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THE OBVIOUS CHOICE FOR BEVERAGE FERMENTATION



On the Road Again

What fun it was to once again see old friends—and make some new ones—in Pittsburgh this past June. Were one to adopt a strictly numerical point of view, this year's Homebrew Con™ and National Homebrew Competition (NHC) would be considered modest compared to their pre-pandemic predecessors.

Both events were more intimate than they'd been in recent years. Homebrew Con 2022 drew a little more than 1,300 attendees, in comparison to the 2019 conference in Providence, which hosted nearly 3,000. NHC judges in Pittsburgh evaluated roughly one-third as many entries as were submitted in 2019. But numbers hardly tell the whole story.

COVID-19 has forced new perspectives upon all of us, and by any contemporary benchmarks, Homebrew Con and NHC 2022 were tremendously successful. We'd been forced online in 2020 and 2021, so simply being in the same room again felt avant-garde, at times even scandalous.

"Why, yes, I'd love to try the helles," I'd say as my eyes flitted side to side. "Don't mind if I do." Meanwhile ...

Where has that pitcher been?

Is it OK to enjoy this within six feet of another human?

Can Saccharomyces out-compete SARS-CoV-2?

Where's my Purell?

Eventually I settled into the novelty and even grew comfortable with it. After a helles or two, I even relaxed and didn't worry. But there's no getting around the fact that, for many of us, Homebrew Con 2022 was the largest in-person gathering we'd attended in years. It's OK that things were smaller. Record-setting events might have been too much, too soon.

As COVID-19 continues to evolve, both microbiologically and pathologically, we wonder where things stand. Has the pandemic ended? Has it graduated to an endemic? These questions are best answered by public health officials. The rest of us must gauge our personal comfort level and plan accordingly.

I, for one, have chosen to travel again. It's not without risk, but it never has been. Sunburns, norovirus, and pickpockets have always made sure of that.

So, travel I have. Pittsburgh was even more delightful than I'd expected. Memories of friendly people, a healthy craft beer scene, and notably good restaurant service will remain with me always, as will the Primanti Brothers Reuben, which I continue to digest even to this day.

After Homebrew Con, my wife and I visited nearby Kentuck Knob and Fallingwater—remarkable houses, to be sure, but that Frank Lloyd Wright was a right proper jerk, I tell you what. Glad to see his work. Glad I never had to work with him or for him.



Soon thereafter, we traveled to Ireland and spent a few days walking on the Wicklow Way south of Dublin. We had the privilege of visiting the Wicklow Wolf brewery, where managing director Quincey Fennelly offered a relaxed tour and several excellent beers. Sustainability is a key aspect of his operation. The roof is covered in photovoltaic panels, and hops from the brewery's own nearby farm make their way into some of the offerings.

I particularly enjoyed a tipple called Heff Bezos, which wins points based on the name alone; it also happens to be a refreshing, hop-forward wheat beer that combines classic hefeweizen aromatics with Citra, Idaho 7, and Talus. A can of it paired well with a rest stop near the summit of Mullacor peak.

It was the brewery's flagship Elevation Pale Ale, however, that got us through the hike most days. The easy-drinking 4.8% ABV and hop-fruity bouquet was just the thing to cap a day's walking in the Wicklow Mountains.

A few days later, we found ourselves in West Cork and visiting the Cape Clear Distillery, where Séamus Ó Drisceoil showed off the rows and rows of hand-harvested *Laminaria digitata* seaweed that, along with fuchsia and honeysuckle, flavor his unique 3 Sq. Miles island gin. I'm not sure I will ever brew with kelp, but it does make some fine gin. And I suspect the casks that age some of said gin would make fine homes for some barrel-aged beer down the road. I think a witbier might be grand.

My big summer travels are complete for now, but I'm starting to plan out my brewing calendar for the autumn and beyond. I might not make it to Japan anytime soon, but October 1 is international sake day. I know what I'll be doing.

Dave Carpenter is editor-in-chief of Zymurgy.



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Features



SECRETS OF SUCCESS

You know you've been bitten by the Competition Bug when you spend more on shipping than you do on ingredients. Here's how to improve your chances of success in competition.

By Nelson Crowle



CIDERS OF THE NORTHEAST

Apples and cider are woven into the history and agriculture of the Northeast. A combination of terroir and culture makes the ciders of New England, New York, and Pennsylvania unlike any others.

By Kristen Kuchar



SKEPTICAL BREWING 5

In the penultimate installment of the series, we examine precision, dry hopping, and fermenter design. What matters, and what is simple conjecture?

By Matias Cavanna & Leandro Meiners

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open a brewery



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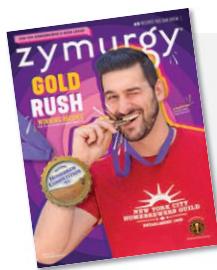
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HAVE A HOMEBREW!

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Jason Smith

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(zī'mərjē) n: the art and science
of fermentation, as in brewing.



ON THE WEB

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Club News

BREWING UP A CURE WITH TRUB

By Terry Dehnam

Three Rivers Underground Brewers (TRUB) is a Pittsburgh-area homebrew club dedicated to promoting and enjoying the art of homebrewing. TRUB has enthusiastically supported the Cystic Fibrosis Foundation through the Brewing Up a Cure (BUAC) charity fundraiser beer tasting event, held annually since 2007. In recognition of TRUB's accomplishments, the club was awarded the Cystic Fibrosis Foundation's Community Partner award in 2014.

Each year, a select group of commercial breweries pour special beers or TRUB collaboration brews alongside many TRUB homebrewers in support of the Cystic Fibrosis Foundation. Featured beers of every imaginable style have included unusual historical varieties such as Boza (an ancient brew using millet), Mumme (a heavy deep brown beer originating in Germany in 1390), rogenbier (a Bavarian variant of dunkelweizen using rye instead of wheat), and Grodziskie (a Polish smoked wheat beer). Money raised to date from BUAC and related TRUB-sponsored events totals \$350,000.

All proceeds are contributed to the Cystic Fibrosis Foundation in honor of the daughter of a TRUB homebrewer, Sadie Terrick, who was born with cystic fibrosis. Sadie was two years old when the event was first held. She is now an 18-year-old young woman about to start college. Due to new treatment options developed by research and development directly funded by donations such as those provided by BUAC, Sadie is managing her disease quite well. Her father Shane Terrick opined, "Today is the best time in history to have cystic fibrosis!"

Sara Kaczynski, senior development director of the Cystic Fibrosis Foundation Western Pennsylvania Chapter, discussed the importance of TRUB's efforts:

The Cystic Fibrosis Foundation is grateful to the Terrick family, the individual members of TRUB, and the countless beer lovers and those who have supported Brewing Up a Cure over the past 10 plus years. This event has always been a highlight for our community year after year, and the funds raised over its long history have made a significant impact on the Foundation's mission! Thanks to the efforts of these dedicated volunteers, the Foundation continues to make life-saving progress toward our ultimate goal of finding a cure for all those living with cystic fibrosis.

BUAC has been supported by hundreds of sponsors and contributors, with crowds in attendance sometimes exceeding 500.

Make plans to visit Pittsburgh, Pa., on October 8, 2022, for the 14th annual Brewing Up a Cure event to be held at the beautiful Energy Innovation Center, with breathtaking views of the Pittsburgh skyline. Don't miss the best homebrewers event in Pennsylvania!

Tickets are available at brewingupacure.org

Club News

OREGON BREW CREW HONORS ALAN SPRINTS

By Brian Haslip

On Monday April 25, 2022, Oregon Brew Crew (OBC) honored Alan Sprints at the last meeting to be hosted in his brewery. Readers may or may not know that, prior to opening Hair of the Dog Brewing, Sprints was a member of Oregon Brew Crew and served on the board as president for a number of years. This, of course, was at a time when craft beer in the Portland area was nothing like what we know today.

Local craft beer was essentially Henry Weinhard's, Bridgeport Brewing, Widmer Brothers Brewing, and Portland Brewing Co. Three of those breweries are now defunct, and the fourth is owned by a major conglomerate.

Back then, the club was much smaller than it is today and much more focused on experimentation and homebrewing with the limited ingredients available.

Alan built on this experience and was one of the first club members to open his own brewery, Hair of the Dog Brewing. (While I think I understand the meaning of the name, maybe Alan will share its true inspiration with us!)

Unlike many larger breweries, Hair of the Dog was unique and brewed smaller batches of beer. It focused on bold, creative beers and not just pushing out mainstream beers that were entering the market, such as pale ales and IPAs.

Hair of the Dog produced beers like Fred, an American strong ale; Adam, an old ale; and Doggie Claws, a barleywine, all of which were stronger than 10% ABV. Sprints also experimented with many barrel-aged beers, including fermenting beers in a concrete egg fermenter.

My favorite Hair of the Dog story occurred several years ago when Alan provided a recently emptied Adam barrel for Big Brew day. We needed 11 brewers to brew a 5-gallon batch of Adam (for which Alan provided a scaled-down recipe) to fill the barrel. The list of requests to participate was so long that we had to turn down many requests.

After fermenting and six months of barrel aging, each brewer returned to get their share of what turned out to be a wonderful elixir, some of which was shared at that year's annual OBC holiday party and served at the 2018 Homebrew Con in Portland. You can read more about this event and get the recipe in the May/June 2017 issue of *Zymurgy*.

Alan was truly an inspiration to many other members of the Oregon Brew Crew. Year after year, he supported the club by opening his brewery to host club meetings on nights when the brewery would normally be closed.

Over the years, several club members have followed in Alan's footsteps to brew beers in their own breweries or for others. Such members included

- **Rob Widmer** at Widmer Brothers brewing,
- **Abe Armstrong**, who opened Cider Riot and is now head brewer/cidemaker at Fjordfolk Mikrobryggeri in Sandefjord, Norway,
- **Rick Strauss**, who owns, and brews beer at, Bent Shovel Brewing,
- **Warren Johnson**, who brews in his garage and sells his beer under the name of War & Leisure Brewing,
- **Lee Hedgemon**, who has brewed with several breweries and distilleries and now owns her own business called The Barreled Bee, where she makes mead and other honey products,
- **Shane Waterson**, head brewer and owner of Level Brewing,
- **Dave Lauridison**, who recently opened Crooked Creek Brewing, and
- **Ted Assur**, one of the founders of Full Barrel Cooperative Brewery in Vermont.



Countless other club members work or have worked in the craft beer industry as brewers, salespeople, assistants, and even as artists. This is a reality because leaders and pioneers like Alan Sprints led the way for others to follow.

To honor this pioneering spirit, Oregon Brew Crew presented the first Pioneer Bung Award to Alan Sprints of Hair of the Dog Brewing. Ironically, when Alan was on the OBC board, he developed the club's "Bung" program to recognize industry members who made a difference. Quite fitting, as Alan truly did just that!

Homebrew Con

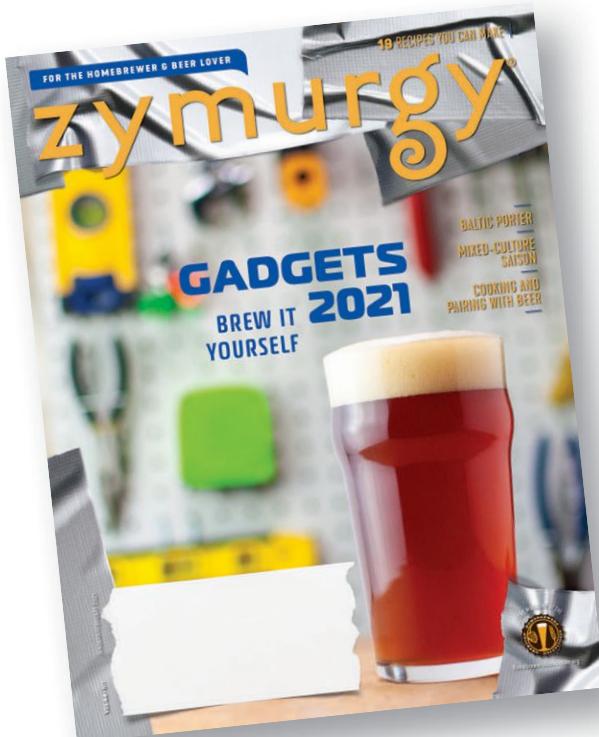
This past June, the AHA hosted Homebrew Con 2022 in Pittsburgh, the first in-person gathering since we met in Providence, R.I., in 2019. Recordings of the educational sessions will be made available to Homebrew Con attendees and all AHA members in the coming weeks. Many thanks to all who traveled to Pittsburgh to celebrate!

We're already looking forward to the 45th annual Homebrew Con, which takes place June 22–24, 2023, in San Diego. Those who have visited our host venue, the Town & Country, in the past will be delighted to read that the facility has recently been extensively renovated.

Look for more details at HomebrewCon.org and in *Zymurgy* as the event draws nearer.



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Share Your BEST GADGETS with *Zymurgy* Readers

It's that time again: time to submit your favorite DIY brew gear. *Zymurgy*'s annual Gadgets Issue, which publishes every year in the Jan/Feb issue, celebrates the innovative spirit that homebrewers employ in pursuit of everyone's favorite beverage (or at least yours and ours). From creative repurposing of everyday items to complex Rube Goldberg machines, we can't wait to see what you've come up with. Go to HomebrewersAssociation.org/gadgets-submission now to upload images and a description of your best DIY gadget (or gadgets). The deadline to submit is Monday, October 10.



SUBMIT YOUR GADGET

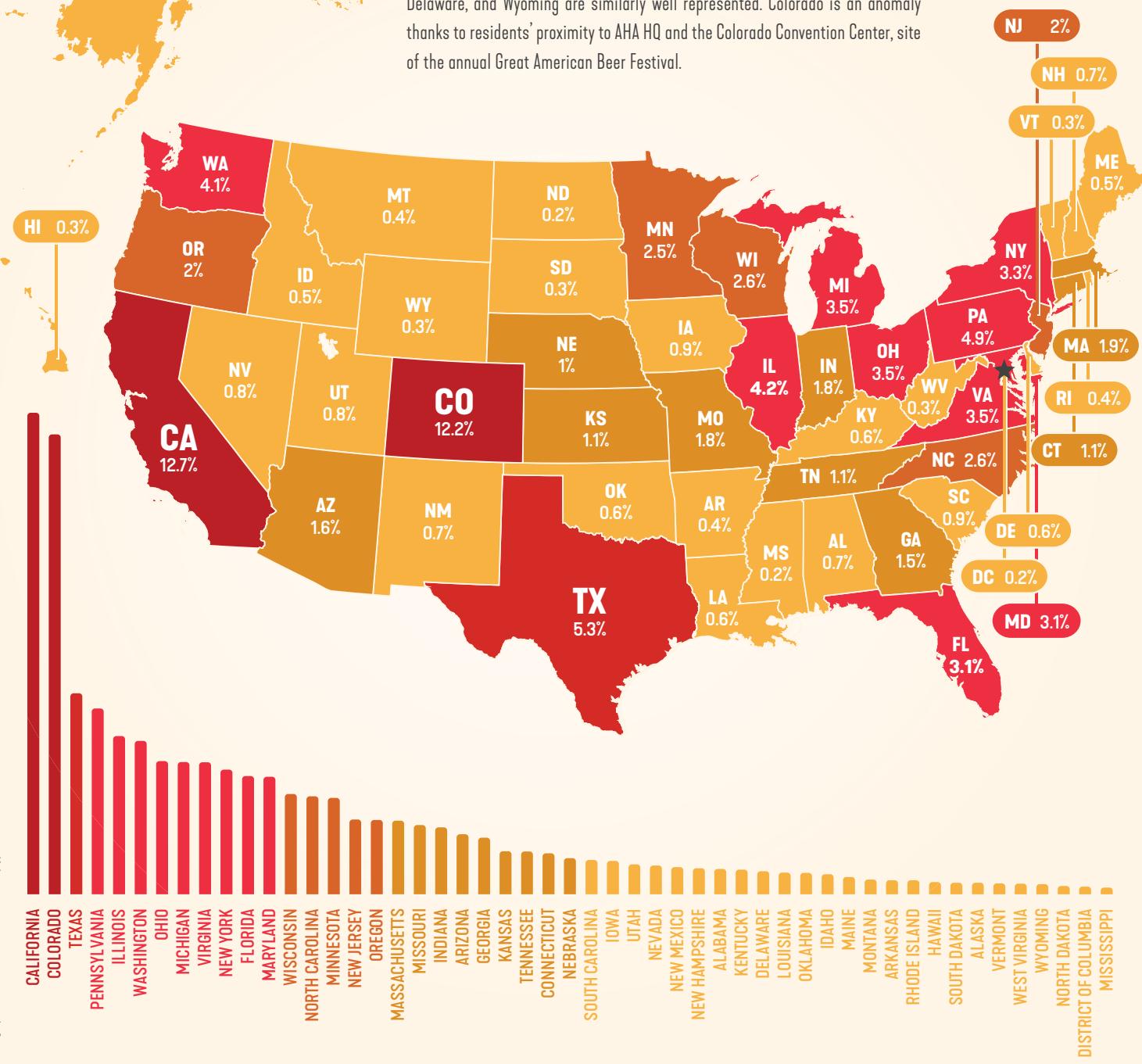
Go to HomebrewersAssociation.org/gadgets-submission now to upload images and a description of your best DIY gadget (or gadgets).



AHA MEMBERS IN THE U.S.



Just where do American Homebrewers Association members live? Predictably, states with large populations tend to host a greater share of members than smaller states, but some punch well above their weights. Pennsylvania, for example, is home to less than 4 percent of the US population but represents nearly 5 percent of AHA membership. Virginia, Washington, Maryland, Wisconsin, Delaware, and Wyoming are similarly well represented. Colorado is an anomaly thanks to residents' proximity to AHA HQ and the Colorado Convention Center, site of the annual Great American Beer Festival.



Charlie Papazian Brewing Education Lab at MSU Denver Honors Colorado Craft Beer Pioneer

By Marty Jones

Metropolitan State University of Denver has begun construction of the Charlie Papazian Brewing Education Lab, named in honor of the retired founder of the American Homebrewers Association, the Great American Beer Festival, and the Brewers Association, all based in Boulder.

"I've been a teacher and educator my entire adult life, from teaching preschool through 4th grade and showing adults how to homebrew to launching the American Homebrewers Association and the Brewers Association," said Papazian. "The original mission of those two organizations was educational, to make beer knowledge accessible to all. So the lab continues the flow of my life's work, and it's very fitting and exciting for me."

To fund the approximately \$1 million project, MSU Denver raised more than \$425,000 (of a \$500,000 fundraising goal) from nearly 20 industry leaders who wanted to pay tribute to Papazian's massive contributions as the "Johnny Appleseed" of homebrewing and craft beer.

MSU Denver has also launched a crowdfunding campaign that enables people in the beer industry, craft beer lovers and homebrewers to help fund the lab.

Built into a space on the ground floor of MSU Denver's Hospitality Learning Center, the new facility will feature a 3.5-barrel commercial brewing system and will provide real-world experience to students of MSU Denver's Brewery Operations Program, which already boasts a number of other hands-on learning facilities and industry partnerships.

"Now students will learn to brew on a true commercial-scale brewery, so they will be much better prepared for a brewery job," said Bernardo Alatorre, lecturer and interim director of the Brewery Operations Program.

Alatorre said students will gain experience in all facets of brewing, from procuring ingredients and costing recipes to



yeast management, fermentation control, and clean-in place procedures. "The (lab) will add significant value to our students' degrees and it will make the program much more attractive to prospective students," he said.

It will also commemorate, Papazian said, "the transformational role that homebrewers, small brewers, and beer enthusiasts have played in making the world a better place for the enjoyment of beer."

Construction on the nearly 1,500-square-foot lab began this summer and is scheduled for completion in early 2023. MSU Denver's Brewery Operations Program, part of the University's School of Hospitality blends the art and science of brewing beer with the hospitality knowledge and operational skills sought by the beer and brewing industries.

Situated in downtown Denver on the Auraria Campus, the University's offers students access to a considerable number of experiential learning opportunities. They can engage with more than 40 allied breweries, restaurants, distributors and hotels located within a few miles of the campus.

Since its founding in 2015, the Brewery Operations Program has served hundreds of students with courses with an emphasis on brewing sciences, brewery operations, sales, and marketing to support the employment needs of Colorado's expansive beer industry.

Those who contribute to the project will receive gifts, including special glassware, T-shirts, or signed copies of Papazian's industry-changing book, *The Complete Joy of Homebrewing*, depending on the level of support. Donations can be made at engage.msudenver.edu/giving/cc-hmt05, but act fast—the crowdfunding campaign ends September 1.

For more information contact Marty Jones at marty@martyjones.com.

Brew
This!

I'll Be Back Barleywine

Recipe by Andrew Sanders

This recipe is inspired by the original *Terminator* film. Check out Last Drop in this issue of *Zymurgy* to learn more!

Batch volume: 6 US gal (22.7 L)

Original gravity: 1.138 (31.8°P)

Final gravity: 1.039 (9.8°P)

Mash efficiency: 80%

Bitterness: 44 IBU

Color: 18 SRM (36 EBC)

Alcohol: 13.1% by volume

YEAST

3 packets White Labs WLP002 English Ale

BREWING NOTES

Mash at 149°F (65°C) for 60 minutes and then at 167°F (75°C) for 10 minutes. Collect wort and boil 120 minutes, adding hops as indicated. Chill to 65°F (18°C) and ferment at that temperature for 10 days.

MALTS

28 lb. (12.7 kg) Simpsons Maris Otter

3 lb. (1.36 kg) Double Eagle Malt caramel 80

HOPS

2 oz. (57 g) Target @ 90 min

0.5 oz. (7 g) New Zealand Styrian Goldings @ 30 min

1.5 oz. (43 g) New Zealand Styrian Goldings @ 10 min

Brew
This!

Twin Pines Piney IPA

Recipe by Andrew Sanders

This recipe is inspired by *Back to the Future*. Check out Last Drop in this issue of *Zymurgy* to learn more!

Batch volume: 6 US gal (22.7 L)

Original gravity: 1.060 (14.7°P)

Final gravity: 1.011 (2.8°P)

Mash efficiency: 80%

Bitterness: 100 IBU

Color: 18 SRM (36 EBC)

Alcohol: 6.5% by volume

YEAST

1 packet White Labs WLP001 California Ale

ADDITIONAL ITEMS

1 tablet Whirlfloc @ 10 min

BREWING NOTES

Mash at 149°F (65°C) for 60 minutes and then at 167°F (75°C) for 10 minutes. Collect wort and boil 60 minutes, adding hops as indicated. Chill to 65°F (18°C) and ferment at that temperature for 10 days. Dry hop 5 days before bottling or kegging.

MALTS

12 lb. (5.44 kg) Malteurop Pale Ale malt

1 lb. (454 g) Briess Vienna malt

HOPS

2 oz. (57 g) Chinook @ 60 min

0.5 oz. (7 g) Chinook @ 20 min

0.5 oz. (7 g) Simcoe @ 20 min

0.5 oz. (7 g) Chinook @ 5 min

0.5 oz. (7 g) Simcoe @ 5 min

1 oz. (28 g) Simcoe, dry hop 5 days

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UPDATE

Hello, everyone. We all love reading this amazing magazine to further our love of homebrewing. Zymurgy features, articles, and interviews bring us closer to brewing, beer appreciation, and this community. I love talking about why we brew and the romance behind our beloved hobby.

Since joining the American Homebrewers Association staff in December, one of the top questions I have been asked is “What has the AHA been up to?” So, in this installment of my column, I’d like to offer some answers to that question. Don’t worry—more musings are in store for future issues!

In 2022, your devoted staff (listed on page 1) and membership leaders have been delivering and serving the 37,000 members of a forty-plus-year institution with grace and gusto. →



AHA GOVERNING COMMITTEE

The AHA Governing Committee (GC) is an advisory committee to AHA staff and the Brewers Association (BA) board of directors. In 2022, we said goodbye to three outgoing members and hello to three new members from a slate of 12 ballot candidates (see the May/June 2022 issue of *Zymurgy*). AHA members elect the GC, who then appoint two members as designates to the BA board. As of July 2022 we now have a new executive subcommittee.

- Chair and BA board designate:
Shawna Cormier

- Vice chair:

Amy Martin

- Secretary:

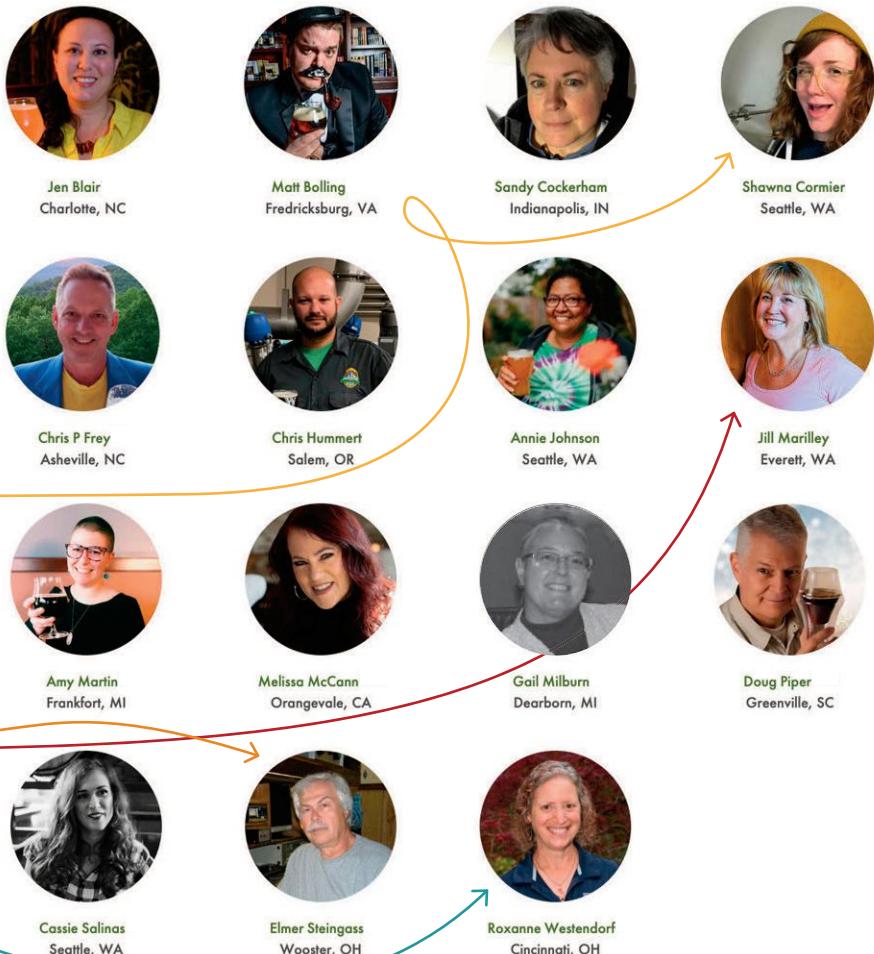
Goose Steingass

- Past chair:

Jill Marilley

- BA board designate:
Roxanne Westendorf

Additional 2022 work of the GC included reimagining the AHA subcommittees (stay tuned for service opportunities); formalizing the GC work/meeting process, mission, and role; supporting AHA Homebrew Holiday recipe selection; selecting Homebrew Con educational sessions; and vetting the AHA National Recognition Award winners. Access GC meeting summaries on HomebrewersAssociation.org.



MAKING HOMEBREWING ACCESSIBLE TO ALL

- » **BRU:** As of 2022 the AHA joined the brewing industry's BRU (Brewing Respect and Unity) Coalition along with the Brewers Association, American Society of Brewing Chemists (ASBC), Master Brewers Association of the Americas (MBAA), Cicerone Certification Program, Pink Boots Society, and the Human Resources Professionals Group for Craft Breweries.
- » **Club Code of Conduct:** Work is underway to develop a template code of conduct for homebrew clubs to adopt for their members.
- » **Diversity, Equity, and Inclusion (DEI) subcommittee:** In 2022, via the support of Roxanne Westendorf (AHA Governing Committee member, BA board member and BA DEI committee member), the AHA began working with the BA DEI subcommittee to integrate with broader craft beer community efforts more cohesively. Look for updates on this work in the second half of 2022.



NEW GROUP AHA MEMBERSHIP OFFERING

The AHA now offers a new form of membership for groups of 25 or more. This offer is for non-brewing companies interested in bulk purchasing AHA memberships for their staffs and teams as a reward or organizational benefit. Interested parties are welcome to contact me at julia@brewersassociation.org for more information.

BEERSIDE CHATS WITH THE AHA
This talk is offered to homebrew clubs and groups open to learning more about the AHA. In 2022, I presented to the Indian Peak Alers Homebrew Club, Weiz Guys Homebrew Club, MALT Beer City Homebrew Club, Southern California Homebrewers Festival, TCHOPS Homebrewers, The Brew Hut, Cornell E-class, Pink Boots Society Florida Chapter, Central Florida Homebrewers, and more. Please reach out if I can present at an upcoming gathering virtually or in person.



GOVERNMENT AFFAIRS AND ADVOCACY

Exciting homebrew privileges were expanded in several states in 2022, including inspiring legislative progress in Ohio (see the March/April 2022 issue of *Zymurgy*). The AHA is here to support unified state efforts to advance homebrew privileges on safe and responsible brewing and sampling. Check out our **State Statutes** resource on HomebrewersAssociation.org, where staff review and update each state throughout the year.



NEW WAYS TO CONTRIBUTE RECIPES TO THE COMMUNITY

Hallelujah! Members now have a new, streamlined way to contribute recipes to *Zymurgy*, to HomebrewersAssociation.org, and for consideration for the AHA's annual Homebrew Holidays. Check out the **AHA Recipe Submission form** at HomebrewersAssociation.org/submit-recipe.

THE DENVER POST

How Julia Herz hopes to make homebrewing more accessible to women and people of color

"I want to emphasize that the club of homebrewers is open to all walks of life."



By Tiney Ricciardi | cricciardi@denverpost.com | The Denver Post
PUBLISHED: February 3, 2022 at 6:00 a.m. | UPDATED: February 3, 2022 at 10:07 a.m.

When Julia Herz brewed her first batch of beer in 1991, the United States' craft beer landscape looked vastly different than it does today. There were about 300 breweries in the country and Sierra Nevada Pale Ale was a decade old, on the precipice of reinvigorating American brewing.

Herz, then a twenty-something, brewed a Scotch ale using an extract kit, and she recalls it being one of the most fun culinary experiences she had ever had. Now, her journey with beermaking is coming full circle. In late November, Herz was appointed executive director of the American Homebrewers Association, a division of the Boulder-based Brewers Association, where she spent more than 16 years helping promote the craft beer industry.

Founded in 1978, when homebrewing was still illegal in some states, the American Homebrewers Association aims to bring together and empower hobbyist brewers. Today, the organization boasts more than 38,000 members who can share tips through online forums, the connect at annual conferences such as Homebrew Con and compete at the organization's yearly

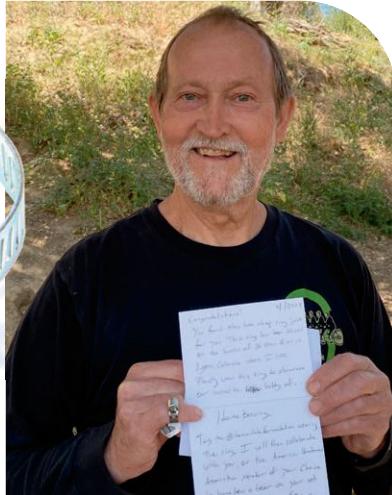


SHOP AND CLUB SUPPORT

Throughout the year, AHA staff have been busy supporting numerous free resources, articles, online presentations, and videos for shops and clubs. Also in 2022, staff supported hundreds of groups involved in the AHA referral program, granting discounts to AHA membership for those group's networks. Additionally, the shop resources include the Supply Shop Directory (620 listed), Industry Support Page, Media Contact List request form, Support Your Local Homebrew Shop stickers, and *Go Brew Yourself!* (FREE) brochure fulfillment. Club resources include the AHA Club Directory (more than 2,000 listed), Homebrew Club Insurance, and more.

