craft-beer consumers who are increasingly experimental and less brand loyal?

We asked several industry leaders to share their experiences.

Make quality investments

Doug Dayhoff purchased Upland Brewing, one of Indiana's earliest brewpubs, from its original owners in 2006. An astute businessman, he sought to grow the operation from a small brewpub producing roughly 2,500 barrels a year into a regional player with wholesale packaging and off-premise distribution. Rather than push for growth for growth's sake, however, he weighs every decision against how it will impact the quality and integrity of

Upland's brand and its employees.

"We have a rule-of-thumb that every year we invest about the same amount in quality projects as we would in capacity projects," Dayhoff says.

When construction began on Upland's 40,000-square-foot production facility, completed in 2012, Dayhoff chose to include features designed to improve the quality of the beers and the workplace, including a high-efficiency HVAC and air-filtering system as well as specialized floor and wall treatments.

"We basically wanted to create an environment where it's easier to maintain sanitation, and those decisions easily amounted to at least \$1 million in extra capital that was really quality oriented and not capacity oriented," Dayhoff says. "But if you make those kinds of investments up front, then you're fighting fewer quality issues over time—having to dump less beer and those sorts of things—and it sets you up to succeed over the medium to long term."

Quality-driven investments also set a tone

of professionalism and excellence for your team, Dayhoff says, and help create a safer and more pleasant work environment.

"It's an impossible return-on-investment equation to describe," he says. "You have to make the decision based on instinct, because there's no financial way of modeling what the return on all that extra capital is going to be. It's purely instinctual."

Correct course rapidly and efficiently

Patrick Rue, founder of The Bruery, had modest expectations for his fledgling brewery when he opened up shop in 2008.

"I wanted it to be a place where I could do a lot of the brewing and be involved on the production side. I loved homebrewing, but I didn't know if I'd love running a business," he says. "The biggest I could ever see getting was maybe about half the size that we are now—about 5,000 barrels."

His beers were a hit and, as the business grew, Rue, like many brewery owners, found himself constantly calculating a shifting equation of how and where to implement measured growth to better meet increasing demand. That balancing act resulted in several points of friction that required immediate attention.

“Once we reached certain milestones in size, I found that we lacked certain resources to have the quality be where we wanted it to be, whether it was the bottling line or the brewhouse or the lab,” Rue says.

He hit a critical juncture around year four of the business, he says, when an extremely aggressive strain of *Lactobacillus* caused some cross-contamination between his sour-beer program and the high-gravity beers in his barrel-aging program.

He immediately suspended the sour-beer program and installed a steamer and an ozone generator to help disinfect his barrels. He also invested in a pasteurizer, which is used as needed.

“We microbe-test [beer from] every oak barrel that goes into a brite tank, but that doesn’t always catch everything,” Rue says.

More recently, The Bruery’s highly regarded wild- and sour-ale program was rebranded as Bruery Terreux, housed in a dedicated facility in Orange County, California.

While the separation was originally for infection reasons, Rue’s quick and decisive course of action also allowed him to

bring added focus and distinction among a growing portfolio of brands.

“We wanted to make it instantly recognizable that we want Bruery Terreux to be a leader in sour- and wild-beer production,” he says. “While on the other side, The Bruery is a leader in Belgian styles and bourbon-barrel aged beers.”

Insist on quality every step of the way

Quality doesn’t stem from any one thing but rather arises from the sum total of every aspect that goes into making your product. Most brewers and brewery owners strive for the highest standards throughout their process—from raw ingredients to brewing, maturation, and packaging—but once beer ships from the brewery it’s, by and large, in the hands of the distributors, retailers, and—ultimately—the consumers. But that doesn’t mean that you don’t have a say.

New Belgium Brewing, for example, trains a group of sales people as field-quality specialists. They visit distributors and accounts to ensure that New Belgium’s shelf-life regulations and quality standards are being enforced.

“We make sure our beer is cold, that it’s fresh, and that it’s being pulled when it needs to be pulled,” says Lindsay Barr, sensory specialist with New Belgium. “We work closely with our distributors,

too, to make sure that the tap lines from which our beers are poured are clean and are cleaned on a regular basis. Their sole purpose is making sure that our quality standards are being upheld in the field.”

