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## BREWING PIONEERS

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AND HOMEBREW RENAISSANCE



BIG BREW  
GEAR GUIDE



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WESTENDORF

CHARLIE  
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SAM  
CALAGIONE

HOMEBREWING  
BLOSSOMS  
IN MEXICO

BEER DESTINATION  
CERVECERIA HERCULES

SURF THE RADDIE

SECRETS OF  
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# Brewing Pioneers

EDITOR'S Desk

BY AMAHL TURCZYN



It's amazing to reflect upon what I've learned about brewing over the years, and how much I still have yet to learn. With every learning experience, there must necessarily be a teacher. I have fond memories of visiting Alan Sprints at Portland, Oregon's Hair of the Dog in the 90s with two of my mentors and heroes, Fred Eckhardt and Jim Parker. I remember mashing in with schoolteacher-turned-brewer Jean-Louis Dits at the Vapeur Brewery in Pipaix, Belgium, and mashing out on Jeff Lebesch's hand-built 4-barrel system with Gordon Knight. These are only a few of the brewing heroes who shaped my own love for beer and brewing.

In this issue, we pay homage to these brewing pioneers. Heroes, innovators, many of them AHA members, these are the teachers whose extreme passion for beer has sparked a renaissance of homebrewing, and by extension craft brewing, in this country and beyond. Leaders like Roxanne Westendorf, whose tireless commitment to the AHA, brewing education, and exploring world fermentation styles continues to inspire thousands. She leads by example, both as a brewer and volunteer leader, and has given time to more AHA committees than possibly any other member to date, all the while showing us that learning about beer and brewing is fun.

Our own founder of the Association of Brewers, the AHA, and Zymurgy continues to brew at home, and Charlie Papazian's legacy as one of the primary influencers of the amateur and craft brew world cannot go unrecognized. One thing that sticks out to me from Charlie's I Never Intended to Be Famous post, reprinted with his permission in this issue is:

"...What I was observing wasn't necessarily about 'homebrewed' beer, but about beer that had been nurtured, respected, loved, and brewed with a sense of joy."

This is the bridge between homebrew and craft beer. Brewers who love what they do make the best beer, and nowhere is that more evident than in craft pioneers such as Sam Calagione, Dan Carey, Charlie Gottenham, Garrett Oliver, Carol Stoudt, Jamil Zainasheff, and so many others who have taken their passion for homebrewing and successfully translated it into a passion for craft brewing. We're seeing it now on a global scale: homebrewers are getting mentorship directly from their

local craft brewers, and as you'll read in David Schmidt's feature La Cerveza Casera on homebrewing in Mexico, even taking classes, purchasing brewing supplies, and holding club meetings at craft breweries. Mexico's homebrewing renaissance may be 15 years or so behind the U.S., but they are doing it the right way, getting involved with their communities and seeing the value of brewing as a source of joy and social engagement.

Pioneers and innovators have to be meticulous. As leaders, they must take it upon themselves to learn the proper way to brew, so that they can inspire other brewers to make truly world-class beer, as Luis Gonzalez is doing with Josh Brengle at Cerveceria Hercules in Santiago de Querétaro, Mexico. Ryan Pachmayer's feature is the story of how Gonzalez's inspiration while in the caves of Czechia's Pilsner Urquell brewery helped him create one of the most exciting craft breweries in Mexico. Fortunately for us, Ryan includes recipes for some of their most popular creations.

That same meticulous approach to brewing world-class beer inspires many brewers, such as frequent Zymurgy contributor Franz D. Hofer, to make regular pilgrimages to centuries-old brewing

meccas around the globe, as he relates in Beer Hiking in Bavaria.

Pioneers and innovators come in all shapes and sizes, and we only scratch the surface of recognizing the pivotal influencers of the science and art that is brewing. Thanks to their efforts, brewers today have so many sources of inspiration available to them, from online tutorials, to the AHA's member resources, to publications, and their own local clubs. In his feature Surf the Raddie, Ron Minkoff outlines the ways his Hogtown Brewers homebrew club instills its members with a passion for brewing education, excellence and community support. We invite you to try out some of his suggestions to make your club even more awesome.

Many leaders of our craft and hobby continue to work tirelessly and behind the scenes for the greater brewing good. We must therefore dedicate this issue to all the pioneers and innovators who go unrecognized as they work to inspire the beer world. Who are your brewing heroes, and how have they shaped you as a brewer? We'd love to hear your stories.

**Amahl Turczyn is editor-in-chief of Zymurgy.**



# Features



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## BREWING PIONEERS

Brewing heroes come in all shapes and sizes. Many go unsung, and it would fill a book to properly recognize them all. In this issue, we take a moment to recognize a few of the founders of our great craft and hobby with their thoughts, reflections, and brewing inspirations.

By Charlie Papazian,  
Roxanne Westendorf,  
and Sam Calagione



### LA CERVEZA CASERA

While its homebrewing movement is about 15 years behind that of the U.S., Mexico is currently enjoying a surge of interest in craft brewing, exploring new styles, and making beer at home with indigenous ingredients.

By David J. Schmidt



### CERVECERIA HERCULES

Luis Gonzalez took inspiration from the great brewing traditions of Europe to found Cerveceria Hercules in Santiago de Querétaro, Mexico. He and brewer Josh Brengle are leading a new generation of craft fans and fellow brewers.

By Ryan Pachmayer



### SURF THE RADDIE

What makes your homebrew club awesome? The Hogtown Brewers won the Radegast Award in 2016. Past club president Ron Minkoff leads you through dozens of ideas on raising your club's game.

By Ron Minkoff



### BEER HIKING IN BAVARIA

Bavarian beer hiking is the quintessential “slow food” adventure. Seasoned beer traveler Franz D. Hofer leads you over the hills and through the forests of rural Franconia for beautiful views, hearty fare, and of course, delicious Bavarian beer.

By Franz D. Hofer



### CIDERS OF FRANCE

Cider, like wine, is an integral part of French culture and has a rich history. Kristen Kuchar discusses the details of its origins, and elaborates on how many traditional methods have been adopted by craft cider makers in the U.S.

By Kristen Kuchar

# Columns

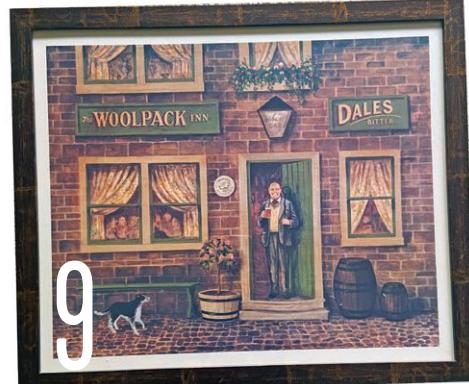


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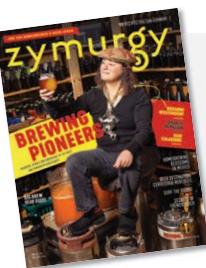
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of fermentation, as in brewing.**ON THE WEB**Find these homebrewing recipes  
and more on our website @  
[HomebrewersAssociation.org/  
homebrew-recipes](https://HomebrewersAssociation.org/homebrew-recipes)

# FRONT RANGE HOMEBREW CIRCUIT

The Front Range Homebrew Circuit (FRC) allows Colorado and Wyoming clubs, and individual homebrewers, to compete. According to long time Zymurgy contributor Nelson Crowle, participating competitions are in the corridor of cities from Pueblo, Colo. through Cheyenne, Wyo.

Eligible entrants must be a Colorado or Wyoming resident and a member of an AHA-sanctioned club. FRC 2024 tracks 13 homebrew competitions. Eligible competitions must have a history of previous activity, and treat all Front Range entrants equally. Club-Only Competitions would therefore be ineligible because they award winners only to members of their club; county fair-type competitions would be ineligible if they require residency in that county. Also, competitions must accept standard BJCP categories (although not necessarily all of them), so Chili Pepper Extravaganza (which requires every entry to be brewed with chili peppers) would not be eligible.

## The competitions for 2024 are (alphabetically, not chronologically):

- > 8 Seconds of Froth (Cheyenne, Wyo.)
- > Biere de Rock (Castle Rock, Colo.)
  - a competition of French/Belgian beer styles
- > Big Beers, Belgians, and Barleywines (Denver, Colo.)
  - a beer-only (high ABV or Belgian) competition
- > Colorado State Fair (Pueblo, Colo.)
- > Feast Of Saint Arnold (Colorado Springs, Colo.)
- > Liquid Poetry Slam (Fort Collins, Colo.)
- > Orpheus Meadfest (Denver, Colo.)
  - a mead-only competition
- > Peak To Peak Pro/Am (Longmont, Colo.)
  - a beer-only competition
- > Peterson (Colorado Springs, Colo.)
- > Reggale Dredhop (Boulder, Colo.)
- > Rocky Mountain Homebrew Challenge (Aurora, Colo.)
- > Soup It Up (Lakewood, Colo.)
- > Sweetheart's Revenge (Loveland, Colo.)

FRC was organized near the end of 2022 (although there was a previous iteration around 2014), so 2023 was the first full year in which competitors knew which competitions were involved, and they could submit entries accordingly. The awards for the 2023 Homebrewer of the Year (HOTY) and 2023 Homebrew Club of the Year were presented during the Big Beers, Belgians, and Barleywines 2024 awards ceremony.

The 2023 Homebrewer of the Year is Terry Fast with 85 points from 39 medals in nine competitions. Fast is co-president of the Lakewood Fermentation Club and a Colorado native.

The 2023 Homebrew Club of the Year is Rock Hoppers Brew Club from Castle Rock, Colo. with 183 points from 89 medals in 11 competitions.

If you are a potential competitor for 2024 (or want to follow along), go to [frontrangecircuit.com/Circuit.php](http://frontrangecircuit.com/Circuit.php). You will see that 2024 is already off to a fast start with three competitions completed (at the time of this writing), and the leader, Donald Schneider, already has 29 points. By the time this is published, four or five more competitions will have completed and will be updated on the FRC website. It's going to be an exciting year for Front Range brewers.

Thanks to Nelson Crowle for contributing this club competition update.

NOW ON  
Tap



FRC's 2023 Homebrewer of the Year Terry Fast.



## John Blichmann Announces Retirement

After over two decades of pioneering leadership and innovation, John Blichmann, president and founder of Blichmann Engineering and Anvil Brewing Equipment, has elected to retire effective February 29, 2024. Blichmann's tenure has been marked by a steadfast commitment to quality, innovation, and the advancement of both the homebrewing equipment and commercial brewery "nano" sectors.

Under Blichmann's guidance the company has become synonymous with top-tier brewing equipment and supplies, while advancing industry education for many transitioning from home to professional brewers. For over 22 years, the company has served as a cornerstone of the brewing community, supporting brewers of all levels with the tools they need to succeed in crafting exceptional beverages.

Reflecting on his tenure, Blichmann expressed gratitude for the opportunity to serve the brewing community: "It has been an incredible journey that all began with a garage startup and grew into making equipment accessible to homebrewers on a global level. I always operated with a vision that we would support brewers, our industry colleagues, and suppliers, just like we would our own family. I am immensely proud of what we have achieved."

# Big Brew Day Competition 2023

Held on the first Saturday in May, Big Brew for National Homebrew Day is an opportunity to gather with friends and celebrate the greatest hobby there is: homebrewing. The Big Brew Day Competition began as a friendly bet between the Weiz Guys Homebrew Club from Loveland, Colo., and the Liquid Poets Homebrewing Society from Fort Collins, Colo. The challenge: Which club could brew the best beer on Big Brew day. The rules for the competition were simple:

- All entries had to be the official Big Brew 2023 homebrew recipe provided by the AHA.
- All entries would be brewed on Big Brew day (May 6, 2023) at a gathering by the homebrew club.
- Each club would brew several batches, and each would hold a club-only competition to select the club's entry.
- Each entry would be entered as a club, not as an individual.

The Weiz Guys would host the event, and it was decided there needed to be more entries if this was to truly be a competition. The competition was finally expanded to all AHA-registered clubs in the Rocky Mountain region, which also included the states of Idaho, Montana, New Mexico, and Utah.

Judging was held on July 8, 2023, by an expert panel consisting of Julia Herz (Certified/Advanced Cicerone), Ryan Thomas (Grand Master IV), Don Blake (Grand Master III), James Koebel (Grand Master I), Nelson Crowle (National), and Greg Toothaker (National). A double-blind system with electronic judging by ReggieBeer.com was used.

There were a total of 13 entries from five separate states. The entry fee for the competition was \$25; however, all entry fees were donated to the winning club's designated charitable organization.

- **1st place winner:** 50% of all entry fees.
- **2nd and 3rd place winners:** 25% of all entry fees (each).

Winners of the competition were also promised to have their club featured in Zymurgy, and all of the club's members would receive prizes. BSG sponsored this event and each AHA member of the winning clubs received either one full sack of malt or two pounds of hops of a single variety from BSG's portfolio. Learn more at: [bsghandcraft.com](http://bsghandcraft.com)



1<sup>st</sup>

## 1ST PLACE

Weiz Guys Homebrewing Club  
Loveland, Colorado

Charity: Loveland Youth Gardeners

The Weiz Guys club was formed in 1996 and has a diverse membership of enthusiastic beer, cider, and mead makers in the Loveland/Fort Collins region. Learn more at: [weizguys.com](http://weizguys.com)



2<sup>nd</sup>

## 2ND PLACE

Indian Peaks Alers  
Longmont, Colorado

Charity: Left Hand Brewing Foundation

Established in 2007, Indian Peaks Alers are a community of brewing enthusiasts, celebrating all things fermented through production, discussion, and consumption. Learn more at: [indianpeaksalers.org](http://indianpeaksalers.org)

Thanks to Blake Ernst for contributing this club competition update. [Editor's Note: We hope to cover the Big Brew Day Competition in a future issue as it expands to states beyond the Rocky Mountain region.]

# Tap into summer

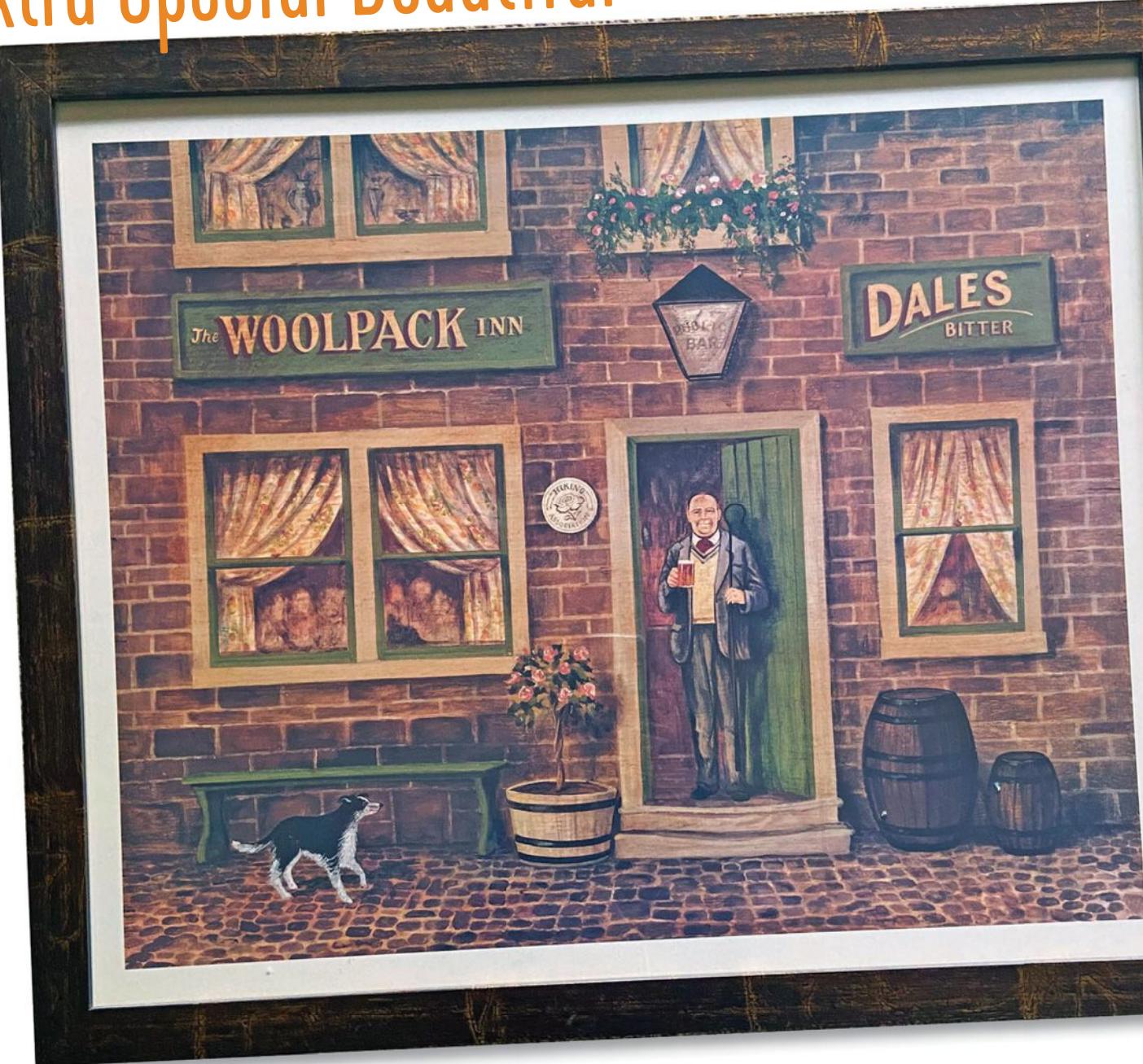


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# Extra Special Beautiful



## Perfecting the Perfect ESB

I have a painting in my office that is a romantic and poetic depiction of an elderly gentleman and his dog standing in front of an inn. In the painting, a little sign next to our smiling subject says, "Hiking Association." His look says, "I've done my hiking work and earned my beer." [See Beer Hiking in Bavaria on page 54.] For years I've romanticized this scene, and I look at it daily. Over time it inspired me to want to perfect an English bitter, what I imagine our hiking hero holds in his glass.

## WHAT'S IN A STYLE NAME

I've always had challenges with the name "bitter." Bitter is not a very romantic name for a style. One would never name a wine style "acidic." Yes, the style name "bitter" pre-dates sensory terminology by several hundred years, but like any homebrewer, I have the power to change things I brew, so I will henceforth encourage the world to refer to ESB as Extra Special Beautiful.

Now on to my quest to perfect this style. I'm personally favoring Strong Bitter (11C in Beer Judge Certification Program 2021 Guidelines) over Ordinary and Best Bitter. It has more girth, mouthfeel, and residual sugar, yet is still very sessionable, with an ABV range of 4.6 to 6.2%.

## RECIPE RESEARCH

As any proper quest seeker should do, I reached out to some of the most renowned brewers of ESB, including Jamil Zainasheff. Jamil's Fullers ESB clone (available on ProMash) and Brewing Network shows (see resources) got me started. Then, like Alice in Wonderland, I went down the rabbit hole. After brewing Jamil's recipe, I decided to increase the mouthfeel and added both wheat and oats. Scandal, I know, but again

as a homebrewer, we can do whatever the heck we want. I got good results, although a con was increased haze (beyond what you'd get from chill haze). Adding gelatin finings is an option.

## YEAST

During my research, I noticed a wide variety of yeasts are used: London ESB, British Ale Yeast, Ringwood, West Yorkshire, etc. I'm a big fan of splitting batches and will continue to experiment until I land on precisely what makes my palate sing. Also, if you check out Jamil's recipe, his fermentation schedule (and

now mine) is off the rails in terms of temperature changes. If you don't have the ability to control your fermentation temperatures, don't sweat it. I am a big fan of moving fermenters to different rooms for different temperatures when needing a manual cheat. Also, it's up to the homebrewer whether you want to coax or avoid diacetyl—that can be done by increasing or decreasing fermentation temperatures. Note: low levels are accepted for the style (plus it lends increased mouthfeel).



# EXTRA SPECIAL BEAUTIFUL

## 11C Strong Bitter

Recipe by Julia Herz, contributed by Jamil Zainasheff

**Batch Volume:** 6 U.S. gallons [22.71 L]

**Original Gravity:** 1.058 [14.25°P]

**Final Gravity:** 1.013 [3.25°P]

**Color:** 11 SRM

**Bitterness:** 30 IBU

**Alcohol:** 5.8% by volume

**Boil Time:** 75 min

## FERMENTABLES

- |          |                                    |
|----------|------------------------------------|
| 12 lb.   | [5.44 kg] Golden Promise pale malt |
| 0.75 lb. | [340 g] Cara Gold malt             |
| 0.5 lb.  | [227 g] Crisp 77°L crystal malt    |
| 0.33 lb. | [150 g] soft red flaked wheat      |
| 0.33 lb. | [150 g] malted oats                |

## HOPS

- |          |  |
|----------|--|
| 1 oz.    | [28 g] Target, 8% a.a. @ 60 min                        |
| 0.3 oz.  | [8.5 g] Challenger @ 15 min                            |
| 0.3 oz.  | [8.5 g] Challenger @ 5 min                             |
| 0.11 oz. | [3 g] East Kent Goldings @ 5 min                       |
| 0.75 oz. | [21 g] East Kent Goldings, dry hop @ 7 days left in FV |

## YEAST

- |        |  |
|--------|--|
| 1 pack | Wyeast 1968 London ESB ale or equivalent |
|--------|--|

## OTHER INGREDIENTS

- |                                |
|--------------------------------|
| Burton water profile           |
| Lactic acid as needed          |
| 1.5 tsp. [5 g] gelatin to fine |

## BREWING NOTES

Mash at 147°F [64°C] for 60 minutes. Mash out 168.8°F [76°C] for 1 minute. Sparge at 168.8°F [76°C] for 30 minutes. Ferment at 62–68°F [17–20°C] over the first 10 hours. Then hold at 62.6°F [17°C] for 4 days, 42.8°F [6°C] for 2 days, 50°F [10°C] for 7 days, 65°F [18°C] for 3 days, 55°F [13°C] for 3 days, and 45°F [7°C] for 3 days. Add 5 grams gelatin finings dissolved in boiled water and hold for 3 days at 42°F [6°C]. Package and condition.

## BASE MALT

The choice of Maris Otter versus Golden Promise was on my mind. I'm a Golden Promise fan, so I went with that the second time. I'd need to do a side-by-side to truly dial in the difference. Brūlosophy has one article on the test worth checking out (see Resources).

## HOPS

Hops used have common themes. They are always English: Target, Northdown, Challenger, Fuggle, and East Kent Golding (EKG), primarily. I encourage you not to skip using EKG for aroma, and I am a fan of dry hopping during conditioning to deliver increased aromatics.

## PRIMING SUGAR

I was out of priming sugar the first time I brewed it. Classic homebrewer weekend dilemma. Alas, I opted to use brown sugar instead. It was a fun experiment, although it tipped the flavor profile beyond style guidelines. Listen to the Dr. Homebrew episode (see Resources) for a sip-by-sip overview.

## RESOURCES

I would love to see notes from anyone on the ESB path. I also readily used the HomebrewersAssociation.org recipe database for National Homebrew Competition medal-winning recipes. I consider these recipes validated, and thus the most reliable. Visit HomebrewersAssociation.org/mj24 for links to the following resources:

- AHA Forum
- Brewing Network The Jamil Show
- National Homebrew Competition Recipe Database
- *Brewing Classic Styles* book
- Brūlosophy Maris Otter vs. Golden Promise
- Dr. Homebrew Julia Herz interview on my ESB
- BJCP 2021 Style Guidelines
- Zymurgy:
  - > Fuller's ESB Clone
  - > Newtonian ESB
  - > Lou's Best ESB

Cheers to perfecting the perfect ESB (aka Extra Special Beautiful) and cheers to us homebrewers continuing to innovate, change, and evolve the beer world.

P.S. Thank you to John Parrette (homebrewer), Jamil Zainasheff (AHA member and author of *Brewing Classic Styles*), Jonathon Mullens (brewer at Broad Ripple Brewpub), Tony McCauley (AHA member), and past NHC medal winners who did such a great job and took the time to share their recipes with the AHA.

Julia Herz is executive director of the American Homebrewers Association. You can follow Julia's homebrew talks and travels on Instagram @ ImmaculateFermentation or contact her at ahaed@brewersassociation.org.



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When I graduated Auburn University's brewing science and operations program in 2018, I was excited to have gained the tools to fine-tune the quality of our product and aid in the launch of our expansion.

In 2020, I realized the program also provided me with the knowledge necessary to enhance the survivability of our small business during a global pandemic.

**Kate Russell — Graduate Certificate '18,**

**Master of Science '23**

Hopkinsville Brewing Company,  
Founder and Brewer



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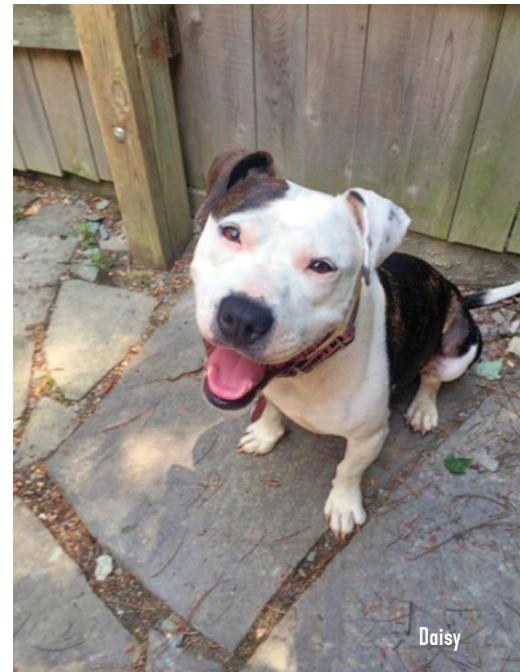
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# Every Brew Day is a Celebration



**Dear Zymurgy,**

I just received and sat down with my January/February issue of *Zymurgy* and read about the AHA's 45th anniversary, so I thought I'd share with you how I got into brewing.

The year was 1976 and I had just returned from several months living and working in Munich, Germany following college graduation. While there, I sampled so many local beers, culminating in many happy hours at the Oktoberfest. I particularly developed a taste for wheat beer, especially Spaten's Club Weisse with its clarity and clove-banana esters. Arriving home to start looking for a full-time job, I began working evenings as an usher in a local movie theater, which gave me the chance to interview and send out resumes during the day, but didn't pay much. I was disappointed not to be able to find, let alone afford, many bottles of my favorite beer at the princely sum of 50 cents per half liter, so I set out

to make my own with the help of a little shop in Berkeley, Calif. called "Wine and the People."

My first efforts were—well—drinkable, and my friends all raved about the beer, largely because it was novel and because it was free. Nonetheless, I continued to refine my techniques, winning a First Place and Best of Show at the Napa County Fair for my strong ale in 1983, the first and last competition I ever entered.

Fast forward to 1994, when I fully transitioned from extract/partial mash brews to all-grain brewing, first with a homegrown mash tun and stovetop kettle, moving eventually up to a Brewer's Edge "Mash and Boil," which I still use today with minor modifications.

How do I annually celebrate? I don't, actually; every brew day is a celebration for me, whether it's stock IPAs (both full and session), pale ales, Mexican chocolate stout, Munich or Vienna style lagers, or the occa-

sional barleywine. As my spouse puts it, "Anything you can do with bread, you can do with beer."

My brewing tends to be solo, but Miss Daisy, my 12-year old pit, often supervises.

Cheers and beers!  
Eric Ginsburg

**AHA Executive Director Julia Herz responds:** Eric, what a nice email to receive and very cool to learn about your story.

I still personally have not been to Oktoberfest. Jealous.

This is the money quote from your email:  
"...Every brew day is a celebration for me." Way to lean in. You get it. So do we. Thanks for being an AHA member.

Hopefully you are considering entering the National Homebrew Competition? And consider coming to be with us and your fellow AHA members at the Great American Beer Festival® this year in Denver, October 10–12.

## DON'T FORGET THE KEGGERS

Dear Zymurgy,

Every few months I am delighted to read a new Zymurgy magazine until I get to the Labels page. I do like seeing the artwork and effort people put into their labels, but feel slighted that space is not given to those who keg their beer. I have been brewing since the 1988 Winter Olympics and have been an off-and-on member of the AHA. In the past 35-plus years I have seen a lot of changes in brewing equipment, styles, and methods, some of which I adopted, and others I let go. I also belong to several other brew clubs. In the chatrooms, and at the meetings, there is a lot of discussion about kegging and people wanting to show off their systems and learn from others. There have been huge advances in kegging beer over the years and it is great to learn new techniques and try different equipment, and I think Zymurgy could devote space each month to methods, tricks, and troubleshooting of equipment. I have built several keezers and kegerators over time and have loved them all, and hated to see them go to new homes. While I still bottle beer that should be bottle conditioned, and use a counterpressure filler for competition bottles, everyone loves to pour a pint after a round of golf or a breathtaking hike in the mountains (I live in a valley between the Rockies and the Purcells). I love my four-tap coffin keezer, built in 2017. The current tap theme is golf. It provides people with the chance to sample before they commit. The interior has the kegs and CO<sub>2</sub> along with a selection of bottles and cold glasses. The exterior also has a bear beer bottle opener to fit the Canadian wilderness where I live. Please continue to provide great content, but don't forget about those who love draught beer.

Mark LaGrange  
AHA Member

Zymurgy editor-in-chief  
Amahl Turczyn responds:

Hi Mark,

I like your thinking on this. We are currently revamping our columns lineup, and I certainly think Zymurgy could devote more attention to folks who keg. Like you, I bottle to style—weissbier and many Belgian styles I prefer to package in glass—but the bulk of my homebrew ends up served from steel.

We do like to keep a balance of beginner, intermediate, and advanced homebrewing knowledge in the magazine, but many members such as yourself have been brewing for decades, and crave higher-end information.



Mark LaGrange's four-tap coffin keezer built in 2017.

Look for more content on draught dispense systems and kegging equipment in upcoming issues this year. Meanwhile, feel free to upload any of your content ideas to [homebrewersassociation.org/magazine/content-submission/](http://homebrewersassociation.org/magazine/content-submission/).

Love the classy wood four-tap tower, by the way. Thanks for being an AHA Member!

## KEEP ON KEEPING ON

I'm happy that Zymurgy and the AHA have really grown up over the years. I brewed my first batch of beer on July 11, 1984, according to my notebook, and I know that I joined the AHA during one of those early years.