NEW INSTAGRAM ACCOUNT

In early 2022, I launched a new dedicated homebrew Instagram channel: @ImmaculateFermenation is where I share my homebrewing and travel adventures, along with where the most recent hose clamp ring has been stashed. *What the heck is that?* you ask. I hide a hose clamp on the grounds of a homebrewing event or gathering for a chance to collaborate on a homebrew with the finder and feature them in Zymurgy and on our website. Follow [@ImmaculateFermenation](#) to learn more.



Mike Paige



Andy Akers and Mary Willems-Akers



JUNE 23-25
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HOMEBREW CON AND NATIONAL HOMEBREW COMPETITION

Homebrew Con and the National Homebrew Competition (NHC) were held in Pittsburgh in June. Homebrew Con featured 45 educational sessions; three headline speakers (Keith Villa, PhD; Dr. J. Nikol Jackson-Beckham; and Bill Covaleski); more than 40 sponsors; book signings; a Club Night that showcased 40 clubs; the Homebrew Industry Reception; brewery tours; the Homebrew Expo; NHC judging and awards; Beer Judge Certification Program (BJCP) Beer, Mead, and Cider exams; and more. Staff upload all seminar audio recordings and presentation materials for members to access on [HomebrewersAssociation.org](#). Mark your calendars for June 22–24, 2023, when Homebrew Con will be held in San Diego.

NATIONAL HOMEBREW COMPETITION - 2022 -



MEMBER SERVICES

The team fielded thousands of phone calls and emails to ensure you have support when you need it. We are available to answer any questions Monday through Friday from 8 a.m. to 5 p.m. Mountain Time. Email: info@brewersassociation.org or call 303.447.0816 or 888.822.6273.

24/7 MEMBERSHIP BENEFITS AND RESOURCES

HomebrewersAssociation.org is your hub for all things homebrewing. It serves hundreds of thousands of monthly visitors with top landing pages for the **AHA Forum** and our **Recipes** collection. We published Zymurgy magazine along with the biweekly What's Brewing @ the AHA Newsletter, and executed Big Brew on May 7 with nearly 900 brewers from 30 countries.

Ongoing is our support of the AHA Brew Guru app and maintaining AHA Member Deals of more than 2,000 discounts at homebrew supply shops and breweries. Collectively, we have hundreds of thousands of followers on social media. Follow @HomebrewAssoc on Instagram, Twitter, and Facebook.

LESSONS

We continue to live in unprecedented times. Especially during the COVID-19 pandemic, newbies found their way to the hobby, and many longstanding homebrewers found their way to brewing again or brewing more.

That said, many shop owners are struggling to stay in business and continue to need support. Most homebrew clubs found a way to meet virtually and, as of this summer, most appear to be again meeting in person. In the coming years, look for new ways the AHA supports the growth of the hobby that, in turn, benefits shops, clubs and their officers, and each of us as individual brewers.

I've also learned that many AHA members are not fully aware of the suite of benefits and resources we offer. If you don't feel that your membership of less than \$50 per year has value after reading this, please let me know! I want to learn why.

Cheers, and here is to the rest of 2022 and beyond. We thank you each for your continued membership and are honored to work on behalf of our members to deliver value each and every passing day.

— Julia

Julia Herz is executive director of the American Homebrewers Association. Follow her on Instagram @ImmaculateFermentation.

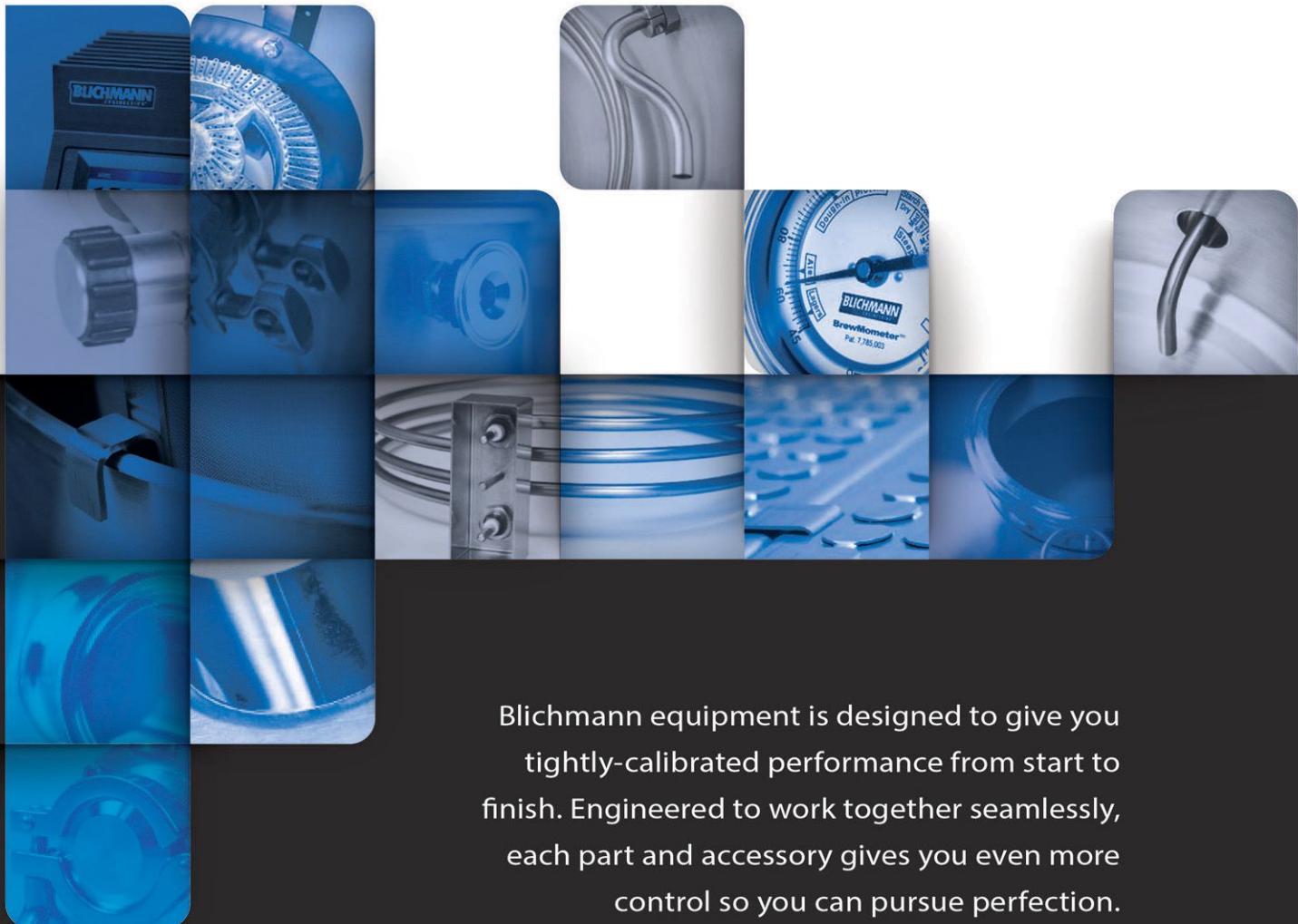
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Mystery Kegs and Quick Tips

Dear Zymurgy,

I found these kegs for a song at a consignment store, but they need new gaskets and pieces. I've looked online, but I can't find info on them anywhere. They say "Pepsi," and modern ball lock connectors work.





A normal Corny keg lid O-ring doesn't work—it's too wide and the lid won't go all the way on. In the photo above, a modern Corny O-ring (left) is shown next to the O-ring for this mystery keg (right).



Modern ball-lock fittings don't seem to work either. The bolt size of the liquid-out fitting is 22 mm, and the gas-in is 20.5 mm. The liquid dip tube has a thick rubber gasket, and the actual ball lock fitting has an internal gasket, too. The gas fitting has an internal rubber gasket as well.

Can you tell me what this keg model this is, and, perchance, where I can buy parts? If not, does it remind you of anything else?

Thanks!
Scott Riseley
Rock Island, Wash.

Zymurgy editor-in-chief
Dave Carpenter responds:

I'm afraid these don't ring a bell for me, Scott. Let's see if any readers out in homebrew land have some ideas. AHA members, engage!

Dear Zymurgy,

I have a few suggestions on the "Homebrew Quick-Tip Concentrate" article (May/June 2022)—not really criticisms, just additional thoughts.

For quick and easy removal of beer bottle labels, instead of using "your favorite alkaline non-caustic cleaner," just use household ammonia, the plain, unscented, non-suds stuff. You only need a few glugs in a tub—cheap and easy.

Regarding the "40-cent 'Mini-Me' Faucet to Dispense at Events," consider that a 5-foot tap line of 3/16" inner diameter holds less than an ounce. If you're using 1/4" tap line, reduce it to 3/16", and you reduce the beer in the line by almost half.

Beyond that, there's a purpose to the length of the tap line: it reduces foaming at the faucet because of gradual pressure loss along the line. A short pigtail line is even more susceptible to foaming. Try a compromise length, since 5-foot tap lines are too long for events anyway (they get tangled or drag). I like 2 feet, which won't reach the ground from a Corny.

And regarding the "Hydrometer Paper Towel Dab," don't agitate the hydrometer. Spin it or push it down to tap gently against the bottom of the jar. If you've got a lot of foam, a quick shot in a microwave will mostly degas it in seconds.

Dick Dunn
Hygiene, Colo.
Homebrewer 44 years,
AHA member 40 (or more?) years



DEAR ZYMURGY

Send your Dear Zymurgy letters to zymurgy@brewersassociation.org. Letters may be edited for length and/or clarity.

BLANKET SKEPTICISM

Dear Zymurgy,

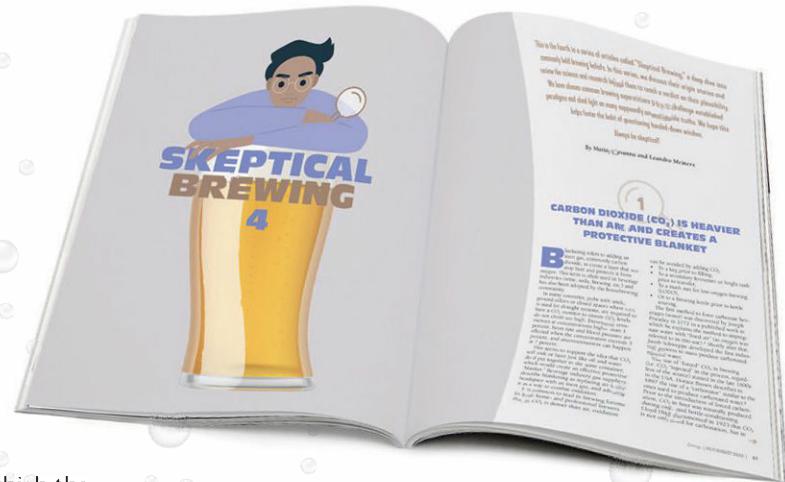
I am skeptical of the skepticism regarding use of carbon dioxide as protective blanket ("Skeptical Brewing 4," Zymurgy, Jul/Aug 2022). The authors make a theoretical argument that the blanket would be rapidly rendered ineffective by diffusion. Although I can't prove that the blanket does work, the diffusion argument is weak.

Diffusion is very slow, on the scale of centimeters. Gas can diffuse rapidly through the wall of a foam bubble, whose thickness is of the order of micrometers. Diffusion through a 5-centimeter layer of gas could take a long time. Gas mixing at that scale is mostly by convection.

If the container is covered to minimize the area through which the gas can flow, and if the gas on the bottom is denser, which slows down convection, it is conceivable that mixing could be inhibited. The density of a gas depends on its molar mass, the temperature, and the pressure. If the CO₂ blanket is on a vessel of hot mash, it will become warmer, and hence less dense, so convection would no longer be slow.

The efficacy of blanketing will depend on the local geometry, but it is likely that under some circumstances it could work. To know for sure, we need experimental evidence.

Roger Barth, Ph.D.
Emeritus Professor of Chemistry
West Chester University



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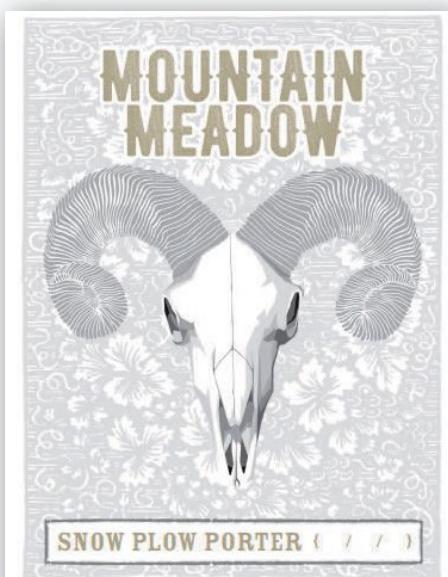
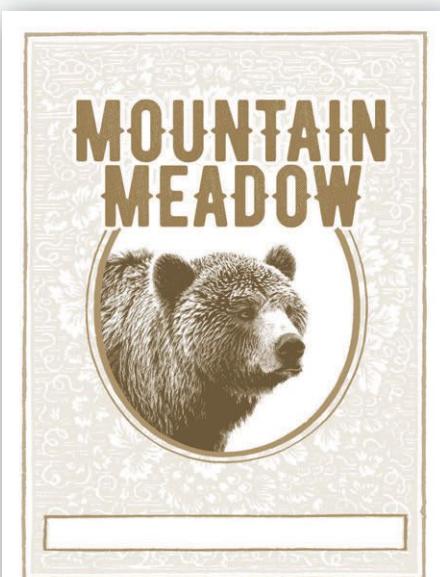
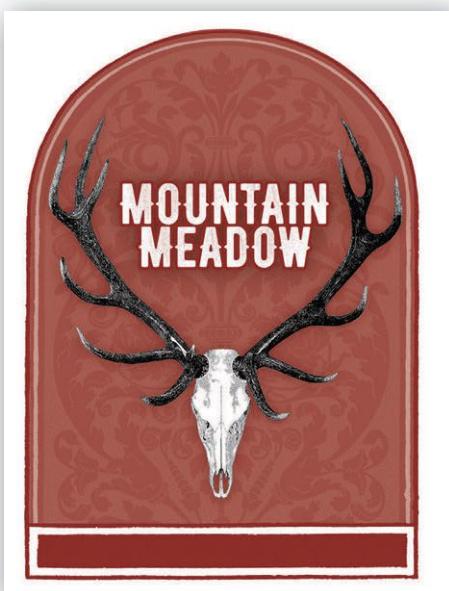
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YOUR HOMEBREW LABELS



Since I live in the mountains of colorful Colorado, I've always had the privilege of seeing a lot of wildlife—from the antelope of the plains, to the elk and deer of the foothills, to the bears and mountain sheep of the high country. So, I thought, what better way to pay homage to such magnificent mammals than to feature them on my labels? I try to pair one of Colorado's creatures with the beer I'm brewing. In the past I've had a marmot barleywine and a gopher American ale. These labels feature a ram's skull inspired by one I found on Mr. Evans, a momma bear who lives down the way from me, and an elk skull from the Evergreen herd. Mountain Meadow is my private label. I chose that name because, on brew days, I overlook a beautiful mountain meadow where I get to see a lot of the animals that are featured on my labels. I give a tip-o-the-hat to my good friend James Kovac of wideye design for helping me bring my design ideas to life. (Homebrewer 8 years, AHA member 8 years)

Paul Stephenson | Evergreen, Colo.

This was a label I created for one of the last malt-extract pale ales I brewed a couple years ago before going to all grain. This design was digitally drawn on a laptop and then uploaded to a label design website I stumbled upon when researching how to create my own labels. This was actually the first label I created for one of my homebrew batches. My wife loves to help out with my brew days and bottling days, so I wanted to pay a little tribute to her and include her in the name and label artwork as a thank-you. For this pale ale, I primarily used Cascade hops, which is ultimately where the name and label design came from. Since a cascade is a small waterfall, I decided to use this not only in the name, but in the artwork as well. This is when I decided to draw a side portrait of my wife with her hair flowing down, which also serves as the water in the waterfall. When my wife saw the final drawing she was extremely happy! (Homebrewer 3 years, AHA member 1+ years)

Ian Frasier
Sacramento, Calif.



SUBMIT YOUR LABEL

Do you make custom labels for your homebrew? Want it featured here in the pages of Zymurgy for all to see your work?

Send them to us at HomebrewersAssociation.org/magazines/submit-bottle-label and we will take it into consideration!

YOUR HOMEBREW EXPERIENCE

Homebrewing is all about sharing, and we get hoppy when *Zymurgy* readers share their homebrewing and fermentation experiences with us. We'd love to show the AHA community what *your* experience looks like. From 1-gallon batches on the stovetop to 20-gallon brew days on your custom sculpture, we all have fun with family, friends and pets while we make and enjoy our favorite beverage. Show us your 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.

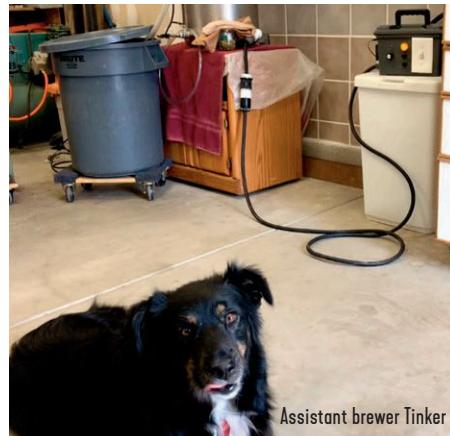
Upload photos of your homebrew-related fun at
HomebrewersAssociation.org/your-homebrew-experience



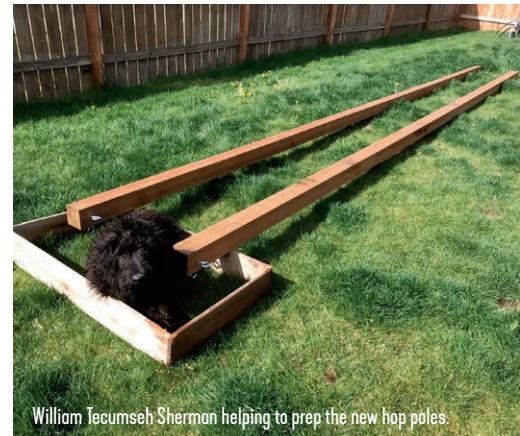
Co-brewer Riley

Carla Chfistian
(Homebrewer 4 years, AHA member 4 years)

Seven Cities Brewers
Chesapeake, Va.



Bob Campbell
(Homebrewer 43 years, AHA member 42 years)
Foam on the Range
Denver, Colo.



William Tecumseh Sherman helping to prep the new hop poles.

Scott Riseley
(Homebrewer 10 years, AHA member 3 years)
Rock Island, Wash.



Ryan Holt
Old Standby has also collaborated with 5 breweries so far this year to brew beers for charity. All ingredients are donated by Yakima Valley Hops, Imperial Yeast, and LINC Malt. 65 barrels so far and counting!
(Homebrewer 26 years, AHA member 15 years)
Salem, Ore.



Sara Holt, Ryan's daughter



Jeff Weeks
(Homebrewer 6 years, AHA member 4 years)
Fairfield Township, Ohio



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 looks like. Upload photos of your homebrew related fun at HomebrewersAssociation.org/your-homebrew-experience and you may see it in the pages of *Zymurgy*!

SCAN ME



YOUR HOMEBREW EXPERIENCE

SCAN ME



Cheddar

Jeremiah Adkins
Cheddar helping out with a New Zealand-style pils.
(Homebrewer 8 years, AHA member 8 years)
Stockton, Calif.



Harvey

Jason Mayerl
Brewer's Assistant Harvey wakes up just long enough for a photo.
(Homebrewer 14 years, AHA member 10 years)
Sun Prairie Worthogs
Waunakee, Wis.



2012

2022

Ryan Leer

A family heirloom in the form of a maple mash paddle was built in 2012 by John and Ryan Leer and will eventually be passed down to Bennett. Co-brewer Bennett helps mash in "Benny Boo's Belgo Blond" on his first brew day.
(Homebrewer 12 years, AHA member 5 years)

Richfield, Minn.



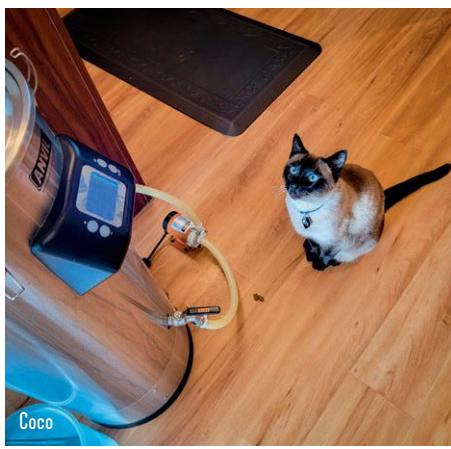
Mittens

Jason Beal
Mittens checking out the kettle after making a batch of Berliner weisse.
(Homebrewer 5 years, AHA member 3 years)
Wausau, Wis.



Charlie

Craig Young
My soon-to-be-14-year-old rescue dog Charlie has helped me rescue more than a few beers by showing me how to be patient!
(Homebrewer 26 years, AHA member 5 years)
Cumming, Ga.



Coco

Bryce Butenhof
This is our brewery helper Coco. She is gazing up at the beauty of a brew in progress, this time a vanilla cream ale.
(Homebrewer 3 years, AHA member 3 years)
Mequon, Wis.



Zuko

Michele Zaragoza
(Homebrewer 13 years, AHA member 4 years)
Santa Barbara, Calif.

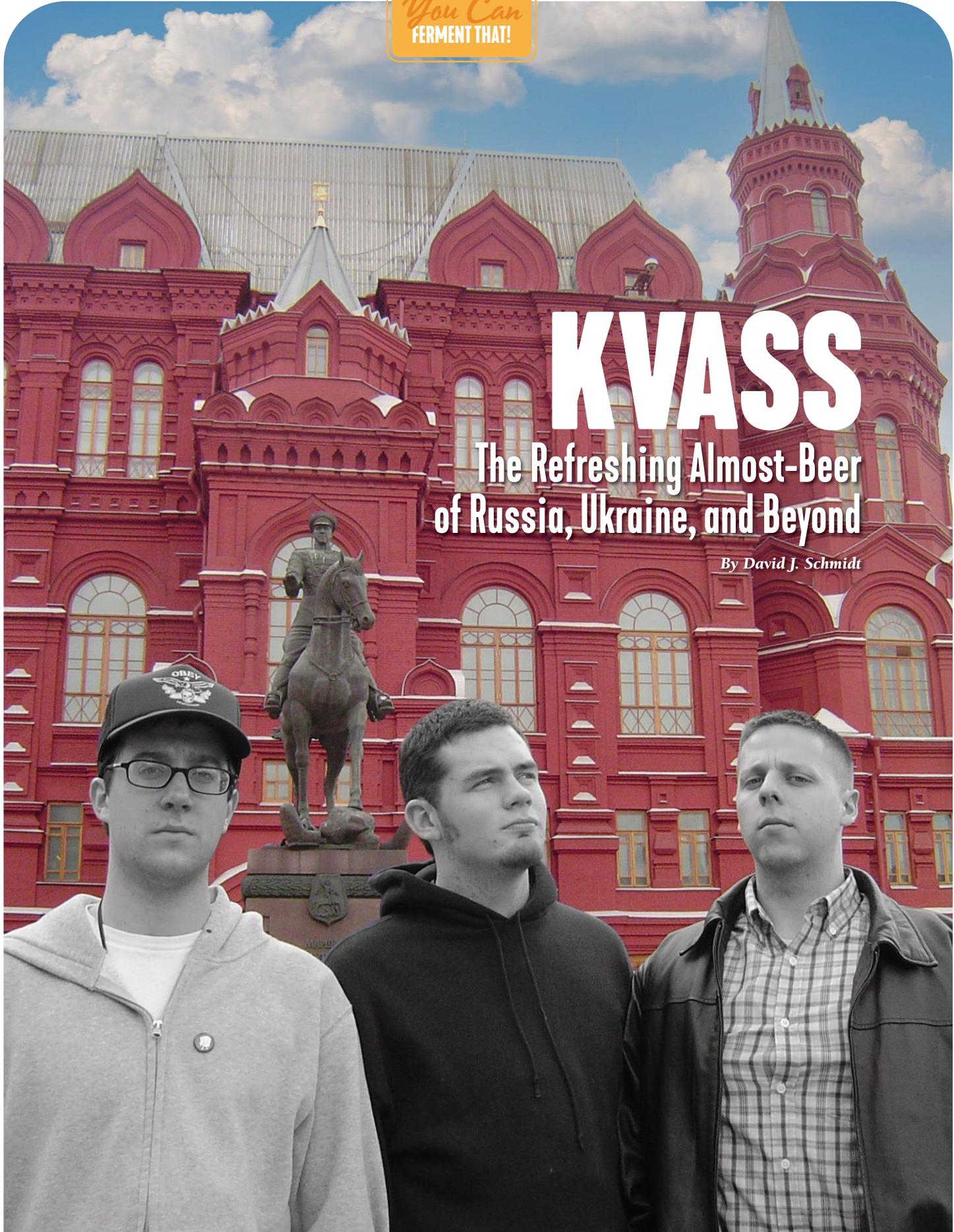


You Can
FERMENT THAT!

KVASS

The Refreshing Almost-Beer
of Russia, Ukraine, and Beyond

By David J. Schmidt



Editor's Note:

Zymurgy has delayed publication of this article for several issues in light of the ongoing war of Russian aggression in Ukraine. Six months on, we want to highlight Ukraine's and Russia's shared heritage of kvass, with the hope that everyday citizens of both countries will find peace and mutual understanding, even as the Kremlin continues an unprovoked attack on its sovereign neighbor.

“**B**oy, I never thought it would get this hot in Russia!” My friend Andrew was visiting from California, and I was showing him around my adoptive town of Saratov, a city on the southern Volga River. It was a typically hot, muggy day in August. “I sure could go for a cold drink.”

“Yeah, me too,” I replied.

The heat made everything around us shimmer: the cracked asphalt, the towering Soviet-era apartment buildings. The city had a familiar dry earth smell in the summertime, one that took me back to my childhood in California. This aroma mixed with others more uniquely Russian: diesel fuel, garlic, cigarette smoke, and something vaguely chemical.

“Only problem is,” I said, “a lot of stores around here keep their refrigerators unplugged.”

“What?”

“Yeah, they like to save electricity. The fridge is basically just a fancy cabinet for lukewarm sodas.”

“So we won’t find a cold drink anywhere?” Andrew wiped the sweat from his brow.

“I wouldn’t say that. Just a sec...” I visually scanned the street. “There’s got to be one somewhere nearby... Yes! There it is!”

I spotted it in the shadow of an onion-domed Orthodox church, like an oasis in the desert: an enormous, cylindrical steel tank. Its yellow side was emblazoned with four red letters in Cyrillic: KBAC.

“Our prayers are answered!” I shouted as I jogged toward the tank. Andrew followed along, confused. “What is that, an oil tanker? Are you about to drink gasoline, Dave?”

I greeted the middle-aged woman in the white uniform and handed her a five-ruble coin, worth a few cents. She pulled out a plastic cup, opened the nozzle on the yellow tank, and served me the sparkling, dark caramel liquid. The smell of fresh yeast rose from the bubbling foam head, a soft aroma of dark rye bread and raisins. I gave Andrew a taste.

“Wow. That’s... really refreshing. It’s not soda, it’s not beer. It’s...”

I took a sip and smiled. “It’s kvass. Welcome to flavor country, comrade.”

This thirst-quenching drink is a summertime staple for countries across Eastern Europe. As old as the pagan Slavic tribes who settled this land, it is a shared tradition in the region that transcends national boundaries and tapping into ancient cultural roots.



Kvass tank in Belarus.

WHAT IS KVASS? WHAT MAKES IT DIFFERENT FROM BEER?

In its most traditional form, kvass is a probiotic, lightly fermented drink brewed from leftover bread—typically dark rye bread, which gives it a dark brown color and a yeasty, sweet-sour flavor. Dry rye bread is combined with boiled water, cooled, then mixed with sugar and yeast to ferment. While it is treated as a soft drink, the fermentation process lends it a light alcohol content, between 0.5% and 1% ABV.

The name kvass comes from the ancient Slavic word *кысати*, meaning “to turn sour,” itself derived from the Proto-Indo-European word *kwat*. It’s not exclusive to Russia: kvass is a traditional drink of Belarus, Estonia, Finland, Hungary, Latvia, Lithuania, Poland, Romania, Serbia, and Ukraine as well. Its name is nearly identical in most languages. Even as far away as China, a similar name is used for the drink: 克瓦斯, pronounced *kēwāsī*.

The varieties of kvass are practically endless. Records from 15th century Russia mention the existence of more than 500 types made with honey, mint leaves, raisins, fruit, berries, herbs, and spices. Some reci-

pes even call for such unappetizing ingredients as horseradish and turnips! Many versions use barley malt and rye flour instead of bread, which raises the question: is there a clear distinction between kvass and beer?

One major difference lies in kvass’s very low alcohol content. You’d be hard-pressed to get a buzz from it, and even hardcore teetotalers like Russian Baptists and Mormons will gladly drink a cup on a hot day. Kvass can be sold without an alcohol license, although this doesn’t necessarily settle matters—even beer wasn’t legally classified as alcohol in Russia until 2011! One corpulent rock musician in Saratov told me, as he proudly slapped his massive belly, “I don’t drink alcohol at all, brother. I only drink *bеееер*.”

In addition, some varieties of kvass can be fermented to quite a strong level of alcohol. Historical records suggest that ancient kvass could be as strong as 15%. One Russian chef points out another fact that blurs the lines even further: some types of kvass are brewed with hops! Vlad Piskunov, gastronomist and head chef of Moscow’s

Kvass

Kvass is a nutritious probiotic, rich in vitamin B12, manganese, iron, copper, selenium, niacin, and magnesium. It should be kept cold, and is especially refreshing on a hot summer day.

This recipe is for a smaller batch of kvass, an easy start for the novice *kvasnik*. Adjust quantities as desired.

INGREDIENTS

300 g	[10.5 oz.] black rye bread
3 L	[3.17 qt.] water
10–15	raisins
100 g	[1/2 cup] white granulated sugar
	baker's yeast [such as Fleischmann's]
Alternative to yeast: sourdough starter, approximately 250 g	

BREWING NOTES

Cut the bread into chunks, roughly 3–5 cm (1–2 inches) wide. Toast bread in the oven or through multiple passes with a toaster. The darker the toast, the more flavor the kvass will acquire. Russian recipes indicate that, ideally, it should be as hard as сухарики, croutons.

Bring the water to a boil. Remove from heat and add bread, raisins, and sugar. Let it soak covered overnight, at least 8 hours.

Remove soggy bread, but leave raisins in the kvass wort. Activate and pitch the yeast [or sourdough starter]. Cover with lid and let ferment, stirring regularly every 2 hours. Ferment in the pot, or in a large glass jar. Ferment one to three days, depending on desired dryness. You can always add more sugar after fermentation for flavor.

Strain the kvass and place in the refrigerator. If bottling, let it bottle condition for 24 hours first.

OPTIONAL: Add two fresh raisins to each bottle, which will function as "priming sugar" to aid in carbonation.



Kvass tanks on the move in Ukraine.



Brands of commercial kvass currently sold in Russian markets in the United States.

restaurant Matryoshka, states that the use of hops "demonstrates that there is no clear line dividing kvass from beer, especially considering the fact that there are also quite a few types of beer that do not include hops!" (Translation mine.) Piskunov mentions one drink that is still brewed in the Vologda region of Russia, known as *дрожженик* (*drozhzhennik*), which is best described as a hybrid, halfway between kvass and beer.

At some point, the debate becomes semantic and picayune. One thing is certain, though: kvass is a drink deeply rooted in the history of Russia and Eastern Europe.

A DRINK FOR PEASANTS AND TSARS ALIKE

Some of the world's tastiest dishes were invented as a way to put leftover food to use, from the chilaquiles of Mexico (old tortillas) to Ethiopia's *firfir*, which uses stale injera flatbread. Kvass has its roots in the same peasant ingenuity: it's a great use for old leftover bread. There is even a Russian folk saying for scrimping and stretching the

budget: "перебиваться с хлеба на квас," "to scrape by from bread to kvass."