Of course not every brewery has the resources to create a formal field-quality program, but spot checks to accounts and communicating those standards to distributors and retailers can go a long way toward ensuring a high-quality environment for your beer.

Foster a culture of ownership

David Walker famously cofounded Firestone Walker Brewing Co. with brother-in-law Adam Firestone on the Firestone family’s vineyard near Santa Barbara, California. The pair has shepherded the company through multiple periods of rapid growth, all the while building a brewery that’s distinguished by the quality of its beers and consumers’ affinity for the brand.

When a partnership with and investment from Duvel Moortgat USA was announced in 2015, some industry watchers began speculating how Firestone Walker, already the sixteenth largest craft brewery in the country, would maintain its sharply defined identity and focus as it continued to grow its operations and reach.

The answer, according to Walker, should be obvious to anyone familiar with how the brewery operates and its ongoing



The Bruery Founder Patrick Rue made structural changes to the way his brewery made sour beer after a particularly strong *Lactobacillus* strain caused cross-contamination in his clean barrel-aged beers.

dedication to quality and culture.

"With every expansion that we've made, the quality and consistency of our beer gets better," Walker says. "We're still brewing only about 300,000 barrels of beer, and even if we double our capacity we can still be very artisanal at that scale.

"It's incredibly simplistic to say that 'big equals bland,'" he says. "It's not about size; it's more about culture and how you create it.

"We have 250 people who work with us, and they're as involved in this odyssey as I am. That's one of the great things about the craft-beer revolution," he says. "You don't have to 'own' something to own it. There's a lot of loyalty within what's happening in beer, and that creates a huge amount of culture."

That participatory culture, where everyone is a stakeholder and feels ownership in helping the brand succeed, is key to any company's success, large or small.

"Don't misunderstand, it's easier to control quality and culture at a smaller size, but smart people have figured out how you can migrate quality and culture and grow—I don't think they're mutually exclusive," he says. "Culture starts disappearing when people don't care, and we very much care."

"It's one thing to make a sound, well-made beer, and it's another to make a sound, well-made beer that's striking, singular, and enticing," says Greg Engert. "I think that's what's getting tough now. There are countless beers that I'm tasted on by reps and brewers trying to get me to buy their beer that, while there's nothing wrong with them, just aren't that exciting. I'm looking for something that's more singular and striking, and that's a conversation that people need to start having."

Pursue your singular expression

Greg Engert has a unique vantage point in the beer world.

As beer director for the Neighborhood Restaurant Group, Engert sources the best beers from around the world for destination craft-beer bars and restaurants such as Churchkey and Birch & Barley in Washington, D.C. And as beer director for Bluejacket, a unique bar, restaurant, and brewery in D.C.'s Navy Yard district, Engert oversees a brewing operation that

seeks to explore a virtually limitless spectrum of brewing techniques and beers.

If there's one thing that unites both his beer buying and beer making, it's a relentless search for quality and singularity.

"It's one thing to make a sound, well-made beer, and it's another to make a sound, well-made beer that's striking, singular, and enticing," he says. "I think that's what's getting tough now. There are countless beers that I'm tasted on by reps and brewers trying to get me to buy their beer that, while there's nothing wrong with them, just aren't that exciting.

"I'm looking for something that's more singular and striking, and that's a conversation that people need to start having.

"Where there are a lot of well-made, sound beers, why do you choose one [brewery] over another?" Engert asks. "Just because you like local? Or maybe it's because you like their marketing? Or maybe it's because you are friends with them or friends with their distributor?"

Just as an exceptional musician is immediately identifiable in just a few notes, an exceptional beer should distinguish itself in those first few sips. It's that distinctive voice, flavor, and character that elevate good to great and make the choice easy.

"With the proliferation of beers being brewed, if you're looking to get shelf space, your best bet is not just to make good beer that's not infected," says Engert. "Your best bet is to do everything in your power and keep trying as hard as you can to make beers that are not just good, but that people will line up to get."