When I began in the kitchen, brewing on the stove, with limited gear and less space, the point was to brew a good beer, not



## DEAR ZYMURGY

Send your Dear Zymurgy letters to [zymurgy@brewersassociation.org](mailto:zymurgy@brewersassociation.org). Letters may be edited for length and/or clarity.

stress, and produce something not available in the store (not hard 40 years ago). We ordered supplies through mail order. Get in your time machine and go see what life was like in 1984!

Over the years, I've given friends suggestions about homebrewing when asked, and I always begin with: Start simple, don't make it complicated, relax, have a homebrew. That was my personal approach and it's still working. I do not have any more gear than my life can handle, and it works for me. Well, a lot of advertisers really don't want to hear the advice, "don't buy extra stuff until and unless you need it," but that's what works for me.

Now I pull out an old issue from exactly a year ago and there is direction from Julia Herz on just that—starting simple! Go Julia. Added note—cleanliness is a best practice for great beer!

Keep giving the starters information that helps them keep on keeping on, and keep up the great work for another 45 years!

Peter deFur  
AHA Member

Zymurgy editor-in-chief  
Amahl Turczyn responds:

Dear Peter,

Thanks for the kind words. Oddly enough, I was just getting interested in homebrewing myself right about then, after tasting a couple of U.K. ales—Watney's Red Barrel and Bass—and thinking, hey, wouldn't it be great to make something like this on my own? (Now, where can I find these "hops" they're talking about?) Charlie Papazian's mantra to relax, don't stress, and keep things simple still rings true today, as you've pointed out. Great to hear you're still brewing. You're one of our honorary veteran AHA members, and we definitely appreciate your support over all these years.

## MASTER HOMEBREWER PROGRAM

**Editor's Note:** We received several responses to the Master Homebrewer Program piece in the Jan/Feb 2024 issue of Zymurgy, all with similar themes. This one from Dirk Franzen was typical of those we received, and contributor Charlie Scudder was kind enough to post a reply. Please contact MHP president Andy Scherzinger with future feedback. He can be reached at masterhomebrewerprogram@gmail.com.

**Dear Zymurgy,**

I just read the article about the Master Homebrewer Program (MHP), and would like to offer some counterpoint. First, I want to be clear that I am not writing on behalf of my club (Brewers of Central Kentucky), nor do my views necessarily reflect those of the club as a whole.

A few weeks ago we hosted our annual competition, The Bluegrass Cup, in Lexington, Ky. I was the head judge for the competition, and we did participate with the MHP. When we went live with our registration, we hit our entry cap of 300 entries within a couple of days. That resulted in many disappointed/upset members of not just our club, but others in our area who look forward to entering our competition. We have done a good job of recov-

ering from the downturn in membership during COVID, and have many new members who ended up not being able to enter their own club's competition because of the flood of entries from those participating in MHP. To be fair, we did receive many quality entries from those participating in MHP.

My other concern is that the MHP is essentially parasitizing by just compiling the results from those who put in the time, expense, and lots of hard work to put on actual competitions. The MHP then awards points and medals based on what other competitions have worked so hard to produce. To me, it seems rather superficial and hollow. As I put forward to our officers, clubs and other organizations that put on competitions, they need to make a philosophical decision on what the purpose of their competition is, and what they want it to be. Do they want it to be an opportunity for those in their club/area/region, of all levels of experience, to enter their beers, get some valuable feedback, have some fun, and develop connections with other homebrewers? Or, do they want it to just be a vehicle for others nationwide to collect points and medals for bragging rights?

Dirk Franzen  
Lexington, Ky.

**MHP's Charlie Scudder responds:**

Hi Dirk,

You make really good points here, and the experience you had with The Bluegrass Cup speaks to the experience of many competition organizers who have been inundated with national competitors from MHP. When writing this story for Zymurgy, I really struggled with how to highlight the novel and helpful things the MHP provides—a new way for brewers to compete, a new goal for top brewers, etc.—while also addressing the clear issues it presents. I wrote in the story that MHP is “dramatically changing the competitive brewing landscape in the United States.” This is an undeniable fact, as your experience shows.

On a personal level, I’m torn. I’m a decent competitive brewer, but I’m not winning medals—especially when I’m competing against the nation’s best in every single small and regional competition, as MHP encourages. I like being recognized for my scores, regardless of where I place in the competition—a key benefit of MHP.

Some smaller competitions have begun restricting entries to local brewers, which would limit the number of point-hungry national MHP entrants. MHP supporters say that’s unfair, and that raising the overall level of competition is a good thing. I don’t have a solution, but as I wrote in the January/February issue, MHP is certainly changing how brewers compete, and how competitions are run.



We are big fans of hazy IPAs, and we live in Southern California, close to the beach. Perfect beer to drink on a summer afternoon. We called the beer “Marine Layer.” It is a New England Hazy IPA. (Homebrewer 7 years, AHA member 6 years.)

Ron Pollard  
Orange, Calif.

Inspired by our Chihuahua, Juniper, who is a sweet, nasty little rat, I bugged my talented fiancée for months to design me a label, and when she finally brought it to me I was over the moon. I told her, “I’m sending this to Zymurgy.” She created it with her iPad and a whole bunch of gumption! (Homebrewer 2.5 years, AHA member 1 year.)

Christian Harris  
*Band of Media Brewers*  
Upper Chichester, Pa.



## YOUR HOMEBREW LABELS



I call my homebrew Hertelbräu Beer. This label is for my winter warmer. I am a fan of art with skulls in it. I asked my son, Josef, to help me come up with a name and label that combined skulls, winter, and beer. We came up with Frostbite Reaper Ale.

My son designed the label on his computer. (Homebrewer 29 years, AHA member 20+ years.)

Matthew Hertell | Manchester, Mo.

## YOUR HOMEBREW EXPERIENCE

Show us your labels, brewing/fermentation day, who you brew with, the ingredients you include, what special processes you use, and how you enjoy the final product of beer and beyond.

Upload photos of your homebrew-related fun at  
[HomebrewersAssociation.org/your-homebrew-experience](https://HomebrewersAssociation.org/your-homebrew-experience)



My HERMS electric brewery, Dylan, automated with custom software and Arduino-based firmware. Dylan has three DC pumps, three temperature sensors, two flow meters, an integrated pH sensor, and two 5500-watt heating elements.

**Trystan Williams**  
(Homebrewer 15 years, AHA member 4 years)  
Lake Forest Park, Wash.



My homebrewing system!

**James Martella**  
(Homebrewer 30 years, AHA member 2 years)  
Longmont, Colo.



Meet my new brewing buddy, Westerly. Not quite 9 weeks old when this photo was taken in front of my 80L three-vessel modded SS BrewTech electric system in my brewing garage space. He's a retriever-collie puppy, and we were brewing a Dortmunder export (DAB).

**Greg Paterson**  
(Homebrewer 22 years, AHA member 8 years)  
Saskatoon Headhunters Brewing Club  
Saskatoon, Canada



During COVID-19 I spent a lot of time upgrading my homebrew setup, as did many others. I decided to get rid of 2 smaller kegerators and buy the largest residential chest freezer I could find. I have 12 taps and can squeeze 18 Corny kegs to have some lager. I love homebrewing and I hope it loves me back.

**Adam Lund**  
(Homebrewer 15 years, AHA member 1 years)  
High Street Homebrew Club  
Portland, Ore.

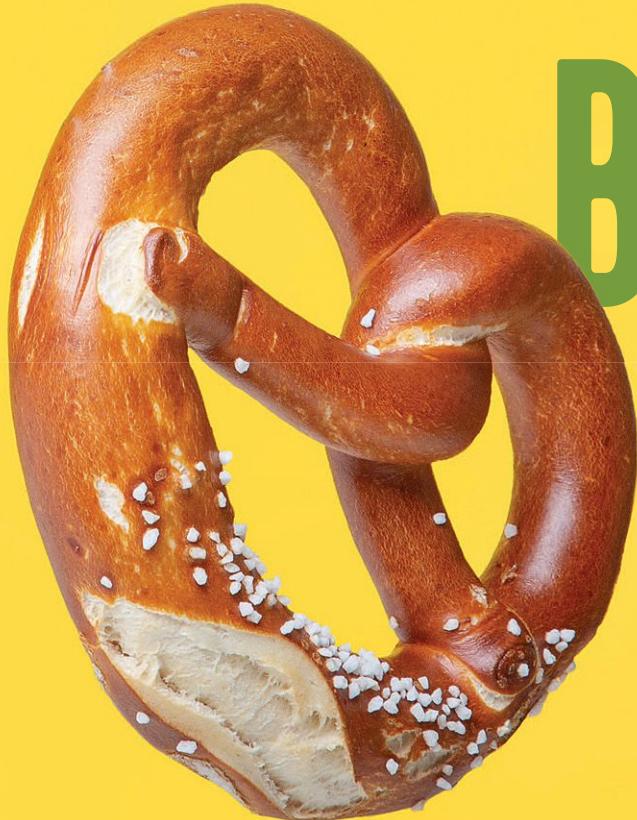


### SHARE YOUR BEST HOMEBREWING SHOTS!

Homebrewing is all about fun and sharing. We would love to show others in the community what your homebrewing/fermentation experiences look like. Upload photos of your homebrew related fun at [HomebrewersAssociation.org/your-homebrew-experience](https://HomebrewersAssociation.org/your-homebrew-experience) and you may see it in the pages of Zymurgy!

SCAN ME





# BREZN

By Amahl Turczyn

There are a great many origin stories for the pretzel, some going back to the Middle Ages, and many involving religious symbolism. Some say the knotted shape represented a child's arms crossed in prayer; some claim the three holes symbolized the Holy Trinity; still others say the knot shape is related to the bonds of matrimony. In any case, it's generally agreed that the soft pretzel, or *Brezn*, had its origins in Bavaria, and the hard, dry pretzel was first produced in Pennsylvania. Since the former is so closely associated with the Bavarian tradition of enjoying beer with friends and family, as Franz D. Hofer chronicled in the March/April 2024 issue of *Zymurgy*, making Brezn is our focus here.



Brezn are often associated with Lent, when Christians traditionally ate no eggs, dairy or meat products; flour, salt, and yeast were permitted, (as was bock beer, fortunately) and many Brezn recipes still follow that tradition. But as you can imagine, there are lots of variations on the theme, and I will be using a recipe that employs a trusty sourdough starter, in addition to milk and butter. Coarse salt is a hallmark of soft pretzels, as is the caramel color, which often comes courtesy of a quick dunk in a boiling lye solution. The high pH from the food-grade lye encourages and intensifies Maillard reactions during baking, resulting in the dark caramel color. But while baker's lye is readily available, it's obviously somewhat dangerous to work with, so we'll be using a much safer (though perhaps not as effective) solution of bicarbonate of soda.

Sourdough starter is optional, but lends a nice complexity to the dough; if you don't have an active starter handy, you can skip it. One thing Brezn should not be, however, is sweet. One finds sweetened soft pretzels in the U.S., but Bavarians prefer

them savory. You will want to find a coarse salt specific to pretzel baking—plain or even flaked salt tends to melt fairly quickly when sprinkled onto the just-boiled dough, and part of the appeal of Brezn is the salty crunch from salt crystals sturdy enough to survive proofing and baking.

The dough is fairly low hydration at around 50 percent, and is stiff enough that you'll want to use a stand mixer if one is available. Really, the most difficult part of the process is rolling each piece into a long strand prior to making the knot shape—the springy, elastic texture of the dough resists being shaped, so you'll need to put some effort into it. Once baked, the texture and crumb of Brezn should be fine and somewhat chewy, not unlike that of a bagel...from a production standpoint, the two breads have much in common, in fact. I find that this texture is much improved if you treat the dough to a long knead, a warm proof, and a cold ferment the night before baking, but the latter is optional if you are in a hurry.

Start with warming the whole milk to about 100°F (38°C) and adding it to a stand mixer bowl. Add the butter and wait until it begins to melt, then add the yeast and sourdough starter, if using. Then add the flour and sea salt and mix with the dough hook attachment until a stiff dough comes together. Continue kneading with the dough hook for 15 minutes until the dough is smooth and elastic. Proof at room temperature for 1 hour; the dough should double in size. Punch down and knead on a countertop for a few minutes, then cover the dough and allow it to rest in the fridge for 12–18 hours (optional). When you are ready to bake, allow the dough to warm for 30 minutes or so if it's undergone a cold ferment. Measure out 2 liters of

water into a shallow, non-reactive pan, dissolve the baking soda into it, and bring to a boil. (It is not recommended to add boiling water to the dry soda. Bad things happen.)

Divide the dough into eight equal pieces, and roll out each one into a long snake. Err on the side of longer than you think you'll need—the dough tends to spring back and become shorter than you want, resulting in fat little Brezn that look more like Kaiser rolls than pretzels. Twist each snake into a pretzel knot, wetting the tips and pinching them securely to the sides of the pretzel. Once the bicarbonate solution is boiling, dunk each Brezn in for 10 seconds, making sure the entire surface is coated. Place the Brezn on a baking tray lined with greased baking parchment and sprinkle with pretzel salt. Allow another 20 to 30 minutes for them to rise in the oven at room temperature. I place the pan of soda solution in with the bread to keep them warm and to prevent them from drying out. Remove the pan and baking tray, and heat your oven to 400°F (204°C). Bake for 20 minutes or until the desired color is reached.

Brezn are best fresh from the oven, but feel free to bring them along to your next brew club meeting, stash some in a picnic basket for lunch at the biergarten, or stuff a few in your backpack for that next Bavarian beer hike. Brezn are traditionally eaten with Obatzda, which is a soft, aromatic cheese spread of butter and ripe Camembert or Limburger, flavored with onions and spiced with pepper and paprika. I also enjoy them with a light slathering of spicy mustard—Löwensenf Extra Hot is a favorite. Though it's perfectly fine to forgo the spreads and just enjoy the Brezn plain with a hearty glass of Bavarian lager.

**Amahl Turczyn is editor-in-chief of Zymurgy.**

Shaped, dunked, and salted.

Dunk each Brezn in the soda solution.



Photos courtesy of Amahl Turczyn

Ferment  
This!



## BREZN

Bavarian-style soft pretzels, or "Brezn"

Recipe by Amahl Turczyn

Makes 8

### INGREDIENTS

1.06 cups [250 ml] whole milk, warmed to 100°F [38°C]  
2 tsp. [6 g] instant dried yeast  
2 oz. [50 ml] active sourdough starter (optional)  
1.8 oz. [50 g] butter  
4 cups [500 g] bread flour  
1 tsp. [6 g] sea salt

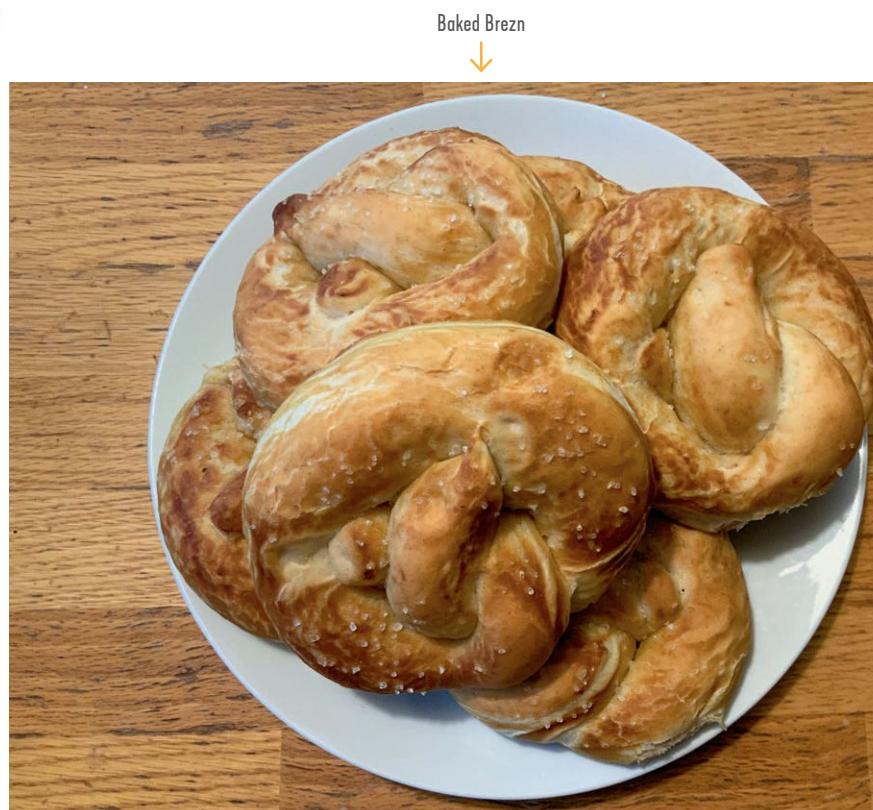
8.45 cups [2 L] water  
6 tbs. [102 g] baking soda  
Coarse pretzel salt to taste

### DIRECTIONS

Warm the milk to 100°F [38°C] and add the butter, yeast, and starter. Add the flour and salt and knead in a stand mixer for 15 minutes. Proof for 1 hour. Punch down and cold ferment overnight in the fridge (optional). Dissolve baking soda into 2 liters of water, and bring to a boil.

Divide the dough into eight pieces and roll out each one into a 2-foot snake. Twist each length into a knot and boil each knot one by one in boiling bicarbonate solution, keeping them in for 10 seconds (no longer, or you'll kill the yeast). Place Brezn on a baking tray lined with greased baking parchment and sprinkle with pretzel salt. Let rise 20 to 30 minutes, then bake 20 minutes at 400°F [204°C].

Fresh from the oven.



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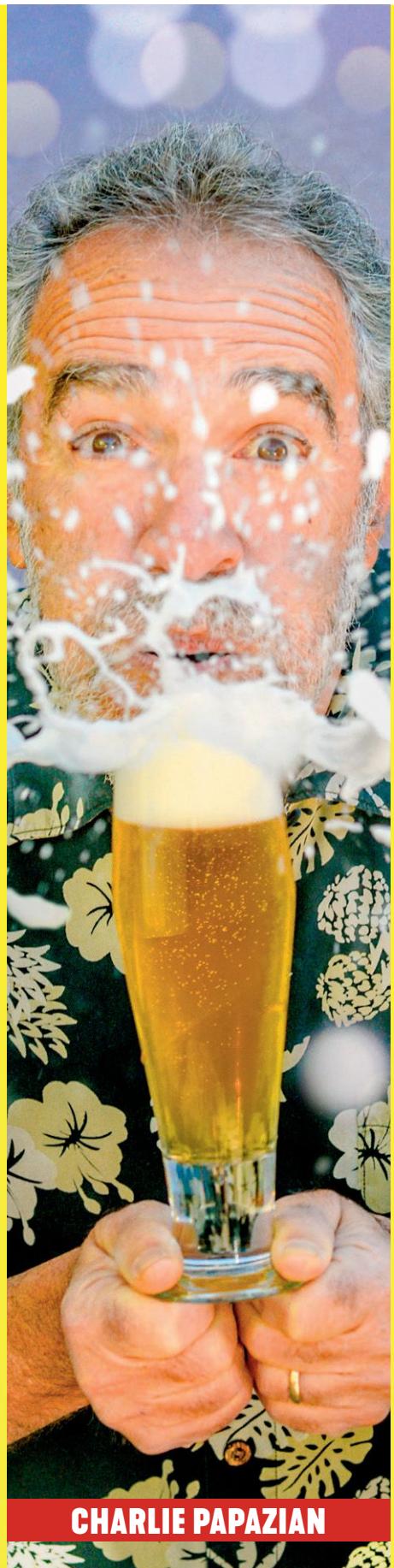
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# BREWING PIONEERS

Founders, Heroes, and Innovators of the Craft and Homebrew Renaissance



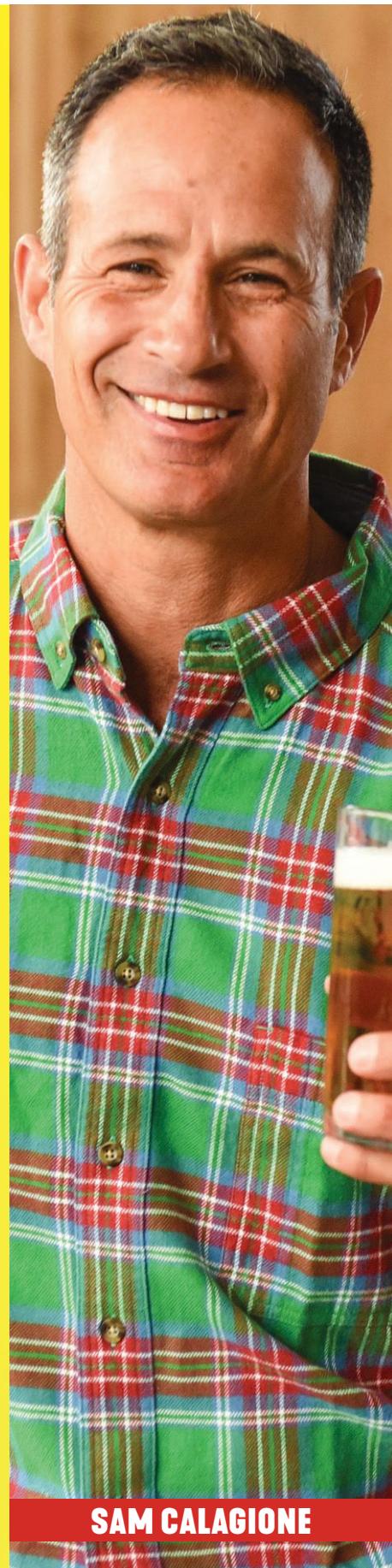
**B**rewing heroes come in all shapes and sizes. Many go unsung, and it would fill a book to properly recognize them all, but in this issue, we take a moment to recognize a few of the founders of our great craft and hobby with their thoughts, reflections, and brewing inspirations. Charlie Papazian, along with Charlie Matzen and a little legislative help from former President Jimmy Carter, practically invented homebrewing in this country, and one can certainly make an argument that craft brewing, now ubiquitous the world over and still gathering momentum, was part of his legacy. He posted his own thoughts on this legacy on social media, and that post follows. Roxanne Westendorf continues to inspire a nation of brewers both amateur and professional with her tireless commitment to brewing education and exploring world fermentation styles. Last but certainly not least, Dogfish Head founder Sam Calagione, who began as a homebrewer in college. Using fresh culinary ingredients to create innovative, flavorful beers found nowhere else, Calagione founded one of the most successful, creative and inventive craft breweries at a time when craft brewing was still in its infancy. Here are their stories, and to give you a taste of their unique vision, they include sample recipes for you to make on your next brew day. →



**CHARLIE PAPAZIAN**



**ROXANNE WESTENDORF**



**SAM CALAGIONE**



# I NEVER INTENDED TO BE FAMOUS

By Charlie Papazian

The words and spirit of my book, *The Complete Joy of Homebrewing*, have changed the beer world more than I ever could have imagined. I know that it has changed millions of lives for the better. I never anticipated this, nor did I ever imagine the cultural and economic impact that homebrewing and subsequently commercial craft brewing would have in the world. In the early days of the “better beer” renaissance we celebrated with our tiny batches of homemade beer, often enjoying them, leading us to intoxicated and irrational visions of greatness. While we celebrated, there had always been unbelievers, demeaning our achievements and branding me as a whacked-out novelty cheerleader. I never considered myself a cheerleader, nor a revolutionary or disruptor.

I self-published the original small editions of *The Joy of Brewing* and *The New Revised Joy of Brewing* in 1976 and 1980. In 1982 I was subsequently contracted with a New York publisher to write a “how to” book on homebrewing. Back then it was an extremely quirky idea. Just before being

printed, it almost got cancelled by the publisher, but an inside team argued that it was worth a shot. It’s been 40 years since my big volume edition of *The Complete Joy of Homebrewing* was released in 1984. I recall how content I was that day in October 1983 when I submitted my manuscript.

I never intended to be famous.

With each edition of *Joy* I wanted to share my knowledge of beer and, more importantly, convey the important sense of joy expressed through the responsible enjoyment of beer and brewing. I ended up embedding beer humanity on every page. With every batch of beer brewed, I wanted to inspire others. I wanted great beer to take on a life of its own.

The humanity of beer had been lost. In the 1970s and in the world’s eye, beer had become disconnected from its roots. While there were passionate people making beer, what they had to manufacture did not convey the passion and essence of what beer had historically been all about. After thousands of years beer drinkers had become disconnected from their cultural past. Beer had lost its soul.

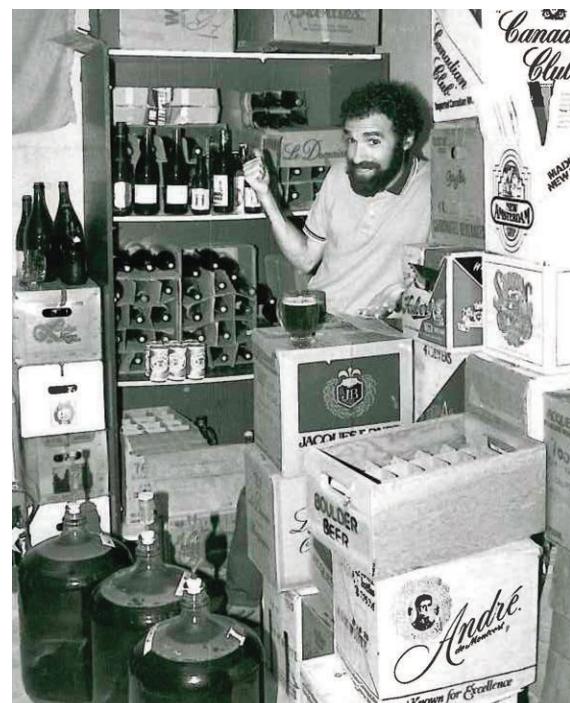
Through homebrewed beer and camaraderie, beer’s essence, energy, and legacy

emerged. Every glass of homebrewed beer spoke to me. That I am very certain of! It took hold of my thoughts and begged to be celebrated. It cried to be respected and shared.

I have always been astonished at the unusual and high degree of conviviality that homebrewed beer generates. In later years I realized what I was observing wasn’t necessarily about “homebrewed” beer, but about beer that had been nurtured, respected, loved, and brewed with a sense of joy. Sometimes we call it passion. But really, the fundamental context has always been joy.

When joy goes missing, the things we do and the things we create fall short of reflecting the positive attributes of our humanity and what we seek.

I’ve always observed that anyone can learn how to make beer. If you pick up any book on how to make beer, yes, you can make beer. But more importantly for me, with *The Complete Joy of Homebrewing* came the message that it was okay to celebrate both your successes and failures. I wanted to encourage individuals to overcome their uncertainty, to explore paths not yet taken, to reconcile values and priorities. Some of the best ways to improve the quality of your life are sharing successes, failures, experiences, knowledge and yes, sharing your beer. There were also life lessons to convey—that you can do anything you set your mind to. Don’t take yourself too seriously. Overcome the intimidation of “I can’t...” It’s okay to feel anxious. Laugh at yourself. Relax. Don’t worry. Make mistakes, create your own



rules, enjoy your accomplishments every small step and epic stride of the way. Be open. Be aware. Learn and keep learning from experiences. Connect with family, friends, daughters, mother, father, sons, neighbors, and community.

Back in my early years, and even now, I can tell the difference between beer brewed with joy and beer brewed joylessly, naked

without humanity. It's a difference reflected in the way the beer looks, smells, feels, tastes, sounds...as well as how, when, and where it is served. Joyous people migrate to joyful beer. They make it, they serve it, they surround the beer with care, respect, and pride. They drink it.

I continue to homebrew. My celebration continues.

Relax. Don't worry. Have a homebrew.

**Charlie Papazian**  
January 1, 2024

*Charlie Papazian founded the Association of Brewers, the Great American Beer Festival, and Zymurgy magazine.*



## MARTY'S HIPSTER BOCKBIER

Contributed by Charlie Papazian

Thirty-five years ago, I hiked the German countryside trail to the Andechs Monastery Brewery (Klosterbrauerei Andechs). Rumor had it, that it was a not-to-be-missed legendary walk that ended with being able to enjoy their then-famous bock. On a warm, sunny early summer day, I was thirsty with anticipation. Upon arriving at their Biergarten, I learned they were not serving their bock. I was told that too many people were enjoying it too much, getting rolling drunk with the delicious brew—so they stopped serving it. Insult to injury, the first invitation to drink was a large entryway sign promoting a Coca-Cola and helles mix. Whether I may have liked it or not, I was not in the mood to water down my thirst with a cola and beer Collisionada! (I made up that word.)

Perhaps this memorable denial has been my inspiration to perfect a recipe for a traditional German dark bock; one to always have accessible, with no invitation to dilute or deny. Over my 54 years of regularly making my own homebrew, I've tasted and tried a lot of ingredients. I am guided by my experience more than recipe guidelines and essays regarding "the way things are supposed to be made." The result is a delicious dark lager, with lots of malt personality and German hop chords. I call it "Marty's Hipster Bockbier," named after my friend Marty Jones to commemorate his hipness on the day I brewed this.

So let's cut the shuck and jive and get on with the recipe.

**Batch Volume:** 5.5 U.S. gallons (20.82 L)

**Original Gravity:** 1.064 (15.7°P)

**Final Gravity:** 1.017 (4°P)

**Efficiency:** 75%

**Color:** 22 SRM (40 EBC)

**Bitterness:** 31 IBU

**Alcohol:** 6.3% by volume

### MALTS

8 lb. (3.6 kg) Bohemian Pilsner Floor Malt

3.5 lb. (1.6 kg) English Maris Otter malt

(English malt in a German Bock?—you betcha.)

1 lb. (454 g) German Caramunich-60

6 oz. (170 g) English brown malt (another nod to a versatile malt)

5 oz. (142 g) Weyermann Carafa 350 (black malt)

5 oz. (142 g) aromatic malt

### HOPS

1.25 oz. (35 g) whole German Hallertauer hops, 4.5% a.a. @ 60 min

0.75 oz. (21 g) whole Colorado wild hops, ~1% a.a. @ 10 min, or use 0.5 oz. (14 g) Hallertauer, Hersbrucker, or other low-alpha noble hop

0.75 oz. (21 g) French Aramis pellets, 6.3% a.a. @ 0 min

1 oz. (28 g) French Mistral pellets, 7.9% a.a. @ 0 min

0.75 oz. (21 g) German Perle pellets, 10% a.a. @ 0 min

0.5 oz. (14 g) American Crystal pellets, first dry hop

0.5 oz. (14 g) American Santiam pellets, first dry hop

0.5 oz. (14 g) American Crystal pellets, second dry hop

0.5 oz. (14 g) American Santiam pellets, second dry hop

### YEAST

German or Bavarian type lager yeast. I use White Labs 1983 "Fistbump" yeast.

