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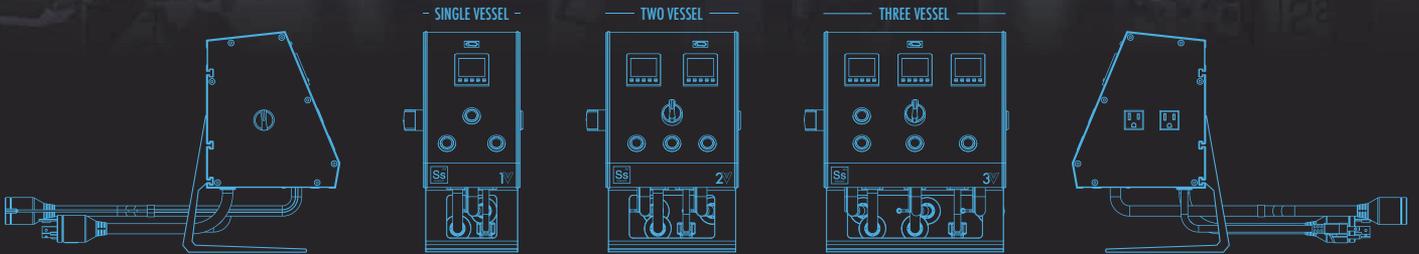
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### The Terroir of Barley

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### Brewing Belgian Styles

From their formative days (decades ago) up to the present, American craft breweries have taken a heavy dose of inspiration from Belgian brewers and their rich brewing tradition. Today, that influence is more diverse than ever, from strict traditionalism to a very Belgian rejection of stylistic dogma.

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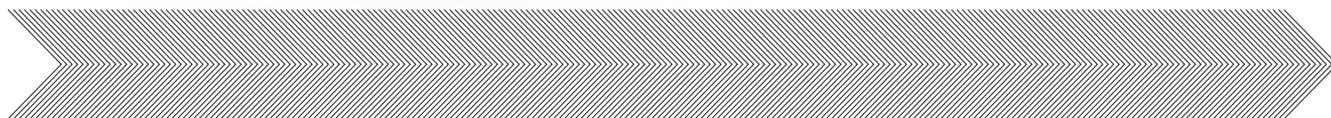
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**Josh Weikert**

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



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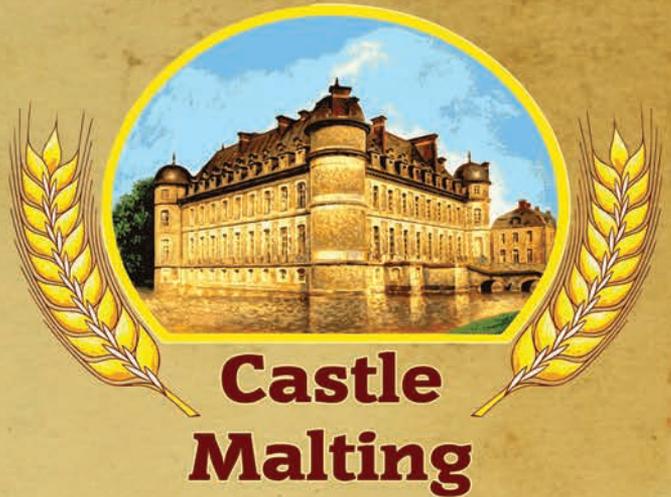


**Jester Goldman** has almost 30 years of homebrewing experience—from extract and all-grain beers to meads. He loves sharing his knowledge through writing and being active in his local homebrew club, but he's also driven to keep learning more.

RECIPE PHOTO: MATT GRAVES/WWW.MATTGRAVESPHOTO.COM; CONTRIBUTOR PHOTOS: COURTESY JOSH WEIKERT; COURTESY DON TSE; COURTESY BRAD SMITH; COURTESY JOHN M. VERIVE; COURTESY JOHN HOLL; COURTESY JESTER GOLDMAN

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**Influence in the world of beer is a fascinating thing.** From the earliest days of brewing in the United States, our biggest styles and brands have been informed by the traditions of the places our immigrant populations came from. But from those earliest days, American brewers have put their own spin on even the most traditional of styles—6-row barley and corn or rice instead of 2-row barley. American-grown hops. Beer finds a way, and local-ingredient considerations are grafted onto these styles as they adapt to new environments.



This is, I think, a feature and not a bug of the beer world. Style purists may decry it, but what we know as styles are generally products of the same process of evolution in those local areas of origination, and there's no argument to be made for interrupting that evolution and freezing the process in time. We live in a dynamic and evolving world.

Lately, we've watched that process of influence accelerate and morph, as more American brewers personally explore the European

continent and discover a broader beer world than the one that has historically been imported to our shores. Assumptions change, definitions loosen, and the pool of influences gets deeper and deeper.

Today, too, influence travels in both directions across the pond. Visit In de Verzekering Tegen de Grote Dorst in Eizeringen, just outside of Brussels (*see Love Handles, page 28*)—one of the most influential lambic and gueuze bars in the world—and you'll find table tents promoting Janimal, an "IPA" brewed by Jan Paneels that they proudly advertise as including four different hops varieties. There's no California ale yeast to be found, and their yeast gives it what is, to an American palate, a distinctly Belgian note. But the fact that young Belgian brewers now take inspiration from American IPA makers while evolving that style to fit their own local-ingredient considerations is further proof of the never-ending web of interconnection and influence.

With this issue, we visit the Belgian brewing tradition and look at how that influence has kept pace with the quickly evolving world of American brewing. From abbey and Trappist styles to mixed-fermentation farmhouse-style ales and more, interesting things are afoot as the evolutionary process heats up.

Whether you're a die-hard "traditionalist" or you celebrate the synthetic results of creative cross-pollination, we hope you enjoy this issue. We made it for you.

**Jamie Bogner**  
Cofounder & Editorial Director  
*Craft Beer & Brewing Magazine*®

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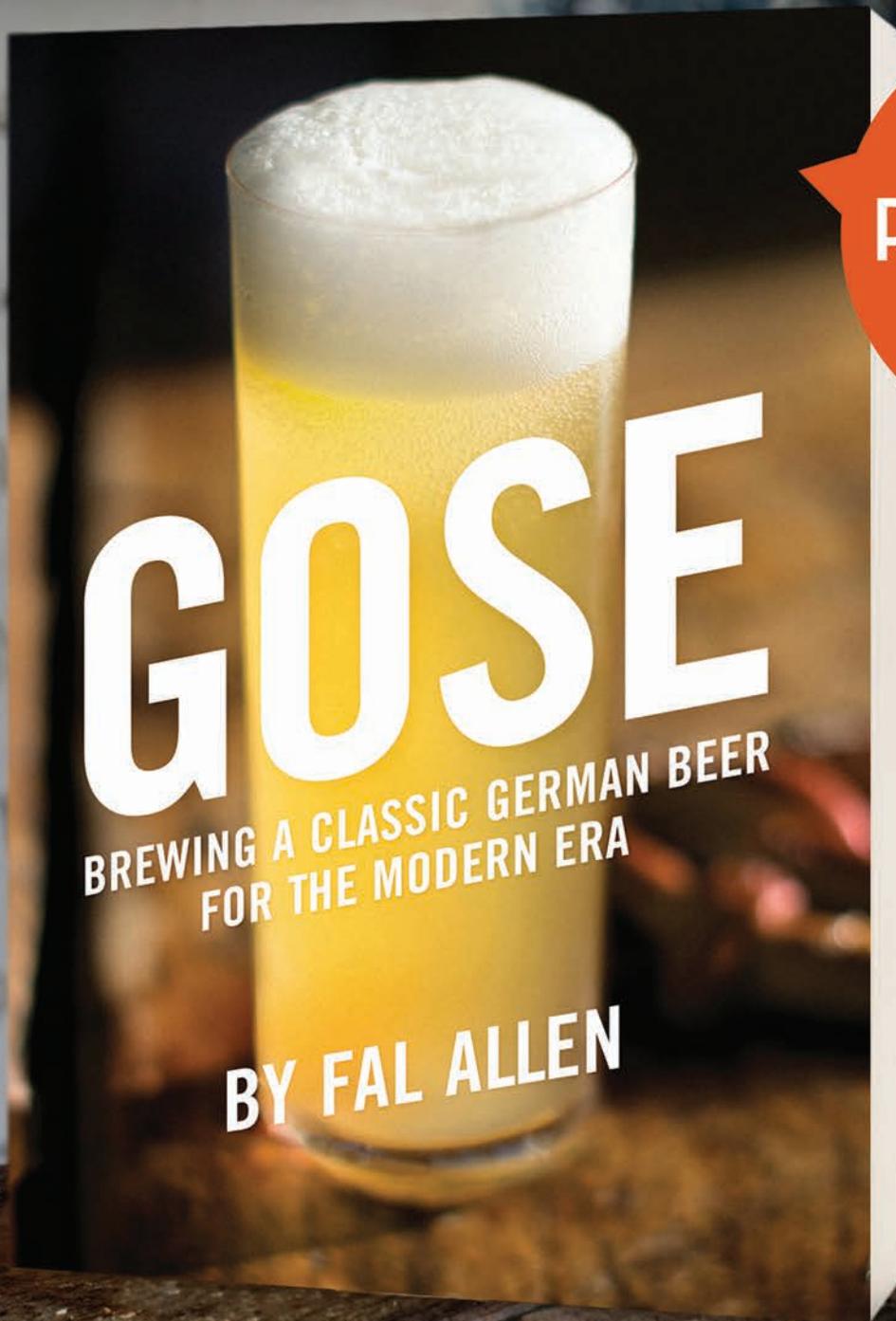
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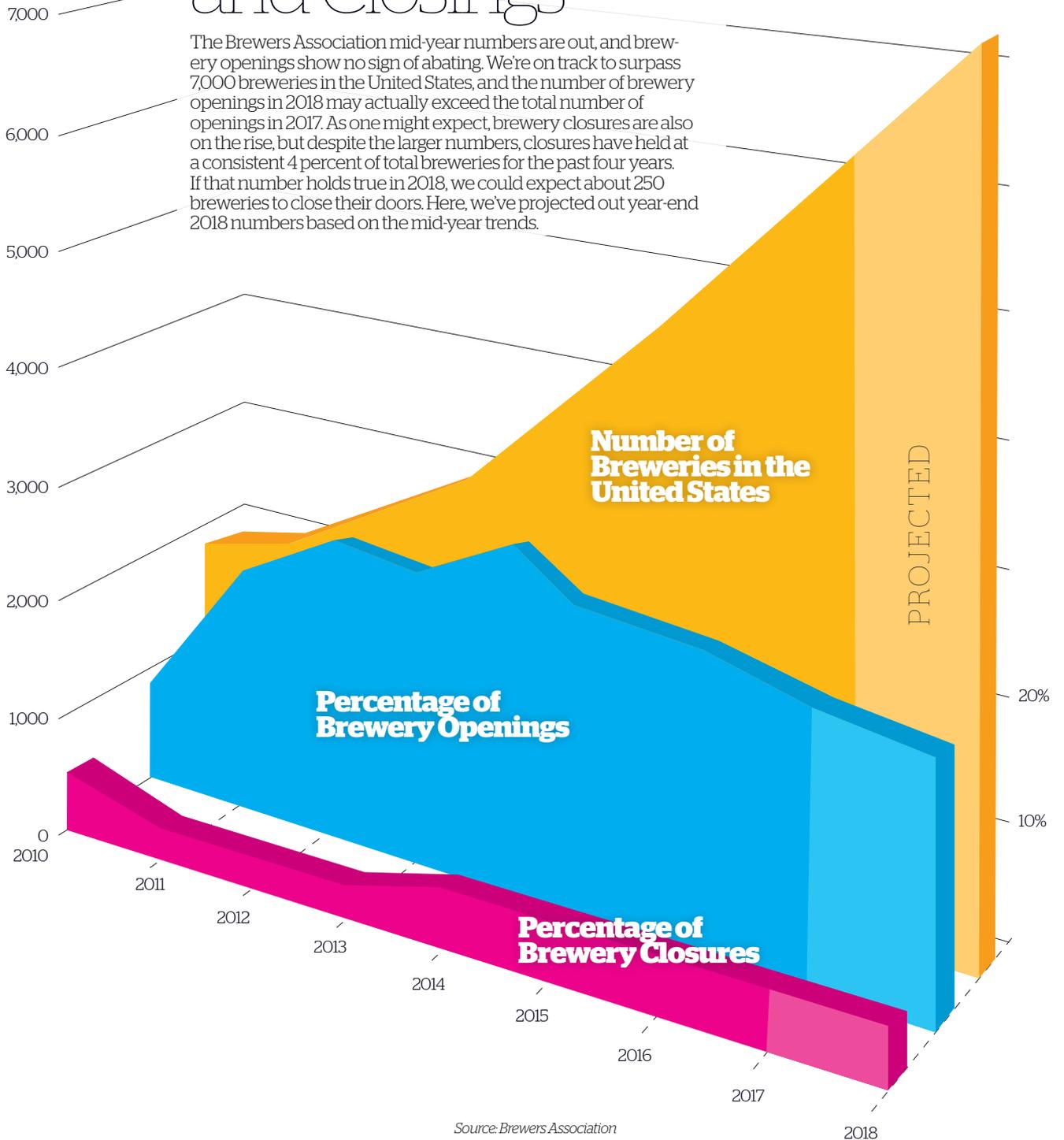
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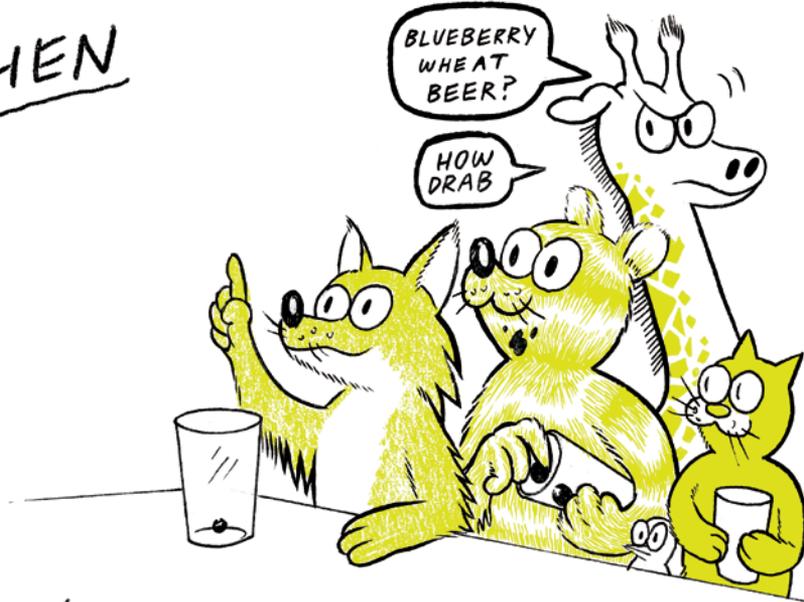
# Percentage of Brewery Openings and Closings

The Brewers Association mid-year numbers are out, and brewery openings show no sign of abating. We're on track to surpass 7,000 breweries in the United States, and the number of brewery openings in 2018 may actually exceed the total number of openings in 2017. As one might expect, brewery closures are also on the rise, but despite the larger numbers, closures have held at a consistent 4 percent of total breweries for the past four years. If that number holds true in 2018, we could expect about 250 breweries to close their doors. Here, we've projected out year-end 2018 numbers based on the mid-year trends.



Source: Brewers Association

THEN



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**Everyone Is Drinking Hard Seltzer. Here's How You Can Make it at Home.**

The most recent flavored malt beverage trend seems to be clear, carbonated, and likely flavored alcoholic seltzer. Is there a way to make it at home or is store-bought the way to go?

**Horchata Stouts: Ready for a Close-Up**

Brewers on the pastry-stout kick are looking for new sugary veins to mine, and it seems like they've gone south of the border, incorporating the flavors of a long-beloved sweet drink.



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EDITORS' PICKS

# Small-Scale Chillers

Homebrewers have more temperature-control options at their fingertips than ever before, and these compact glycol chillers bring professional-level control and speed to even the smallest of setups.



**The Stasis by Craft a Brew**  
\$599, [craftabrew.com](http://craftabrew.com)

**PROS:** The Stasis offers the most compact and aesthetically pleasing design for the space-constrained brewer. At a very reasonable price point, The Stasis not only includes the chilled reservoir, but has built the pumps and controllers right into the unit. The controllers are simple to operate—set your desired vessel temp and forget it. The much smaller glycol reservoir makes the unit lighter and more portable.

**CONS:** The Stasis is purpose-built to chill one or two smaller vessels (less than 10 gallons) at a time. With its compact design and built-in controllers/pumps, it doesn't offer the flexibility or the power of the chillers with 10-gallon-plus glycol reservoirs. The unit tested was a pre-production sample, and we've been assured that the final will be quieter, but this chiller was significantly louder than the others tested.

**THE VERDICT:** The Stasis is designed and constructed for the 5-gallon homebrewer who never has more than two batches fermenting/crashing at a time. If that's you, this is the chiller for you. With a very reasonable price point, consistent functionality, and strong portability, The Stasis is a winner.



**Icemaster Glycol Chiller**  
\$699.99, [morebeer.com](http://morebeer.com)

**PROS:** The quietest unit we tested, the Icemaster Chiller operates at a similar decibel level to that of a kitchen refrigerator. With its 10-gallon reservoir, it provides an ample volume of chilled glycol to cold-crash three or four 14-gallon Unitanks in modest ambient temperatures (70–80°F). At less than \$700, the price point is extremely affordable for brewers.

**CONS:** The unit didn't pack nearly the power of some of the other units. When ambient temperatures in our test garage rose to over 90°F, it had trouble keeping the reservoir below cold-crashing temperatures. The chiller does not come with the pumps or controllers necessary to move the glycol through your fermentor, so you will need to purchase those (additional \$100+ per controller). Construction on this unit was not as sturdy as that of the other units tested.

**THE VERDICT:** For the more budget-conscious brewer who is keeping a few vessels chilled at a time, this chiller is great. It's quiet enough that it can operate in any room of the house and efficient enough to get the job done for most brewers. It doesn't have some of the bells and whistles, but it will keep your beer chilled.



**Ss Brewtech Glycol Chiller 3/8 HP**  
\$1,295, [ssbrewtech.com](http://ssbrewtech.com)

**PROS:** We put the Ss Glycol Chiller 3/8 HP through the ringer. With ambient temperatures over 90°F, it had no problem keeping five 14-gallon Unitanks cold-crashed at 35°F with its 10-gallon reservoir. The glycol ports are built into the lid for easy plumbing with a latched lid for simple access to the reservoir (with a very thoughtful reservoir-fill gauge). The unit operates very quietly, especially when considering the performance. Solid construction, with handles (and casters) that support the weight of the unit plus the liquid weight, shows the thoughtfulness of the design.

**CONS:** The chiller does not come with the pumps or controllers necessary to move the glycol through your fermentor, so you will need to purchase those (additional \$100+ per controller). The aesthetic is more industrial with exposed components.

**THE VERDICT:** The Ss Glycol Chiller 3/8 HP is worth every penny if you're chilling more than one or two vessels. With simple operation and setup, it provided extremely reliable and accurate temperature control of every vessel we hooked it up to. Plus, it uses 110V power, so electrical is easy.



**Test Attempt: G&D Chillers 1.5H Nano Chill** [gdchillers.com](http://gdchillers.com)

**THE EXPLANATION:** We embarked on a mission to test all of the chillers that a small-scale brewer (0.5 BBL or less) might consider investing in. When we made the call to manufacturers, G&D Chillers offered this as their smallest unit and acknowledged that it might be overkill based on our testing conditions. They were right. We were not equipped to reasonably test this unit with six 14-gallon fermentors. What we can say is that the unit is well-built, aesthetically pleasing, and comes with fantastic customer support and shipping coordination. The team at G&D Chillers went as far as to build out custom manifolds to help us perform the tests, and they supported us through our attempts to compare it to the other chilling units. —Haydn Strauss

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## HOMEBREWING

# Make Your Best...

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

## White IPA

The White IPA functionally updates a classic style in a way that emphasizes the regional particulars of the original beer while incorporating updated ingredients. The result is an “identifiable” style in the best sense of the word: the description has internal logic, and the result is worth emulating and replicating.

**Style:** I suppose White IPA technically is a “Belgian” IPA, but it derives much more from the “witbier” half of “Belgian Witbier.” The characteristics are those of the witbier: a blend of Pilsner malt and unmalted wheat, a spice-and-fruit flavor profile, a lively ester and phenol contribution from the yeast, and a modest level of alcohol. To that, add a hops profile that derives its flavors from American or Australian/New Zealander hops varieties and increases bitterness substantially. Being an IPA, this is obviously going to be more hops-forward than the traditional Belgian Witbier, but it doesn’t leave it behind. Hops should accentuate, not overshadow, the classic style.

**Recipe:** This recipe wanders into the higher end of the ABV range for the style, but not absurdly so. Pilsner malt and flaked wheat lay down the grainy/wheaty base that we’d expect from a witbier. Melanoidin malt adds more, and a different expression of, “breadly” flavor, and acidulated malt creates an impression of lemon/citrus. Starting gravity should be about 1.063. You’ll want some rice hulls for the mash, or you run the risk of sticking.

Hopping is my favorite part of this beer. Part stays as it is in my Belgian wit recipe: enough Pacific Jade (which actually tastes like pepper, coriander, orange, and more that we’re *not* going to add) to get 20–25 IBUs from an addition with 10 minutes left in the boil, then more at flame-out. To those flame-out hops, we add Amarillo pellets, which will increase the fruity character and make it a bit less Continental and more classically American. The stone-fruit flavors are a great complement to the lime-and-pepper of the Pacific Jade. Finally, returning to the top of the boil, add 25 IBUs from any high-alpha hops variety.

For yeast, I recommend the more conventional Wyeast 3944 (Belgian Witbier) yeast. I find spice and herb additions unnecessary, given the hops used. You can add them at your own peril: spicing increases the risk of astringency, and *especially* in an IPA variant, that’s something to avoid.

**Process:** Mash at 152°F (67°C) for 90 minutes for a healthy and complete mash/conversion even in the absence of a protein rest. Boil as usual, and let your hops sit in the whirlpool for 15–20 minutes to extract as much of their oils, aromas, and flavors as possible! Chill, pitch, and ferment this beer at 67°F (19°C) for the first 4–5 days before letting the temperature free rise to about 72°F (22°C). Fermentation should finish up quickly—within 10 days. Package it as early as you can (48 hours after airlock activity falls way off) and carbonate to 2.25 volumes. A bit of haze is typical in the style, so there’s no need to wait for it to clear.



## MAKE IT

# Rabbit's Revenge White IPA

## ALL-GRAIN

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

**Brewhouse efficiency:** 72%

**OG:** 1.063

**FG:** 1.016

**IBUs:** 48

**ABV:** 6.5%

## MALT/GRAIN BILL

6 lb (2.7 kg) German Pilsner malt

5 lb (2.3 kg) flaked wheat

8 oz (227 g) melanoidin malt

8 oz (227 g) acidulated malt

## HOPPSCHEDULE

0.5 oz (14 g) Pacific Jade [13% AA] at 60 minutes

1.25 oz (35 g) Pacific Jade [13% AA] at 10 minutes

0.75 oz (21 g) Pacific Jade at whirlpool

1 oz (28 g) Amarillo at whirlpool

## YEAST

Wyeast 3944 (Belgian Witbier) yeast

## DIRECTIONS

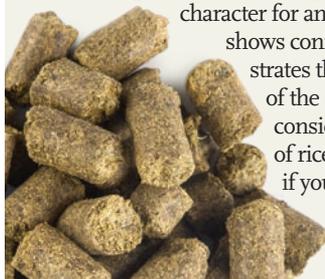
Mill the grains and mix with 3.75 gallons (14.2 l) of 163°F (73°C) strike water to reach a mash temperature of 152°F (67°C). Hold this temperature for 90 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains with 3.5 gallons (14.3 l) and top up as necessary to obtain 6 gallons (23 l) of wort. Boil for 60 minutes, following the hops schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 67°F (19°C). Aerate the wort with pure oxygen or filtered air and pitch the yeast.

Ferment at 67°F (19°C) for 5 days, then let the temperature rise to 72°F (22°C) until fermentation is complete. Cold crash, then bottle or keg the beer and carbonate to about 2.25 volumes of CO<sub>2</sub>.

## TIPS FOR SUCCESS

Dry hopping or spicing (coriander, perhaps) is certainly an option here, if you want to emphasize certain flavors, but I prefer to let the lighter malts show through a bit more. It might seem a bit out of character for an IPA, but I think it shows confidence and demonstrates the unique features of the style. You might also consider 8 ounces (227 g) of rice hulls in the mash if you sometimes get slow/stuck mashes and sparges!



# Gose

Gose can be a fantastic beer. There is, however, a distinct challenge in brewing it: salt. Over- or under-spicing of any beer can present problems, but working with salt introduces higher stakes. Aim too high, and you end up with an undrinkable salt bomb. Aim too low, and you can't register the salt at all. This recipe will get you right in the ballpark, right out of the gate.

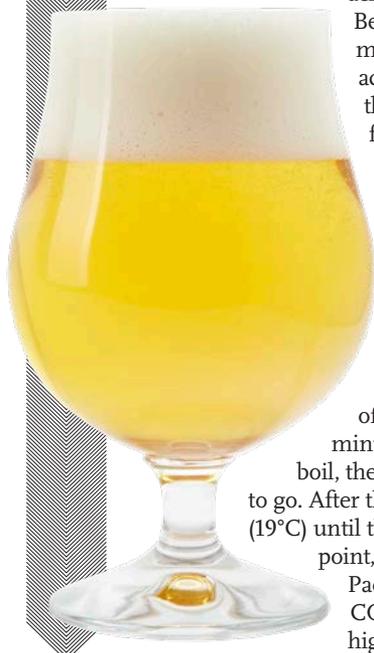
**Style:** If you want a jumping-off point for Gose, start with Berliner Weisse. Both are low-ABV wheat-heavy beers with minimal hopping and tartness. Gose is a distinct animal, though. It has its own lengthy history, originating in small towns along the Gose River. Some say that the saltiness was a result of slightly brackish well water, others that it was added for flavor, but in any case, it's a defining feature of the style. Many Gose breweries in and around Leipzig don't add coriander, though I recommend it. Where the Leipzigers and I part ways with American interpretations of the style is that theirs are far too sour. A large chunk of American Goses are just spiced Berliner Weisse. I think that sharp acidity distracts mightily from the subtler flavors that should be present in Gose. Subtle tartness enhances the flavors; blaring sourness overshadows them.