For Neighborhood Restaurant Group Beer Director Greg Engert, well-made beer isn't good enough anymore.

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Tasting Notes:

How to Define Your Sensory Process

New Belgium Brewing's **Lindsay Barr** offers practical advice on putting effective sensory analysis to work for you.

IT'S NEVER TOO EARLY to establish a sensory evaluation program, says Lindsay Barr, head sensory scientist at New Belgium Brewing.

"A lot of breweries assume that if they don't have the ability to run the kind of robust statistical analysis that we run, then a formal sensory program is beyond their reach," Barr says. "But you can do some flavor training. You can define your brands and determine whether something is true to brand. I would tell smaller breweries to start right away."

The American Society of Brewing Chemists' sensory subcommittee, of which Barr is chair, advises as much in a one-sheet guide it recently released. Titled "Grow Your Lab," the document details various sensory tools a brewery should consider putting into place at various stages in its growth.

While the threshold the committee recommends for investing in equipment—such as an autoclave or pressure cooker, centrifuge, shaker table, and other lab amenities—begins at the 35,000-barrel annual production mark, the committee does have recommendations for smaller breweries: a refrigerator/cooler for storing samples, a

hydrometer, oxygen meter, pH meter, and a microscope. And the committee advises that "at lower production volumes, many complex analytical tests can be outsourced to an external laboratory or test kits may be used in lieu of purchasing equipment." At the very least, breweries should begin to use sensory training and descriptive analysis.

"We basically say that, right away, you should be tasting your raw materials and your beers," Barr says. "You should be coming up with descriptions of your beers and also determining shelf life."

While New Belgium employs one of the largest and most sophisticated analysis programs in the craft-beer industry, the mission of any sensory program remains

the same: to maintain and improve the consistency and quality of beer throughout all stages of the production cycle.

With that in mind, here are a few ways that smaller breweries can get started with sensory analysis.

Calibrate your instruments.

Even with a lab's worth of equipment at your disposal, the most important analysis tool remains the human senses when it comes to evaluating the appearance, aroma, taste, mouthfeel, and body of your beers.

That's why New Belgium includes more than 100 volunteers from throughout all departments at its Fort Collins, Colorado, brewery in its sensory program. The brewery holds twice-a-week attribute training sessions in which panelists are exposed to various attributes that are spiked into the beers.

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Resources

The **American Society of Brewing Chemists** is a great resource for the latest in sensory methods and recommendations, as well as on many other technical aspects of brewing. In addition to numerous tools, publications, and events, the website features a Sensory Webinar Series for its members that includes information on how to select a panel, how to train and validate a panel, and other sensory-related topics. asbcnet.org

The **Siebel Institute** offers a three-day continuing education course on Sensory Panel Management at its Chicago campus. Upcoming dates are July 11-13, 2016. siebelinstitute.com

Dr. Bill Simpson leads a five-day course in **Practical Beer Taster Training** for brewery taste-panel leaders and beer-quality specialists at the Cicerone Certification Program Offices in Chicago. aroxa.com/practical_beer_taster_training

"If you have regular patrons who know your brands, give them a little bit of training and ask for their input," New Belgium's Lindsay Barr says. "Don't ask for their opinion or whether they like it, however. Ask, 'is this attribute true to this brand?'"

"These are flavors that present potential risks for us or indicate some kind of process anomaly or just flavors that we want to avoid," Barr says. "Sometimes they're flavors we do want, but we need to understand how to identify them and be consistent in the language that we use." Panel leaders also detail the brewing process and where in the process you're most likely to find various attributes or off-flavors.

Each individual's performance is measured and tracked to gauge his/her attribute recognition level, any improvements, and whether (s)he is ready to sit on one of the brewery's daily tasting panels. Advanced panelists also receive additional training in descriptive analysis and in-process beer evaluation.

"In sensory, our instruments are human beings, and calibrating a human being is quite a bit different from calibrating a machine," Barr says. "You have to have very good personal skills. Luckily we have a really great, high-involvement culture at New Belgium where people take sensory very seriously."