### OTHER INGREDIENTS

1/4 tsp. (1 g) powdered Irish moss

3/4 cup (175 ml) corn sugar (for priming bottles)

or 0.33 cups (80 ml) corn sugar for kegging

### BREWING NOTES

A step-infusion mash is employed to mash the grains. Add 13.5 quarts (12.8 L) of 142°F (61°C) water to the crushed grain, stir, stabilize, and hold the temperature at 132°F (56°C) for 20 minutes. Add 7 quarts (6.7 L) of boiling water. Once the mash has completed the 132°F (56°C) rest, add the boiling water. Add heat if needed to bring temperature up to 155°F (68°C) and hold for about 30 minutes. Then raise the temperature to 167°F (75°C), lauter and sparge with 3.5 gallons (13.25 L) of 170°F (77°C) water. Collect about 6 gallons (23 L) of runoff. Add 60-minute hops and bring to a full and vigorous boil.

The total boil time will be 60 minutes. When 10 minutes remain, add the Irish moss and 10-minute hops. After a total wort boil of 60 minutes, turn off the heat, add the 0-minute hops and place the pot (with cover on) in a running cold-water bath for 30 minutes. Continue to chill in the water bath or use other methods to chill your wort. Then strain and sparge the wort into a sanitized fermenter. Bring the total volume to 5.5 gallons (21 L) with additional cold water if necessary. Aerate the wort very well.

Pitch the yeast when the temperature of the wort is about 70°F (21°C). Once visible signs of fermentation are evident, ferment at about 55°F (12.5°C) for one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary fermenter and add the first dry hops. Lager the beer at 35–45°F (1.5–7°C) for 5–7 weeks. Add the second dry hops 7 to 10 days before bottling or kegging. Prime with sugar and bottle or keg when complete.

Relax. Don't worry. Have a homebrew.



## PERSPECTIVES ON HOMEBREWING

By Roxanne Westendorf

Like many homebrewers, my journey started with a gift: my brother and his wife got my husband and me a homebrew kit for Christmas in 1994. We joined a club, and I somehow ended up president a couple of years later. That really started my journey of becoming a BJCP judge, joining and later chairing the AHA Committee, and being on the BA board of directors. My husband and I continue to homebrew, but over the years our focus has diverged, so we are brewing very different beers for the most part. Several factors have influenced my current direction—Homebrew Con, suppliers, homebrew clubs, and friends—but beyond those, travel, connections and collaborations stand out.

Beer travel really inspires my brewing. It's also a reminder of how important the influence of culture is in brewing, and in life. Travel also helps us understand our own culture (and subcultures) more clearly. My husband and I have made five beer trips to Europe (and another is in the works). We've been to Belgium twice,

Ireland, Italy, Spain, and Norway. Iceland is on tap for this fall! Every trip gives me inspiration for homebrewing, home fermentation, and food.

My first trip to Belgium was 20 years ago. It was a work trip, and all the places we visited either served wine only, or industrial lager brands Maes and Stella. We ate at a place on restaurant row. I begged the group to stop somewhere to at least be able to get a true Belgian ale, but it wasn't until my next trip a couple of years later that we were able to get off the beaten path and explore. We found out about beer tours, and this time traveled to a few small, local, beer-focused places: lambics in ceramic pitchers, and food and beer dinners that were truly eye opening. Belgium taught me that there's so much more to beer than the commercial products we were used to.

We visited Rochefort, Orval, and Chimay, where tradition was meeting modern equipment and brewing techniques. Even then, in those rigid cultures, barriers for women were being broken. Touring castles, chocolate makers (there was even an R-rated chocolate place), old buildings with narrow stairwells and interesting bathrooms

(bathrooms could fill a whole article)...it was a reminder that we "weren't in Kansas anymore." It's also a reminder to get away from the tourist areas when you travel and go to the small, local artisanal places for a truly inspirational experience.

Ireland showed me how much flavor there could be in low-alcohol beers. Irish brewers take inspiration from American craft brewers and blend our ingenuity with their own. We attended a craft Beer and Cider festival. Some Irish homebrewers also had a booth there. It was really fun to talk to them, since they were much earlier in their homebrew journey than we were. And of course, I learned about Irish whiskey too.

My heritage is Italian, so I couldn't wait to see what I would learn in Italy. Basil in beer, chestnut flour in beer, the very first Italian grape ales! Breweries and restaurants that opened just for the American beer geeks who were visiting (13 beers, 13 courses at Birrificio Troll in Vernante—we thought it was just a tasting). Of course we visited wineries too. And an olive grove where the owner took us through a sensory exercise, just as we would have done for beer sensory training. It was a great reminder of how closely related the culinary and beverage worlds are. When I got home, I immediately started planning to brew a basil lemongrass Belgian blonde, which ended up becoming a seasonal for over eight years at a local brewery here in Cincinnati. I've also recently had an Italian grape ale brewed at a local brewery.

In Spain, we reveled in Cava, sangria, and Basque ciders. (The sangria in particular was the inspiration for a later sangria



payment.) At one Spanish brewery, which had been converted from a winery, the owner invited us home for a meal. That experience emphasized for us both the culture of generosity and sharing in the brewing community, and the importance of enjoying food and drink together.

Norway was all about kveik—and Vikings, of course. The brewer at Voss shared his kveik, along with some other amazing beers, but more importantly he

shared so much advice about the yeast and how to work with it. As soon as I could find a kveik yeast, I had to brew a batch just to experience the joys of brewing with that newest inspiration.

One of the main things I've learned from my travels is to just ask questions. Brewers will almost always give you as much information as they can. Brewers in Belgium shared techniques. The Italian brewers showed me how to use their favorite local culinary ingredients in beer. The Spanish taught me about how to make Basque cider; how to enjoy it out of the tank and how to share vermouth from a *porron* [a traditional Basque wine pitcher]. In Norway, I learned how to work with kveik. It's also important to learn about more than beer when traveling. Local food traditions and fermentations beyond beer can provide new insights and connections. I can't wait to see what I learn in Iceland!

Of course, there's a lot to learn in the U.S., too. One of the things that I think is critical for both homebrewers and craft brewers is to collaborate and maintain good working relationships. We have worked with Christian Moerlein for many years as part of Cincinnati's Bockfest ([bockfest.com/](http://bockfest.com/)). We host a bock-only homebrew competition within the three-day festival and work with the brewery on other festival events. We usually do our Big Brew at Wooden Cask because the owner remembers how important that was to his own craft beer journey. I think our most unique collaboration with a brewery is for the Missing Linck Festival ([missinglinck.com/](http://missinglinck.com/)). A 150-year-old lager yeast strain was found at the Linck Brewery in the old underground wooden fermenters. The festival includes a homebrew challenge to help us learn how best to brew with this yeast, and also features craft breweries. Last year 18 breweries and over 30 homebrewers participated. (See the AHA website for the article *Brewing with the Missing Linck Yeast* by Mike Morgan.) I'll be brewing my next version of an Italian grape ale this year. French Pilsner malt, Sauvignon Blanc must, and it will be late hopped and dry hopped with Nelson Sauvin to complement the aroma and flavor. Half will be fermented with S23, the other half with Missing Linck yeast.

Brewing is about community and sharing. This is true in the U.S. and everywhere that I've traveled. Food and culture are truly intertwined with fermentation. If you plan to get out and explore these cultures to inspire your own brewing, I highly recommend using a beer tour

company that has the connections to get you into more intimate brewery destinations. Limit the touristy stuff. And if you have time, plan a side trip! Look for small, local guides who can take you on new adventures.

**Roxanne Westendorf has served on the AHA Governing Committee since 2008, and currently serves on an advisory board to the president of Georgia Tech.**

*Brew This!*



## SNAKE IN THE GRASS

### Basil Lemongrass Belgian Blonde

Recipe by Roxanne Westendorf

(Based on her recipe in *Homebrew All Stars* by Denny Conn and Drew Beechum)

**Batch Volume:** 5.5 U.S. gallons [20.82 L]

**Original Gravity:** 1.062 [15.25°P]

**Final Gravity:** 1.007 [1.75°P]

**Efficiency:** 72%

**Color:** 4.7 SRM

**Bitterness:** 23 IBU

**Alcohol:** 7.3% by volume

#### FERMENTABLES

10.5 lb. [4.76 kg] Belgian Pilsner malt

1 lb. [0.45 kg] table sugar

8 oz. [227 g] 10°L Munich malt

4 oz. [113 g] aromatic malt

#### HOPS

1 oz. [28 g] Perle hops, 8% a.a. @ 60 min

#### YEAST

White Labs WLP550 Belgian Ale

#### OTHER INGREDIENTS

6 oz. [170 g] fresh lemongrass, trimmed and chopped @ 10 min

1.25 oz. [35 g] fresh basil leaves @ knockout/whirlpool

#### BREWING NOTES

Mash at 147°F [64°C] for 60 minutes. Pitch yeast at 68°F [20°C] and allow to free rise.

*Brew This!*



## RED RED WINE

### Italian Grape Ale

Recipe by Roxanne Westendorf

**Batch Volume:** 5.5 U.S. gallons [20.82 L]

**Original Gravity:** 1.038 [9.5°P]

before grape must

1.065 [16°P]

after grape must

**Final Gravity:** 1.008 [2°P]

**Efficiency:** 72%

**Color:** 5.3 SRM before grape must

20 IBU

**Alcohol:** 7.6% by volume

#### MALTS

7.5 lb. [3.4 kg] Pilsner malt

4 oz. [113 g] acidulated malt

#### HOPS

0.5 oz. [14 g] Nelson Sauvin hops, 11% a.a. @ 60 min

#### YEAST

Fermentis S23

#### OTHER INGREDIENTS

0.75 gallon [2.84 L] wine grape juice blend [20°P] from a red wine kit

Gelatin to fine

#### BREWING NOTES

Mash at 154°F [68°C] for 60 minutes. Mash pH should be around 5.2. Add hops at 60 minutes and boil for 1 hour. Chill wort to 60°F [16°C], pitch, add grape must to carboy and ferment in the low 60s°F. Clarify with gelatin before bottling or kegging.

# HOME BREWING AS A CATALYST FOR CREATIVE COLLABORATION

By Sam Calagione

**A**t our company, we have always believed that we collaborate and innovate as coworkers and as a community, because the status quo sucks. This approach was present in embryonic form from the beginning phases of my life as a homebrewer and proud member of the burgeoning craft brewing community.

I moved to Manhattan in May 1992, the same day I graduated from college with a degree in English and lofty dreams of following my beat-poet literary heroes who were part of the Master of Fine Arts program at Columbia University. I rented a tiny room in a tiny apartment a short walk from campus, and I got a job to pay for my rent, pizza slices, books, and most importantly, beer. From my teenage years forward, I always loved beer. And frankly, I was all about quantity over quality in the early years of this love affair. In fact, one of the reasons I got kicked out of the high school where I met my wife and Dogfish Head cofounder Mariah (a different story for a different day) was for smuggling beers in my day-student hockey bag onto campus to sell to the boarding students. After I was busted for this crime, the dean who was lecturing me literally said, "Grow up, Sam, do you really think you can make a living selling beer from a bag to people?"

If I knew then what I know now...

I settled into city life and enrolled in a couple of creative writing classes at Columbia. My job was at a bustling taco joint between campus and my apartment called Nacho Mama's Burritos. Little did I know this small restaurant would have a massive impact on my life. The owner, Joshua, was just a few years older than I was, had no restaurant experience, and loved beer as much as I did. Thankfully, fatefully, his was a different and groovy sorta beer-love than mine: he loved QUALITY over QUANTITY. I began waiting tables and tending bar there at night, and taking writing classes during the day. The food menu was simple Tex-Mex with fresh ingredients, but it was the beer menu that changed my life. We would get one free shift drink after each day's work, and we could buy our second and third beers at

half price. All the staff members got way into beer together, and those who didn't share this passion didn't last long—we found our tribe, and geeked-out deeply as a collective and a community. Within weeks, I cut my teeth and blew my mind on beers like Sierra Nevada Celebration, Rodenbach Classic, and Sam Adams Double Bock: Lions and Tigers and Rams—Oh my!

I quickly learned that my love of creative storytelling translated well into describing the unique character and province of different beers, and I honed my palate towards describing how the ingredient and fermentation components in certain beers worked magically when partnered with certain foods.

I was enjoying my classes at Columbia, but I was enjoying my beer education odyssey even more. Joshua and I loved beer and loved being around the kinds of people who loved beer. We decided to take our passion for beer to the next level. In that era, there was one shop in Manhattan that sold homebrewing equipment and ingredients: Little Shop of Hops. We went in and bought our first homebrew kits together. As a big reader, I also bought a couple of books: Charlie Papazian's *The Complete Joy of Homebrewing* and Michael Jackson's *The World Guide to Beer*.

The first batch of homebrew I made was a partial-grain pale ale recipe. On my walk to my apartment from the homebrew shop, I saw a cloud of fruit flies clustered above bunches of overripe cherries on the half-price shelf outside a bodega. I bought them all and on my first-ever brew day, I closed my eyes and clenched my fists around clumps of mushy cherries and squished their liquified goodness into my pot of just-boiled wort on my tiny apartment stove. It felt good to do something impetuous and break the rules for a traditional pale ale recipe by adding so much cherry juice the beer poured like blood, and I put all of my pumping heart into this new hobby.

My Cherry Pale Ale came out beautifully. I shared it with my roommates and friends whom I invited to my apartment to partake in the inaugural brew. I stood on the coffee table as the party was going full bore, pointed at my pint and said loudly with a slight slur, "This is what I'm gonna do: I'm gonna open a small brewery focused on brewing beers with culinary ingredients!"



I woke up the next day with a serious hangover and a sense of purpose. Instead of going to my classes at Columbia, I walked to the New York Public Library and began writing the business plan for Dogfish Head. We opened as the smallest commercial brewery in the country in 1995, with a commitment to brewing most of our recipes outside the *Reinheitsgebot*, adding unexpected ingredients from around the world, along with barley, hops, yeast, and water. We opened with a souped-up Sabco homebrewing system built out of used kegs, which I rigged up with bigger gas burners and a commercial-grade heat exchanger. I could yield 12 gallons of sellable beer in each batch, and would brew two or three times per day, four or five days a week, the first year we were open.



In those early days of the microbrewing movement, it wasn't cool to put exotic ingredients into commercial beer recipes. At early beer festivals, attendees would make fun of me or get mad at me for "ruining" a traditional stout by putting licorice root and chicory into it, or raisins into a Belgian brown ale.

One of the earliest accolades we got was when Michael Jackson wrote really nice things about our fearless approach to brewing outside of stylistic guidelines in an article for *All About Beer* magazine. It led to an email correspondence where I thanked him and shared how much his books had influenced and inspired me.

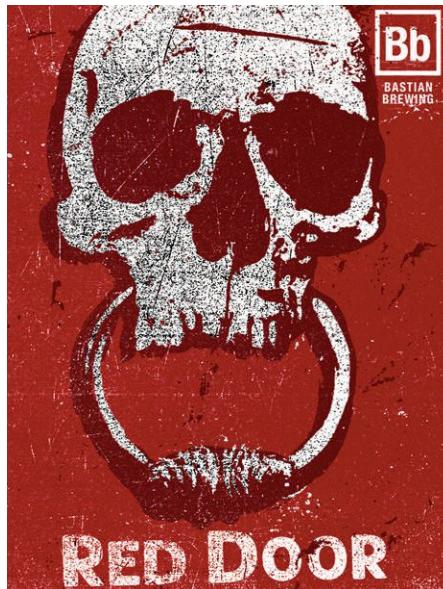
This friendship led me to my first collaboration back in May 2006, when Michael and I visited Prague to brew Golden Revolution with Pivovar Herold Březnice, using traditional Czech brewing techniques, local ingredients, and spring water from Herold's castle grounds to create what was possibly the first high-alcohol, dry-hopped imperial Pilsner in eastern Europe. The local brewers who came out to try the R&D batches I had sent in advance said it was "nice, but not a Pilsner." Too hoppy and too strong.

As the years went on, and my talented coworkers and I came together to collectively grow Dogfish from the smallest brewery in the country to a top-20 craft brewery, we never wavered from our brand's commitment to brewing with culinary ingredients and to collaborating with the brewers, musicians, and artists who inspired us.

I know how blessed I am to have been able to brew collaborative beers with all the heroes whose beers I first tried and fell in love with at Nacho Mama's. Dogfish was the first brewery to ever collaborate with Rodenbach on our Crimson Cru and Vibrant P'Ocean beers. We were the first brewery to collaborate with Sierra Nevada with our Life & Limb beer, and the first American craft brewery to collaborate with Sam Adams, which led Jim Koch and I to the decision to merge our companies five years ago.

Jim and I share a passion for brewing and recipe ideation with our coworkers, and are always amped to come together as a community to invent a new story-full, distinct recipe—whether we brew a 7-barrel batch in Delaware, a 400-barrel batch in Pennsylvania, or a 15-barrel batch in Boston.

We approach every batch with the mindset and the passion of a homebrewer. In fact, a highlight of our year is our annual intercompany homebrewing competition, where Jim and I and a bunch of our brewing brethren come together to sample the batches submitted by our coworkers across all of our loca-



# RED DOOR AMERICAN FARMHOUSE ALE

Recipe by Tom Bastian

Sam writes, "I'd like to celebrate how my personal homebrewing journey has dovetailed with that of all our coworkers. We now have an annual competition where we buy them all homebrew recipe kits and honor the winners with trips to the Great American Beer Festival in Denver and Oktoberfest in Germany. Here's one of the winning recipes from last year. I'd love to celebrate Tom Bastian, who runs our Milton Tasting Room."

<b>Batch Volume:</b>	5 U.S. gallons [18.93 L]
<b>Original Gravity:</b>	1.044 [11°P] pre-sugar addition
<b>Original Gravity:</b>	1.047 [11.7°P] post-sugar addition
<b>Final Gravity:</b>	1.005 [1.2°P]
<b>Bitterness:</b>	22 IBU
<b>Alcohol:</b>	5.5% by volume

## FERMENTABLES

7 lb.	(3.18 kg) German Pilsner malt
1.5 lb.	(0.68 kg) wheat malt
1 lb.	(454 g) pale rye malt
8 oz.	(227 g) flaked oats
8 oz.	(227 g) clear Belgian candi syrup

## HOPS

2.5 ml	CO <sub>2</sub> hop extract @ 60 min
1 oz.	(28 g) Mosaic @ 10 min
1 oz.	(28 g) Lemondrop @ knockout

## YEAST

WLP670 American Farmhouse Blend

## BREWING NOTES

Ferment at 67°F [19°C] for the first 24 hours. Add clear Belgian candi syrup directly to the fermenter around day 3. Increase the temp by 3°F each day until it hits 80°F [27°C]. Maintain temperature at 80°F until done. If temperature control is an issue, let the fermentation ride on its own for the first few days, and then figure out a way to keep the fermenter warm. A space heater will work. The key is to keep the fermenter warm to help produce all those wonderful esters this yeast blend provides.

*Sam Calagione is the founder and owner of Dogfish Head Craft Brewery in Milton, Del.*



Text illustration © Getty/Kael\_iStock

**Editor's Note:**

All interviews, conversations, quotes, and articles from Mexico have been translated directly from Spanish by the author.

# THE RISE OF MEXICO'S HOMEBREWING MOVEMENT



By David J. Schmidt

I sat drinking with my friend Jorge on the outdoor patio of Morenos brewery one hot June afternoon. Mexico City was in the throes of the worst heat wave in years, and local newspapers reported that beer sales had gone up by 80 percent.

"You know, I'd sure like to make my own someday," Jorge said as he held up his glass of IPA. Jorge has a classic Latin American intellectual look to him: shaggy beard, unkempt hair, thick-rimmed glasses. He's a multifaceted Renaissance man—psychotherapist, university professor, and overall well-read virtuoso. Brewing was about the only skill that he was lacking. "I used to drink the cheap commercial stuff. Corona, Modelo. Even Carta Blanca and Tecate, God help me. But ever since I developed a taste for craft beer, I can't go back to that swill."

"I know what you mean," I replied. "I'm from San Diego, after all—we've got over 100 breweries in the city."

"The thing is," Jorge said as he drained his glass, "this stuff is so damned expensive. If I could just make my own, I'd probably save thousands of pesos. You know how to brew, right?"

"Sure. I'm a fifth-generation homebrewer. There's just one problem: all my equipment is back in San Diego. I'm not sure if we could even find the ingredients nearby, let alone the right gear. It's easy enough to find good craft beer around here..." →

< Top left clockwise:

Haz Chela homebrew supply shop equipment, malt, and hops.  
Gourmet fare to pair with craft beer at Morenos Tap Room.  
Artwork at Mr. Brew homebrew shop and brewery.  
The author at the "soft opening" of Morenos' rooftop bar.

We were drinking in La Roma, a neighborhood at the cutting edge of pop culture, alongside its sister *colonia* of La Condesa. Both are known for their art galleries and art deco architecture, with plenty of international cuisine and Airbnbs catering to foreign tourists. On that summer afternoon, Jorge and I were the only customers at the brewery speaking Spanish; folks at the neighboring tables chatted in French and English.

"Still," I continued, "I'm not sure if there are any stores around here to buy homebrewing supplies."

"Not to worry, my friend," Jorge said in English with a twinkle in his eye. "I've heard of a place. A shop on the southern end of the city, in Coyoacán. They might have the right stuff."

"Very interesting," I said pensively. I had long wanted to brew here in Mexico City, my adoptive hometown. In addition, I had always wondered how many basic brewing ingredients were produced domestically. Did native Mexican barley exist, or local strains of hops and yeast? This was my chance to find out. "All right. Let's go check it out, Jorge."

"Great! If the store has the right equipment, we can buy it and start brewing. We'll go halfsies on it, *miche miche*."

We clinked glasses and shook on it.

That first conversation, over a cold beer during a steamy heat wave, sparked a much larger quest. Over the following months, we would take a deep dive into Mexico's homebrewing culture. We would discover a burgeoning movement, one that has blossomed alongside the country's growing craft beer scene. This brewing subculture has become uniquely Mexican, so much richer than a mere carbon copy of brewing trends up north.

Join us on this journey through the innovative world of *cerveza casera a la mexicana*—homebrewing, Mexican style.

## HOMEBREWING IN MEXICO: THOUSANDS OF YEARS IN THE MAKING

A week later, I met up with Jorge near the Morenos brewery. We hopped into his car and drove southward, while I pulled up the address for the homebrew store on my phone. The shop was named Haz Chela, a hip moniker that incorporated a slang term for beer, *chela*. (Loose translation of the name: "Make some brewskies!") The picturesque neighborhood of Coyoacán is not far from Frida Kahlo's old family home.

As we drove, I asked Jorge if he knew anyone who homebrewed here in CDMX (a popular abbreviation for Mexico City).

"Sort of... I have a couple of cousins who make their own *tepache*. That's a kind of brewing, isn't it?"

"Sure," I said, "it's a fermented drink, after all."

The traditional beverage of *tepache* is common throughout central Mexico. People steep fresh pineapple in water, add *piloncillo*—hard cones of dark brown sugar—and let it ferment for a few days. It is just one of many fermented drinks still brewed

across the nation, traditional Mexican recipes that often go back thousands of years.

Some of these brews are very low in gravity. *Tepache* rarely ever gets above two or three percent; it's treated as a soft drink and sold on the street in many open-air markets. In other regions of Mexico, however, indigenous communities brew a different sort of *tepache*, made from pure sugar cane, which can hit 12% and higher. I have tried this strong *tepache* in the tropical lowlands of Oaxaca, and can testify that it should be handled with care. (See The Quest for the Moonshiner's Yeast, Zymurgy September/October 2021.)

I can personally attest to the diversity of fermented beverages that exist throughout Mexico. When I visited the indigenous Rarámuri (Tarahumara) people, in the remote pine forests of the Sierra Madre mountains in the north, I tried the traditional corn beer known as *tesgüino*. I've had countless glasses of *pulque*, perhaps the most emblematic drink of Mexico. Made from the fermented nectar

The author and Jorge at Morenos Tap Room in Colonia Roma.



Photos courtesy of David J. Schmidt



of the agave plant, it is common in rural areas and cities alike. As a young man from the town of Texcoco recently told me over a glass of pulque, “It’s such a deep-rooted part of our communities, our history. It’s more than just a drink—pulque is culture.”

After more than 20 years exploring Mexico’s traditional brews, I still feel like I’ve barely scratched the surface. I have yet to try the *sotol* and *bacanora* of northern Mexico, or the Mayan beverage *xtabentún*, made from honey in the Yucatán Peninsula. The arid Bajío Region of the state of Guanajuato is home to *colonche*, made from the prickly pear fruit of the cactus. People in the states of Colima, Jalisco, and Guerrero brew *tuba* from the nectar of local coconut palms, while the state of Puebla is known for *chamuco*, fermented from red plums.

Many of these brews go back millennia, long before the Spanish first landed on Mexico’s shores in 1519. Pulque was developed to perfection by the ancient Mexica (Aztec) civilization, under the guidance of the fertility goddess Mayahuel. Master brewers made countless varieties of pulque for the nobility and popular classes alike, and it was treated with reverence. (See Pulque Renaissance, Zymurgy March/April 2023.) Likewise, the Rarámuri have been brewing their corn beer since time immemorial, revering it as sacrament, folk medicine, and social cohesive.

The author and Jorge at the Haz Chela homebrew supply store.



Clearly, brewing is nothing new to Mexico. However, the kind of homebrewing that I’m used to is a fairly recent arrival—stouts, Belgians, and pale ales, made from malted barley and hops. As Jorge and I pulled up to the brewing supply store, I was curious to see exactly what we’d find.

### PILGRIMAGE TO THE SUPPLY STORE

Jorge parked his car on the street, behind a shiny new motorcycle. We walked up to the shop, where a large sign over the door featured a stylized hop flower, beneath the store’s name in large, bold letters: HAZ CHELA.

“Let’s make some brewskies indeed,” I said in English as we pushed the door open.

As we walked in, the sights and smells were immediately familiar: the rows of white barley barrels; the refrigerator in the corner with shelves and shelves of hops and yeast; the sweet, malty aroma that filled the air. I thought a scene from Charles Dickens’ *A Christmas Carol*, when the protagonist travels back in time to his childhood schoolhouse:

*“He was conscious of a thousand odors floating in the air, each one connected with a thousand thoughts, and hopes, and joys, and cares long, long, forgotten.”*

Likewise, Haz Chela evoked some of my most pleasant memories, transporting me across time and space. I was suddenly six years old, tasting my first sip of beer in Grandpa’s garage, surrounded by the smell of wort. I was with my Uncle Craig after college, as he passed on the family homebrewing gear to me. I was with my friend Chris at San Diego’s Homebrew Mart, his eyes full of wonder.

Jorge looked equally excited. “Where do we start?” he asked.

The sole employee was still busy helping a man in a leather jacket. The customer seemed like a seasoned homebrewer, asking very specific questions about a recipe for a Session IPA. While we waited for the employee, we perused the store’s selection of ingredients. Most of the hops were labeled with names familiar to me—Cascade, Centennial, Chinook, Mosaic. The varieties of barley were labeled with an international variety of names, alternately written in Spanish, English, German, and Flemish. I wondered how many of them, if any, were domestically grown.

When the customer left and hopped on his motorcycle outside, we approached the counter. The employee, a young, clean-shaven man of about 30, introduced himself as Alan and asked how he could help us.

“I’m here to make a new convert,” I said, patting Jorge on the back. “It’s my friend’s first time homebrewing.”

Alan smiled. “You’ve come to the right place. We’ve been here for years.”

“Is this the only homebrew store in town?” I asked.



"No, far from it. Haz Chela itself has two other locations, located in Lindavista and Iztapalapa" (other CDMX neighborhoods). "And I understand that there are a few other supply stores out there as well."

Alan explained the basic process to Jorge in perfect detail.

"I'm impressed," I said. "You've clearly been homebrewing for years, but you know how to explain things in a way that makes sense."

"Um, actually...I had never brewed before I started working here a few months ago."

"You're kidding!" I said. "Could have fooled me."

"Well, I took some of the courses that Haz Chela offers," he said modestly. He told us that they offered various classes to new brewers.

"Are most of your customers first-timers?" I asked.

"We get a few beginners," he said. "However, the majority are already seasoned brewers. They've been doing this for years."

Indeed, while we chatted with Alan, we watched several other customers come and go. Most of them knew exactly what they were looking for, asking about a specific type of malt or hops. Clearly, a well-established homebrew movement already existed here.

"So what do you recommend for a first brew?" Jorge asked.

"Take your pick." Alan turned the computer monitor toward us and scrolled through an extensive catalog of recipes. We finally decided on a basic pale ale: Victory, Caramel 60, and 2H barley malt; Magnum and Cascade hops.

As we collected the ingredients from the shelves, I looked more closely at the labels, searching for any native Mexican brands. All the yeast appeared to be foreign. I saw several packets and vials with the familiar White Labs label, alongside other brands from the U.K. and Germany. All the hops looked foreign as well. I asked Alan about this.

"Yeah, almost all the ingredients here are imported."

"Is any of the barley malt grown in Mexico?" I asked.

"Only one kind." Alan walked over to a stack of yellow burlap sacks and slapped one. "This is a basic pale ale malt, from the state of Puebla."

I read the print on the sack. "Central Altiplano maltería e insumos, malta de cebada 2H para pale ale."

"All the rest of our malt is imported," Alan said. "Unfortunately, Mexico doesn't grow much malt that's suitable for specialty beers."

The ingredients may have been imported, but all the terminology was fully in Spanish, user-friendly for local brewers. On the instruction sheet that Alan gave us, the steeping process was described as *maceración*. Rather than using the German term *wört*, the instructions referred to the *mosto*, the same Spanish term used for must in wine and mead production.

Alan explained the process to Jorge using several familiar cultural references. "See," he said, pointing at a row of glass fermenters. "You can ferment your *mosto* in one of these jugs, just like the ones street vendors use to serve *aguas frescas*."