**Recipe:** The trick in this recipe is in balancing the salt, coriander, and acidity—but more on that in a minute! Equal amounts of Pilsner malt and wheat malt will do for the simple grist. I'll occasionally bump up the ABV about 0.5 percent by adding more wheat, which I speculate can make it easier to smooth out the specialty-ingredient flavors, but I don't have proof of it. Hopping is all at the top of the boil: add enough Hallertau to yield 15 IBUs.

Also into the boil will go your salt and your cracked coriander. I find that pink Himalayan salt and mortar-and-pestle cracked coriander do the job very well. I find the coarse-cracked coriander imparts a softer, more easily controlled flavor.

In terms of yeast/fermenting agents, you have two options. First, you can ferment it out with Wyeast 1007 (German Ale) yeast and then adjust acidity with a straight addition of lactic acid, post-fermentation and prepackaging. Second, you can pitch the German Ale yeast and a commercial *Lactobacillus* pitch at the same time at the start of fermentation, which should give you a touch of funk in the nose and some light acidity, but nowhere near what you'd find in a Berliner Weisse. The advantage of the second method is that it's unlikely to go too far with its acidity, so you can still adjust it upward with the lactic-acid addition. The advantage of the first method is that it's cheaper and simpler, and probably more replicable. Your call! For what it's worth, I do either, depending on how much time I have on my hands and whether I happen to have any *Lacto* in the fridge. Results don't seem to vary that much (though I'm sure traditionalists are screaming right now that I'm cheating).

**Process:** Mash as usual, perhaps with some rice hulls to prevent sticking, and run off into the kettle. Bring to a *short* boil—15 minutes, total. Add your hops at the top of the boil, then the salt and coriander with 10 minutes to go. After the boil, chill and pitch, fermenting at 67°F (19°C) until the completion of fermentation. At that point, taste and adjust with food-grade lactic acid. Package it up and carbonate to 2.75 volumes of CO<sub>2</sub>—much like the Berliner, this should be a highly carbonated, “spritzzy” beer!



## MAKE IT

# Viking Sweat Gose



## ALL-GRAIN

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

**Brewhouse efficiency:** 72%

**OG:** 1.044

**FG:** 1.011

**IBUs:** 15

**ABV:** 4.3%

## MALT/GRAIN BILL

4 lb (1.8 kg) Pilsner malt

4 lb (1.8 kg) wheat malt

8 oz (227 g) rice hulls

## HOPS & ADDITIONS SCHEDULE

2 oz (57 g) Hallertau [4% AA] at 15 minutes

0.4 oz (11 g) pink Himalayan salt at 10 minutes

0.5 oz (14 g) cracked coriander seed at 10 minutes

## YEAST

Wyeast 1007 (German Ale)

Wyeast 5335 (*Lactobacillus*)

## DIRECTIONS

Mill the grains and mix with 2.5 gallons (9.5 l) of 163°F (73°C) strike water to reach a mash temperature of 152°F (67°C). Hold this temperature for 60 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains with 4.75 gallons (18 l) and top up as necessary to obtain 6 gallons (23 l) of wort. Boil for 15 minutes, following the hops and additions schedule.

After the boil, chill the wort to slightly below fermentation temperature, about 67°F (19°C). Aerate the wort with pure oxygen or filtered air and pitch the yeast.

Ferment at 67°F (19°C) until the completion of fermentation, then taste. Adjust the acidity to medium levels with food-grade lactic acid. Crash the beer to 35°F (2°C), then bottle or keg the beer and carbonate to approximately 2.75 volumes of CO<sub>2</sub>.

## TIPS FOR SUCCESS

Add the salt and coriander “free” into the boil, and for best results, coarsely crack the coriander seeds with a mortar and pestle. Instead of the combined German Ale/*Lacto* pitch, you could elect to simply use the German Ale yeast and derive all of your acidity from the lactic-acid addition post-fermentation!

## SPECIAL INGREDIENT

# Hibiscus

The first thing people notice about the hibiscus flower is its visually arresting, vibrant, and inviting red-pink color. Some breweries are using the flower in conjunction with hops to add a bigger herbaceous kick to their beers.

**Keeping up with their roots,** Tröegs Independent Brewing in Hershey, Pennsylvania, hosts an annual homebrewer gathering. It was there, a few years back, where Cofounder John Troegner encountered a hibiscus sour. “The color was striking, and the berry flavor coming from the flower rang strongly,” he recalls.

The brewery is always looking for alternative ingredients and is often experimenting on both large and small scales. Hibiscus has been a popular ingredient in kettle sours (eg, Funkwerks Hibiscus Provincial, Boulevard Hibiscus Gose), but the Tröegs team wanted to walk a less trodden path.

“It makes perfect sense for an IPA,” Troegner says. “It creates berry flavors and aromas, lowers pH, and is actually similar to the Vic Secret hops.” The Denali hops also plays well with hibiscus because of its plum flavors.

To get the hibiscus flower into the beer, Tröegs makes a concentrate from the dried flower. After various trials, the brewery found that a pound per barrel of the flower best suits their needs. They cold steep the dried flower for about an hour in deaerated water, and then it's diluted and blended with the fermented beer. Without doing that, “it's pretty hearty, aggressive, and weird,” Troegner says. And when they added the hibiscus tea to the beer before fermentation, a lot of the bright flavors were scrubbed away.

The deaerated cold water has been a key factor for the brewery for creating hibiscus IPAs that aren't too abrasive. It's able to hold at bay the tannins that present in the flower. When they've tried steeping it with hot water, “the tannins come out screaming,” says Troegner.

One other word of caution when brewing with hibiscus, says Troegner: It can leave “globulous” particles behind. When running their hibiscus IPA—eighty barrels at a time—a portion at the start and end is carefully monitored to make sure there aren't stray strands or chunks making it into the bottles. “Some people might like the milkshake look,” he says, “but that's not what we're shooting for.”

There's more experimentation to do, Troegner says. They have tried using strawberry with the flower but haven't had the success they wanted. And lately he's been thinking about weissbier yeast when you can coax out more pear flavor (rather than banana and clove) that he thinks will pair well with the floral berry flavor. —*John Holl*



## MAKE IT

## Tröegs Crimson Pistil Hibiscus IPA

## ALL-GRAIN

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

**Brewhouse efficiency:** 72%

**OG:** 1.065

**FG:** 1.006–1.010

**IBUs:** 52

**ABV:** 6.2%

## MALT/GRAIN BILL

8.7 lb (3.9 kg) Pilsner (2-row)

1.8 lb (816 g) Carahell

1.2 lb (544 g) flaked oats

9.5 oz (269 g) Vienna malt

3.8 oz (108 g) acidulated malt

## HOPS AND ADDITIONS SCHEDULE

0.7 oz (20 g) Nugget [13% AA] at 60 minutes

1.4 oz (40 g) Azacca [15% AA] at 5 minutes

1.4 oz (40 g) Nugget [13% AA] at 5 minutes

1.75 oz (50 g) Azacca [15% AA] at whirlpool

1.75 oz (50 g) Nugget [13% AA] at whirlpool

3.35 oz (95 g) Vic Secret [15.5% AA] at dry hop

2.5 oz (71 g) Azacca [15% AA] at dry hop

2.5 oz (71 g) dried hibiscus flowers at dry hop

## YEAST

Wyeast 1056 American Ale is a workhorse, and it's pretty hard to miss with it. If you want esters but want to keep them tame, try Wyeast 1272 American Ale II.

## DIRECTIONS

Mash in at 148°F (64°C), then raise the temperature to 153°F (67°C) and hold for 15 minutes. Then raise the temperature to 158°F (70°C) and hold for 30 minutes, then mash out at 168°F (76°C). Boil for 60 minutes, following the hops schedule. Chill the wort to 65°F (18°C). Aerate the wort and pitch the yeast. Start fermentation at 65°F (18°C) and let the temperature free rise to 68°F (20°C). Add the dry hops at the end of primary fermentation. After the gravity holds steady for 24 hours, cool 2°F (1°C) per hour until the temperature reaches 32°F (0°C). Rack from primary into a secondary vessel, then add the dried hibiscus flowers in a mesh bag and steep for 24 hours. Then rack again or remove the hibiscus. It's important not to have too much contact time with the hibiscus or you will extract tannins.

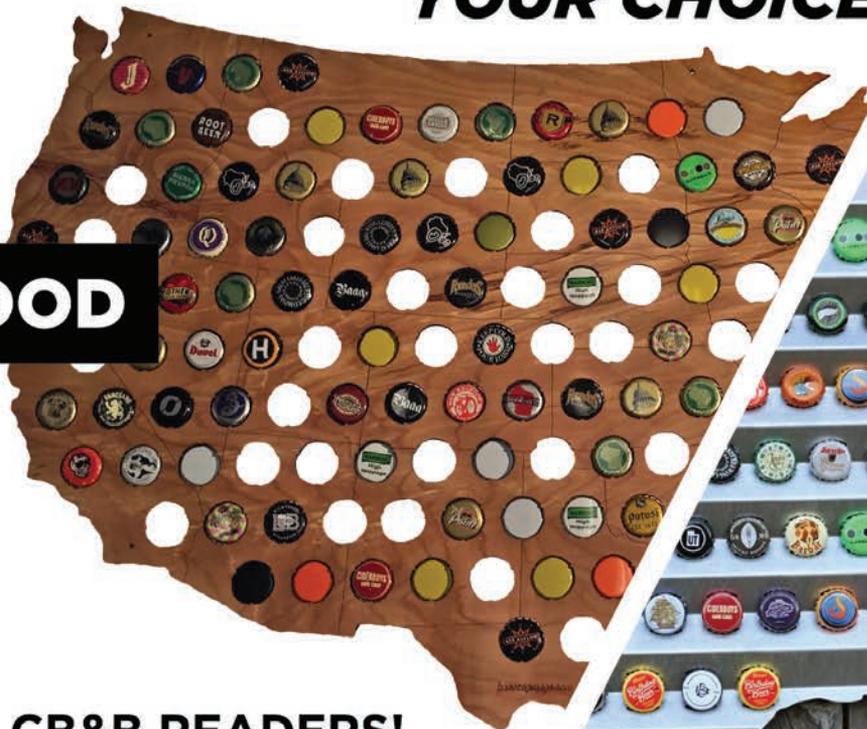
## BREWER'S NOTES

Adjust the mash pH to 5.2 with lactic acid. For water chemistry, we target 50ppm calcium and 150ppm chloride. The mash is where you can dial in the mouthfeel to your own liking. We keep ours fully attenuated, but I can picture using a high-temperature single-infusion mash and rolled oats to thicken the mouthfeel. The hibiscus really dries out the mouthfeel between the increase acidity and tannins.

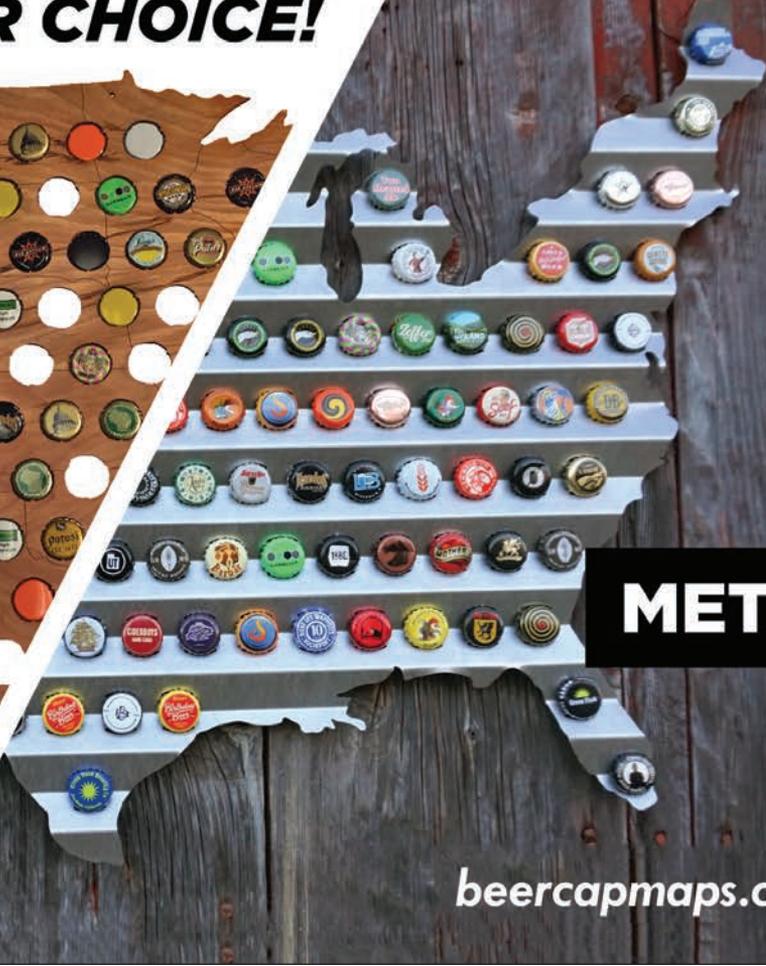
We pitch our yeast at 16mil cells/ml above 95 percent viability and aerate to 10ppm at 65°F (18°C).

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## EUROPEAN BREWING – A COMBINATION OF TRADITIONS AND INNOVATIONS

*Brewing in Europe is not only a business that exists for centuries but also a part of the continental culture. Although in the 11th century the European brewing industry was dominated by large regional breweries employing modern production technologies, the traditions that developed over the centuries were still respected in the continent. The refined recipes, the secrets of production, and the customs of consumption are respected by both large brewers and local beer makers. Therefore, in order to understand the brewing of modern Europe, it is necessary to know the processes of beer production and the culture of consumption that lasts for several thousand years.*

Brewing has been around since about 6000 BC. Archaeological evidence suggests that beer was produced in emerging civilizations – ancient Egypt and Mesopotamia. The oldest recorded recipe is the one written on the plate in 4000 BC, devoted to a beer goddess Ninkasi. In the present Europe, beer has been known for more than 2000 years, and its prevalence was known even during the Roman Empire. At the beginning of the brewing history, the ability to cook and ferment beer was compared with magic skills – only few knew and understood the technology of production.

The main brewing technologies came to Europe from the Middle East. In the Middle Ages, beer was brewed in small local taverns, houses or even monasteries. From the 19th century brewing has become a part of industry of many Western European countries. The most extensive establishment of breweries in Europe was from 1847 to 1875.

The main ingredients of beer production were water, starch source (e.g. malted barley or wheat) and beer yeast for fermentation. In order to obtain a more delicious flavor, local spices such as hops, honey or even fruit and berries were used in Europe.

Beer brewing is a long and complicated process, consisting of several technological cycles: malt preparation, mash cooking, fermentation and maturing. The essence of the first stage is to mix malt with water in order to have sugaring process. After that, the sugared beer mash must be filtered, diluted and poured into the boiling beer. Spices that give beer specific flavor and taste are added into boiling beer. Boiled beer is cooled and fermented further – special yeast is added to beer in order to start fermentation process. The longer the beer is fermented, the stronger it is (the strength can vary from 2.5 to 12% by volume of alcohol). Later the cooled beer is ma-

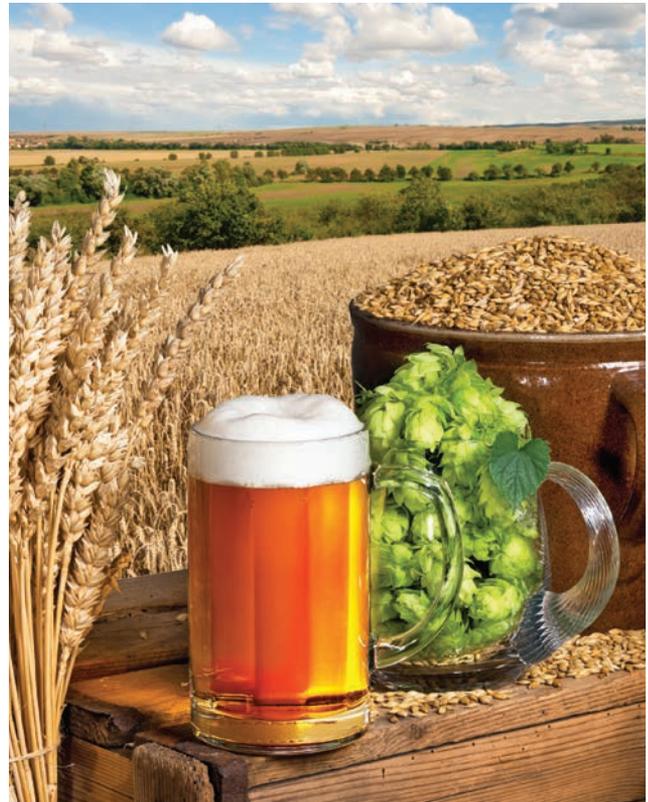


tured – the duration depends on what kind of beer is being produced, so this process takes from 1 to 6 months. Finally, the beer is filtered and poured into certain containers – metal barrels, glass bottles, aluminum cans or plastic containers. Modern European breweries use stainless steel equipment and computer-controlled automatic operations. Although the European brewing tradition is being respected, modernization processes are being applied, which greatly accelerates the production of beer.

The beer can be grouped according to taste, color, strength, origin, and other criteria. In Europe, beer is classified according to the fermentation method: Lager (lower fermentation), Elis (upper fermentation), and Lambic (spontaneous fermentation).

Lager is the most popular type of beer in the European Union. This type was started in Germany in the 17th century. Due to the lower fermentation process, the yeast is deposited on the bottom of the barrels, producing clear beer. A typical color of Lager is from clear amber to clear copper. Most often, this beer is made from barley and has a fairly mild flavor of malt and hops, and it is slightly carbonated. Due to light flavor and subtle aroma, this type of beer dominates in many beer markets; it is mostly selected by mass production beer makers.

Elis type beer is also popular; it is the most common in England. The fermentation of Elis takes place at high temperature, while the yeast ferments the mash on the top. Less time consuming fermentation at higher temperatures adds a savor – usually beer has a sweeter, stronger taste, and one can feel the fruit flavor. For this type of beer, barley and other cereals, such as wheat, oats, and rye, are commonly used. When beer is seasoned with fruit or various herbs, specific and different flavors are obtained. Beer can taste like fruit, berries, hops or even coffee and chocolate. Usually such beers are not strong and offer a variety of flavors so that everyone can choose their favorite.



Belgian beer Lambic is produced by means of spontaneous fermentation – this type of beer is fermented using not cultivated, but natural yeast. Lambic beer contains a lot of hops because they stop the multiplication of unwanted microorganisms. Since the beer is fermented for a year or two, its taste turns into a dry, subtly acidic, reminiscent of wine. In order to obtain the fruity Lambic, after about six months of fermentation the beer is seasoned with fruit or berries (cherries, raspberries, peaches, black currants or even apples). As the berries are added during fermentation, their sugar is consumed, therefore beer, although it takes the fruit's taste, does not become sweet.

European brewing culture has, to this day, remained an important beer culture – not only the taste and quality of beer is important, but also the container in which it is presented. The first mugs used in Europe were made of clay, later, in order to prevent the beer color from being hidden in clay mugs, glass containers appeared. In the past, the beer was poured into identical thick glass mugs, the essence of which was convenience and functionality. Now there are many glass mugs and glasses of different shapes and sizes in bars, and only a certain type of beer is poured into each of them. Nice shape looks not only aesthetical, but also helps to reveal the exceptional qualities and taste of a particular beer. Many brewers have specially marked mugs and glasses.

Today, brewing in Europe is the combination of centuries-old recipes and production traditions and technological innovation and creativity. Continental beer makers are constantly experimenting, so the palette of the European beer flavors is very wide. Only the exceptionally high brewing standards are unchanged – the rich history obliges to keep the quality of the favorite drink.



## LEARNING LAB

# Crystal Malt Persuasion

In this issue's Learning Lab column, **Jester Goldman** turns our attention to grain. And to avoid being overwhelmed by all the options, he suggests focusing on a manageable subset of grain—crystal (aka caramel) malts. Using his mini-batch (1 gallon/3.8 liters) method, he demonstrates how you can learn to distinguish among the types of crystal malt.

**CRYSTAL MALT IS ALSO** called caramel malt, which reflects the color and flavor that it adds to beer. Some purists distinguish between the two terms, pointing out that British crystal malts are produced in a roaster, while caramel malts may be made in a roaster or a kiln, but we'll sidestep that distinction. In either case, the barley is soaked and allowed to sprout, then the wet barley is heated for a time, allowing for saccharification of the kernel within the husk. Then, it's roasted or kilned at a higher temperature, which darkens the color and converts the sugars into unfermentable dextrins.

Crystal malt is typically sold by color from 10–120° Lovibond. The darker the color, the more pronounced the flavor, with the high end possibly contributing some bitter astringency. In the lower and middle ranges, crystal malt can add a nice nutty caramel complexity, but the sweetness can be cloying and simplistic if you use too much. As a result, it's recommended to hold it down to 5–10 percent of the grain bill in your recipes.

## It All Starts with a Plan

Our goal is to learn how to distinguish the types of crystal malt and understand what they contribute. This lab examines two different aspects. For the first phase, we work with three different Lovibond levels of crystal malt. These will vary not only in color but also in mouthfeel and malt character.

We'll follow a mini-batch strategy similar to the one we used in the hops lab (see "Learning Lab: Hops Aroma and Flavor" in the June/July 2018 issue). For this lab,

you should plan on four 1-gallon batches of beer. The first batch will serve as a control, with no crystal malt added. The other three batches will include steeping 40, 80, and 120°L crystal malt before the boil. We'll aim for the equivalent of about 7 percent of the grist to hit the recommended level. For our baseline recipe, that's about 2.5 ounces (71 g) of crushed malt.

After you start the first batches, the second half of our experiment explores what happens when you use too much of a good thing. This phase will use each of the same three crystal malts but in more than the recommended amount. Doubling the malt weight would put us at about 15 percent of the grain bill, but we want to get a stronger impression, so we'll round up to 8 ounces (227 g) of malt, equivalent to 20 percent of the grist. Going over the top like this is a good way to see how crystal malt can over-balance a beer. This will also give you a deeper sense of how the crystal-malt character changes as you work with the darker versions.

## Baseline Batch

This baseline recipe is a simple extract pale ale.

**Volume (after boil):** 1 gallon (3.8 liters)  
**OG:** Phase 1, 1.054; Phase 2, 1.058  
**IBUs:** 40–45

## Recipe

1.25 lb (567 g) light dry malt extract (DME)  
 0.125 oz (3.5 g) Centennial [10% AA] at 60 minutes

0.125 oz (3.5 g) Cascade [6% AA] at 30 minutes

0.125 oz (3.5 g) Cascade [6% AA] at 5 minutes

½ package Safale US-05 American Ale yeast

Phase 1: 2.5 oz (71 g) crushed crystal malt (each batch will use a different Lovibond level—40, 80, 120°L)

Phase 2: 8 oz (227 g) crushed crystal malt (each batch will use a different Lovibond level—40, 80, 120°L)

## Directions

Note that you'll be making one control batch without any crystal malt. For that beer, skip the steeping step.

Fill your pot with 1 gallon (3.8 l) water plus the make-up for evaporation loss. Put the crushed crystal malt (phase 1: 2.5 oz/71 g, phase 2: 8 oz/227 g) of the target Lovibond level into a small nylon grain bag. Turn the heat to medium and allow the crushed grain to steep, stirring occasionally. After about 20 minutes or when the temperature hits 165°F (74°C), pull the grain bag out of the water to avoid extracting tannins from the grain.

Take the brew pot off the heat and add the DME. Stir well to dissolve, then place the pot back onto the burner and bring to a boil. Boil for 60 minutes following the timing of the hops additions in the recipe.

Chill the wort to pitching temperature (use a cold-water bath or immersion chiller). Transfer the wort to a gallon (3.8 l) jug and pitch the yeast.

After primary fermentation has finished, bottle with 0.8 oz (23 g) per batch of dissolved priming sugar. Allow two weeks for carbonation.

Repeat the above process for each of the crystal malts in phase one and phase two. In total, this should give you seven 1-gallon batches.

## Doing the Comparisons

### Phase 1: Sibling Rivalry

Part one of our tasting session will focus on the four beers from phase one. Pour a sample of each of the beers and look at their color. As you'd expect, they range from the relatively light control beer to the darkest 120°L batch, with the crystal-malt beers each featuring some degree of amber color. You should also note the head retention, which should be stronger in the beers with crystal malt.

Take a sniff of each glass. It's beer, so you'll get a mix of hops, esters, and malt, but the crystal-malt samples will emphasize the malt more than the control batch. The malt character may be noticeably different, too. While all of the crystal-malt beers will offer some amount of caramel, you're more likely to get nutty or mild roasty scents from the 120°L batch.

Next, take a sip or two of the control beer. Get a good sense of the balance between hops flavor, bitterness, and malt. Roll the beer across your tongue to gauge the body. Once you've taken its measure, cleanse your palate with a saltine cracker and some water.

Move on to the 40°L beer. Go through the same exercise of evaluation. How does the balance differ from the control? Are the hops more subdued? Is it sweeter? In particular, do you pick up any caramel character? You should notice that the beer is less thin-bodied. If it doesn't seem that obvious, take a sip of water and go back to the control beer. Swirl a mouthful and swallow. Then rinse and go back to the 40°L sample. The side-by-side comparison should make the difference clearer. Write down your observations contrasting the two beers.

Do the same for the 80°L and 120°L beers. After noting your initial perceptions, always rinse and go back to the earlier samples to pick up on the differences. The darker beers should offer more malt complexity, bringing in some of those toffee, nutty, and toasty flavors. Note that this doesn't necessarily mean they're better or that you should like them more. You may even think the 120°L beer is a bit much for the relatively mild base recipe, pulling it out of style for an American pale ale. The goal

is to get a sense of how the malts differ so you can choose the right one when you're developing a recipe.

### Phase 2: Gimme Some More

Now let's dive into the deep end of our crystal-malt experiment. We'll compare the three phase-two beers, but you'll also need the first-round beers on hand for comparison.

Pour samples of each of the heavy crystal-malt beers. Notice that each is significantly darker than its first-round version, with the 120°L beer moving beyond amber into brown-ale territory. If your glassware is clean, the head formation and retention will likely seem a little better in this round.