For smaller breweries, Barr advises pursuing as much flavor training as you can to begin to consistently identify and describe various flavor attributes. In addition, she recommends enlisting the people who are around you for help in evaluating beers—whether or not they're employed by the brewery.

"If you have regular patrons who know your brands, give them a little bit of training and ask for their input," Barr says. "Don't ask for their opinion or whether they like it, however. Ask, 'is this attribute true to this brand?'"

Define your baselines.

New Belgium produced about thirty different brands last year, Barr says, many of which were new to the brewery. Sensory

analysts needed to learn and define those brands very quickly in order to have a basis for comparing subsequent batches.

"Part of attribute training is the ability to identify and verbalize different attributes that are new to us," Barr says. "We use our panelists to come up with the baseline descriptions for all of our beers. You can't ask the true-to-brand questions if you don't have a brand."

Panelists begin by thoroughly describing the flavors in a beer as well as attributes such as mouthfeel, appearance, and aroma. These become the baseline description for that brand.

"We then revisit those descriptions regularly to make sure that they're still legit and that we haven't had any flavor drift," in which the flavor profile might slowly shift over time, Barr says.

These baseline descriptions also inform the beer's packaging and marketing, although often in somewhat more florid language.

"Whatever you see on bottles has been influenced in some way by sensory," Barr says. "Although where we use terms such as *litoral* and *terrainial*, the marketing description might say 'citrus peel' or 'floral, rose-like aroma.'"

Taste everything.

Since beer is an agricultural product, there's bound to be some variation in its ingredients. New Belgium establishes baseline characteristics and conducts evaluations not only for all of its beers, but also for all of the raw materials that go into those beers—including water. This was especially helpful a few years ago when forest fires in the area affected the flavor profile of Fort Collins's water supply. The brewery noticed that their water tasted slightly phenolic and worked with the city to help bring it back within spec.



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You don't need a dedicated facility with individual booths, computers, and windows for tasters, like New Belgium Brewing (**above**) to get started on regular sensory training and evaluation. A tray of unmarked samples and a printed evaluation sheet (**below**) are a great way for a smaller brewery to start. The most important part is to help staff identify and articulate attributes in the beer to develop a baseline for the brand.

"If we determine that there is something up in our mash water, we'll stop and make sure that everything's okay before we mash in again," Barr says. "We're just trying to push this potential upstream to understand the variation that we're going to get in our raw materials and what adjustments we can make to account for it."

In addition, brewers taste every time they transfer a batch from primary fermentation to maturation, from maturation to filtering, and again before the beer is transferred to a brite tank. A panel of ten tasters evaluates the beer before it's cleared for packaging, and another ten evaluate it after it's packaged. Only then does the beer appear on a daily tasting

"We're not afraid to dump beer, but it hurts," New Belgium's Lindsay Barr says. "We want to understand why something happened and do recon analysis to make sure it doesn't happen again."

panel, which is the last step before shelf-life analysis and shipping.

"By the time [a beer] hits the consumer's mouth, we will have tasted a representative sample of that beer at least fifty times," Barr says.

It's very rare that a beer makes it to a daily tasting panel with any off-flavors; rather "the panel primarily acts as a fine-tooth comb to alert us to any small shifts that might be happening to flavor in the process."

Learn from your mistakes.

"Brewing is fermentation," Barr says.

"We know that we're going to have some process variation, and we have a range of acceptable limits that account for that."

When sensory analysis reveals an anomaly that falls outside of acceptable limits, or even a potentially anomalous batch, the sensory department works with the analytical and microbe departments to determine what's causing an issue.

"We're not afraid to dump beer, but it hurts," Barr says. "We want to understand why something happened and do recon analysis to make sure it doesn't happen again."

Smaller brewers can keep detailed logs for each batch, including sensory notes, to help correlate when and where something might have gone wrong. Also don't hesitate to enlist the help of fellow brewers or a lab to determine the root cause and, more importantly, how to prevent it from happening again.

Says Barr: "There are a lot of small ways that a brewery can do a lot through sensory analysis."