While kvass was consumed by Slavic peasants for countless centuries, the earliest written mention of it comes from the year 988 C.E. This was in the days of Kievan Rus', the ancient united federation that stretched across present-day Ukraine, Belarus, and western Russia. When Tsar Vladimir I was baptized into the Orthodox Christian faith, his guests were served "food, mead, and kvass."

Across the centuries of Kievan Rus' and the subsequent Russian Empire, kvass flourished as a traditional drink and enjoyed by peasants, nobles, and Tsars alike. By the 19th century, however, Russia's nobility were gravitating toward all things European and even speaking French with each other. Many of the most unique and unusual recipes were lost forever as beer began to supersede kvass in cities like Moscow. Even so, over a hundred different varieties were still being brewed in Russia, and kvass remained ubiquitous. It is even mentioned in Tolstoy's novel *War and Peace*, where the invading French soldiers describe it as *limonade de cochon*, "pig lemonade."

In the final century of the Russian Empire, kvass's influence reached far beyond Europe, all the way to the Hawaiian Islands. Russian sailors were some of the

first foreigners to trade with the Kingdom, and they brought kvass-making techniques with them. A Spanish advisor to the Hawaiian monarchy may have learned to brew kvass from these sailors, and it's possible that King Kamehameha I himself tried it!

At the turn of the 20th century, Russian scientists were studying the health benefits of this traditional beverage. In 1913, researcher Vladimir Sotnik examined the chemistry of kvass, and suggested that it could even be used to prevent typhoid infection. After the Bolshevik Revolution, while the nation underwent a radical transformation, ordinary Russians continued to brew kvass just as they had been doing for centuries. As the Soviet Union industrialized, meanwhile, the government began to mass-produce kvass in enormous factories. The now-famous yellow tanks first appeared on the streets of the USSR in the 1960s. Every summer, Soviet women in starched white uniforms served fresh, cool kvass to thirsty customers, by the glass or by the bottle.

Of course, if kvass could survive the Revolution, it could survive the end of Communism as well. With Perestroika and the advent of capitalism, the first privately-owned kvass companies appeared in Russia. The first post-Soviet version was bottled in 1995, in the Lakinsky factory east of Moscow. Numerous competing companies soon popped up across the former Soviet republics, bottling the drink and shipping it abroad.

Those nostalgic yellow tanks have become increasingly rare in recent years. This is due, in part, to public concerns about sanitation. While the tanks do keep the liquid cool, it only stays fresh for 72 hours. And it's just not practical to make such large quantities anymore, as the market demand for kvass has declined, slowly edged out by sugary Western sodas. If you look hard, you can still find a few yellow tanks in the more remote areas of Belarus, Ukraine, and Russia, but they're a dying breed.

While the tanks may be on the way out, though, kvass is certainly not, thanks to the millions of homebrewers who still make it the old-fashioned way.

THAT HOMEMADE TASTE

Russians have always cherished the old ways of the kitchen: home-cooked, garden-fresh, made from scratch. There is a strong connection to hearth and home, to the earth and its bounty. People grow their own fruits and veggies in the gardens of their *dacha*, the summer cottage



Kvass tank in Volgograd.

in the country. As the weather turns cold in autumn, families set about making homemade jams, preserves, and canned vegetables, a custom that American Midwesterners in particular will appreciate. In fact, many folks in Nebraska and the Dakotas have ancestors from Russia, especially the *Volgadeutsch*, German settlers who farmed the banks of the Volga. I'm a descendent of these people myself, and I'm almost certain that my ancestors brewed kvass at some point.

Kvass is best when homemade and fresh. I have tried many commercial varieties, and none of them holds a candle to the fresh, raw product. It's far more than just a beverage, too. Many Russian recipes call for kvass, most famously *okroshka*, a cold soup eaten in the summertime. The aforementioned chef Piskunov mentions other kvass-based dishes: *botvinya* (a sour, cold soup), *svyekolnik* (a type of hot or cold beet soup), *shchuchina* (fish soup with parsley, horseradish and kvass), and *myaso v kvasye*, literally translated as "meat in kvass."

Like many traditional brews, kvass occupies an important place in folk traditions. In old Russia, young maidens sought good fortune by sprinkling it on the hot rocks of the bathhouse and bathing in the steam. When a house was struck by lightning, it was believed the only effective way to put out the fire was with kvass. Peasants believed that drinking kvass could increase strength, stamina, and energy, and honor and respect were always given to the honored profession of the *kvasnik*, the brewer of the kvass.



The author (far left) enjoying a mug of kvass with friends in Saratov, 2003.

The drink has always been exclusive to the warm spring and summer months. This is a jubilant time in Russia, when the snow melts and Mother Nature takes a break from trying to kill you. I could nearly taste the euphoria in the air when Saratov warmed up, and it seemed the whole city flocked to the countryside in droves.

Russians have an intense, passionate love affair with the outdoors. Families and friends will take the electric train out of the city to lounge about at someone's dacha, or to picnic on the bank of one of the creeks that languidly feed into the Volga. A typical picnic lunch is as hearty as it is simple: boiled eggs and potatoes, black bread, fresh sprigs of dill weed, cucumbers, and kielbasa sausage. Invariably, someone pulls out a bottle of kvass to wash it all down, a fresh batch recently made by their aunt or grandmother. You drink in the cool, sweet,

yeasty brew, the wind ripples through the birch trees, and all is right with the world.

A DRINK THAT TRANSCENDS BORDERS

The region where kvass is brewed is no stranger to conflict. The borders of Eastern Europe have been fluid and unpredictable throughout history, as ancestral lands are swapped back and forth like chess pieces. And yet, through it all, kvass remains.

It is especially worth noting that this is a beloved and immensely popular drink in both Russia and Ukraine. Online recipes from Ukraine describe it as something that is essentially *домашній* (*domashniy*): homemade, home-cooked, and familiar. On the Ukrainian website smachno.ua, culinary expert Igor Misevich says kvass is a drink “indispensable for beating the summer heat.”

And when it comes to the deep and ancient ties between Russia and Ukraine, kvass is just the tip of the iceberg.

Few countries are so intimately linked to one another in so many ways: culturally, religiously, and gastronomically. Some of the most iconic national dishes are common to both Ukraine and Russia. (Although all my Ukrainian friends swear that their borscht is much tastier.) In addition to their shared history as part of Kievan Rus', they are connected by the traditional Eastern Orthodox faith. Some of the greatest authors to ever write in the Russian language, including Nikolai Gogol, hail from Ukraine. Ukrainians and Russians sing many of the same folk songs, especially when it comes to *застольные* times—sitting around the table drinking and eating.

In addition to their shared history and cultural roots, the people themselves are inextricably connected. As my friends back in Russia have recently reminded me, it's nearly impossible to find a Russian person without some relative or friend who lives in Ukraine. This is why so many Russian citizens have been deeply concerned about their loved ones throughout the last eight years of violence in Ukraine, which has claimed 14,000 lives since 2014. It's also why so many Russians risked arrest to protest the Kremlin's recent attack on Ukraine. This isn't some distant country on the other side of the world—these are their sisters and brothers. The ties that bind these nations and peoples go far and deep.

It may seem banal to suggest that a drink like kvass can transcend politics and nationalism, somehow overcoming our world's geopolitical chess game between competing superpowers. And

yet, throughout human history, food and drink have always been a part of peace-making and understanding. The Latin word for peace, *pax*, is connected to the word for “making a pact,” coming together to dialogue.

In the Russian language, meanwhile, the word *мир* (*mir*) means both “peace” and “the world.” Let me make a suggestion for when you brew your first batch of kvass: make it a point to share it with someone you might not ordinarily hang out with. Someone with a different worldview and background. As you raise your glasses, extend a wish and a prayer for peace, for the ties of brotherhood to prevail. Join me in this simple Russian toast of “*Miru mir*”:

Peace to the world.

RESOURCES

1. youtube.com/watch?v=JMo1XzDioY4
(Video in Russian. Translation of title: “Kvass was even used to put out fires! Where did this marvelous drink come from?”)
2. youtube.com/watch?v=apfYLxV9RM
(Video in Russian. Translation of title: “Whatever happened to those yellow tanks of kvass? The history and myths of kvass in the USSR”)

3. Article by Vlad Piskunov, chef, gastronomist, writer, and expert in Russian cuisine. (In Russian). Translation of title: “What is kvass, and how can you make it at home?”
4. daily.afisha.ru/eating/15901-hlebnyy-medovyy-yagodnyy-rasskazyvaem-kakim-byvaet-kvas-i-kak-ego-prigotovit
5. en.wikipedia.org/wiki/Kvass
6. Ukrainian website: smachno.ua/ua/recepty/napitki/beverages-14689
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KOENIGS

BREWING WITH HEMP

BREWING WITH HEMP

THE ESSENTIAL GUIDE

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Hempseed as a Cereal Adjunct

By Ross Koenigs

While hemp seed has been a staple food for several millennia, it has never been documented as an ingredient in fermented alcoholic beverages. When industrial hemp laws globally began to loosen around the turn of the twenty-first century, several adventurous brewers took up hempseed as a novel ingredient to add to their beers. Admittedly, many of these early products sought to capitalize on the “edginess” of adding any cannabis ingredient, regardless of its chemistry or bioavailability. Eventually, many commercial brewers and homebrewers found hempseed to be an advantageous ingredient in beer. Hempseed is a nutritious food and useful in the brewing process for adding essential vitamins and minerals for healthy fermentations, as well as driving flavor and body in the final beer.



When talking about hempseed, there are three main products a brewer can use to create a beer: whole hempseeds; dehulled hempseeds, often referred to as hemp hearts; and pressed hempseed oil, which can come in both unrefined "extra virgin" and refined forms. Whole hempseeds are what they sound like: they are hempseeds in their natural state, which includes a thin protective shell. The shell can be eaten, but it is brittle and tends to be slightly bitter in flavor, so many food processors choose to remove it for food products. Hemp hearts are simply the hempseed with the shell removed (i.e., dehulled); this is the most common hempseed product that you will find in natural food stores and in food products. Finally, hempseed oil is the pressed oil from hempseeds that can be used for cooking and, as we will find out, novel brewing applications.

Hempseed unfortunately does not make a very useful cereal malt due to its high oil content. Some craft maltsters I've spoken to have tried to malt hempseed in the past, but none have commercialized malted hempseed products due to its poor performance in the malthouse. This makes sense given that carbohydrates make up roughly a third by weight of hempseed, far lower than the carbohydrate levels typically found in cereal malts. Most hempseed is processed to go into specialty food products, often marketed as healthy and sustainable foods for health-conscious consumers. To date, the marketing for most commercial hempseed beers tends to either focus on hempseed as a health product or as a novel product for consumers curious about cannabis.

The main forms of hempseed that are of interest to brewers are whole seeds, which can be milled, or pressed cake, which has the oil content mostly removed and can be ground into a coarse flour. Since whole hempseed contains more oil—roughly 35 percent by weight—brewers should test the upper bounds of their inclusion rates. Whole hempseed should not exceed 15 percent of the total grist, otherwise foam quality and stability of the final beer may be affected. As we will discuss later, brewing yeasts do have the ability to metabolize hempseed oil; however, adding too much whole hempseed to your grist may add too much oil for the yeast to metabolize. For those brewers looking to push more hempseed flavor into their beers, pressed hempseed cake in whole or flour form will produce a beer with superior foam

quality. Pressed hempseed cake contains roughly 10 percent oil by weight and ends up having proportionally far more protein and carbohydrate by weight, 33 percent and 43 percent, respectively (Callaway 2004, 66).

While hempseed will not contribute a significant amount of fermentable extract, it does provide protein and interesting flavors that can be used advantageously by a skilled brewer. There are many common misconceptions about hempseed's flavor; it is often falsely associated with the terpenes present in cannabis inflorescences. The common refrain among brewers who use hempseed is that it produces a unique nutty flavor in beer, like raw almonds or sunflower seeds. Toasting hempseeds adds another flavor component, yielding toasted, chocolate, and coffee-like aromas as well.

Much of hempseed's flavor comes from its relatively high protein content; brewers can use this property to drive the formation of Maillard compounds in the mash tun and boil kettle, amplify esters and phenolic compounds created by many yeast strains, or both. Maillard compounds form from reactions between sugars and proteins in the presence of heat. Maillard reactions make many of the flavors we associate in cooked foods, everything from browned meats to caramels to toasted bread. Playing off the nutty characteristics of hempseed lends well to many different styles, especially styles that focus on malt characteristics. Brown ales that lean toward nutty flavors tend to be one of the obvious styles suited to hempseed inclusion, but even beers that incorporate more delicate nut flavors, such as English mild, German Märzen, and Belgian dubbel, would pair nicely with the flavor of hempseed.

Brewers can also use hempseed additions to drive complex esters in their beer. Due to its high protein load, hempseed is a suitable adjunct for increasing the overall load of wort protein, which can be advantageous in a variety of beer styles. Initial mash temperatures lower than common saccharification temperatures allow proteinase enzymes present in the malted barley to liberate excess amino acids present in the hempseed protein. This can create "classic" esters like the isoamyl acetate common in Belgian tripels and German hefeweizens, or unconventional esters from yeasts such as kveik strains. I recommend that you pair your hempseed inclusion with another high-protein grain, such as spelt, to really drive an intense ester character.

PREPARING HEMPSEED FOR MASHING

Hempseed has many unique properties that should be considered when preparing to add it to beer. The seeds are quite small, with diameters averaging around three to four millimeters (about $\frac{1}{8}$ inch). Hempseeds can be quite brittle and gummy, which can make their preparation challenging through traditional milling. Some brewers choose to have their hempseed pre-crushed in a dedicated mill before use. Others will simply mill the hempseed first and then use their other malts to chase and clean out any crushed hempseed that may have stuck to an auger. If you have a complicated or long-pull auger system, you may want to consider getting your hempseed pre-milled and add that grist directly to your mash tun. If by some twist of bad luck some crushed hempseed gets stuck in a dead leg of your auger system, the residual hempseed may turn rancid and affect the flavor quality of subsequent batches. If you have a short-pull auger, or a system that can be cleaned easily, these precautions are probably unnecessary.

STORING HEMPSEED

Due to hempseed's relatively high oil content, which causes oxidative instability, it is best to store the seeds cold or in airtight containers. If left in warm and wet environments for extended periods of time, such as near a brewhouse, they have the potential to go rancid and add unpleasant flavors to beer. It is best practice to purchase hempseed from a trusted vendor when you need it and to taste each lot as you receive them to screen for off-flavors. Do not store hempseed after you have toasted it, as it will stale quicker. Always toast your hempseed within a day or two of use.

HEMPSEED OIL AND YEAST HEALTH AND VIABILITY

Pressed hempseed oil also presents a potentially novel ingredient for brewers as a yeast processing aid. Normally, brewers must aerate their wort with compressed air or pure oxygen to trigger yeast growth in their fermentation. Yeast cells need to produce unsaturated fatty acids to create new cells and take up oxygen to create these fatty acids. During the initial lag phase of fermentation, yeast cells come out of dormancy and will take up dissolved oxygen in the



HOW TO TOAST HEMPSEEDS

Hempseed tends to have a low smoking point, so it's best to toast hempseed at a low temperature.

OVEN METHOD:

Preheat your oven to 225°F (107°C). Evenly spread your raw hempseed on a nonstick baking sheet and bake for 5–10 minutes until fragrant. If the seeds do not seem adequately toasted, shake the pan to toss the seeds and then bake another 3–5 minutes.

SKILLET METHOD:

Preheat a dry skillet over medium-low heat. Add hempseed to the skillet to make a dense but even layer. Cook for 2–3 minutes, then toss the seeds and continue toasting to cook evenly. The seeds should toast in 5–10 minutes total, depending on your desired toast level.

wort to begin reproducing. During this time, the cells must rely on their internal energy reserves, glycogen and trehalose, to begin their metabolic activity. Over the course of a normal fermentation, yeast cells will deplete these energy reserves first and then turn their attention to wort sugars to continue fermentation. As fermentation winds down, the cells will replenish their glycogen and trehalose reserves with some of the remaining sugar left in the now green beer, but they cannot replenish their reserves of unsaturated fatty acids because the beer is devoid of these. Thus, if brewers wish to repitch their yeast into a subsequent fermentation, they must store their yeast cold to make sure the yeast goes dormant for a short period of time. When they repitch the stored yeast, the brewer must add supplemental oxygen to the new batch of wort to start yeast metabolism again.

Dissolved oxygen added at any point in the beer-making process has the potential to create compounds that will lead to oxidation and premature staling of the beer. Commercial brewers spend inordinate amounts of time devising ways to minimize dissolved oxygen in beer and significant research and engineering has gone into eliminating as much oxygen ingress from the beer-making process as possible. Adding oxygen to wort is, at best, considered a “grand bargain” between creating healthy fermentation conditions initially while sacrificing some amount of the product’s shelf life. Staling and oxidation is a tricky subject: eliminating oxygen ingress at one point of the process may not result in the elimination of staling compounds in your finished product if you have ingress elsewhere. Studying the minimization of oxidation requires a holistic perspective of every step of the brewing process to see definitive results.

It was through this holistic quest to minimize dissolved oxygen in the brewing process that researchers in the early 2000s came up with the idea that, instead of adding supplemental oxygen to wort, they could directly add unsaturated fatty acids to brewer's yeast to see if that resulted in successful fermentation (Moonjai et al. 2002, 227). The experiment demonstrated that adding unsaturated fatty acids—in the 2002 study the researchers used linoleic acid—to yeast in a strictly anaerobic environment allowed

as it is with controlling pitch rate, temperature, and nutrition. Too much variability in the process will result in unacceptable amounts of wasted beer and hemp.

I was hoping to have completed an in-depth trial to study the efficacy of hempseed oil as an unsaturated fatty acid supplement for yeast but, due to the COVID-19 pandemic, I have not been able to conduct it as of writing this. I do hope that hempseed oil as a yeast supplement will be considered for future research as it could be an interesting value-added ingredient for improving yeast health and beer quality. The idea is theoretical at this point; however, there are signs it could be a fruitful area of study. The 2002 study by Moonjai et al., as well as Grady Hull's research at New Belgium, suggest that yeast's ability to utilize a broad spectrum of unsaturated fatty acids not only yields a successful fermentation, but also raises the possibility of greater shelf stability. The demand for high-quality hempseed oil is low at present, so it will not be a cost-effective strategy to implement on a large scale anytime soon, but as the industrial hemp market grows there is potential for costs to fall. In the meantime, it is a fun thought experiment and, I hope, a topic that researchers will explore in the near future.

the yeast to produce an acceptable beer with similar characteristics to a traditionally aerated beer. At New Belgium, Grady Hull (my old boss and mentor) conducted his master's thesis by adding olive oil to the brewery's stored yeast and conducted successful fermentations of Fat Tire. In his study, Grady also concluded, using New Belgium's trained sensory panel, that the Fat Tire batches supplemented with olive oil showed fewer markers for oxidation throughout their shelf life when compared to control batches of Fat Tire (Hull 2008, 22).

Grady chose olive oil for his study because olive oil contains high levels of linoleic acid and is readily available and relatively cheap compared to the synthesized linoleic acid used in the Moonjai et al. study. Hempseed oil contains 93 percent unsaturated fatty acids by weight, whereas olive oil contains only 84 percent by weight (Callaway 2004, 66). Theoretically, this makes hempseed oil a more effective raw material by weight for this purpose.

You may be wondering to yourself, “Couldn't I just mash in with sufficient amounts of hempseed and extract both the flavor and the unsaturated fatty acids?” While it is tempting to say yes, the more responsible answer is no. While you certainly will carry some quantity of essential fatty acids into your finished wort, there is too much variability in the brewing process from batch to batch to make a high-quality calculation of total unsaturated fatty acids in solution. The precise control of unsaturated fatty acid supplementation to pitched yeast is crucial for a successful fermentation, just

Ross Koenigs is a craft brewer, author, and entrepreneur. While Brewing Innovations Manager for New Belgium Brewing Company, Ross focused on brewing research and development and spearheaded using hemp in beer when New Belgium introduced The Hemperor HPA. Ross is currently the owner of Second Dawn Brewing Company in Aurora, Colo.

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Snag your fresh copy of *Brewing with Hemp* by Ross Koenigs at BrewersPublications.com

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HOMEBREW CLUB
OF THE YEAR AWARD
KANSAS CITY BIER MEISTERS
KANSAS CITY, MO.



NATIONAL HOMEBREW COMPETITION - 2022 -

By Kristen Kuchar



2,940 entries

7 countries

1,187 homebrewers

132 medals

48 states
+ Washington, D.C.

44 categories

This year Homebrew Con ventured to Pittsburgh for its 44th year in action. The annual event for American Homebrewers Association members featured more than 40 informative sessions, 50 industry experts sharing their insight, and of course, the highly anticipated National Homebrew Competition.

In 2022, the world's largest amateur homebrew competition awarded 132 medals in 44 categories in home beer-, cider-, and mead-making. There were more than 2,940 entries from 1,187 homebrewers located in 48 states, Washington, D.C., and seven countries. This brings the total up to 159,770 entries that have been evaluated since the competition's 1979 debut in Boulder, Colo.

While the concept for the competition remains the same—recognize award-winning beers, meads, and ciders and foster the homebrew community—organizers are continuously adapting and improving it. This year was no exception.

This was the second year for single-site evaluation, but it was the first time in which all judging took place on-site at the conference location instead of at the American Homebrewers Association's warehouse in Louisville, Colo. Brewers Association competition director Chris Williams says it was a learning curve, but everyone caught on quickly, and it was truly a fantastic team.

Overall, feedback for the competition this year was positive, and attendees felt that it was well organized. "People are happy and proud to be competing at a national level," Williams says. He is proud of how it went and happy with this year, noting the great support staff and volunteers.

This was also the second year that there was no numerical scoring for entries, and Williams says people were now more familiar with it since this was the system put in place for the 2021 competition. This year, after increased interest, a new category for Gluten-Free Beer was available. A category needs →



at least eight entries to stand alone, though, and as only four entries were submitted to the Gluten-Free Beer category, they were rolled into the Specialty Beer category.

Standard Cider and Standard Perry along with Specialty Cider and Specialty Perry, were similarly initially separate but then reclassified as a subcategory. However, all mead categories remained independent, including Specialty (37 entries), Traditional (28 entries), Spice (24 entries), Berry (17 entries), Pyment (16 entries), Melomel (9 entries), Cyser (8 entries) and Stone Fruit (8 entries).

The most-entered categories included Pilsner, which led the charge with 146 entries, Strong Belgian Ale with 124 entries, and American IPA with 117 entries. A new popular category this year was Fruit Beer, which yielded 113 entries.

"Homebrewers love brewing with fruit," Williams says of the plethora of varieties available to brew with, adding that it's an exciting category for creativity.

Along with the awards for each category style, there were six awards recognizing specific achievements in the competition. Brian Phillips of Nora Springs, Iowa, took home the Homebrewer of the Year Award, which recognizes the best-of-show beer judged from all gold-medal winners in all beer categories. The Samuel Adams Ninkasi Award was awarded to Timothy Lambert of Albuquerque, N.M. This award recognizes the entrant who accumulates the most points in the competition.

Keepers of Craft Homebrew Club from Kalamazoo, Mich., won the Gambrinus Club Award, based on the club's accumulating the most points per total club entries. Homebrew Club of the Year went to Kansas



City Bier Meisters. This award goes to the club that accumulates the most total points in all categories of beer, mead, and cider in the competition.

Allen Martin of Gilbert, Ariz., was named Meadmaker of the Year, based on the best-of-show mead judged from all gold-medal winners in the mead categories. Using the same criteria for cider, Michael Wilcox was awarded Cidermaker of the Year.

Each year, three meaningful honors are awarded based not on competition entries, but on efforts to grow and improve the homebrew community. The Radegast Club of the Year Award was awarded to the Three Rivers

Underground Brewers (T.R.U.B.) homebrew club from Carnegie, Pa., in recognition of the group's efforts with community outreach and spreading the joys of homebrewing.

Gnome Brew located in Chicago was named Homebrew Shop of the Year, based on merits of promotion of homebrewing with education, community support and engagement, excellent customer service, and responsible business practices. This year's American Homebrewers Association Governing Committee Award came as no surprise as Denny Conn, of Noti, Ore., was recognized for his continued outstanding service to the community of homebrewers.



ON THE WEB

Find past winners' homebrew recipes on our website @ HomebrewersAssociation.org/beer-recipes



Awards were announced during the conference, which took place for the first time in Pittsburgh, which Williams says was a supportive beer community. “The group was welcomed by the local brewing community,” he says. A perk of moving Homebrew Con to a different host city every year is that people who may otherwise not be able to travel to more geographically distant locations can attend the conference.

While the competition is of course competitive by nature, Williams says it’s fun, too. Following the Welcome Toast and Keynote address, there’s a kickoff party featuring commercial breweries. “It’s a great way to welcome everyone,” Williams says.

Dancing Gnome, Burgh’ers Brewing, Eleventh Hour Brewing Co., 28 Bridges Brewery, Cobbelhaus Brewing Co., and Mastic Trail Brewing were just a handful of the Pittsburgh-area and Pennsylvania breweries pouring for the welcome get-together. Grist House Craft Brewery, which brewed

the commemorative conference beer, was also in attendance.

A highlight of the weekend is Club Night, which Williams says is “like the Super Bowl” for homebrew clubs. Groups traveled from all over the country to attend Club Night, including New Jersey, New York, Ohio, Colorado, Georgia, Indiana, Maryland, Michigan, Missouri, New Hampshire, North Carolina, Rhode Island, Texas, and West Virginia.

“It’s like a big family,” Williams says, noting that homebrewers are part of a community in which everybody is excited for one another as medals are announced.

Next year’s conference and competition will be held in San Diego. One change to note for 2023 is that the National Homebrew Competition will adopt the 2021 Beer Judge Certification Program (BJCP) Style Guidelines rather than the previously used 2015 BJCP Style Guidelines. But, as Williams points out, judging is *based off* the guidelines, but sometimes categories must be combined depending on entries.

Changes and additions can always be expected for the National Homebrew Competition. As Williams notes, NHC staff continuously strive to refine the event and make it the best experience possible for everyone.

Regardless of any changes to the conference and the competition, one thing that won’t change is its continued importance to the homebrewing world and its contribution to the appreciation for home beer-, cider-, and meadmaking.

“It strengthens the homebrewing community overall,” Williams says, adding that it’s a wonderful opportunity to unite members to share ideas, learn from one other, and even troubleshoot. When it comes to competing, Williams adds that it is validating that homebrewing is “legit,” as these homebrewers continue to produce fascinating, world-class beers.

“People can do some amazing things from their home setup,” he says. The competition, he adds, can even inspire other homebrewers to try and take their game up a notch. →



Chris Williams, Brewers Association competition director.

“
People can do some amazing things from their home setup.

- Chris Williams



HOMEBREWER OF THE YEAR AWARD

BRIAN PHILLIPS

Nora Springs, Iowa

Iowa/Minn. Society of Brewers (IAMNSOB)



The Homebrewer of the Year Award recognizes the best-of-show beer judged from all gold-medal winners in all beer categories. This year's recipient was 10-year homebrewer **Brian Phillips** of Nora Springs, Iowa.

"It really validates the time and effort that I took into perfecting process and recipes over the years," Phillips says of taking home the notable honor. "Going head to head with amazing homebrewers out there and be able to win this award ... it's pretty special."

Phillips attributes the victory to lots of practice, taking good notes throughout the process, and fine tuning along the way. "Attention to detail is probably the most critical," he adds.

He started homebrewing in January 2012 when he spotted a Mr. Beer kit on sale and went for it, even though he wasn't sure what he was doing. "I enjoyed the process, and in the end, to be able to enjoy the thing I created," he says.

He started with extract brewing, switched to partial mashes for about a year, and then made the leap to all grain.

Outside brewing, Phillips works as a software engineer and enjoys growing a large vegetable garden and cooking. "My joy of gardening and brewing has led me to grow my own hops and use them in most beers that I brew," he says. "I feel my background and passions have a big impact on how I approach my homebrewing with attention to detail and process from my

engineering background, to honing my recipes and ingredient selection."

As a talented gardener and cook, Phillips creates his beers based on the time of year at his Upper Midwest home. "I like to brew with the seasons a lot," he says. In summer, he opts for "easy drinkers," such as Kölsch and a Citra Pils. In autumn, he prefers to brew malty beers to pair with cooler weather, such as Scottish ales, English brown ales, and an Oktoberfest.

The beer he submitted this year continues the seasonal trend—a traditional German bock, he brewed in December 2021. He describes it as a lager for winter, a full, malty beer that is great to enjoy in the colder months.

He also likes to brew lower-alcohol session IPAs, and he won best of show in the Hoppy Halloween Contest in Fargo, N.D., in 2021 for his schwarzbiere. His appreciation for detail is clear with his old ale, which he calls Warming Winter Ale. He has been brewing this same beer every year since 2013, tweaking the recipe just a little to see if he could continue to improve. The beer, which ages for one year, has won several medals in larger regional competitions.

His advice to new homebrewers is to start simple. He makes the great point that you can enjoy homebrewing by staying as simple and basic as you'd like or getting as in-depth, "in the weeds" as you want. "You can take it as far as you want to—that's one of the great things about the hobby," he

says. "Don't be overwhelmed—take it one batch at a time."

For existing brewers, one tip he shares for improving is picking one detail of your brewing process and focus in on that. For example, Phillips decided to focus in on his water, which is well-water and very hard. "I found that adjusting my water with phosphoric acid and mineral adjustments has really helped take the beer to the next level," he says. "Having a high-quality reliable pH meter where I can check and adjust the mash pH quickly is invaluable."

He also adds paying attention to detail throughout the entire process, measuring, taking notes, looking back at those notes and cleaning—not just sanitizing but ensuring everything is spotless.

Some of his favorite and most-used resources for improving his craft are podcasts. "I attribute a lot of my initial learning and growth to regularly listening to two primary podcasts—the Brewing Network's *Brew Strong* and *Basic Brewing Radio*," he says.

Phillips says that being a part of his homebrew club, the Iowa/Minnesota Society of Brewers, has positively influenced his brewing. The club consists of homebrewers from all over the region who talk beer and brewing and learn from each other, he says. Phillips values the direct feedback that comes not from friends and family, but from other brewers. "Very important for me and my growth," he says.

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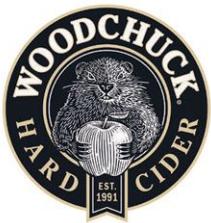
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CIDERMAKER
OF THE YEAR AWARD



HOMEBREW SHOP
OF THE YEAR



RADEGAST AWARD



HomebrewersAssociation.org





SAMUEL ADAMS NINKASI AWARD

TIMOTHY LAMBERT
Albuquerque, N.M.



When **Timothy Lambert** realized he had won the Samuel Adams Ninkasi Award, he was stoked. The award recognizes the entrant who accumulates the most points in the competition, and he watched the awards unfold live on YouTube.

Lambert submitted a total of seven entries this year. Two of his saisons medaled, receiving a silver and bronze. His bronze-winning Ginger Saison is his base saison recipe with ginger added in secondary.

Lambert's inspiration for this award-winning brew was having been awarded a silver medal last year for his saison, which used a blend of two yeasts. This year, he decided to re-brew that recipe while varying the yeast blends used to see what result that gave. **"The goal for my saison recently has been to try and utilize hops and yeast in a way such that you can't tell if the fruit character is from the hops or the yeast,"** he explains.

He also brewed a wood-aged saison, which he didn't enter as it was not quite yet ready, but he reports that it is drinking well now. "Overall, including last year's brew, I learned some about the yeast blends and what works well together ... and what I would do differently next time," he says.

His American Wild Ale, which is from his 15-gallon solera, also won a silver. The solera vessel started out as a 15-gallon

bourbon barrel (from Few Spirits). He ran several clean beers through it until it was "spirit neutral" then he ran a couple Brett saisons through it, leaning on the remaining wood character to add further complexity, before finally filling it completely for a golden sour. "It's now well inoculated, but I keep it going by occasionally, feeding it with beer that has had additional *Brettanomyces* cultures introduced in their ferment," he says. Currently he's trying to dial the acidity in or out by varying the final gravity of the portion of beer that goes into it.