Run through the same evaluation process with this set of beers. Check out the aroma and flavor. The caramel character will be much stronger, dominating the balance, turning the base pale ale into something very different. The pleasant caramel that added depth to the round-one beers should come across as sweeter and chewier. You may also get some astringency. As a result, these beers will likely seem one dimensional and less palate pleasing.

As the Lovibond rating goes up, the cloying sweetness builds along with the astringency, which will increase your perception of bitterness. You probably won't enjoy the heavy 120°L beer for this reason.

Compare the overdone crystal-malt beers with their more balanced

versions, paying special attention to the round-one 120°L beer and the heavy 40°L sample. These two are about the same color, but the malt character will be quite different because the additional roasting for the 120°L malt makes deeper changes to husks and dextrines.

Despite the big crystal-malt beers being less drinkable, they do give a sense of what the malt can offer in larger amounts. If you want to do some graduate work, consider making another set in the middle ground between these, with about 4 oz (113 g) of each malt, and see how they fit in. This may help you find your palate's limits for each malt. While 15 percent 40°L malt might be workable, you may prefer to keep 120°L malt at 5 percent of the grist at most.

You could also do a 10°L crystal-malt batch to explore the lighter end of the range.

## Applying Your Lessons

This tasting experience provides a good foundation for your future recipe formulation. Think about the target style and how the flavors you've identified could contribute to it. You'll have a better sense which crystal malt would be complementary and how much to use.



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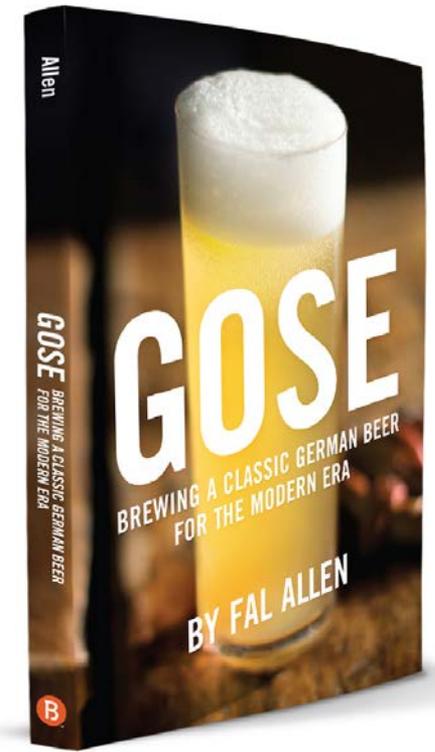
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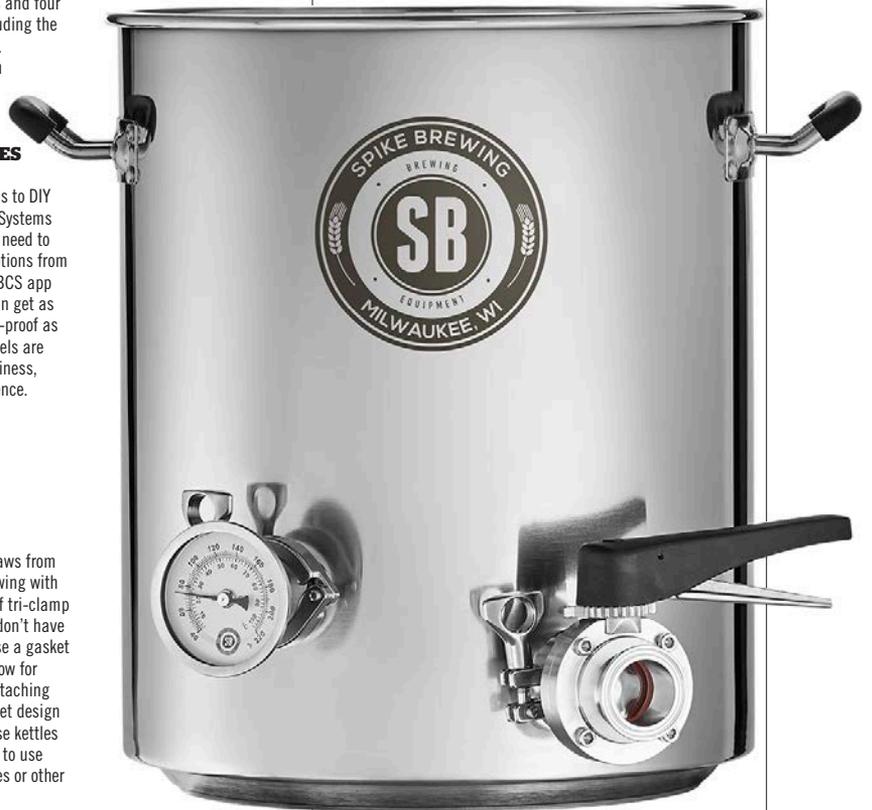
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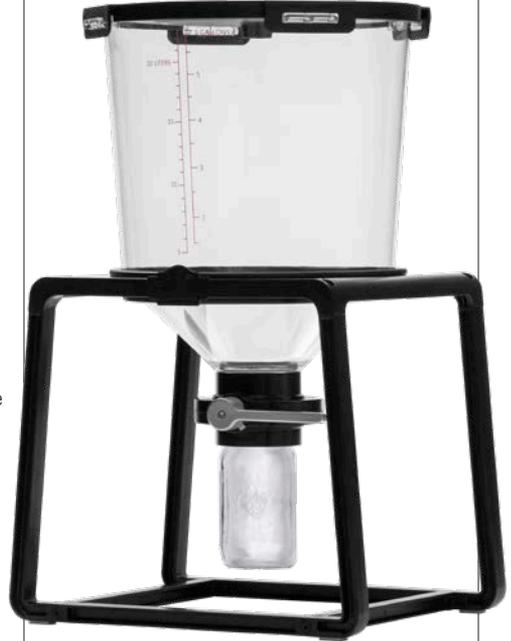


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## In de Verzekering Tegen de Grote Dorst

Eizeringen, Belgium

*This classic café just outside of Brussels is a magnet for fans of lambic, despite opening only on Sundays.*

**What it is:** Ratebeer users call it the best beer bar in the world, which is daunting praise for the quaint little bar off the square in Eizeringen. But accolades aside, a quiet afternoon at Grote Dorst is a quintessential Belgian experience for lambic lovers. The leather-bound menu is legendary, featuring rarities and vintage lambic and gueuze that the Panneels brothers have stashed in the tiny cellar since taking the reins in 2000.

**Why it's great:** For serious fanatics, the selection of lambic is hard to beat, but that's only one part of the story. On any given Sunday, you'll find three generations of the family working the bar and locals of all ages, from parents and kids to old timers, ordering everything from draft gueuze to locally brewed IPAs to the washed-rind cheese made with gueuze. The space itself is as quaint as it gets—rough-hewn ceiling beams, decorative tile, ancient-feeling wood tables inside, and café tables with umbrellas lining the sidewalk. It's an experience whether or not you're there for the beer. Service is unhurried and personal, but bring hard currency because they don't accept credit cards. —*Jamie Bogner*

### DETAILS

**Hours:** 10 a.m.–8 p.m., Sundays only  
**Address:** Frans Baetensstraat 45, Eizeringen, Brabant, Belgium  
**Web:** dorst.be



## Elizabeth Station

Bellingham, Washington

*This bar and bottle shop in northern Washington State brings together not only the best in the region but from around the country and world. A beer for every mood, palate, and avenue of exploration makes this a can't-pass stop.*

**What it is:** Not every bottle shop is a bar and not every bar is a bottle shop. This expansive space in a city that is already teeming with great breweries is both. It's a chance to drink local—both in bottles and on draft—and to explore the ever-growing beer world. A staple in the city, it's anything but stale. Not resting on past accolades, Elizabeth Station is always moving forward, not only with beer but with a healthy and diverse cider selection, too.

**Why it's great:** Serving a wide selection of great beer is only good when you have a staff who can walk even the most astute experts through the new offerings. Elizabeth Station has those folks behind the bar and walking the floor. Walking past the coolers or scanning the taps, you'll find yourself muttering, "Oh, I've always wanted to try *that* and *that* and *that*." Convenience store-like junk food is piled high for purchase, or if you're winding down for the night (or up early) and in the mood for something sweet, Elizabeth Station also has a pour-your-own breakfast-cereal bar. —*John Holl*

### DETAILS

**Hours:** 10 a.m.–midnight, daily  
**Address:** 1400 W. Holly Street, Bellingham, WA  
**Web:** elizabethstation.es



## La Chicha

Mexico City, Mexico

*Steps from the Parque Luis Cabrera on one of the sleepier streets of the Roma neighborhood, this is the place to go for a leisurely dive into the burgeoning world of Mexican cerveza artesanal.*

**What it is:** La Chicha, both a restaurant and a bar, specializes in highlighting specialty Mexican products on every page of its menu, from its towering *emparedados* (sandwiches) stacked on a mysteriously purplish and sweet local bread to the tight and carefully curated lists of cervezas and mezcals artesanales available for toasting, often in tandem.

**Why it's great:** Beer can be a passion of extremes, from hops bombs to titanic ABVs, or in the case of bars, confoundingly extensive draft lists. La Chicha keeps its lineup short and quality: Three rotating drafts, seven bottled cervezas artesanales, "industrial" beer standards (Tecate, etc.), and one *sidra* (cider) artesanal. The dry and funky Summer Daze from CD-MX's own Cervezas 19 Norte is a highlight, but here there's a cerveza artesanal style (from porters to lagers to IPAs) for everybody. Important to remember: All of them pair well with the equally stellar mezcals selection, and you should make sure to try both while in Mexico. —*Bo McMillan*

### DETAILS

**Hours:** 11 a.m.–midnight, Monday–Tuesday; 11 a.m.–1 a.m., Wednesday; 11 a.m.–2 a.m., Thursday; 9 a.m.–2 a.m., Friday–Saturday; 9 a.m.–11 p.m., Sunday  
**Address:** Orizaba 171, Roma Norte, 06700 Ciudad de México, Mexico  
**Web:** facebook.com/lamaschicha/



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# Creative Brewing in the Shadow of the Giant

**St. Louis, Missouri**, is best known for one brewery that's as far outside the definition of "craft" as it gets, but today, a hardy band of small brewers has taken the city from macro-beer backwater to progressive trendsetter. **By Jamie Bogner**



**ST. LOUIS, MISSOURI BY THE NUMBERS:**

**27** BREWERIES & BREW PUBS

**88** C&A BEER MEDALS

**8** HOMEBREW SHOPS



**ONE GLANCE AT THE** beer menu in most St. Louis bars will confirm what you might suspect—it's a company town, and AB-InBev is, indeed, king. But dig a little deeper, and you'll find a curious assortment of characterful breweries making beer that this magazine has rated among the best in the country, right under the prying eyes of Big (beer) Brother.

It's not a city defined by sheer numbers—the "Gateway to the Midwest" pales in comparison to cities such as San Diego or Denver when measured in quantity of breweries—but what St. Louis lacks in third and fourth stringers, it more than makes up for with the quality and personality of its star players.

Whether your goal is hunting cans of hazy IPA, sipping rare on-premise-only barrel-aged beer, or kicking back with a well-constructed English-style mild ale, St. Louis has not just something for everyone, but a series of unique experiences for those who enjoy all shades of the craft spectrum.

## **Downtown and Midtown**

**Four Hands Brewing Co.** may look like your average warehouse brewery from the outside, but inside is an immaculately designed space that's as eclectic as the beer

they brew. It's comfortable yet quirky—the perfect home for their beers that range from a classic Pils to Chocolate Milk Stout and the sought-after Madagascar, a barrel-aged stout with vanilla beans.

A few blocks away, the **International Taphouse (iTap)** Soulard location offers sixty-something taps and a few hundred bottles of well-curated classics with a decidedly worldly bent. Grab a glass of Saison Dupont or St. Bernardus Abt 12 on draft, find a seat on the patio, and enjoy the energy of the city from this patch of beer oasis.

You have three choices of **Urban Chestnut** locations, but the original taproom at the midtown brewery holds a certain romantic charm—it's cozy, but built for social drinking among groups of friends. On one visit, we watched as a car full of older regulars Ubered over from the Grove Bierhall location simply because that spot didn't have their favorite Pilsner, Stammtisch, on tap, and we'd be lying if we said we weren't inspired by such passion for Pils.

## **Forest Park**

The voluminous and communal **Urban Chestnut Grove Brewery and Bierhall** is a great spot to enjoy their lagers in Forest Park, but if you're up for a more adventur-





**Left** » The Side Project Cellar in Maplewood is known for their extensive selection of on-premise-only Side Project bottles as well as their draft system that maintains three different serving temperatures. **Below** » Schlafly Bottleworks offers a full brewpub experience at their production brewery in Maplewood. **Bottom** » The Civil Life taproom evokes pub-like charm and provides a comfortable place to spend an evening with friends or cozy up with a book in a quiet corner.



If you're traveling to St. Louis for craft beer, chances are that Side Project is already on the top of your destination list, so the only real question to ask is "which location should I visit?"



ous experience, try their **Urban Research Brewery (URB)** across the street. There, you'll sample test batches brewed on their small pilot system and offer your feedback through their digital survey system. It's a fun way for anyone to experience the sensory challenge of a brewery tasting panel.

The shabby-chic aesthetic of **2nd Shift Brewing's** taproom may not make for the most stylish of interiors, but one sip of Katy, their *Brett* saison, should cure you of any critical notions. Its bright and tight funk is refreshing without significant acidity, and the crisp farmhouse notes with slight *Brett* bitterness add layers of complex flavors. Those with a sweet tooth will gravitate to Liquid Spiritual Delight, their thick and chewy imperial stout.

A few former execs from that big brewery in town broke away to start **Brew Hub**—a contract brewery that allows smaller breweries to more quickly scale up production using their equipment and production expertise. While the main

Brew Hub brewery is in Lakeland, Florida, their headquarters is in St. Louis, so why not open a taproom to serve beers they make, such as Toppling Goliath Pseudo Sue IPA and Parish Envie pale ale?

### Maplewood

If you're traveling to St. Louis for craft beer, chances are that **Side Project** is already on the top of your destination list, so the only real question to ask is "which location should I visit?" The original Side Project Cellar is a bar with a smartly curated beer, wine, and spirits selection and an astounding selection of Side Project bottles. The newer brewery location, a couple of blocks away, features a more extensive draft list of Side Project and Shared beers (Shared is their side-project-of-Side Project brand featuring primarily non-wood-aged beers designed by their brewery staff). You can't go wrong either way, and it's a short walk between them, so why not visit both?

A few blocks away, **Schlafly** offers a spacious brewpub experience at their Bottleworks production facility, and it's a great place for a burger and one of their rotating seasonal IPAs.

### Tower Grove and Carondelet

**The Civil Life's** focus on traditional English- and German-beer styles may not drive the most hype in town, but it's one of best places to spend an evening drinking well-crafted beer with friends, throwing darts, or just reading a book in a corner by yourself. Order half pints if you want to sample a few different beers (no one will judge), but don't expect to pop in and out. The place has a gravity that makes it hard to leave once you arrive.

Shoehorned into a revitalized industrial building on the south side of town, **Perennial Artisan Ales** helped put St. Louis on craft-beer fanatics' radar with groundbreaking beers such as their Abraxas spiced imperial stout. The brewery taproom is a must-visit, not just for the draft and bottle specialties available only there, but for the creative food as well. If the weather is good, grab a seat on the patio, order a limited-release bottle off their on-premise-only bottle menu, and soak up some sun.

Any beer tourist needs bottles to take home, and the St. Louis outpost of the **Craft Beer Cellar** is a great place to stock

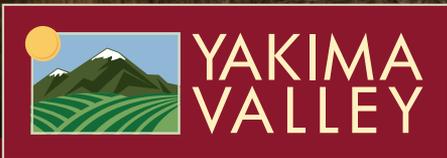
PHOTOS: COURTESY SIDE PROJECT CELLAR; COURTESY SCHLAFLY; COURTESY THE CIVIL LIFE

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**Left** » Perennial Artisan Ales almost always has one of their signature stouts on tap. **Below Left** » Grab a seat at Cugino's in Florissant and try their Narrow Gauge beers.

up. Their selection is always well-curated and thoughtful.

### Clayton

Any of the four **The Wine and Cheese Place** locations are worth a visit if you're close, but the Clayton location is worth a special trip. If you're ambitious, you'll join their beer club and spend enough to qualify for one of the occasional ultra-limited barrel-aged releases they host with Perennial or Side Project, but be prepared to empty your bank account when competing with their enthusiastic locals. Don't overlook the cheese selection either—they feature great selections from around the world.

### Florissant

It's a drive north of the city proper, but if hazy IPAs are your thing, then a visit to **Narrow Gauge Brewing Company** in Florissant should definitely be on the itinerary. The brewery is co-located with

Cugino's restaurant, so grab a seat at the bar, order some Italian-American-meets-pub-grub fare, and explore the many hops-forward hazy offerings on draft.

### Further Afield

Within an hour (or so) radius of St. Louis are a few must-visit breweries for adventurous types. **Scratch Brewing** out in Ava, Illinois, has rapidly become one of the most interesting (and influential) breweries in the country, thanks to their focus on foraged ingredients and historical brewing processes. They have literally written the book on brewing with seasonal, foraged ingredients, and a visit to their brewery is both a beautiful way to experience their holistic approach to beer making and the best way to sample the widest variety of their consistently creative and inspiring beer.

South of St. Louis, **Main and Mill Brewing Co.** has put Festus, Missouri, on the map with a mix of well-made classics and remarkably good progressive offerings. The taproom itself feels timeless and comfortable, and the pub fare will fill you up while you taste through the taps. 

PHOTOS: JAMIE BOGNER; COURTESY NARROW GAUGE BREWING CO.

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# The Goat Rider

The world of Belgian lambic is renowned for its slow rate of change, focus on traditional methods, and superstitions that grant it a mythology that can be difficult to penetrate. “New lambic blender” are words not often spoken, but upstart Raf Souvereyns’s Bokkereyder lambic brand is putting that phrase in headlines with a distinct nod to the blending tradition and a progressive attitude toward incorporating winemaking techniques. **Words & Photos by Jamie Bogner**

**“ABSOLUTELY NOT.”** Raf Souvereyns does not want photos taken in his industrial warehouse in Hasselt, about an hour outside of Brussels. He’s a private person, and publishing photos of what is basically his second home seems like sacrilege. We meet on a summer Sunday during the Belgian cherry harvest, and Souvereyns, along with a handful of friend volunteers, are packing cherries into barrels then racking beer on top of them.

We taste some cherries, destined for his kriek, and they’re sweet but rich with layers of earth and almond. They’re not the well-known Schaarbeekse variety, but a flavorful variety from a farm south of Brus-

sels that Souvereyns prefers. He doesn’t choose fruit or methods based on lambic tradition or consumer familiarity but is on a mission to bring the fruit-handling techniques of winemaking into the world of spontaneously fermented beer.

“When I started this whole thing, I knew why I wanted to do it—I knew it could be done in a different way, from my experience at wineries learning about winemaking,” Souvereyns says. “I don’t want to sound pretentious, but I knew that I could possibly make something better or at least give it a very different twist. Whether it’s better is very subjective, but I could make it a whole different product.”

Bokkereyder, the brand (named for the creatures of Dutch folklore that rode on the backs of goats provided by Satan), started inauspiciously—as a home-blending project in his grandmother’s house. A winemaker sent him home with a small barrel and suggested he age some lambic in it. After acquiring some inoculated wort from De Troch, he aged that beer for a year, added some cherries to the barrel to make a kriek, and the result was...disappointing.

“It was the worst beer I’ve ever made,” says Souvereyns.

But the experience only encouraged him to experiment with new methods, to make the beer he envisioned in his head. He acquired more barrels and more inoculated wort and honed his fruit techniques. Eventually, the personal project grew into a bona fide business.

“After more than two years of making beer, I found that there are people who actually drink it and even pay for it, and that was

**Opposite Left»**  
Bokkeryder's Raf Souvereyns strikes a Hunter S. Thompson pose. **Opposite Right»**  
Volunteers pack freshly harvested Belgian cherries into barrels.

the best part. I was doing it as a hobby basically and found out that people like this stuff. That's how the whole thing started to develop into a business—by coincidence. I never forced anything. That's counterproductive for a thing like this anyway.”

**As we talk,** Souvereyns is direct, self-deprecating, and honest almost to a fault. “I don't know much about brewing beer,” says Souvereyns. “But when you start with something, it's better to know why you're doing it, and along the way you'll figure out how to do it and what exactly you're going to do.”

Lambic blending is a time-honored tradition in Belgium, and it's common for blenders to not brew their own wort. For many years, Drie Fonteinen existed as a blender but not brewer. Tilquin, similarly, purchases wort from breweries to blend and create their own beers. Bokkeryder sources wort from three different lambic breweries—Girardin, Lindemans, and De Troch. The wort is loaded from those breweries' coolships into a portable tank that Souvereyns picks up the day after it's brewed, drives back to his warehouse, and racks into barrels.

“Those who brew beer for me have done it for generations and have all the expertise—the coolships, the right environments, and the microflora in their brewery. I love working with them, and I trust their knowledge and experience,” he says. “Maybe at some point I might brew my own beer but right now, no.”

The inoculated wort from these brewers each has its own distinct personality, and Souvereyns makes decisions along the way that impact how each of them develop. Girardin brings a touch more bitterness than the others but features low acidity and more body. De Troch is light-bodied with subtle citrus notes. Lindemans has a consistent and specific lactic-acid profile. Each wine barrel he chooses further develops those characters in distinct ways, and all of these are things Souvereyns considers as he constructs blends.

“I ferment those three in my own barrels, and the result turns out to be a very different beer from any of the three. They're all three very, very different. With those three, I can make a million different blends. But also it's nice that they're so different because in every fruit beer and even every gueuze I make, every blend is different—the ratios of beer from different breweries and different ages.

“One important thing [when blending] is acidity,” says Souvereyns. “Calling lambic ‘sour’ beer is not exactly right, I think. It's just one part of what lambic is, although a very important part.”

**Our conversation turns to the subject of fruit,** and Souvereyns opens a bottle of Pjassel, a lambic macerated on red peaches that provide a much richer red-orange color than is typical of beers made from the fruit. The acidity is surprisingly restrained, and the peach flavor carries through with notable definition and clarity. Next, we try Wijngaard Muscat & Riesling, a blend made with wine grapes that exhibits a hearty, earthy depth rarely found in beers made with white-grape varietals. Wijngaard translates to “vineyard,” and this line of different beers all showcase different white-wine grapes and techniques.

“This is made with the principle of orange wines,” says Souvereyns. “The plan was to make it with Riesling and White Muscat, but the Muscat was not that good that year, so I took Blue Muscat instead. And that's why it doesn't look like an orange beer or orange wine anymore—it's red.”

“The way I'm making it is similar to orange wine—a long maceration of both Riesling and Muscat. So you have not just the fruity part of the grape but also the floral, slightly herbal,



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**Left»** The inevitable result of processing cherries.

**Opposite»** An unlabeled bottle of Wijngaard with Muscat and Riesling takes its intense color from the Blue Muscat grapes.

“The funniest thing about the old cultures and stuff is that in general, a ‘virgin’ barrel that has come directly from a winery, versus an old lambic barrel—if you put the same batch of wort in them, the virgin barrel will get to a lower gravity than the previously used barrel, even though the used barrel should contain more of the yeast that’s inside lambic. That’s an interesting thing, I think.”



but phenolic thing out of it. I really like that combination from them. I think it makes a much more complex beer with those grapes. After maceration, this one was aged for more than a year in barrels.”

Most brewers add fruit to beer at the end of the brewing process, in stainless-steel tanks or in barrels for a few weeks or a few months before packaging. Souvereyns prefers to leave the beer on fruit for much longer times—as long as six months to a year for his grape beers—then racks the beer off the fruit and back into barrels to mature further.

“[My] grape lambics are aged in oak for sometimes two years after fruiting. It brings the whole thing together and

makes it much more complex. Even the cheapest wines you buy in the supermarket are aged in stainless-steel for a half year before they bottle. Why do they do that for a wine that costs 3–4 euros? It must be absolutely necessary in order to have an okay wine; otherwise, it’s too costly to go through that process. I think the same about the fruit lambics I make.”

Other fruits demand different techniques, as the more delicate stone-fruit flavors are susceptible to degradation if not handled carefully. His apricot and peach macerations are long, relative to others in the industry, at six months. But he insists on steel tanks for those.

“The micro-oxidation you get in barrels will kill those beers,” says Souvereyns. “They’re very sensitive to oxidation. Except for the vineyard peach—that one can stay in barrels for an extended time, and it actually needs micro-oxygenation. Every fruit is different, so it’s hard to say, but I think the whole thing has to come together either in a barrel or a steel tank. It needs some time before it goes in the bottle.”

It’s not that the methods other brewers use are wrong—bottling right after maceration—but he finds that results come quicker when the conditioning happens in barrels or tanks.

“The same process that happens in the barrel also happens in the bottle. If you bottle it right after maceration, it will happen in the bottle as well, but it’s much slower. It takes years in bottles, and if you do it in a barrel instead where it picks up that oxygen, it adds to the complexity,” says Souvereyns.

That same focus on conditioning in barrels extends to his gueuze blends.

“The way I make gueuze is very different from how other people do it. I always make my gueuze in a barrel, so I blend one-, two-, and sometimes three- and four-year-old lambic in specific wine barrels and let that age. Those are finished lambics from somewhat neutral barrels. I always let them ferment together in a barrel before I bottle them.”

**As we drink and talk lambic**, we’re surrounded by oak wine barrels. Our table is a barrel on its side. They’re stacked five high in three rows from the front to the back of the warehouse. But the barrels themselves aren’t just inexpensive fermentation and aging vessels. Souvereyns considers them to be an additional ingredient in his beer as well as a factor that ultimately limits his yearly production.

“I know the full history of every barrel you see in here. My beer spends so much time in a barrel that it’s basically an ingredient. So there’s a limit to how many barrels I can get with a full history and how many people I know in the wine industry.”

Souvereyns loves to ferment his beers in freshly dumped wine barrels (ones where there should not be any latent spontaneous culture in the barrel itself). He works only with wineries that clean and prep their barrels to his standards,



and he'll give them a rinse when they arrive but doesn't do anything that would destroy any of the wine character of the barrel. He's counting on the spontaneous inoculation to do the fermentation heavy lifting and has noticed an interesting phenomenon with these "new" second-use barrels.