When I asked what sort of brew pot he recommended, Alan suggested that we could go to any local *mercado* to buy an *olla tamalera*, the traditional pot used to steam tamales. "Just make sure it can hold 25 to 30 liters. And don't get one that has the hole for the tamales' steam to escape."

In the end, we had a full brewing kit on our hands: fermenter, airlock, bag for steeping grains, thermometer, two dozen empty bottles, and our ingredients. We had enough for a 5-gallon batch: 19 liters of beer, in local terms. Before Alan rang us up, I asked him to add one more item to our tab: a humorous t-shirt designed like a military recruitment poster. Beneath the image of Pancho Villa pointing his finger, the shirt reads: "I WANT YOU... DRINKING IN THE BEER REVOLUTION AND MAKING BEER! TO FIND THE NEAREST RECRUITMENT CENTER, SEE: WWW.HAZCHELA.COM." I had to have it.

Humorous t-shirt at Haz Chela homebrew supply shop.



## MEXICO CITY PALE ALE

Recipe courtesy of Haz Chela

This recipe for an all-grain pale ale is based on one provided by the Haz Chela homebrew supply store in Mexico City (all rights reserved). The original recipe sheet provides much more detailed instructions, as it is written for first-time homebrewers to be able to follow step by step.

**Batch Volume:** 5.5 U.S. gallons [20.82 L]

**Original Gravity:** 1.052 [12.75°P]

**Final Gravity:** 1.010 [2.5°P]

**Efficiency:** 72%

**Color:** 8 SRM

**Bitterness:** 33 IBU

**Alcohol:** 5.1% by volume

### FERMENTABLES

9.5 lb. [4.31 kg] 2H pale malt

1 lb. [0.45 kg] Victory malt

8 oz. [227 g] 60°L caramel malt

### HOPS

0.5 oz. [14 g] Magnum, 12% a.a. @ 60 min

0.5 oz. [14 g] Cascade, 5.5% a.a. @ 30 min

1.25 oz. [35 g] Cascade, 5.5% a.a. @ 10 min

### YEAST

Neutral ale yeast such as the Chico strain

### OTHER INGREDIENTS

6 g. per liter table sugar for priming

### BREWING NOTES

Steep at 149°F (65°C) for 60 minutes. Boil 60 minutes, adding hops according to their boil times. Cool, ferment for 2 weeks, then transfer to secondary fermenter for 2 additional weeks. Use cane sugar (table sugar) for bottle carbonation, adding 6 grams of sugar per liter of beer.

Jorge and I made plans to brew in a few weeks. We had two homework assignments in the meantime: we needed to collect two dozen more empty bottles (not a difficult task), and I would learn more about Mexico's homebrewing movement on a broad scale.

## MEXICO'S HOMEBREWING MOVEMENT: A 21<sup>ST</sup> CENTURY PHENOMENON

Elba Copado Figueroa is one of Mexico's veteran homebrewers. She has been passionate about brewing for years, ever since her days as a university student, when she did her graduate thesis in chemistry on brewing with fruit. Her YouTube channel, Hagamos Cerveza [let's make beer], currently offers detailed homebrew advice to over 45,000 subscribers.

Elba can recall a time, not very long ago, when homebrewing supplies were hard to come by. When she started, in fact, there were no stores selling them in her hometown of Guadalajara, despite it being one of Mexico's most populous cities.

"I started brewing back in 2003," she told me during an online interview. "Back then, there were just a small handful of us here in Mexico. There weren't many stores that sold supplies, and the few that existed had a very limited stock. In fact, I had to leave the country to buy my supplies! I would travel all the way to Texas, to a store in Houston called 'Defalcos.'"

I thought back to my early brewing days, at the same time as Elba's. Back then, San Diego's only supplier was Homebrew Mart, operated by the fairly new Ballast Point Brewery. Elba and I both recalled the excitement of finding a new photocopied

list of recipes, a fresh edition of homebrew publications such as *Brew News*, *Imbibe*, and—of course—*Zymurgy*.

In the early 2000s, homebrewing was still a fairly fringe movement in Mexico, much as it was in the U.S. in the 1970s. Tom Acitelli's excellent book, *The Audacity of Hops: The History of America's Craft Beer Revolution*, describes the marginal status of American homebrewing at the time. He writes that early brewing manuals "seemed terminally anachronistic—the isolated whimsy of an American who liked good beer and who was discovering it was increasingly hard to find."

Luckily, Mexico's homebrewers didn't have to wait too long. By the late 2000s, a few different homebrew stores had opened up. The very first one, Homebrewing México, was located in the CDMX neighborhood of Nápoles. Shortly thereafter, shops appeared in other parts of the country as well. Cerveza Casera and Fermentando were two supply stores from the northern cities of Hermosillo and Chihuahua.

I spoke with José Luis Ávila, who manages the still-active website of CervezaCasera.com.mx. He confirmed that Homebrewing México was the first supplier nationwide, although they have since closed. "We appeared shortly after them," he said, "in 2009, when the homebrewing movement was still emerging in Mexico. We started as an informative website, but when we saw that it was hard to find the necessary products in Mexico, we decided to offer supplies as well."

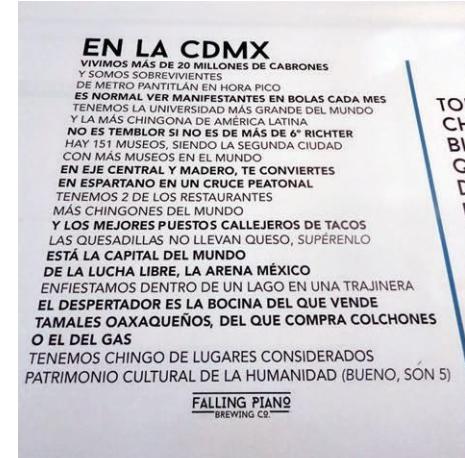
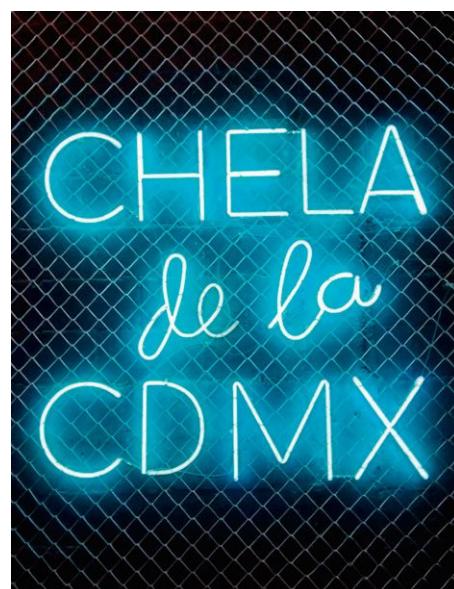
He told me that the movement has grown exponentially since then. "Every year, more and more people here are

interested in the world of homebrewing. Unfortunately, Mexico's movement is about 15 years behind the U.S. And yet, it's still growing. Mexico's craft breweries continue to grow and multiply, and more and more people in different states across our country are making their own beer, in their own unique styles."

Over the following years, homebrewing clubs popped up across Mexico. These include the Tijuana Homebrew Club on the northern border, as well as Lupuleros, in Elba Copado Figueroa's hometown of Guadalajara. (Loose translation of the name: "The Hopsters.") Their website humbly invites readers to "ask us about the brewing process, about our club, or even about the origin of the universe. We'll be happy to answer all your questions—we know everything."

Guadalajara is also home to the civil association Cervezas y Derivados, A.C., [Beers and Derivatives], known by the acronym CERYDER. Elba is one of their senior members. Established in 2007, they meet once a month to share recipes, techniques, and tastes of their own brews. Most notably, CERYDER members also work as official judges with the U.S.-based Beer Judge Certification Program.

Classes and workshops for first-time brewers have grown increasingly popular in Mexico as well. Some are offered by clubs and associations like CERYDER, or supply stores like Haz Chela. Just as often, the classes are also hosted by craft breweries themselves.



<sup>^</sup>  
Inspiring prose about Mexico City, on display at Falling Piano brewery.

< Sign at Falling Piano brewery.  
Translation: "Brews from Mexico City."

One of these breweries is Falling Piano, home to one of the largest and most stylish taprooms in the hip Roma neighborhood. The place is filled with soft lighting and good music, just noisy enough to be fun. Brew tanks stand on the ground floor of this multi-level building while long wooden tables line the upper levels, surrounding an open space in the center where drinkers can look down upon the tanks. True to the brewery's name, a full-sized piano hangs above the tanks, suspended by steel wires.

Falling Piano has the chic feel of a Tribeca location where Lena Dunham might have shot her series, *Girls*. It is the sort of place that the SNL character Stefon might rave about. ("This brewpub has everything: hazy IPAs, tattooed hipsters, flying pianos...") This popular drinking spot simultaneously promotes homebrewing, craft beer culture, and civic pride. A mural painted on the wall poetically describes the richness and versatility of CDMX and its residents:

*"There are over 20 million of us who live here in Mexico City, all of us badasses. We know how to survive the Pantitlán subway station at rush hour. [...] We have the largest university in the world, and the most kickass university in Latin America. We don't believe earthquakes 'count' unless they're a 6 or higher on the Richter Scale. We have 151 museums, two of the world's best restaurants, and the absolute best street taco stands..."*



Left to right:

Sign at Morenos rooftop bar.  
The swanky Colonia Roma, home to many craft breweries.

Other breweries in the same neighborhood offer brewing classes as well, including Morenos, where Jorge and I first decided to brew together. In addition to in-person workshops, thousands of other new brewers in Mexico are learning from a motley crew of international teachers, by way of Spanish language channels on YouTube.

These include Hagamos Cerveza, the extremely popular channel run by Elba. Another channel from Spain, Hacer Cerveza Artesanal [making craft beer] features copious tips for novice brewers and experts alike. A channel from Argentina features weekly videos on how to make beer, gin, vermouth, mead, and other tipples. The name reflects that country's typical dry sense of humor: No Soy Normal Cervecería (literally, "the I-am-not-normal brewery").

As I saw how openly and generously all these YouTubers shared insight with one another, I thought of what Tom Acitelli's book says about some of the earliest American homebrewing clubs. During the 1970s, he writes, Fred Eckhardt used to present slideshows for his fellow homebrewers in Portland:

One slide would show how a brewing step—say, mashing the grains—was done at home; the next would show how it was done in a small brewery [San Francisco's Anchor Brewing Company]; and so on, alternating slides to give an idea of how efforts in the kitchen might translate into the commercial realm.



When it comes to suppliers, Mexico's homebrewers now have several options. In addition to Mexico City's three locations for Haz Chela, there is also a shop called Levabeer in the Coyoacán area. Another supplier goes by the creative, rhyming name, De Cero a Cervecería. (Literally, "from zero to brewer," although a more loose rhyming translation might be, "from zero to beer-o.") Yet another store, Mr. Beer, is located at the far north end of town. Before Jorge and I made our pale ale, I decided to pay them a visit as well.

## HOME BREWING AND CRAFT BEER, GROWING TOGETHER

Mr. Brew is nearly an hour away by metrobus from the fashionable neighborhoods of Roma and Condesa. It's located near the border that divides CDMX from the adjacent Mexico State, not far from the emblematic Basilica of the Virgin of Guadalupe. The surrounding neighborhood is remarkably commonplace: red brick apartments, an elementary school, a pharmacy, and a stand selling *torta* sandwiches.

I spotted Mr. Brew when I noticed an anthropomorphic green hop flower painted on the building, complete with sunglasses and a hipster beard. A chalkboard propped up by the front door announced happy hour, karaoke, and trivia nights. Inside the taproom, customers sat at high-top tables drinking draft beer, a young, modern crowd dressed in jeans and leather jackets. The music was mostly early 2000s rock in English: Weezer, Foo Fighters, and White Stripes.

I met the manager, Paco, a young man in his late 20s. He brought me tasters of the house beers they had on tap. All three had creative, cinematic names: Hollywood, a fairly light pale ale; Sin City, an American stout; and Kill Bill, a curiously strong blond ale. The beers were half the price of those at the upscale breweries in a place like La Roma, costing just 55 pesos a pint here (around three U.S. dollars). When I observed how reasonable the prices were, Paco confirmed that this wasn't a typical microbrewery neighborhood.

"You don't see a lot of competition for the craft beer market in this area. We're sort of pioneers here."

"Do customers come mainly to buy homebrewing supplies, or just to have a drink?" I asked.

"We get both crowds. We get some new brewers, maybe 20 or 30 percent, and we've offered many classes on homebrewing here in the past. Most people who buy supplies, though, have been brewing for years. And a lot of our customers don't

brew at all. They just like the vibe, and they appreciate a good draft beer."

This mixed crowd illustrates how fluid the movement itself is: it can be difficult to know where homebrewing stops and the craft beer scene begins. The two have grown in tandem. As the market for new styles of beer expands, more people—like my friend Jorge—become interested in making their own. As José Luis Ávila from Cerveza Casera told me, "Homebrewing has continued to spread across Mexico, and alongside it, microbreweries have seen an extended period of growth as well."

True, this growth slowed during the COVID-19 pandemic of 2020. As in much of the world, the lockdowns were devastating for Mexico's small businesses, and microbreweries were no exception. Most of them depended on their taprooms and restaurants, with onsite beer sales representing 70 percent of their income. According to the Association of Craft Brewers of Mexico (ACERMEX), more than 40 breweries shut down in 2020.

However, while breweries were going under, the market demand for beer actually grew during the quarantine. Once businesses were allowed to open again, new breweries quickly appeared to meet this demand. In fact, Mr. Brew was one of them. They began as a homebrew supply store in late 2021, then opened the taproom a year later.

The post-pandemic recovery of Mexico's beer scene is especially impressive if we compare it with the U.S. during the early heyday of homebrewing. In the 1990s, according to Acitelli's book, craft beer in the U.S. made up barely three percent of total beer sales. Nearly 200 American craft breweries went out of

business in that decade; in 1999, more of them closed than opened.

By contrast, Mexico now has over 1,200 craft breweries across the country, most of which emerged quite recently. (Just five years ago, there were only 635 of them.) An article by *Forbes México* reports that 14 percent of Mexico's drinkers now prefer craft beer.

Larger commercial chains have capitalized on this growing market. Beer Factory, a gastropub similar to BJ's in the States, now has several locations in shopping malls across CDMX and Mexico State. Beer Box is a growing chain of bottle shops, while El Depósito sells a wide variety of bottles and draft from domestic and foreign breweries at over 40 locations nationwide.

The majority of Mexico's independent craft breweries are located in states with large cities and a vibrant, urban cultural scene: Jalisco, Baja California, Nuevo León, and, of course, Mexico City. And yet, the movement has grown far beyond these "usual suspects." In mid-2022, I even stumbled upon a sizable beer fest in a small rural town.

Some friends and I spent Holy Week in Huasca de Ocampo, a charming old mining town known for its picturesque brick and stone buildings, pine forests, and cobblestone streets. Near an old colonial hacienda, we found a massive tent hosting a local beer festival. Alongside larger craft breweries, small boutique and up-and-coming breweries were present as well, from smaller states: Hidalgo, Querétaro, Michoacán, and others.

The movement continues to grow. Homebrewing is now well-known enough in Mexico to even merit its own satirical skit by the popular comedy troupe, Backdoor Comedy. In the video, a man

shows his wife his new homebrew kit; she replies that she is sick of him jumping on board with the latest fad, only to drop it soon after. She tells him to throw out his brewing gear, "along with your old frozen yogurt machine and that food truck in our garage!"

Thankfully, most of Mexico's homebrewers have more persistence than the protagonist of this sketch. As their palates adapt to new styles of beer, more and more people are trying their hand at making it themselves.

## GROWING TRENDS, CHANGING TASTES

*Sobre gustos no hay nada escrito.*

(Translation: When it comes to personal tastes, nothing is written in stone.)

—Latin American proverb

At long last, Jorge and I met up at his house and brewed our pale ale. He jokingly compared the experience to having a child together.

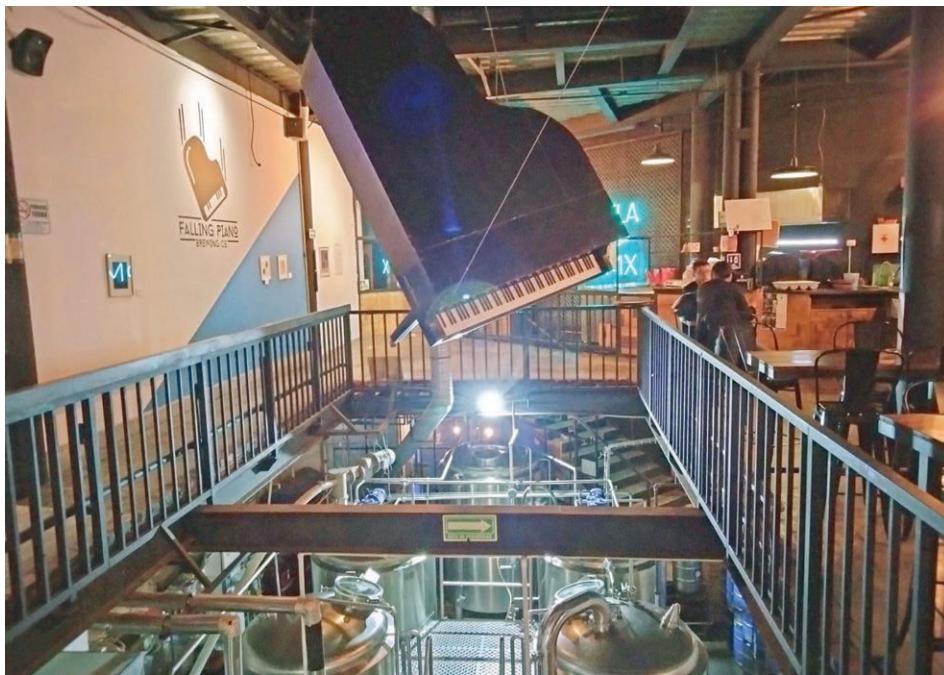
"You're not the first friend to tell me that," I chuckled. "We are creating a living thing, after all."

After we poured the *mosta* into the *fermentador*, pitched the *levadura*, and sterilized *el airlock* with some cheap tequila, we decided to celebrate. We headed out to Morenos, the taproom where the whole idea had first started. We sat at the outdoor patio, the sweet smell of wort still clinging to our clothes. When we ordered our first pint, the waitress told us about a new rooftop bar that Morenos was opening just a few blocks away.

"Officially, we haven't inaugurated the new *terraza* yet," she said, "but tonight we're holding a 'soft opening.'" She described this with an anglicism, *un soft*. "You're welcome to go check it out."

We found a lovely, open-air patio with ample seating room, offering a panoramic view of the surrounding art deco buildings of La Roma. An even mix of locals and foreign tourists sipped pints at the long wooden tables and comfy lounge couches. We sat on high stools at the bar and scanned the ample selection of beers on tap, a mix of Morenos' own house brews and some guest breweries as well. A pleasant, warm breeze blew through the terrace. The stereo played classic *rock en español*, synth 1980s and 1990s hits by groups like Soda Stereo, Héroes del Silencio, and Fobia.

◀ Falling piano, one of the popular craft breweries in Mexico City's Colonia Roma neighborhood.



The bartender introduced himself as Omar, and explained that he was also the manager of the new rooftop space. We told him that we had just brewed our own first batch.

"That's great," Omar said. "My girlfriend taught me about homebrewing, she's been doing it for years, and she brews professionally as well. She used to work for a smaller craft brewery here in town, called Tzolkín. Now she works with Cosaco."

"Oh, those guys are veterans," I said. "I remember back when Cosaco was one of the only craft beers you could find in the city."

"Yeah, it's taken some time for the craft beer market to grow," Omar said. "You need to reach a critical mass of people who like these new styles of beer."

He held up the glass that he'd just filled with hazy IPA, known here as *IPA turbia*. (The acronym is pronounced phonetically: "ee-pah.")

"Take this style, for instance. Years ago, the only folks making hazy beers and sours were Fiebre de Malta, a brewery based in the fancy Polanco neighborhood. They were pioneers, and a lot of drinkers didn't like the style at first. Customers would look at their glass of hazy beer and send it back. 'This beer's dirty,' they'd say. 'I think your taps are moldy!' Eventually, though, they developed a palate for these new flavors."

"When you think about it," I said, "that's the same exact process that lagers went through in this country as well."

Nowadays, the idea of a "traditional Mexican beer" seems set in stone: a light, yellow lager. Nearly every craft brewery in the States offers some sort of "Mexican-style beer" or "Baja lager." And yet, as recently as the early 20th century, lagers were just as foreign to Mexico as hazy IPAs are today.

Around the late 19th and early 20th centuries, a wave of new immigrants from Germany arrived on Mexico's shores. Many of the same people were also reaching the U.S. at the time, where they soon established the country's first homebrewing association, the USBA. Luckily for them, U.S. drinkers developed a taste for lager. Here in Mexico, the traditional beverage of pulque was still much more common than beer, even in a cosmopolitan place like Mexico City. The Germans struggled to market their brews here, and it took years to convince Mexico's drinkers to buy European-style lagers instead of pulque.

That's a basic fact of consumer tastes, though—they're constantly in flux. Around the same time as those German brewers were settling in Mexico, another wave of immigrants came here from Lebanon. They

brought a new culinary tradition with them: marinated meat slow-roasted on a rotating vertical spit. This inspired a dish that's now emblematic of Mexican cuisine: the ubiquitous *tacos al pastor*.

Mexico City's consumers are still constantly adapting to new dishes and flavors. Foods from Mexico's northern border states—like flour tortilla burritos and Baja California-style fish tacos—have slowly worked their way into the market here. New waves of international migrants are bringing their own cuisine as well: *arepas* and *mojo verde* from Venezuela, *pikliz* and *diri ak pwa* from Haiti. New styles of beer are an integral part of this evolution of tastes.

"Of course, there are limits to the flavors you can adapt to," Omar said as we discussed these changes. "For instance, I recently tried a beer brewed with squid ink. I think it was made by a brewery from Baja California somewhere."

"Squid ink?" Jorge and I asked, incredulously.

"Yeah," Omar said with a grimace. "I think they used oysters in the brewing process, too."

"So...How was it?" I asked.

"Well...It definitely tasted like the ocean. Very salty."

"Was it good, though?"

"Hmm..." he laughed. "Let's just say, I don't know if I'd order a second glass."

Although not every new recipe is a success, trial and error are part of the fun. As Mexico's new generation of brewers experiment and explore, they are taking beer in exciting new directions, discovering unforeseen horizons.

## CRAFT BEER: HECHO EN MÉXICO

Jorge and I left the soft opening of Morenos' rooftop bar that night still smelling of malt and hops from our earlier brew, but now feeling a fine buzz from Omar's *IPAs turbias*. We discussed ideas for our next batches of beer.

"This is getting exciting," Jorge said. "I mean, we can make any beer we want."

"It's almost like a religious conversion," I chuckled, thinking of another quote from Acitelli's book, when a wine merchant described finding *The World Guide to Beer* in the 1970s:

"[It was] like a heathen discovering the Bible. It answered all those questions that I had about top and bottom fermentation, about hops, about yeast, about the nature of beer and the history of beer, and traditions of beer and beer culture."

"Really, though," Jorge continued, "I'm just now realizing that we can experiment.

Hybrid styles, exotic ingredients..." I suggested that we could try to brew using only native Mexican ingredients, searching for rare herbs that are mentioned in old Spanish colonial documents and ancient pulque recipes.

We certainly wouldn't be the first brewers here to use such native ingredients. As the movement has spread across the country, many of Mexico's brewers have taken advantage of the country's rich diversity of fruits, herbs, and vegetables.

Elba Copado Figueroa told me that she



## HOME BREWING TERMS IN SPANISH

If you're planning on buying homebrew gear in Mexico or any other of the 21 Spanish-speaking countries in the world, here's a handy list of basic terminology.

### INGREDIENTS

- **Barley malt:** malta de cebada, cebada malteada
- **Hops:** lúpulo
- **Yeast:** levadura

### EQUIPMENT AND MATERIALS

- **Iodine powder:** yodoforma
- **Fermenter:** fermentador
- **Jug:** garrafón
- **Bucket:** cubeta
- **Bottle capper:** colocador de corcholatas
- **Funnel:** embudo
- **Stopper:** tapón
- **Hydrometer:** densímetro
- **Hose:** manguera
- **Siphon:** sifón

### PROCESS TERMS

- **Fermenting:** fermentación
- **The boil:** ebullición, hervor
- **To steep:** macerar
- **Steeping process:** maceración
- **Wört:** mosto
- **Bottling:** embotellado
- **Carbonation:** carbonatación

### ANGLICISMS

- **Wört chiller:** el chiller
- **Airlock:** el airlock

and other homebrewers have long enjoyed experimenting with unique flora. Whenever she travels to a different part of Mexico, she said, "I like to try brewing a batch with some local, native ingredients from that region." Across the country, other brewers draw inspiration from Mexico's own indigenous brews, like pulque and tescúino. Many have made European-style beers that include agave nectar and malted corn.

I contacted Tzolkin, the brewery that Omar mentioned, to ask about their uniquely Mexican ingredients. They told me they make a stout with ancestral *mezcal* from Oaxaca, distilled in fired clay containers. They also brew a seasonal strong Belgian ale that includes piloncillo, local spices, and the Mexican fruits that are traditional ingredients of the Christmastime beverage, *ponche*.

Tzolkin embodies a proud, patriotic sentiment, right down to the artwork on their labels, which incorporates ancient Mayan and Mexican imagery. Even the brewery's name is an old Mayan term for the sacred calendar cycle of 260 days.

Again, I found echoes from the early days of craft beer and homebrewing in the States, as Acitelli's book recalls. Back in 1970, San Francisco beer journalist Charles McCabe praised the homespun charm of Anchor Brewing's Steam beer:

"If you happen to feel patriotic, Steam is the *only* American beer. Other beers in this country have been named after the middle-European cities where they gained their fame.... Yet Steam had as much to do with the building of San Francisco and Northern California as the Christian virtues, good stout Levi's, shovels, and the saving presence of whores."

Interstellar is another Mexican brewery that has extensively worked with local fruits and spices. "We are always experimenting with new ingredients that are native to Mexico," their spokesperson told me. "Primarily, we have brewed a lot with vanilla pods from the town of Papantla, Veracruz, as well as cacao from Oaxaca." Interstellar has brewed with many other seasonal plants as well: various chile peppers, cinnamon, and native fruits like the *tuna* (cactus prickly pear), the related *xoconostle* fruit, and the cherry-like *capulin*.

Interestingly, Interstellar is actually a binational company, a collaborative venture between Mexico and New Zealand. The brewery was established in 2018, co-founded by its Mexican CEO and brand manager, Yenitzia González, and their head brewer from New Zealand, Glen Brumby. New

Zealand is a significant producer of hops, and has a thriving brew culture. "It is rare to find a bad beer in New Zealand," the spokesperson said. Interstellar combines know-how from New Zealand with the entrepreneurial innovations and natural riches of Mexico.

Another brewery makes beer with exotic local ingredients—including wild tobacco leaves! Cervecería Alux is located in the town of Oxkutzcab, in the tropical southlands of the Yucatán Peninsula. Brewer Miguel Ángel Tziu has been brewing since 2010, and draws inspiration from traditional Mayan plants and foods. These include local honey, as well as *ramón* (*Brosimum alicastrum*), a native tree of the Mayan jungle mentioned in the *Popol Vuh*. Tziu branched out even further, making beer using wild varieties of fresh tobacco.

In addition to all these unique, novel ingredients, brewers across Mexico can also use a growing variety of basic brewing materials that are homegrown, fully *hechos en México*.

One Mexican company produces its own domestic strains of yeast. Lev-Mic is located in Mexicali, the capital of the northern state of Baja California. For the past seven years, their laboratories have developed specialized strains under the supervision of Dr. Gerardo E. Medina Basulto, a scientist with over 25 years' experience in the field. Lev-Mic's catalog includes more than 30 strains of yeast, including ale, lager, kveik, and many others. They provide yeast to a broad range of craft breweries in Baja California and other states: Cerveza Fauna; Madueño; El Sarmiento Ale; Hornet; Urbana; Malgro; Averno; and Coralillo-Desertor. A Lev-Mic spokesperson said some of their most faithful clients are Mexico's own homebrewers, many of whom live right there in Mexicali.

As homebrewing and craft beer grow, more farmers are growing barley and other potential brewing grains. Tzolkin brewery makes a cream ale with malted corn from the state of Tlaxcala. Meanwhile, Altiplano—the brand that I first noticed at the Haz Chela store—continues to be the gold standard for domestic brewing malt. "Altiplano is, indeed, the primary malt producer for Mexico's craft beer market," said José Luis Ávila of Cerveza Casera. "It is very high-quality, and it's the malt that I sell on our website."

Even hop farming is opening new roads here. José Luis told me of some farmers and agronomists—in rural areas outside of Ensenada, Baja California and Guadalajara, Jalisco—who have been trying to develop hop plants that will grow domestically. Over the next decade or so, Mexico's brewers may finally reach a historic milestone: brewing with new, uniquely Mexican varieties of hops.

Mexico's homebrew movement has come a long way since the early 2000s, when only one supply shop existed in the whole country. As the tastes for craft beer grow, homebrewers and microbreweries continue to enjoy a mutually beneficial relationship. They are overcoming economic and geographical obstacles, drawing inspiration from the country's native brews and ancient traditions. An old *ranchera* song by José Alfredo Jiménez talks about the importance of such perseverance:

"No hay que llegar primero  
Pero hay que saber llegar."

"You don't have to get there first," the song reminds us. "What matters is that you get there, period." Mexico's brewers certainly are arriving, and this is just the beginning. To borrow another saying from the English-speaking world: We ain't seen nothing yet.

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*David J. Schmidt is an author, homebrewer, and multilingual translator who splits his time between Mexico City and San Diego, California. Schmidt speaks 14 languages and has spent the past 20 years traveling throughout rural Mexico, Latin America, and Africa in search of ancient folk brews, making him a veritable Indiana Jones of home brewing. (Think Harrison Ford with a beer gut.) He can be found on Facebook, YouTube, and Twitter with the handle "Holy Ghost Stories," or via the website www.HolyGhostStories.com.*



Barrel and Blending Manager Travis Sandoval samples from a barrel in the Hercules cellar.

# CERVECERIA HERCULES

BY RYAN PACHMAYER

Luis Gonzalez had the concept for a brewery before he had a location. “I had a very clear idea in my head of the beer that I wanted to make,” says the owner of Cerveceria Hercules, a sprawling brewery located in the city of Santiago de Querétaro.