The American Wild Ale he entered was from a solera that retained 10 gallons of solera saison plus 5 gallons of Dortmunder Export, which yielded a touch more acidity over time, he explains. "The solera barrel has been reliably turning out tasty beverages. Surprisingly I (and others) still get some wood tannins in the beer it produces."

Lambert, who has a PhD in organic chemistry, starting brewing in the mid '90s while he was in graduate school when a friend introduced him. He is now a scientist working in materials chemistry, electrocatalysis, and battery development. A few years before the COVID-19 pandemic, he even started his own consultancy and was brewing part-time with a local brewery, but COVID-19 put a hold on that.

"The pandemic did give me more time to homebrew though, which is always a good thing," he says.

For Lambert, brewing is a creative outlet. **"Envisioning a flavor profile or a 'personality' for the beer and then aiming to execute that exactly. I love that."**

For those looking to get into homebrewing, Lambert wisely says you don't need a lot of fancy equipment to make good beer. "Visit your local homebrew shop and seek out your local homebrew club to find like-minded maniacs and info to get you started," he says. Lambert is a member of the Dukes of Ale, located in Albuquerque, where he previously served as treasurer.

He also shares insightful advice for current homebrewers wanting to improve their craft: Be methodical. Do research. Develop a base recipe and then tweak ingredients and/or the process until it fits the flavor profile you want. He says to pick a few styles you enjoy and focus on those until you have mastered them, while also deciding if you want to conform to the BJCP styles.

"You don't have to use every ingredient or every technique yourself to learn—learn from others where you can. And when you have mastered something teach it to the next person. In my opinion, that's progress in general—and how the world (craft of homebrewing) gets better."



ON THE WEB

Find past winners' homebrew recipes on our website @ HomebrewersAssociation.org/beer-recipes



MEADMAKER OF THE YEAR AWARD

ALLEN MARTIN

Gilbert, Ariz.

Arizona Society of Homebrewers



honey used for the marshmallow flavor and an extract used for the peanut butter.

His advice to aspiring meadmakers is, if possible, to find someone who already knows how to make mead who can give you tips and pointers. For those who don't have access to fellow mead enthusiasts nearby, there's the Modern Mead Makers Facebook group.

"This group focuses on modern techniques and is run and supported by many of the top commercial and home meadmakers," he says. Another resource he recommends is Scott Labs Handbook, available free online, which covers all things relating to yeast and fermentation processes.

Another helpful resource for Martin has been his homebrew club. He's a member of the Arizona Society of Homebrewers, which he says is a great support group.

While making that first mead, Martin recommends beginning with the basics. "Start with traditional meads; start simple."

When it comes to misconceptions of the beverage, Martin says that often he sees people who aren't familiar with it or have tried only one mead and concluded they don't like it. The problem with that, he says, is that's like trying one style of beer and basing your opinion off that particular beer.

"Mead is so diverse as far as sweetness levels, from dry to syrupy sweet," he adds.

Fortunately, Martin loves to talk about mead and help educate folks on the ancient beverage and will continue to do so. If you ask him to better explain mead to you, you'll likely be greeted with one question—how much time do you have?

Prior to discovering mead, **Allen Martin** would have described himself as a "Bud Light guy." But attending various bottle shares with his wife Jackie Jacoby, who is a homebrewer and a BJCP judge, introduced him to a totally different beverage.

It was there he met Carvin Wilson, to whom Martin was "the mead guru of the country." Wilson, who has previously been named Meadmaker of the Year, was a member of the American Homebrewers Association (AHA) Governing Committee, and cofounded the Mead Institute, shared some of his well-made creations with Martin.

"I never really enjoyed any alcohol type until I tried his meads," Martin says. "That very night I vowed to start making it."

He just dived deep into it—researching, reading, and making mead after mead. "It's been a steady process of learning and improving and making pretty good mead."

In fact, in an effort to improve his own craft, he became a BJCP Certified Mead Judge to get the opportunity to taste as many meads as possible.

You have to taste a bunch, he says. "Because if you just keep tasting your own stuff, you don't have anything to compare."

He also took the time to learn the different honeys and what flavors they bring to his meads. He explains that Wayne Gibbon's sweet clover honey has a good cinnamon flavor to it, while Zambian honey offers big tobacco and leather notes. Coriander blossom honey has anise flavors, while basswood honey has a menthol/minty characteristic.

His effort has clearly paid off. Martin has accumulated approximately 60 medals and awards for his meads within the last five years. "I am most proud of winning the American Mead Makers Association's Mead Maker of the Year for 2021 and pulling in five Mazer Cups that same year," he says.

When he found out he was named this year's Meadmaker of the Year at the AHA National Homebrew Competition, he was ecstatic.

"It's competing against a lot of really good meadmakers," he says, "Quite an honor."

This year's award-winning mead was a pymeat mead, which is made with grapes—Martin opted for Cabernet Sauvignon. For the honey, he used a blend of Zambian, buckwheat, orange blossom, and clover. Blending several honeys promotes complexity in the finished product, he explains.

Selecting the honey is a process, he says, as he finds honeys that go well to complement the grape. "Honey is too expensive to throw in a batch and not be good," he says. Instead, Martin does trials with the base mead to see which honey works well.

As with most of the meads he makes, this one took about six months from pitching the yeast to bottling. The end result had a tannic finish, he says, even though it finished rather sweet on the gravity scale. "Definitely had the characteristic Cabernet flavor to it," he adds.

The favorite mead he makes is a simple, sweet-clover, traditional, session-strength, carbonated mead that he keeps on tap at home. The most unique mead he's made was a Fluffernutter flavored one with meadowfoam



CIDERMAKER OF THE YEAR AWARD

MICHAEL WILCOX

Wichita, Kan.

Kansas City Bier Meisters



Michael Wilcox is no stranger to taking home medals for his craft creations. In fact, at a previous competition, as he was walking to the stage and overheard someone remark, “That guy wins too much,” he knew he had a name for his next long-term project: a sweet mead with partially caramelized honey and apricots and aged in a cognac barrel.

Wilcox was Cidermaker of the Year in 2017 and 2019 and Meadmaker of the Year in 2018 and 2019. This year he was named

Cidermaker of the Year, having received gold in Specialty Mead, gold in Traditional Mead, gold in Standard Cider/Perry, and bronze in Standard Cider/Perry.

“Don’t be in a hurry, make a lot of things, blend them together, and make incremental improvements until, like me, you’re starting to get the hang of this,” Wilcox says.

“Anyone who has judged this mead will tell you the aroma jumps out of the glass at you, especially from the heather,” he says.

“A bit of a risk as most of the flavors (caramel, raisin, nuts) taste like oxidation characters, but I hoped if judges looked up the honeys involved, they’d see those characters are from the honey.”

Similarly, he says, judges often look for noticeable apple character in cider, so he used a blend that was more up front with the fruit despite not being in his personal wheelhouse.

“I even entered a ridiculous PITA [pain-in-the-ass] keeved French cider in order to try to impress judges with soft tannins they’re not used to, intense overripe apple, limited MLF [malolactic fermentation] and quite a bit of sugar,” he says.

But something Wilcox is super proud of this year is the victory of one of his homebrew clubs, Kansas City Bier Meisters (he’s also a member of a club in Wichita), winning the prestigious honor of Homebrew Club of the Year.

He has made the drive to Kansas City at least 40 times in the last decade to pour, blend, sip, judge, and laugh with the close-knit bunch, he says, which he considers his “beer family.”

And his fellow club members are happy that he is part of their group. “Be prepared to take notes when talking to Wilcox about fermentations—he is an absolute wealth of knowledge and one we are lucky to have as a resource to our club,” says club member Amber Burkemper.



GAMBRINUS CLUB AWARD

KEEPERS OF CRAFT

Kalamazoo, Mich.



The Gambrinus Club Award is awarded to the club that gathers the most points per total club entries. This year’s recipient was **Keepers of Craft** from Kalamazoo, Mich.

But this isn’t the first accolade for the group. Since the club’s beginnings in 2015,

they have had collaboration beers on tap around the city with three different breweries, won the Michigan Beer Cup in 2021, and had three members independently win the Bell’s Homebrew Competition.

“To encourage the dissemination of knowledge in the art of brewing” is one the founding principles of the club.

“We really just want every member of the club to be able to brew to the standards that they set for themselves, and →



then push them even further," says executive board member and the club's information officer Brian Stephens. In that, they have become competition focused in the last four years. "We feel that the feedback from competitions is one of the most valuable tools at our disposal to get better and figure out what we're capable of achieving," he adds.

Stephens says that competitive homebrewing is a whole, huge sub-culture that exists within the hobby, but he notes that it's very respectful, too. "It's like a whole other giant homebrew club all of its own, with community members cheering everyone else on (even though we all definitely want to win)."

Meetings consist of updating attendees on new business, talking about upcoming competitions, hearing from occasional speakers, and, of course, tasting homebrews and hearing feedback. Stephens says he is amazed by the quality of beer, mead, and cider members turn out.

"Every meeting is like a beer festival with some of the best brewers in the state ... and then you realize that's exactly what it is, but they're homebrewers and the beer was made five gallons at a time," he says.

There are 38 members in the club, but locals are encouraged to join the Facebook group (currently 249 members) to keep up with what the group is doing in an attempt to foster interest in the club. They have also attended the Michigan Homebrew Festival as a member club every year since 2017.

In addition to the invaluable social aspect and building incredible friendships, Stephens says being a part of a homebrew club provides an amazing opportunity to grow as a homebrewer and simultaneously help others grow. "Not a single member of our club brews the same way, or enjoys exactly the same styles, or has exactly the same sub-interests (capturing wild yeast, mastering kveik, growing hops, etc.). Being able to absorb all of this different knowledge from so many passionate people really makes an impact."

Stephens says he doesn't even know if he would still be homebrewing if it weren't for this club. "The support, encouragement and connection I feel with our members is as strong as any blood relationship I have," he says. "Homebrewing is so much fun, but there's just something special about being able to share that with the people who are there to really support you in the hobby."



HOMEBREW CLUB OF THE YEAR AWARD KANSAS CITY BIER MEISTERS

Kansas City, Mo.



Homebrew Club of the Year **Kansas City Bier Meisters**—one of the oldest homebrew clubs in the country, founded in 1983—is no stranger to accolades when it comes to brewing. They have won High Plains Club of the Year for five of the last six years, and individual members have earned the High Plains Brewer of the Year for the last three years.

Several current and former members have opened and are successfully running their own craft breweries in the Kansas City area, including John McDonald of Boulevard, Steve Holle of Kansas City Bier Company, Michael Crane of Crane Brewing, and Chris Roberts of Red Crow, among others.

Last year, the club was first place in the Circuit of America Master Home Brewer Program. Of the 94 active members, a total of 26 are Certified (or higher) BJCP judges, including two Grand Master, one Master, six National, and 17 Certified judges. They also have eight Mead judges, two Cider judges, and an additional three recognized judges.

"It has definitely been our goal as a club to win Club of the Year," says member Stephanie Butler.

The club was very close to winning this award in 2019, she says, losing on a tie-breaker. "We're looking forward and making plans already for next year," Butler says.

Club member Michael Wilcox won Cidermaker of the Year, along with gold in Specialty Mead, gold in Traditional Mead, gold in Standard Cider/Perry, and bronze in Standard Cider/Perry. Other members who won this year include Kevin Wagner (gold in Specialty Cider/Perry), Jay Highfill (bronze in Strong American Ale), Ben Daniels (bronze in Spice Mead and bronze in Specialty Mead) and Mike and Stephanie Butler, both of whom are National BJCP judges (silver in American IPA).

Club president Joe Rose, who attributes the victory to grit, grace, courage, and diversity, feels incredibly fortunate to be part of the group. "It's challenged me to understand the brewing while keeping it fun," he says. Members appreciate learning the art of science and science of art, he adds.

"I've found members to be humble and willing to share tips or provide feedback to help others. As the saying goes, a rising tide lifts all boats," he says. The group prides themselves on not just being a club but a beer family. "We learn from each →



other and compete with one another," Rose says. "However, it helps that we respect differences and genuinely celebrate the success of other members."

In addition to furthering education in brewing, the club hosts a multitude of events throughout the year, such as Big Brew Day, Mead Day, Maifest,

Oktoberfest, and a Christmas social. Their annual competition always ends with a themed banquet organized by club members. They raise funds and volunteer for Harvesters to provide meals for individuals in need.

The club also strives to promote awareness of diversity in brewing in the

Greater Kansas City Area by holding fundraising events, pouring at local festivals, and inviting other clubs to attend monthly meetings. In the works is a large fall event including all of the homebrew clubs located in the Kansas City area, with a friendly competition whose proceeds will benefit charity.



RADEGAST CLUB OF THE YEAR AWARD THREE RIVERS UNDERGROUND BREWERS (T.R.U.B.) Carnegie, Pa.



The Radegast Club of the Year Award was awarded to the **Three Rivers Underground Brewers (T.R.U.B.)** homebrew club from Carnegie, Pa. The honor, named for the Slavic god of hospitality and the creator of beer, is awarded to a homebrew club that spreads the joy of homebrewing and diversity within the hobby and makes achievements through charity and philanthropy.

A huge accomplishment the club has achieved is their yearly event and one of Pittsburgh's longest running beer fests, Brewing Up a Cure. Now in its 14th year, the event features more than 100 different homebrewed beers, ciders and meads by various club members and local craft breweries, as well as thousands of dollars' worth of auction items.

The best part is it is all for a meaningful and great cause, benefiting the Cystic

Fibrosis Foundation. Original club member Shane Terrick's daughter, Sadie, who is now 18 years old, was born with cystic fibrosis. With the work of the club for Brewing Up a Cure, they have been able to raise more than \$350,000 for the Cystic Fibrosis Foundation. The event was even the recipient of the Cystic Fibrosis Foundation's Community Partner Award.

"As a club, we volunteer at many serving events in the area and assist one of the other local clubs with their home competition," says member Terry Denham. "We have shared our experiences by presenting a seminar at Homebrew Con about holding charitable home brewing events."

T.R.U.B. was founded in 2007 by five original members. "We were looking for a club that would help us sharpen our brewing skills and have others to offer constructive criticism about our homebrews," Denham says. "We were unable to find such a club at the time so we created our own." Since then, the club has grown to 30 members.

"Our club is about brewing beer, sharing beer, and helping others brew better beer," Denham says. In addition to sampling and critiquing each other's brews, the group devotes meeting time to discussing the latest from the Brewing Up a Cure committee and any upcoming serving events. They also have a show-and-tell to guess the beer and when visiting with new, local breweries, tour the facility.

The group makes joining the club simple and easy, advising just to come to one of the meetings and even feel free to bring some growlers along on your first visit.

"We welcome new members with open arms and hope they return to the next meeting," Denham says. **"Being a member has allowed me to meet other homebrewers, share tips and methods; it has also allowed me to brew with several of the local pro brewers and learn from them."**

For more information about Brewing Up a Cure, visit brewingupacure.com and see Last Drop in this issue of *Zymurgy*.



HOMEBREW SHOP OF THE YEAR

Gnome Brew
Chicago, Ill.



When it comes to selecting a recipient for Homebrew Shop of the Year Award, the American Homebrewers Association Governing Committee considers the store's promotion of homebrewing, customer service, engagement with the homebrew community, responsible business practices, and the support and education offered at the store. This year, **Gnome Brew**, located on Chicago's North Side, was chosen from 138 homebrew shop nominations across the country.

When owner David Odefey learned his shop was given this honor, he was thrilled. "We've put a ton of work into the shop, but the shop is only three years old now, so getting this recognition now really means a lot," he says.

He attributes this prestigious title to his great customers and their generous words in their nominations. "They appreciate Gnome Brew's commitment to hospitality and service along with our mission to support and grow the homebrewing community," he says. Upholding these values and standards, is what they call "The Gnome Brew Way." "We're constantly checking ourselves to make sure we're upholding those values," he adds.

Glowing reviews of the Ravenswood neighborhood shop highlight the knowledgeable, helpful, friendly staff and great selection.

One way Odefey strives to foster an engaged community is through various classes and speakers. The beginner Brewing Beer class is offered once or twice a month,

and in addition to brewing, it covers some beer history and a look at ingredients and beer style basics. "It's a group brew using Simply Brewing equipment and recipe kits along with some guided beer tastings, smell hops, and taste malt, so it's very hands on and interactive," he says.

The beginner class is designed to show people that brewing beer is easy, Odefey explains. "People have been brewing beer for thousands of years and you can do it, too," he says. Everyone can come out of the class with the tools to understand and appreciate beer better, even if they don't start homebrewing themselves, making it a great class for anyone who enjoys beer.

A monthly bottle share at the shop welcomes all skill levels, from beginner brewers to those who have been making beer for decades. "It's a great way for customers to get to know each other, get inspired, learn, get feedback, and, of course, to have fun," he says.

It's that live, community aspect that makes the benefit of going into a brick-and-mortar homebrew shop such a big part of the homebrewing experience. Customers can come in to taste grains and browse other ingredients in a more hands-on way, Odefey says.

"It's a community center where homebrewers get together either at one of our bottle shares or events, or just spontaneously strike up conversations with the staff and other customers," he says. It's a place where people who are curious about homebrew can come in and ask questions. "It gives us a chance to show that homebrewing is fun and friendly, not intimidating," he adds.

A variety of special guests have come to speak, including hop farmers, Omega

Yeast, Dovetail Brewery, and beer writer Josh Noel.

When you walk into the store, beer samples are available. There's always a hop sampler on tap—a single-hop pale ale brewed to the same base recipe—along with two other beers that are chosen to highlight other ingredients, such as new yeast or malts, or brewing techniques or styles. "The samples give a great jumping off point to educate customers and help them make decisions about what to brew or what ingredients to use," he says.

"We have a house line of Simply Brewing recipe kits which are great for beginners," he says. "They make great-tasting beers that we test fermenting with our basic equipment kit items at room temperature—the same experience a beginner will have at home." If a customer doesn't want to brew with a kit, staff will guide them to put together their own recipe, walking them through choosing a style and selecting the right extract, yeast, and hops to make their beer the way they want it.

Within the extensive selection of ingredients available, there are even local options for hops and malts. "We're bringing in new ingredients all the time so there's always something new to try out," he says.

But even for customers who can't come into the store, Odefey makes it a priority to develop a relationship either over the phone or through email and offer an easy ordering process. "They know they can call or email us anytime with brewing questions, help choosing ingredients, or help figuring out what part they might need for whatever project they're working on," he says.

To learn more about Gnome Brew, visit their website at gnomebrewshop.com.



AHA GOVERNING COMMITTEE RECOGNITION AWARD

DENNY CONN

Noti, Ore.

Long-time homebrewer and industry icon, **Denny Conn's** motto is simple: “Brew the best beer possible, with the least effort possible, while having the most fun possible.”

And while Conn has certainly been having fun the last 25 years he's been homebrewing, he has also been instrumental in helping the homebrew community flourish. That's exactly why he was chosen as the 2022 recipient of the American Homebrewers Association Governing Committee Award.

Speechless and humbled are two words Conn used to describe his reaction to the news. During the 15 years he was an American Homebrewers Association Governing Committee member, he saw a lot of great people receive the award. “To be in their company is kind of stunning,” he says. “It's hard for me to find the words to express the gratitude and shock.”

Conn has co-authored, along with Drew Beechum, several books on homebrewing, including *Experimental Homebrewing*, *Homebrew All-Stars*, and *Simple Homebrewing*, and was a contributing author to *Craft Beer for the Homebrewer*. He is also a contributor to homebrew magazines *Zymurgy* and *Brew Your Own*.

In addition, he is the cofounder of two homebrew podcasts: *Experimental Brewing* and *The Brew Files*, as well as a National-ranked BJCP judge. He's also a member of the Cascade Brewers Society in Eugene, Ore.

It all started a few decades ago when he was running a recording studio and his business partner introduced him to homebrewing. Conn's wife, Paula, bought him a

kit to get started himself. “I still remember opening the bottle of that first batch and it went ‘shhh’ ... it was magic,” he says.

He looks forward to brewing each new batch for the experience of brewing. “I love the process ... I love to make things,” he says. For Conn, it's about seeing it all come together, and sharing the beer with other people (when it's good, he laughs), watching a smile go across their face. “That's really what keeps me at it.”

During time on the AHA Governing Committee, one of his proudest accomplishments was getting the AHA Forum up and running, giving homebrewers access to a wealth of knowledge on the subject. “The forum is maybe one of the best repositories of homebrew information anywhere,” he says. “There is just a huge amount of information from very accomplished homebrewers.”

Writing books was another way he wanted to spread helpful information. His inspiration for *Simple Homebrewing* was the fact that homebrewers have a tendency to overcomplicate the process, he says. In his 593 batches that he's brewed, he has found there are things that are simply unnecessary and a waste of time. The goal of the books is to help homebrewers figure out what really matters in terms of the outcome of their beer and the enjoyment they get out of it.

With *Homebrew All-Stars*, he wanted to offer different voices and insights from several brewers. While most homebrew books are from a single point of view, he says, this one relates how 25 of some of the best homebrewers in the world do things. The hope is readers can then relate it back to their own goals and process. *Experimental Homebrewing*, which received an award from the North American Guild of Beer Writers, explores the world of brewing and brewing with ingredients like bacon and peanut butter powder.

The *Experimental Brewing* podcast is a broad overview of the commercial beer business with a focus on homebrewing, where he tries to cover many different areas. The idea for the podcast was sparked when he and co-author Drew Beechum were in Brazil to speak at a conference on homebrewing and going back and forth and debating and having fun, the same way the book is written. Someone said, “Wow, it's like the book has come to life.” And thus the podcast was launched.

The *Brew Files* podcast is more focused, he explains, and deals with specific styles and ingredients, really focusing on one topic on one time.

With hundreds of batches crafted, Conn has had some memorable ones. His Rye IPA, for example, was one that he made for his wife's birthday party, that he brewed over and over until he got it just right. In fact, it has been brewed by commercial breweries, including Rogue Ales.

“I brew probably more IPA than anything else since it's my wife's favorite style and I love it, too,” he says.

His *Wee Shroomy* is a wee heavy brewed with chanterelle mushrooms, which he got the inspiration from a Randy Mosher book. Through the years, he kept brewing it and perfecting it. He got the chance to brew it for a homebrew conference in Seattle, and Mosher himself came by and tried it, and then proceeded to keep bringing his friends to try it.

His advice is to learn the basics, start simple, and take really good notes—if you do something right, you want to make sure you do it again. And if you do something wrong, you want to make sure you don't.

Don't jump all over brewing every style—pick something and brew it repeatedly until you know how the process works. “That is how you're going to learn the most and get the most out of it,” he says.

“If you're not having fun when you're homebrewing, you're doing something wrong.”

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.

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2022 NATIONAL HOMEBREW COMPETITION

Category 1

PALE AMERICAN BEER

91 entries



Caleb Meinke
Cambridge, WI
Madison Brewers and Tasters Guild

"Len's American Light Lager"
1A American Light Lager

Batch volume:	5.25 US gal. (19.9 L)
Original gravity:	1.044 (11°P)
Final gravity:	1.008 (2.1°P)
Efficiency:	76%
Bitterness:	12 IBU
Color:	3 SRM
Alcohol:	4.8% by volume

MALTS

3 lb.	(1.36 kg) 2-row brewer's malt
3 lb.	(1.36 kg) Pilsner malt

HOPS

0.5 oz.	(14g) Hallertauer Mittelfrüh, 4.4% a.a. @ 60 min
0.5 oz.	(14g) Hallertauer Mittelfrüh, 4.4% a.a. @ 15 min

YEAST

380 billion cells Imperial L17 Harvest

WATER

34 ppm Ca, 10 ppm Mg, 3 ppm Na, 35 ppm Cl, 75 ppm SO₄, 16 HCO₃

BREWING NOTES

As with most lager beer, quality water and a large, healthy pitch of yeast are everything in this beer. Start with a clean, neutral water base (RO recommended), and push that cell count up to 1.5 to 1.75 million cells/mL/degree Plato. Enjoy!

RUNNERS-UP

Silver Medal: Wayne Doucette of Big Lake, MN, River City Brewers, American Lager

Bronze Medal: Kevin Olson of Raymore, MO, ZZHops Homebrewing Club, American Lager



ON THE WEB

Find past winners' homebrew recipes on our website @ HomebrewersAssociation.org/beer-recipes

Category 2

PALE EUROPEAN BEER

102 entries



Carmelo Medina Garcia
Jefferson Hills, PA
Three Rivers Alliance of Serious Homebrewers (TRASH)

"German Leichtbier"
2B. German Leichtbier

Batch volume:	5.5 US gal. (20.8 L)
Original gravity:	1.040 (10°P)
Final gravity:	1.006 (1.5°P)
Efficiency:	70%
Bitterness:	20 IBU
Color:	3 SRM
Alcohol:	4.5% by volume

MALTS & ADJUNCTS

7 lb.	(3.18 kg) Weyermann Pilsner malt
0.5 lb.	(227 g) Best Malz Light Munich malt

HOPS

1.0 oz.	(28g) Vanguard, 6% a.a. @ 60 min
1.5 oz.	(21g) German Select, 3% a.a. @ 0 min

ADDITIONAL ITEMS

½ tablet	Whirlfloc @ 15 min
yeast nutrient	@ 15 min
1 vial	Clearzyme, in primary

YEAST

1 pack Saflager W-34/70

WATER

50 ppm Ca, 5 ppm Mg, 6 ppm Na, 70 ppm Cl, 55 ppm SO₄.

BREWING NOTES

Add brewing salts to reverse osmosis water to target water profile. Adjust pH of the mash with lactic acid to 5.2. Mash at 147°F (64°C) for 90 minutes. Boil for 60 minutes. Chill to 50°F (10°C), oxygenate, and pitch yeast. Ferment at 54°F (12°C) for 2 days. After 7 days, raise temperature to 58°F (14°C). After 7 days of fermentation, let the beer free rise to room temperature for a week. Transfer to a keg and fine with gelatin. Cold crash and lager for 2 weeks.

RUNNERS-UP

Silver Medal: Scott Cole of Sandy Springs, GA, PC Mashers, Kölsch

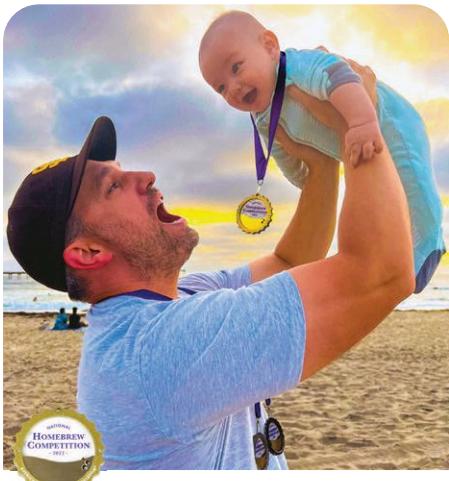
Bronze Medal: Tim Guido of Lower Burrell, PA, Kölsch



Category 3

PILSNER

146 entries



Doug Brown
San Diego, CA
QUAFF

"Sweet As John Quincy"
3E. New Zealand Pilsner

Batch volume:	5 US gal. (18.9 L)
Original gravity:	1.050 (12.4°P)
Final gravity:	1.009 (2.3°P)
Efficiency:	91%
Bitterness:	36 IBU
Color:	4 SRM
Alcohol:	5.5% by volume

MALTS & ADJUNCTS

5 lb.	(2.27 kg) Weyermann Pilsner malt
5 lb.	(2.27 kg) Crisp British pale malt
2 lb.	(0.9 kg) Admiral chit malt
0.5 lb.	(227 g) Rahr white wheat malt

HOPS

1.0 oz.	(28 g) Motueka, 6.1% a.a. @ FWH 60 min
0.5 oz.	(14 g) Nelson Sauvin, 11.4% a.a. @ 10 min
1.0 oz.	(28 g) Waimea, 12.8% a.a. dry hop 6 days
0.5 oz.	(14 g) Nelson Sauvin, 11.4% a.a. dry hop 6 days

YEAST

2L starter Imperial 13 Global

WATER

70 ppm Ca, 0 ppm Mg, 15 ppm Na, 87 ppm Cl, 52 ppm SO₄, 39 HCO₃

BREWING NOTES

Mash in 4 steps: (1) protein rest at 128°F (53°C) for 10 min; (2) beta-amylase rest at 147°F (64°C) for 60 min; (3) dextrin rest at 157°F (69°C) for 15 min; and (4) mash out at 168°F (76°C) for 10 min. Ferment according to the "Modified Narziss" regimen popularized by Tasty McDole (R.I.P.): pitch at 45°F (7°C), raising 1°F (0.6°C) every 12 hours until reaching 50°F (10°C); hold at 50°F until 50% of expected attenuation is realized, then raise temperature to 55°F (13°C), and raise again to 60°F (16°C) when 75% of expected attenuation is realized. Cold crash when fermentation finishes, then fine and carbonate, and serve fresh!

RUNNERS-UP

Silver Medal: Larry Bentley of North Plainfield, NJ, Garden State Homebrewers, German Pils

Bronze Medal: Zach Kossow of Pittsburgh, PA, Three Rivers Alliance of Serious Homebrewers (TRASH), Czech Pale Lager

Category 4

PALE MALTY EUROPEAN BEER

110 entries



Keith Wright
Mustang, OK
Red Earth Brewers

"German Blonde"
4A. Munich Helles

Batch volume:	6 US gal. (22.7 L)
Original gravity:	1.058 (14.3°P)
Final gravity:	1.015 (3.8°P)
Efficiency:	70%
Bitterness:	20 IBU
Color:	4 SRM
Alcohol:	5.8% by volume

MALTS & ADJUNCTS

11.5 lb.	(5.22 kg) Pilsner malt
1 lb.	(0.45 kg) Carapils malt
3 oz.	(85 g) acid malt

HOPS

0.5 oz.	(14 g) Mt. Hood, 6.4% a.a. @ FWH
0.5 oz.	(14 g) Mt. Hood, 6.4% a.a. @ 60 min
0.5 oz.	(14 g) Hallertau Mittelfrüh, 4.5% a.a. @ 30 min
0.5 oz.	(14 g) Hallertau Mittelfrüh, 4.5% a.a., whirlpool 15 min

ADDITIONAL ITEMS

½ tsp.	calcium chloride
1 tsp.	phosphoric acid
12	Campden tablets
	Irish moss @15 min

YEAST

2 qt. starter Wyeast 2308 Munich Lager

WATER

12 gallons RO water

BREWING NOTES

Prepare 12 gal. (45.4 L) water for minimum dissolved oxygen. Boil water then cool to mash-in temp of 155°F (68°C). Add crushed Campden tablets and mash in for a 1-hour rest until conversion is complete as indicated by the iodine test. Sparge with 170°F (77°C) water. Cooled with counterflow chiller to collect 5.5 gal. (20.8 L) wort at 60°F (15°C). Pitch a 2 qt. yeast starter, aerate well with O₂ and ferment in primary for 10 days at 50°F (10°C). At SG 1.020 (5°P), rack to secondary for 7 days. At SG 1.018 (4.5°P), rack again for a 5-day diacetyl rest at 70°F (21°C), then at SG 1.016 (4°P) rack onto gelatin finings and lower to 34°F (1°C) to crash yeast. After 1 week, transfer to a 5-gallon keg and carbonate to 2.4 vol. (4.8 g/L) of CO₂. After 3 days, filter to 1 micron while transferring to another keg. Counter-pressure bottle if desired.

RUNNERS-UP

Silver Medal: Eric Hammel of Hoffman Estates, IL, Festbier

Bronze Medal: Doug Brown of San Diego, CA, QUAFF, Munich Helles



2022 NATIONAL HOMEBREW COMPETITION

Category 5

AMBER EUROPEAN BEER

110 entries



Scott Nieradka
Portland, OR
Oregon Brew Crew

"Belly Spots"
5F Kellerbier

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.048 (12°P)
Final gravity: 1.009 (2.3°P)
Efficiency: 77%
Bitterness: 30 IBU

Color: 9 SRM
Alcohol: 5.2% by volume

MALTS

4.6 lb. (2.09 kg) Weyermann Barke
Munich malt
3.9 lb. (1.77 kg) Weyermann Barke Pilsner malt
0.8 lb. (0.36 kg) Weyermann CaraRed malt
0.7 lb. (0.32 kg) Rahr distiller's malt (for attenuation)

HOPS

2 oz. (57 g) German Saaz, 2.3% a.a.
@ 60 min
2.1 oz. (59 g) German Saaz, 2.3% a.a.
@ 30 min

ADDITIONAL ITEMS

30 ppm sodium metabisulfite, in mash
1.5 g Brewtan B, in mash
1 L homemade Sauergut @ 15 min
1 g Brewtan B, @ 7 min
½ tablet Whirlfloc @ 5 min
Weyermann Sinamar to adjust color @ 5 min
5 g PVP in boil @ 3 min
3 mg zinc sulfate at pitch

YEAST

2.2 million cells/mL°P RVA/TMB-308
Franconia

WATER

60 ppm Ca, 2 ppm Mg, 30 ppm Na, 120 ppm Cl, 30 ppm SO₄, 7 HCO₃.