"The funniest thing about the old cultures and stuff is that in general, a 'virgin' barrel that has come directly from a winery, versus an old lambic barrel—if you put the same batch of wort in them, the virgin barrel will get to a lower gravity than the previously used barrel, even though the used barrel should contain more of the yeast that's inside lambic. That's an interesting thing, I think. It actually nullifies the whole argument about cultures in barrels. It's contrary to what many people believe. I don't have any opinion about it, but I observe. And I can say in 80 percent of the cases, the lambic will reach a lower gravity in the virgin barrel."

The bottles continue to flow, and eventually we realize that, despite the sun still shining, it's 10 p.m.—a reminder of Belgium's high latitude. Souvereyns presses a bucket or two of leftover cherries into juice using a wine press, for a friend to make jelly, and stashes it in a cooler. Today's harvest is processed, and there will be more tomorrow. It's high-fruit season, and fruit gets processed and used as quickly as it's picked. Stone fruits will be harvested soon, requiring more urgent labor. The cycle continues.

**Souvereyns is philosophical** about how interest in his beers has grown and how his techniques have improved over the past five years. In lambic years, five is nothing—brand new—and he still has much to explore and refine.

"The homework you have to do to create something new takes a lot of time. Trial and error," he says. "There's no final answer to this. It keeps it interesting for all of us." 

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# The Dulcet Tones

People make pilgrimages to the **Suarez Family Brewery**, but they don't line up for releases. There are no pints, only pours, and most of what's on offer is below 6 percent ABV. At this brewery south of Albany, New York, it's about taking it slow, appreciating nuance, and working with both tradition and the surrounding area. **By John Holl**

**THE BREWHOUSE SPACE ITSELF** isn't very large. It's tucked into what was once a garage at a tractor dealership, but the beer lovers and style seekers who walk through the space are drawn to stacks of barrels holding mixed-fermentation ales and to the stainless holding lagers. There's even a fermentor, encased in black-painted spray foam, that was part of the original Alchemist Pub & Brewery in Vermont, now used for fruited-sour production.

All Dan Suarez wants to talk about, however, is his garage-door opener.

"It's the quietest in the business," he says, pushing a button as the door silently rolls upward into a rear storage area where packaged bottles are conditioning and some elderflower destined for a future batch is drying on a windowsill. He didn't request a quiet door; it was just installed that way,

and now that seemingly odd feature has made its way onto the regular tour.

Functional, yes, but it's also a metaphor for the beers he's making at the Suarez Family Brewery in New York's Hudson Valley. Beer today is noisy; it's in your face, from the combination of flavors to the vibrant artistic packaging on cans to hang-over-inducing high ABVs. It might take a few minutes during your first visit—especially if you are accustomed to standing in line or trading online or caught up in the frenetic pace of Instagram and Untappd—but soon enough you'll take a deep breath, exhale, and get in sync with the laid-back nature of the brewery.

Suarez has been brewing professionally for the better part of a decade and homebrewing for even longer. He started off at Sixpoint Brewery in Brooklyn, New York,

back when the brewery was doing a lot of contract production in Pennsylvania. He, however, spent time at a pilot system in the city. It was all experimental, he says, for the time—all *Brettanomyces*-fermented beers, Gose, and things that might seem quaint these days but were cutting edge not too long ago.

"But I feel like where my mind, my head, is lately has been to try to brush up on technique and process," he says, sitting in the brewery's taproom, which is clean and stark, yet somehow familiar and comfortable, just like the beers he produces. "If you asked me 10 years ago, I would have said, 'I'm an artist, and creative, and trying to make something no one ever has before.' Now, I want to make the simplest beer possible, and it's about technique and process."

It's like being a furniture maker, Suarez says. He makes something and then tweaks it, improves it, maybe makes slight variations, but you still know what the intent is.

"With these subtle beers, I'm able to really taste a profound difference, sometimes, and I think that's the height of the brewing endeavor—the small tweaks and chipping away at it. Trying to make a quality beer just by making these small tweaks."

It's midmorning on a day the brewery is closed to the public. He's drinking a latte from a ceramic mug with a broken



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“If you asked me 10 years ago, I would have said, ‘I’m an artist, and creative, and trying to make something no one ever has before.’ Now, I want to make the simplest beer possible, and it’s about technique and process.”



handle. Tom Petty and the Heartbreakers are on the stereo in the brewhouse, but it’s not being blared; it’s drowned out by pumps and other brewery-machinery noise that comes through an open door in the back. The volume is usually cranked high at breweries, giving the opposite effect, but it’s another small way the beer takes a humble turn in the spotlight.

Suarez has been thinking about building a lot lately. He’ll soon be opening a back bar—he needs to find some time to finish it off with a hammer and nails—on the brewery property, behind a large shed, near a grove of fruit trees that he and his wife and co-owner Taylor Cocalis Suarez planted shortly after taking over this space. The back bar is going to serve only helles, lemonade, and a shandy mixed from the two.

It’s part of a philosophy that comes with having experiences around beer, not nec-

essarily with beer. Suarez has seen firsthand—from the 3 years he spent working at Hill Farmstead Brewery (Greensboro Bend, Vermont)—the near rabid devotion some people have with limited releases or just everyday recipes.

“I never want to blow anyone’s mind with one of my beers,” he says. “You can’t expect fireworks or rays from the heavens from every beer you drink. It’s cool to drink a beer like that, but I don’t desire to drink a beer like that every day. I like an easy beer, like comfort food. It’s not quite as loud, and you’re not dazed after drinking. It’s a normal part of everyday life.”

He’s never had a line for his beers, Suarez says. If you show up wanting a case of Palatine Pils, their unfiltered classic German Pilsner, you’re likely to go home with it. Same for the mixed-fermentation beers he bottles. That suits him just fine because



### Listen Up!

Tune in to the *Craft Beer & Brewing Magazine*® podcast to hear more of Senior Editor John Holl’s conversation with Suarez Family Brewery’s Dan Suarez. [beerandbrewing.com/podcasts](http://beerandbrewing.com/podcasts)

he’s not striving to be the next “it” brewery or to live with the pressure that comes with constantly having to try to impress a certain kind of beer drinker.

Still, there are beers that he gets excited about, and he grins like a kid on Christmas morning when he talks about them.

Being in a more rural and farm-focused part of the Empire State has led him to create some fruited beers that stand out. There’s a cherry farm up the road that he’s particularly fond of. He’s gone the kriek route with them, of course, but also added them to a grisetto recipe.

Earlier this summer, as the harvest was kicking into high gear, he was already thinking about what to make next. But rather than thinking about the cherries in the way many of us do—appropriately red, plump, and shiny—he had recently come across something else.

A dry, hot start to the season followed by a few hard downpours had split a lot of the fruit on the trees, making it unsuitable for the tourism-popular you-pick outings. So a lot of the fruit was going to go fallow. Walking the orchards, Suarez noticed that the damaged cherries had become “raisin-like” with a concentrated cherry-juice flavor that was almost honey-, fruit leather-, and syrup-like. He considered gathering a crew to go get as many as possible because the beer potential was just too good to miss.

“You can’t buy that. You can only stumble upon the opportunity by being in the field and talking to the farmer,” he says.

If it comes to fruition, like all his beers, it will tell a story: one of place, or time, or a simple thought, or just something that adds to a good evening.

“We want to make a change in our beer culture to make it more sensible and less chaotic,” he says. Before he opened the brewery, he’d say, “It’s just beer,” but because he now lives and breathes it and it’s his livelihood and future, he can’t be as flip, but still he wants to convey to every customer who comes in for a glass or who takes some home that all he tries to do is to make “something tasty that you put on your tongue. With all of our beers I want it to have that ‘ahhh’ after a swallow, and then hopefully you go back to chilling with your friend or back to a meal. That’s my perfect scenario. I want to bring the beer drinker back down to earth.”

## MAKE IT

# Kinda Classic, a Modern Saison

Well-hopped with low-alpha hops and fermented with characterful yeast, this simple recipe perfectly reflects the brewing philosophy at Suarez Family Brewery.

### ALL-GRAIN

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

**Brewhouse efficiency:** 72%

**OG:** 1.038

**FG:** 1.004

**IBUs:** 30

**ABV:** 4.5%

### MALT/GRAIN BILL

7 lb (3.2 kg) American 2-row malt or German Pils malt (or a blend of the two)

### HOPS & ADDITIONS SCHEDULE

4.4 oz (125 g) dextrose at the beginning of the boil  
9 oz (250 g) Warrior [17% AA] at 70 minutes  
1.72 oz (49 g) Hallertauer Mittelfruh [2.2% AA] at 25 minutes  
1.03 oz (29 g) Styrian Celeia [3% AA] at 25 minutes  
1.03 oz (29 g) Hallertau Mittelfruh [2.2% AA] at whirlpool  
1.72 oz (49 g) Styrian Celeia [3% AA] at whirlpool

### YEAST

Your favorite farmhouse-ale/saison-type strain

### DIRECTIONS

Mash for 60–90 minutes at 147°F (64°C). Boil for 90 minutes, following the hops schedule. You can add the dextrose as soon as the wort comes to a boil (because it can take a while to dissolve all of that sugar), but it can just as easily be added at the end of the boil with the whirlpool hops.

Ferment at the high end of your yeast's temperature tolerance. After terminal gravity is achieved, condition the beer for one month at cellar temperature. (Or shorter. Or longer. Or warmer. Or colder. Best to experiment with this period of maturation). Bottle-condition to a carbonation 3.2–3.7 volumes of CO<sub>2</sub>.

### BREWER'S NOTES

The recipe may seem basic, but it is the perfect foil for experimentation. Care to add more simple sugar or no simple sugar to the kettle? I would absolutely recommend experimenting with this parameter. Care to conduct a quick and warm maturation after primary fermentation and bottle soon thereafter? It would certainly be fun/educational to tweak this variable. Bottle-condition with honey instead of dextrose? Sure, why not? Brewing standard recipes such as this one while focusing on tweaks to brewing, fermentation, maturation, or packaging variables is the best way to develop your skills as a brewer.

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# The Future-Facing Classicalist

When a brewer who cut his teeth on classic styles and learned the importance of repetition and quality is unleashed into a brand-new brewery where the only limitation is his imagination, good beer is bound to happen. In the case of **Shaun Berns** of **MORE Brewing Co.**, there's a lot happening in the Chicago suburbs, not only with haze and wood, but with fruits of all kinds. **By John Holl**

**ASK JUST ABOUT ANYONE** who has made the leap, and they'll tell you that there's a big difference between selling beer and making beer. Brothers Sunny and Perry Patel had experience running a well-liked and well-run beer store in the Chicago suburbs, but when they decided to open their own brewery, they sought out an experienced brewer with roots in the area who not only could make classic recipes, but also had a passion for experimentation.

It turns out, they didn't have to look very far. Shaun Berns was working just up the road at the RAM Restaurant & Brewery, part of the regional chain.

"There was an excitement to try a new thing, to oversee construction, jobs, and all the weird things that come with opening a brewery," Berns says. "I carried with me a lot of the ideas developed at RAM. I knew what was working, what wasn't ready, and what recipes I wanted to explore."

While Berns was at RAM, there was a mandate to make six regular beers: a blonde, an amber, a porter, a hefeweizen, an IPA, and a seasonal. In between, he could make the beers that struck his fancy. Now at MORE, which opened in July 2017, he can expand into the current styles, such as New England-style IPAs and pastry stouts, and "focus on what's popular in brewing right now."

Still, those years at RAM of turning out pretty basic recipes that needed to be technically perfect each and every time taught Berns the importance of fundamentals, and he credits that repetition and exacting nature with helping MORE's current popularity.

"There are beers that the locals want to drink, that I want to drink myself," he says. "And then there are the experimental beers that get new people through the door."

Each new accolade (such as winning best-in-show at the Festival of Wood and Barrel Aged Beer last year), brings new customers, and Berns is keeping up with demand. And, of course, the drumbeat demand is for IPA.

PHOTOS: COURTESY MORE BREWING CO.



“Everything that we’ve done to this point has been hazy. Once a month, I say we’re going to do a classic East Coast or West Coast IPA with classic hops, such as Centennial or Simcoe, but we haven’t done it. I guess every time I talk about doing it, I’m almost out of the current hazy IPA, and I need to get brewing another one, so it keeps getting pushed to a back burner. These are styles that I respect, but we, like others, have painted ourselves into a corner to produce hazy IPA, and we won’t change that.”

He does like the challenge of the hazy IPA, however. There’s so much out there that he tries to pay attention to what’s good, not necessarily what’s different. The brewers who he looks up to, who dominate the style, and who have a good handle on processes and ingredients and flavors, he’ll study to follow their path and not just brew for the sake of brewing.

## Make It Villa Pils

MORE Brewing Co.’s Shaun Berns says this is one of his “favorite beers. It started off as a German-style Pilsner but quickly changed to a classic American lager.”

### ALL-GRAIN

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

**Brewhouse efficiency:** 75%

**OG:** 1.048

**FG:** 1.010

**IBUs:** 15

**ABV:** 5%

### MALT/GRAIN BILL

6 lb (2.7 kg) Pilsner 2-Row

1 lb (454 g) Carafoam

4.2 oz (119 g) acidulated malt

### HOPS & ADDITIONS SCHEDULE

5 grams calcium chloride at 90 minutes  
0.59 oz (17 g) Sterling [7.5% AA] at 60 minutes

9.8 oz (278 g) corn sugar at 30 minutes

### YEAST

Saflager W-34/70

### DIRECTIONS

Mash for 45 minutes at 150°F (66°C). Boil for 90 minutes, following the hops and additions schedule. We knock out at 60°F (16°C) and hold overnight. Shoot for a pH going into the fermenter of about 5.2. Once we see visible signs of fermentation, we lower the temperature to 52°F (11°C) and hold for 1 week. We then let the temperature free rise back to 60°F (16°C) for a diacetyl rest for an additional week, then begin to crash to 32°F (0°C) over the course of a week. We then fine it and let it mature for an additional week before transferring, carbonating, and packaging. It should be very drinkable, light and refreshing, yet still showcase a crackery, doughy malt presence from the Pilsner malt.

### BREWER'S NOTES

The calcium chloride addition depends on your water chemistry. With our water, I like the perceived fullness it gives the beer while still keeping it very dry. This is one of the best beers to beat the heat of summer and to showcase your skill set as a brewer since there’s not a lot to hide behind if it’s flawed. You can really fine-tune any problem areas you may have as a brewer with this style.



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"I won't forget that the only reason I'm brewing hazy is because I had the privilege of brewing a blonde ale over and over again, getting it dialed in. If you can't brew a basic beer, to be honest, it's hard to maintain a career long-term. You need to be aware of recipe development, water chemistry, and all the other basics. It's more complicated than a lot of people realize. The New England-style IPA is particularly tricky and not as straightforward as some people think, and it's figuring out the complexity that is such a lot of fun."



In the first few months of MORE, while keeping up with the Joneses, Berns tried his hand at quick kettle sours, putting his 10-barrel direct-fire ABS brewhouse through the paces. Of course, he fruited them. And they were a hit, well-liked by customers who asked for more fruit but maybe a different base style.

Berns looked to the American wheat ale, a style that has long been popular in the Midwest, as a canvas for fruit. Where a kettle sour focuses on the acidity and the balance from the fruits could be lost, a wheat ale gives the finished beer an almost smoothie-like character and became an immediate hit with customers.

"I try to make it interesting and add fruits that I don't usually see together, such as

blackberry and mango," he says, "or things that sound like a match made in heaven, such as raspberry and plum. I'll look for fruits that complement each other in different ways." Earlier this summer, he added blueberry and cocoa nibs, along with honey and some cinnamon, to a wheat ale in an attempt to mimic a granola bar.

He's not shy about using fruit purees from a farm in Oregon, saying, "They honestly have the best-tasting, ripest fruit ever, and they do add citric acid to preserve it, and they puree it and filter it, and it just works." He says he's found the best success adding the purees post fermentation.

"It goes against a lot of the things I learned at Siebel because there's literally pulp in the beer, but people love it. We can

now do a flavor-of-the-week, and because of our size, we can keep up with that."

At the brewery, the beer is served directly from the bright tanks, but there's also the Codi canning system that sends fresh beer out into the world. The versatile system, Berns says, gives him freedom on what he wants to release and when.

Spend even just a little time with Berns, and you'll find a brewer who has one foot planted firmly in the past and one pointed toward the future.

"I won't forget that the only reason I'm brewing hazy is because I had the privilege of brewing a blonde ale over and over again, getting it dialed in," he says. "If you can't brew a basic beer, to be honest, it's hard to maintain a career long-term. You need to be aware of recipe development, water chemistry, and all the other basics. It's more complicated than a lot of people realize. The New England-style IPA is particularly tricky and not as straightforward as some people think, and it's figuring out the complexity that is such a lot of fun."

He applies the same thought to his barrel aging, noting that each barrel is different, even when they are sourced from the same brands. He's been aging stouts in Heaven Hill barrels of late and says that the team has been enjoying finding different flavors, from a deep tannic, almost red-wine, flavor in one to vanilla in another.

"There's a lot that can happen with flavors, but over and over again it keeps coming down to making sure that the base beer is dialed in, doing what we want flavor-wise, and then that can be a canvas for anything else we add, from hops to fruit to barrels." 

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| PICK SIX |



## PICK 6

# Hops, Haze, & Funk

**Maine Beer Company** has developed a reputation for expressively hoppy beers, so it's no surprise that half of Cofounder **Dan Kleban's** 6-pack is lupulin-focused. But his love for Belgian and Belgian-style funk, flavor, and character fills out the other three spots in this experience- and relationship-driven list. **By Jamie Bogner**

**THE STORY IS A COMMON ONE—**recession hits, guy loses job, guy sets out to build a business around something he loves rather than jumping back in the corporate rat race—but what sets Dan Kleban's Maine Beer Company apart is a dual focus on values and quality and just how intently they pursue both. In the world of brewing, artists are plentiful, as are businesspeople, engineers, and even idealists. But harnessing the strengths of each of those personalities is a true balancing act.

Maine Beer Company has done it, creating groundbreaking hoppy beers from their sustainably powered brewery in Freeport, Maine, while giving back to environmental

causes in a consistent and intentional way. Kleban is known for his use of hops, so it's no surprise that his dream 6-pack starts with a classic in the IPA genre.

### **Bell's Two Hearted**

*(Kalamazoo, Michigan)*

"I grew up in southeast Michigan. My brother went to school in East Lansing, Michigan, and I remember going up to visit him in my late teens, going out to eat at a local college bar, and ordering Two Hearted. I didn't know there were breweries around back then—this was 1994, probably—but after ordering that beer I was like, 'holy smokes there's something different about this.' It was



## Hear Here!

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the first experience having a beer from a brewery that was close to me.

"As I entered the homebrewing world and then the professional brewing world, I came to appreciate the craft that went into formulating that beer. Today, with this proliferation of IPAs across the country, it still holds its own as one of the best IPAs

made in the United States. That's saying something for a beer that's been around that long. It's a well-balanced IPA. It's not over-the-top bitter; it's just pleasant. It's extremely difficult to achieve that kind of timelessness. That beer is an example that has withstood the test of time, and I would put it up against any IPA that any brewery is making in the United States."

### **Allagash White**

*(Portland Maine)*

"I moved to Maine in 1999—I was 21 at the time—and that was the first time I ever had a beer that looked like Allagash White, that smelled like it, that tasted like it. It was probably the first Belgian-style beer I had. I don't know that the term 'craft' was part of my vocabulary back then, but I knew that I was drinking something different and unique, and I could tell that whoever made it put some real time and effort and passion into it.

"It was a brewery that was right down the road, and back in '99, that was still a unique phenomenon. I'm very well connected with Allagash now, and it deepens the meaning of the beer when you come to know the stories behind it, especially the struggles that Rob had for years trying to convince people that it was supposed to be cloudy, and it was supposed to taste like that. I appreciate it even more knowing the blood, sweat, and tears that went into creating that brand."

### **Russian River Pliny the Elder**

*(Santa Rosa, California)*

"When we started our brewery in 2009, I hadn't had any beer from Russian River, but I had heard about them. Obviously, we don't get Russian River in Maine and probably never will get Russian River in Maine. But I remember as a homebrewer listening to homebrew podcasts and reading homebrew articles, and Vinnie and Natalie [Cilurzo] had developed quite a reputation for what they'd built. Then I remember

ILLUSTRATION: JAMIE BOGNER

the first time I had some, and it was one of the few beers that lived up to the myth. You build things up in your head—not just beer, anything in life—and are often let down, but that beer certainly did not let me down.

“Even though I’d never had it before, when I drank that beer I said to myself, ‘These are the beers we’re making here, too.’ Vinnie and I didn’t know each other and had never had each other’s beer, but their approach to brewing was similar to the thing we were trying to create up in Maine at the time—clean, hops-forward beers that weren’t super bitter.”

### Fantôme Saison

(Soy, Belgium)

“The guy who taught me how to homebrew shared a Fantôme Saison with me before I started homebrewing with him—he’s a partner at the law firm where I practiced before I started the brewery. He had a bunch of us young associates over as a team-building thing and shared a bunch of beers from around the world with us. He shared some Belgian beers, and German beers, and American beers, and taught us the difference between ales and lagers. It was a fun little course. This was one of the bottles he shared with us.

“I researched it a bit after I had it, and the story of that brewery and the mystique behind it are something that I had never experienced before. The allure of this little barn out in the countryside in Belgium where this guy was just creating these beers where you kind of just ‘got what you got,’ and more often than not it turned out to be really, really good. So to this day, if I can get my hands on a good bottle of it, it’s always a special treat.

“Dany [Prignon] of Fantôme is such a colorful character, and looking at his example added a lot of life to what brewing could be.”

### Half Acre Daisy Cutter

(Chicago, Illinois)

“Matt Gallagher [of Half Acre] and my brother and I met in 2009 at CBC in Boston, right as they were starting—we randomly sat down at the same lunch table, and we hit it off with Matt. Since then, in a lot of ways, we’ve grown up together.

“I remember having Daisy Cutter and thinking, ‘These guys get it. These are the kind of beers I like. These are the beers we’re trying to make at Maine Beer Company.’

“Balance is number one for me. It’s not overly sweet; it’s not overly bitter. It has a nice dry hop to it. The hops varieties are the kind I like—the citrusy, floral, piney side of things—and it’s designed in a combination that just hits the mark.”

### Lawson’s Finest Liquids Maple Trippel

(Waterbury, Vermont)

“Many of these beers are special, not just because they’re great beers, but because there’s a story and a connection that I have to the brewer. Sean and I started the same year. We were both brewing on glorified homebrew systems because the term nanobrewery didn’t exist back in 2009. I was brewing on Blichmann 45-gallon pots on lobster burners, and he was brewing in his barn out back on a very similar setup.

“Sean is a special guy in our community up in New England and is one of those guys who makes great beer and could certainly have a big ego but is extremely humble. Maple Trippel is one of the first commercial beers that you could tell started out as a homebrew. It’s not a beer you’d conceive of that would sell. The care he put into that beer, from the hand-applied labels and the foil on the top—I dare to say he wasn’t making a ton of money on that beer—but you know he loved to make it, and it became a cult favorite and gained him his much-deserved notoriety.

“All of that aside, on a winter night, it’s so comforting to pull out a snifter glass and pour some of it, then drink it like a nice liqueur.”

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## ASK THE EXPERTS

# Water Testing, Buttery Flavors, and Leaky Keg Systems...

Homebrew expert **Brad Smith**, author of the Beersmith homebrewing software and the voice behind the *Beersmith* podcast, answers questions about water testing, buttery flavors in beer, and leaky keg systems.

### Why do some of my beers have a buttery flavor to them?

That buttery flavor is an off-flavor usually caused by fermentation problems. It is created by a compound called diacetyl, which is a by-product of fermentation. Diacetyl can produce a flavor like buttered popcorn or a slightly butterscotch flavoring.

Diacetyl is one of two major vicinal diketones (VDKs) produced during fermentation. The other is pentanedione, which has a honey flavor to it. Both are present in all beers, although usually they are well below the threshold where they can be detected. Lighter ales and lagers are more susceptible to diacetyl problems simply because the compound is easier to detect in a light-flavored beer.

Diacetyl is produced during active fermentation, but yeast can actually mop up diacetyl during the later phases of fermentation. To aid yeast in cleaning up diacetyl, it is important that you do a diacetyl rest, which involves raising the temperature of the finished beer by a few degrees at the end of fermentation. This

can be done with both ales and lagers, and a healthy yeast population can clean up diacetyl in as little as a few hours, although usually the diacetyl rest is maintained for a day or two.

A healthy yeast population is critical for managing diacetyl as well as other off-flavors, so you should make sure you pitch enough healthy yeast, aerate your wort before pitching the yeast, and manage your fermentation temperatures. It is also common with some lagers to pitch additional yeast during the diacetyl rest to aid in mopping up any remaining diacetyl.

In addition, both bacterial infection and oxygen can cause diacetyl problems in your beer, so proper sanitation is critical. You also need to minimize oxygen exposure once fermentation has started as oxygen can cause a variety of off-flavor and stability issues. It is also common to have diacetyl form in dirty keg lines and taps where both oxygen and bacteria are present. This is a big problem at many craft breweries and pubs, so it is important that keg lines and taps be cleaned regularly.



### What is the best way to get my water tested for beer brewing?

Water, which makes up more than 90 percent of beer, is very important for beer brewing. It's so important that many commercial brewers select brewery locations specifically for the water.

For brewing, you are primarily concerned about the "big six" water ions: calcium, magnesium, sulfate, sodium, chloride, and bicarbonates. In addition, a pH measurement is handy—though not required—and often you can estimate bicarbonates if you have the total alkalinity measurement. Once you have these numbers, you can put them into your brewing software or spreadsheet to aid in estimating mash pH and acid adjustments and to match other waters using salts.

In some cases, you can get these measurements from your water provider, although unfortunately, many of the published water reports don't have all of the ions listed. Another option is to send

your water to a lab and have it measured there. Some labs, such as Ward Laboratories, can measure a sample for less than \$30, which is a great option if you have a consistent water source and need to make only a single measurement. When choosing a lab, make sure you get a "brewing water test" and not a regular water test because many regular water tests do not include the "big six" ions.

Some water sources change over time because some municipal water plants pull water from different sources during the year. If you need repeated water measurements, you may want to consider a water test kit, which costs a bit more than a single lab test. Water test kits are also great options if you can get a group of brewers to share the cost or perhaps buy one through your brew club. Companies such as Industrial Test Systems, LaMotte, and others have affordable test kits designed specifically for brewing use. These are the kits you should look for to make sure you can measure the "big six" ions. Many also have

an optional pH meter you can purchase with the kit for pH measurement, which can also be used for measuring mash pH.