Gonzalez had visited Europe and was a big fan of the beer. "When you try it fresh overseas, Mexico just didn't have anything like that at the time," he says. There was one beer in particular that stood out for him.

Below the city of Pilsen, in the caves of Pilsner Urquell, drinking the namesake at its freshest was eye-opening for Gonzalez. "I was convinced," he says, "that this was the type of beer we wanted to make." IPAs were booming in the United States, but when it comes to beer, Mexico has always been about lager. "Everything is pale lager in Mexico," says Gonzalez. "Pilsner Urquell is basically the next level of pale lager."

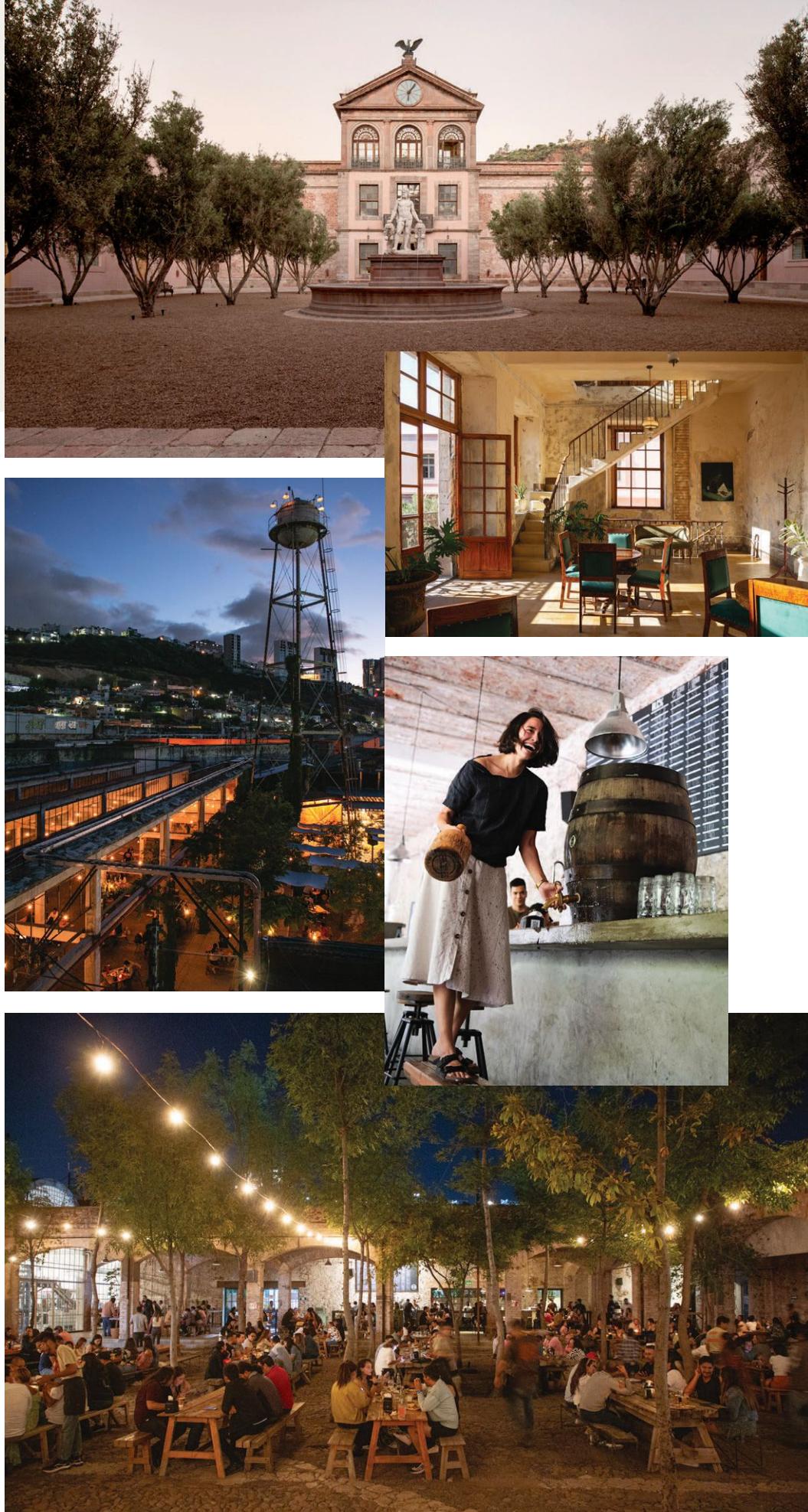
Standing in those caves, drinking the beer right next to the barrels, and watching the open fermentation in the wooden vessels has inspired many brewers, and even more drinkers. Few in either group ever find a way to replicate the experience of that immaculate space. Gonzalez has perhaps come as close as anyone. He's achieved that with a steadfast commitment to quality, and a truly special location that rivals the ambience of the world's best beer destinations.

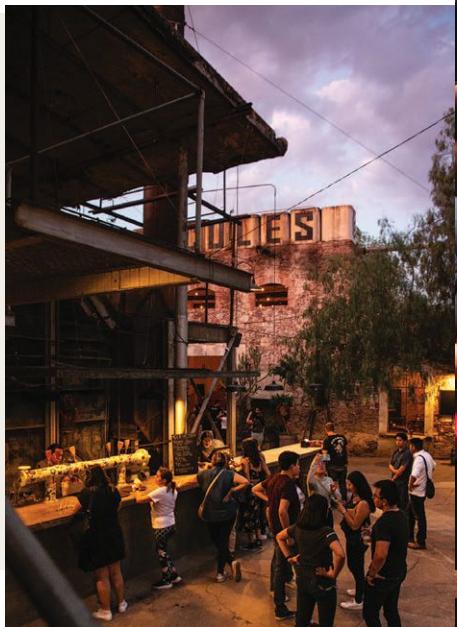
"The place and the brewery were separate ideas, but when they came together, the potential was exponential," says Gonzalez. His family owned an old textile factory. The buildings had a lot of history within their walls. At one point many years ago, there was a casino in part of the property, and centuries ago it was a mill run by a convent. You can even see remains of the former aqueduct that ran through the property.

## STEADY, DELIBERATE GROWTH

Things started off pretty small, with just a few core employees. Current lead brewer Alejandro Dominguez was one of the early employees. He came on about six months after Hercules released its first beers into the market in 2012. Dominguez was just a homebrewer at the time, and met Gonzalez through a club meeting. "My wife and I really enjoyed Querétaro, and we decided to move there," says Dominguez. He reached out on social media, asking his contact circle if anybody had a job in the city. Gonzalez replied that there was a lot of work at Hercules, and to come and talk.

Dominguez signed on and started in the cellar, cleaning kegs, bottling beer, touching just about every part of the brewery. "I learned a lot, made a lot of mistakes," says Dominguez. "We had some really good beers early on, but we were learning the hard way," he explains. "We had to dump a lot of beer down the drain. Luckily for us, Josh came and changed everything."





Hercules grounds: taprooms, courtyards, bars, biergartens, pub food, and packaged brands.

## NEW BEGINNINGS

Josh Brengle was sitting in a hotel room in Mexico City in 2016 when he decided to take a trip two and a half hours north that would change his life.

Brengle, the former production manager at Cigar City, had been doing some brewery consulting in Mexico City, but was looking for steady work. Gonzalez had been inviting him to come up to Hercules, to see if there was something up there that might be a fit. Brengle had already decided he would turn down whatever work was available, but Gonzalez was persistent, so he decided to be polite and make the visit.

"At some point, my phone died," says Brengle. His wife was worried about him; he'd been long overdue. "I finally got hold of her," he says. "And I said, look, we have to talk about Hercules."

Brengle would initially take on a consulting role with the brewery, but it was soon apparent that it was a great fit for both parties. Dominguez recalls a noticeable improvement in the beers. "In the first month, we saw the beers changing for the better, and we said we need him here," he says.

Many with Gonzalez's passion would have difficulty relinquishing control over the everyday brewhouse decisions. "In the beginning it was tough," he says. "But I recognize my limits. And I recognize talent."

"When you meet people like Josh, who is deeply committed to not only making good beer, but great beer," he says, "when someone comes in and wants to go as deep as you want, or even deeper, you just let go. That's the easiest part, you know?"

## COMING TOGETHER

What started as a brewhouse and a small bar began to grow over time. "The money is not unlimited," says Dominguez. "But if we need to invest in making the beer better, we find a way to make it happen."

A food truck was initially set up, but then lines began to form, so they built a kitchen. More bars were needed to service the growing beer garden, and eventually they needed a larger kitchen too.

Textile manufacturing in Mexico began to decrease, with a lot of that work moving over to Asia. Gonzalez and his family had to adjust, and the final large-scale factory shut down in 2019. In recent years the front part of the textile factory has been refurbished into a hotel, complete with a spa, pool (and poolside bar), and another restaurant. That restaurant also has a bar. In total, there are five bars throughout the sprawling property, several gardens, and even a cinema, concert, and dance hall. Acts like The Brian

Jonestown Massacre perform onsite. Across the cobblestones from the original bar are a collection of artisan shops, featuring local coffee and chocolate. The grounds have become an oasis for any beer lover.

Oktoberfest is celebrated in a traditional way at Hercules, complete with authentic wooden barrel tappings. Solid, traditional wooden barrels were painstakingly procured from Germany. Brengle had to handle some of the communications by mail carrier, due to the old-school methods of the maker. Those barrels pour both a pale festbier as well as Marzen. German-style sausages are made in-house, next to a sprawling menu with a mix of European pub food and authentic Mexican food.

The tradition doesn't stop at German beer, however. English ales are poured from casks, and the brewhouse has a coolship in the attic, as well as a small army of barrels housed in a separate building onsite.

## CORE TENETS

Hercules brews many beers, from English ales to IPAs of every type, barrel-aged stouts and spontaneously fermented beers. But at its heart, Hercules is a lager-centric brewery.

"We aren't jumping too far out of the box," says Brengle. "As a brewery, we keep it pretty traditional. We try to [execute] well, source our materials well, and follow through on the process."

Brengle really likes Czech Sekado Pilsner malt. "The bready character I get from beers [in the Czech Republic] I really get in the Sekado." He also imports the hops for Hercules' Czech beers directly. "I'm a big fan of the effort they put into producing brewing ingredients in that part of the world," he says.

Brengle suggests that brewers look at sourcing authentic ingredients, particularly yeast. "There are some brewers using German lager yeasts for Czech pale lagers, and it's fine, it's going to make a good lager," he says. "But I think a really authentic Czech lager, with the flavor of the classic breweries over there, is difficult to make with something like 34/70." He adds that it's a "pain in the ass" to carry as many yeasts as they do at Hercules, but they each have a specific purpose. "If we're going to make a Czech beer, it's going to be 100 percent Czech ingredients, and if we're going to make a Bavarian beer, it's going to be [all German]—we don't cut costs or effort."

"Our accountants hate me," he says. "They see containers from Bavaria, containers from Prague and they ask me, why can't we just use the same malt?"

Brengle gets passionate about seeing things through to the end, however. Whether it's

acquiring authentic ingredients, conditioning a lager for a long period of time, or barrel aging a spontaneously fermented beer for several years, he approaches the process the same way. "Why not just do everything a hundred percent?" he suggests. "Let's not look back on a beer and be like, I wish it had more body or something."

He's very aware that this is taxing on himself, on the team, and on the brewhouse. But he feels it's not just worthwhile, it's essential.

"What we're trying to do at Hercules is speak to the people that maybe can't afford to travel to Munich, or go to Oktoberfest," he says. "And to them we can say, this is the glassware, this is the technique, this is the tap, this is the process, the ingredients, everything. This is as close as we're going to be able to get it, and maybe it will transport you to another place for a minute," he says. "It's all really important."

## RICH AND DRY

Excessive sweetness is a flaw that Brengle sees in a lot of North American beers, especially those that are trying to replicate continental European styles. "We go to Europe, and we ask, wow, why is this beer so drinkable? It's big and rich, but it's dry at the same time. And in America, brewers tend to make big, rich beers, but they forget the dryness."

To that point, Brengle uses a lot less caramel malt than many brewers. Even in his ESB, he focuses on using high quality base malts such as Crisp, Simpsons, and Thomas Fawcett. "It's almost all base malt," he says of the recipes, with the exception of some of the darker, bigger beers like the doppelbock.

Brengle feels that buying the high quality, delicious, and expensive base malts can be a waste if you're just going to add

## SAUERGUT

At Hercules, Brengle began making his own liquid lactic acid, called Sauergut, several years ago. The purpose is threefold. First, pH control. Sauergut is used in the mash tun and kettle rather than lactic acid or acidulated malt to lower pH to the correct range for pale beers [see recipe notes for Lágermaiz and República]. Second, the Sauergut has its own flavor, which comes through in the final beer, and it's arguably a necessary component in many styles. Third, the liquid acid is a live culture, unpasteurized, so it will scavenge oxygen during the mash, helping to preserve fresh malt flavors and extend the shelf life of the beer. Most of the Bavarian breweries he is fond of make their own Sauergut, and use it for these purposes.

Brengle looks for flavors from the Sauergut that are reminiscent of yogurt, lemon, white grape, and white Gatorade. Bavarian-style Helles is the perfect style for it in his mind, and that's where brewers and tasters new to these flavors should start to look for them.

Brengle originally used a process that grew the Sauergut microbes directly from malt. The flavor was right, but the total acidity only got to around 0.6 percent, which was only half of what Brengle was targeting.

Now, he has the local university sequencing the yeast and bacteria that Hercules is using for the Sauergut. There, the lab isolated over forty individual *lactobacillus* strains in the original sour wort.

Brengle's current process is fairly simple. He takes an all-Pilsner malt grist that will achieve about 10 degrees Plato (1.040 SG). After mashing out, he boils it for 10 to 15 minutes with no hops. He then chills it quickly with some inline CO<sub>2</sub>, with the goal being to have some positive pressure coming out of the tank.

"It's very similar to doing a kettle sour," he says. "Where it veers off that path, is that instead of boiling again as we would for a kettle sour, we just let it ferment until it has the right total acidity and pH, and then we keg it off." Brengle stores the kegs of Sauergut in the cold room and the team just brings out one keg at a time as needed. If the total acidity of a keg isn't to spec, it can be left warm and monitored, and then used, or returned to cold storage once it is at the appropriate level of total acidity.

Brengle also points out that you can still use lactic acid for a portion of the pH adjustment in the mash and boil. If a brewery has dialed in a desirable flavor from the Sauergut and they still need to lower the pH, lactic acid can supplement the Sauergut without adding more flavor than is desired.

The new Kaspar Schulz brewhouse at Hercules will have two Sauergut reactors, which will allow the team to automate and control the process a bit more. Ultimately, that means Brengle can play with new strains in the future.

Brengle recommends checking out <https://www.themodernbrewhouse.com/a-sauergut-reactor/> for more information on creating your own Sauergut.

a lot of crystal and chocolate malts. "At that point, it's probably similar to using any other pale malt," he says. "I want the base malt to shine and be at the forefront. The maltster worked really hard to make it, so let's try to show it off."

While Crisp's Gleneagles (now called No. 19) Maris Otter may be a favorite of Brengle's, he points out that there are other British pale malts which have fallen out of favor, but are still absolutely delicious, and that brewers should explore using them.

## DEDICATION TO LEARNING

The teachings of the late German brewing professor Ludwig Narziss have had a big impact on Brengle. Similarly, The Modern Brewhouse is another strong influence. Brengle follows many of the same low-oxygen, hot-side practices as the famous industrial German breweries. He even makes his own Sauergut, or liquid acid culture.

He also considers himself a lifelong student. His process is always evolving. "You never say never with anything," says Brengle. "I just keep an open mind about all of it." Brengle's approach is ultimately going to be to learn if he doesn't understand. "If someone used a grain bill with 50 percent roasted barley, for example, and the beer was good, I'd be pretty surprised, but I'd also be intrigued. I'd be asking a lot of questions."

He encourages brewers not to just regurgitate what everybody tells them, because everyone has their own brewery, their own setup. "You can make your own way," he says.

## CORN LAGER

A few years back, Hercules started to see success in the fine dining restaurants of Mexico City with its corn lager, called Lágermaiz. "These restaurants are big on using corn, so they asked us where we got ours," says Brengle. The answer at the time was the U.S. "It was industrial yellow corn," he says. "I felt terrible."

The next week, Hercules put a down payment on a cereal cooker. "We started to be able to mill our own corn here, locally," says Brengle, adding that having to use a stone mill to do that is a bit of an undertaking, not to mention the ensuing cereal mash.

Brengle has no regrets though, and now views corn as one of the more overlooked ingredients in brewing. "As brewers, we take the time and effort to select malts, hops, and other raw materials, and then when it comes to adjuncts, we often just don't really care," he says. "Oh yeah, it's just corn."

At the same time, Brengle knows the impact that the individual corn variety will have on the beer isn't unlimited, being only



The property is vast, spanning from the hotel (foreground), to the brewery (background near the water tower).



# LÁGERMAIZ

Corn Lager

**Batch Volume:** 5 gallons (18.9 L)

**Original Gravity:** 1.042 (10.5°P)

**Final Gravity:** 1.008 (2°P)

**Efficiency:** 75%

**Color:** ~3 SRM

**Bitterness:** ~19 calculated IBUs  
(pre-filter)

**Alcohol:** 4.4% by volume

## FERMENTABLES

5 lb. (2.27 kg) German Pils Malt

2 lb. (0.9 kg) pulverized corn

## HOPS

1.2 oz. (34 g) Czech Saaz, 2.8% a.a.  
(14.9 IBU), FWH

1.5 oz. (43 g) Czech Saaz, 2.8% a.a.  
(4.1 IBU), WP

## YEAST

Asylum from The Modern Brewhouse via RVA Labs.  
You can also use 34/70 lager yeast.

## ADDITIONAL INGREDIENTS

10 mg/l potassium metabisulphite (KMETA)

## BREWING NOTES

All brewing water is pre-boiled with KMETA added while boiling. Brewing water is cooled to desired strike temp via heat exchanger en route to mash vessel. Brewing vessels are pre-purged with CO<sub>2</sub>/N<sub>2</sub> (if possible) and mash strike water is gently transferred through the bottom-most part of the mash tun. Grain is added gently and with minimal stirring/mixing. Hochkurz mash with rests at 144°F (62°C), 163°F (73°C) and 172°F (78°C). Cereal mash is initiated at the same time as the 144°F mash rest. Cereal mash starts around 150°F (66°C)

with a small amount (5–10%) 2-row or amylose enzyme and is immediately brought to 200°F (93°C). Once temperature is achieved, cereal mash should be sent to the main mash to equalize at 163°F (73°C). Additionally, 150–190 ml of Sauergut can be added to mash to achieve a target mash pH of 5.6. Otherwise, use Sauermalz or lactic acid. Vorlauf wort until clear and begin sending to kettle by gravity. Only supplement with sparge water if needed. Boil soft with a pH of 5.5–5.6 for 60 minutes total and begin to acidify wort (with Sauergut or lactic acid) within the last 10 minutes to a pH of 5.2–5.3. Whirlpool and then chill wort to 41°F (5°C) and pitch yeast, then aerate to no higher than 10 ppm. Having the least amount of cold break prior to pitching is advantageous. Target a pitching rate of 2.5–3 million live cells per ml per °P of wort. Fermenting under pressure since day 0 is an option, but vessel size must also be considered. Do not allow fermentation to rise to more than 45°F and begin to very gradually cool fermentation around 65–70% ADF (in the fashion of Narziß). Begin to spund higher when cooling begins. The target CO<sub>2</sub> of the beer should be easily reached this way. Beer should be ready for packaging/serving when it finally reaches 30°F (-1°C).



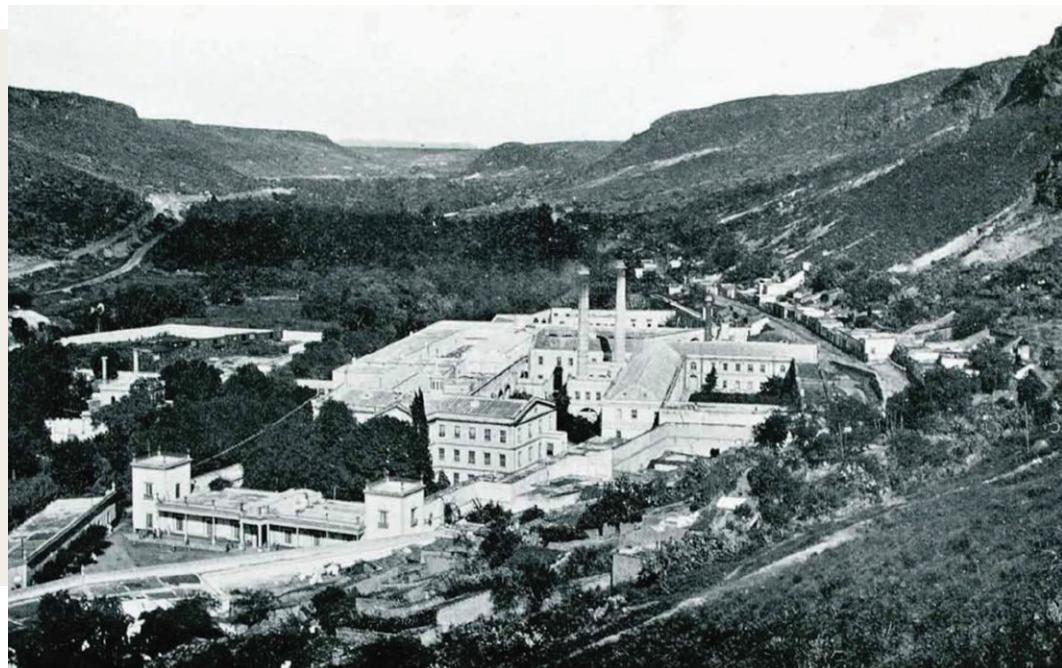
20 to 30 percent of a grist. "It's fun to try and taste some different textures in the beer, slightly different colors," he says about the differences that he sees.

Brengle likes to go to the local markets to pick out corn these days. It is often labeled by function, such as blue tortilla corn, or corn for pozole. Lately, he's been favoring local white corn, but he's used blue and black corn in the past.

## FUTURE GROWTH

The brewery continues to grow. A brand new Kaspar Schulz brewing system is being installed. It will allow many of the modern German brewhouse practices that Brengle currently uses on his older system to reach a higher level.

Satellite bars are opening, but they're all within the Hercules company. Brengle feels it's important to have a tied-house type system, where all of the beer being sold is Hercules beer, and the company has full control from production to glass, particularly on the cold storage and freshness of the beer. Lagerbar in Mexico City is probably the best-known satellite location, with



El Hércules textile factory, circa 1860s.

visitors from the U.S. stopping by during vacations and enjoying a wide array of Hercules beers and food.

One of the few exceptions to the tied-house model is in the brewery's relationship with Florida's Disney World. And while Hercules sells a lot of Lagermaiz to the magic kingdom, the real magic is in Querétaro.

"People here get a really strong feeling of belonging, like they are a part

of something big and important," says Dominguez. "People truly care about their work. You're family here."

*Ryan Pachmayer is the marketing and events director at New Image Brewing in Wheat Ridge and Arvada, Colo., and former head brewer at Yak and Yeti Restaurant and Brewpub in Arvada.*

Brew  
This!



# REPÚBLICA

(Czech pale lager - Světlý ležák 12°)

**Batch Volume:** 5 gallons (18.9 L)

**Original Gravity:** 1.047 (11.7°P)

**Final Gravity:** 1.012 (3.1°P)

**Efficiency:** 75%

**Color:** ~4.5 SRM

**Bitterness:** ~40 calculated IBUs  
(pre-filter)

**Alcohol:** 4.6% by volume

## MALTS

8.25 lb. (3.74 kg) Bohemian Pilsner malt

## HOPS

1.2 oz. (34 g) Czech Saaz, 2.8% a.a. (16.4 IBU), FWH

1.2 oz. (34 g) Czech Saaz, 2.8% a.a. (17.6 IBU) @ 80 min

1.2 oz. (34 g) Czech Saaz, 2.8% a.a. (5.5 IBU) @ 20 min

## YEAST

Wyeast 2278 and/or 2001, or RVA304 or equivalent.

## BREWING NOTES

Use reverse osmosis water and a Hochkurz mash with rests at 144°F (62°C), 163°F (73°C), and 172°F (78°C). Pull a single (thick) decoction during the beta-amylase rest and boil for at least an hour. Return decoction to main mash to equalize at 163°F for an alpha-amylase rest. An optional second decoction can be pulled at this point to bring main mash to 172°F (78°C). Additionally, 150–190 ml of Sauergut can be added to the mash to achieve a target mash pH of 5.6. Otherwise, use Sauermalz or lactic acid. Vorlauf until clear and begin sending to kettle sparging when necessary. Boil hard with a pH of 5.5–5.6 for 90 minutes total and begin to acidify wort (with Sauergut or lactic acid) within the last 10 minutes to a pH of 5.2–5.3. Whirlpool and then chill wort to 39°F (4°C) and pitch yeast and then aerate to no higher than 10 ppm. Having the least amount of cold break prior to pitching is advantageous. Target a pitching rate of 3 million live cells per ml per °P of wort. Do not allow fermentation to rise to more than 48°F (9°C) and begin to very gradually cool fermentation around 65–70% ADF (in the fashion of Narziß). Begin to spund higher when cooling begins. The target CO<sub>2</sub> of the beer should be easily reached this way. Beer should be ready for packaging/serving when it finally reaches 30°F (-1°C).

Brew  
This!



# MEXVLETEREN

## Belgian Dark Strong Ale

Brengle worked through this recipe over a period of time, making small changes in hopes of creating a beer in the same vein of the vaunted Westvleteren 12. On his last trip to Belgium, Dr. Roger Mussche gave him some advice: It's all about the water. Brengle focused on that missing piece and the recipe was complete.

**Batch Volume:** 5 gallons (18.9 L)

**Original Gravity:** 1.095 (22.7°P)

**Final Gravity:** 1.012 (3.1°P)

**Efficiency:** 75%

**Color:** ~30 SRM

**Bitterness:** ~34 calculated IBUs

**Alcohol:** 10.9% by volume

### MALTS

10 lb. [4.54 kg] Pilsner malt

8 oz. [227 g] Carapils malt

### OTHER INGREDIENTS

2.5 lb. [1.13 kg] dextrose, added to boil

Yeast nutrient added to boil

1.5 lb. [0.68 kg] D-240 dark candi syrup, added to FV

### HOPS

0.51 oz. [14 g] Magnum, 14.5% a.a., [27 IBU], FWH

0.57 oz. [16 g] Czech Saaz, 2.8% a.a., [7 IBU], WP

### YEAST

Wyeast 3787, RVA203 or Westmalle equivalent

### WATER

Target 100 ppm of chloride and 15 ppm of sulfate. Baking soda added to reach 90–100 ppm of Na in the final water profile.

### BREWING NOTES

Use reverse osmosis water and a Hochkurz mash with rests at 144°F [62°C], 163°F [73°C] and 172°F [78°C]. Additionally, 150–190 ml of Sauergut can be added to the mash to achieve a target mash pH of 5.6. Otherwise use Sauermalz or lactic acid. Vorlauf until clear and begin sending to kettle sparging when necessary. Boil hard with a pH of 5.5–5.6 for 90 minutes total and begin to acidify wort (with sauergut or lactic acid) within the last 10 minutes to a pH of 5.2–5.3. Be sure to add dextrose and yeast nutrient to boil. Whirlpool and then chill wort to 70°F [21°C] and pitch yeast, then aerate to 15 ppm. Having the least amount of cold break prior to pitching is advantageous. Target a pitching rate of 1 million live cells per ml per °P of wort. Open ferment if possible and allow temp to free-rise to 80°F [27°C]. When around 65% ADF is reached, add D-240 to FV. Allow to ferment until target FG is reached and then transfer off yeast and into a secondary vessel. Allow the beer to condition at 50°F [10°C] for 3 weeks and an additional week at 32°F [0°C] until clear. For best results, carbonate to 2.9 volumes using dextrose and fresh yeast, and allow to bottle condition (warm) for at least one week before storing bottles at 50°F [10°C] indefinitely.

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# Surf The Raddei

RADEGAST CLUB OF THE YEAR

FANTASTIC ACTIVITIES ALL CLUBS CAN DO

By Ron Minkoff



## TURNS OUT, YOUR CLUB DOESN'T HAVE TO BE BIG OR RICH TO BE AMAZING.

- You really dig your local homebrew club. Great people, fun times. But you wouldn't mind if the club upped its game. Turns out, your club doesn't have to be big or rich to be amazing. Sometimes you just need a good idea. The Hogtown Brewers have a grocery list of compelling activity ideas that will push your merry band of homebrew enthusiasts to spectacular levels.

This article, based on a recent Homebrew Con™ seminar, will walk you through an extensive lineup of fantastic club activities that will:

- Raise membership engagement.
- Make it inviting for new members to step up.
- Establish incentives to get your members brewing.
- Provide a compelling homebrew education curriculum.
- Develop your club website to actually be useful.
- Drive strong charity and community involvement.

I should probably mention a little of our club's street cred, so you'll know this is a worthwhile read. The Hogtown Brewers have been around since 1985, and around 42 percent of our 200+ membership is female. They're kinda known for the philanthropy thing. And they're so busy, we need to add a 13th month to the club calendar.

In any given year, we have 30 to 50 distinct events and activities, taking up 75 to 100 or more days. It can be a lot. →

One last thing before we get to the list. What does "Surf the Raddie" even mean? When Hogtown won the Radegast in 2016, they gave us a nifty paddle which we nicknamed "the Raddie." Whenever we do an activity that makes us feel good about our club, we call it "Surfing the Raddie." And that's the feeling we want to share with your club.

## MEMBERSHIP ENGAGEMENT

### *Minister of New Blood*

It's everyone's job in the club to welcome new members, but we do have an officer's position to be that special ambassador for rookies: The Minister of New Blood.

When a new member application is received, the Minister of New Blood sends a personal welcome email to the newbie. This pre-written template introduces and describes some of the club basics, such as:

- The club's email list (we automatically add them) and the club Facebook page;
- A schedule of general meetings where we do bottle shares and potlucks;
- An invitation to our club's executive meetings (more on this soon);
- A rundown of the major upcoming club events during the year; and
- Information on how to gain access to the members-only section of the club website.