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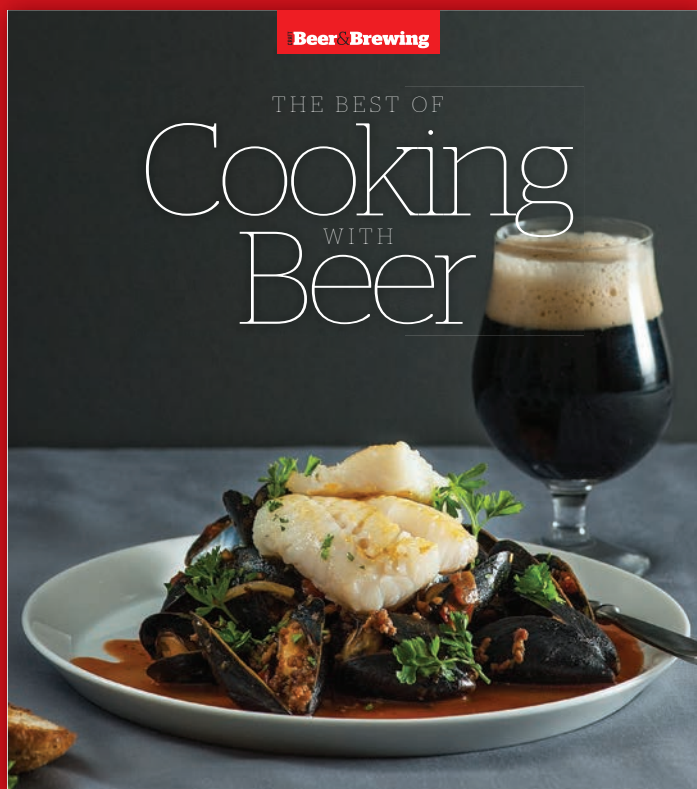
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Legally Speaking

Set yourself up for success by evaluating the far-reaching implications of your business decisions early on.

“YOU DON’T KNOW WHAT you don’t know,” says craft-beer attorney Candace Moon.

And that, concisely, is why Moon recommends that entrepreneurs who are serious about opening a craft brewery seek legal guidance to advise them during the business formation process and to help ensure that they’re compliant.

“Running any small business can be overwhelming,” Moon says. “There are so many things, especially from a legal perspective, that you’re expected to know. When you throw in the alcohol regulations, that’s just that much more that you have to deal with on a daily basis. I don’t know how any one person could know everything.”

Recognizing a need for legal professionals with expertise in the booming craft-beer sector, Moon founded The Craft Beer Attorney in 2009. The firm assists breweries and breweries-in-planning nationwide with business law, contracts, employment law, and trademarks and copyrights, among other areas. Moon is also the author of *Brew Law 101*, a compre-

hensive overview that details the process of starting up a brewery, with emphasis on what owners can do for themselves, where they might consider consulting a professional, and key considerations when putting it all together.

“We spend a lot of time fixing stuff,” Moon says. “My goal is to have people do things right the first time and not run into these issues that we see.”

Here are a few areas that are potentially problematic if not approached correctly.

Forming a business entity

Starting a brewery or brewpub is essentially the same as incorporating any small business. Most issues arise, Moon says, when people either neglect to form a business entity, which demarcates professional properties and provides a layer of protection for personal assets, or neglect to account for partnerships, future growth, and outside investors in their business plan.

“A lot of people use Legal Zoom, which is fine if you’re the only person who is part of the company,” Moon says. “But almost everyone has cofounders, and if the founders decide to part ways and it’s not an amicable parting, there are going to be problems.”

Talking through those eventualities up front and detailing a plan, in writing, for various scenarios will go a long way toward alleviating potential conflicts.

Another area where it’s helpful to think

“Send beer to the World Beer Cup? Go to festivals out of state? Go to GABF every year? Those things all help make you a national brand, whether or not you’re distributing out of state,” Moon says. “If your beer is out there in multiple states—whether it’s competitions, festivals, or collaborations—all those things are valid for helping you get a federal registration.”

through potential scenarios is when outside investors are involved.