BREWING NOTES

Brew using the methods outlined at themodernbrewhouse.com. Lighter Amber Hoppy style. Portland City water (very soft), deoxygenated, with enough calcium chloride added to reach a mash pH of 5.5. Mash in at 144°F (62°C), with rests at 147°F (64°C) for 30 min; 160°F (71°C) for 30 min; and 168°F (76°C) for 15 min. Add additional calcium chloride at start of boil to reach at least 60 ppm of Ca. 8% boil-off rate. Sinamar to adjust color to 9 SRM. Add Sauergut to lower boil pH to 5.1 at end of boil. Ferment at 50°F (10°C) with 15 psi of top pressure for approximately 6 days until 1°P to FG remaining, then transfer to serving vessel to naturally carbonate (spund) to 2.2 vol. (4.4 g/L) at 50°F (10°C), about 5 days. Cold condition 7 days at 34°F (1°C).

RUNNERS-UP

Silver Medal: Adam Wyss of Alamo, CA, Diablo Order of Zymiracle Enthusiasts (DOZE), Altbier

Bronze Medal: John Arnold of del Mar, CA, Märzen

Category 6

DARK EUROPEAN BEER

108 entries



Cory Email
Ann Arbor, MI
Ann Arbor Brewers Guild

"Czech Josef"
6B Dark Czech Lager

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.057 (14°P)
Final gravity: 1.016 (4.1°P)
Efficiency: 90%
Bitterness: 21 IBU
Color: 19 SRM
Alcohol: 5.6% by volume

MALTS & ADJUNCTS

5.6 lb. (2.54 kg) Vienna malt
2.1 lb. (0.95 kg) Weyermann Munich I malt
0.6 lb. (272 g) Weyermann Munich II malt
0.5 lb. (227 g) Weyermann CaraMunich II malt
0.5 lb. (227 g) Weyermann CaraFer Special II malt

HOPS

0.65 oz. (18 g) Saaz, 3.5% a.a. @ 60 min
1.1 oz. (31 g) Saaz, 3.5% a.a. @ 30 min
0.5 oz. (14 g) Saaz, 3.5% a.a. @ 3 min

ADDITIONAL ITEMS

1 tablet Whirlfloc @ 15 min

YEAST

2 packs White Labs WLP802 Czech Budějovice

WATER

55 ppm Ca, 8 ppm Mg, 21 ppm Na, 59 ppm Cl, 54 ppm SO₄.

BREWING NOTES

Step mash: 131°F (55°C) for 15 min; 147°F (64°C) for 30 min; 156°F (69°C) for 30 min; mash out at 170°F (77°C) for 15 min. Ferment at 50°F (10°C) for 10 days, then raise 4°F/day to reach 68°F (20°C). Hold at 68°F for 2 days for a diacetyl rest, then rack to purged keg and crash to 37°F (3°C). Condition at 37°F for at least 2 months.

RUNNERS-UP

Silver Medal: Doug Brown of San Diego, CA, QUAFF, Schwarzbier

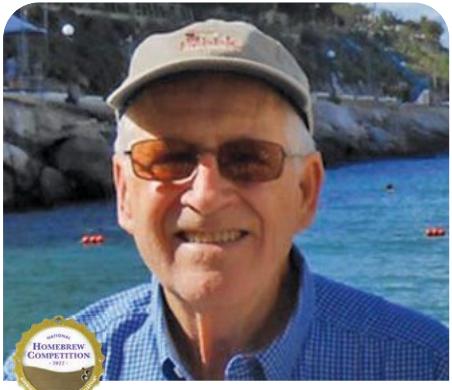
Bronze Medal: Paul Brown of Pinole, CA, Diablo Order of Zymiracle Enthusiasts (DOZE), International Dark Lager



Category 7

AMERICAN WHEAT & BLONDE

60 entries



Keith Wright
Mustang, OK
Red Earth Brewers

"American Beauty"
7A American Wheat Beer

Batch volume: 6 US gal. (22.7 L)
Original gravity: 1.062 (15.2°P)
Final gravity: 1.012 (3.1°P)
Efficiency: 70%
Bitterness: 24 IBU
Color: 3 SRM
Alcohol: 6.8% by volume

MALTS & ADJUNCTS

8.5 lb. (3.86 kg) Pilsner malt
8.5 lb. (3.86 kg) wheat malt

HOPS

1 oz. (28 g) Cluster, 7.6% a.a. @ 60 min
1 oz. (28 g) East Kent Golding, 4.8% a.a., 30 min hop stand
1 oz. (28 g) Hallertauer Mittelfrüh, 4.5% a.a., 5 min whirlpool

ADDITIONAL ITEMS

1 tsp. gypsum, in mash
1 tsp. phosphoric acid, in sparge water
Irish moss @ 15 min

YEAST

2 qt. starter Wyeast 1056 American Ale

WATER

Oklahoma City water, carbon filtered

BREWING NOTES

Single infusion mash at 155°F (68°C) for 1 hour until saccharification is complete as indicated by iodine test. Boil for 1 hour, then cool to 70°F (21°C) with counterflow chiller. Pitch 2 qt. yeast starter and ferment at 65°F (18°C) for 10 days to SG 1.020 (5°P). Rack to secondary. After 2 weeks, when beer has reached terminal gravity of SG 1.012 (3.1°P), rack onto gelatin finings and cool to 34°F (1°C). After 2 weeks, keg and force carbonate to 2.8 vol. (5.6 g/L) CO₂.

RUNNERS-UP

Silver Medal: Jonathan Bacon of Silver Spring, MD, Blonde Ale

Bronze Medal: Craig Coates of Charlotte, NC, Blonde Ale

Category 8

GERMAN WHEAT & RYE BEER

60 entries



Joshua Steinberg
Apex, NC

"Oak City Weissbier"
8A Weissbier

Batch volume: 6 US gal. (22.7 L)
Original gravity: 1.058 (14.3°P)
Final gravity: 1.013 (3.3°P)
Efficiency: 80%
Bitterness: 12 IBU
Color: 5 SRM
Alcohol: 6.1% by volume

MALTS & ADJUNCTS

7.5 lb. (3.4 kg) white wheat malt
4.25 lb. (1.93 kg) Pilsner malt

HOPS

0.67 oz. (19 g) German Tradition, 5.2% a.a. @ 45 min
0.25 oz. (7 g) German Tradition, 5.2% a.a. @ 15 min

YEAST

1 pack Omega OYL-021

WATER

50 ppm Ca, 7 ppm Mg, 8 ppm Na, 60 ppm Cl, 0 ppm SO₄, 0 HCO₃.

BREWING NOTES

Dough in at 105°F (41°C). Raise to 112°F (44°C) and hold 25 min. Pull 40% of mash for a decoction, heat to 160°F (71°C), and hold for 15 min. Raise to 212°F (100°C) and boil for 20 min. Add back to mash and raise to 147°F (64°C) and hold 20 min. Raise to 160°F (71°C) and hold for 30 min. Mash out at 170°F (77°C).

Ferment at 68°F (20°C) for 14 days with 1 packet OYL-021. No starter.

RUNNERS-UP

Silver Medal: Tyler Stubbs of Ft Leavenworth, KS, Sahti

Bronze Medal: Matt & Joey Cashman of Littleton, CO, Weissbier



2022 NATIONAL HOMEBREW COMPETITION

Category 9

PALE BRITISH BEER

74 entries

Ben Miller

Rio Rancho, NM

The Brewing Network

"Herbal Joe's Best Bitter"

9B. Best Bitter

Batch volume:	6.5 US gal. (24.6 L)
Original gravity:	1.045 (11.3°P)
Final gravity:	1.013 (3.3°P)
Efficiency:	72%
Bitterness:	45 IBU
Color:	11 SRM
Alcohol:	4.3% by volume

MALTS

7.5 lb.	(3.4 kg) Simpsons Golden Promise
1 lb.	(454 g) Weyermann CaraMunich I malt
1 lb.	(454 g) malted rye
8 oz.	(227 g) Briess Special Roast
4 oz.	(113 g) Weyermann CaraAroma malt

HOPS

1.5 oz.	(43 g) Fuggle, 4.8% a.a. @ 60 min
1 oz.	(28 g) Fuggle, 4.8% a.a. @ 20 min
1 oz.	(28 g) Fuggle, 4.8% a.a. @ 10 min
3 oz.	(85 g) Fuggle, 4.8% a.a. @ 1 min

ADDITIONAL ITEMS

1 tsp.	gypsum, in mash
1 tsp.	phosphoric acid, in sparge water
	Irish moss @ 15 min

YEAST

1 L starter	White Labs WLP 002 English Ale
-------------	--------------------------------

WATER

10 g CaCl ₂ (mash), 10 g CaSO ₄ (mash),
5 g CaCl ₂ (boil), 5 g CaSO ₄ (boil)

BREWING NOTES

Mash at 158°F (70°C) for 30 minutes. Recirculate mash for 10 minutes before collecting first runnings. Sparge until desired kettle

volume is reached. Boil 90 minutes total, adding first hop addition with 60 minutes remaining in boil. Chill to 67°F (19°C) and pitch yeast. Oxygenate with pure O₂ for 2 minutes at 1.5 L/min. Raise fermentation temperature slowly to 72°F (22°C) by day 5 (roughly). Once complete, crash cool before kegging. Carbonate to 2.2 vol. (4.4 g/L) CO₂. This recipe can also be dry hopped: add 2–3 oz. (57–85 g) Fuggle on day 5 and leave at 72°F (22°C) for an additional 2–4 days before kegging.

RUNNERS-UP

Silver Medal: Paul Domich of Pinole, CA, Diablo Order of Zymiracle Enthusiasts (DOZE), English IPA

Bronze Medal: Ernie Smith of Casper, WY, Intellectual Brewers Union (IBU), Best Bitter

Category 10

SCOTTISH & IRISH ALE

54 entries



Ryan & Therese Anderson
Jacksonville, FL
Cowford Ale Sharing Klub (CASK)

"Stand Sure"
10C. Scottish Export

Batch volume:	6 US gal. (22.7 L)
Original gravity:	1.057 (14°P)

Final gravity:	1.009 (2.3°P)
Efficiency:	60%
Bitterness:	22 IBU
Color:	17 SRM
Alcohol:	6.5% by volume

MALTS & ADJUNCTS

6.4 lb.	(2.9 kg) Spring Optic pale malt
6 lb.	(2.72 kg) Golden Promise pale malt
1 lb.	(0.46 kg) Munich I malt
0.88 lb.	(397 g) 70–89°L caramel malt
0.88 lb.	(397 g) torrified wheat
0.25 lb.	(113 g) black patent malt

HOPS

1.2 oz.	(34 g) East Kent Goldings, 4.7% a.a. @ 60 min
0.6 oz.	(17 g) East Kent Goldings, 4.7% a.a. @ 10 min

ADDITIONAL ITEMS

50 mL	phosphoric acid, in mash
0.75 lb.	(340 g) rice hulls, in mash
½ tablet	Whirlfloc @ 10 min
7 g	Fermaid K, in primary

YEAST

2 L starter	Wyeast 1728 Scottish Ale
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WATER

72 ppm Ca, 14 ppm Mg, 16 ppm Na, 52 ppm Cl, 101 ppm SO₄, 82 HCO₃.

BREWING NOTES

Make a 2 L starter with one pack of Wyeast 1728 two days before brew day, using a stir plate. Chill starter overnight before brew day. Target mash pH is 5.2. Mash at 156°F (69°C) for 60 minutes and mash out at 168°F (76°C) for 10 minutes. Boil for 60 minutes. Add Fermaid K directly to fermenter before filling. Chill wort to 60°F (15°C) and pitch yeast after decanting supernatant. Hold at 60°F (15°C) for 3 days, then gradually raise to 72°F (22°C) over 5 days. Cold crash when fermentation is complete and rack to keg. Force carbonate to 2.5 vol. (4.9 g/L) CO₂. Keg lagged for 2 months before bottling.

RUNNERS-UP

Silver Medal: Aaron Reif of Pleasant Hill, IA, Iowa Brewers Union, Scottish Heavy

Bronze Medal: Armand Roland Houle Jr of Pittsburgh, PA, Scottish Heavy



Category 11

AMERICAN PALE ALE

96 entries



Jonathan Bacon
Silver Spring, MD
Bacon Boys Brewing

"Little Moonfinder"
11 American Pale Ale

Batch volume: 6 US gal. (22.7 L)
Original gravity: 1.056 (13.8°P)
Final gravity: 1.012 (3.1°P)

Efficiency: 57%
Bitterness: 75.4 IBU
Color: 7 SRM
Alcohol: 5.9% by volume

MALTS & ADJUNCTS

13 lb. (5.9 kg) Golden Promise pale malt
2 lb. (0.9 kg) flaked barley
1 lb. (0.45 kg) Weyermann Munich I malt
6 oz. (170 g) 40°L crystal malt

HOPS

1 oz. (28 g) Mosaic, 11.2% a.a. @ 60 min
1 oz. (28 g) Cascade, 6.6% a.a. @ 30 min
1 oz. (28 g) Cascade, 6.6% a.a. @ 5 min
1 oz. (28 g) Cascade Cryo, 11.8% a.a., whirlpool 5 min
1 oz. (28 g) Citra Cryo, 25% a.a., whirlpool 5 min
1 oz. (28 g) Mosaic Cryo, 20.8% a.a., whirlpool 5 min
2 oz. (57 g) Mosaic, 12.5% a.a., keg hop 3 days
2 oz. (57 g) Citra, 11% a.a., keg hop 3 days
2 oz. (57 g) Cascade, 5.8% a.a., keg hop 3 days

YEAST

2 packs WLP090 San Diego Super Yeast

ADDITIONAL ITEMS

1 tsp. gelatin as fining

WATER

88 ppm Ca, 5 ppm Mg, 13 ppm Na, 53 ppm Cl, 154 ppm SO₄, 31 ppm HCO₃.

BREWING NOTES

Single infusion mash for 60 min at 154°F (68°C). Predicted mash pH was 5.2. Fermented at 62°F (17°C) until 80% attenuation, then free rise to 68°F (20°C). Passed forced diacetyl test and packaged into keg on day 11. Keg hopped with 2 oz. (57 g) Cascade, 2 oz. (57 g) Citra, and 2 oz. (57 g) Mosaic for 3 days then pressure-transferred to serving vessel. Finned with 1 tsp. gelatin. Named "Little Moonfinder Pale Ale" after my 2-year-old daughter Nadine who is always searching for and finding "da moon." Cheers!

RUNNERS-UP

Silver Medal: Brian McCrickard of Portsmouth, VA, Seven City Brewery, American Pale Ale

Bronze Medal: Stan Szymanski & Julie Szymanski of Edison, NJ, American Pale Ale

Category 11

AMBER & BROWN AMERICAN ALE

96 entries



Larry & Donna Reuter
Akron, OH
Society of Akron Area Zymurgists
(SAAZ)

"Sunset DayDreamer"
19A. American Amber Ale

Batch volume: 5.5 US gal. (20.8 L)
Original gravity: 1.056 (13.8°P)
Final gravity: 1.012 (3.1°P)
Efficiency: 75%
Bitterness: 30 IBU
Color: 15 SRM
Alcohol: 5.9% by volume

MALTS & ADJUNCTS

9.5 lb. (4.31 kg) Maris Otter pale malt
1 lb. (0.45 kg) biscuit malt
8 oz. (227 g) 40°L crystal malt
4 oz. (113 g) 80°L crystal malt
4 oz. (113 g) aromatic malt
2.1 oz. (59 g) pale chocolate malt

HOPS

0.25 oz. (7 g) Simcoe, 13% a.a., FWH
0.5 oz. (14 g) Amarillo Lupo, 14% a.a., FWH
0.75 oz. (21 g) Simcoe, 13% a.a., hop stand 30 min
0.5 oz. (14 g) Amarillo Lupo, 14% a.a., hop stand 30 min
0.5 oz. (14 g) Idaho 7 Lupo, 17.5% a.a., hop stand 30 min
1 oz. (28 g) Amarillo Lupo, 14% a.a., dry hop 4 days
1 oz. (28 g) Idaho 7 Lupo, 17.5% a.a., dry hop 4 days

1 oz. (28 g) Centennial, 9.9% a.a., dry hop 4 days

ADDITIONAL ITEMS

3.5 oz. (100 g) corn sugar for natural carbonation in keg

YEAST

1 pack Wyeast 1056 Chico Ale Yeast

WATER

60 ppm Ca, 8 ppm Mg, 48 ppm Na, 65 ppm Cl, 80 ppm SO₄, 107 ppm HCO₃.

BREWING NOTES

Mash 152°F (67°C) for 75 minutes, Batch sparge, boil 75 minutes. Ferment 7 days at 65°F (18°C), Dry hop 4 days. Naturally carbonate in keg with 3.5 oz. (100 g) corn sugar dissolved in 8 oz. clean water (simple sugar solution, boiled 5 minutes) and add to keg. Carb for 14 days at 65°F (18°C). Cold condition for 2 weeks. Drink!

RUNNERS-UP

Silver Medal: John and Judy Jacovetty of Seneca, SC, Kentucky Common (Historical Beer)

Bronze Medal: Don Burshnick and Dom Burshnick of Maine, NY, California Common



2022 NATIONAL HOMEBREW COMPETITION

Category 13

BROWN BRITISH BEER

91 entries

MinJoo Lee Paju-Si, South Korea

"Connection"
13C. English Porter

Batch volume: 5.25 US gal. (19.9 L)
Original gravity: 1.053 (13.1°P)
Final gravity: 1.019 (4.8°P)
Efficiency: 73%
Color: 24 SRM
Alcohol: 4.6% by volume

MALTS

7.7 lb. (3.49 kg) Maris Otter pale malt
1.1 lb. (0.5 kg) brown malt
1.1 lb. (0.5 kg) 50°L crystal malt
8.8 oz. (249 g) pale chocolate malt
1.76 oz. (50 g) chocolate malt

HOPS

1 oz. (28 g) Fuggle, 5% a.a. @ 60 min
1 oz. (28 g) Fuggle, 5% a.a. @ 15 min

YEAST

1 pack White Labs WLP013 London Ale

WATER

66 ppm Ca, 4 ppm Mg, 37 ppm Na,
88 ppm Cl, 66 ppm SO₄, 65 ppm HCO₃.

BREWING NOTES

Mash at 155°F (68°C) for 60 min. Ferment at 64°F (18°C) for 24 days. Prime to carbonate targeting 2.1 vol. (4.2 g/L) CO₂.

RUNNERS-UP

Silver Medal: Mike Neville of Dearborn, MI, Motor City Mashers, Dark mild

Bronze Medal: Nigel Curtis of Arlington, TX, Cap and Hare Homebrew Club, British Brown Ale

Category 14

BRITISH STOUT

48 entries



Eric Ott
Kalamazoo, MI

"West Michigan Milk Stout"
14A. Sweet Stout

Batch volume: 16.4 US gal. (62 L)

Original gravity: 1.069 (16.8°P)
Final gravity: 1.039 (9.8°P)
Efficiency: 73%
Bitterness: 35 IBU
Color: 38 SRM
Alcohol: 4.2% by volume

MALTS & ADJUNCTS

29 lb. (13.15 kg) Maris Otter pale malt
3 lb. (1.36 kg) flaked barley
2.8 lb. (1.27 kg) flaked oats
2.5 lb. (1.13 kg) 80°L caramel malt
2 lb. (907 g) roasted barley
1 lb. (454 g) chocolate malt
1 lb. (454 g) midnight wheat
1 lb. (454 g) lactose (whirlpool)

HOPS

1 oz. (28 g) Magnum, 14.3% a.a.
@ 60 min
1 oz. (28 g) Fuggle, 8.1% a.a. @ 10 min

ADDITIONAL ITEMS

2 tablets Whirlfloc @ 10 min

YEAST

3 packs White Labs WLP002 English Ale

WATER

200 ppm Ca, 36 ppm Mg, 90 ppm Na,
332 ppm Cl, 79 ppm SO₄, 45 ppm HCO₃.

BREWING NOTES

Mash at 158°F (70°C) for 60 minutes.
60-minute boil. Mash pH finished at 5.11 and post boil pH of 5.0, final pH (post fermentation) 4.52. Add 3 packs of WLP002 in 1,750 mL starter pitched at 70°F (21°C). Ferment at 67°F (19°C) for 6 days, then raise to 70°F (21°C) for a 2-day diacetyl rest, then crash to 34°F (1°C). Note: Water profile is calculated based on what was achieved with mixing my well water and distilled water along with appropriate brewing salt additions.

RUNNERS-UP

Silver Medal: Geoffrey Myers of Perry, OH, Oatmeal Stout

Bronze Medal: Dan Stoneman and Doug Brown of San Diego, CA, QUAFF, Oatmeal Stout



ON THE WEB

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2022 NATIONAL HOMEBREW COMPETITION

Category 15

IRISH STOUT

36 entries



Paul Sorice Jr.
Pinnelias Park, FL
Pinnelias Urban Brewers Guild

"Paul's Irish Extra Stout"
15C. Irish Extra Stout

Batch volume:	5.5 US gal. (20.8 L)
Original gravity:	1.058 (14.3°P)
Final gravity:	1.014 (3.6°P)
Efficiency:	70%
Bitterness:	36 IBU
Color:	35 SRM
Alcohol:	6% by volume

MALTS & ADJUNCTS

10 lb.	(4.54 kg) Maris Otter pale malt
8 oz.	(227 g) Carafa III malt
8 oz.	(227 g) pale chocolate malt
8 oz.	(227 g) Victory malt
8 oz.	(227 g) coffee malt
4.8 oz.	(136 g) 120°L crystal malt

HOPS

1.25 oz.	(35 g) Cluster, 6.5% a.a. @ 60 min
0.5 oz.	(14 g) Cluster, 6.5% a.a. @ 15 min

ADDITIONAL ITEMS

1 tsp.	Irish Moss @ 10 min
2.2 g	Wyeast yeast nutrient @ 10 min

YEAST

1 pack Fermentis Safale S-04

WATER

120 ppm Ca, 4 ppm Mg, 12 ppm Na, 55 ppm Cl, 19 ppm SO₄, 315 ppm HCO₃.

BREWING NOTES

Ferment in primary at 64°F (18°C) for 12 days. Raise the primary temperature to 68°F (20°C) on day 13 for a 3-day diacetyl rest. On day 16, cold crash primary and hold for 3 days. Keg via closed transfer on day 20. Carbonate to 2 vol. (4 g/L) CO₂.

RUNNERS-UP

Silver Medal: Jared Rowley of San Diego, CA, QUAFF, Irish Stout

Bronze Medal: Stephen Hoeprich of Nashua, NH, Irish Stout

Category 16

AMERICAN PORTER & STOUT

86 entries



Billy Lambert and Theresa Wilks
San Diego, CA

"KAW Porter"
16A. American Porter

Batch volume:	5.25 US gal. (19.9 L)
Original gravity:	1.059 (14.5°P)
Final gravity:	1.012 (3.1°P)
Efficiency:	70%
Bitterness:	29 IBU
Color:	46 SRM
Alcohol:	6.4% by volume

MALTS & ADJUNCTS

7.35 lb.	(3.33 kg) Great Western two-row malt
1.55 lb.	(703 g) Maris Otter pale malt
1 lb.	(454 g) flaked oats
0.9 lb.	(408 g) 60°L crystal malt
0.75 lb.	(340 g) Crisp chocolate malt
8 oz.	(227 g) Carafa I malt
4 oz.	(113 g) Crisp black malt

HOPS

1 oz.	(28 g) Northern Brewer, 8.5% a.a. @ 60 min
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ADDITIONAL ITEMS

1 tablet	Whirlfloc @ 15 min
0.25 tsp.	yeast nutrient @ 15 min

YEAST

1,400 mL starter yeast propagated from Stone Brewing Enjoy By in 2017

WATER

119 ppm Ca, 0 ppm Mg, 8 ppm Na, 154 ppm Cl, 81 ppm SO₄, 16 ppm HCO₃.

BREWING NOTES

Add 3 g CaSO₄ (gypsum) and 6.5 g CaCl₂ to reverse osmosis water. Mash at 152°F (67°C) for 60 min, fly sparge, and boil for 60 min. Clonal isolate of yeast strain obtained from Unfiltered Enjoy By IPA in 2017 and maintained on agar plates. White Labs WLP007 would be a good commercially available alternative. Ferment at 68°F (20°C) for 13 days, keg, and force carbonate at 12 psi.

RUNNERS-UP

Silver Medal: Christian Chandler of Chandler, AZ, Arizona Society of Homebrewers, American Stout

Bronze Medal: Chris McLellan of El Paso, TX, American Stout



Category 17

AMERICAN IPA

117 entries



Max Brown
Antioch, CA
Diablo Order of Zymiracle Enthusiasts (DOZE)

"NELSON!"
17. American IPA

Batch volume:	24 US gal. (90.8 L)
Original gravity:	1.060 (14.7°P)
Final gravity:	1.008 (2.1°P)
Efficiency:	70%
Bitterness:	80 IBU
Color:	4 SRM
Alcohol:	7.0% by volume

MALTS & ADJUNCTS

42 lb.	(19.1 kg) Rahr two-row malt
12 lb.	(5.44 kg) white wheat malt
3 lb.	(1.36 kg) Carapils
2.75 lb.	(1.25 kg) dextrose

HOPS

1.3 oz.	(37 g) Magnum @ 60 min
1 oz.	(28 g) Citra @ 20 min
2 oz.	(57 g) Nelson Sauvin @ 20 min
10 oz.	(284 g) Citra whole cone, hopback 20 min
5 oz.	(142 g) Centennial whole cone, hopback 20 min
12 oz.	(340 g) Nelson Sauvin, whirlpool 30 min
34 oz.	(964 g) Nelson Sauvin, dry hop 3 days
8 oz.	(227 g) Centennial, dry hop 3 days
16 oz.	(454 g) Citra, dry hop 3 days

ADDITIONAL ITEMS

Biofine

YEAST

White Labs WLP001 California Ale

WATER100 ppm Ca, 18 ppm Mg, 20 ppm Na, 40 ppm Cl, 260 ppm SO₄, 38 ppm HCO₃.**BREWING NOTES**

Mash at 148°F (64°C) for 60 minutes. Boil 60 minutes. Use a hopback for the whole cone hops. Pitch yeast at 65°F (18°C) and allow to rise to 70°F (21°C) over 5 days. Rouse the yeast and hops through the bottom of conical, and after 48 hours at 70°F (21°C) crash to 32°F (0°C), adding Biofine in the fermenter if you can and have time. Otherwise, use Biofine in the keg.

RUNNERS-UP

Silver Medal: Mike and Stephanie Butler of Olathe, KS, Kansas City Bier Meisters, American IPA

Bronze Medal: Eric Bridges of Chula Vista, CA, American IPA

Category 18

SPECIALTY IPA

55 entries



Nicholas McCoy
Sachse, TX
Draft Punk

"Go Bigger"
18A. Specialty IPA

Batch volume:	7 US gal. (26.5 L)
Original gravity:	1.087 (20.9°P)
Final gravity:	1.022 (5.6°P)
Efficiency:	59%
Bitterness:	80 IBU
Color:	49 SRM
Alcohol:	8.7% by volume

MALTS & ADJUNCTS

22 lb.	(9.98 kg) pale malt
2.00 lb.	(907 g) Weyermann Caramunich II
1.75 lb.	(794 g) Briess Midnight Wheat Malt
1.25 lb.	(567 g) corn sugar, boil

HOPS

1.25 oz.	(35 g) Chinook, 11.9% a.a. @ 60 min
1.5 oz.	(43 g) Amarillo, 6.4% a.a. @ 20 min
1.5 oz.	(43 g) Chinook, 11.9% a.a. @ 20 min
2 oz.	(57 g) Amarillo, 7.8% a.a. @ 5 min
4 oz.	(113 g) Citra, 12% a.a., dry hop 5 days before bottling
3 oz.	(85 g) Amarillo, 9.2% a.a., dry hop 5 days before bottling

ADDITIONAL ITEMS

1 lb. (454 g) rice hulls in mash

YEAST

1 pack Wyeast 1056 American Ale

BREWING NOTES

This recipe is the "Bigger" and smoother version of the NHC gold-medal-winning recipe Go Big from 2017 that I previously brewed with Jeff Poirot, currently the brewer at Hop Fusion Ale Works in Fort Worth, Texas. Water is built from reverse osmosis to an IPA profile. In addition to the higher gravity, this recipe mashes warmer at 156–158°F (69–70°C) for a full body.

Brew-in-a-bag, no-sparge mash with approximately 12.65 gal. (47.9 L) of 167°F (75°C) water. Mash for 60 minutes at 158°F (70°C) and then heat to 168°F (76°C) for a 10-minute mash out. Ferment at 68°F (20°C) for a week before dry hopping and use the freshest hops you can find. Cheers!

RUNNERS-UP

Silver Medal: Michael Belfoure of Pittsburgh, PA, Specialty IPA

Bronze Medal: Joseph Daly of Garden City, NY, Specialty IPA

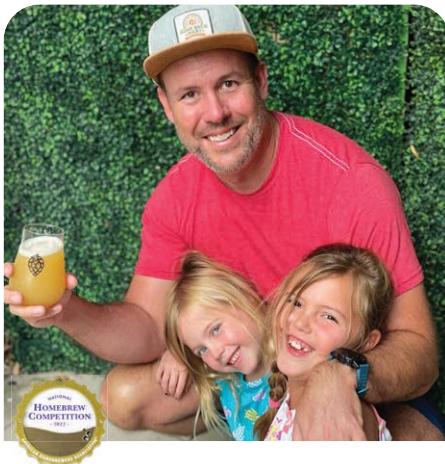


2022 NATIONAL HOMEBREW COMPETITION

Category 19

NEW ENGLAND IPA

110 entries



Ross Stuart
Scottsdale, AZ
Arizona Society of Homebrewers

"Hanella Hazy"
21C. Hazy/New England IPA

Batch volume:	5.5 US gal. (20.8 L)
Original gravity:	1.061 (15°P)
Final gravity:	1.012 (3.1°P)
Efficiency:	70%
Color:	5 SRM
Alcohol:	6.7% by volume

MALTS & ADJUNCTS

8 lb.	(3.63 kg) Pilsner malt
2 lb.	(907 g) pale malt
2 lb.	(907 g) wheat malt
1.5 lb.	(680 g) Maris Otter pale malt
1 lb.	(454 g) flaked oats
0.5 lb.	(227 g) golden naked oats

HOPS

0.15 oz.	(4.3 g) Simcoe @ 90 min
2 oz.	(57 g) Idaho 7, whirlpool
2 oz.	(57 g) Citra, whirlpool
2 oz.	(57 g) Citra, dry hop during active fermentation
6 oz.	(170 g) Citra, dry hop 3 days
6 oz.	(170 g) Mosaic, dry hop 3 days

YEAST

Imperial Yeast A38 Juice

WATER

Use brewing water with a 3:1 chloride to sulfate ratio.

BREWING NOTES

Mash at 155°F (68°C) for 60 minutes, raise to 168°F (76°C) for 10 minutes and sparge. Complete a 90-minute boil. Add whirlpool hops when wort temperature is below 185°F (85°C). Ferment at 68°F (20°C), adding first dry hop addition during active fermentation and all other dry hop additions after fermentation is complete for a duration of 3 days.