When we see the new member at their first meeting, the Minister will hand them some new member swag: a Hogtown tasting glass and bottle opener. The Minister then takes a photo and posts it to our membership list, which can only be seen in the password-protected members-only section of our website. If your club starts to get sizeable (say 50 or more), having photos of your members is very helpful so everyone gets familiar with their fellow club zymurgists.

### *Great Idea, You Do It!*

This is a cherished mantra in our club, and one of the easiest ways to get a member more involved. How many times have you heard a club member proclaim they have the next amazing idea that sounds great on paper? Inevitably, the next question is, who in the club should spearhead the project. The collective answer should always be, "Great idea, you do it." Occasionally, they actually follow through and really do it! You get something new and nifty for your club, and a more involved member.

### *The Answer Is: The One in My Hand*

At general meetings, we try to get everyone to use a name tag. It helps members, both new and rarely-seen, get better acquainted. To make this more effective, we'll have

members write their personal answer to the Question of the Day (QoD) on their name tag. An example of the QoD could be "What's in your fermenter?" or perhaps "What's your favorite fermented beverage?" Questions and answers that start conversations are always best.

### *A Compassionate Gesture*

Life happens to your fellow club members. Sometimes that means a congratulatory event, but also, unfortunately, sometimes that means something profoundly sad. When news of such a life event hits our ears, we have a formal member outreach program that will send an appropriate response to the member. For example, it can be a "welcome" baby card (with a gift card, if your club has funds for that), or a condolence card from the club when a member suffers a loss in the family. The gesture can be quite meaningful to the recipient.

### *Exec Meetings: Everyone's Invited*

To round out this section on member engagement, here's a little gem that gets both new and seasoned members to step up and be active: invite the entire membership (not just your club officers) to your executive meetings. These gatherings are where the heavy planning gets done, and allowing all members to join in makes them feel more a part of the club. Up to you and your club rules if non-officers can vote. But we let everyone vote. Besides, aren't you usually wondering who in your club is the next heavy lifter? Well, they couldn't make it easier for you: they're the ones who accept your invitation and show up.



New member swag.

## BREWING PROMOTION

### *Brew Day Themes*

We don't always need a reason to brew. But when we do, brewers love brew day themes. To get you inspired to come up with your own, here are some we do:

- **Interclub Collab Group Brew** – Is there another homebrew club within a couple of hours of your town? Buddy up with them for a brew session where each club keeps half the batch.
- **SheBrew Group Brew** – Our female members enjoy participating in the Queen of Beer and SheBrew homebrew competitions. Each year we hold a group brew to promote these competitions and bring together female brewers. Each participant brings her own equipment, ingredients, and recipe.
- **King/Queen of the Hill** – Like many homebrew clubs, we award a "Brewer of the Year" to the brewer who earned the most competition points that calendar year. For this intraclub contest, the BOTY winner chooses a particular style (usually one they are really good at). Participants then brew it and submit their entries in an attempt to topple the smug King or Queen.
- **The Quest** – Participants use their own equipment and process to brew the same recipe using the same ingredients. Theoretically, all resulting beers should taste the same, right? Yeah, no. Each brewer submits a couple of bottles. All brewers then gather around a table, get a blind sample of everyone's entry, and try to guess which sample is theirs. Then, all



Hogtown Brewers won the 2016 Radegast Club of the year award.



QoD: Favorite type of fermented beverage?

brewers collectively decide which sample was the best.

- **Moonlight Brew** – This terrific communal group brew event is held each March on a Saturday night that is closest to the full moon. Everyone brings their own equipment, ingredients, and recipe. The basic rules are that you cannot fire up your burner until at least 6 p.m., and you must brew a dark beer (at least 17 SRM).
- **Knights of the Barleywine** – Another group brew event where everyone brings their own equipment, ingredients, and recipe (although some years we turn this into a wort share event). You must brew a barleywine, or a style that is barleywine adjacent (e.g. old ale, Scotch ale, British strong, etc.)

We've got more, but you get the idea. Come up with some that work with your crowd.

### Buddy Brew

Buddy Brew is a formal program in our club that targets new members who have no equipment. We pair the new member with an experienced brewer. New female members are usually paired with experienced female brewers. Together, they brew a 5- or 10-gallon batch. Cost of ingredients is shared. The experienced brewer takes care of fermentation, though they both participate in kegging/bottling. If the club has some funds, an ingredient stipend could be given to the experienced brewer. This is a great opportunity to provide one-on-one training for beginner brewers in the club.

### Homebrew Dopamine Hits

You've heard the old joke: How do you know if someone is a homebrewer?

Answer: They told you!



SheBrew Group Brew event.

Homebrewers love showing off their brewing and culinary kung fu. They live for that dopamine hit! But opportunities to publicly show off outside of their club or circle of friends and family are rare. Your club can encourage more brewing by setting up public pouring events for your members. [Be sure to check with local and state laws if you aren't sure pouring homebrew for the public is legal in your area.] Common opportunities have always included pouring at local beer fests or holding an intraclub competition where the winner brews at their local brewery.

But you can expand these pouring opportunities by getting involved with local community or charity events. For example, we now participate in a local Oktoberfest celebration. We set up a booth and pour complimentary homebrew samples to the crowd of 3,000+ (yeah, they dig it, and not just because the samples are free). We also do complimentary pours at certain charity events (such as a festival held at our local bat conservancy) as well as pour at our own charity beer/food pairing event. This one raises over \$3,000 for the charity partner (see Eat This, Drink That in May/June 2020 Zymurgy for details). Evaluate what's happening in your area to come up with pouring opportunities that will encourage your club members to brew more.

### BEER EDUCATION

Hands-on classes and labs are great activities that are right up a homebrew club's alley. Here are a few examples we've done that may help inspire ideas for your club.

- **Calibration Lab** – Members bring their own measurement equipment, including hydrometers, refractometers, thermometers, and pH meters. In a group

setting, each is evaluated and calibrated; for example, refractometers by using a two-point calibration with known exact-concentration sugar solutions.

- **Kegging Lab** – No matter how mundane kegging can be, I assure you there are brewers in your club new to it, and they're very curious to see how others do it. This is a good candidate for a class lab.
- **Bottling Lab** – Another class lab candidate, perhaps coupled with the keg lab, especially if the focus is bottling for competition. Using your tool of choice (e.g. Beer Gun or counter-pressure filler), you may want the students to first practice on a keg of water. Then, when everyone has the basic technique, bottle up a keg of actual homebrew. Allow the students to take their bottles home with them.
- **Canning Lab** – This one probably falls into the category of "funds needed," but if you are able to procure a canner, it's an obvious hands-on lab for your club.
- **Mead Lab** – Post-fermentation mead adjustments are a mystery to many homebrewers. Perform a hands-on lab on a traditional dry mead using various adjustments. For example, sweeten the mead to various specific final gravities (e.g., 1.020, 1.025, 1.030, etc.) in side-by-side cups and evaluate the difference. Next, provide different measured infusions of tartaric acid in the mead (also in side-by-side cups) and evaluate the effect. Other post-fermentation adjustments can be included in the class.
- **Blind Tasting Lab** – Great lab for brewers, especially aspiring BJCP judges. There's a large variety of blind tastings you can come up with. For example, a porter vs. stout style challenge in which each participant has 10 blind samples in front of them. Their mission: pick which ones are porters and which ones are stouts. You can do this challenge with various similar styles (e.g. German Helles vs. German Festbier). For details on this and other blind tasting challenges see The Game Is Afoot in July/Aug 2023 Zymurgy.



Oktoberfest, Hogtown-style.

## CLUB WEBSITE

The typical homebrew club website provides basic information, such as the next meeting day, a blurb about the club, how to join, etc., but it usually stops there. Your club website can be much more than a collection of basic static text. It can be a wealth of homebrewing resources as well as an application that's integral to the operation of your club.

Below is a list of feature ideas that can be used to upgrade your site. I'm not going to go into the technical how-to, but I will indicate the level of difficulty to implement. You can view our version of these features at [hogtownbrewers.org](http://hogtownbrewers.org).

### Next Meeting Google Map (easy)

Don't merely list an address of your next meeting. Provide the user with an inter-

active Google Map to make the meeting location clearer.

### Club Activity RSVP (easy)

We use a Club Activity RSVP Google Form for everything. Whenever we have an event, we use this to gather basic attendance information: how many do we need to feed for our executive meetings; who is bringing their own cider for cider days; and how many participants will need supplies for brewing classes, just to name a few. The list of RSVP examples could be pages long. Suffice to say, the one-time setup of a club RSVP form is very easy to implement, and has an outsized usefulness to running the club. View our version at [hogtownbrewers.org/rsvp](http://hogtownbrewers.org/rsvp).

### Brewing Resource Page (easy)

There are endless ideas for this one. For our resource page, we not only list the usual resources for malt, hops, yeast, water, calculators, etc., but we also include information on how to: use gelatin as a fining; make your own Belgian candi sugar; use Malta Goya as a yeast starter substitute; and build a "poor man's counter-pressure bottle filler." There are so many possible uses for a resource section on your site. You can view our version at [hogtownbrewers.org/brewschool](http://hogtownbrewers.org/brewschool).

### Medal-Winning Recipes (easy)

No doubt your club members have brewed many award-winning recipes. Don't keep it to yourself! Publish the recipes on your site so your other club members can up their brewing game.

### Media Promotion (easy)

If your local magazine, TV station, or newspaper ever features your club in an article or interview, don't be too humble! Post the feature on your site (or at least, post a link to the feature).

### Members-Only Password Protected Area (moderate)

Having a protected members-only section has been crucial for our club's internal operation. Within this section, we include a:

- Membership list with photos and contact information for each member;
- Document library where we keep our meeting minutes, bylaws, policies, event resources, etc.;
- Past education presentations;
- Club logo artwork gallery—We have multiple versions of our logos, and we provide each logo in formats suitable for digital display and printing. No need for any member to have to hunt down the one person in the club who designs and hoards all the artwork;



Hogtown Brewers members.

[HogtownBrewers.org](http://HogtownBrewers.org)

Members-only Section.

- Membership card generator—Members have the option to generate their membership card in PDF format. They can then decide whether to print and laminate it, or simply store it on their mobile device;
- Reimbursement form—if a member needs to be reimbursed for anything by the club, this formal submission process helps us document and keep track of the payments.

## PHILANTHROPY

Supporting local charities is not only a hallmark of good citizenship, it's also an excellent networking opportunity for your homebrew club. The visibility of charity support opens doors to other great collaborations and elevates the club. Bottom line, charity support is a win-win-win.

Here are some philanthropy activity examples your club can do that do not necessarily require any club funds:

- Local river/creek cleanup;
- Blood drive;
- Food drive;
- Beer/food pairing event;
- Homebrew presentation (can be done at science museum expos and even at assisted living facilities);
- Brew day silent auction item (help a charity raise funds by offering a “how to brew” class for their silent auction);
- St. Baldrick’s Shave Event ([stbaldricks.org/head-shaving](http://stbaldricks.org/head-shaving));
- Small-scale local charity beerfest (using just a few local breweries).

# WHENEVER WE DO AN ACTIVITY THAT MAKES US FEEL GOOD ABOUT OUR CLUB, WE CALL IT “SURFING THE RADDIE” AND THAT’S THE FEELING WE WANT TO SHARE WITH YOUR CLUB.

If your club does have time and some extra funds, here are additional activities:

- **Periodic Contributions to Local Charities** – This would be a straightforward cash donation on a monthly, quarterly, or other periodic basis that fits with your club finances.
- **Adopt A Road** – Programs in different regions will vary, but essentially you commit to periodically pick up trash along a stretch of road. For the Adopt A Road program in our area, the commitment is quarterly, every three months. There is a small one-time fee to pay for the “Adopt A Road” street signs (which include our club’s name), but the program provides trash bags, vests, and a few litter pickers. As for which road? We picked a 1.6-mile stretch that leads to one of our favorite local breweries.
- **School teacher support** – Do you know how much the typical teacher uses their own personal funds to finance supplies for their classroom each year? \$300? \$500? According to multiple public school teachers I’ve interviewed here in Florida, it’s closer to \$1,000. A homebrew club donation can make a big difference here.

- **Beer Run** – I’m not quite sure why, but a lot of people like to run. Organize an event and pair this activity with commercial beer and homebrew to raise funds for your favorite local charity. The SAAZ homebrew club in Melbourne, Fla. has been doing this for years and currently raises \$8,500 annually! ([Saaz.org/cms/bottoms-up-beer-run](http://Saaz.org/cms/bottoms-up-beer-run)).
- **Ronald McDonald House Visiting Chef** – This is a great activity for homebrewers to show off their culinary chops while doing some real good for the community. There may be a charity in your area that allows an outside group to come in and cook a meal for their beneficiaries. For example, the Ronald McDonald House charities provide lodging and support for families with children hospitalized for serious illness. Many chapters have a visiting chef program where an outside organization supplies the ingredients and the “chefs” to prepare meals (dinner or breakfast) in an onsite kitchen. Hogtown has been participating in the visiting chef program at our local chapter since 2018.



Philanthropy.



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## LIFE SKILLS

One of the great things about being in a club is that it can organize educational seminars for its members that they'd normally not attend. A class that teaches a life skill is one of them. "But brewing is a life skill," you say. Why yes it is! However, I'm referring to non-brewing topics such as CPR and self-defense. The idea is that your homebrew club probably has members with expertise in certain specialized or niche areas, and they can hold classes to teach those skills to your club's members. In Hogtown, we've had members teach bee keeping, sushi, yoga, cheese making, bird watching, knitting, and more. I bet the talented members in your club could do a few of their own!

## THIS AND THAT

To round out our club grocery list, there are several one-off, low-cost activities we do that might be good candidates for your club too. Here's a rapid-fire list:

- Pre-Thanksgiving (or any pre-holiday) club bonfire;
- Tie-dye club shirts;
- YouTube or TikTok podcast series on homebrewing;
- Themed potluck (e.g., Mediterranean, Thai, Iron Chef, etc.);
- Collab with a local supply shop for a monthly homebrew bottle share;
- Club confection session to make bulk Belgian candi sugar.
- Write a *Zymurgy* article! (I bet your club does something unique that's worth sharing.)

Plus, there's this one last little nugget...

## SELL BEER

Commercial beer, that is. This is a terrific club activity that can be used to raise funds for your club, charity, or both. Most of the tasks needed to sell beer are already in your skill set. There are several details needed to pull this off, which you can read about in a previous article titled The Good Life in the May/June 2018 issue of *Zymurgy*. But I'll summarize the main points here.

1. Register your club as a not-for-profit (if it isn't already).
2. Network in your community to find an event that will allow you to be an alcohol vendor.
3. Get insurance.
4. Get a special event alcohol license from your state.
5. Buddy up with a distributor to procure beer and dispensing equipment.
6. Decide on the process for customers to pay for and receive their tasty beverage.
7. Pay your sales tax (if required).
8. Use your newfound revenue to make the homebrew world a better place.

Yes, these steps are highly summarized. Although each one takes effort, I would say step #2 is the hardest. But if you do find a way to settle into an event as a commercial beer vendor, your club will be living the good life!

I hope we were able to give you a few idea zingers that will help raise your homebrew club's game so your merry band of brew enthusiasts can have even better times. That, my friend, is Surfing the Raddie!

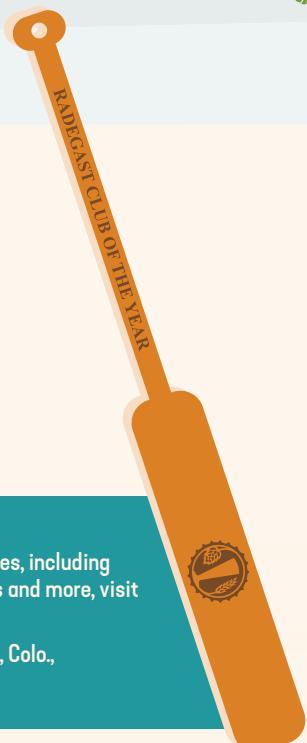
*Ron Minkoff has been brewing in the comfort of his driveway since 2003. He is a past president of the Hogtown Brewers and a BJCP-certified beer (and mead) judge. He enjoys spearheading many of his club's fantastic activities, and if you flip a few pages ahead, he'll meet up with you again for some chilled stovetop brewing!*



## AHA CLUB RESOURCES

To access the world's most robust homebrew club resources, including the AHA Insurance program, Homebrew Con past seminars and more, visit [HomebrewersAssociation.org](https://HomebrewersAssociation.org).

Also, join the AHA at GABF October 10–12, 2024, in Denver, Colo., to attend the Bootcamp for Club Officers.



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# BEER HIKING BAVARIA

A Taste of Place



*By Franz D. Hofer*

Blue skies overhead as I finish my coffee and pastry on the town square. I repack my backpack and follow the trail out of town as it ascends gently into the woods.

Fragrances of pine mingling with the scent of freshly cut hay. Birds chattering. Sunday church bells resounding through the valley.

Slowly I make my way through the woods, pausing to drink it all in. I'm alone now, but soon the path will be filled with other folks in search of the same imbibing pleasures as I am.



**B**eer hiking is the quintessential “slow food” adventure. Riding the rails through Bavaria has its charms, but nothing beats how a beer hike embeds you in the rural scenery and attunes you to the rhythms of village life.

What makes beer hiking in Bavaria what it is? For starters, it’s more than just tossing a few beers into your rucksack and drinking your libations under the sheltering sky. Rather, it’s about seeking out trails where there are breweries, taverns, and beer gardens along the way—about exploring the beer culture of a particular *place* as part of the journey.

Landscapes ranging from bucolic pastures to dramatic outcroppings and quiet woods. Quaint half-timbered villages. Hearty regional food. And stellar beer tapped at the source: Few regions combine these ingredients quite like Bavaria.



No matter where you are, you’re never far from a place that serves beer, be that in the hills overlooking Bamberg, in the deepest woods of the Oberpfalz, or on the highest mountaintop in Upper Bavaria.

But what really makes these treks special is the chance to swap stories with townsfolk at their locales, or to meet Germans from other parts of the country who have come here for the same reason you have. Sitting down with fellow beer hikers and regaling one another with tales of previous beer hikes, or simply debating which brewery along the way had the best beer and food—it’s what makes these hikes so rewarding.

In what follows, I outline three hikes spread across Bavaria: one in Franconian Switzerland, one in the Oberpfalz, and one in Upper Bavaria. The Fünf-Seidla-Steig®, famous for its sheer plethora of breweries, traverses a scenic landscape that evoked Switzerland in the minds of Romantic poets and artists. The Oberpfalz hike winds through primeval forests on the border of Bavaria and Bohemia, where legends and Zoigl make the rock formations come alive. Unique topographies like the Murnauer Moos, Central Europe’s largest moorland, feature prominently in the Upper Bavarian hike.

I focus here on the hikes themselves, rather than spinning vignettes about all the fun and fascinating people with whom I’ve shared beers and stories. It’s up to you now to color in these sketches with your own experiences.



## THE LEGENDARY FÜNF-SEIDLÀ-STEIG®

With its network of trails connecting small-town breweries with village beer gardens, Franconia is particularly well-suited to strapping on the hiking boots. The region is served by a bounty of inns, making it easy for you to stay for a night or two. Nothing beats a bed near the place where you end your imbibing journey, especially if your bed is just upstairs from the tavern.

One of my favorite beer hikes is the granddaddy of them all, the Fünf-Seidla-Steig,\* a well-marked ramble that takes you through the medieval towns, woods, and rolling hills of Franconian Switzerland. Unveiled in 2008, the Fünf-Seidla-Steig links the village of Thuisbrunn in the north with Weissenhoehe in the south via the hamlet of Hohenschwärz and the town of Gräfenberg.

\*A “Seidla” is a half-liter glass of beer. “Fünf” (5) refers to the five breweries along this path, which gives you an idea of how much time you’ll need to budget in order to complete the journey in a day.

### Through the Meadows and Woods

The village of Weissenhoehe is barely visible from the train station, save for the onion-domed church steeple that beckons visitors to the brewery on the grounds of a former Benedictine monastery. After the secularization of the Napoleonic era, the Winkler family purchased the building ensemble from the Bavarian state. It has remained in the family ever since.

Left to Right:

Klosterbrauerei Weissenhoehe beer;  
Murnauer Moos; and a trailside shrine.



From the station, follow the signs for the Fünf-Seidla-Steig and pass by Klosterbrauerei Weissenhoe. (You'll have time for a beer here later.) Your route sweeps upward with an invigorating climb out of the village past orchards with gnarled old trees, topping out among fields of grain rippling in the breeze, before descending into the old market town of Gräfenberg. It'll probably be too early for a morning pint at Lindenbräu or Brauerei Friedman, but the bakery on the colorful square will be open should you need a jolt of caffeine.

Before pushing on, take some time to wander the quiet backstreets in search of the frescoes that grace building facades. These depict the town's history, along with scenes from everyday life in rural Franconia.

The trail out of town passes Lindenbräu before disappearing into the forest, winding through eerily silent woods that recall the Grimm fairy tales. Twists and turns past thatch-roofed houses and timbered farm buildings will bring you to a collection of modest buildings in the hamlet of Hohenschwärz.

Don't let the plain appearance fool you: Brauerei Hofmann serves up hefty beer and ample food in an airy *Wirtshaus*\* with plenty of carved wood. Malt takes center stage in the Dunkle Hofmannstropfen, among the best in a region that has a lock on flavorful Dunkels.

Beyond Hohenschwärz, the trail passes a Christmas tree farm and skirts a billowing field of wheat, opening a vista onto the

romantic castle ruin presiding over the village of Thuisbrunn. If you haven't eaten yet, now's the time for hearty fare at the well-appointed Gasthof Seitz.

Gasthof Seitz is also the home of Elch-Bräu, which takes its name from the larger-than-life elk head trophy mounted on the wall. Elch-Bräu is of recent vintage, but the history of brewing on this site stretches back centuries. The brewery was shuttered in 1920 after a prosperous golden age during the 19th century, but the Wirtshaus soldiered on. Hans and Margarete Seitz sold it to brewmaster Georg Kugler in 2002 when they were ready to hang up their aprons.

You can't go wrong with any of the beers on offer, but I was particularly smitten with the unfiltered Dunkel, a symphony of chocolate, mocha, and caramel that pairs wonderfully with the pan-seared trout.

Head back in the direction you came and keep an eye out for the sign that says "Variante." Rather than returning through Hohenschwärz, this route passes through the picturesque hamlet of Neusles before plunging into woodlands much less brooding than the seemingly gnome-filled forest before Hohenschwärz.

#### Clockwise from Top:

Schoilmichl Zoiglstube;  
the same venue's vaulted ceilings;  
Sülze (head cheese);  
and Schwoazhansl Zoiglstube, Falkenberg.

Back in Gräfenberg, stop off at Lindenbräu for a glass of their Hefeweizen, which delights the senses with aromas ranging from banana custard to allspice and vanilla. The hop-bedeviled tavern with its green-tiled stove makes for a cozy respite, but if the sun's shining, grab a spot in the courtyard shaded by the brewery's majestic namesake linden tree.



When you're done, call in at Brauerei Friedman's *Bräustüberl*\* for a quick pint, then climb the narrow path to Friedman's Biergarten zum Bergschlößchen for a Sigi's Lager, a beer that pairs well with the spectacular view.

The quickest way to complete your trek is to descend past the Gräfenberg train station, but it's more enjoyable to return the way you came into Gräfenberg in the morning. Regardless, follow the church steeple back to Klosterbrauerei Weissenhoe. Beers there are the stuff malty dreams are made of. For something new, try the delectable Kloster Sud, a triple-decocted tribute to monastery beers of yore.

*\*Wirtshaus, Gaststätte, Bräustüberl (and regional variations). Much debate exists even among German speakers regarding the subtle distinctions between these establishments. English translations include inn, tavern, or*

public house. Historically, many of these places offered accommodations to weary travelers. Some, such as Brauerei Spezial in Bamberg, still do.

## OF ZOIGL AND PRIMEVAL FORESTS

Tucked away in northeastern Bavaria, the Oberpfalz is home to Zoigl, a beer that embodies the region's brewing history. Zoigl is brewed in a communal brewhouse before it's hauled away for fermentation in the brewers' own cellars. When the beer's done, the brewers serve it in their Zoiglstuben (taverns), but only for a few days each month. Look for the six-pointed Zoigl star, the telltale sign that the beer is flowing.

And those Zoiglstuben! The Zoiglstube is more of a living room than a restaurant, a convivial place where every seat is full by late afternoon. It's virtually impossible not to make friends. A steady stream of locals crowd in to catch up on the news of the day, gladly making room for all who pass through the door. After a few Zoigls, we're all locals.

Zoigl is the main attraction in the Oberpfalz, and you could easily spend your entire time in the region's five Zoigl towns hopping from one Zoiglstube to the next. But joining the locals and visitors for hikes through the lush Waldnaabtal forest in search of the next Zoigl is all the more enjoyable. (Pro tip: Zoigl is dangerously easy to drink, especially after you've made new friends. Keep that in mind as you contemplate how early you need to wake up the next day.)



## Into the Forest

Depending on where you stayed the night, pick up the Goldsteig trail where it rises slightly out of Neuhaus or where the spur from Windischeschenbach joins the trail. Aside from the occasional incline, the trail is an easygoing 14 kilometers from either town to Falkenberg.

Opened in 2007, the Goldsteig is Germany's longest hiking trail, spanning 660 kilometers between Marktredwitz in the north and Passau in the south. This verdant stretch in the Oberpfalz passes through the Waldnaabtal Nature Preserve and links three of the region's five Zoigl towns.

The trail soon plunges deep into the woods, tracking the Waldnaabtal stream drifting silently by. This is my favorite stretch of the trail for its stillness, especially in the early hours of the day. You'll pass through pine forests and ancient landscapes of moss-covered boulders and come across the occasional religious shrine. You'll meet people walking their dogs, people out for jogs or mountain bike rides, even a few folks on horseback.

About nine kilometers removed from your starting point, you'll happen upon the Blockhütte, an idyllic hut and beer garden in the middle of a small clearing. Majestic trees provide ample shade for a beer and a snack to replenish your electrolytes for the final push to Falkenberg. And if you've been hiking alone up to this point, you're certain to see a few familiar faces from last night's Zoigl session.



**Left to Right:**  
Communal brewhouse in Falkenberg;  
Murnauer Moos view toward the Alps;  
and Sauerbrunnen rock formation ("rock man" facial profile).



From the Blockhütte, the trail undulates through woods and meadows past landmarks such as the Sauerbrunnen, an outcropping that looks like the profile of a (very chiseled) human face. Farther along is the Kammerwagen (bridal dowry wagon), a rock formation that resembles a cart loaded with possessions. As legend has it, the damsel of Schwarzenschwal Castle was on her way to her groom in Falkenberg when her trousseau wagon got stuck on the twisting and arduous path. In a fit of anger, the coachman conducting this heavily laden dowry wagon cursed and began flogging his horses, whereupon the devil turned him and his cart to stone. The dowry wagon never did make it to Falkenberg, but you shouldn't have the same problem.

Just beyond the Kammerwagen the woods give way to an arresting view of Falkenberg, home to one of the five communal Zoigl brewhouses in the Oberpfalz. The brewhouse hides in plain view under a castle precariously sited on a rock outcropping, seemingly ready to tumble off its perch at any moment. Knock to see if anyone's brewing. If so, you're in for a treat in this living museum of gears, pulleys, wood-fired kettles, and coolships.

By now you've likely worked up a prodigious thirst and an appetite to match. You can't go wrong at Kramer-Wolf's Zoiglstube. The other two Zoiglstuben in Falkenberg—the rustic Wolfadl and the lively Schwoazhansl with its beer hall in an old threshing barn—are also fine options. When you're done with lunch, catch a Baxi\* back to Windischeschenbach or Neuhaus to continue your Zoigl explorations where you left off last night.

Schoilmichl in Neuhaus is one of the town's many Zoigl treats. In the mid-1990s, Manfred Punzmann converted the old cow stable with its vaulted ceilings into a Zoiglstube much larger than the living room where the family had served Zoigl



since just after WWII. Whitewashed walls, warm wood, and long tables with communal seating have turned this erstwhile cow den into a rusticly cozy watering hole. Schoilmichl's fragrant Zoigl recalls the pastoral landscape of the region and pairs superbly with a platter of their home-smoked meats and sausage.

*\*A Baxi is a taxi van that follows a set route and schedule. You need to call at least an hour ahead of time to let the Baxi service know from which stop you'd like to be picked up.*

## THE MOORLANDS OF MURNAU

Murnau is only an hour from Munich by train, but worlds away from the bustle of the city. I arrived here with a longtime friend and hiking companion to a golden autumn afternoon perfect for wandering through this landscape famed for its light and colors. Looking out at the fall foliage reflected in the cobalt-blue Staffelsee, I could see why Expressionist painters prized the light in this part of the world they called "the blue land."

### Sublime in Its Austere Vastness

Pre-hike beers on the banks of the Staffelsee finished, we topped a short rise

and came to a splendid promenade lined with stately oaks. If you close your eyes, it's not hard to imagine ladies with parasols and gentlemen in top hats strolling along this promenade planted on the initiative of Emeran Kottmüller, who owned the now-defunct Pantelbräu brewery.



### Left to Right:

The elk head trophy that gives Elch-Bräu its name; Falkenberg castle; and a section of trail and pasture.



Brew  
This!



# WAYFARER LANDBIER

Recipe by Franz D. Hofer

Inspired by Brauerei Reh's Ellertaller Landbier Altfränkisch

*Landbier* simply means beer from the countryside, usually from a small family brewery in rural Franconia. Each Landbier is unique. Some are hoppy, others are malty. Some are like a rustic Helles. Others are amber beers leaner than your typical Märzen. Landbier can also be bottom- or top-fermented. And with an alcohol content in the modest 4.8–5.5% range, it's an eminently quaffable reward for a hard day's hike.

Reh's Landbier is a classic example of these countryside beers that don't fit neatly into any recognizable style. It's copper with mahogany highlights. It seamlessly blends a dusting of cocoa powder and baking spice with fresh hay and hazelnuts. And its subtle bitterness and light effervescence guides the beer to a refreshing finish.