A final option if your water supply is inconsistent or really not appropriate for brewing is to simply use distilled or reverse-osmosis (RO) water, which has zero mineral content, and add some salts to bring the water up to the desired ion content. This is obviously more expensive since you need to purchase distilled or RO water for brewing, but it is a good option if your water supply is poor or changes often.

### I assembled a new keg system, and it has a slow leak as it drained my entire CO<sub>2</sub> tank. How can I find the leak?

It can be quite maddening to assemble a new keg system only to have your CO<sub>2</sub> tank empty out over a period of days or weeks. Even a small leak can cause CO<sub>2</sub> loss over time, eventually draining your tank. Here are a few of the steps I take when setting up a new keg system.

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First, I carefully check all of the connections to make sure the hose clamps are tight and seal well. It is not uncommon for new keg connectors or taps to be a bit loose. For the kegs themselves, I prefer to use a bit of keg lube on the posts. Keg lube, which you can purchase from your homebrew store, is a food-safe lubricant that provides a nice seal in the event your keg connectors are not a perfect seal. It is not a bad idea to check the rubber keg seals and seals on the keg posts as well as the poppet valves on the keg posts to make sure these are in good condition, as a leak on the output side can create quite a mess as beer pours from your pressurized keg.

Next I perform a leak check. To do this, I prefer using a large glass container, such as a clear bowl. Put water in the bowl and then very gently add some dish soap or, alternately, mix in some Star San. Soap works well, but it needs to be rinsed well because soap can reduce head retention in beer. Star San works well because it will foam when the CO<sub>2</sub> bubbles through it

but does not need to be rinsed.

Put the system under pressure and then check each of the keg connectors by immersing it in your bowl and watching for bubbles. Do the same with as many of the other connectors as you can reasonably immerse. If you have connections that can't be immersed, you can spray or drip some water or Star San onto the seals and look for bubbling.

Another trick is to disconnect your beer kegs and up the pressure on the system to roughly twice the normal operating pressure and check again for leaks. Often you will find leaks at the higher pressure that might be hard to detect at low pressure. Remember to turn the pressure down again and bleed off the excess CO<sub>2</sub> before connecting your

kegs again. This is the best method I have found for isolating leaks. 

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**Opposite from top »**

The Bulldog Pup uses gas rather than a pump to provide more gentle racking from barrels; Cellador's Kevin Osborne sampled a barrel of sour beer and put the Bulldog Pup to use.

**GEARHEAD**

# A Wine Wand for Wild-Ale Wizardry

When it comes to making barrel-aged beers, a growing number of breweries are looking to wine producers and their tools to help with the process. The Bulldog Pup is a specialized racking cane that uses gas pressure to gently push liquid out of a barrel without the agitation and possible oxygenation that pumping can sometimes cause. **By John M. Verive**

**IN THE SAN GABRIEL** Valley north of Los Angeles, there's a brewery that casts a shadow, figuratively and literally, on the local landscape: the Anheuser-Busch plant opened in 1954, occupying a ninety-four-acre swath of the city of Van Nuys.

Tanks and silos are easily visible from the nearby freeway. Railroad tracks crisscross the neighboring streets bringing materials to the 1.7 million-square-foot brewery. Some 275 trucks visit daily to pick up the more than thirty brands of beer brewed under the AB umbrella. The Bud Light is beechwood aged in 4,000-barrel lagering tanks; there are sixteen such tanks in the cellar. The plant makes beer on an industrial scale.

One mile away at Cellador Ales, the beer is made very differently: one barrel at a time. Founded by husband and wife team Kevin and Sara Osborne in 2014, Cellador was built as an outlet for creative energy and entrepreneurial spirit.

All the beer made at Cellador is fermented in oak, and the small brewery space is filled wall-to-wall and floor-to-rafters with stacks of mostly wine barrels sourced from California's Central Coast with a few choice spirit barrels mixed in. No stainless-steel fermentors or brewhouse is in sight, and all the wort is produced off-site. Much of the beer is re-

fermented with fruit sourced from around California, and everything from sour cherries to heirloom varieties of peaches from the renowned Masumoto Family Farm to carrots flavor Cellador beer. Getting all that fruit into wine barrels requires some special tools (namely a restaurant-grade immersion blender and a powerful juicer), but it's getting the finished beer out of the barrels that's the real trick.

## A Page from the Winemaker's Book

Like so many of the barrels that Cellador relies on for fermentation, the tool they use to get the beer out of those barrels also originated in wine country. The Bulldog Pup is a specialized racking cane that uses gas pressure to gently push liquid out of a barrel without the agitation and possible oxygenation that pumping can sometimes cause.

Designed by Don Othman, who founded Bulldog Manufacturing as a mobile metal shop to service the burgeoning Central Coast wine industry in 1975, the Pup was created to meet the needs of California pinot noir producers. In the mid-eighties, the finicky pinot noir grapes confounded winemakers who struggled with oxygenation and decided traditional racking methods were too violent for the delicate pinot juice. A winemaker asked Othman

for a better way to transfer the pinot and prevent oxidation, and he began to develop an alternative.

The Pup was introduced in 1986 and was a hit among California's pinot producers. Soon word spread, and wineries from around the globe were ordering the custom-fabricated wands from Othman. The improved racking cane features a few new tricks: An expanding silicone bung creates the seal needed to pressurize the barrel, and an integrated sightglass and adjustment sleeve allow for the cane's inlet to be placed just above the lees in the barrel. Winemakers use inert and inexpensive nitrogen to pressurize barrels to between 10–15 PSI. It's a simple design executed well, and the Othmans say they've sold thousands of Pups to wineries in every wine-producing country on the planet.

Some time in the nineties, brewers began calling. Othman helped build Firestone Walker's original brewhouse in Los Olivos, California, and parts of the Pup were actually repurposed into the original Firestone Union manifold. (For more about the Firestone Walker Union manifold, see "Sour Union," *Craft Beer & Brewing Magazine*®, August/September 2017.) As craft brewers began their explorations in oak, they found a need for a pumpleless racking solution as well, and winemakers told them about the Pup. Don Othman's wife and business partner, Gwen Othman, says she thinks New Belgium was the first craft brewery to ask for a Pup. Gas pressure racking arms—both the Pup and its imitators—are now standard equipment





**Left»** Osborne visually checks beer as it's racked using the built-in sightglass.

## Where To Find Your “Wine Wand”

The Bulldog Pup is available from the manufacturer ([bulldogmfg.com](http://bulldogmfg.com)), and the setup starts at about \$700 with various options and add-ons available. It's made in the United States and still assembled in Othman's shop. Demand for the device is still rising as more craft brewers and craft distillers refine their cellar techniques.

Several competitors and imitators are also available—Othman was denied a patent in the eighties because the design was too simple, but it's the simplicity as well as the ease of sanitizing and repairing that have added to the Pup's popularity.

Michigan brewery equipment retailer GW Kent offers an imitation product that they call the Bulldog Barrel Transfer Tube ([gwkent.com/bulldog-barrel-transfer-tube.html](http://gwkent.com/bulldog-barrel-transfer-tube.html)), and while this version works the same as the original, a quick search on ProBrewer and other professional brewery forums reveals complaints about durability and partial aluminum construction.

The most serious competitor to the Bulldog Pup is the Rack-It-Teer built by Tony Pratt in Wyoming ([rackitbeer.com](http://rackitbeer.com)). Also using all stainless-steel construction, the Rack-It-Teer uses a slightly different method for sealing the barrel and includes a few ease-of-use improvements. It's the tool now used by Firestone Walker in both their spirit barrel-aging program and at their Barrel works wild-ale facility.

at craft breweries moving a lot of liquid through oak barrels.

### A Go-To Tool

At Cellador, every beer is in and out of barrels, onto and off of fruit—sometimes several times before it's bottled—and Osborne knew that he needed a bulletproof solution that would be easy on the beer and easy to wrangle by himself.

“Our philosophy when starting out was to do everything as manually and naturally as possible,” Osborne says. “I'm really worried about oxygen pick-up—especially at the late stages. I don't want to mess with pumps.”

Cellador was built to be a small-volume wild-ale brewery that could take advantage of both California's nonpareil produce and L.A.'s escalating thirst for sour beer. The Pup was a go-to tool almost from day one of the brewery.

Osborne's Pup has seen better days. It's worn from use and doesn't seal barrels as firmly as it once did, but every beer he's made over two-plus years has traveled through it. He demonstrated the process while working on the brewery's second-anniversary beer.

The barrels selected for the blend are arranged on the limited floor space in preparation for filling his blending tank. He purges the tank, all the hoses, and the Pup with CO<sub>2</sub> and inserts the racking cane into the bunghole of the first barrel. A twist of the brass sleeve above the Pup's bung tightens the cane into place, and Osborne locks it down with a pair of ratchet straps. He sets the wall-mounted CO<sub>2</sub> gas regulator to 10 PSI (he uses a little less

pressure when transferring beer from a fruited barrel) and slowly opens the inlet valve on the Pup while holding a flashlight to the sightglass.

He adjusts the depth of the cane to get a clear flow, then stands back for the five minutes it takes the barrel to drain. After filling barrels, it's the easiest step in Cellador's whole production.

Cellador's production is based on wood fermentations with mixed cultures, and it features a bounty of fruit (and sometimes vegetable) additions, but there is little standard operating procedure beyond the mechanics of transferring liquid among tote, barrels, and blending tank (and often back to barrels and back to tank) and into bottles.

Osborne says he learned blending and wild-ale production “by just jumping into it at the brewery,” and Cellador's ales are some of the best mixed-fermentation beer being made in Los Angeles right now. Experimentations with pitching bottle dregs into carboys in his homebrew days led to the diverse collection of mature colonies of microorganisms that live at Cellador (still housed in those same 5-gallon carboys).

He started experimenting with wood in a quarter cask-sized whiskey barrel, and that barrel is still at Cellador among the 150 other wine and spirit barrels. Osborne works from inspiration and instinct. His process is nimble and allows for quick reactions to finding great produce, how liquid develops in the barrels, and visits from the muses. Patience, an eye for detail, a sharp palate, and an openness to inspiration are Osborne's most important tools, but right after that, there's the Bulldog Pup. 

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## BREWING IMPACTS

# The Terroir of Barley

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

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

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

### Barley Throwdown

"People understand how terroir affects wine, hops, and even coffee, but how terroir affects barley hasn't really been explored," says Bredo of the motivation behind Troubled Monk's "Battle of Alberta Barley" project, which involved brewing the same beer three times, each with the

same type of barley, but grown in three different regions of Alberta.

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

The three that were eventually selected were of the same barley variety (Copeland) and had nearly identical levels of protein, alpha amylase, free amino nitrogen (FAN), and deoxynivalenol (DON). Such similar batches of barley were selected so that any resulting differences in the beer could be attributed solely to the terroir, the three batches having come from northern, central, and southern Alberta.

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

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

The three batches of barley were sent to Red Shed Malting, a local micro-maltster, for malting, since Rahr's Alberta facility is far too large to make the small batches of malt needed for the project.

"Once we got our hands on the barley, we wanted to treat the batches of barley as consistently as possible," says Matt Hamill, maltster at Red Shed. The



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



malting process plays an enormous role in the flavor of beer, and a maltster would normally manage the malting process to accommodate differences in barley, but for this project, Red Shed was careful to use the same steeping cycle for all three batches of barley.

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

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

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

### Subtle Differences

At the consumer level, people noted differences, though they were subtle. Despite this subtlety, several batches of each of the

three beers were made, and both Bredo and Haynes could consistently tell them apart, so differences were certainly present.

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

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

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

All of the extra variables at play in malt make the subject extra interesting, but it

also makes it unlikely that there will ever be vintage-dated beers based on barley since there are too many things in motion. Also, since lighter-bodied beers, where base malt shines, are generally intended to be consumed fresh, vertical tastings of vintages becomes difficult. Differences from beer staling would outweigh differences in terroir.

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

### Try This at Home?

This project was logistically difficult even for the commercial entities involved. It will be difficult for interested homebrewers to explore barley terroir on their own, unless they know some farmers from whom they can get raw barley and then malt it at home.

It will be nearly impossible for homebrewers to get batches of barley with identical objective measurements as Rahr did for this project, but even so, such a homebrewing experiment could yield more varied results, which might be just as interesting.

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

PHOTOS CLOCKWISE FROM TOP: COURTESY RED SHED MALTING; COURTESY TROUBLED MONK BREWERY; COURTESY RED SHED MALTING







# Brewing Belgian Styles: Tradition & Today

From their formative days (decades ago) up to the present, American craft breweries have taken a heavy dose of inspiration from Belgian brewers and their rich brewing tradition. Today, that influence is more diverse than ever, from strict traditionalism to a very Belgian rejection of stylistic dogma.



## BREWING TECHNIQUES

# Trappist in the American Tradition

It's time to consider the evolution of Trappist beers in the New World. As the American craft-beer movement engages with and develops Trappist styles, it is also keeping some Trappist brewing traditions alive. **By Josh Weikert**

**BEER EVOLVES, BUT SLOWLY.** Brewers make changes to their beer; they react to changing circumstances and shifting ingredient availability. It seems to be in the nature of brewers to tinker, tweak, temper, and try. At the same time, brewers value order and promote a sense of stability and system. They enjoy process, pattern, progression, and perfection. Over time, this push-pull dichotomy leads to steady but inevitable changes in the beers of the world.

Sometimes, though, evolution gets a helping hand thanks to a change of scenery. Geography is the great jump-start in beer evolution. When a style travels great distances, it is forced to adapt to a new climate, new conditions, new ingredients, and even new microbiota.

It's with this in mind that we consider the evolution of Trappist beers in the New World. Trappist breweries in Europe have found their way across the Atlantic, but that's not the whole story: Even if we didn't

have Trappist monasteries here, we would still have craft breweries producing beers in the style of Trappist monasteries. It's time to examine the (not nearly as hidebound as you think) origins and traditions of Trappist breweries and how the American craft-beer movement has engaged with and developed Trappist styles—and, interestingly, how American craft brewers are also keeping some Trappist brewing traditions alive.

### The Trappists, Briefly

“Trappist” is sometimes used interchangeably with “monastic” (that is, relating to monks). It's not entirely apt, but it's close enough for “beer” purposes. The Trappists are an order of monks affiliated with the Cistercian monastery in La Trappe, France, and the term is trademarked to prevent its use by non-Trappist breweries or industries (Trappist monks produce more than beer!). To receive the Trappist label, breweries must meet several conditions.

Trappist breweries are breweries that are supervised by monks residing in a Trappist monastery (even if lay people are hired to do the actual brewing). Further, the monastery's religious life is of primary importance (it's a monastery with a brewery, not a brewery with a monastery), and the brewery exists to support the monastery and its charitable purposes rather than to turn a profit.

Monks have been brewing for centuries, but most Trappist breweries (and the styles they developed) are much more modern, dating generally to the early nineteenth century instead of the Middle Ages. Since then, fewer than a dozen Trappist breweries have been recognized and are still in operation, though there are also “abbey” breweries, which brew similar styles and may (or may not) be associated with a religious order. There—all caught up!

Then there are what we think of as the Trappist styles. Generally, this is a somewhat-limited set of beers: the Single, Dubbel, Tripel, and Quad (or Grand Cru or Belgian Dark Strong—there's no consensus on what to call the strongest and darkest of the Trappist/abbey styles). The beers generally increase in strength as we work upward from Single to Quad, and the Single and Tripel are pale beers while the Dubbel and Quad are darker.

Each is relatively strong—most examples are at least 6 percent ABV, with Tripels and Quads reaching up into the

double-digits. They also share a trend toward being light-bodied, dry-finishing, higher-carbonation beers, thanks to the addition of simple sugars (most notably, Belgian candi sugar), and most also feature noticeable fermentation flavors (usually but not exclusively of pear, pepper, and citrus), whether from regionally-selected yeast strains or local microbiota.

A brief diversion here for those who are thinking, “Hey, aren’t Belgian strong ales and abbey beers *sweet*?” No, not really. Some might seem so because they’re coming to you with some age on them thanks to transit times, and as a result they’ve lost some of their original hops aromas/flavors (the Single and some Tripels, in Europe, can be quite hoppy) and bitterness. Others might seem so because higher-alcohol and sweeter beers travel well and have often been brewed specifically as “Export” beers.

“At home,” though, most Trappist styles finish dry.

There’s just one more thing to address before we move on to the uncouth Americans and their bastardization of these ancient styles born of centuries of brewing tradition: they’re not as stuck up as you’re picturing them to be. Trappist breweries have a long tradition of challenging typical beer styles and recipes, which is one reason they were born in the first place and survived into the present day. Trappist breweries have experimented with dif-



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ferent strengths, different adjuncts, with aging on oak and fruit, and more.

So, a key element to consider is that the Americanization of these styles, to the extent that it has happened and is happening, is completely in keeping with their origins.

### Coming to America

While staying true to the general structure of Trappist beers, modern craft breweries have grabbed on with both hands and worked the recipes for these styles into new and interesting creations. Hops, spices, barrel aging, and more have yielded new versions of revered styles.

I should begin here by pointing out that virtually none of the changes described below are necessarily *verboden* in Trappist breweries—individual breweries have drifted into these areas already, sometimes aggressively so! But they represent a change in the collective and overall approach to these styles.

Most Trappist breweries are still producing mostly standard Trappist styles. By comparison, most American craft breweries are producing mostly “modified” Trappist styles. There’s a lot of experimental overlap between those two pools of breweries, and you could also argue that the success of American craft beer has bled back into Trappist breweries, which sometimes adopt the new approaches, but the typical beer brewed by each is still rather different.

### HOPS

Hopping is an intuitive place to start, since what defines most American styles (and, it might be said, Americanized craft beer in Europe) is an increase in the use of flavor and aroma hops—but of a particular character.

Jeremy Myers, Brewmaster and Owner of Neshaminy Creek Brewing Company, says, “I think the most noticeable thing American brewers have done is use citrus and tropical fruit—forward American hops to push some of the typical Belgian yeast ester profiles more in that direction rather than in a more spicy and pepper-like direction.”

This drift toward the fruitier expression of the styles is significant. It isn’t simply a question of increasing hops; it’s that they’re being used to make a choice about the flavor profile of the beer style.

### BARRELS

We’re also seeing more Trappist-style beers in barrels. This isn’t unheard of in Trappist breweries (Chimay Grande Réserve and La Trappe Quadrupel are both now available in barrel-aged form), but it’s a relatively recent innovation for them. Nor are you seeing American brewers sticking with your typical charred-oak barrels: rum, whiskey, and tequila barrel-aged Trappist styles abound.

As an example of how “new” these beers are getting, Josh Bushey, head brewer at Two Rivers Brewing Company in Easton, Pennsylvania, brews a tequila barrel-aged tripel with Hull Melon hops and twelve strains of *Brettanomyces* (see page 67 for the recipe).

As barrel programs have become almost common in even small craft breweries, it was inevitable that Trappist styles would end up in them.

### HYBRID AND FUSION STYLES

American breweries are also developing hybrid or fusion styles of Trappist beer. One brewery in particular is worth noticing since it’s actually a Trappist brewery in Spencer, Massachusetts. Spencer Brewery—the brewing arm of St. Joseph’s Abbey, a Cistercian monastery—was recognized by the International Trappist Association as a Trappist brewery in 2013 (though the monastery was founded in the 1950s), and since then, they have produced several well-received Trappist beers.

They brew some traditional Trappist styles—a paterbier (a traditional refectory ale) and a quad (albeit with American hops)—but also a Trappist IPA? And a Trappist imperial stout? And what appears to be a barrel-aged Bock-inspired beer? Nowhere does the development of Trappist styles in the Americas come home as clearly as it does at Spencer.

### ADJUNCTS

Beyond hops and barrels and styles, adjunct ingredients and spices are also getting an update. Even “tradition-minded” American breweries such as Brewery Ommegang and The Lost Abbey don’t stick exclusively to Belgian candi sugars for adjunct sugar, preferring dextrose instead, and some use honey, light molasses, or golden treacle.

American breweries also are more likely to add actual spices to the beer (rather than

relying on fermentation character). This might not sound all that radical, but it’s actually become quite rare in Trappist breweries.

“Our Abbey Ale does contain spices, which is not particularly common in current Belgian beers,” Ommegang’s Phil Leinhart says, but notes that this practice “hearkens back to Belgian brewing in the past rather than an American innovation.”



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## Preservation

Leinhart's point is an important one. For as much as American breweries are pushing the boundaries of Trappist styles, they're also maintaining or reviving some brewing traditions rather than bucking them.

Tomme Arthur, COO and cofounder of The Lost Abbey, says it best: "I feel there is room on both sides of the aisle here. That being said, I approach abbey and Trappist styles from a more conventional sense of things and tend to eschew American hops and that sense of experimentation derived from their new flavors. While I have had some nice beers that take liberties with these ingredients, I feel very strongly if we're looking at these Old World styles, then perhaps we shouldn't chase too much of a fusion sort of basis."

Innovation for its own sake—if the original, authentic product is already great—isn't necessarily a good thing. If it isn't broken, why fix it? Arthur goes on, "Basically like French cooking...fidelity is where I tend to land."

Myers at Neshaminy Creek would seem to agree. They like "bucking Belgian brewing traditions," he says, "but then again we also go the other direction, too, and try to make beers true to form and style as well, such as using turbid mashes in some of our sour beers and doing mixed-culture fermentations."

That American breweries are in the business of preservation as well as innovation might seem like an odd juxtaposition, but it isn't. Tradition and innovation in the service of beer is very much in keeping with the Trappist brewing ethos. There is no one "right" way to make any beer, even one with as long a history as a Trappist.

Despite that lengthy history and the impression of stolid orthodoxy found in the rules for what constitutes a Trappist brewery (and, of course, in the monastic Rule of St. Benedict itself), Trappist breweries are institutions that have nurtured, developed, and grown their own styles over time. The American craft-beer scene is simply continuing that tradition of innovation. As you drink and brew these beers for yourself, you should take this as license to experiment and contribute. Use new ingredients, processes, and tools liberally, right alongside the traditional.

Heck, the monks might be following *your* lead eventually.

Beer evolves—but maybe brewing hasn't changed quite as much as we think. 

## MAKE IT

# Two Rivers Brewing Company Brewnniversary III Barrel-aged Wild Tripel

### ALL-GRAIN

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

**Brewhouse efficiency:** 72%

**OG:** 1.083

**FG:** 1.006

**IBUs:** 36

**ABV:** 10.3%

### MALT/GRAIN BILL

11 lb (4.9 kg) German Pilsner malt

1.5 lb (680 g) Vienna malt

4 oz (113 g) Carafoam

### HOPS/ADDITIONS SCHEDULE

0.6 oz (17 g) Nugget [15% AA] at 60 minutes

2 oz (57 g) Hull Melon at whirlpool

2 lb (907 g) orange-blossom honey at whirlpool

1.25 oz (35 g) medium toast American oak cubes soaked in tequila, in secondary

### YEAST

White Labs WLP400 (Belgian Wit Ale Yeast) or Wyeast 3944 (Belgian Witbier) East Coast Yeast ECY 34 (Dirty Dozen Blend) or any mix of your favorite *Brett* strains

### DIRECTIONS

Mill the grains and mix with 4 gallons (15.1 l) of 163°F (73°C) strike water to reach a mash temperature of 151°F (66°C). Hold this temperature for 60 minutes. Vorlauf until your runnings are clear, then run off into the kettle. Sparge the grains with 3.3 gallons (12.4 l) of water and top up as necessary to obtain 6 gallons (23 l) of wort. Boil for 90 minutes, following the hops and additions schedule.

After the boil, add the late hops and honey and whirlpool for 15 minutes

(ensure that the honey has fully dissolved). Then, chill the wort to slightly below fermentation temperature, about 65°F (18°C). Aerate the wort with pure oxygen or filtered air and pitch the clean yeast.

Ferment at 66°F (19°C) for 5 days, then let the temperature rise to 72°F (22°C) until primary fermentation is complete. Transfer into a secondary fermentor and add *Brett* mix and oak cubes, along with part of the oak-soaking tequila. Let the beer rest until a noticeable funk develops, then bottle or keg the beer and carbonate to approximately 3 volumes.

### TIPS FOR SUCCESS

GABF gold medal-winner and Two Rivers' Head Brewer Josh Bushey recommends using less oak and tequila than you think will be necessary. The recipe here gives you a modest start. "You can always add more later," he notes. Their third anniversary beer (upon which this recipe is based) featured moderate oak tannins, light agave/tequila flavor, and good complementary tropical-fruit esters and funk from the *Brett*. My homebrew club, the Stoney Creek Homebrewers, coincidentally produced a similar tequila barrel-aged tripel at around the same time, and I can concur that the style is very receptive to the added barrel flavors!





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## BREWERS' PERSPECTIVES

# Green Glass Is Great!

Purists turn up their noses at green bottles (thanks to that often-present skunk aroma), but professional traditionalists who make saisons and mixed-fermentation ales argue that a little lightstruck goes a long way to giving a fuller beer experience. **By John Holl**

**THANKS TO A CERTAIN** Dutch lager, when many of us think of beer from a green-glass bottle, our thoughts turn to skunk, the lightstruck aroma that occurs when the blue part of the visible light spectrum (350–500 nm) negatively reacts with alpha acid in hops, resulting in the off-flavor.

It's then generally accepted that this is something to avoid—both drinking and making possible. It's why most brewers use brown glass (which is far more effective than green or clear at blocking harmful UV rays) or cans when packaging beer.

But, if you've been paying close attention over the past several years, you'll have seen a handful of brewers who are packaging beer in green bottles on purpose, particularly makers of saisons and mixed-fermentation ales who argue that a little bit of skunk is just what those beers need.

"There's just something missing with a farmhouse ale or saison on draft or in brown bottles," explains Bob Sylvester, the owner and brewer of Saint Somewhere Brewing Company in Tarpon Springs, Florida. "It's the whole experience; it adds that little mustiness to the flavor, chalkiness, as well as lightstruck. That's part of it, too, and I don't think of it as being a flaw."

He's been using green bottles for more than a decade, and in the beginning "caught a lot of flack" from folks for using that package. However, he noticed that when he tasted his saisons, they were

missing something subtle that was noticeable in traditional Belgian examples of the style, such as Saison Dupont.