RUNNERS-UP

- Silver Medal:** Bryan McBeth of Norwalk, CT, New England IPA
Bronze Medal: Adam Clark of Colfax, CA, New England IPA

Category 20

STRONG AMERICAN ALE

76 entries



Alexander Cigan
New York, NY
New York City Homebrewers Guild

"Contrived Spontaneity"
22D. Wheatwine

Batch volume:	6 US gal. (22.7 L)
Original gravity:	1.091 (21.8°P)
Final gravity:	1.022 (5.6°P)
Efficiency:	77%
Bitterness:	46 IBU
Color:	17 SRM
Alcohol:	9.9% by volume

MALTS

12 lb.	(5.44 kg) white wheat malt
5 lb.	(2.27 kg) Golden Promise pale malt
1 lb.	(454 g) 60°L crystal malt
1 lb.	(454 g) honey malt

HOPS

0.75 oz.	(21 g) Simcoe cryo, 18.6% a.a. @ 60 min
0.5 oz.	(14 g) Simcoe, 10.2% a.a. @ 20 min
0.5 oz.	(14 g) Simcoe, 10.2% a.a. @ 5 min

ADDITIONAL ITEMS

8 oz.	(227 g) rice hulls, in mash
0.5 tsp.	yeast nutrient @ 10 min

YEAST

4 packs Fermentis Safale US-05

WATER

49 ppm Ca, 2 ppm Mg, 23 ppm Na, 61 ppm Cl, 50 ppm SO₄, 58 ppm HCO₃.

BREWING NOTES

Mash in with 1.3 qt./lb. (2.7 L/kg) at 104°F (40°C), targeting a pH of 5.5, and hold for 10 minutes. Step up to 131°F (55°C) for 15 minutes, then to 146°F (63°C) for 40 minutes, and finally to 158°F (70°C) for 15 minutes. Mash out at 168°F (76°C) for 15 minutes (hat tip to Gordon Strong and *Brew Your Own* for the mash tips). Vorlauf, fly sparge, and run off to reach a kettle volume of 8.5 gal. (32.2 L). Boil for 150 minutes. Chill to 68°F (20°C), pitch yeast, and bulk ferment for 5 months. Prime with dextrose to 2.3 vol. (4.6 g/L) CO₂ and bottle. For best results, bottle condition for at least 12 months. Enjoy!

RUNNERS-UP

- Silver Medal:** Rob Knipper of San Marcos, CA, Society of Barley Engineers, Double IPA
Bronze Medal: Jay Highfill of Overland Park, KS, Kansas City Bier Meisters, Wheatwine



Category 21

BOCK

56 entries



Brian Phillips
Nora Springs, IA
Iowa/Minn. Society of Brewers
(IAMNSOB)

"T-Bock"
6C. Dunkles Bock

Batch volume:	12.5 US gal. (47.3 L)
Original gravity:	1.078 (18.9°P)
Final gravity:	1.025 (6.3°P)
Efficiency:	70%
Bitterness:	20 IBU
Color:	21 SRM
Alcohol:	7% by volume

MALTS & ADJUNCTS

23 lb.	(10.43 kg) Munich malt, 10°L
9 lb.	(4.08 kg) Pilsner malt
1.25 lb.	(567 g) caramel malt, 120°L
1.25 lb.	(567 g) CaraMunich malt, 56°L
12 oz.	(340 g) crystal malt, 240°L
7 oz.	(200 g) honey malt
5 oz.	(141 g) melanoidin malt

HOPS

4 oz.	(113 g) Brewer's Gold, 8.5% a.a. @ 60 min
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ADDITIONAL ITEMS

1.5 tsp.	Wyeast yeast nutrient @ 5 min
1 tablet	Whirlfloc @ 10 min

YEAST

White Labs WLP833 German Bock Lager

WATER220 ppm Ca, 22 ppm Mg, 16 ppm Na, 69 ppm Cl, 60 ppm SO₄, 290 ppm HCO³.**BREWING NOTES**

Mash at 154°F (68°C) for 60 minutes. Mash out at 168°F (76°C). Boil for 90 minutes. Begin fermentation at 50°F (10°C) and raise to 60°F (16°C) over 10 days. Ferment at 60°F (16°C) for 17 days. Raise to 65°F (18°C) and ferment for 11 days. Lager for 4 weeks at 38°F (3°C).

RUNNERS-UP

Silver Medal: Jon Serluco of Brooklyn, NY, Brewminaries, Doppelbock

Bronze Medal: David Byer of Asheville, NC, Mountain Ale and Lager Tasters (MALT), Eisbock

Category 22

STRONG UK ALE

51 entries



Joel McCormley
Zionsville, IN

"Seventh Coalition"
22D. English Barley Wine

Batch volume:	3 US gal. (11.4 L)
Original gravity:	1.112 (26.4°P)
Final gravity:	1.032 (8°P)
Efficiency:	70%
Bitterness:	49 IBU
Color:	15 SRM
Alcohol:	11.9% by volume

MALTS & ADJUNCTS

11.8 lb.	(5.36 kg) Maris Otter pale malt
4 oz.	(113 g) Vienna malt
4 oz.	(113 kg) aromatic malt
4 oz.	(113 g) Special B malt
4 oz.	(113 g) melanoidin malt
4 oz.	(113 g) Caravienne malt
4 oz.	(113 g) flaked barley

HOPS

1.1 oz.	(31 g) Northern Brewer, 8.5% a.a. @ 60 min
1.26 oz.	(36 g) Fuggle, 4.5% a.a. @ 20 min
0.94 oz.	(27 g) Fuggle, 4.5% a.a. @ 10 min
0.63 oz.	(18 g) East Kent Goldings, 5% a.a. @ 5 min

YEAST

3 packs Wyeast 1318 London Ale III

WATER73 ppm Ca, 21 ppm Mg, 18 ppm Na, 33 ppm Cl, 33 ppm SO₄, 211 ppm HCO₃.**BREWING NOTES**

I use Zionsville city water cleared of chlorine. The water can vary, but those are details I received. I do a 1-hour mash at 152°F (67°C). Acidify mash to desired pH. I do a long boil of 2 to 4 hours. I fermented at a constant 68°F (20°C). This beer needs to sit for a least six months to a year.

RUNNERS-UP

Silver Medal: James Satin of Brooklyn, MI, Ann Arbor Brewers Guild, Old Ale

Bronze Medal: Bill Groves of Waterford, MI, Society of North Oakland Brewers (SNOBs), English Barleywine



2022 NATIONAL HOMEBREW COMPETITION

Category 23

IMPERIAL PORTER & STOUT

77 entries



NATIONAL HOMEBREW COMPETITION 2022

2022

Aaron Reif
Pleasant Hill, IA
Iowa Brewers Union

"Polk County Stout"
23B. Imperial Stout

Batch volume:	5 US gal. (28.7 L)
Original gravity:	1.123 (18.9°P)
Final gravity:	1.034 (8.5°P)
Efficiency:	70%
Bitterness:	20 IBU
Color:	21 SRM
Alcohol:	13.5% by volume

MALTS & ADJUNCTS

16 lb.	(7.26 kg) pale 2-row malt
3 lb.	(1.36 kg) light Munich malt
2 lb.	(907 g) Maris Otter pale malt
2 lb.	(907 g) chocolate malt
2 lb.	(907 g) 40°L caramel malt
1.5 lb.	(680 g) roasted barley
1.5 lb.	(680 g) black barley

Category 24

SAISON

64 entries



NATIONAL HOMEBREW COMPETITION 2022

2022

Colby Reineke
Minneapolis, MN

Minnesota Home Brewers Association

"Arcane Alchemy"
24B. Saison

Batch volume:	5.5 US gal. (20.8 L)
Original gravity:	1.037 (9.3°P)
Final gravity:	1.004 (1°P)
Efficiency:	78%
Bitterness:	45 IBU
Color:	3 SRM
Alcohol:	4.3% by volume

MALTS & ADJUNCTS

5.5 lb.	(2.49 kg) Rahr Premium Pilsner malt
1.5 lb.	(680 g) flaked wheat
2.4 oz.	(68 g) corn sugar

HOPS

0.1 oz.	(2.8 g) CO ₂ hop extract, 60% a.a. @ 60 min
1 oz.	(28 g) Loral Cryo, 22% a.a., hop stand
1 oz.	(28 g) Loral, 10% a.a., hop stand
2 oz.	(57 g) Hallertau Hersbrucker, 4% a.a., hop stand
1 oz.	(28 g) Triple Pearl, 10% a.a., hop stand

YEAST

1 pack	Imperial Yeast B56 Rustic
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WATER

50 ppm Ca, 0 ppm Mg, 25 ppm Na, 90 ppm Cl, 45 ppm SO₄, 0 ppm HCO₃.

BREWING NOTES

I prefer working in percentages where possible—the grist for this recipe is 78% Pilsner malt, 20% flaked wheat, and 2% sugar. I'm a huge fan of low-oxygen brewing, reducing hot-side aeration where possible, and being gentle as possible throughout the brewing process. This produces the cleanest, brightest beer possible.

I start by de-oxygenating all my brewing liquor by boiling the entire amount first, then cooling it down to my mash strike temperature. I treat the entire brewing liquor with all minerals (mash and sparging water together) to a 1:2 ratio of sulfate to chloride after the de-oxygenating boil, but before cooling. Do not exceed 100 ppm chloride.

Acidify all of the brewing liquor using lactic acid to achieve a mash pH between 5.1 and

HOPS

1 oz. (28 g) Magnum, 12.8% a.a.
@ 60 min

YEAST

3 L starter Wyeast 1056 American Ale

BREWING NOTES

Start with 9.8 gal. (37 L) mash water and 2.7 gal. (10.2 L) sparge water to end up with 9 gal. (34 L) at the start of the boil. Boil for 3 hours down to 6.3 gal. (23.8 L). Pitch a 3 L starter made with 2 Wyeast 1056 packs.

RUNNERS-UP

Silver Medal: Jack Wallace of Chesapeake, VA, Seven City Brewers, Baltic Porter

Bronze Medal: Joe Skiles of Carol Stream, IL, Imperial Stout

5.3. Mash for 45–60 minutes at 145–147°F (63–64°C). Mash pH should fall between 5.1 and 5.3, but add additional acid if the pH is above 5.3. Gently vorlauf for 20 to 25 minutes or until runoff is very clear. Sparge until the full volume is achieved in the kettle, stop sparging if gravity falls below 1.010, and top up the kettle with excess brewing liquor to achieve the full boil volume.

Boil for 90 minutes. At 60 minutes add the CO₂ hop extract, targeting 30 IBUs. After the boil, cool the wort down to 170–160°F (77–71°C). Add the remaining hops, shooting for roughly 1 oz./gal. (7.5 g/L). Whirlpool the hops and let the hops and trub settle for 25–30 minutes. Cool the wort to 67°F (19°C) and rack into the fermenter.

Oxygenate the wort at 1.5 L/min for 1 to 2 minutes with pure O₂. Pitch one pack of Rustic Imperial yeast or Wyeast 3726 Farmhouse Ale Yeast for 200 billion or 1.04M cells/mL°P. Hold temperature at 67–70°F (19–21°C) for first 24 hours, then let the fermentation free-rise to 95–100°F (35–38°C). Hold that temperature until fermentation is complete. Near the tail end of the fermentation (around 1.010/2.6°P or so), attach a spunding valve. Crash cool and condition for 1 to 2 weeks at 32°F (0°C). Force carbonate to 2.7–3 vol. (5.4–6 g/L) of CO₂.

RUNNERS-UP

Silver Medal: Timothy Lambert of Albuquerque, NM, Dukes of Ale, Saison

Bronze Medal: Timothy Lambert of Albuquerque, NM, Dukes of Ale, Saison

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2022 NATIONAL HOMEBREW COMPETITION

Category 25

BELGIAN ALE

100 entries



Jordan Folks
Portland, OR
Portland Brewers Collective

"I Left Rome"
26A. Trappist Single

Batch volume: 10 US gal. (37.9 L)
Original gravity: 1.050 (12.4°P)
Final gravity: 1.005 (1.3°P)
Efficiency: 54%

Bitterness: 40 IBU
Color: 2 SRM
Alcohol: 6% by volume

MALTS & ADJUNCTS

12 lb. (5.44 kg) Best Malz Heidelberg Pilsner malt
3 lb. (1.36 kg) Weyermann Floor Malted Bohemian Pilsner malt
3 lb. (1.36 kg) Weyermann Barke Pilsner malt
1 lb. (454 g) clear Belgian candi sugar, in boil

HOPS

2.8 oz. (79 g) Hallertau Tradition, 5.7% a.a. @ 60 min
3.5 oz. (99.2 g) Saphir, 3.2% a.a. @ 20 min
1 oz. (28 g) Czech Saaz, 4% a.a. @ 12 min

ADDITIONAL ITEMS

Sauergut, as needed to achieve desired mash pH and wort pH
Yeast nutrient @ 10 min
Brewtan B @ 5 min
Whirlfloc @ 5 min

YEAST

0.75 million cells/ml/^P Bootleg Biology OB Belgian Ale

WATER

57 ppm Ca, 4 ppm Mg, 10 ppm Na, 30 ppm Cl, 90 ppm SO₄, 65 ppm HCO₃.

BREWING NOTES

No-sparge/full-volume mash. Mash is acidified with Weyermann Sauergut to 5.4 pH. Mash at 131°F (55°C) for 10 min, 144°F (62°C) for 90 min, 160°F (71°C) for 60 min, and 170°F (77°C) for 10 min. Add candi sugar when wort approaches the boil. Add Sauergut at flameout to achieve pH just under 5.1. Rack to settling vessel and then rack clear wort off trub and into fermenter. Pitch yeast, oxygenate, and start fermentation at 65°F (18°C). After 3 days, begin slow rise up to 75°F (24°C) over the course of several days; hold until final gravity is reached. Bottle condition with boiled-down candi sugar/water solution to 3.3 vol. (6.6 g/L) CO₂ in thick Belgian brown bottles.

RUNNERS-UP

Silver Medal: Preston Klingseis and Maggie Klingseis of Hellertown, PA, Lehigh Valley Home Brewers, Bière de Garde

Bronze Medal: Andy Cox of Wilton, CT, Underground Brewers of Connecticut, Witbier

Category 26

STRONG BELGIAN ALE

124 entries



Joseph Belevender
Warren, MI
Pontiac Brewing Tribe

"Concrete Bicycle"
26C. Belgian Golden Strong Ale

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.082 (19.8°P)
Final gravity: 1.012 (3.1°P)
Efficiency: 50%
Bitterness: 26 IBU

Color: 8 SRM
Alcohol: 9.8% by volume

MALTS & ADJUNCTS

12 lb. (5.44 kg) Weyermann Bohemian Pilsner malt
5 lb. (2.27 kg) Weyermann pale malt
0.5 lb. (227 g) Briess red flaked wheat
1 lb. (454 g) Briess golden light DME @ 60 min
2 lb. (907 g) golden candi syrup @ 10 min

HOPS

0.6 oz. (17 g) Magnum, 12% a.a. @ 60 min
1 oz. (28 g) Saaz, 3.8% a.a. @ 10 min

YEAST

Make two starters representing 60% and 40% of the batch OG. Use a yeast pitch calculator to size them appropriately.

1.049 SG starter	White Labs WLP545 Belgian Strong Ale
1.033 SG starter	White Labs WLP590 French Saison Ale

WATER

42 ppm Ca, 4 ppm Mg, 0 ppm Na, 47 ppm Cl, 51 ppm SO₄, 0 ppm HCO₃.

BREWING NOTES

Mash at 148°F (64°C) for 38 minutes and then raise to 158°F (70°C) for 30 minutes. No mash out. Boil for 90 minutes, adding DME at the start of boil (or adjust grain bill without DME) and hops as indicated. Add candi syrup 10 minutes before flameout. Chill to 65°F (18°C), oxygenate, and pitch yeast.

Yeasts must be from two separate yeast starters at 60/40 ratio—seriously, this makes the beer what it is! Hold at 65°F (18°C) for 24 to 36 hours and then let fermentation temperature free rise to 69°F (21°C), then hold at 69°F until you reach final gravity. Cold crash beer after fermentation to lager temp. Carbonate at 2.5–2.8 vol. (5–5.6 g/L) and then let the beer lager for 7 to 8 weeks before bottling or canning.

RUNNERS-UP

Silver Medal: Mark Beck of Portland, OR, Portland Brewers Collective, Belgian Dark Strong Ale

Bronze Medal: Brian Lasure of Highlands, NC, Belgian Dubbel



Category 27

EUROPEAN SOUR ALE

65 entries

Jeremiah Baer
Collinsville, IL
East Side Brewers

"Adventure Time"
 27G. Historical: Gose

Batch volume: 6 US gal. (22.7 L)
 Original gravity: 1.050 (12.4°P)
 Final gravity: 1.012 (3.1°P)
 Efficiency: 70%
 Bitterness: 10 IBU
 Color: 4 SRM
 Alcohol: 5.1% by volume

MALTS & ADJUNCTS

5 lb. (2.27 kg) Weyermann Pilsner malt
 4 lb. (1.8 kg) Weyermann pale wheat malt
 2 lb. (907 g) Dingemans Belgian Pilsner malt
 6 oz. (170 g) acidulated malt

HOPS

0.5 oz. (14 g) Galaxy, 14.2% a.a.
 20 min @ 200°F (93°C)

ADDITIONAL ITEMS

28 g coriander @ 10 min
 18 g sea salt @ 10 min
 0.75 tsp. yeast nutrient @ 10 min
 1 tablet Whirlfloc @ 10 min

YEAST & BACTERIA

3g Lactobacillus helveticus
 1 pack Verdant IPA yeast

WATER

Distilled, with 2 g calcium chloride and 3 g gypsum

BREWING NOTES

Mash with 6 gal. (22.7 L) water at 147°F (64°C) for 90 minutes. Sparge with 2.5 gal. (9.5 L) water and bring to boil for 15 minutes. Add 3 g Lactobacillus helveticus and keep at 108°F (42°C) for 48 hours. Boil 60 min. Ferment with Verdant IPA yeast at 64°F (18°C) for 3 days, and then increase to 69°F (21°C) and hold for another 5 days. Package with high carbonation.

RUNNERS-UP

Silver Medal: Brooks Edman of Stewartstown, PA, Chop & Brew, Fruit Lambic
Bronze Medal: Christopher Crump and Corbett Crump of APO, Armed Forces Europe, Fruit Lambic

Category 28

FRUIT BEER

113 entries



Chico Milani
Florianópolis, Brazil
Acerva Catarinense

"Andanzas - Sangue de Dragão"
 X4. Catharina Sour

Batch volume: 5.28 US gal. (20 L)
 Original gravity: 1.050 (12.4°P)
 Final gravity: 1.008 (2.1°P)
 Efficiency: 70%
 Bitterness: 7 IBU
 Color: 3 SRM
 Alcohol: 5.6% by volume

MALTS & ADJUNCTS

4.96 lb. (2.25 kg) Weyermann Pilsner malt
 4.08 lb. (1.85 kg) Weyermann wheat malt
 7.76 oz. (220 g) flaked oats
 3.17 oz. (90 g) Weyermann acidulated malt

HOPS

0.71 oz. (20 g) Hallertau Mittelfrüh,
 4.1% a.a. @ 20 min

ADDITIONAL ITEMS

3.53 lb. (1.6 kg.) Cupuaçu, end primary
 1.76 lb. (0.8 kg) dragon fruit, end primary
 0.75 tsp. yeast nutrient @ 10 min
 1 tablet Whirlfloc @ 10 min

YEAST & BACTERIA

200 billion cells Lactobacillus helveticus
 1 pack Levteck – TeckBrew 10

WATER

75 ppm Ca, 10 ppm Mg, 0 ppm Na,
 75 ppm Cl, 75 ppm SO₄, 0 ppm HCO₃.

BREWING NOTES

Cupuaçu is a tropical fruit from the Amazon rainforest. Its taste is like a mix of chocolate, pineapple, banana, and pear.

Single infusion mash at 66°C (150°F) for 60 minutes. Target 5.3 pH mash. Mash out at 78°C (172°F) for 10 minutes. Boil for 10 minutes without hops. After flameout, lower pH to 4.5 with lactic acid, cool the wort to 38°C (100°F). Pitch the L. helveticus (0.1 g/L), purge the kettle with CO₂, and seal. Hold at 38°C (100°F) until the pH reaches 3.1–3.2. Bring to boil for 60 minutes, adding hops as indicated. Chill the wort to 16°C (61°F), transfer to sanitized fermenter, and pitch Levteck-TeckBrew10 yeast. Ferment at 18°C (64°F). When attenuation is close to 75%, add the fresh cupuaçu and dragon fruit and hold for 4 days at 21°C (70°F). Force carbonate to 3.5 vol. CO₂.

RUNNERS-UP

Silver Medal: John Spinella of New Hartford, NY, Fruit Beer
Bronze Medal: Joseph Daly of Garden City, NY, Fruit Beer



2022 NATIONAL HOMEBREW COMPETITION

Category 29

SPICED BEER

76 entries

Mark Schoppe
Austin, TX
Austin Zealots

"Chipotle Lichtenhainer"
29. Spice, Herb, or Vegetable Beer

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.042 (10.5°P)
Final gravity: 1.008 (2.1°P)
Efficiency: 75%
Bitterness: 5 IBU
Color: 3 SRM
Alcohol: 4.5% by volume

MALTS & ADJUNCTS

3.6 lb. (1.63 kg) rauch malt
3.6 lb. (1.63 kg) wheat malt

HOPS

0.14 oz. (4 g) Magnum, 9.5% a.a. @ 75 min

ADDITIONAL ITEMS

8 oz. (227 g) skyr (Icelandic yogurt)
4 dried chipotle chiles, 1 week in secondary

YEAST

1 pack White Labs WLP029 German Ale/
Kolsch

WATER

78 ppm Ca, 13 ppm Mg, 21 ppm Na,
103 ppm Cl, 103 ppm SO₄

BREWING NOTES

Single step infusion mash at 152°F (67°C) for 60 minutes. Collect wort in kettle and heat to 180°F (82°C) to pasteurize.

Cool wort to 110°F (43°C) and add skyr. Cover surface with plastic wrap to keep out oxygen and keep warm overnight (I use an

immersion sous vide device to maintain a temperature of 110°F/43°C).

The next day, boil for 75 minutes, adding hops at the start of the boil. Cool and transfer to carboy, aerate and add yeast.

Primary fermentation for one week at 68°F (20°C). Transfer to secondary and add chipotles. I prepare the chipotles by boiling a mug of water in the microwave, cutting the chiles into pieces, adding them to the boiled water, and then letting them steep for 30 minutes. Then I add it (liquid, chunks, and all) to the secondary.

Let the beer sit on the chiles until it reaches the level of heat you want (I give it a week), then transfer to a keg and carbonate.

RUNNERS-UP

Silver Medal: Jerry Canny of Binghamton, NY, BIER, Spice, Herb, or Vegetable Beer

Bronze Medal: Timothy Lambert of Albuquerque, NM, Dukes of Ale, Spice, Herb, or Vegetable Beer

Category 30

SEASONAL SPICED BEER

26 entries

Batch volume: 10 US gal. (37.9 L)
Original gravity: 1.090 (21.6°P)
Final gravity: 1.025 (6.3°P)
Alcohol: 9.3% by volume

MALTS & ADJUNCTS

32 lb. (14.5 kg) UK Golden Promise malt
1 lb. (454 g) Belgian Special B malt
1 lb. (454 g) Dingemans Cara 45 malt
1 lb. (454 g) Carastan malt

HOPS

2 oz. (57 g) Nugget, 14% a.a. @ 60 min

ADDITIONAL ITEMS

3 sticks cinnamon
15 whole cloves
2 whole nutmegs, grated

YEAST & BACTERIA

1 L starter Cellar Science Cali

BREWING NOTES

Perform a 30 min. single infusion mash, followed by 30 min. recirculation using a HERMS, increasing temp to roughly 170°F (77°C) at mash out. Conduct a 90 min. boil, with the first and only hop addition taking place 60 min. before flameout. Ferment in a stainless conical. One month before brew day, crush spices with a mortar and pestle and make a tincture using vodka as a solvent. Decant the liquid into the fermented beer at kegging.

RUNNERS-UP

Silver Medal: Ben Jankowski of Oyster Bay, NY, Autumn Seasonal Beer

Bronze Medal: Jonathan Bacon of Silver Spring, MD, Autumn Seasonal Beer



Category 31

SMOKE-FLAVORED BEER

49 entries



Jason Wiggs
Tampa, FL
Special Operations

"Lichten My Hiney"
31B. Historical: Lichtenhainer

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.048 (11.9°P)
Final gravity: 1.014 (3.6°P)
Efficiency: 70%
Alcohol: 4.5% by volume

MALTS & ADJUNCTS

4 lb. (1.81 kg) Pilsner malt
3 lb. (1.36 kg) beechwood-smoked malt
1 lb. (454 g) oak-smoked wheat malt

HOPS

0.25 oz. (7 g) Saaz, 3% a.a., in boil

YEAST & BACTERIA

1 pack Lactobacillus
1 pack Wyeast 1056 American Ale

BREWING NOTES

Keg sour with the Lactobacillus for four days @ 85°F (29°C).

RUNNERS-UP

Silver Medal: Jonathan Lizenby of Harvest, AL, 256 Brewers, Piwo Grodziskie

Bronze Medal: Michael Beck of Griffith, IN, Illiana Beer Rackers Union (IBRU), Lichtenhainer

Category 32

WOOD-AGED BEER

96 entries



Jarrett Long & John Bates
Arlington, TX
Horsemen of the Hopocalypse

"Eis Eis Baby"
32B. Historical: Specialty Wood-Aged Beer

Batch volume: 6 US gal. (22.7 L)
Original gravity: 1.107 (25.3°P)
Final gravity: 1.033 (8.3°P)
Efficiency: 80%
Bitterness: 29 IBU
Color: 14 SRM
Alcohol: 11% by volume

MALTS & ADJUNCTS

11 lb. (4.99 kg) Pilsner malt
9 lb. (4.09 kg) Munich malt
4 lb. (1.81 kg) CaraMunich I malt

HOPS

1 oz. (28 g) Magnum, 13% a.a. @ 60 min
1 oz. (28 g) Hallertau Mittelfrüh, 4.3% a.a. @ 30 min

YEAST & BACTERIA

2 packs Bohemian Lager

BREWING NOTES

Mash at 155°F (68°C) for 60 min. 90 min boil. Pitch with a healthy yeast starter. Ferment at 50°F (10°C) for 10 days. Perform a diacetyl rest at 68°F (20°C) for 2 days. Lager at 38°F (3°C) for 14 days. Rack to a fresh rum barrel and age to taste.

RUNNERS-UP

Silver Medal: Max Furth of Orlando, FL, Brewers Anonymous, Specialty Wood-Aged

Bronze Medal: Fabio Florencio and Gracie Paula of Ribeirão, Brazil, Specialty Wood-Aged

**ON THE WEB**

Find past winners' homebrew recipes on our website @ HomebrewersAssociation.org/beer-recipes



Category 33

AMERICAN WILD ALE

56 entries



Jordan Folks
Portland, OR
Portland Brewers Collective

"Lou Pep Pep"
33C. Wild Specialty Beer
Aged with Peaches

Batch volume:	10 US gal. (37.9 L)
Original gravity:	1.049 (12.2°P)
Final gravity:	1.005 (1.3°P)
Efficiency:	47%
Bitterness:	32 IBU
Color:	4 SRM
Alcohol:	5.8% by volume

MALTS & ADJUNCTS

13 lb.	(5.9 kg) Weyermann Barke Pilsner malt
4 lb.	(1.81 kg) Weyermann Barke Vienna malt
2 lb.	(907 g) Weyermann wheat malt
1.25 lb.	(567 g) dextrose, primary

HOPS

1.75 oz.	(49.6 g) German Perle, 5.5% a.a. @ 60 min
4.5 oz.	(127 g) Nelson Sauvin, 10.3% a.a. whirlpool 10 min

ADDITIONAL ITEMS

17 lb.	fresh peaches (multiple varieties), 6 weeks
4	cumaru seeds (tonka beans), crushed, and soaked in Amburana-barrel-aged cachaça

YEAST

0.3 million cells/mL/°P	Imperial Rustic
0.3 million cells/mL/°P	Wyeast 3724

Belgian Saison

WATER

50 ppm Ca, 4 ppm Mg, 10 ppm Na,
47 ppm Cl, 50 ppm SO₄, 65 ppm HCO₃.

BREWING NOTES

The winning entry was a blend of seven beers. The recipe provided here is the bulk of the blend. My approach is to make several sour stock beers, age them 6 months or so, brew/ferment some fresh saison for the blending day, and then blend to balance/taste prior to adding any adjuncts.

My sour stocks finish so sour that I often need a considerable portion of non-sour beer to balance it out. I aim for final pH of 3.4–3.5 (definitely trying to avoid anything lower than 3.2), so I often shoot higher than that prior to adding fruit, as fruit may lower the pH even further.

Prior to adding fruit, this beer was a 10:1:1:1:1 blend of the Nelson Saison recipe provided here (pH 4.05, FG 1.005), a rye sour (pH 3.25, FG 1.004), two blond sours (pH 2.96, FG 1.004 and pH 2.89, FG 1.003), and a spontaneous sour (pH 3.2, FG 1.003). This blend resulted in a pH of 3.5 before the fruit addition.

I racked about 3 gal. (11.4 L) of this blend onto 17 lb. (7.7 kg) of fresh farmers market peaches (four different varieties, frozen, then thawed prior to adding) to achieve about 5 gal. (18.9 L) total. After six weeks on fruit, the beer pH had risen to 3.7, so I blended in some new blond sour stock and some sour stock that had aged on 4 cumaru seeds per gal., at a ratio of 1:25:25 to reach a bottling pH of 3.4 (the seeds had been crushed and soaked in Amburana-barrel-aged cachaça for a few weeks prior to being added to the sour stock). Using the Rare Barrel's terminal acid shock starter method, this beer was then bottle conditioned with corn sugar in thick brown Belgian bottles to achieve 3.3 vol. (6.6 g/L) CO₂. The beer was about 6 months old in the bottle when it was judged.

Making the Nelson Saison: Single infusion mash at 147°F (64°C) for 60 minutes. Target a mash pH of 5.4 and post-boil pH of 5.05.

Begin open fermentation (foil on carboy, etc.) at 65°F (18°C), then after 3 days of active fermentation, slowly rise to 75°F (24°C) over the course of several days. Add sugar addition when beer is about 75% fermented (approximately 1.015 SG) and install airlock for remainder of fermentation.

Making sour stock: Sour stock is fairly forgiving. I typically do a 60/40 blend of Pils (or pale malt) and wheat malt, shooting for an OG of 1.045–1.052 and about 4 IBUs. Pitch any *Saccharomyces* strain and a sour culture blend (and possibly some additional *Brettanomyces*). The sour stocks used in this beer relied mostly on Bootleg Biology and Yeast Bay sour blend cultures. Fill carboy nearly to the brim with chilled wort, pitch entire mixed culture into primary, wait 6 months (without opening the carboy), then proceed to blending session. Do not let oxygen touch this beer until blending day (brew day oxidation is okay, though). Dump any beers that are acetic or failed to ferment (this should be very rare if you follow the directions here).

A note on the cumaru: I did not mention the cumaru in my NHC entry notes, as I was afraid judges would not know enough about the ingredient, and knowing about it might throw them off. The entry was entered as '33C - Wild Specialty (28C): aged w/Peaches.' The cumaru accented the peaches nicely, making the beer even "peachier" to my palate.