<b>Batch Volume:</b>	5 gallons (18.9 L)
<b>Original Gravity:</b>	1.050 (12.5°P)
<b>Final Gravity:</b>	1.009 (2.3°P)
<b>Efficiency:</b>	78%
<b>Color:</b>	12 SRM
<b>Bitterness:</b>	22 IBU
<b>Alcohol:</b>	5.5% by volume

## MALTS

9.25 lb. (4.2 kg) German Pils malt (1.6°L)  
8 oz. (227 g) CaraMunich III (57°L)  
4 oz. (113 g) Carafla I, dehusked (340°L)

## HOPS

Hop levels in Landbier range from subtle to fairly bitter (just beneath the threshold for a Pils). Aroma and flavor intensity is generally low—more a background spice or herbal note.

1.1 oz. (31 g) Hersbrucker, 4% a.a. @ 60 min  
0.5 oz. (14 g) Hersbrucker, 4% a.a. @ 15 min

## OTHER INGREDIENTS

0.75 oz. (22 mL) Weyermann Sinamar  
(optional, for added color)  
Yeast nutrient @ 10 min  
Flocculant @ 10 min

## YEAST

WLP830 German Lager Yeast. Attenuation is key in Reh's quaffable beer. Make an ample starter.

## WATER

Spring water, in the same ballpark as Munich's hard water.

## BREWING NOTES

Mash in at 140°F (60°C). Use heat or hot water to raise the temperature to 144°F (62°C) for a beta-amylase rest and hold for 20 minutes, then raise the temperature again to 147°F (64°C) for 25 minutes. Raise the temperature again to 162°F (72°C) for an alpha amylase rest and hold for 20 minutes. Mash out at 172°F (78°C) for 10 minutes before lautering.

If your setup can't accommodate all of these mash rests, conduct a Hochkurz mash that favors fermentability: a beta-amylase rest at 144°F (62°C) for 40 minutes, followed by a 20-minute alpha-amylase rest at 162°F (72°C).

Sparge to collect 6.75 gallons (25.6 L) of wort. Boil for 75 minutes, cool, aerate, and pitch your yeast. Following Reh's example, ferment at 47°F (8.5°C) until primary fermentation is complete (about a week), then lager for 5 weeks around 32°F (0°C). Fine or filter your beer if it hasn't dropped bright, and carbonate to 2.2–2.3 volumes of CO<sub>2</sub>.

I would like to thank Gerrit Holle, Anja Reh, and Marius Gropp, all of Brauerei Reh, for showing me around their brewery and answering my questions about their brewing process.

At the end of the promenade, the trail descends to the ridgeline above the Murnauer Moos, with stunning views of this landscape, spare but not quite desolate, sublime in its austere vastness.

The 17-kilometer Murnauer Moos hike isn't the most strenuous beer hike you'll ever do, but it's one of the most wondrous. Near sunset, it's a palette of green hills, blue skies, and golden fields. On overcast days, the moorland's ochre, terra cotta, and russet blend together into a captivating expanse of earth tones.

One of the first things you notice about the landscape is its diversity. Craggy peaks in the distance. A multitude of grasses, straw, and reeds. And rustic huts that dot the pastures, storing the previous year's straw and hay harvest.

These tiny huts recall a time when farmers came with ox-drawn carts from miles around to purchase straw for their cattle stalls. Even if few areas of the Murnauer Moos are cultivated for straw today, conservationists advocate for the preservation of the remaining straw meadows, which serve as habitats for rare animal and plant species.

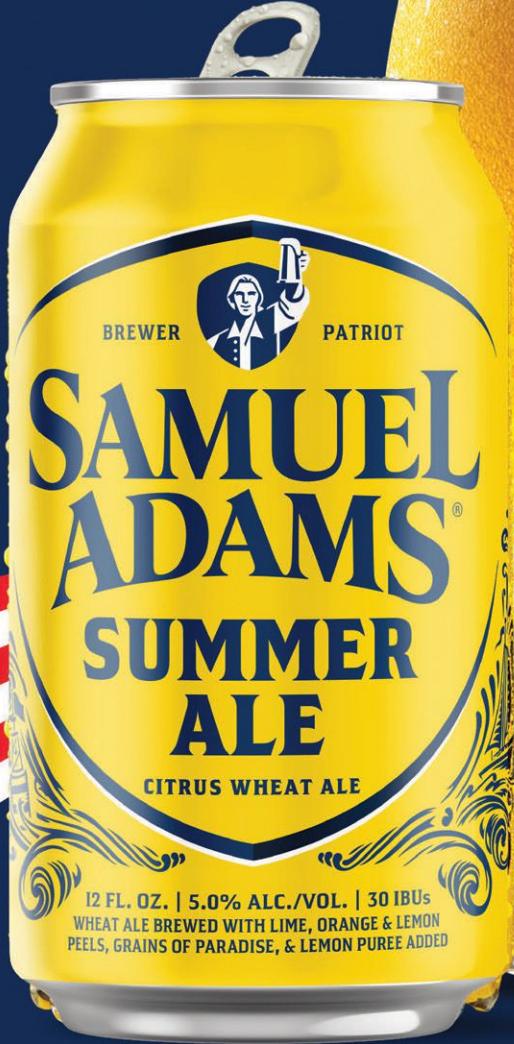
## Onto the Moorland

A short distance down the hill toward the moor, you'll come across a tiny church on a small rise. Founded in the seventh century, the Ramsachkirchl is known locally as the Ähndl (ancestor), and is the oldest church in Upper Bavaria. The ancient bell is a local treasure, a trusted chime that once called people to mass and rang out in times of emergency. Call in at the Gaststätte Ähndl for a beer and an unforgettable view over the moorlands.

The Murnauer Moos is the largest wetlands in Central Europe, home to a rich diversity of plant and animal species. At the peak of the last Ice Age, the moorland was covered by the massive Loisach glacier, which left behind a lake when it retreated. Over time, the streams from the surrounding mountains carried enormous amounts of silt with them, gradually filling this lake with sediment. The Murnauer Moos formed atop these waterlogged deposits.

Now that you've taken in the panoramic views of this marvelous habitat, set out on the gravel path beneath the Ähndl and follow the signs for the Murnauer Moos Rundweg. The path dips south toward the mountains, loops north and into the woods, then banks west again, passing over a boardwalk through an otherworldly marshland bog. You'll meander through a few hamlets on the other side of the marshland before reeling in the final stretch past hay huts and cow pastures.

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SIPS OF  
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Back in town, you have your choice of not one but two breweries, Griesbräu and Karg. Set your compass for the latter. Like Schneider Weisse, Karg focuses its attention on wheat beer. Now in its fourth generation, the brewery and its Wirtshaus is a fixture of Murnau's old town, its unassuming ochre façade concealing a cozy Alpine tavern within. Karg's Weissbier Dunkel is exquisitely balanced between banana bread and Lebkuchen spices. Pair it with the scrumptious Schweinsbraten, which comes smothered in a rich sauce made with the beer you're drinking—just what the doctor ordered after a day exploring the moorlands.

## WORDS OF WISDOM

Be sure to do some advance planning so that you know which breweries are open when. It's not always possible to visit all five along the Fünf-Seidla-Steig on the same day. The official website of the Fünf-Seidla-Steig ([fuenf-seidla-steig.de](http://fuenf-seidla-steig.de)) has more info. In the Oberpfalz, most Zoiglstuben only open for a few days a week, typically between Thursday and Monday. Check the Zoigl calendar ([zoiglbier.de/zoigltermine](http://zoiglbier.de/zoigltermine)) for who's open and when. Base yourself in Windischeschenbach or Neuhaus, two neighboring towns easily accessible by train.

And remember to keep that second word of the “beer hiking” couplet in mind—if you’re just thinking of the beer, the hiking will be that much more difficult. Know your limits, because it’s you and not some mode of mechanized transportation that’ll get you to the next town. Hydrate, and hydrate often. Be mindful of the weather, and pack extra layers to keep warm while you’re not

moving. Last but not least, wear sensible footwear. Happy hiking!

*Franz D. Hofer is a cultural historian, beer judge, and author of the Tempest in a Tankard blog. When not brewing, teaching, or writing, Franz enjoys hiking and cycling—preferably when there's beer involved along the way.*



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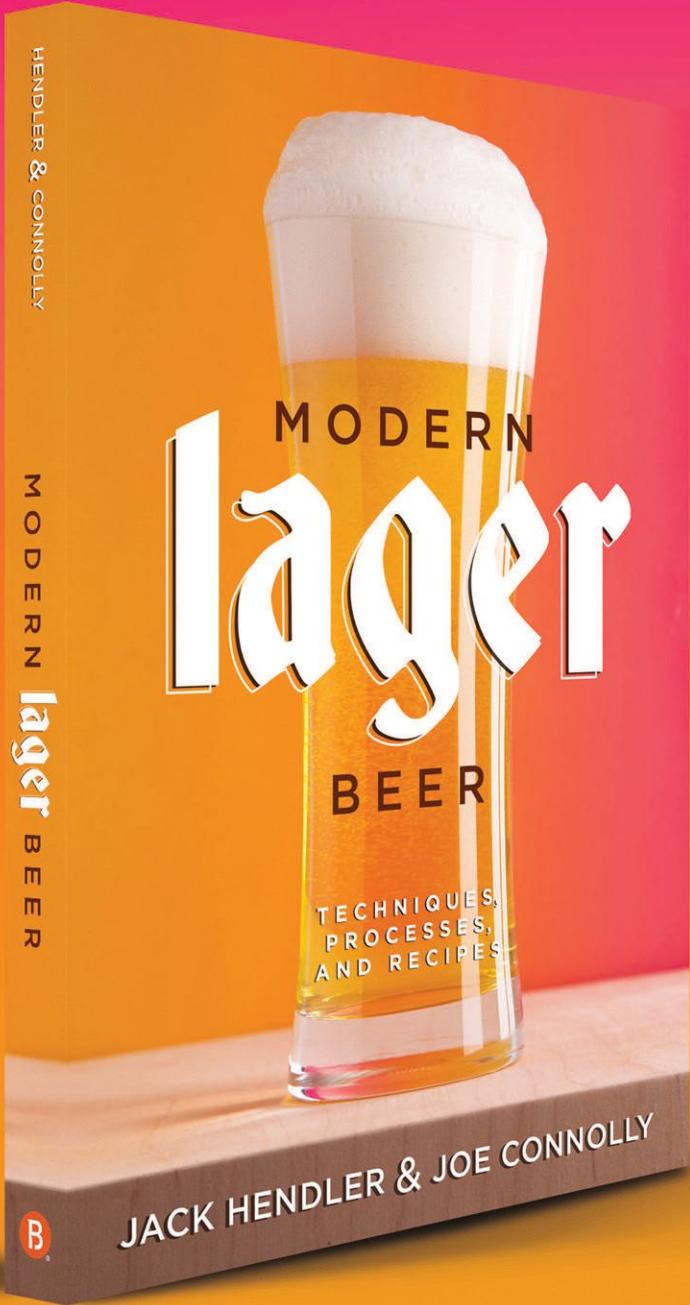
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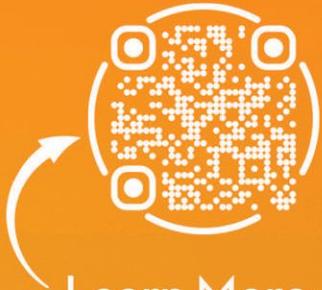
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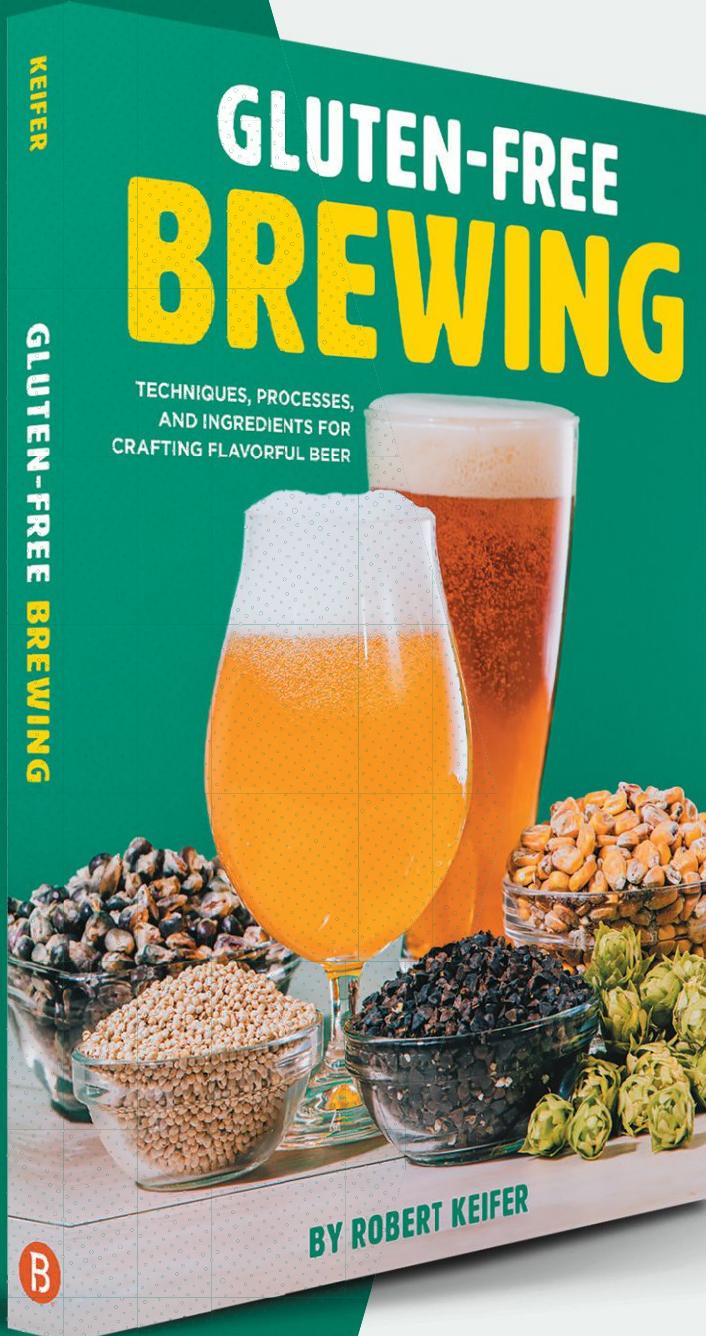
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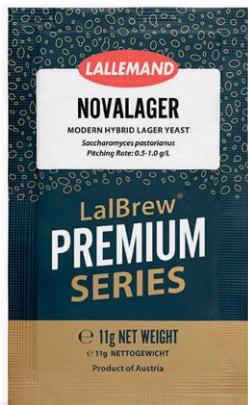


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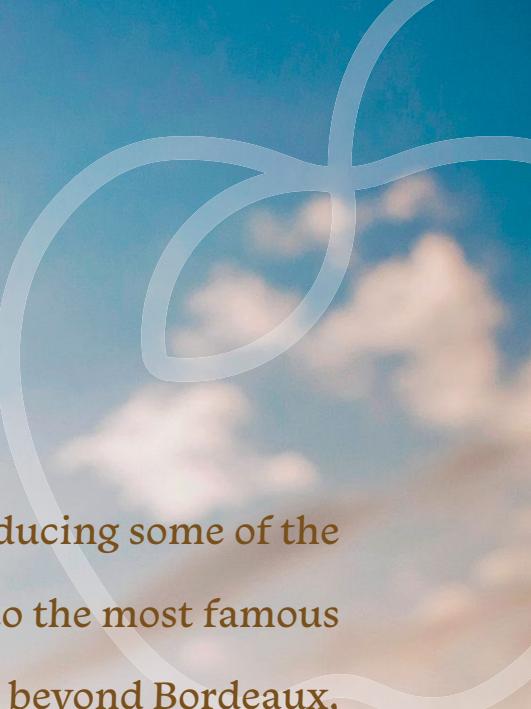
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# POMME à Cidre

Exploring Regional Ciders of France

By Kristen Kuchar





France is a country known for producing some of the best wines available, and is home to the most famous wine meccas in the world. But beyond Bordeaux, Champagne, and Burgundy is an area that isn't known for wine, but for making hard apple cider.



“Each terroir has its own varieties which have undergone several centuries of selection,” he says, “favored for their ability to develop on each soil.”

— Jean-Baptiste Aulombard, owner and cidermaker, Maison Hérouet

In the western regions of Normandy and Brittany, as well as the French Basque region bordering Spain to the North, cider is the popular drink of choice. Here, *cidre* is produced along with *poiré*, the French word for perry. To the eye, traditional French ciders are typically clear and sparkling. They are generally light, low acid, low alcohol, high tannin and semi-sweet to sweet.

France produces the most cider worldwide, with its origins dating back to the sixth century. The country has a long history of growing fruit specifically used for cider making, along with the Asturias and Basque regions in northern Spain, and some areas in the United Kingdom and Germany. In 2018, 250,000 tons of cider apples were harvested in France, according to *Business France*. There are several different types of cider produced in France: *Cidre brut* is a dry cider, approximately 5% ABV; *cidre doux* is sweeter and generally lower in alcohol, about 3% ABV; and *cidre demi-sec* is halfway between the two, semi-sweet or semi-dry.

Like wine, cider is an integral part of French culture and has a rich history in France, says Jean-Baptiste Aulombard, owner and cidermaker of Maison Hérouet in northern France. Centuries of selection have led to apple varieties exclusively dedicated to cider. “We are lucky to have a considerable wealth of varieties,” he notes. Each is selected according to its terroir—bitter, sour, and sweeter cider apples. “I think that this is the real richness of French cider. All this, together with centuries of tradition and know-how, means that we have reached a good technical level to make great local ciders.”

Aulombard values cider made the traditional French way instead of the more common industrial production—cider made with local, dedicated varietals, fermented slowly with indigenous yeasts, and re-fermented in the bottle with no pasteurization. It’s also important that each cider expresses the unique qualities of its region, he adds. A cider from Normandy will be different from a cider from Basque Country, for example.

“Each terroir has its own varieties which have undergone several centuries of selection,” he says, “favored for

their ability to develop on each soil.” Fermentation also varies between varieties, he says, as residual sugar levels are different. Just as there are designated, regulated areas for wine in France, the same is true for cider. For example, in Cotentin (Normandy), Aulombard works with bitter and bittersweet cider apple varieties, which produce ciders with very low residual sugar levels (extra-brut). Normandy’s terroir is characterized by a mild, oceanic climate with regular rainfall. Some of the apple varieties here include Doux Normandie, Bisquet Blanc, and Rouge Mulot. But this is not the case in the Pays d’Auge region, which traditionally offers sweeter, semi-dry, low-acid ciders that are best served chilled.

“In the regions where it is produced, and especially here in Normandy, cider is traditionally the everyday drink, shared at every meal,” he says. Hard cider is also enjoying a

growing popularity in big cities, particularly among young people who are concerned about consuming healthy, natural, and less alcoholic beverages. “Natural cider answers all these concerns.”

In Cotentin, Aulombard says, local varieties are mainly bitter, with lots of tannins to bring structure to the regional type of cider. “This allows us to offer ciders that are more gastronomic, with little residual sugar, and that go very well with food,” he says. The other specificity of these bitter varieties is that they age very well, he adds, allowing for vintage ciders that evolve and improve over time.

Aulombard’s advice for at-home cider makers interested in making a French-inspired cider is to put a lot of passion and patience into it. Do not be in a hurry, he recommends, as fermentation must be slow. “From a more concrete point of view, I would advise using relatively bitter apple



varieties with high tannin content. This will facilitate the clarification of the juice, especially if you want to engage in the traditional practice of keeving," he says. These varieties will also bring structure and a fine length in the mouth. Keeving is a method of cold storage that removes nutrients and pectin from the apple must, ensuring a long, slow fermentation. It is practiced both in northwest France and western England.

Aulombard also adds that temperature control is critical. Excessive warmth will accelerate fermentation. "Don't hesitate to rack frequently," he says, "in order to calm down the fermentation." Another tip is to carefully monitor sugar density and bottle at the right time, to obtain the optimum residual sugar level for re-fermentation in the bottle.

#### MAKING FRENCH-INSPIRED CIDERS IN THE U.S.

The Beer Judge Certification Program (BJCP) style guidelines say French cider is made with bittersweet and bitter-sharp apple varieties that are cultivated specifically for making cider. These can include Reine des Pommes, Michelin, Nehou, and Muscadet de Dieppe. In France, some of these apple varieties include Bedan, Germaine, Rouge Duret, Bisquet, Fréquin Rouge, and Noël des Champs, to name just a handful.

During production, the BJCP notes traditional French producers add small amounts of salt and calcium, though it's considered a fault if a judge can detect a salty or chalky taste. The result is a clear to brilliant, medium-yellow to amber color, and a fruity aroma. That aroma comes from slow fermentation, and there's a uniquely rich fullness to it. Malolactic fermentation (MLF) notes are more subtle than they are in English ciders, and commonly include spicy-smoky, phenolic, and farmyard. The BJCP describes French ciders as having a medium to full mouthfeel with moderate tannins, and moderate to champagne-like carbonation.

Gregory Hall, former brewmaster at Goose Island Beer Company, was inspired by his travels to Belgium, Germany, and the Czech Republic, calling it a once-in-a lifetime

## APPLE WINES AND BRANDIES

In France, cider doesn't end there. Fermented apple juice also evolves into other alcohol beverages: Calvados, Pommeau, Lambig, and Ice Cider.

**CALVADOS** is an apple brandy that begins as cider and dates back to the 1500s. The base cider is made from apples and possibly pears grown in Normandy. Once fermented, the cider is distilled, resulting in a spirit that is at least 40 percent ABV. Authentic Calvados bears the certification of Appellation d'Origine Contrôlée (AOC), which means it was produced in a specific region. It needs to be aged for a minimum of two years, and up to 20, in French oak barrels. It is best enjoyed as a digestif or in a cocktail.

**POMMEAU** is made by mixing unfermented cider with apple brandy. It is generally around 15 to 20 percent ABV and results in flavors of baked apple. Pommeau is served both as an aperitif and a digestif, and is often accompanied by an apple-based dessert. It is also a great addition to cocktails, or can simply be sipped.

**LAMBIG** is an apple brandy similar to Calvados, but is produced in Brittany as opposed to Normandy. Also known as Fine de Bretagne, it must be aged in oak for at least two years. It's best enjoyed at room temperature.

**ICE CIDER**, similar to ice wine, is also produced in France, and is typically a sweeter style of dessert cider. Ice cider is usually made by pressing the juice from frozen apples. The concentrated sugar in these frozen apples results in a rich, sweet cider that is higher in alcohol content.



“Mill and press local whole apples such as Jonathan or Roxbury Russet, oxygenate the must, and allow it to cold ferment slowly.”

— Justin Leigh, owner, Dwinell Country Ales

beer experience. So when he decided to transition to cider making, he made the same sort of pilgrimage, to “meet the maker,” as he puts it, traveling to France and England for two months, and immersing himself in the art of cider making. “It completely shaped me as a cider maker,” he says. Hall opened Virtue Cider in Fennville, Mich. in 2013 after leaving beer production. Virtue’s ciders are made with all-natural ingredients, with no added sugar. Apples are sourced from local Michigan growers, including Gold Coast Farms, Miller Fruit Farm, Schultz Fruitage Farms, and Russ Latchaw Farms.

He found on his France and England travels that it’s all about the apples when it comes to making cider. “You’ve got to have the right varieties,” he says. “You need that tannin.”

In France, he noted that apples often drop naturally, and many are overripe. “In the glass, the cider smells like deep fall in the orchard,” he says. He describes French ciders as having a little more funk and little less tannin than English ciders.

When it comes to food pairings for French cider, Hall notes that Normandy is known for Camembert cheese, which tends to go really well with their ciders. Its wild farmhouse aroma complements similar qualities in Normandy cider, as do fresh oysters from the Channel or roast chicken.

His advice for at-home cider makers is to seek out a greater variety of cider apples at local farmer’s markets or farmstands, and to use the correct yeast. “Don’t overpitch—you don’t pitch cider like you pitch beer,” he says. Better yet, don’t pitch a separate yeast strain at all...in his opinion, cider is best when fermented with natural yeast from the fruit itself.

Dwinell Country Ales in Goldendale, Wash. uses a cidermaking process similar to the French method in terms of a wild, long-duration fermentation at cool temperatures. Wild-fermented ciders are produced without the use of lab-grown yeast or sulfites. The cider is made once per year in stainless steel with a long, cold fermentation typically at lagering temperatures of 32–40°F (0–4°C). Primary fermentation takes about 100 days per batch, but is

bottled prior to reaching terminal gravity, which provides natural carbonation without a need for added sugar. Re-fermentation in the bottle takes an additional 75 to 90 days. This procedure is called *pétillant-naturel*, and follows the French tradition known as *Méthode Ancestral*.

French varietals used by Dwinell include Domaines, Muscadet de Dieppe, Muscadet de Lense, and Frequin Rouge, and are grown by E.Z. Orchards in Salem, Oregon.

Owner Justin Leigh says compared to other regional ciders, French cider typically has a bit more tannic structure to it. It tends to be lower in acid, making it a little smoother, with a little more residual sweetness (particularly if keeved or packaged *pét-nat*). “A high-quality French cider is on the same level as some of the best wines in the world,” Leigh says, adding it’s often a very delicate, very flavorful cider experience.

For at-home cider makers, Leigh says getting French cider varietals would

be a great first step, but could be very difficult. At the very least, he says, the best starting point is to use fresh-pressed juice, and not a pre-packaged, aseptic juice or concentrate. He notes that even if at-home cider makers can’t get authentic varieties, they can still emulate French methodologies, such as wild fermentation (which you can’t do with juice from a store, or with pasteurized cider). He also suggests milling and pressing local whole apples such as Jonathan or Roxbury Russet, oxygenating the must, and allowing it to cold ferment slowly.

## RESOURCES

[HomebrewersAssociation.org/mj24](https://HomebrewersAssociation.org/mj24)

**Kristen Kuchar** has covered the food and beverage industries for the past 14 years. She has written for Brew Your Own, BeerAdvocate, CraftBeer.com, The Beer Connoisseur, DRAFT, All About Beer, VinePair, and many more.





# HISTORICAL BREWING TECHNIQUES

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LARS MARIUS GARSHOL



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A large white bucket filled with beer yeast slurry, showing a thick layer of yeast at the top.

Cream of the crop

## Designing Fermentation Systems for Cropping Brewer's Yeast

By Tim O'Rourke

**A**t the height of fermentation, beer will contain between 60 and 80 million yeast cells per milliliter. Once flocculation begins at the end of fermentation, yeast can be harvested, either to be saved for re-pitching, or dumped.

By the time it goes for filtration or packaging as live beer (cask or bottle-conditioned), the yeast count is reduced to between one and two million cells per milliliter or lower. Here we will examine traditional and modern methods for cropping ale and lager yeast. →

## BY DESIGN

Brewers have designed their fermentation systems around yeast behavior. Traditional methods of fermentation were developed around the technology and materials available at the time, and were adapted to the behavior of the yeast, as well as the nature and dispense characteristics of the beer.

The first beers were probably fermented in clay or wooden vessels using wild yeast and bacteria from the environment. As volumes increased, the use of pitching or “back slopping” became more prevalent, where the foam from a recently fermented beer was added to a fresh brew. This improved fermentation performance, leading to better-tasting beer. As brewing procedures became more sophisticated and yeast’s role in brewing was more widely understood, equipment improvements followed for cooling, fermentation, and yeast cropping.

Traditional beers (ales and lagers) were all unpasteurized and unfiltered, requiring the yeast count in suspension to fall from around  $60 \times 10^6$  cells per milliliter at the peak of fermentation to  $1 \times 10^6$  cells per milliliter necessary for conditioning (secondary fermentation). A lot of yeast settles due to flocculation and a decrease in temperature between 72 and 47°F (22 and 8°C). However,



Traditional lager fermentation vat in Bamberg, Germany.

special secondary fermentation vessels were designed to separate the yeast from the fermented beer, controlling the yeast count and supplying a clean, accessible source of yeast for re-pitching.

## THE DAWN OF LAGER BEER

Originally beers produced throughout Europe were ales. In traditional ale breweries, surplus yeast was removed by skimming using a variety of processes, including parachute cropping, the Scott vacuum, the Yorkshire square, and the Burton Union system. Skimming allowed

for the removal of yeast, and therefore slowed attenuation as the beer underwent warm maturation. The fresh yeast harvested from the top of the fermentation could then be re-pitched, usually within 24 hours, to maintain the vigor of the yeast and ensure successful subsequent fermentations. Top-cropping is made possible with ale yeast because of the cells’ affinity to attach to gas ( $\text{CO}_2$ ) bubbles and rise to the top of shallow fermentation vessels during the growth phases of fermentation (see Figure 1). This was all very well and good for ale brewers used to skimming fresh yeast, but when lager yeasts made their debut in Bavaria, brewing methodology changed. Yeast cropping methods, and equipment, had to change as well.

The change was brought about when William IV of Bavaria passed the *Reinheitsgebot* regulations in 1516, which limited brewing ingredients. This shift was to have a profound effect on how brewers could produce beer, and harvest yeast. The decree was later extended to restrict dates during which beer could be brewed to between Michaelmas (the feast of Saint Michael and All Angels on September 29) and Georgi (St. George’s Day on April 23), which meant that fermentation occurred at cold winter temperatures not conducive to ale yeast growth. This decree resulted in the hybridization of *Saccharomyces cerevisiae* and *Saccharomyces eubayanus* to produce a new bottom-cropping strain of lager yeast, *Saccharomyces pastorianus*, adapted to growing at lower temperatures. These new lager yeast variants worked

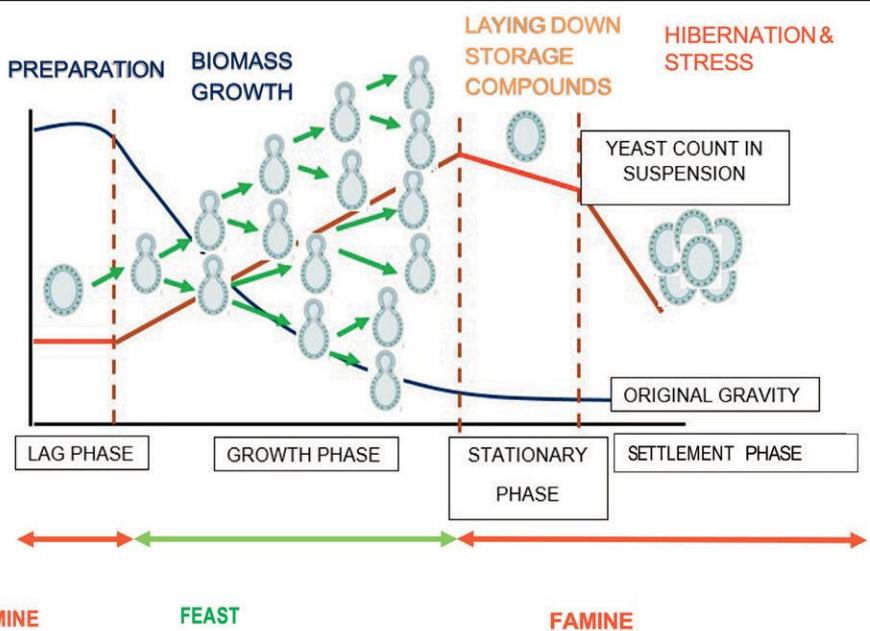


Figure 1. Yeast growth phases.

slower, and produced “cleaner” beer as a result, but they did not behave as ale yeast did; one key difference was that they did not share the same affinity for riding CO<sub>2</sub> gas bubbles to the top of the fermentation vessel. Lager yeast did its job, then settled to the bottom, meaning yeast cropping had to be done there as well.