That beer, considered the platinum standard by most, is now available in both green and brown bottles, with drinkers who have tried both usually picking a side and sticking with it. It's the limited sunlight that naturally hits the bottle after packaging, during transport and storage, that makes all the difference. (Brewers who use green glass, including Jester King Brewery, are quick to point out that they aren't placing bottles in direct sunlight for extended periods of time.) And because saisons and farmhouse ales usually use aged hops (in which the alpha acids are lower) in their recipes, the lightstruck aroma is often much less than in a bottle of that above-mentioned lager.

The lightstruck aroma also adds a perceived dryness to the beer, brewers say, although few of them have done any specific tests on the finished product.

The biggest thing, Sylvester says, is to reprogram your brain when drinking one of these green-bottle saisons, to taste lightstruck notes as intentional and a feature, not necessarily as a flaw. It's akin, he says, to drinking an old ale where oxidation is present. It's appropriate

there but maybe not in that stout that was packaged just last week.

Now, of course, green bottles aren't appropriate for every style. They should be avoided for IPAs or other hops-forward beers where there are high amounts of alpha acids. It's why brewers who are still using glass avoid green (and clear for that matter) for those styles (and you're hard-pressed to find any brewer who would willingly package a hops-forward beer in green glass).

If you're making a saison at home and are curious about the lightstruck aroma, follow a recipe for a beer in the Dupont tradition (such as the "Belgian Saison in the Style of Saison Dupont" recipe on our website, [beerandbrewing.com](http://beerandbrewing.com)) and then package some of it in green bottles and let the bottles age for a spell. The slightly skunky whiff that mixes with the yeast-driven esters and slight spiciness gives the beer more of a traditional flavor, which is what appeals to many of the pros who have gone this route.

"Caviar is salty, linen wrinkles, and farmhouse ales are lightstruck. That's how it works," says Sylvester. 



# Five on Five

All hail the classic styles, the beers that harken back to a simpler time and that focus on place, tradition, and the wonder of fermentation. We asked a few brewing professionals to share their suggestions of saison or mixed-fermentation ales that pique their interest, challenge their palates, and fill them with happy memories.

## Holy Mountain Brewing Company The Goat

Barbara Beaver, Director of Laboratory Affairs/Lab Queen at Georgetown Brewing Company in Seattle, Washington  
"I'd have to say Holy Mountain Brewing's The Goat (Seattle, Washington). You get notes of pear and stone fruit and medium acidity. It's light and refreshing. Wood character warms and enriches this treat. It offers everything you'd expect in a well-executed mixed-culture beer, including some *Brettanomyces* dryness with excellent harmony and depth for such a light beer."



## Jolly Pumpkin Artisan Ales Baudelaire Beer: 10 Saison

Tim Gormley, Head Brewer at Burial Beer Co. in Asheville, North Carolina

"I think, for so many American craft brewers of this generation, Jester King's Ron Jeffries's greatest impact has been proving that one could build a successful brewery by making 100 percent oak-aged wild beers. That approach has certainly affected me in important ways, but I think his greatest impact on me came via Jolly Pumpkin's Baudelaire Beer: 10 Saison (Dexter, Michigan). It's their sour saison brewed with rose hips, rose petals, and hibiscus. I had a serious epiphany when I experienced it, realizing for the first time the elegance and intrigue that flowers could impart to a beer. I've been brewing with flowers since the beginning at Burial Beer Co., and my fascination hasn't waned the slightest."



## Fair State Brewing Cooperative Barrel-Fermented Du Poudre

Keigan Knee, Head Brewer at Modist Brewing Co. in Minneapolis, Minnesota

"A local Minneapolis pick of mine is Barrel-Fermented Du Poudre by Fair State Brewing Cooperative. It's a mixed-culture, oak-fermented version of their flagship Saison. It's funky, tart, and oaky. I really like beers fermented in wood—the tart/funky/woody all in balance. This one pulls it off exceptionally well."



## Scratch Brewing Company Spring Tonic

Blake Tyers, Wood Cellar & Specialty Brand Manager at Creature Comforts Brewing in Athens, Georgia

"There are many breweries in the United States that are now operating with a farmhouse identity. Very few live and breathe it the way Scratch Brewing (Ava, Illinois) does. They use ingredients from their land in many uncommon ways, which quickly puts me in pupil mode every time I get to enjoy one of their beers. Recently, I enjoyed their Spring Tonic, a mixed-culture beer bittered and flavored with southern Illinois-grown dandelion, ginger, carrot tops, and clover. Delightful, refreshing, balanced, new. Their beers operate in their own special universe that is always inspiring."



## Brasserie Dupont Saison Dupont

Marty Scott, Quality and Innovation Lead at Revolution Brewing in Chicago, Illinois

"I don't think I've ever passed up ordering a Saison Dupont when I've seen it on a menu. It's the classic. It's so balanced among the hops, malt, and yeast profile. It defines its category as much as, or more than, any beer across any style."



PHOTO AT LEFT: MATT GRAVES/WWW.MATTGRAVESPHOTO.COM; PHOTOS AT RIGHT, FROM TOP: COURTESY HOLY MOUNTAIN BREWING; COURTESY SCRATCH BREWING; COURTESY FAIR STATE BREWING COOPERATIVE; COURTESY JOLLY PUMPKIN ARTISAN ALES; MATT GRAVES/WWW.MATTGRAVESPHOTO.COM



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## BREWERS' PERSPECTIVES

# Coolships in the City

While the thought of ale spontaneously fermenting in coolships might conjure thoughts of the country, you're more likely to find it in cities across America.

### THE WORD COOLSHIP CONJURES

thoughts of nature, wort steaming in the open air, maybe under moonlight, being cooled by the air and inoculated by wild yeasts. There's a rustic charm that is perceived with these spontaneously fermented beers where it's hard not to think of wide-open fields, sprawling farmland, and wildlife roaming nearby.

Brasserie Cantillon in Brussels is perhaps the most famous coolship-driven brewery in the world, and there's no denying the skill that goes into the gueuzes and lambics that bear the iconic chair-tipping logo. The beers are romantic, and because of the brewery's age and place in history, it can be easy to forget that it's in an industrial part of Brussels—the nearest Starbucks is a 5-minute walk away.

In the United States, while you will find breweries with coolships in more rural areas (think Jester King), from Queens, New York, to Washington, D.C., to Chicago, Milwaukee, and just about any other city

in the country where the weather conditions are suitable for coolship brewing (that is, autumn and winter low temperatures in the 20s and 30s Fahrenheit), you're likely to encounter one turning out a multitude of mixed-fermentation ales.

In Portland, Maine, Allagash Brewing Company was one of the first American breweries to install a coolship, way back in 2007. The brewery is situated on a partially wooded area on Industrial Way, in a—yes—industrial part of the seaside city.

Brewmaster Jason Perkins says he believes that the beers produced have less to do with what's outside and more to do with the room where the coolship is housed.

"We could take a bucket of wort and just put it outside, and it would pick up what's in the area, but it would be totally different from what comes out of the coolship," he says. "It's the room, it's the porousness of the wood, how the steam opens up, and how all the previous beers contribute to the microflora of the room."

That's a refrain repeated by several other brewers who say they spray bottles of finished beer on the wood walls of their coolship rooms to encourage growth and help along future batches. But that can take time to develop, so the breweries that have recently opened need to rely on what's naturally occurring in the area.

Dovetail Brewery in Chicago recently released a kriek that started life in a coolship housed in a ninety-year-old building near the city's mass-transit system. "We're using whatever the Brown Line brings us," Co-owner Hagen Dost says, in a reference to the L-train.

The Bluejacket brewery in the nation's capital has a beautiful coolship room on the top level of its modern brewhouse, just a short stroll from Nationals Park, a place teeming not only with peanuts and Cracker Jacks but, with...well, you've been to a baseball game. Maybe that's one reason it's easier to think about the countryside when it comes to coolships.

"That's why my theory that the room matters is important," says Perkins. "The more you brew in that space, the more it creates beers unique to that space, regardless of what's outside. You don't see a tree or a blade of grass when you visit Cantillon."

He points to how even during the brewing season, the beers change. They find that the beers are more predictable and achieve faster fermentation in late November and early December, as opposed to the beginning of November, because previous batches have opened the room a little.

Walking the floor of the annual Craft Brewers Conference, you see multiple coolship manufacturers trying to sell to brewers, and it's an item on many brewers' wish lists, even if all they make is hazy IPA. As more coolships wind up in the cities, it's possible that we'll begin to see specific flavor traits by region. I mean, if we perceive the taste of Brussels in each bottle of Cantillon, who's to say we won't one day say the same about the Big Apple or the Windy City? —*John Holl*

Jason Perkins of Allagash Brewing checks the temperature of coolship wort the morning after a brew.



PHOTO: COURTESY ALLAGASH BREWING



## BREWING TECHNIQUE

# Wild-Fruit Beers

Finding and picking fruits with enough natural yeast on them and adding them to your beer is a great way to not only infuse flavor but also add a local bent to your next recipe. We spoke with **Jeff Melo** of **Bootleg Biology** in Nashville for his tips on finding and using the right fruit to act as your fermentation agent.

### RIPE FRUIT HAS QUITE A

community of yeast and bacteria on the skin, and therefore, it's ideal for fermenting your next fruit beer, be it a standard recipe, a lambic style, or something

you've been saving for that barrel in your homebrewing kit, says Jeff Melo of Nashville's Bootleg Biology, a yeast lab.

Lambic is a natural thought, but for folks trying to use fresh fruit for the first time or for those who want to see what flavors and nuance the produce produces, Melo suggests gravitating toward a Pilsner or a wheat-malt base because it "gets out of the way and lets the fruit be really expressive." When

you look at lambic producers, they want a certain beer profile that will show off, not cover up, the fruit. The same is true with many of the commercial examples of fruited beers on the market today. When thinking about the fruits to use, try to match color with color, as best as possible. Cherries work well with darker-malt base beers. Peach and apricot complement a lighter malt bill.

What you see commercially will work for homebrewing. Look for fruits with delicate skins—blueberry, raspberry, and blackberries—and macerate them before adding them to the beer. Squishing and getting the skins broken are key so that the yeast on the outside can get in contact with the sugars on the inside.

Finding the right fruits to use is as simple as going to the yard or by the roadside, but it's important to know the source and to make sure

there aren't residual pesticides on the skin. Because of that, it's usually best to avoid fruit from farmer's markets unless you can ascertain from the farmer that no pesticides were used.

Doing a safe fermentation and putting the beer in an anaerobic environment in a carboy with an airlock to make sure CO<sub>2</sub> is produced can help eliminate bad bugs, says Melo.

Because we're picking fruits, there's an assumption—at least by many first-time brewers—that the end result will be a wild beer. Not so, says Melo.

"Homebrewers are surprised when they get a clean-tasting beer with wild fruits," he says. "*Saccharomyces cerevisiae* is the number-one wild yeast in our local yeast project cultures. It's on flowers and whatnot, and it's adept at working with simple sugars so it takes over quickly, resulting in a clean-tasting, 100 percent wild fermentation."

"Everyone who came up in the beer world heard the stories of lambic fermentation and the story behind how those are made. More and more, as scientific evidence becomes available, it's becoming clear that *Brettanomyces* is rare in nature, so it's something that these historic breweries have cultivated and curated. So, it's why you find *Brett* in lambic breweries, as opposed to the first time you might try [brewing] a fruity beer."

"The yeast, for me, is the star of the show. When you've made a dozen different beers or beer styles with a product that is agriculture-focused, wild yeast can be expressive, and you have beautiful layers, thanks to the microbes." —John Holl





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## BREWING INGREDIENTS

# When Brewers “Know a Guy,” Kriek Can Happen

Chicago’s Dovetail Brewery released a kriek that was made possible, in part, by a great relationship with one of the taproom regulars. **By John Holl**

**ONE OF THE GREAT** benefits of owning a brewery, most owners will tell you, is the diverse cross section of people who walk through the doors and sit down for a beer. Genuine friendships can be forged over pints and shared passion, and now and again there’s even an occasion for a collaboration.

This is the story of Dovetail Brewery in Chicago, regular customer Joe Daniel—who works in produce logistics—and a kriek that was released earlier this year, in what the brewery calls a “city first.”

Dovetail’s co-owners, Chicago natives Hagen Dost and Bill Wesselink, met in brewing school in Munich and bonded over a shared appreciation of the traditional methods in classic European beers. “Not because we think they are cool or anything but because they are the path to the highest-quality beers,” says Dost. “Our favorite breweries still use those traditional methods at least in one way or another.”

When Dovetail opened its doors in 2016, it gave more of a bow than a nod to those traditional breweries. This, of course, means the brewery contains a coolship. “From the

beginning, we planned to do spontaneously fermented beer in the style of lambic,” says Dost. “To be absolutely clear: these spontaneous beers are not lambic because lambic can be made only in Belgium. We’re producing a beer in the style.”

They do a turbid mash of 60 percent Pilsner malt and 40 percent raw wheat, let the resulting wort hit 13–14° Plato, and then let it rest for up to 18 hours in the coolship. The brewery, which is located in the northern part of the city in a 90-year-old building, has a lot of microbes to work with, but Dost and Wesselink also like to think they get some help from the Chicago Transit Authority.

“We’re using whatever the Brown Line brings us,” says Dost in a reference to the “L” train that is nearly adjacent to the three-story brewery.

From the coolship, the wort is pumped into barrels, and anywhere from a day to 2 weeks later, fermentation starts and continues for 2 or 3 years. That’s what makes this kriek newsworthy.

Even before they opened their doors, the brewers were talking about this beer.

Dost made a kriek back in his basement homebrewing days, but rather than using the more common Montmorency cherry (what he refers to as “cough-syrup cherry”), he opted for the Balaton cherry, native to Hungary, that is slightly larger and known for a tart yet slightly sweet taste.

“I had the most delicious jam made with those cherries, so it seemed like the right fruit for the beer,” he says. “If it makes great jam, it’ll make great other things, too.”

During its first coolship season, Dovetail had five batches. Around this time last year, the brewery went through and selected sixteen barrels that would become kriek but ran into a problem. Balaton cherries grow in the Leelanau Peninsula in northern Michigan but are somewhat difficult to source without a good connection.

Enter taproom-regular Joe Daniel. “He found the farmer,” recalls Dost. “There aren’t too many, and it would have been impossible for us to find a grower.” Not only did Daniel secure the 2,300 pounds of cherries the brewery needed, but he also drove the rental truck up to the farm to pick up the produce, then turned around and came back the same day.

“I am a huge fan of the brewery because I

PHOTO: COURTESY DOVETAIL BREWERY

like continental European beers, so they had an immediate lifetime customer in me. Once I saw the copper still from Weistephan, the sacks of grain from Bamberg, Germany, and the water filter system that helps simulate the water found in Bavaria and Bohemia, I knew this wasn't just a run-of-the-mill place; it was truly special," says Daniel.

After Daniel returned to the brewery with the fruit cargo, a de-stemming party was held, the spontaneously fermented ale was mixed with the cherries and transferred to food-grade IBC totes because "it's really hard to get cherries out of a barrel, and while we'd love to do it in a foeder, we're not sitting on a pile of money." After a year, the result was bottled in brown 500ml bottles and made available for purchase.

Their patience seems to have paid off: Travel, beer, and spirits columnist Josh Noel of the *Chicago Tribune* called the kriel "just marvelous: tart and complex, rife with earthy notes of rich fruit that veer from ripe cherry to plump strawberry and back again."

For Daniel, the beer offered a new perspective from his long career in produce logistics. "I work in an industry where I never see the people or products I move," he says. "Almost my entire day is spent behind a computer screen and on the phone. It brings me a lot of pride and happiness to see an actual product that I played a role in creating. Even more so, it's something people enjoy, and it makes them happy."

For the brewers, patience and trust are the two lessons they are taking from this experience, Wesselink says, and they are important qualities for anyone who wants to brew spontaneously fermented beers.

"The idea [behind the brewery] was these lambic brewers in Belgium and what they do. They trust in nature, they trust that nature will give them something delicious to drink, and Chicago is, after all, known as The City in a Garden," says Wesselink. "So, we thought we have similar weather [to Belgium] and a good selection of microbes here, so we have to trust nature here and produce something of our own, something that is delicious and comes from that trust."

Following the success of the kriel, the brewery got seventeen coolship days earlier this spring, and a new batch of cherries will be making its way to the city in a few weeks, ready for a release next year. And there's lots else to do in the meantime.

"The raspberries are coming in Monday," says Wesselink.

# What the Belgians Can Teach Us about Better Glassware

*In his latest book, John Holl examines one of the staples of beer drinking in the United States: the Shaker pint. But is it the best way to consume beer? In Drink Beer, Think Beer: Getting to the Bottom of Every Pint (Basic Books, September 2018), he looks to Belgium and beyond for inspiration.*

The Shaker pint is more than just a vehicle for beer—it's also a vehicle for marketing. Think of the Shaker pint as a billboard. We see them along the side of the road each day: same basic shape, usually up high, but the message is different. Even with the rise of high-end beer bars, you're still hard pressed to find a drinking establishment in the country that doesn't use Shaker pints. Breweries know this, and even if they are particular about how their beer is served and wouldn't use the Shaker pint in their own taprooms, they aren't shy about using the real estate on the side of the glass for their logo. Next time you're out, take a look around, and you'll see all manner of logos (and not just for beers and breweries but for sports franchises, restaurants, charity events, and just about anything else you can imagine a company would want to get in front of a captive audience). Sometimes brewery-branded Shaker pints are part of a promotion (when permitted by state law): if you order a pint, the glass is yours to keep.

Travel throughout Europe, and although you'll still see logo glassware, it's harder to find the Shaker pint. I'll single out Belgium and Germany, countries where breweries are more likely to have their own glassware—a shape unique to that brewery—as well as taverns that actually use the branded glassware. These international breweries with their own signature glasses benefited from a long and uninterrupted history of beer-making (unlike us in America) and realized early on the benefits of signature glassware to increase visibility and sell more beer.

Orval is a classic example. Orval is the namesake beer of the Brasserie d'Orval, an abbey brewery in Belgium's Gaume region, on the border with France. They produce a Belgian pale ale, bright amber in color with a persistent fluffy white head of foam. Thanks to *Brettanomyces* yeast, the taste is both earthy and spicy. An aged hops content offers hay and slight citrus. It finishes dry. The beer has a shelf life of up to 5 years, during which, if cellared, it continues to age in a subtle way. After that, it falls off dramatically. Orval is a universally celebrated beer, thanks in no small part to Michael Jackson (the beer writer), who in the 1970s and 1980s introduced the then relatively small and obscure beer to his wide international audience.

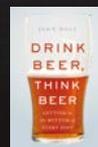
The beer is best sipped from its signature glass, and, at least the first time, should be enjoyed in a location where each sip can be contemplated. It has inspired generations, and it regularly places at the top of other brewers' lists of personal favorites because of its intriguing nature. If you've never had an Orval, stop reading right here, go get a bottle, and come back. Actually, the same goes if

you've had it once or a thousand times. The rest of this discussion can wait.

The Orval glass is a uniquely shaped vessel that has been produced by the brewery for years. A wide conical-shaped chalice with a silver rim sits atop a solid glass column and a base. "ORVAL" in silver-outlined black letters, is written in a size that's easily readable from 25 feet away. Some of the chalices display the brewery's logo—an upturned fish holding a ring in its mouth against a blue diamond—which is also instantly recognizable.

Beer drinkers like to argue about whether the Orval chalice actually enhances aroma, flavor, or appearance as well as some of the modern glassware does. Breweries in Europe reject those skeptics out of hand. Either way, using a glass intended for a specific beer is likely more about a feeling, an intangible pleasure that makes us feel closer to the contents of the chalice.

Beer should be celebrated, admired, and consumed in the proper way. Cutting corners for convenience, for a little extra profit, or out of laziness holds beer back from what it is truly meant to be. The Shaker pint, like the cockroach, will never die. It'd be great if it did. So in the same way that we reach for the can of Raid when we see a bug, we should also speak up and urge bars and breweries to serve us in better glassware because the glass we hold can actually help the beer taste better. And isn't that the whole point?



*Adapted from Drink Beer, Think Beer: Getting to the Bottom of Every Pint by John Holl, with permission from Basic Books, an imprint of Perseus Books Group, a division of Hachette Book Group. Copyright © John Holl, 2018.*





Tradition  
& Today

## BREWING TECHNIQUE

# Candi Is Dandy

Candi sugars are at once an underused and an overused ingredient. Here, **Josh Weikert** talks about sugars and syrups more generally, then delves into the specific function candi sugars can play in beer, and wraps up with a discussion of just how necessary candi sugars are.

**AS THE GREAT AMERICAN** poet Ogden Nash wrote, “Candy is dandy, but liquor is quicker.” I wonder whether Ogden knew that you could offer both at the same time? Probably so, given that he wrote that famous line during Prohibition.

In any case, candy gave way to liquor in 1933 with the passage of the 21st Amendment to the United States Constitution, formally ending Prohibition, and brewers kept the fusion of the two alive. Brewers, especially those enamored of Belgian strong ales, know that candy (or “candi,” as we’ll spell it from here on out) plays a special and valuable role in brewing.

Beer isn’t liquor, of course, but all alcoholic beverages boil down (pun intended) to fermentation of a sugary liquid—the source of the sugar isn’t especially relevant, except in terms of the flavor, color, and body of the finished product.

And that brings us back to candi sugars. Candi sugars are at once an underused and an overused ingredient, a paradox that feels right at home in beer styles that are often sweetly estery and grippingly dry in their finish. On one level, candi sugars are just... well, sugar. In their palest forms, they add gravity points and not much else. In this

sense, they are sometimes an extravagant waste of resources for brewers who could just as easily spend a fraction of their cash on corn sugar (dextrose) and get the same effect. Darker, caramelized candi sugars, by comparison, can be used to add color to your beers as well as distinct flavors, and it’s *these* that are often neglected by brewers who tend to get tunnel vision and think primarily about caramel and roasted malts for color and flavor adjustment.

Candi sugar is a flexible and nuanced product. It can either be a throwaway ingredient that has virtually no impact or the key ingredient in the production of some of the best, rarest, and most exotic beers in the world. What’s not to love in an ingredient with that kind of range? Let’s talk about sugars and syrups more generally, then delve into the specific function candi sugars can play in beer, and wrap up with a discussion of just how necessary these sugars are, anyway.

### Sugar Is Sugar—Or Is It?

Sugar is just sugar. Not really, but let’s start there.

Many adjunct sugars are used as nothing more than ABV-builders. They ferment off



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PREMIUM EXTRA DARK CANDI SYRUP (KANDI SIROP)

D-180

D-90

D-45

Simplicity



## Tradition & Today

entirely, adding little to no color and little to no flavor, and they contribute only to the alcohol content of the beer. The secondary effect of that alcohol-level increase is a thinning of the body since ethanol is thinner than water, but that's about it. Most unheated cane and beer sugars, corn sugar, pure maple and birch syrups, and even many honeys fall into this category.

Pivoting to the most-intense flavor contributors, we have sugars such as molasses, dark treacle, and many honeys (buckwheat with its strong spice notes, meadowfoam with its unique marsh-mallow flavor, etc.). Why do these impart noticeable flavors? It isn't their color per se or the proteins found in some of them; it's that they've been *processed*.

Naturally or manually, someone or something has worked on these sugars, the most common method being by heating. Heat creates Maillard and caramelization flavors, and this (often combined with the presence of some minerals, proteins, or compounds) yields the flavors that survive the fermentation process, even when the underlying sugars are long gone in a blaze of ethanol and carbon dioxide.

So, where does this leave Belgian candi sugars? Interestingly, in both categories. The lightest Belgian candi sugars find themselves in the "little impact" boat: they will impart virtually no flavor and are essentially just an expensive form of simple sugar. Some argue that they can identify a subtle flavor contribution from them, but given the complex flavor profile they're being dropped into, the claim is hard to take at face value. By contrast, the amber and dark candi sugars—which have been heated—will still be comprised of entirely fermentable beet sugars but will impart subtle but noticeable flavors when used in sufficient quantities (usually between 5 and 20 percent of the gravity points in the recipe).

### The Taste and Feel of Candi Sugar

Candi sugars are available in several forms and colors. They can come in rock form (a crystallized sugar) or syrup, which is generally easier to work with. Be cautious, though: Tomme Arthur, COO and cofounder of The Lost Abbey shared a horror story involving "adding syrup too early and having the sugar caramelize on the bottom of the kettle. That sounds aw-

ful." No argument here, Tomme! Be sure to fully dissolve added sugars in the kettle and consider adding them at whirlpool to avoid this risk! Both forms are completely fermentable, but they are also scaled for color. It's in this color differentiation that we find the real, practical distinctions to be drawn.

As color increases from colorless-to-gold through amber and dark brown, flavors increase. As Phil Leinhart, brewmaster at Brewery Ommegang explains, "These sugars can impart smooth, pleasant caramel, toffee, and raisin/date notes without the potential roasted quality that high dried or roasted malts can bring." This is, perhaps, the greatest advantage that candi sugars offer. The flavors they produce *can* be had through other means—Crystal 120 or 150 malts, chocolate rye or pale chocolate malt, Carafa and Carafa Special malts—but doing so runs the risk of adding more than just the rich toffee and pit-fruit flavors that dark candi sugars can provide.

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Candi sugars are scored in much the same way as caramel malts, with SRM ratings for color. These color ratings are generally indicative of more intense flavors as they increase along the scale. At the lower end are the palest, at 1–5 SRM, and these are essentially just simple, digestible sugars that will add hardly any flavors.

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just the rich toffee and pit-fruit flavors that dark candi sugars can provide.

Remember, though, that these are subtle flavors: They increase with color and percentage, so if you're swapping in candi sugar for crystal malts, it's best done in a recipe that can handle a big dose of adjunct sugar.

That sugar comes with a side-effect in terms of body, however. It will make the beer thinner. Adjusting body through the use of simple sugars is a not uncommon trick of the trade among brewers everywhere, but it's especially useful in and indicative of the traditional Belgian strong ales.

Edward Westbrook, founder of Westbrook Brewing Co. of South Carolina discusses this dual-purpose functionality: "You can lighten the body of the beer and get lots of dark fruit/chocolate flavor at the same time," as Westbrook does in several of its beers. If you're going to increase the ABV anyway, might as well put that sugar to work on more than one characteristic! It is also very much in keeping with the beer and brewing philosophy of traditional Belgian brewers. "Outside of the color/flavor impacts of amber and dark sugars/syrups, the primary reason for using dextrose or sucrose is to replace some of the malt/grain in a recipe with a highly fermentable

sugar; this helps in making a drier beer that is less filling and, as the Belgians say, more 'digestible,' " says Leinhart—and Ommegang certainly knows their way around a drinkable, digestible beer.