“I talk to a lot of people who say, ‘It’s just us. We’re using our own money,’” Moon says. “And I’ll ask, ‘But what if you’re successful? Where do you think you might be in three to five years? Do you think you’ll want to expand and grow and take on investors?’ Inevitably, the answer is, ‘Well, yeah!’ That’s a different thing than just starting your own small company. You have to think longer term in an entity-forming situation.”

Moon says that most of her clients aren’t the largest investors in terms of capital when starting out but are the primary drivers of the business. In a formation where ownership is proportional to the dollar amount invested, such as an S Corporation, it’s very easy for the founders to lose decision-making control and, ultimately, ownership.

“In an LLC, however, you can set it up so control is not dependent on financial investment,” Moon says. “You can form it so you can always maintain control—if people are willing to give you the money.”

Funding future growth

Many breweries, upon initial success, choose to invest profits back into the brewery. And just as many might sell equity in order to fund expansion projects.

“You’ve got to give those people [who buy shares] a way to eventually leave your company, if they choose,” Moon says. “You also don’t want to set it up where they can sell

their stock to anyone because many states have regulations in place about who can and cannot hold ownership in a brewery.

“In California, for example, anyone who has a 10 percent or more ownership in a brewery has to be vetted by the ABC [Alcohol Beverage Control] and provide detailed personal financial information to the TTB [Alcohol and Tobacco Tax and Trade Bureau],” she says. “You could end up potentially losing your license by selling to somebody who isn’t going to be able to hold ownership.”

Changing your business entity, from a corporation to an LLC, for example, is also a complicated process that involves a lot of paperwork and expense.

“The most important piece is knowing what you’ve gotten yourself into, so at least you can make an informed decision,” Moon says. “The more you can think about these things in the beginning, the better off you’ll be in the long run.”

Protecting intellectual property

Brands and protecting those brands are an essential part of doing business for a brewery owner, especially as the craft-beer industry becomes more and more crowded. Claiming your brewery’s name, as well as all beer names and logos, is critical.

“As soon as you know that nobody else is using that name, you need to file a trademark on it then and there,” Moon says. “There are so many issues that could have

been avoided if people were really diligent and paying attention.”

Moon notes that trademarks and copyrights are national—if you have a national brand—which doesn’t necessarily mean that your beer is sold nationwide.

“Send beer to the World Beer Cup? Go to festivals out of state? Go to GABF every year? Those things all help make you a national brand, whether or not you’re distributing out of state,” Moon says. “If your beer is out there in multiple states—whether it’s competitions, festivals, or collaborations—all those things are valid for helping you get a federal registration.”

Moon recommends searching the federal trademark database as well as conducting a general Internet search for every brand that you’re considering.

“Beer Advocate, Untappd, and Rate Beer make it really easy,” Moon says. “If someone has already used a beer name, some beer geek somewhere has surely rated it online.”

Maintaining a safe, productive work environment

Breweries are unique businesses in that they often involve both a manufacturing side with beer production as well as a hospitality component in a restaurant, tasting room, or retail. They also often involve full-time employees, nonexempt hourly employees, and sales staff, who are all paid differently according to both state and federal regulations.

“And then you have to navigate which one trumps which, and it can get very complicated very quickly,” Moon says.

“There are also a lot of safety precautions and rules and regulations you have to follow based on the number of employees you have and what those employees are doing.”

It’s also important to set and enforce standard workplace policies, such as how alcohol is handled on the job, although Moon doesn’t always recommend—especially for smaller breweries—formalizing these policies in an employee handbook.

“The laws change frequently, so you have to keep [an employee handbook] updated,” Moon says. “And you have to

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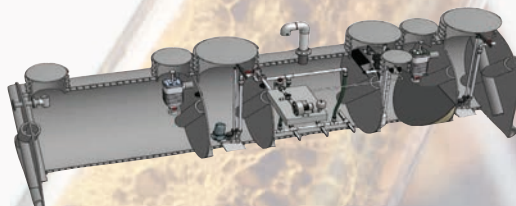
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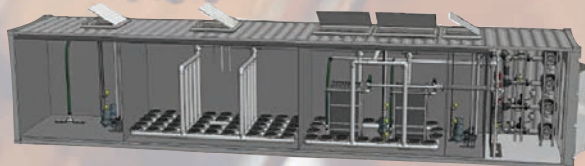
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The Four Biggest Legal Issues For New and Existing Breweries