The other issue now facing Bavarian brewers was logistics, as they needed to supply the market during the summer with beer that could only be brewed in the winter. To overcome this, brewers produced their new “lager” (stored beer) style in the winter months, storing it in cool cellars until Oktoberfest, during which the vats were emptied and readied for the next year’s production.

Ale yeast fermentation vessels were at first adapted to the new style of brewing, but this proved only partially successful. The basic brewing process remained largely the same, with the lower fermentation temperatures extending fermentation times and encouraging lager yeast to remain in the vessel until fermentation was completed.

Brewers provided a secondary fermentation during warm maturation/cold storage, which for traditional lagers occurs at 40–43°F (4–6°C). To ensure good condition of the lager yeast, a process of *krausening* was developed, during which actively fermenting wort (containing budding yeast and fermentable sugars) was added to the maturation vessel to build up dissolved carbon dioxide. The active yeast also helped to scavenge any oxygen and reduce diacetyl.

Traditional square fermentation vessels allowed for bottom cropping by means

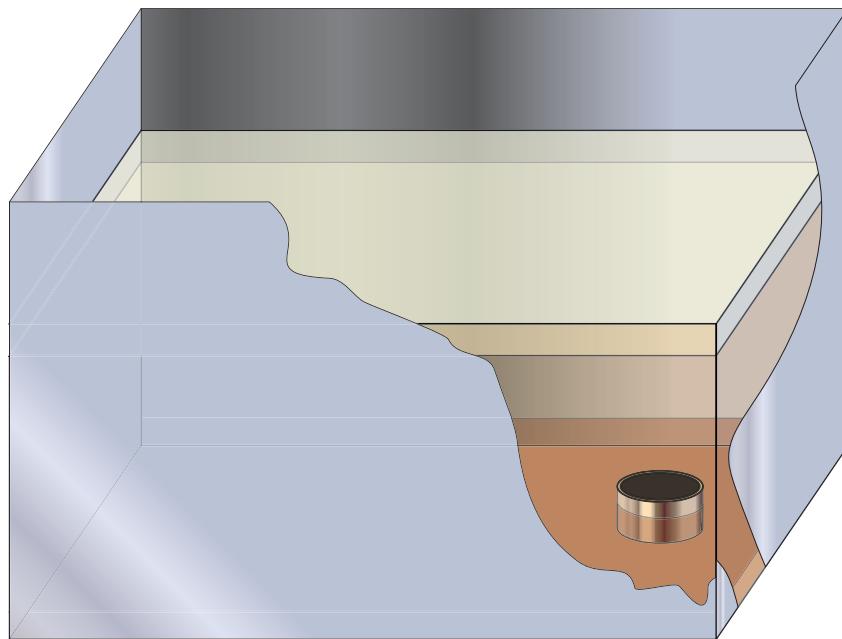


Figure 2. Traditional square lager fermentation vessel with standpipe for bottom cropping.

of a standpipe fitted into the drain. (See Figure 2.) This allowed clear, attenuated beer to be drained from the vessel, leaving a layer of settled yeast behind. However, with lager yeast, the cooler conditions and the longer fermentation times affected the viability of the yeast. Since viable yeast, starved yeast and immature yeast settled out at different times according to their growth phase, the best quality yeast could not be separated from the trub and poorer-quality layers of yeast. All was cropped together from the square vessels, limiting an optimum quality harvest for the next pitch.

### MODERN ADVANCEMENTS

The development of the cylindro-conical vessel provided a huge advancement in

bottom-cropping. Whereas ale brewers could simply skim the best-quality, most viable yeast off the surface of the active ferment, lager brewers had to make do with a combined slurry of viable yeast, immature yeast, starved yeast, trub, and break (see Figure 3). The new cone-shaped fermentation vessel design allowed brewers to instead dump the old, highly flocculant yeast and other solids that had settled out first, save the most viable middle layer of yeast for re-pitching, and dump the immature, low-flocculant yeast layer on top. (See Figure 4). This resulted in more consistent, healthier fermentation of subsequent batches, and by extension, better-quality beer. The development updated and expedited the lager fermentation process, and most importantly, modern conical fermenters could also be used for ale fermentation.

The improved technology of the modern cylindro-conical vessel means it has generally superseded the traditional fermentation vessel, and it offers several brewing process improvements over older designs.

For example, the modern whirlpool is far more efficient for trub removal, reducing the carryover of cold break. Wort losses were also much improved over older vessel designs. Best industry practice still expects a small amount of wort to be lost between 12 and 24 hours after collection, as cold break and dead yeast cells are removed, but it still represents a significant net savings.

Modern aeration and cooling systems in these vessels also ensure precise control of oxygen levels and temperature, and with yeast pitched inline, there is thorough yeast mixing. Additional rousing and aeration

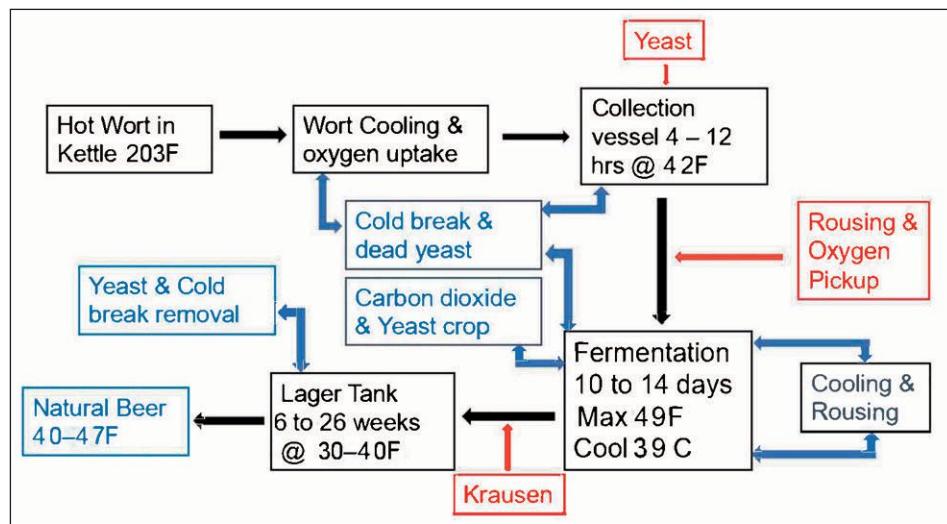


Figure 3. Traditional fermentation system adapted to handle bottom cropping of lager yeast.

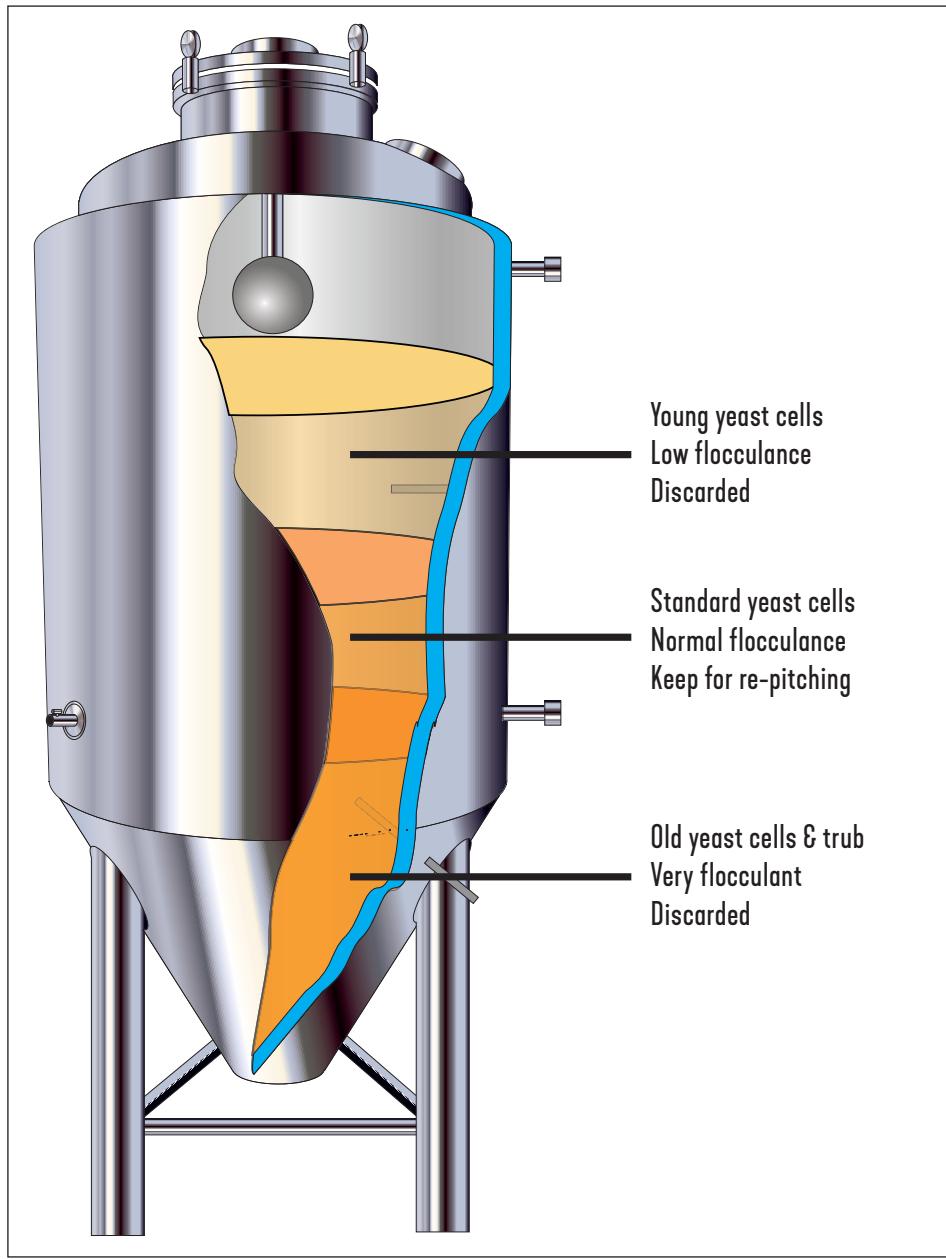
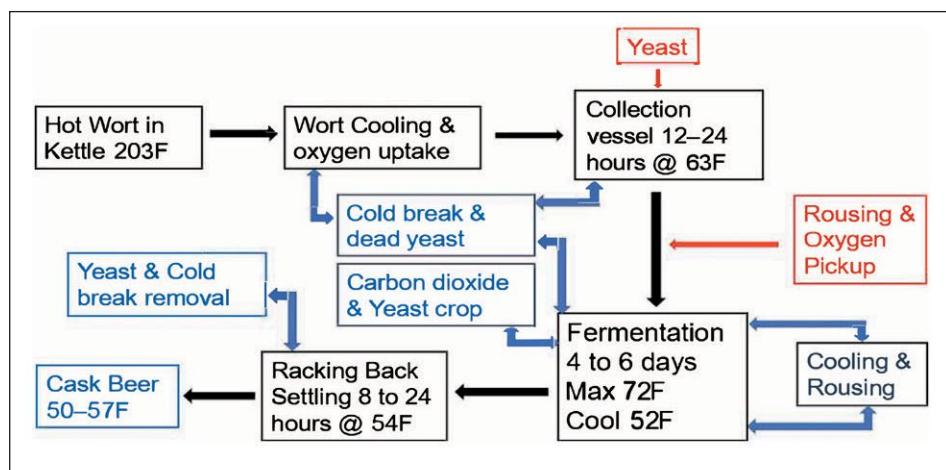


Figure 4. Schematic of cylindro-conical fermenter.



Traditional ale fermentation system for top cropping of ale yeast.

can be achieved in the vessel, which is fully cleanable and sterilizable.

The cone helps concentrate the yeast, resulting in a denser slurry with lower beer losses. In this vessel, yeast is removed first before transferring the beer (see Figure 5). Cone cooling ensures the yeast is maintained at proper temperatures.

Cooling is achieved by wall and cone jackets. In a regular fermentation, the major cooling effect is achieved by the top jackets as the warmer beer rises. As it is cooled, it will fall to the cone. This circulation is greatly increased when the yeast gives off CO<sub>2</sub> and helps to stir the contents of the vessel during active growth, maintain a consistent yeast concentration throughout the wort, improve the growth rate of yeast, and provide more effective cooling as the wort passes over the jacketed surfaces.

The conical design is ideal for collecting bottom-cropping yeast. There is also a small but significant saving in the loss of bittering materials by yeast adsorption.

The totally enclosed design makes it easy to incorporate cleaning-in-place (CIP) using either spray balls or high-pressure cleaning heads. However, enclosure also makes it necessary to incorporate pressure and vacuum relief devices. These are essential to prevent explosions or collapse. The design of the vessel, the quantity of CO<sub>2</sub> remaining after emptying, and the type of cleaning reagents and temperatures used for cleaning must all be considered when preparing a cleaning regime.

$\text{CO}_2$  from the fermentation can easily be collected with minimal waste of impure gas due to the effective headspace purging.

Thermometers are required at different heights to accommodate the different density of wort/beer at different temperatures. During fermentation, convection currents are created in the FV, with the wort in contact with the cooling panels becoming denser and falling, and the warmer beer in the center rising. As fermentation slows, the coldest wort tends to collect toward the bottom of the vessel. The temperature probes therefore measure wort at its coldest and will stop cooling if it falls below the temperature set-point. At the end of fermentation, when cooling to less than 40°F (4°C), density decreases, and cold beer rises to the top of the vessel alongside the

cooling jackets and back down the center of the FV. A high-level probe is therefore required to prevent ice formation.

As well as relying on yeast flocculation and cooling to separate the yeast at the end of fermentation, a centrifuge can be used to remove almost all the yeast before cold stabilization.

We've come a long way from shallow wooden and clay tubs for fermentation and yeast cropping. Historically the differences between ale and lager yeast shaped a complete revision of vessel technology to adapt to yeast behavior. Today, with almost universal use of conical vessels and bottom cropping, and with most beers being sold chilled and filtered, the differences between yeast strains has become more a matter of choice and taste. There is still a place for old-style ale fermentation, top-cropping, and real, unfiltered, living beers, but brewers must truly love the craft to put forth the extra effort to produce them using traditional methods.

*Tim O'Rourke is a master brewer with over 50 years' experience in both multinational and craft breweries. He has been involved in the international brewing industry in a wide range of capacities; his expertise covers production, innovation and business development, marketing, and promotion.*

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There is still a place for old-style ale fermentation, top-cropping, and real, unfiltered, living beers, but brewers must truly love the craft to put forth the extra effort to produce them using traditional methods.

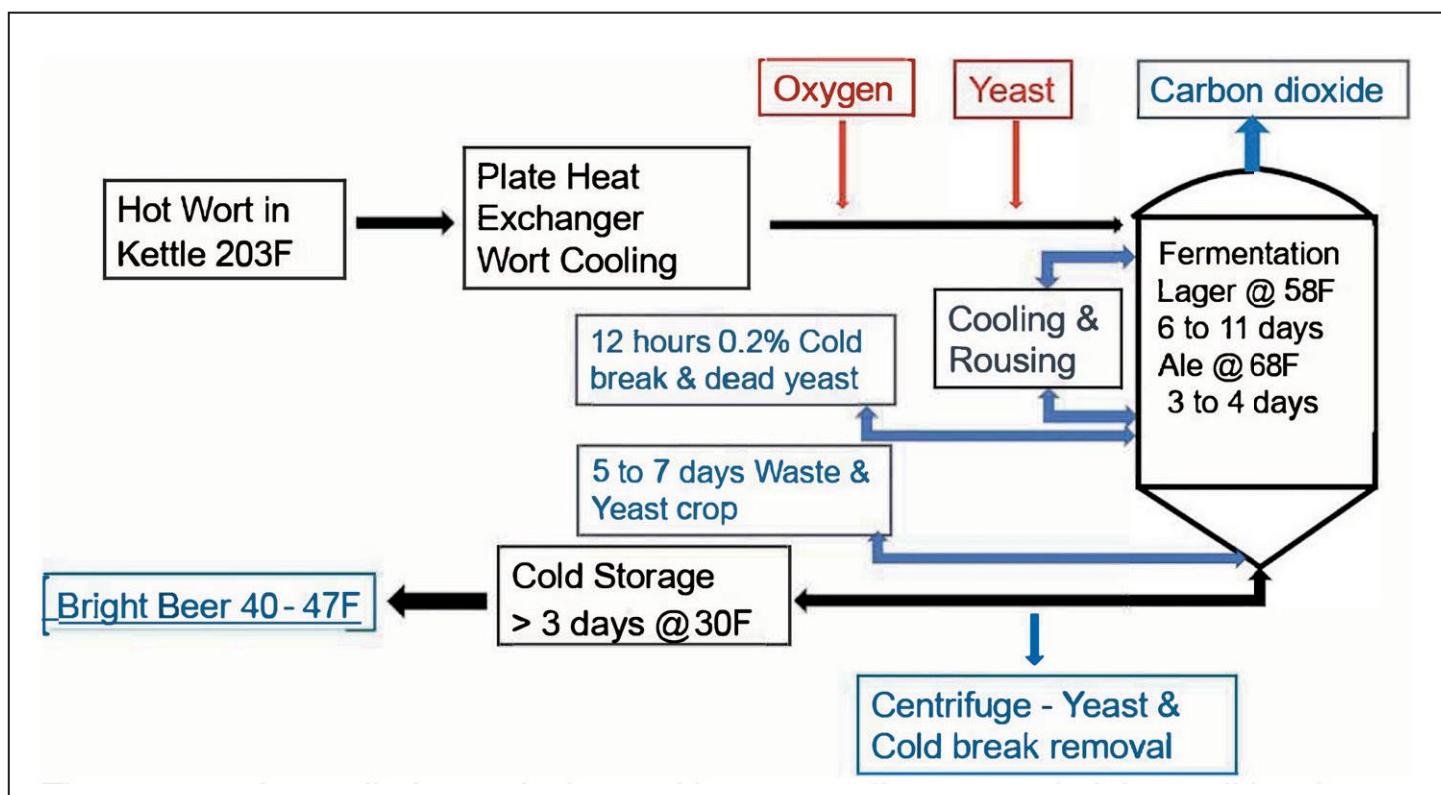


Figure 5. Modern fermentation system.

# BREWING WITH CANNABIS

USING THC AND CBD IN BEER



BY KEITH VILLA, Ph.D.



**Keith Villa, Ph.D.**, is brewmaster and co-founder of Colorado-based CERIA Brewing Company, a trailblazer in the rapidly growing market of non-alcoholic, cannabis-infused beers. After earning his Ph.D. in brewing from the University of Brussels in Belgium, Keith began his 32-year career as founder and head brewmaster at Blue Moon Brewing Company, an operating unit of MillerCoors. Since then, this beer doctor has gone on to brew several award-winning beers and continues to set new standards and push the boundaries of flavor, styles, and ingredients. Keith also is co-founder and head brewer of family business Donavon Brewing Company based in Arvada, Colorado.

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# Relax, Don't Worry, Have a Homebrew!

That mantra rings as true today as it did in 1978 when Charlie Papazian cofounded the American Homebrewers Association with Charlie Matzen. Homebrewing can be as simple or as complex as you want to make it, but the first step is always to relax and not worry.

To aid your relaxation and help you get the most out of Zymurgy, here are some standard assumptions and methods for our recipes. Of course, when a recipe says to do something different, follow the recipe. But you can always fall back on these general tips to brew great beer.

## ON THE WEB

For more detailed info, head over to [HomebrewersAssociation.org](https://HomebrewersAssociation.org) and dive into our How to Brew resources.

## BREWING WITH ZYMBURGY

### MAKING WORT

Most recipes in Zymurgy offer an all-grain version and a malt extract or partial-mash alternative. Pick the procedure you prefer and prepare some wort! Some recipes

might include a water profile. If you can't (or don't want to) deal with water chemistry, don't worry about it: just go ahead and brew! Extract brewers needn't add minerals to water.



### Malt Extract Recipes

Making wort from malt extract is easy.

- Crush specialty grains, if any.
- Place milled grains in a mesh bag and tie it off.
- Steep bag of grains in 150–160°F (66–71°C) water for 30 min. in your brew pot.
- Remove bag of grains from the pot.
- Fully dissolve extract in the hot, grain-infused water (if there are no specialty grains in the recipe, you can skip directly to this step).
- Top up with water to your desired boil volume. (Leave some room for foam!)

### All-Grain and Partial-Mash Recipes

Unless otherwise specified, all-grain brewers can conduct a single-temperature infusion mash with these parameters:

- Water/grain ratio: 1.25 qt./lb. (2.6 L/kg)
- Mash efficiency: 70%
- Mash temperature: 150–153°F (66–67.2°C)
- Mash duration: 60 minutes

Partial-mash recipes make the same assumptions but use a smaller amount of grain and augment the wort with malt extract.

### BOILING

No matter how you get here, everyone loves adding hops.



- Boil time is 60 minutes unless otherwise stated.
- Boils are assumed to be the full batch volume, but you can also boil a concentrated wort and top up with water in the fermenter.
- Hop additions are given in minutes before the end of the boil.

# Brew Lingo

Every field has specialized language, and homebrewing is no different. Here are some of the key terms, abbreviations, and acronyms you'll find throughout Zymurgy.

**AA** – alpha acid

**ABV** – alcohol by volume

**AHA** – American Homebrewers Association

**BBL** – US beer barrel (31 US gal or 117.3 L)

**BIAB** – brew in a bag

**BJCP** – Beer Judge Certification Program

**Chico** – American ale yeast, aka Wyeast 1056, WLP001, SafAle US-05, and others

**CTZ** – Columbus, Tomahawk, and Zeus: interchangeable high-alpha-acid hops

**DME** – dry malt extract

**DMS** – dimethyl sulfide, an off flavor similar to canned corn or cooked vegetables

**DO** – dissolved oxygen

**EBC** – European Brewing Convention (beer color)

**FG** – final gravity

**FWH** – first wort hops, added to the boil kettle as it fills with sweet wort after mashing

**HERMS** – heat exchange recirculating mash system

**HLT** – hot liquor tank

**IBU** – international bitterness unit

**LHBS** – local homebrew shop

**°L** – degrees Lovibond (malt color)

**LME** – liquid malt extract

**LTHD** – Learn to Homebrew Day

**MLT** – mash-lauter tun

**NHC** – National Homebrew Competition

**OG** – original gravity

**°P** – degrees Plato (wort/beer density)

**RIMS** – recirculating infusion mash system

**RO** – reverse osmosis, a water purification process that removes most dissolved ions

**SG** – specific gravity (wort/beer density)

**SMaSH** – single malt and single hop

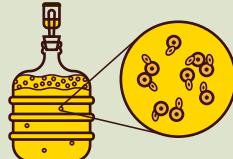
**SMM** – S-methyl methionine, precursor to dimethyl sulfide (DMS)

**SRM** – Standard Reference Method (beer color)

## FERMENTING & CONDITIONING

Pitch yeast into chilled, aerated or oxygenated wort.

- Use twice as much yeast for lagers as you do for ales.
- Ales ferment at 60–70°F (15–20°C). Lagers ferment at 45–55°F (7–13°C).
- Condition ales at room temperature or colder for a week or two.
- Condition lagers at close to freezing for several weeks if you can (traditional but not required).



## BOTTLING & KEGGING

If you bottle,

- Use 1 oz. of dextrose (corn sugar) per gallon of beer (7.5 g/L) for a good, all-purpose level of CO<sub>2</sub>.
- Use less sugar for less fizz.
- Take care with higher carbonation levels—many single-use beer bottles aren't designed for high pressure.



If you force carbonate in a keg,

- Use the chart to dial in the gauge pressure on the regulator.

- Add 0.5 psi (35 mbar) for every 1,000 feet (300 meters) you live above sea level.
- To convert psi pressures to mbar, multiply by 69.
- To convert volumes of CO<sub>2</sub> to g/L, multiply by 2.

## REGULATOR PRESSURES (PSI) FOR VARIOUS CARBONATION LEVELS AND SERVING TEMPERATURES

TEMP (°F)	VOL. CO <sub>2</sub>										
	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1
33	5.0	6.0	6.9	7.9	8.8	9.8	10.7	11.7	12.6	13.6	14.5
34	5.2	6.2	7.2	8.1	9.1	10.1	11.1	12.0	13.0	14.0	15.0
35	5.6	6.6	7.6	8.6	9.7	10.7	11.7	12.7	13.7	14.8	15.8
36	6.1	7.1	8.2	9.2	10.2	11.3	12.3	13.4	14.4	15.5	16.5
37	6.6	7.6	8.7	9.8	10.8	11.9	12.9	14.0	15.1	16.1	17.2
38	7.0	8.1	9.2	10.3	11.3	12.4	13.5	14.5	15.6	16.7	17.8
39	7.6	8.7	9.8	10.8	11.9	13.0	14.1	15.2	16.3	17.4	18.5
40	8.0	9.1	10.2	11.3	12.4	13.5	14.6	15.7	16.8	17.9	19.0
41	8.3	9.4	10.6	11.7	12.8	13.9	15.1	16.2	17.3	18.4	19.5
42	8.8	9.9	11.0	12.2	13.3	14.4	15.6	16.7	17.8	19.0	20.1

■ = PSI

Source: Brewers Association Draught Beer Quality for Retailers



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# Stovetop Redux

What's old is new when you rediscover and reboot.

Whenever I write for *Zymurgy*, my byline usually includes, “Brewing since 2003 in the comfort of my driveway.” But that may be only 98 percent true. Like many homebrewers, I dabbled in stovetop brewing during my freshman and sophomore year (of homebrewing, not college!). My process wasn’t complex, and the equipment used was bare bones. But the homebrew was good enough, and kept me interested in the hobby. When I got educated on all-grain brewing, that’s when the operation moved outside, and my learning curve took an upward slope. I’ve been brewing in the comfort of my driveway ever since.

However, last summer, when my Florida driveway felt like the surface of Mercury, I told myself, “You know what would be great? Air conditioning!” That meant a return to indoor stovetop brewing. This time however, what if I not only cobble together the lessons learned over these many years and do better with my stovetop experience, but also do it in such a way that new brewers in my homebrew club could adopt it and easily get started on their homebrewing? So I did, and the results were fantastic.

For my re-booted stovetop method, I incorporated multiple techniques:

- BIAB (brew-in-a-bag);
- Wort clarity using a hop spider mesh filter;
- Poor Man’s Sparge; and the
- Australian no-chill method.

To make these techniques palatable to new homebrewers, with generally low effort and easy cleanup, I wanted minimal equipment. Just one large kettle and a couple of buckets. My brew kettle was my original 8-gallon pot (the biggest size that will fit on my stove) with no fittings or valves. That’s quite a downgrade from my usual kettle, but it’s OK. I’ve got chilled air flowing in the room, a dry shirt, and I’m digging it. And one of my fellow article-proofreading-club-nerd warriors pointed out that Venus is hotter than Mercury.

Here’s the “Cliffs Notes” version:

- Use an 8-gallon pot to do a 3- to 5-gallon batch.
- Sure, I want to use minimal equipment, but I still need the right tools for the right job. Make use of a sous vide circulator to maintain mash temperature. (OK, a sous vide setup is mildly foo-foo fancy, but trust me, they’re great for many culinary tasks!)
- Use a hop spider mesh filter for your hops as well as your sous vide. Helps with easy cleanup (and protects your sous vide).
- Use a BIAB calculator to calculate your water ([biabcalculator.com/](http://biabcalculator.com/)). But set aside a gallon of that for your Poor Man’s Sparge, heating it to about 120°F (49°C). Doing this will enable you to do a 5-gallon BIAB batch in an 8-gallon pot.
- The Poor Man’s Sparge goes a bit against the spirit of a BIAB brew day, which is intended to be sparge-less. But it really seems to help my BIAB efficiency. Typically, after the mash is complete, I remove the BIAB bag, let the liquid drain into the pot, and then rest the bag in a bucket that contains a metal colander to collect the remaining liquid. You then sprinkle the gallon or so of hot water you set aside into the bag to rinse the grain.
- After doing the BIAB mash and sparge, do the normal boil and hop additions. Extra credit if your kettle can make use of two burners at a time.
- When done with your boil, use the Australian no-chill method. I leave the wort in the pot and covered with a lid. But wait, what about DMS? You’ll be fine. A continent of Aussies can’t be wrong.
- When cooled below 140°F (60°C), and yes, that may take a few hours, pour the wort into your fermenter and place it in a temperature-controlled chest freezer, if you’ve got one. Can you cool the kettle in ice water? Of course, feel free! But I have now done multiple stovetop batches using this method. Cringe though you may, it works just fine. No DMS, no infections. Tasty results. Multiple batches this way have brought home bling from competitions.
- Pitch yeast the next day. It shortens the time and reduces effort on the day of brewing.

To be clear, I’m still doing most of my batches out there in the comfort of my driveway. But now, during the blistering days

of a Florida summer, bringing the operation inside gives some welcome relief. Plus, there is a gratifying fun factor when doing the occasional minimalist brew session. Especially when you do it near that AC vent.

Ron Minkoff has been brewing in the comfort of his driveway (and now occasionally his kitchen) since 2003. He is a past president of the Hogtown Brewers and a BJCPcertified beer (and mead) judge. He has no doubt that AC is one of the top three inventions of humankind. The other two being A1 Steak Sauce and garage door openers. 🍻

Stovetop BIAB mash sous vide.



Stovetop boil.



Bucket with colander.





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