And if you're looking for a more subtle application—or if you're looking for one last nudge toward the coffee, cocoa, plum, fig, and toffee flavors that can come from candi sugars—you can always use candi sugars for priming. Rather than relying on your typical corn-sugar addition, consider priming with a dark candi syrup for a subtle hint of complexity. This technique can be applied in any number of styles that are found far, far from the lowlands of Belgium.

Ultimately, candi sugar's contributions are very much a function of which candi sugar we're talking about, how it's used, and in what quantities. It can be as fleeting as a shadow or as clear as a bell—which one is up to you, and you should design your recipes accordingly.

### An Option—Just Not the Only One

Unlike many brewing ingredients that are "married" in brewers' minds to the style of beer they produce—Bavarian weizen yeast in Hefe, beechwood-smoked malt in Rauchbier, American "C" hops in... lots of American

styles—candi sugar is well suited to, but not a required element of, the Belgian styles with which they're associated. You don't *have* to use it. Lost Abbey's Tomme Arthur reports that they actually use relatively little candi sugar, despite being one of the most successful and well-regarded brewers of Belgian styles in the United States.

"I think the key to most Belgian-style beers is the approach to the balance that the finished beer ultimately demands. There are myriad sugars and syrups available to a brewer when they are designing recipes. For us, we are focused mostly on using dextrose as our added sugar. This is a simplistic approach to brewing, but it's widely available and easy to use in the brewery."

That functional, utilitarian approach is perfectly in keeping with the brewing ethos of the great Trappist and abbey breweries of Europe, and, as Arthur says, more important is "being happy with the results that we have been getting." Leinhart agrees—they, too, use a lot of granular dextrose in the brewery.

At the same time, Arthur agrees with Leinhart on the value of adding high-caramelized and light-roasted flavors without the risk attached to using those grains (added body, roasted husks) and concedes the following: "I do feel there could be advantages to the darker syrups, including color

gains not from malt and intensity of flavors that can be derived without darker roasts compromising things."

### The Candi Man Can

Leinhart and Arthur essentially agree on the utility of candi sugars...except when they're not necessary. Underlying that contradiction is the directive to *figure it out for yourself*. As with many elements of brewing, much is in the eye and palate of the beholder, and there's no way to know how much (or how little) you'll benefit from an ingredient until you try it. By all means, experiment with candi sugar.

Take different colors out for a spin. Sub it in for some crystal malt in your next dubbel. Prime with it in your next bottled weizenbock. It will add more than just gravity points (at least in its darker renditions). You'll be able to anticipate cocoa, fig, smooth caramel, and even light citrus flavors. You'll generate light, digestible higher-ABV beers.

You'll develop jewel-toned amber and copper colors. Heck, you might even prove me decidedly wrong when I say that lighter candi sugars add almost no flavors to your beer—I freely admit I've never tried adding it to a light lager. Or you might find that your simpler, cheaper sugar additions work just as well. Work it as an ingredient and find out whether you're getting everything you can out of your beers.

Candi truly is dandy. I'm sure Mr. Nash would agree. 



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# Tasted



The Belgian brewing tradition has influenced American brewers since the dawn of the craft-beer movement, and while the styles du jour have shifted a bit from the abbey realm to saison and farmhouse ales as of late, the weight of that influence is still felt throughout American beer culture. Read on to hear our blind-tasting panel's thoughts on **Belgian-style pale ales, golden ales, tripels, quads, saisons, and farmhouse ales**, and the ever-growing category of **mixed-fermentation saisons and farmhouse ales**.

**INSIDE CB&B**

# How We Taste & Test

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

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

As our reviewers judge, they score based on the standard BJCP components: Aroma (max 12 points), Appearance (max 3 points), Flavor (max 20 points), Mouthfeel (max 5 points), and Overall Impression (max 10 points). We've listed these individual component scores, and the bottom-line number is derived from adding then doubling these component scores to produce a rating on a 100-point scale. *Note that we've rounded the printed component scores to the nearest whole number, so the math won't necessarily add up.*

Our judges use the following scale in valuing scores:

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

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



## Cape May Brewing Devil's Reach

**LOC:** Cape May, New Jersey  
**ABV:** 8.5% | **IBUs:** 26 | **SRM:** 3.6

**What the brewer says**

"A Belgian beast, fruity and light. The complexity and character of Devil's Reach come from a robust Belgian yeast. Deceptively simple. Caution is demanded because before you know it, Devil's Reach has swallowed you whole."

**What our panel thought**

**Aroma:** "Floral hops spice (clove, pepper, and light ginger) hits up front. Moderate fruit aroma with orange, apple, pear, and peach. At the base, there's a cracker-like malt foundation. A hint of alcohol."

**Flavor:** "Big esters: banana dominates, but some pear, apple, white grape. Spiciness is a mix of peppery phenol and alcohol warmth. Medium tartness. Malt notes of honey, biscuit, and toast. Sweet, but not too sweet, and it slowly fades into a moderately dry finish."

**Overall:** "Easy-drinking strong golden Belgian-style beer. I had a smoothie that tasted like this: light tartness from the yogurt with strawberry and banana flavors. I could start my day with this. Duvel-like, but sweeter and simpler."

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

94



## Epic Brewing Brainless Belgian-Style Golden Ale

**LOC:** Salt Lake City, Utah  
**ABV:** 8.8% | **IBUs:** N/A | **SRM:** N/A

**What the brewer says**

"This beer has a rich and complex malt flavor balanced with a little bit of spicy noble hops and strong influences of fermentation esters from the Belgian yeast. Belgian-like rock candies, hops, and grains are used to express variations within the style."

**What our panel thought**

**Aroma:** "Moderate stone fruit, citrus, and pear with some bready malt and low floral spice in the background. Lemongrass fruitiness with a touch of phenolic. Light tartness."

**Flavor:** "More pear comes out in the flavor with bready malt. Moderate sweetness, with notes of honey and a bit of caramel, fades into the finish with moderately low bitterness and alcohol warmth to balance. Some nice complexity and smoothness. Vanilla builds in the lingering aftertaste."

**Overall:** "Classic Belgian golden strong with pear and citrus esters up front that fade into a bit of malt and a fairly dry boozy finish. Enjoyable body with a balance of sweetness, fruitiness, and spice character."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

90



## High Water Brewing Rio d'Oro

**LOC:** San Leandro, California  
**ABV:** 8.5% | **IBUs:** N/A | **SRM:** N/A

**What the brewer says**

"Rio d'Oro (River of Gold) is brewed with Belgian Pilsner and caramel malts, Styrian Golding hops, and Belgian yeast from East Flanders. This treasure glitters with aromas of tropical fruits and a dry effervescent finish."

**What our panel thought**

**Aroma:** "Golden Grahams cereal and honey. Slight notes of citrus in the back with notes of pear and apple. Some floral/earthy spice notes add complexity. This is beer, right? Seems more like a sweet cider on the nose."

**Flavor:** "Very sweet up front. Honey and a bit of caramel carry throughout the whole taste with citrus and spice in the background, but not balanced. Light hops bitterness toward the end of the sip but sweet overall."

**Overall:** "There's a nice orange and bready malt character in the background with a dry finish after the initial sweetness in the flavor. A touch more carbonation would keep the sweetness in check."

AROMA: 10  
APPEARANCE: 3  
FLAVOR: 15  
MOUTHFEEL: 4  
OVERALL: 8

79



TOP RATED



## pFriem Sauv Blanc Golden Ale

**LOC:** Hood River, Oregon  
**ABV:** 6.9% | **IBUs:** 9 | **SRM:** N/A

### What the brewer says

"When Belgian tradition meets American innovation, pFriem Sauv Blanc Barrel Aged Golden Ale is born. Bright aromas of guava, watermelon, white nectarine, and baked pear accompany jammy notes of melon, fruit punch, piña colada, berry, and dried lemons."

### What our panel thought

**Aroma:** "Oak notes up front with hints of white grape, orange, and lemon. Floral and spicy hops character comes through. A kind of coriander perfume bridges the gap between the citrus up front and the underlying spice. A hint of barnyard funk."  
**Flavor:** "Delicate and bright. There is a light sweetness that carries throughout the taste, then fades into low bitterness and low acidity. Citrus, perfume, and spice with breadly malt. Definite *Brett* character, but enough residual malt that it's a nice accent. Well-balanced."

**Overall:** "This beer drinks like a wine. Delicate and light with some nice fruity notes of white grape, orange, apple, and pear. The barrel character expresses itself in the aroma but not in the flavor. My sample was too small. I want a bottle to take home."

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

96



## Prison City Le Foof

**LOC:** Auburn, New York  
**ABV:** 8.8% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Belgian tripel."

### What our panel thought

**Aroma:** "Touch of alcohol up front. There's a lighter caramel and pear, peach, apple, and orange behind that with some cherry. A little banana with hints of clove, pepper, and coconut."  
**Flavor:** "First impression is alcohol. Some malt sweetness softens that a little and lets the banana/coconut come through, along with some strawberry, peach, and orange. Slightly spicy. Finish is dry."  
**Overall:** "Alcohol is a bit much and is not assisted by a moderate spiciness. Behind that there's a nice peach-and-caramel thing going. A stronger carbonation and a touch more body could balance it out slightly."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 3  
OVERALL: 9

86



## Seventh Son Brewing Baphomet

**LOC:** Columbus, Ohio  
**ABV:** 10.2% | **IBUs:** 35 | **SRM:** N/A

### What the brewer says

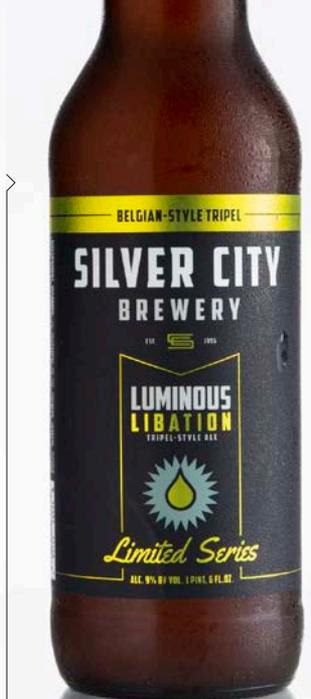
"Complex fruit and spice nose, a zesty middle, a bitter and crisp finish. Named after the devil."

### What our panel thought

**Aroma:** "Crackery malt up front with some underlying banana, orange, and pear. A bit of alcohol spice. Low nose otherwise."  
**Flavor:** "The flavor is much bigger than the aroma. Apple juice up front with light burnt honey character followed by dates, raisins, and a touch of vanilla. Light sweetness throughout that intertwines with a light alcohol warming at the end of the sip. Some clove notes. Finishes dry."  
**Overall:** "The intensity of the malt and esters matches nicely with the alcohol in the finish, balancing the sweetness. Intoxicating, but not engaging."

AROMA: 10  
APPEARANCE: 3  
FLAVOR: 17  
MOUTHFEEL: 4  
OVERALL: 8

83



## Silver City Brewery Luminous Libation

**LOC:** Bremerton, Washington  
**ABV:** 9% | **IBUs:** 30 | **SRM:** N/A

### What the brewer says

"Luminous Libation is a full-flavored interpretation of a Trappist monk's dream beer. This sunshine-yellow liquid radiates with layers of candied sugar and breadly malts and finishes dry with subtle fruit flavor and the spiced notes of Belgian yeast."

### What our panel thought

**Aroma:** "Fruity with a cracker or biscuit malt background. Orange and grape esters. Clove and pepper phenolic spice. Earthy/herbal hops, spicy phenols."  
**Flavor:** "Pear, apple, slight banana fruity esters that come across somewhat sweet. Some pepper and clove phenolics. Subtle earthy/noble hops flavors. Finishes fairly dry. Noticeable alcoholic warmth. Complex mélange of spice complements the lightly toasted malt."  
**Overall:** "A 'tweener' beer: Slightly sweet for a tripel, but not fruity/estery enough for a Belgian golden strong ale. Nice complexity—keeps me coming back for more."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

90





## Three Taverns Heavy Bell

**LOC:** Decatur, Georgia  
**ABV:** 10% | **IBUs:** 30 | **SRM:** N/A

### What the brewer says

"A bourbon barrel-aged version of our Belgian-style quad, Quasimodo. Aged in 8-year-old bourbon barrels, the result is an ale of incredible richness and complexity with rich bourbon character from the wood."

### What our panel thought

**Aroma:** "Barrel-forward with quite a bit of whiskey up front. Vanilla, oak, caramel, chocolate. Behind the barrel, there's a bit of fig, raisin, prune, and toast, but the whiskey dominates. Moderate sweetness and a touch of alcohol."

**Flavor:** "Fig, raisin, and prune notes come through up front. Notes of chocolate. Lots of whiskey. The alcohol is high and carries through the taste. Strong oak character. Moderately strong sweetness throughout."

**Overall:** "Lots of oak character and some nice chocolate and toasty notes with a bit of roast. Raisin and prune are present, but the barrel character and especially the whiskey overwhelm the beer itself."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 17  
MOUTHFEEL: 3  
OVERALL: 10

86



## The Bottlehouse There Is No Quad

**LOC:** Cleveland Heights, Ohio  
**ABV:** 11% | **IBUs:** 25 | **SRM:** N/A

### What the brewer says

"Belgian quad."

### What our panel thought

**Aroma:** "Spice-forward with clove, cinnamon, and nutmeg. Behind that there's caramel, toffee, toast, and chocolate malt. Raisin, plum, and prune notes. Nice blend of malt sweetness. Mole apple pie?"

**Flavor:** "Malt body is full with chocolate, toast, and a little caramel. Prunes, dates, and raisins add to the flavor. Cinnamon and clove notes come forward. Root beer-like spiciness in the middle of the sip with a medium alcohol warming toward the end. The flavor is rich, and the rich character carries through to the finish. Alcohol warmth is high. Carbonation is nice."

**Overall:** "Very spice-forward in the aroma but pretty enjoyable overall. It all comes together as a kind of cinnamon/clove-spiced boozy cola. Sweet, but not too sweet. Mexican stout-quad?"

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

92



## Brewery Vivant Wizard Burial Ground 2017

**LOC:** Grand Rapids, Michigan  
**ABV:** 9% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Brewed once a year, this special quad is aged in freshly drained bourbon barrels and disappears into the shadows for a full year of cellaring. This year's brew becomes next year's release."

### What our panel thought

**Aroma:** "Oak, bourbon, whiskey, and notes of vanilla. Lots of very classic bourbon-barrel aroma up front. Behind that there's caramel and toasted malt as well as some raisin, plum, prune, dark cherry, and sherry. Some nice malt sweetness in the back."

**Flavor:** "Nice light sweetness. Notes of vanilla, slight oak, and bourbon hit up front. Sweetness is added with honey and caramel. A little chocolate. Plum, prune, and raisin follow. Finishes sweet with some alcohol heat."

**Overall:** "Thank you for a big decadent beer. It's 90°F outside, but I want to have a glass of this at my fireplace. Share this one."

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

97



## Deep Ellum Brewing Wealth & Taste

**LOC:** Dallas, Texas  
**ABV:** 10.5% | **IBUs:** 25 | **SRM:** N/A

### What the brewer says

"This beer's journey begins in new American oak barrels, matures in French chardonnay oak barrels, and finishes fermentation with Viognier white-wine grapes. The oak tones gambol with floral aromas, grapefruit, tastes of apricot, and subtle hops bitterness."

### What our panel thought

**Aroma:** "Moderate oak and vanilla up front with bit of peach hiding in the background. A touch of bready malt sweetness. Rich spicy phenols: clove, pepper, fenugreek (maple)."

**Flavor:** "The flavor is bigger than the aroma with more vanilla. It comes together like a peach pie. Moderate sweetness that fades into a finish where there's a bit of spice from the oak tannins and alcohol. A light Brett characteristic in the middle is super interesting and has a touch of horse blanket."

**Overall:** "Well-made beer where the barrel and the beer itself enhance each other. This beer was fun. The barrel notes of oak and vanilla blended well with the honey and fruit character of the Belgian golden ale."

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

98





## Firestone Walker Stickee Monkey

**LOC:** Paso Robles, California  
**ABV:** 11.4% | **IBUs:** 36 | **SRM:** 75

### What the brewer says

"Cut from a similar recipe, this barrel-aged quad evolves and shows a different face each year. It has a full body and lush texture with barrel expression all over: toasted oak, coconut, leather, and rich cigar tobacco."

### What our panel thought

**Aroma:** "Whiskey, vanilla, oak, and leather with banana. There's underlying toast and chocolate. Plum and raisin behind all of that. Toasty malt notes."  
**Flavor:** "Big flavor with a ton of vanilla, then caramel, toffee, and dark fruit. Almost cake-like sweetness balanced a bit by moderate bitterness and alcohol, but some of the sweetness lingers. There's moderate alcohol warmth."

**Overall:** "The vanilla-forward character with the more subtle malt and fruit is likeable. Nice notes of leather and vanilla with oak come through, but some will find that this one finishes and carries a bit sweet and hot through-out."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

88



## Hardywood Park Bourbon Barrel Cru

**LOC:** Richmond, Virginia  
**ABV:** 12% | **IBUs:** 18 | **SRM:** N/A

### What the brewer says

"This beer displays a rich mahogany hue with a medium body and brilliant clarity after months of barrel aging. Almond, toffee, and oaky vanilla give way to notes of dark cherries and raisins. Subtle hints of plum are greeted by caramel overtones for a smooth and warming finish."

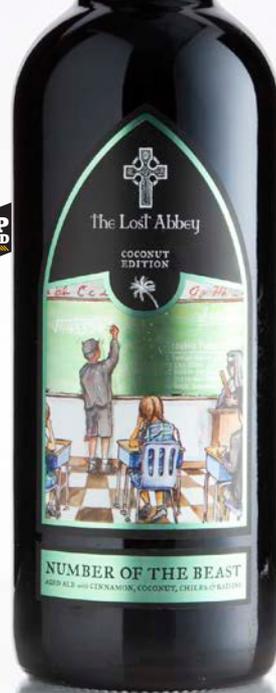
### What our panel thought

**Aroma:** "Caramel, bourbon, toffee with vanilla and oak behind that. Fairly low aroma overall."  
**Flavor:** "More caramel, toffee, vanilla, and oak. Dates, raisin, plum. Moderate sweetness into moderate bitterness with a fairly strong alcohol warmth. Some oak tannins in the finish as well. Finish is medium sweet, even with the alcohol to dry it out."

**Overall:** "Pleasant, relatively strong flavored. Easy-drinking, but a bit one-dimensional."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 3  
OVERALL: 9

89



## The Lost Abbey Number of the Beast Coconut Edition

**LOC:** San Marcos, California  
**ABV:** 14% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"A bourbon barrel-aged quad brewed with raisins, coconut, cinnamon, and chiles (for spice, but not heat), this beer is a beast in and of itself. An initial malty sweetness leads to complex levels of cinnamon and spices, with hints of oak and coconut, with a finish reminiscent of an oatmeal raisin cookie."

### What our panel thought

**Aroma:** "Cinnamon and chile spice up front. Notes of dark fruit, raisins, and prunes. Oak and sweet bourbon. Coconut. All these flavors blend nicely."  
**Flavor:** "Cinnamon, chocolate, raisins, plum, and notes of sweet coconut all dance around in this beer. It is sweet, but not too sweet. Oak and bourbon with hints of vanilla also are present. The complex flavor carries through to the finish with no one flavor is overpowering."

**Overall:** "All of the flavors blended together without one overtaking the other. Well-balanced among sweet cake, chiles, spiciness, and alcohol. Lots going on, but melds well and is tasty. Understatement is a good thing."

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

98



## Tröegs Mad Elf Grand Cru

**LOC:** Hershey, Pennsylvania  
**ABV:** 11% | **IBUs:** 15 | **SRM:** N/A

### What the brewer says

"If you know Tröegs, you know The Mad Elf, the mischievous belle of the holiday beer ball. In your hands is the director's cut. Loads of tart Balaton cherries make all the difference. Bottle-conditioned and flush with notes of cinnamon and clove."

### What our panel thought

**Aroma:** "Red and dark cherry up front with raisins, prunes, some plum, caramel, toffee, and a touch of chocolate malt. Slight tartness."  
**Flavor:** "Sweet and tart up front with notes of tart cherries. The cherries add complexity to the deep malt sweetness and carry through the taste. Behind the tart cherries are notes of cocoa, raisins, and plums. Honey. Moderate alcohol warmth."

**Overall:** "This beer was fun and complex with tart cherries and chocolate really coming through in the taste."

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

92





## Hardywood Park Hardywood Singel

**LOC:** Richmond, Virginia  
**ABV:** 6.2% | **IBUs:** 30 | **SRM:** N/A

### What the brewer says

"Unfiltered and unpasteurized, Hardywood Singel is sunshine golden with a fluffy white head and a veil of Belgian ale yeast. A delicate body ushers tropical fruit esters into perfect balance with spicy hops aromatics. The finish is dry."

### What our panel thought

**Aroma:** "Strong citrus (orange, tangerine, lemon) up front with notes of white grape and pear and sweetness. Some Pilsner with light bread and biscuit sit behind with some slight hops-spice character."

**Flavor:** "Balance between citrus character and some spicy herbal notes. Fruit comes through as orange, lemon, a bit of pear, and white grape. Herbal notes add a bit of spice. Some toast. Slight bitterness, but not overpowering, and balanced with the taste. Nice dry finish and medium-high carbonation."

**Overall:** "Enjoyable balance between the fruit notes and the spice character with a nice body to back it up and a nice malt sweetness."

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



## Ritual Brewing Monk's Lunch

**LOC:** Redlands, California  
**ABV:** 4% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Monk's Lunch is a crisp, light Belgian-style ale that boasts a golden body, aromas of spice and pear with a perfectly balanced taste of sweet malt and earthy hops. Finishes dry, clean, and crisp."

### What our panel thought

**Aroma:** "Light, delicate floral and honey with orange citrus. There's almost an orange-creamsicle character to it. Behind that, there's some fresh bread dough and a touch of grass. Slight spice on the back."

**Flavor:** "The orange citrus comes out more in the flavor with honeyed cracker after. A moderate sweetness up front with a moderate bitterness after. Slightly spiced hops character. The beer is light overall without being watery."

**Overall:** "The brewer did a great job of packing a lot of complexity into a small beer. Nice ester and malt character! Although it's light, it's not thin."

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



## Societe Brewing The Harlot

**LOC:** San Diego, California  
**ABV:** 5.6% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"The Harlot is crisp, light, and easy-drinking. Straddling the border of Belgium and the Czech Republic, it combines a Pilsner-like base recipe with Belgian yeast to create a versatile beer with a light body and elegant floral hops character."

### What our panel thought

**Aroma:** "Lemongrass and tangerine with a more peppery yeast character behind that. Very saison-like. Malt character brings notes of biscuit and honey. Some hops character brings some spice elements."

**Flavor:** "More citrus, herbal, and grassy with a bit of bread malt in the finish. Peppery phenols. Moderate low sweetness with low bitterness and a nice dry finish with a bit of hops bitterness that's not overpowering. Refreshing."

**Overall:** "Lemon and supporting fruits are the focus of the flavor with a body to support. It's a light beer and easy-drinking. I could finish a lot of these on a hot day. Very refreshing."

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



## Surly Brewing Cynic

**LOC:** Brooklyn Center, Minnesota  
**ABV:** 6.5% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"A pale gold-hued ale fermented with a Belgian yeast strain, resulting in a beer that has notes of lemon from the hops and black-pepper spice from the yeast, with a dry 'tingly' finish."

### What our panel thought

**Aroma:** "Delicate aroma. Balanced malt and esters with a hint of floral hops. Light bread and toasty malt with a touch of honey. Citrus and fruit esters with orange, raspberry, peach, and pear. Some herbal pepper notes sit behind."

**Flavor:** "Sweet with fruit notes of orange, white grape, and pear. Then some pepper herbal notes behind that. Some toasty biscuit notes come through. Finishes slightly sweet but still a bit dry. Medium carbonation at the end gives it a vibrant finish."

**Overall:** "Nice balance between fruit and malt. Very drinkable."

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





## Black Shirt Brewing Stringbender

**LOC:** Denver, Colorado  
**ABV:** 7.5% | **IBUs:** 37 | **SRM:** N/A

### What the brewer says

"Bright orange and tangerine aroma with a hint of pear and apricot, all of which complement the spicy, earthy yeast characteristics."

### What our panel thought

**Aroma:** "Super peach-forward throughout, like Peachie-O candies. Clove and white pepper. Fruity hops notes—some melon and tropical notes. Some cracker malt background."

**Flavor:** "Peeeeeaches. Very low sweetness, although there's an impression of sweetness because of the peach, with moderate bitterness. Peppery phenolics. Low sour. Dry overall finish."

**Overall:** "An interesting and evolving beer that gives a super-peachy initial impression but becomes fairly dry and spicy in both aroma and flavor."

AROMA: 11  
 APPEARANCE: 3  
 FLAVOR: 18  
 MOUTHFEEL: 4  
 OVERALL: 9

89



## Hop Butcher Weirdsmobile

**LOC:** Chicago, Illinois  
**ABV:** 6% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Nelson Sauvin and Vic Secret–hopped saison-style ale with citrus pulp and dank tropical notes."

### What our panel thought

**Aroma:** "Calling all hopheads! Hops aroma is forefront with a lot of cantaloupe, mango, peach, pineapple, lemongrass, and herbal. Orange and tangerine come through after the initial hops. Behind that there's some bready malt and a bit of black pepper."

**Flavor:** "Dankness, passion fruit, pine, pithy orange, and lemon peel, touch of peppery phenolics. High bitterness is compounded by the expected bone-dry finish. Balance is all about the IBUs in this one. Some saison character is hiding under massive hops burst."

**Overall:** "Super-inviting dank and fruity nose leads to a mouth-puckering bitterness. While hops aroma blends nicely with the more subtle yeast character, some may find the bitterness a bit much for such a light beer."

AROMA: 12  
 APPEARANCE: 3  
 FLAVOR: 17  
 MOUTHFEEL: 4  
 OVERALL: 9

89



## KC Bier Co. Der Bauer

**LOC:** Kansas City, Missouri  
**ABV:** 7.8% | **IBUs:** 37 | **SRM:** N/A

### What the brewer says

"A hazy golden farmhouse ale that's dry, crisp, and effervescent with fruity esters, citrus hops aromas, rustic yeast flavors, and a silky-smooth finish."