If you operate or soon plan to operate a startup brewery and are considering where to allocate your limited legal dollars, there are four primary areas where we recommend you focus these financial resources. Failing to do so may, at worst, financially ruin the business or, at best, create an expensive distraction. That result can most likely be avoided if you seek input from a qualified legal professional at the outset. **By Hayley Wells**

1. Intellectual Property We often get asked, do I have to trademark my name or my logo? The short answer is no. Should you? Most likely. It is hard to know today what your growth curve will look like three years, five years, or seven years out. If you spend the time, energy, and resources to develop a unique and memorable name, logo, and brand, but fail to trademark it, you run the risk of having to abandon it as you grow. If someone federally registers a similar name or mark in a market that you want to enter, you could face infringement liability should someone already own the same or similar mark or name. Registering your name and mark in the appropriate service categories today is critical to excluding others from using similar names or marks in the future.

2. Entity Selection and Formation While you do not need an attorney to help you prepare and file articles of incorporation with the Secretary of State in your home state, you should seek legal counsel to prepare either the shareholder agreement if your brewery is a corporation or the operating agreement if you elect to form your brewery as a limited liability company (LLC). Failing to do so could result in trouble if you need to remove a business partner who is no longer a good fit for the company and ultimately land you in court as you try to unwind your corporate relationship. At that point, a judge or jury, rather than you and your partners, will decide the fate of your business.

3. Location Your location can be as much a part of your identity as your name and your brand. Your regular customers will come to know you based on where you are located (in the heart of town, in a unique historic building that you decide to repurpose, or in an industrial warehouse). If you are forced to move two or three years into your operations because you fail to secure renewal options in your lease agreement, you may need to spend precious resources to upfit a new location, relocate your equipment, and re-educate your customers about where to find you.

4. Employee handbook and training Focusing on implementing sound employment practices from the outset makes good business sense. Your employees will mind the business when you are away from it or when representing your brand at beer festivals and similar events. Knowing that your staff is well-trained and aware of your expectations for them makes good business sense from the outset. Sound employment practices can also provide you with a defense in certain actions where an employee alleges discrimination or when an employee commits a rogue act. Consult with your lawyer to determine which policies you should include in your handbook.

Hayley Wells is a member of Ward and Smith, P.A.'s Alcoholic Beverage Law (ABL) Practice Group. Ward and Smith is a full-service law firm with more than 90 attorneys and offices in Asheville, Raleigh, Wilmington, Greenville, and New Bern, North Carolina. They represent more than 70 craft breweries, from large national brands to breweries in planning.

enforce your policies consistently across all employees because it can also be used against you.”

Doug Dayhoff, president of Indiana-based Upland Brewing, also recommends a consistent, common-sense approach to managing employees and workplace culture, whether or not it's formally codified.

“When you are small and growing, that sort of administrative infrastructure is difficult to afford,” Dayhoff says. “Somewhere along the way we grew up enough to put an employee handbook together, and we continue to improve upon it and try to maintain policies where workplace safety as well as professionalism are paramount.

“For us that means, when you're on the clock, you're not drinking beer, other than for sensory purposes,” he says. “It's also a work hard/play hard culture, so when the clock's off, everyone can have a shift beer if they choose or get together for a few beers.

“It comes down to professionalism and having the right team in place and setting the right tone through your culture so that people understand why those policies exist.”

Thoroughly reviewing distribution contracts

Distribution laws vary by state, but most favor the distributors when any issues arise.

“You need to know what you're signing up for when you go into these contracts, and in a lot of states you're signing up for life,” Moon says. “If you want to get out just because you don't like them anymore, then you have a real problem.”

Having an attorney who's well versed in franchise law review any contracts before signing can go a long way toward preventing future conflicts.

“One of the biggest things to be aware of is that your state franchise law, if there is one, will trump whatever is in the contract,” Moon says.