RUNNERS-UP

Silver Medal: Timothy Lambert of Albuquerque, NM, Dukes of Ale, Mixed Fermentation Sour Beer

Bronze Medal: Brian Stephens of Portage, MI, Keepers of Craft, Wild Specialty Beer

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WORT HOG






Category 34

SPECIALTY BEER

61 entries



Mark Pennick
Denver, CO
The Brew Crew

"She Fancies Herself a Little Bit French"
34F. Experimental Beer

Batch volume: 5.75 US gal. (21.8 L)
Original gravity: 1.076 (18.4°P)
Final gravity: 1.009 (2.3°P)
Efficiency: 78%
Bitterness: 30 IBU
Color: 5 SRM
Alcohol: 9.3% by volume

MALTS & ADJUNCTS

4.68 lb. (2.12 kg) Castle Pilsner malt
4.68 lb. (2.12 kg) Rahr white wheat malt
1.5 lb. (680 g) Vienna malt
1.25 lb. (567 g) torrified wheat
8 oz. (227 g) Carapils malt

HOPS

0.4 oz. (11 g) Nugget, 15.2% a.a.
@ 60 min
0.5 oz. (14 g) Nelson Sauvin, 12.5% a.a.
@ 10 min
0.5 oz. (14 g) Czech Saaz, 3.2% a.a.
@ 10 min
0.5 oz. (14 g) Mandarina Bavaria, 6.8%
a.a. @ 10 min

0.5 oz. (14 g) Nelson Sauvin, 12.5% a.a.
@ 2 min
0.5 oz. (14 g) Czech Saaz, 3.2% a.a.
@ 2 min
0.5 oz. (14 g) Mandarina Bavaria,
6.8% a.a. @ 2 min

ADDITIONAL ITEMS

1 Campden tablet per 20 gal.
(75.7 L) brewing water
8 oz. (227 g) rice hulls in mash
1 oz. (14 g) sweet orange peel @ 15 min
32 fl. oz. (946 ml) Wine Expert Sauvignon
Blanc grape extract @ 0 min
14 fl. oz. (414 ml) Wine Expert Pinot Noir
grape extract @ 0 min

YEAST & BACTERIA

1.5 L stir-plate starter White Labs WLP568
Belgian Style Saison
Blend
Champagne yeast and dextrose for bottling

BREWING NOTES

This is a variation on my silver-medal-winning recipe from NHC 2021, Sticky Fingers. This year's variation, a rose saison, is named for a dear family friend who is also a strong female scientist with some French ancestry.

Treat Denver water using one Campden tablet per 20 gal (75.7 L) to remove chloramine. Strike with 1.5 L of 158°F (69°C) water per pound of grist and mash at 148°F (64°C) for 45 minutes. Add 5.2 stabilizer at 1 Tbsp. per 5 gal. of mash water. No mash out. Continuous sparge at 170°F (77°C) to achieve lower body.

The flameout addition of the grape extract will lower wort to whirlpool temperature and extract some good aroma and flavor from

the 2-minute hop additions. Chill to 72°F (22°C), and immediately pitch a 1.5 L starter. Package at day 14–21, when fermentation is complete and beer has cleared. It is essential to bottle condition. Re-pitch with a half packet of champagne yeast and dextrose to achieve 2.4 vol. (4.8 g/L) in the bottle. This beer is best weeks 10–24.

RUNNERS-UP

Silver Medal: Evan W. Brill of Louisville, KY, Mixed -Style Beer

Bronze Medal: Steve Fletty of Falcon Heights, MN, Alternative Sugar Beer

**CATEGORY 35**

Category 35: Gluten-Free Beer was combined with Category 34 due to low entry count.



Category 36

TRADITIONAL MEAD

28 entries



Michael Wilcox
Wichita, KS
Kansas City Bier Meisters

"Blends Without Friends"
M1C. Sweet Mead

Batch volume: 3 US gal. (11.4 L)
Original gravity: 1.145 (33.2°Bx)
Final gravity: 1.035 (8.8°Bx)
Alcohol: 17.3% by volume

HONEY & OTHER FERMENTABLES

4.5 lb. (1.93 kg) heather honey
3.5 lb. (1.59 kg) buckwheat honey
2.5 lb. (1.13 kg) toyon blossom honey
2 lb. (907 g) almond blossom honey

YEAST & BACTERIA

3 packs Lalvin D47

WATER

2 gal. (7.57 L) spring water

MEADMAKING NOTES

Staggered nutrient additions. Fermented low 60s °F. I generally prefer to blend after fermentation is finished, but this was a project to use some honeys I labelled "difficult"—each had something I liked but also had at least one other character that I didn't care for. In essence, I used them to dilute each other.

The blend included something like 11 honeys, but the four listed above comprised more than 90 percent of the total and will get you close. Not everything added was a success, frankly. Almond blossom is quite nutty,

and toyon blossom is caramelly, smoky, and bitter. The heather honey—Hey, make sure it's authentic, yeah? Lot of fake or dubious stuff out there—was also bitter, and some of the most intense floral character you'll ever encounter. The buckwheat had heavy molasses, raisin, and fudgy characters. So again, the general theme is "too much X to use by itself, but good in a blend."

I like D47 for traditional meads because of the flavor and mouthfeel it creates, and while some label it a "nutrient hog," I like that it will reliably use the nutrients I feed it. Now that people are feeding their meads, I too often find they are left with a residual nutrient character that tastes gross. Fermented in the 60s Fahrenheit (upper teens Celsius), racked off sediment a couple times, and aged 1.5 years, before 1 gallon was briefly aged on medium-toast French oak and blended back in to taste.

RUNNERS-UP

Silver Medal: Allen Martin of Gilbert, AZ, Arizona Society of Homebrewers, Semi-Sweet Mead

Bronze Medal: Brian Stephens of Portage, MI, Keepers of Craft, Sweet Mead

Category 37

CYSER

8 entries



Matthew Weide
St. Anthony, MN
Minnesota Home Brewers Association

"Cyser"
M1C. Sweet Mead

Batch volume: 1 US gal. (3.79 L)
Original gravity: 1.095 (22.7°Bx)
Final gravity: 1.010 (2.6°Bx)
Alcohol: 12.1% by volume

HONEY & JUICE

1.5 lb. (680 g) honey
128 fl. oz. (3.79 L) apple juice

ADDITIONAL ITEMS

½ spiral medium-toast American oak
7 g Go Ferm @ pitch
10 g Fermaid K in primary
1 g FT Blanc @ pitch
Dual Fine to clarify

YEAST & BACTERIA

1 pack Lalvin QA23

MEADMAKING NOTES

The apple juice was from our Minnesota Home Brewers Association club buy and was a mix of Haralson, Honeycrisp, and Sweet Tango. I fermented, added oak, back sweetened to 1.010 (to taste), added Dual Fine to clear, and packaged.

RUNNERS-UP

Silver Medal: Philip LaFleur of Loveland, CO, Weiz Guys Homebrew Club, Cyser

Bronze Medal: Nathan Steigman of Saint Paul, MN, Cyser



2022 NATIONAL HOMEBREW COMPETITION

Category 38

PYMENT

16 entries



Allen Martin
Gilbert, AZ
Arizona Society of Homebrewers

"Cab Pyment II"
M2B. Pyment

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.108 (25.5°Bx)
Final gravity: 0.999 (-0.3°Bx)
Alcohol: 15.6% by volume

HONEY & OTHER FERMENTABLES

88 fl. oz. (2.6 L) William's Brewing Cabernet grape juice concentrate
3 lb. (1.36 kg) Zambian wildflower honey
3 lb. (1.36 kg) orange blossom honey
3 lb. (1.36 kg) clover honey
24 fl. oz. (710 ml) Cabernet grape juice concentrate (secondary)
1.2 lb. (544 g) Zambian wildflower honey (secondary)
2.4 lb. (1.09 kg) orange blossom honey (secondary)
1.2 lb. (544 g) buckwheat honey (secondary)

ADDITIONAL ITEMS

2 oz. (57 g) French oak medium-plus (primary/secondary)
5 g Opti-Red (primary)
3 g FT Rouge Soft (primary)
Dual Fine to clarify
Fermaid O as needed for yeast nutrition
Go Ferm to rehydrate yeast
Kmeta to stabilize
Ksorbate to stabilize
SuperKleer KC to clarify
tartaric acid to balance

YEAST

10 g Lalvin Bourgovin RC 212

WATER

reverse osmosis

MEADMAKING NOTES

Mix all primary ingredients in fermenter and rehydrate yeast per Scott Labs protocol using Go-Ferm. Oxygenate must with wand/stone for 2 minutes just prior to pitching yeast. Ferment at 65°F (18°C) and use TOSNA protocol for adding yeast nutrients (I used Fermaid-O) until FG is reached. Cold crash near freezing for a few days, then rack to new vessel and stabilize using Kmeta and Ksorbate. Transfer oak to secondary until desired oak level is obtained. Rack off of the oak when it has reached your desired level. Acid adjusted with tartaric acid to a pH of 3.45 and SO₂ (Kmeta) was added for stabilization prior to bottling. Fining agents were also used just prior to bottling. I used SuperKleer KC. FG after back-sweetening was approximately 1.035, but adjust honey additions to your liking. Final ABV after secondary additions was approximately 13.5%. Cheers!

RUNNERS-UP

Silver Medal: Jeremy Olsen of Minneapolis, MN, Saint Paul Homebrewers Club, Pyment

Bronze Medal: Bill Boyer of Kennesaw, GA, North Georgia Malt Monkeys, Pyment

Category 39

BERRY MEAD (SILVER)

17 entries



Matthew Mead
Grand Rapids, MI
Michigan Mead Coalition

"You're My Boy Blue - B2"
39. Berry Mead

Batch volume: 6.5 US gal. (24.6 L)
Original gravity: 1.180 (40.1°Bx)
Final gravity: 1.060 (14.7°Bx)
Alcohol: 16% by volume

HONEY & OTHER FERMENTABLES

26 lb. (11.6 kg) orange blossom honey
40 lb. (18.1 kg) frozen blueberries

ADDITIONAL ITEMS

1 spiral medium toast American oak
32.5 g Go Ferm (starter)
0.5 g Lallzyme, day 1
7 g Opti-Red, day 1
0.5 g FT Rouge, day 2
30.8 g Fermaid K, day 3
potassium metabisulfite to stabilize
potassium sorbate to stabilize
clarifying agent, as necessary

YEAST

30 g QA23

WATER

650 mL spring water, for starter

MEADMAKING NOTES

Add blueberries to a 7- to 10-gallon fermenter and let partially thaw over 24 hours. Add honey and let it continue to thaw for another 24 hours. Mix fruit and honey together, adding all day 1 additions to must while mixing. Create yeast starter with GoFerm and warm spring water, add yeast and stir, let sit for 20 minutes. Add

some honey and juice to the starter and let sit another 20 to 40 minutes until you see solid fermentation activity.

Pitch starter into must and stir well. Maintain 70°F (21°C) for 24 hours, then check for fermentation activity. Punch down fruit cap and lower temperature to 60–70°F (16–21°C). Each day, punch down fruit cap. Once fermentation slows, set up a clean, sanitized bucket with a colander and scoop fruit pulp into it, draining must through. Press solids to release more must and return liquid to the bucket. Rack everything to a glass carboy and add oak spiral and clearing agent. Top carboy off with CO₂ to minimize oxidation.

Add metabisulfite and sorbate when gravity no longer changes. After 24 to 48 hours, adjust flavor with additional honey and fruit juices/concentrates as necessary to meet your flavor target. Rack mead to new carboy once clearing agent and oak tannins do their magic. Remember to always add sulfites and/or top off carboy with CO₂ whenever you rack the mead.

OTHER MEDALISTS

Gold Medal: Lincoln Mettler of Edgewood, WA, Berry Mead

Bronze Medal: Chuck Beardslee and Cory Aldrich of West Chester, OH, Butler County Brewing Society, Berry Mead

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2022 NATIONAL HOMEBREW COMPETITION

Category 40

STONE FRUIT MEAD

8 entries

Eric Cockrell

Broken Arrow, OK

Fellowship of Oklahoma Ale Makers

"Cherry Dangerous"

40. Stone Fruit Mead

Batch volume: 5 US gal. (18.9 L)

Original gravity: 1.092 (22°Bx)

Final gravity: 1.000 (0.0°Bx)

Alcohol: 12.9% by volume

HONEY & OTHER FERMENTABLES

15 lb. (6.8 kg) tart cherries

12.9 lb. (5.85 kg) clover blossom honey

ADDITIONAL ITEMS

12.5 g	Go Ferm PE to rehydrate yeast
4.9 g	Fermaid O @ 24 hours
4.9 g	Fermaid O @ 48 hours
4.7 g	Fermaid O @ 72 hours, but not if 1/3 sugar break reached
	potassium metabisulfate to stabilize
	potassium sorbate to stabilize
5 tsp.	pectic enzyme to clarify

YEAST

2 packs Lalvin Bourgovin RC 212

WATER

reverse osmosis

MEADMAKING NOTES

Primary: Follow directions for hydrating yeast with GO-Ferm PE. Mix honey and water to desired SG (1.090). Pitch yeast when temperature reaches target, within 10°F (6°C) of must. Fermaid-O was divided into 3 doses at 24, 48, and 72 hours. Skip last dose if 1/3 sugar break has been reached. Aerate must before adding nutrients.

Secondary: Rack to secondary carboy on top of potassium metabisulfite and potassium sorbate. After 48 hours rack to large vessel, add frozen cherries, and pectic enzyme. After 3 weeks, rack to aging vessel. SG after removing fruit was 1.013. Back-sweeten to 1.025.

RUNNERS-UP

Silver Medal: Matthew Mead of Grand Rapids, MI, Michigan Mead Coalition, Stone Fruit Mead

Bronze Medal: Pavel Anisimov of Concord, CA, Diablo Order of Zymiracle Enthusiasts (DOZE), Stone Fruit Mead

Category 41

MELOMEL

9 entries



Matthew Mead

Grand Rapids, MI

Michigan Mead Coalition

"Ode to H.O.D."
M2E. Melomel

Batch volume: 6.5 US gal. (24.6 L)

Original gravity: 1.174 (39°Bx)

Final gravity: 1.080 (19.3°Bx)

Alcohol: 12.3% by volume

HONEY & OTHER FERMENTABLES

12 lb.	(5.44 kg) wildflower honey
12 lb.	(5.44 kg) orange blossom honey
10 lb.	(4.54 kg) Balaton cherries
10 lb.	(4.54 kg) Montmorency cherries
10 lb.	(4.54 kg) raspberries
10 lb.	(4.54 kg) black currants

ADDITIONAL ITEMS

1 spiral	medium toast American oak
32.5 g	Go Ferm (starter)
19 g	Ferm K (BSG Fermax) yeast nutrient (primary)
	potassium metabisulfate to stabilize
	potassium sorbate to stabilize
	clarifying agent, as necessary

YEAST

26 g Lalvin 71B

WATER

650 mL spring water, for starter

MEADMAKING NOTES

Add all frozen fruit to larger 7- to 10-gallon fermenter and let partially thaw over 24 hours, then pour honey over top and let it continue to thaw for another 24 hours. Mix fruit and honey together, adding all yeast nutrients into must while mixing. Create yeast starter with GoFerm and warm spring water, add yeast and stir, let sit for 20 minutes. At

this point add some honey and juice into the starter and let sit another 20 to 40 minutes until you see solid fermentation activity.

Pitch starter into must and stir in well. Maintain 70°F (21°C) for 24 hours, then check fermentation for activity (aka fruit cap). Punch down cap and lower temperature to around 60° F to 70° F (16–21°C). Each day, punch down fruit cap. Once fermentation slows, set up a clean, sanitized bucket with a colander and scoop fruit pulp into it, draining must through. Press solids to release more leftover must and return liquid back to the bucket. Rack everything into a glass carboy and add oak spiral and clearing agent. Top carboy off with CO₂ to minimize oxidation.

Add metabisulfite and sorbate when gravity no longer changes. After 24 to 48 hours, adjust flavor with additional honey and fruit juices/concentrates as necessary to meet your flavor target. Rack mead into new carboy once clearing agent and oak tannins do their magic. Remember to always add sulfites and/or top off carboy with CO₂ whenever you rack the mead.

RUNNERS-UP

Silver Medal: Pavel Anisimov of Concord, CA, Diablo Order of Zymiracle Enthusiasts (DOZE), Melomel

Bronze Medal: Gordon Mauger of Walnut Creek, CA, Diablo Order of Zymiracle Enthusiasts (DOZE), Melomel



Category 42

SPICE MEAD

24 entries



Scott Voak
San Diego, CA
QUAFF

"Lawnmower Mead"
M3A. Fruit and Spice Mead

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.075 (18.2°Bx)
Final gravity: 1.034 (8.5°Bx)
Alcohol: 5.8% by volume

HONEY & OTHER FERMENTABLES

10 lb. (4.54 kg) orange blossom honey

ADDITIONAL ITEMS

1 tsp. Fermaid K (day 1)
2.25 oz. (64 g) ginger root, grated (day 3)
1.25 oz. (35 g) lime zest (day 3)
8 oz. (237 mL) lime juice (day 3)
2 tsp. lime juice (day 14)

YEAST & BACTERIA

1 pack White Labs WLP720 Sweet Mead

WATER

distilled

BREWING NOTES

Honey mixed with 4.5 gal. of distilled water. Fermaid K and yeast added. Day 2 boiled the lime zest, lime juice and ginger root in 1/2 gallon (1.89 L) distilled water for 10 minutes, covered, and let sit overnight. Added solution and solids to fermenter on day 3. Fermentation started at 71°F (22°C), peaked at 73°F (23°C), and on day 4 fell slowly to 68°F (20°C). Kegged on day 10 and force carbed. Taste tested once carbonated and added 2 tsp. lime juice.

RUNNERS-UP

Silver Medal: Brian Stephens of Portage, MI, Keepers of Craft, Fruit & Spice Mead

Bronze Medal: Benjamin Daniels of Raymore, MO, Kansas City Bier Meisters, Fruit & Spice Mead

Category 43

SPECIALTY MEAD

37 entries



Michael Wilcox
Wichita, KS
Kansas City Bier Meisters

"That Guy Wins Too Much"
M4C. Experimental Mead

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.170 (38.2°Bx)
Final gravity: 1.060 (14.7°Bx)
Alcohol: 18.5% by volume

HONEY & OTHER FERMENTABLES

12 lb. (5.44 kg) wildflower honey
12 lb. (5.44 kg) caramelized honey
128 oz. (3.78 L) apricot nectar

ADDITIONAL ITEMS

2 lb. unsulfured dried apricots

YEAST & BACTERIA

4 packs Uvaferm 43

WATER

256 oz. (7.57 L) spring water

MEADMAKING NOTES

This mead is named after one of my favorite overheard comments when I was entering more often than I do now. Fermented upper 60s Fahrenheit. Not quite a Dwojnia (1:1 honey to water), but more like 2:3. Gravity is high enough that it is still wise to slowly introduce the yeast to the must over a day or two, and to step feed the last bit of your honey. Caramelized honey was done in a slow cooker, and I'm not very experienced at it. Most bochet I've had tasted burnt; I just wanted a light but noticeable warm, inviting caramelized character. Keep tasting, and remember it tastes darker than it looks as it is caramelizing, and be careful not to burn yourself. Don't be in a hurry—this was

a long-term project that took a few years before I was happy. I ended up doing a whole series of "cognac barrel" stuff. I didn't source a used cognac barrel, although though that would be cool. I just use small (usually 10 L) new barrels, usually medium toast. First a cider would basically go in overnight to rinse some of the raw flavors out and giving me super oaky cider that I can use in small amounts for years in cider blends. Then I literally added a cognac I liked and rolled it around for weeks. No, you should not break out the XXO, but don't cheap out either. Go for the most intense flavor for your buck--this is not the time for subtlety. After rolling around in the barrel, the cognac was dumped and a traditional mead was aged, then a pear mead, then this mead, and finally it was soaked in maple syrup and a spiced cyser went in. In each case, the barrel mead was intentionally a bit barrel-intense, as it was then blended back into the portion without the barrel. Perhaps I'll eventually share the others if you ask nicely.

RUNNERS-UP

Silver Medal: Vaughn Barker of Brookfield, WI, Experimental Mead

Bronze Medal: Benjamin Daniels of Raymore, MO, Kansas City Bier Meisters, Experimental Mead



2022 NATIONAL HOMEBREW COMPETITION

Category 44

STANDARD CIDER OR PERRY

30 entries



Michael Wilcox
Wichita, KS
Kansas City Bier Meisters

"Bobbing for Medals"
C1A. New World Cider

Batch volume: 3 US gal. (11.4 L)
Original gravity: 1.064 (15.7°Bx)
Final gravity: 1.008 (2.1°Bx)
Alcohol: 7.6% by volume

HONEY & OTHER FERMENTABLES

128 oz. (3.78 L) Golden Russet juice
128 oz. (3.78 L) McIntosh juice
128 oz. (3.78 L) Northern Spy juice

YEAST & BACTERIA

1 pack Red Star Cote de Blancs

BREWING NOTES

Fermented in the 58°F–62°F (14–17°C) range, chilled to stop fermentation early, and a couple years later I got around to force carbonating it. Golden Russet chosen for very high gravity and arguably my favorite apple. Northern Spy for high acid and fruit character, often pear/melon. McIntosh is sometimes

described as tasting like partially fermented apples, and usually retains a noticeable "mac note" after fermentation. This fills the "tastes like apples" character many judges seem to look for. Cote des Blancs can be reliably stopped with cold temperatures but is prone to hydrogen sulfide production if it isn't happy. For inexperienced cidermakers, I'd recommend a Champagne yeast, ferment dry, stabilize, back-sweeten, and force-carb. It's quite acidic already, so I keep carbonation fairly low. If your juice isn't high enough gravity, try partially freeze-concentrating it. 1.045 juice ain't gonna get ya there...

RUNNERS-UP

Silver Medal: Jeff Carlson of Grand Rapids, MI, English Cider

Bronze Medal: Michael Wilcox of Wichita, KS, Kansas City Bier Meisters, French Cider



CATEGORIES 45 AND 47

Categories 45: Standard Perry and 47: Specialty Perry were combined with Categories 44 and 46, respectively, due to low entry count.

Category 46

SPECIALTY CIDER OR PERRY

26 entries



Kevin Wagner
Stillwell, KS
Kansas City Bier Meisters

"Cinco de Mango"
C2E. Cider with Herbs/Spices

Batch volume: 2 US gal. (7.6 L)
Original gravity: 1.075 (18.2°Bx)
Final gravity: 1.020 (5.1°Bx)
Alcohol: 7.7% by volume

HONEY & OTHER FERMENTABLES

175 oz. (5.18 L) Heirloom apple juice
64 oz. (1.89 L) mango juice
12 oz. (355 ml) frozen concentrated apple juice

ADDITIONAL ITEMS

1 tsp. pectic enzyme, 24 hours before pitch
1 lb. (0.45 kg) lactose, in primary
4 oz. (113 g) fresh ginger, in primary
4 oz. (113 g) fresh habanero pepper, in secondary
1.6 oz. (45 g) corn sugar, at bottling

YEAST & BACTERIA

1 pack Lallemand Belle Saison

WATER

distilled

BREWING NOTES

Mix fresh apple juice from Louisburg Cider Mill in Louisburg Kansas, frozen concentrated apple juice, and mango juice in primary fermenter and add pectic enzyme. Allow to sit 24 hrs. Mix lactose with distilled water and warm until dissolved, add to primary. Rehydrate yeast and pitch yeast along with fresh (peeled and sliced) ginger. Ferment 7 days at 67°F (19°C) and then remove ginger. Ferment for 7 to 14 more days at 67°F, rack to secondary. Add (de-seeded) habanero peppers to cider and steep for 8–24 hours depending on your personal heat preference. Remove habaneros. Cold crash for 24–48 hours. Add priming sugar and bottle.

Brewer tip: If you are brewing this recipe for a well-known national competition, consider doubling the recipe so that you have a few bottles left for yourself.

RUNNERS-UP

Silver Medal: Bill Boyer of Kennesaw, GA, North Georgia Malt Monkeys, Specialty Perry

Bronze Medal: James Werner of New Berlin, WI, Beer Barons of Milwaukee, Ice Cider

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SECRETS OF SUCCESS

HOW TO BREW FOR COMPETITION

By Nelson Crowle

There are many reasons to homebrew: personal satisfaction in making your own beer, brewing beer to drink and share, and brewing beer for competitions. You can do all three at once, of course, but let's take a look at what it takes to successfully compete.

First, determine what your motivation is for entering your homebrew in competitions. Are you looking for quality feedback on your beer so that you can improve it? Are you looking for a few medals and bragging rights? Are you trying to get medals from each US state, or from multiple countries? Are you trying to get medals in each guideline style (or even sub-style)—like from all BJCP 2021 major categories? Answers to these questions will help guide you in determining what to brew, when to brew, what competitions to enter, and more. →

JOIN THE CLUB

I have been entering homebrew competitions since 2004. I had already been brewing off and on for 30 years (first in Colorado and then in Kansas), but always for my own consumption or to share with family. The game changer was when I joined Dunedin Brewers Guild in Florida, where I found other like-minded individuals.

My beer world exploded. I could bring my homebrew to meetings, discuss it, and listen to the experiences of others. I could taste other brewers' beers and learn from them. Oh, and I could enter my homebrew in competitions for judge feedback.

If you haven't joined a homebrew club or assembled a group of brewing friends, doing so is one of the most useful things to do. Learn to judge, train your senses, and do triangle tests—all can improve the quality of your beer and your ability to evaluate your beer, processes, and recipes. Look for clubs in your area that have a high percentage of active brewers and educational aspects to their meetings such as lectures, trainings, or demonstrations.

Remember, though, that the club (or clubs) that you end up choosing should also be social and friendly. You should not have to prove that you are worthy to join. Online clubs are fine, but you lose the social interaction that comes from sharing beer samples. Indian Peaks Alers (Longmont, Colo.) and Weiz Guys (Loveland, Colo.) are my two main local clubs due to their blend of strong technical and friendly social qualities.

CHOOSE WISELY

How do you choose a style of beer (or mead or cider) to brew for competitions? Here are several considerations:

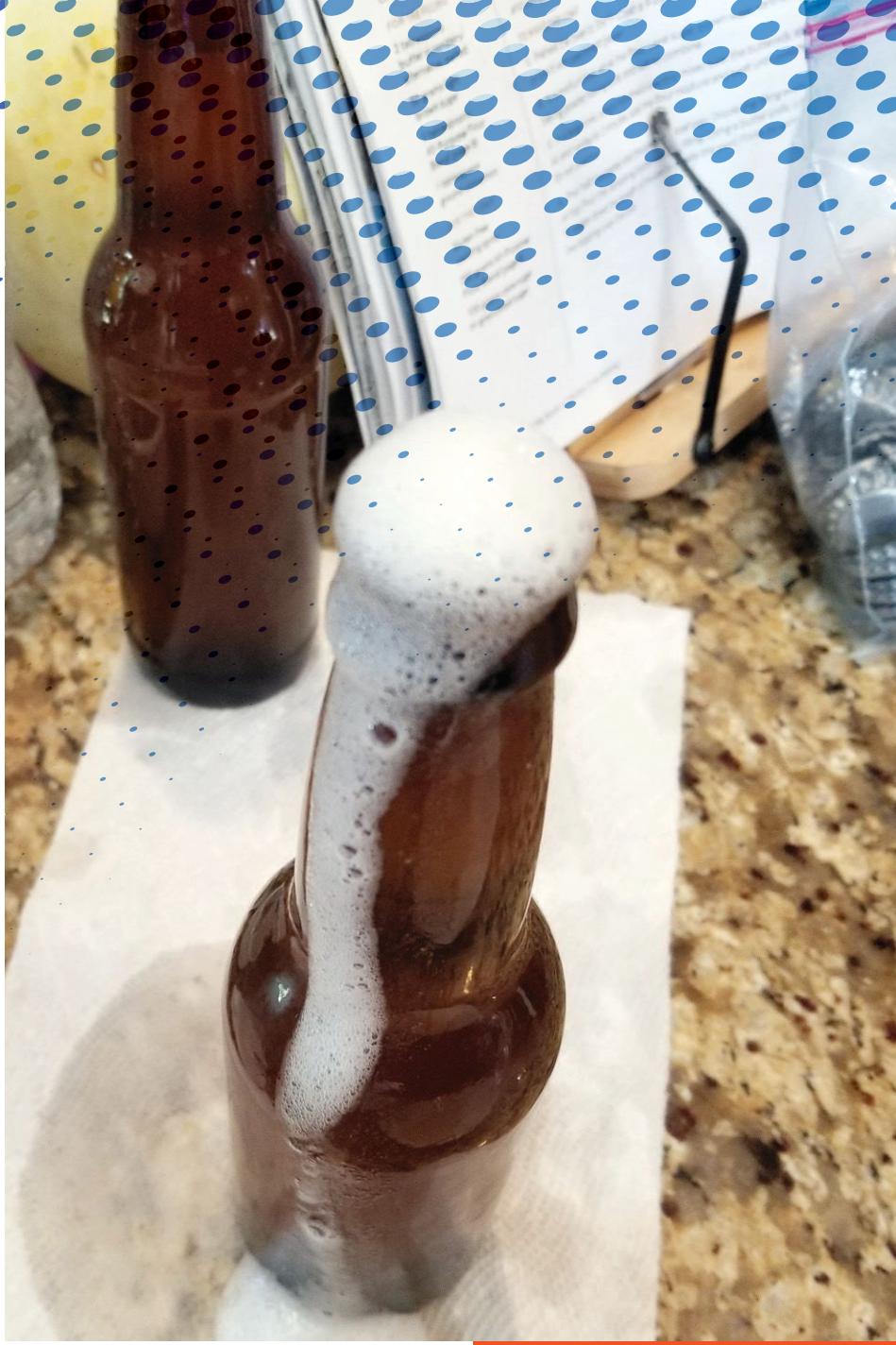


FIGURE 1

- Consider choosing less popular styles to give you less competition—if you choose IPA or Spice/Herb/Vegetable, you'll be competing in two of the largest categories against many other quality entries, and at the whim of judge sensitivity and possible judge biases. Look at the history for a particular competition to get an idea of what styles are popular.
- How hard is the beer to brew? Does it require double decoction or a cereal mash? Sour mashing or kettle souring? Mashing, steeping, extract, or some combination? Can you reasonably make the beer on your system?

**Cap on foam
to reduce
oxidation in
the bottle.**



FIGURE 2

This is what judges see. How will you make your beer stand out?

- Does the beer require a lot of time? Does it require aging (Flanders Red or Brown, for example, and lagers to a lesser extent)? Does it require blending (gueuze needs three-year-old lambic as part of a blend)? Does the beer, mead, or cider require a barrel (Dwójniak or Trójniak Polish meads like to sit for a few years in a wood barrel)? For any aging, can you control temperature, vibration, and light?
- How big is the competition? How good is your beer? Be objective! For large competitions like NHC, which in the past has had more than 9,000 entries, only submit the best of your best. I once entered the same beer in two competitions within a week of each other. One entry received a gold medal while the other scored only 25. You will not always get the same results with your excellent

entry. Judges have all levels of experience, although some competitions aim to hand pick more experienced judges. Judges have different sensitivities to various beer characteristics: I am on the lower end of sensitivity for diacetyl, for example. More experienced judges will know their sensitivities and adjust for them. All judges have personal biases, but good judges are aware of those biases and try to eliminate or account for them.

Competitions often try to match judges to categories that they like, but there are always scheduling issues that could mean judges' evaluating categories that are not their favorites. Check with friends who have entered specific competitions to get their thoughts on the quality of judging and feedback, as well as their results.

What batch size of beer should you brew? I generally brew 3-gallon batches (sometimes 5, 8, or 12 gallons), keg and carbonate, and then cap 12 bottles of that beer for competitions. This is enough for four or more competitions, as most ask for three bottles per entry. I keep the keg around for one of my kegerator taps, or to fill more bottles if that beer is doing particularly well in competitions. If you brew for competitions only, some brewers brew 1-gallon batches. That's great if you want to brew a lot of different entries, but 1 gallon

will yield about 10 bottles, enough for only 3 (maybe 4) competitions, so if you have a beer that is bringing in gold or best of show, you might need to brew it again.

After you have chosen a style to brew, you need to come up with a recipe. First, start with the guidelines. Assuming BJCP 2021 guidelines (common for most American and many international competitions), review the whole specification for the beer you will brew. The ingredients section may give you some clues, but the aroma and flavor sections will also provide ideas for malt types, hop levels, bitterness intensities, yeast contributions, and so on. Appearance and mouthfeel descriptors offer more clues, as do the overall impression and history. Read everything several times, and then maybe pick up a couple of commercial examples to point you in the right direction.

Remember, judges are (or should be) judging your beer using the guidelines, not from their own personal recollection of



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what a particular style should be, so they are reading and using the exact same words.