### What our panel thought

**Aroma:** "Orange, tangerine, lemon, and white grape with peppery spice. Earthy hops aromas (lemongrass, onion, slight citrus). Peppery phenolics. Bready malt. Saison character hiding behind the hops."

**Flavor:** "Bucket o' melon, orange, peach, bready malt, spicy and drying alcohol, bone-dry finish assisted by the alcohol. Spicy pepper phenolics. Moderately low sweetness with moderate bitterness."

**Overall:** "A wonderfully dry-hopped saison with New School hops from the Old World. The hops character blends seamlessly with the esters from the yeast. Quite citrus-forward but balanced."

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

94



## Ommegang Saison Rose

**LOC:** Cooperstown, New York  
**ABV:** 7.7% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"This blend of saisons, one aged in oak, the other brewed with hibiscus flowers and co-fermented with chardonnay-grape juice, has aromas of grapefruit and red berries that are followed by a hint of oak. Flavors of sweet berries and lightly tart citrus resolve to subtle oak tannins and spicy Belgian yeast."

### What our panel thought

**Aroma:** "Grape and subtle hibiscus aromatics dominate. Slight earthy hops. Perhaps a hint of bready malt. Spicy phenols."

**Flavor:** "Classic peppery phenolics. Tart and pleasant hibiscus. Dry, yet subtly sweet, grape flavors. Everything is well-balanced and works well together. Dry, but not harsh finish with a low bitterness and low sour."

**Overall:** "Clean, spicy, dry, yet fruity. Well-crafted blend of spicy peppery phenolics and fruit characteristics. Very subtle, well-integrated hibiscus notes. Everything works with everything else."

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

95





## Outer Range Brewing Final Summit

**LOC:** Frisco, Colorado  
**ABV:** 7% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"French yeast selection on this farmhouse ale leaves a silky, rich mouthfeel leading up to a dry finish."

### What our panel thought

**Aroma:** "Peppery phenols and white grape lead with some herbal and a bit of bready malt behind that. Light floral/grassy hops with a bit of orange and pineapple."  
**Flavor:** "There's still white grape, pepper, and a touch of bready, but more floral in the flavor, specifically iris. Very low sweetness into a moderately bitter dry finish that lingers a bit. Oniony, spicy hops, orange, and pineapple, spicy alcohol, light bready malt."  
**Overall:** "Well-balanced beer, and there's a ton of great yeast character. Sophisticated and smooth up front, with rustic notes in the finish. Fairly good representation of a farmhouse ale."

AROMA: 11  
 APPEARANCE: 3  
 FLAVOR: 18  
 MOUTHFEEL: 5  
 OVERALL: 10



## Perennial Artisan Ales On y Va

**LOC:** St. Louis, Missouri  
**ABV:** 6.6% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"On y Va is a modern saison brewed with barley, wheat, and oats, and fermented with two classic saison strains. For an American fruit punch, we hopped it generously in the kettle and fermentor with the Pink Boots Blend created by YCH Hops and the Pink Boots Society."

### What our panel thought

**Aroma:** "Orange, lemon, and tangerine with some herbal green tea and peppery phenolics. Light bready malt in the background."  
**Flavor:** "Foreground is a light spicy saison character: earthy, herbal, lemon, stone fruit, grainy malt, spicy phenolics of clove and pepper. Hops come through as a citrus background. Finishes very dry and crisp."  
**Overall:** "Traditional dry-hopped fruity and slightly tart saison with a light, dry finish. The hops are subtle and dovetail with the yeast nicely."

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



## WeldWerks Brewing Saison D'Amitie

**LOC:** Greeley, Colorado  
**ABV:** 6.7% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Notes of honeysuckle, sweet orange peel, and hints of white pepper. A simple malt bill provides the perfect canvas for the complex esters and phenols produced by the warm saison-yeast fermentation. A moderately dry finish with just enough body to maintain balance."

### What our panel thought

**Aroma:** "Classic saison aromas: orange, banana, light peppery phenols with grassy hops, bubblegum, and just a bit of bready malt in the background. Subtle but distinctive."  
**Flavor:** "Pepper, orange, banana, clove, bubblegum, grainy malt, balanced, smooth finish that's a bit on the sweeter side for the style, but certainly not sweet. Aftertaste of spice lingers pleasantly."  
**Overall:** "Everything is super well-balanced; it's just pint (or rather taster)-sized. A superbly executed classic saison."

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



## Worthy Brewing Farm Out Passion Fruit Saison

**LOC:** Bend, Oregon  
**ABV:** 5.9% | **IBUs:** 22 | **SRM:** N/A

### What the brewer says

"Where the Old World meets the New Age. Enjoy hints of bubblegum, clove, and lemon zest as you uncover a layer of real passion fruit. A refreshing beer with a dry and pleasantly tart finish."

### What our panel thought

**Aroma:** "Foreground is passion fruit with hints of flint, white pepper, peach, and lemon zest. Slight clove, banana, sweet. Background is Pils malt, semisweet."  
**Flavor:** "White pepper, peach, subtle passion fruit, and lemon zest. Low bitterness, light body, and high drinkability. Moderately low sweetness with a dry finish."  
**Overall:** "Everything about this beer is fairly subtle, but works well. With a light summery body, it's a very refreshing and drinkable beer. Reserved, but well-crafted and well-balanced saison."

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





## Aslan Brewing Frances Farmer

**LOC:** Bellingham, Washington  
**ABV:** 6.3% | **IBUs:** 24 | **SRM:** N/A

### What the brewer says

"A rustic farmhouse ale aged 4 months in a French oak foeder with four varieties of *Brettanomyces* yeast. Brewed with raw wheat, Pilsner, and Vienna malts and hops from the Alsace region of France. Notes of ripe peaches and aromas of sweet hay."

### What our panel thought

**Aroma:** "Slight PEZ Candy aroma with a lot of lemon. Clean Pilsner grainy character. Moderate wheat sweetness. Doesn't present a strong funk like some others in the mix, more dry grain/hay and peppery *Brett* phenols."

**Flavor:** "Lemon plays with polyphenols, but behind a graininess from the Pils malt and bubblegum from the wheat. Fairly dry finish with a bit of watermelon in the aftertaste."

**Overall:** "Character from mixed-fermentation is subtle, hidden behind the typical Pils and wheat expressions. Easy-drinking and delicate, not the level of acidity one might expect from a mixed-fermentation farmhouse beer. More *Brett* character than acid."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 16  
MOUTHFEEL: 4  
OVERALL: 8

85



## Aslan Brewing Justice Temple

**LOC:** Bellingham, Washington  
**ABV:** 5.5% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Fermented and aged in single-use, red-wine barrels. The malt bill is equal parts Belgian Pilsner and raw wheat, with a sprinkling of malted rye. Fermented with a variety of saison yeasts, lactic-acid bacteria, and *Brettanomyces* that we isolated from peach skins."

### What our panel thought

**Aroma:** "Peach and apricot with a bit of lemon and passion fruit and a sweaty *Brett* funk. Nice subtle red-wine notes."

**Flavor:** "More tropical and citrus. Nice wild flavors. Subtle and restrained acidity. More tart than sour. Woody wine flavors. Moderately dry, very clean finish."

**Overall:** "Very drinkable. Fruit-forward without being overly sweet. The wine barrels nicely blend with the woody *Brett* character. Very enjoyable."

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

91



## Birds Fly South Rumblefish

**LOC:** Greenville, South Carolina  
**ABV:** 6.5% | **IBUs:** 35 | **SRM:** 4.8

### What the brewer says

"An open-fermented white-wine solera with Calypso and Citra hops."

### What our panel thought

**Aroma:** "Earthy (lemongrass, onion) and citrus (lemon, grapefruit) hops. Some resinous pine and a bit of skunk. Slightly tropical. Slight *Brett* funk. Bready malt. A spicy oak finish."

**Flavor:** "Dry and funky. Earthy hops (onion, lemongrass) finish. Slight tartness. No sourness. Slight acidity. More dry/tart than sour, and that dryness is amplified by the significant bitterness. Light clean bready pale malt background. Nice wild *Brett*/woody character in the aftertaste."

**Overall:** "Noble hops mixed with New World hops character in a slightly funky saison. More dry and tart than overtly sour or acidic. The lightstruck note suggests this may have been packaged in a green bottle. Nice fresh citrus flavor draws the drinker back for another sip."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 4  
OVERALL: 9

90



## Boulevard Brewing Saison Brett 2018

**LOC:** Kansas City, Missouri  
**ABV:** 8.5% | **IBUs:** 38 | **SRM:** 12

### What the brewer says

"Saison Brett, based on our Tank 7, is assertively dry-hopped, then bottle-conditioned with various yeasts, including *Brettanomyces*."

### What our panel thought

**Aroma:** "Orange and lemon, lavender, rose petals, soapy hops aroma with underlying bready and bread-crust malt. Clove and peppery phenols. Minimal funk/sourness."

**Flavor:** "Orange-juice, peach, spicy and slightly astringent alcohol. Clean, light, bready malt background. Moderately sweet with moderate bitter and sour in the finish. For a beer in this category, seems light on the *Brett* funk—a younger beer, perhaps?"

**Overall:** "A citrus-forward boozy saison. Slight hint of *Brett* suggests that more is to come as this ages, but any phenols perceptible now could just as easily be fermentation results from typical saison/farmhouse yeasts."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 17  
MOUTHFEEL: 4  
OVERALL: 9

88





## Burial Beer Jealousy & Murder

**LOC:** Asheville, North Carolina  
**ABV:** 6.3% | **IBUs:** 10 | **SRM:** N/A

### What the brewer says

“Part 2 of a story told with our good friends at Blackberry Farm Brewery is a mixed-culture saison made with North Carolina barley and spelt, hopped with Saphir hops, and aged with *Brettanomyces* and *Lactobacillus*.”

### What our panel thought

**Aroma:** “Good, moderate lemon tartness. Nice light funk. A bit of Pilsner malt sulfur note over a faint hint of earthy hops. Subtle.”

**Flavor:** “Good flavor of tart lemon without the bracing acidity of others in the category. Light fruity hops. Very dry finish. Subtle funk. Good malt character that doesn’t get lost under the fruit notes from the fermentation and hops. Light lemon crispness with the right balance of complexity and acidity.”

**Overall:** “A very pleasant beer. Clean, bright, lemon-forward with a touch of kiwi and lychee in the background and a moderate body, reminiscent of a New Zealand Sauvignon Blanc. I’d match it with a light dinner such as a chicken breast.”

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

96



## Burial Beer Peel Back the Dead Earth

**LOC:** Asheville, North Carolina  
**ABV:** 5% | **IBUs:** 10 | **SRM:** N/A

### What the brewer says

“Brewed in collaboration with Transmitter Brewing, this experimental ale was brewed with North Carolina barley and wheat, filtered through a bed of hay and aged on wheatgrass, honeysuckle, rose hips, and rose petals. Aged in neutral red-wine barrels and bottle-conditioned with *Brettanomyces*.”

### What our panel thought

**Aroma:** “Moderate peach with hints of black pepper. Light lemon. Creamy aroma with a little burnt rubber coming out. Bright and perfumey.”

**Flavor:** “High *Brett* funk leads. Sweet, light cream, phenols, fruits. A rustic malt character in the *Bière de Garde* vein. Adjuncts work in the favor of this beer, but are subtle and don’t immediately stand out as individual ingredients for a pleasant cohesion. Very dry and slightly herbal finish.”

**Overall:** “Dry, light, and well-carbonated. Not as overtly tea-like as the ingredient list might suggest, thankfully. It’s cohesive.”

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 16  
MOUTHFEEL: 4  
OVERALL: 9

85



## Casey Dry-Hopped Saison (Galaxy)

**LOC:** Glenwood Springs, Colorado  
**ABV:** 5.5% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

“This blend features Galaxy dry hops with a blend of low/medium acidity saison. Citrus, papaya, and grapefruit.”

### What our panel thought

**Aroma:** “Very juicy aroma. Big, sweet and tart tropical aroma with passion fruit and pineapple, which blends into the orange and tangerine. Slightly earthy hops aroma. Wild, earthy, and funky.”

**Flavor:** “Lemon, passion fruit, cherry pie. Pleasant tartness and an herbal hops finish. Low sweetness into high acidity works nicely with the juicy flavors and aromas. Lingering lactic acidity on the back of the tongue. The hops meld into what you expect from an acidic beer—round citrus with distinct but mellow lemon-lime notes.”

**Overall:** “A Galaxy version of a tart mixed-fermentation beer. Nice citrus flavors and an interesting earthy character from the combination of hops and fermentation. Very tasty beer.”

AROMA: 12  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 5  
OVERALL: 9

94



## Creature Comforts Arcadiana

**LOC:** Athens, Georgia  
**ABV:** 6.2% | **IBUs:** 30 | **SRM:** N/A

### What the brewer says

“Arcadiana is brewed with American and European hops and aged for 1 year in wine barrels with our house mixed culture of yeast and bacteria. The beer is soft, lightly tart, and presents citrus and berry notes on the palate.”

### What our panel thought

**Aroma:** “Light rose water and barnyard funk. Light citrus rind. Grapefruit, lemon, and some apricot.”

**Flavor:** “*Brett* funk helps to balance the beer without giving phenols. Lots of lemon. Very creamy. A fair amount of lacto sourness. A very strong white-wine character gives the impression that this beer might be made with grapes, although it is not.”

**Overall:** “Enjoyable and drinkable. A characterful mixed-culture saison with an engaging depth that doesn’t seem ponderous—it doesn’t require a PhD to decipher but offers enough layers to keep more cerebral drinkers happy. A creative and purposeful fermentation approach creates fruit without the fruit.”

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

95





## Four Saints Brewing Oak Fermented Saison

**LOC:** Asheboro, North Carolina  
**ABV:** 6.2% | **IBUs:** 33 | **SRM:** N/A

### What the brewer says

"This saison is 100 percent oak-fermented and full of flavor. This beer's dry, crisp, and refreshing light citrus flavor is complemented with a slight *Brettanomyces* funk."

### What our panel thought

**Aroma:** "Orange, banana, and strawberry. Bready. Leather, horse blanket. Earthy hops aromas."  
**Flavor:** "Low sweetness to begin, with a mix of bitterness and acidity in the finish. Earthy hops flavors (grassy, onion, green pepper). Minimal sourness/tartness and a somewhat thin body. Nice lingering fermentation complexity in the aftertaste."  
**Overall:** "Wild and crisp, but somewhat one-dimensional. Lots of *Brett* characteristic but not much complexity."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 17  
MOUTHFEEL: 4  
OVERALL: 8

# 86



## Funkwerks Saison d'Brett

**LOC:** Fort Collins, Colorado  
**ABV:** 7% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Saison d'Brett is a batch of our flagship Saison aged in our 800-gallon foeder. The oak from the foeder complements the fruit and spice flavors from the saison yeast as well as the funkiness contributed by the addition of *Brettanomyces* yeast."

### What our panel thought

**Aroma:** "Lemon, *Brett* character, a touch of almond. Moderately spicy with a hint of mint. It smells like a liquid Newport cigarette. Rose petal and menthol, mmmm!"  
**Flavor:** "Almost a vanilla-like sweetness up front followed by a strong *Brett* presence. Mint, lemon, and orange. Barnyard funk overpowers a lot of the other subtle flavors. Well-carbonated."  
**Overall:** "There are some different things going on in this beer, and it is a decent experience. Mouthfeel is spot-on for the style."

AROMA: 10  
APPEARANCE: 3  
FLAVOR: 16  
MOUTHFEEL: 5  
OVERALL: 9

# 87



## Jester King Saison Américaine

**LOC:** Austin, Texas  
**ABV:** 5.2% | **IBUs:** 14 | **SRM:** N/A

### What the brewer says

"Foeder-fermented, acid-forward, American-inspired saison."

### What our panel thought

**Aroma:** "Lots of light fruity aromas, especially lemon, backed by wheat character. Berliner-like, but with more flavor and character. Funky barnyard hay."  
**Flavor:** "Lemon tartness and wheat notes followed by moderate barnyard funk. Finishes with lots of light sweet fruit flavors. Has a hint of sour on the back end."  
**Overall:** "Well-balanced, tart, modern American interpretation of a tart saison. Wheat character is appropriate and enjoyable. High carbonation adds to the liveliness. Very light and refreshing."

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

# 97



## Little Fish Brewing Petit Poisson

**LOC:** Athens, Ohio  
**ABV:** 5.2% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Petit Poisson is a traditional saison, barrel aged 3–6 months and soured before packaging. It won a bronze medal at the 2018 World Beer Cup. Brewed with Ohio Pilsner, wheat, rye, and oats, and hopped with American noble varieties."

### What our panel thought

**Aroma:** "Funky *Brett* is apparent right away, followed by some softer tropical fruit. Effervescent, champagne, lemon. Bright and clean."  
**Flavor:** "Bright lemon and *Lacto* presence is balanced by a tannic and earthy presence. Good attenuation and carbonation contribute to a classic Belgian digestibility. *Brett* funk is present, and it's not just a *Lacto* bomb. Complex. Lemonhead candy with restrained sweetness."  
**Overall:** "There's enough going on here to keep you interested. The funk and earthy notes balance out the moderately restrained acidity. A classic saison."

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

# 95





## Monkish Brewing Interstellar Hitchhiker

**LOC:** Torrance, California  
**ABV:** 5.3% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Rustic saison fermented with a blend of saison yeasts and aged in oak foeders for 3 months with our house mixed culture of wild yeast and souring bacteria. Refermented in bottles for an additional 3 months."

### What our panel thought

**Aroma:** "Orange, tropical, banana, with some light bready malt and some wild notes of clean barn, dry straw. As it warms, you get more peaches and apricots. Slightly sour and lightly tart."  
**Flavor:** "More citrus and tropical in the flavor. Slight leather. Lightly sour, earthy, fresh. Low hops bitterness."  
**Overall:** "Refreshing, lightly sour, summer thirst quencher with a wild kick! Very fruit-forward."

AROMA: 11  
 APPEARANCE: 3  
 FLAVOR: 18  
 MOUTHFEEL: 4  
 OVERALL: 9



## Perennial Artisan Ales Merna

**LOC:** St. Louis, Missouri  
**ABV:** 7% | **IBUs:** N/A | **SRM:** N/A

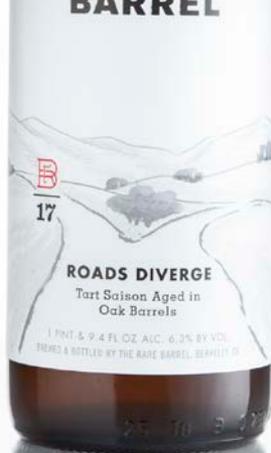
### What the brewer says

"A mixed-culture ale brewed with lots of wheat and gently hopped to give the yeast-and-bacteria culture the ability to be fully expressed. Aged for 8 months in oak wine barrels, then package-conditioned. Pours golden-orange and has a sweet-tart/funky aroma rounded out by the oak presence."

### What our panel thought

**Aroma:** "Stewed fruit and oak barrels with spicy phenols, slight vegetal character. Behind that there's orange and pineapple and a bit of bready malt. Lightly sweet, some alcohol notes."  
**Flavor:** "Pineapple, citrus, orange. Sour. Tartness, low sweetness, no bitterness. Some smooth sweet malt."  
**Overall:** "A tart and acidic glass of white-grape must that is balanced by some oak-soaked vanilla. The combination of flavors works okay and creates an interesting result. Just a bit of vinegar/acetic acid adds depth but may go a bit too far for some."

AROMA: 10  
 APPEARANCE: 3  
 FLAVOR: 17  
 MOUTHFEEL: 4  
 OVERALL: 8



## The Rare Barrel Roads Diverge

**LOC:** Berkeley, California  
**ABV:** 6.3% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Fermented with a mixed culture, this tart saison is delicate in aroma and flavor, soft in texture and acidity, and showcases notes of pink peppercorn, grass, and lemon rind."

### What our panel thought

**Aroma:** "Frozen lemonade with a hint of pineapple and orange. Clean, lemon, Lacto. Brief whiff of sulfur that blows off and opens up into an earthy lemon mint or lemongrass note. As it sits, that lemon note morphs into a bit of stale locker-room funk."  
**Flavor:** "The flavor mirrors the aroma. Creamy lemon candy with a distinct tartness that accentuates the lemon for a mildly puckering effect. Finishes dry despite the perceived sweetness up front. Tartness lingers on the tongue as the flavors fade."  
**Overall:** "Enjoyable initially, but drink quickly as it starts stronger than it finishes. Refreshingly clean and bright on first sip, but takes on a Dr. Jekyll and Mr. Hyde-like transformation as it warms."

AROMA: 10  
 APPEARANCE: 3  
 FLAVOR: 17  
 MOUTHFEEL: 4  
 OVERALL: 8



## Saint Benjamin Brewing De Cave

**LOC:** Philadelphia, Pennsylvania  
**ABV:** 7% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"This bière de garde spent 9 months aging in oak barrels. Each year, we set aside a small portion of our Carriers Bière de Garde and age it in wine barrels with a blend of wild yeasts. In that time, the beer takes on a mild tartness and aromas of stone fruit and dried figs."

### What our panel thought

**Aroma:** "Apple, vanilla, oak, and a combination of spicy phenols and alcohol. Very apple pie-like. There's also caramel and toasty malt. Slight earthy hops, slight tartness, woody Brett. Some notes of clean barn, dry hay."  
**Flavor:** "Very much apple pie still. Moderately low sweetness into moderately high acidity that fades into a dry but light boozy finish. Caramel malt, aged/earthy hops. Slight funk/tartness."  
**Overall:** "Like apple pie with vanilla ice cream and boozy caramel sauce. Medium wild funk keeps this beer interesting. Tasty beer!"

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





## Side Project Raspberry Bière du Pays

**LOC:** Maplewood, Missouri  
**ABV:** 5% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Wine barrel-aged farmhouse ale conditioned on both black and red raspberries."

### What our panel thought

**Aroma:** "Straight-up raspberry jam. There's an underlying lemon and orange citrus character. Slight barnyard funk. Leather. Light clean malt background. Fruit esters complement actual fruit aromas."

**Flavor:** "Tart, funky raspberries! Nice initial fruit followed by a sharp sour finish. Dry finish with the lingering acidity as it slowly fades."

**Overall:** "Very raspberry and very sour. Dry and funky. Raspberries meet mouth-puckering cherry pie."

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 17  
MOUTHFEEL: 4  
OVERALL: 9

# 89



## Standard Brewing Time Crystals #1

**LOC:** Seattle, Washington  
**ABV:** N/A | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"Time Crystals #1 started life as a blonde bière de garde and was refermented in oak on apricot with a derivative of *Brettanomyces bruxellensis*."

### What our panel thought

**Aroma:** "Peach and apricot lead with underlying caramel, vanilla, earthy hops (grassy, slight onion, slight green pepper). Bready and toasty malt. Burnt sugar. Some dank earthy notes—cellar, hay bedding."

**Flavor:** "More apricot, caramel, and vanilla. Like eating a tart apricot and continuing to chew on the skins. Low earthy funk, some wood from the *Brett*, clean barn. Low sweetness with moderate high acidity. Finish lingers in the back of the throat."

**Overall:** "Nice peach-pie thing going on with the stone fruit and caramel malt character. A nice beer overall."

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

# 92



## Surly Brewing Misanthrope

**LOC:** Brooklyn Center, Minnesota  
**ABV:** 6.8% | **IBUs:** N/A | **SRM:** N/A

### What the brewer says

"This Belgian-style saison is aged in oak white-wine barrels with *Brett*. Golden in color, it has notes of tropical fruit wrapped in an oaky horse blanket. It is best served cool and enjoyed alone or with a tolerated companion."

### What our panel thought

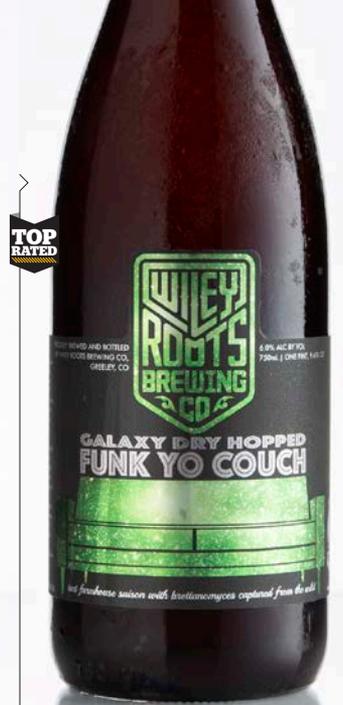
**Aroma:** "Dried cherries, currants, spicy peach and melon, pineapple, sweet esters, and oak. Peppery and clove phenols and some spicy alcohol. Bready malt and a touch of bready crust behind that. Slightly acidic."

**Flavor:** "Strawberry, raspberry, lemon, bitter raisins, slight green apple/pear. Underlying spicy/pepper phenols. Tart and funky. Low sweetness with moderate acidity. Some barnyard funk. Mild acidity. Woody hops."

**Overall:** "Nicely balanced and very drinkable. A fruity, spicy, slightly tart farmhouse type beer. Sweet and smooth, enjoyable, satisfying. This is a nice Oud Brun, except it is pale!"

AROMA: 11  
APPEARANCE: 3  
FLAVOR: 18  
MOUTHFEEL: 5  
OVERALL: 10

# 93



## Wiley Roots Galaxy DH Funk Yo Couch

**LOC:** Greeley, Colorado  
**ABV:** 6% | **IBUs:** 15 | **SRM:** N/A

### What the brewer says

"Tart farmhouse saison fermented with wild captured *Brettanomyces*, dry hopped with more than 1 pound per barrel of Australian Galaxy hops. Winner of a gold medal at the 2017 GABF."

### What our panel thought

**Aroma:** "Very fruity hops and ester aroma with passion fruit, peach, pear, and apple. Behind that's there's tangerine, lemon, and a touch of herbal. Spicy phenols, light *Brett* funk. Slight leather."

**Flavor:** "Very juicy hops flavor with a mix of tropical and citrus. Moderately low sweetness with moderately high sour that fades into a dry finish. The body supports the beer with a malt character that seems a bit toothier than others in the category. Light *Brett* funk and tart. Lingering aftertaste of sweet fruit balanced with light tartness. Acidity is masterful placed to accentuate the fruit flavors from the hops."

**Overall:** "Almost a fruit-cocktail blend with some funk, but it all finishes nice and dry and drinkable. A fantastic beer that delivers an ultimately satisfying hops character with a beautifully crafted mixed-fermentation funky farmhouse base."

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

# 100



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