“It's very easy during the early romance days to fall in love, but the distribution relationship is a marriage,” says Dayhoff. “Both sides can wake up on the wrong side of the bed some days, and both might let each other down at some point. You've got to have that commitment at the highest level between the brewery and the ownership and management of the distributor that you're all in it for the long haul.”



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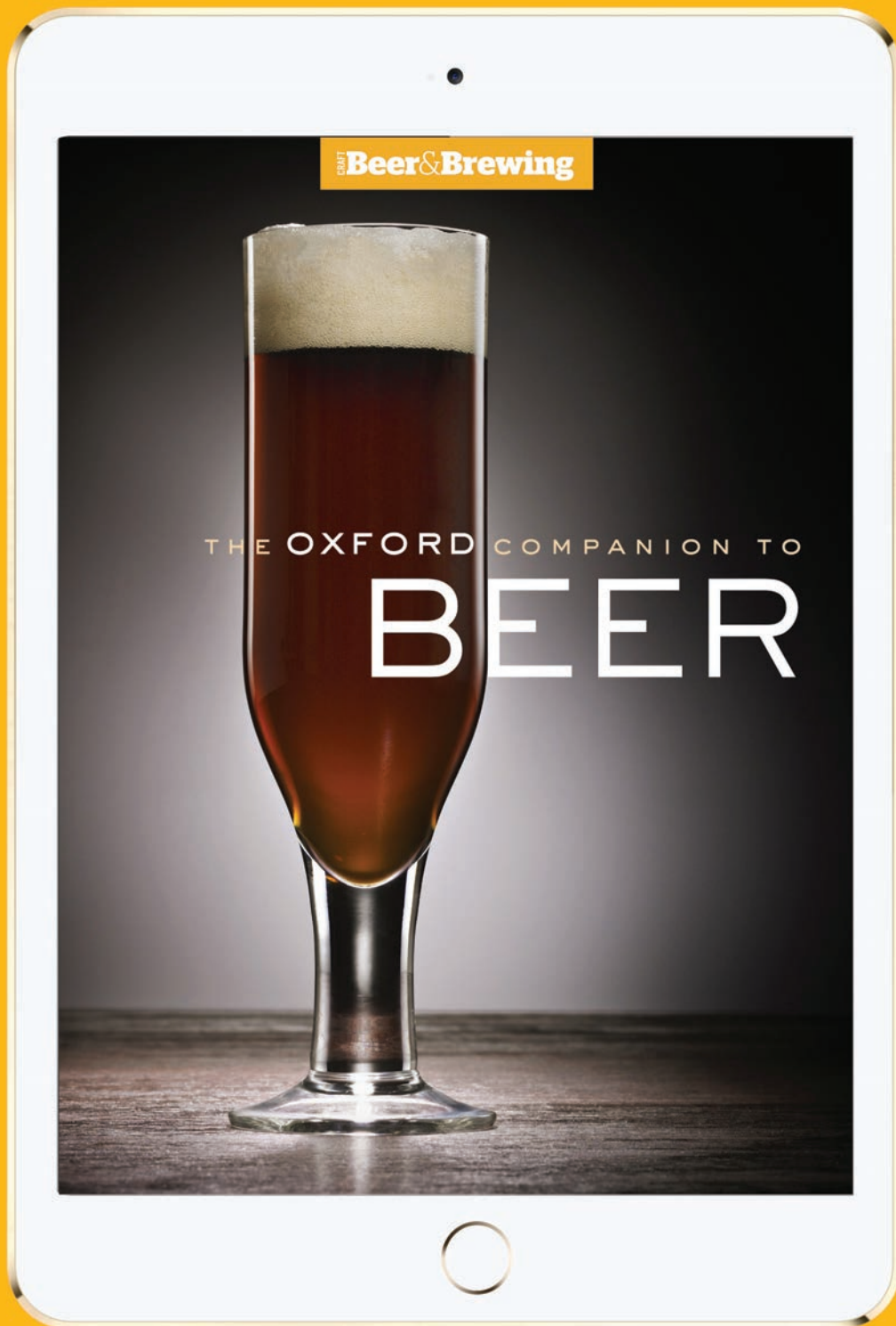
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