Refine your initial recipe from as many resources as you can find. Start with books like *Brewing Classic Styles* and *Modern Homebrew Recipes*. Ask friends who have brewed the style. Ask on forums like Competitive Homebrewing on Facebook.

I typically brew at the high end of the BJCP specification for a style. Although a beer at the low end of the specification (ABV, IBU, malt and hop levels, etc.) may fit the guidelines, to the judges, it may seem weak, watery, or light compared to a specification higher-end brew. That's not to say that the judges should see it that way, but the reality is that they (particularly less experienced judges) often do.

Brew your recipe. Now is the time to bring your A-game. Your sanitation technique needs to be at its best. No shortcuts, no "Oh, I forgot to add the mash hops or first-wort hops, I'll just add them now." Go through the whole process, carbonate, and package. Age as necessary, and then test your beer. Take the beer to your homebrew club meeting to share. Is the beer what you expected? If so, enter it in some competitions. If not, figure out what you can tweak and try again.

One of the most common detractors from a world-class beer rating in competitions is inappropriate carbonation, which detracts from aroma, appearance, flavor, and mouthfeel. A couple of points here and there and you're down from a 45 out of 50 to a 38 and not in medal range. I've been using a Blichmann Beer Gun for many years. I just stabilize the keg at 3 psi higher than I want and then bottle, capping on foam to reduce oxidation.

GO WITH THE FLOW

When entering in a competition, do *not* assume that you should enter your beer in the category you intended to brew. Review all similar beers in the guidelines and enter your beer according to what is in the glass—what the judges will taste. Hopefully it's the same as what you thought you brewed, but if not, don't be stubborn



FIGURE 3

You can hang your medals on the wall—or just fill up shoeboxes.

and force your entry into a category when another might be a better choice.

I once made an excellent barleywine, but when I was ready to submit it for competition, I retasted and entered as an old ale, netting a second best of show. Or you can take the "shotgun" approach and enter the same beer in two or more categories, unless the competition prohibits this.

For "specialty" beers (BJCP categories 28–34), review the guidelines carefully to make sure that you are entering in the right category. Selecting the appropriate catego-

ry from fruit, spice, smoke, wood-aged, or wild beers can be tricky, particularly if your beer falls into multiple categories (like a bourbon-barrel-aged, smoked-poblano chile beer, for example). Look for the dominant characteristics and try to classify based on that. Also, seek advice from the most senior and experienced judges in your area or in your homebrew club.

PACKAGING FOR SUCCESS

How do you get your entries to the competition? First, save a bottle or two that you can open when you receive the completed scoresheets so that you can compare your tasting with the judge notes. For local competitions, there are usually one or more drop-off points, often your local homebrew shop. Choose one that provides cooler space to collect entries for the competition. For regional competitions, you may be able to take advantage of an underground-railroad transport. If one person is driving to

the competition (or to a drop-off for someone else to go), your entries may be able to tag along, again, making sure that they will be kept cold and out of light. Finally, you may need to ship your entries. When shipping your entries, follow these steps.

- **Bottle your beer.** I prefer a high fill of ½ to ¾ inch of headspace, which reduces sloshing sounds and minimizes water-hammer bottle breakage. Cap on foam to avoid oxidation in the bottle.
- **Register your entries**, print labels, and attach labels with rubber band to each bottle. Unless otherwise instructed by the competition, *always* attach the label to the neck of the bottle (not the barrel) with the rubber band. The reason for this has to do with sorting. As bottles are pulled from and inserted into six-pack holders during sorting, it's very easy for the rubber band to get caught, particularly on tight six-packs, and roll up or down and off the label. Fresh (they do age and weaken) #32 rubber bands are perfect—thick and strong with three wraps on the neck. If you recycle rubber bands from your club's competition (or from your desk drawer), consider using two in case one fails.
- **Using small-bubble wrap** (the perforated rolls work great), cut a piece about 12"×12", or 12"×18" for extra protection. Starting at a corner and the middle of the bottle, roll up the bottle diagonally in the bubble wrap, aim for the diagonally opposite corner. Now, with your tape gun, start in the middle of the bottle, going upwards to the neck, tape over the "tuft" of bubbles at the top, bringing it down along the opposite side. Then continue across the bottom of the bottle and bring its "tuft" up along the side where you started taping. Cut the tape and wrap any remaining tape over the top of the bottle.
- **Find a good shipping box.** You can get boxes that are designed to ship wine (they hold each bottle in a separate compartment) or boxes with cross-hatched corrugated cardboard that tightly holds the bottles. For all boxes, I recommend taking everything out and lining the box with a large trash bag that you can seal with everything inside for an extra layer of protection to contain any leakage. For a regular box, a layer of large-bubble bubble-wrap around everything works well. Put the bottles in the box (you may be able to alternate base and neck), tightly packed, and add more

bubble wrap to make sure that the bottles will not move.

- **No packing peanuts!** The folks who unpack your shipped entries for the competitions *hate* peanuts. Make your shipment easy to unpack with just one piece of tape per bottle. Don't wrap up anything else with more tape.
- **Tape up the box well**, and don't assume that the glued box will hold together.
- **Get a UPS account**, pay for and print your shipping label at home, and then attach it. Consider seasonal shipping—shipping by ground transportation in the middle of summer might not treat your entry well. If you can afford faster shipping, that's better.
- **Drop off your package** at a UPS pickup location like Staples—they just receive boxes and don't ask about contents.
- **Good luck!**

GET INVOLVED

How do you learn to brew better beer, mead, or cider so that your competition results are successful? Volunteer at your local homebrew competitions. If you have never judged before, sign up to be a steward. Experienced judges are often good mentors, and they will be happy to share their knowledge with you as a steward.

Start judging as soon as possible. Learning to evaluate beers objectively and learning beer styles from the guidelines will help your palate and descriptive abilities improve. It will increase the depth of your knowledge and enhance your awareness of the details of the styles, giving you better tools to evaluate your own beers and troubleshoot them or adjust recipes.

Getting familiar with the scoresheets will help you know what the judges are looking for. How can you make your beer stand out to the judges? Pay attention to detail with a great match to the guidelines, great process execution, great packaging quality, the freshest ingredients, and a recipe that makes those ingredients shine. You need to pay attention every step of the way to get the best out of your beer.

A side benefit of judging at a competition is that you can ask the competition organizer if you can take home a couple—or a few—cases of empty bottles that have been opened for competition that you can then reuse for your own entries. When you get the bottles home from the competition, rinse them immediately so that old beer doesn't dry in the bottle. Then soak the bottles in PBW overnight, rinse again, soak in StarSan for a couple of minutes, and dry them—you're good to go!

Competitions generally have too many opened bottles at the end of the event, so organizers are glad to let you take some (but share!).

Finally, at the awards ceremony (or on your club or Facebook forums), congratulate the winners even if they beat you. Learn from them. What made their beer rank higher than yours? Many winning homebrewers will be happy to share their winning beer and knowledge, often at the next club meeting. If you medaled, congratulate yourself—good job! Share your knowledge with others. Competitive homebrewers are a friendly crowd and generally quite happy to share their ideas and processes, and often their recipes.

For those entries of yours that didn't win a medal, open one of your reserved bottles of that entry and review the scoresheets—you may gain some insight as to how to tweak your recipe or process to improve the chances next time.

REFINE YOUR GAME

In summary:

- Brew and enter your best beer.
- Practice A-game brewing and world-class sanitation.
- Review with friends or at your local homebrew club meeting (your local shop is a good reference, too).
- Save a bottle for future review.
- Package and ship, or deliver carefully.
- Understand each competition's size, specialties, and judging quality.
- Congratulate yourself on your wins, but also congratulate others.
- Open your reserved bottle and review the scoresheets.
- Learn to judge and volunteer for competitions—the best way to improve your sensory abilities.

Entering competitions is a percentage game. Different judges, different competitions (with different storage temperatures and conditions), and shipping can all affect your win-rate. The more you enter, the better your chances are for medaling (but you also must make good beer and get it to the competition in good shape).

You will know that you have been bitten by the Competition Bug when you discover that you are spending more on shipping costs to competitions than you spent on the ingredients for the beer. Good luck in your future competitions!

Nelson Crowle is a National BJCP beer judge with Mead and Cider endorsements and creator of the Reggie competition and judging platform.

CIDERS of the NORTHEAST

New England, New York, and Pennsylvania

By Kristen Kuchar

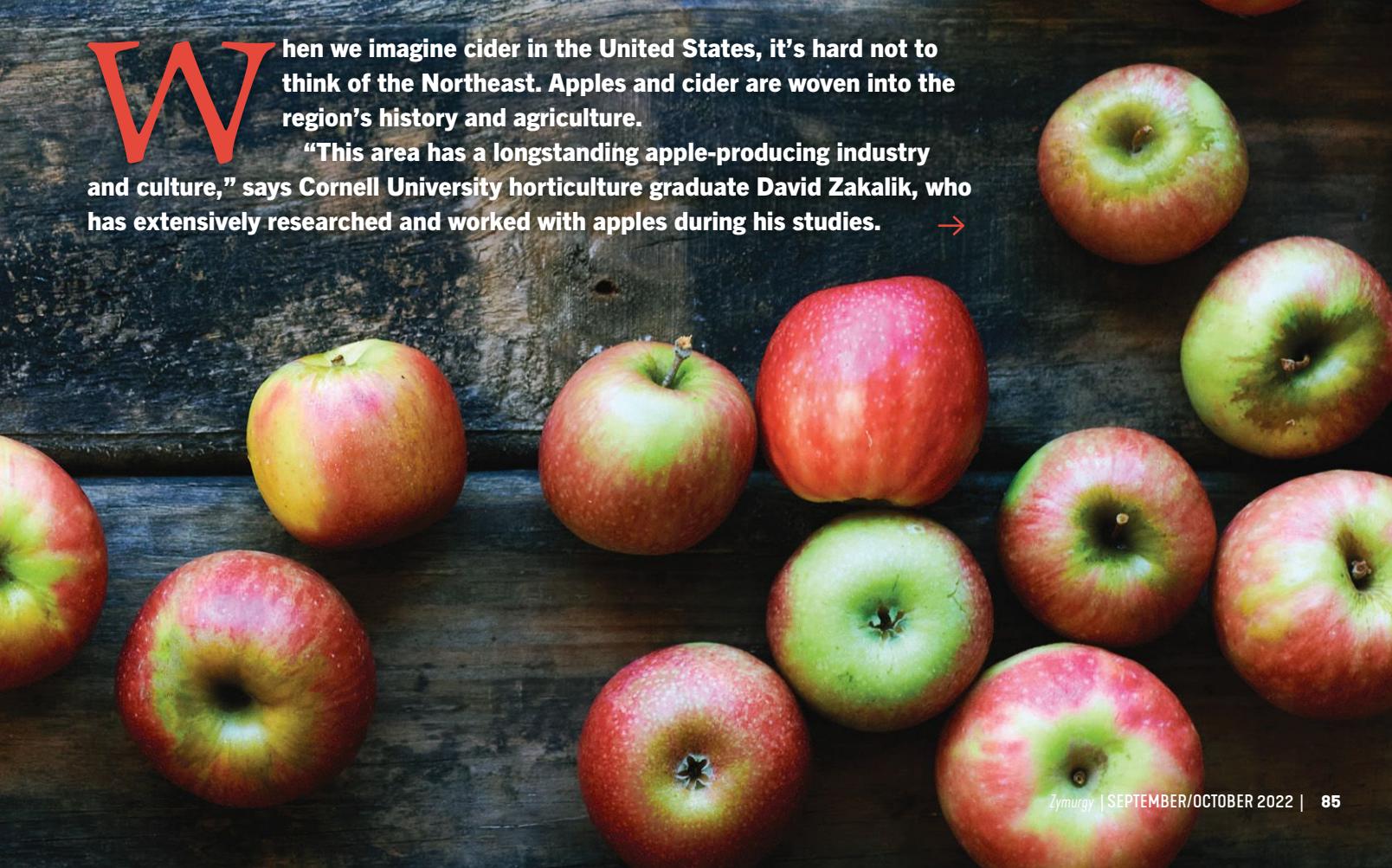
Editor's note: This is the first in a series of articles that explore regional ciders produced in the United States and around the globe. In this installment, we discover ciders of New England, New York, and Pennsylvania.





When we imagine cider in the United States, it's hard not to think of the Northeast. Apples and cider are woven into the region's history and agriculture.

"This area has a longstanding apple-producing industry and culture," says Cornell University horticulture graduate David Zakalik, who has extensively researched and worked with apples during his studies. →





Cider is a fun community to be a part of.

— Ben Wenk

In fact, cider, more than water, was the most widely consumed drink in Colonial America. In 1629, nine years after European colonists arrived at Plymouth, apple trees were planted in the Massachusetts Bay Colony. Making cider was an efficient way to use the apples that were readily available. In some communities in the region, cider was even used to pay taxes and wages.¹

According to *The Drunk Botanist*, the Laird & Company Distillery in New Jersey was issued the first distillery license in the United States in 1780. The family's records indicate that, in 1698, Alexander Laird arrived from Scotland and began growing apples and making "cyder spirits," or apple-jack, for his friends and neighbors.²

There's no doubt that apples are a part of the economy here. New York is the second-largest state in the country for apple production, just after Washington, and grows 29.5 million bushels of apples per year.³ Pennsylvania ranks fourth.⁴

It therefore comes as no shock to learn that New York is also home to more cideries than any other state. In 2019, there were 900 cider producers in the United States, 100 of which were in New York.⁵ Now there are more than 120 cidermakers in the Empire State, with a reported 450 percent growth in the last 10 years, according to the New York Cider Association's 2020 economic report.⁶

It's All About the Apples

Eleanor Leger, founder and co-owner of Eden Specialty Ciders in Vermont, believes there is an importance that people recognize in cider in this region.

"There's an appreciation of cider as an agriculture beverage," she says. In their own Eden Orchards, there are more than 35 apple varieties grown, in addition to other local growers used in the cider pro-



Ben Wenk of Ploughman Cider.

duction. In many cases throughout the region, the art of crafting cider is born out of the cherished tradition of apple growing. Such is the case with Ploughman Cider, led by Ben Wenk, whose family has been growing apples since 1820 at Three Springs Farm in Adams County, Pennsylvania.

"Cider is a fun community to be a part of," Wenk says, of the shared passion that the region's cidermakers have. Ploughman Cider produces an eclectic variety of ciders and works with American heirloom apple varieties such as Dabinett, Stoke Red, and Kingston Black.

After 35 years of fruit farming, Manoff Market Gardens launched its own cidery, where it creates dry, sparkling cider with no sugar added. Frecon Farms has been growing fruit trees since 1944 and launched their cidery with the philosophy they are an orchard first and foremost. "We don't make cider, we just provide infrastructure to let nature continue its [sic] process," according to the company's website.

This region also sees a plethora of notable cider festivals, including New York City's CiderFeast, Cider Days in Franklin County, Mass., Cider Week New York, Philly Cider Week, Vermont Cider Festival, Cider Fest PA, and the Annual Gathering of the Farm Cideries.

The Rise of an Industry

Besides the rich history of cider in the region, New England is also the birthplace of the modern-day cider boom as well. It was in 1991 that winemaker Greg Failing began to experiment with apples in his two-car garage in Proctorsville, Vt., and launched Woodchuck.

"There was not a hard cider category out there at that point in time. Nobody had defined what that category should be," says Woodchuck founder Greg Failing on their website. "Woodchuck Amber did just that. It was an exciting moment." Fast forward to 2014, and Woodchuck opened a \$34 million dollar cidery in Middlebury.

"I would call this the most exciting time for cider ever, really," says Gabe Cook.

With help from local organizations, such as the Pennsylvania Cider Guild, Vermont Cider Association, New York Cider Association, and Connecticut Cider Association, as well as national groups like the American Cider Association and Cider Institute of North America, there continues to be a push to promote cider and cider education.

Weather Makes an Impact

The cooler temperatures that New England sees works to the advantage of apple growers and cider producers.

"As a cidermaker, we are in the perfect climate," Leger says. "Apples need cold weather."

That perfect apple climate means the ability to grow many varieties. New York produces more than two dozen varieties of apples, including Empire, Gala, Red Delicious, McIntosh, Golden Delicious, Cortland, Rome, Crispin, Idared and Paula Red.³ In Pennsylvania, you can find Gala, McIntosh, Granny Smith, Wickson crabapples, Kingston Black and Dabinett, among many others.⁷ The New England Apple Association lists Ashmead's Kernel, Baldwin, Cortland, Pitmaston, and Reine de Pomme.⁸

The unique weather and soil impact the apples, Leger says. "Flavors of apples are different when you grow them in the Northeast," Leger adds, who finds that tannins are less intense here than in ciders from England.

"Winters in Maine and parts of Vermont are harder on some of the more cold-sensitive varieties, but over the centuries plant breeders have come up with some really

cold-hardy trees, whose fruit also ripens early," Zakalik explains. "So even in the short growing season in, say, northern Maine, a Yellow Transparent apple will be ripe in August and can survive the deep freezes in winter better than some southern or English apple varieties."

Zakalik also points out that climates and apple-growing capabilities vary by sub-regions.

"Being near a lake can moderate temperature, hence all the wineries and cideries on the shores of the Finger Lakes, and the Great Lakes as well," he says. Massachusetts is cooler, so there is more of a chance for freeze damage in the middle of the winter than you might find in the Hudson Valley, says Zakalik.

Specific orchards may also benefit from micro-climates that, for example, offer better air drainage than others. A ravine can trap cold air and create a "frost pocket."

"Cold air sinks," Zakalik explains, "so if you plant at a low point where cold air

comes down from both sides, you can have frost damage to the flowers down there, while trees near the top of the slope are more protected because slightly warmer air rises.

"If you travel around the Finger Lakes, you'll see that orchards and vineyards are planted on slopes, but they tend to be at the top or middle, not down at water level, because there's nowhere for cold air to go," Zakalik says.

Is There a New England-Style Cider?

The Beer Judge Certification Program (BJCP) defines a New England Cider that's made with characteristic New England apples, such as Northern Spy, Roxbury Russet, Golden Russet, Baldwin, and many other traditional varieties. The result is relatively high acidity in the cider, which can include additives to boost alcohol and contribute additional flavors. At 7 to 13 percent ABV, it can be a potent beverage.

I would call this the most exciting time for cider ever, really.

— Gabe Cook



Additives can include molasses, brown and white sugars, small amounts of honey and raisins, says the BJCP. "Additives are intended to raise OG well above that which would be achieved by apple alone," according to the program's description. This style also can be barrel-aged, which can add notes of oak or, if the barrel previously held a spirit, characteristics from that as well.

The result is a traditionally dry, flavorful cider with robust apple character, strong alcohol, and derivative flavors from sugar additives. However, this type of cider isn't necessarily widely prevalent throughout the region.

Cider expert Gabe Cook, also known as The Ciderologist, explains that since you

can really make any type of cider in any region, it's hard to associate specific cider styles with specific areas. But, generally speaking, there is a classic style of ciders throughout the Northeastern part of the United States that relies on heirloom varieties such as Roxbury Russet, Winesap, Newton Pippin, and Golden Russet.

"We are talking acid-driven, but with structure and texture and intensity and aromatics," Cook says.

Dan Pucci, co-author of *American Cider*, explains that cider can vary throughout the region. Pucci, who was the founding beverage director at New York City's first cider bar, Wassail, says warmer regions, such as Adams County in Pennsylvania, may

result in richer, fruitier ciders. Finger Lakes ciders, on the other hand, tend to be much more acidic and offer higher malic-acid flavors. "They very much mirror white wine grown in that region as well," Pucci says. He adds that the combination of high acidity and other functions lends the cider to mirror more the texture than flavor of grape wine.

Further north in New England, he points out, there's a large classic, McIntosh presence. Ciders here can be perfume-like and aromatic with tropical flavors peeking through.

Executive director of the Cider Institute of North America Brighid O'Keane says that areas such as New York and Vermont tend



to see more of the orchard-based approach to cidermaking, largely because they have access to the apples.

Ice cider, originally from and still very popular in Quebec, is also found in the Northeast, especially in Vermont. Ice cider is known as premium dessert-style cider. Eden Ciders, for example, produced ice ciders with their locally grown, heirloom apples. Juice is naturally cold-concentrated due to the cold temperatures.

The People Behind the Craft

Both Leger of Eden Ciders and Ben Wenk of Ploughman Cider agree that cidermakers enjoy a supportive community. "Folks are interested in sharing and collaborating," says Leger.

Some of the largest cider producers in Pennsylvania include Arsenal Cider House (63,622 gallons), Original 13 Ciderworks (20,610 gallons) and Big Hill Ciderworks (18,810 gallons), according to the Pennsylvania Liquor Control Board.⁹

Cook highlights notable cideries in the region (too many to name, he says), such as Eden's, Eve's Big Hill Cider Works, Ploughman Ciders, Slyboro Ciderhouse, Redbyrd Orchard Cider, and Shacksbury, but the passionate cider enthusiast gives kudos to Angry Orchard—owned by Boston Beer Company, brewer of Samuel Adams Boston Lager—and specifically, its cider house in Walden, New York. Angry Orchard is one of the most recognized cider brands among consumers, with annual retail sales of more than \$220 million.

"It should be absolutely heralded for having a space and a place that celebrates and showcases just how diverse and how just high-quality cider could be," he says.

Patrons visiting can take a walking tour of or picnic in the orchard, participate in various tasting experiences or enjoy a barrel-room tour. More than 45 kinds of cider are on tap, along with flights available.

Cider School in Session

New York is home to Cornell University, one of the nation's leading centers of learning about cider. "People are able to get educated on how to make good cider," Leger says, referencing Cornell's available courses.

Courses in the program include Cider Production, Ecological Orchard Management, Fruit Crop Physiology and Cider and Perry Production, which provides guidance on production, teaches producers microbiological and chemical strategies for ensuring safety and more.¹⁰ There are courses for commercial producers, apple orchard field days and other cider events.

It's every bit as wonderful and interesting as going to famous wine regions.

— Eleanor Leger

During Zakalik's work towards his degree, his master's research led him to several multi-year experiences looking at crop load and how it effects next year's bloom, total yield over three years, how variable or consistent the yields were as well as the effect on crop load juice quality. The big takeaway was that overcropping trees yields lower tannins, less sugar, and lower acid and nitrogen content of juice.

The Cider Institute of North America was formed in 2019 as a non-profit organization to formalize cider production

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education throughout North America. Since the launch of online cider production courses created by the Cider Institute of North America in 2020, executive director Brighid O'Keane reports that 339 students have enrolled. Of the 40 U.S. states that had participants, the third-most represented state was New York, while Pennsylvania ranked sixth.

Perfect Fit for Wine & Travel Enthusiasts

The Northeast has seen real growth in the wine-style side of the cider market. Stone & Key Cellars, Stone Mountain Wine Cellar, Spring Gate Vineyard and Winery, Armstrong Valley Winery, Bella Terra Vineyards, Conneaut Cellars Winery and Distillery, Elf Farms Winery and Adirondack Hard Cider all produce cider in addition to wine.

In New Hampshire, where cider is the official state beverage, the tourist bureau offers suggestions on cideries to visit during the Fall, including the famous Farnum Hill Ciders, North Country Hard Cider, Old Settlers Cider, Chase Gill Cider, Contoocook Cider Company, Butternut Farm Cider House and Bradford Bear.¹¹ The popular Vermont Cider Trail links a number of the state's cideries.¹²

Even the Finger Lakes region, which is usually associated with wine, is described as the hub of the region's cider renaissance, according to Finger Lakes Regional Tourism Council.¹³

And just as Napa Valley and other wine regions bring tourists, Leger says that the cider scene in the Northeast is worth a visit as well, especially coming to the orchards in autumn. "It's every bit as wonderful and interesting as going to famous wine regions," she says.

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





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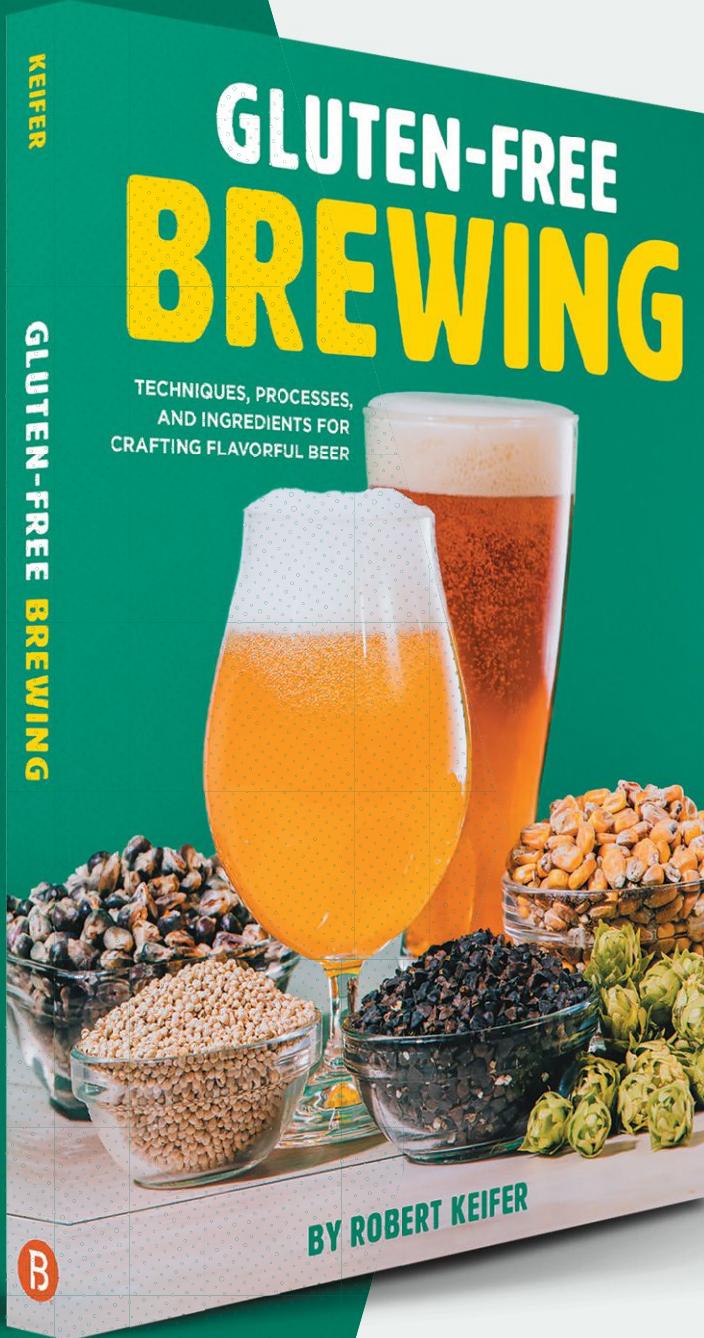
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A cartoon illustration of a man with dark hair and glasses, wearing a blue shirt, looking through a magnifying glass at a large glass of beer. The beer is golden yellow with a thick white head. The number '5' is printed in blue on the side of the glass.

SKEPTICAL BREWING

5

This is the fifth in a series of articles called “Skeptical Brewing,” a deep dive into commonly held brewing beliefs. In this series, we discuss their origin stories and review the science and research behind them to reach a verdict on their plausibility.

We have chosen common brewing superstitions to try to challenge established paradigms and shed light on many supposedly unquestionable truths. We hope this helps foster the habit of questioning handed-down wisdom.

Always be skeptical!

By Matias Cavanna & Leandro Meiners



1 PRECISION IS KING WHEN CHOOSING LAB EQUIPMENT

ORIGIN STORY

It is very hard to pin down where the idea “that precision makes it or breaks it when it comes to choosing lab equipment” stems from, but it seems to be the result of a widespread misunderstanding between the concepts of precision and accuracy.

Hence, we decided to veer away from our standard approach of discussing papers but clarify some concepts that are essential to determining the quality of the measurements we make; a number without context (scale, error bar, etc.) is just that: a meaningless number.

As homebrewers, we are obsessed with taking notes and hitting our numbers, yet for these to be valuable, we need to have confidence in them and ensure our measurements are reproducible. What follows is a primer on some important concepts.

PRECISION VS. ACCURACY

Let's start with the definitions and overall clarifications. Precision, which is what we see in specification sheets for instruments, states how close two measurements can be to each other (i.e. you can think of it as how many decimal points are returned by the measuring device).

On the other hand, accuracy reflects how close a measurement is to the true value. The latter is sometimes taken for granted, an assumption that a precise measuring device is also accurate, but this is not necessarily the case: it depends on the correct usage of the device, its setup, calibration, and working conditions.

A typical example is a precise pH meter that gives two decimal places of precision but is not calibrated properly. Successive measures will give really close values (precise measurement) but of a wrong inaccurate value. For example, it might indicate a pH of 3.43, when it is really around 5, but never strays too far from 3.43 in repeated measures.

Figure 1 shows four true values (represented by four red crosses, plotted together merely for space constraints to avoid four different graphs) and four different types of repeated measurements (each measurement indicated by a blue dot) showing all possible combinations between accuracy and precision. Graphically, close-together measurements indicate better precision, and values close to the corresponding X mean better accuracy.

Very precise gear without accuracy is evidently useless and gives a false sense of

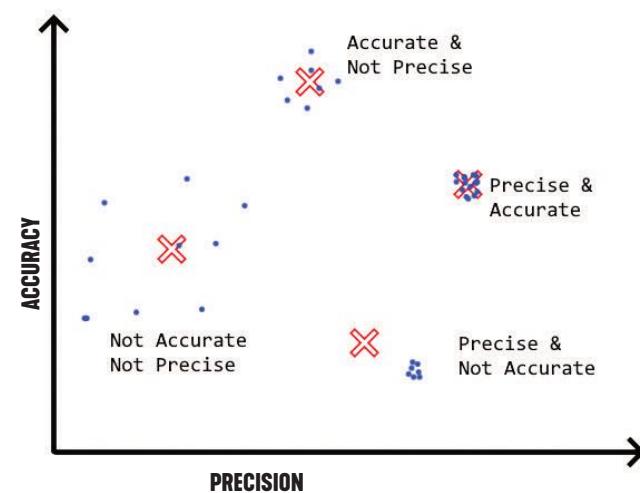
correctness: similar repeated measures but all off the mark. Hence, accuracy is a must and why it is sometimes taken for granted—if an equipment manufacturer sells me a piece of gear with ten decimal places of precision, we all tend to assume it is meaningful. However, the device could be so off the mark that it is useless compared to an accurate but less precise device that only measures with two decimal places.

So, how do equipment manufacturers represent accuracy and precision? The precision is given by the number of decimal places of the measurement of the device, as explained before. On the other hand, accuracy is typically given in the specification sheets as the amount of uncertainty in a measurement noted with a \pm indicating the error. Another important parameter to consider is the measuring range, by ensuring the device can measure in the range (and conditions) under which we will use it.

For example, a well-known dissolved-oxygen (DO) meter with a measurement range of 20–25,000 ppb (0.02–25 ppm) advertises an accuracy of \pm 7 ppb for a reference sample having 40 ppb at 25°C. This means if a sample has exactly 40 ppb of DO, this meter could return any value from 33 to 47.¹ At the lower end of its measurement range, accuracy is likely to be worse.

Hence, if we need to guarantee that a product have less than 50 ppb DO, this device should not read higher than 43 ppb. We'd likely want it lower, as accuracy may vary throughout the range of measurement.

FIGURE 1: PRECISION AND ACCURACY ARE INDEPENDENT VARIABLES.



Another DO meter states a measurement range of 0 to 2,000 ppb (0–2 ppm) with accuracy of \pm 0.8 ppb, or \pm 2%.²

Considering the same example for a measurement of 50 ppb, this meter would have an error of 1 ppb (2 percent greater than 0.8), so if we get 49 or under, we can be sure we are below the specification range. Hence, this device is better suited to this application.

VERDICT

Although not in our ordinary layout we thought that we could still label this an **outright myth**, because, as we've shown,

worrying about precision when we don't have the necessary accuracy and confidence (error interval/scale) in our measurement, we might as well put our thumb to the wind to measure speed.

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DYNAMIC DRY HOPPING IMPROVES HOP FLAVOR

ORIGIN STORY

In terms of the extraction process, dry hopping can be classified as either static or dynamic:

- Static dry hopping refers to adding hops to the fermentation vessel or bright beer tank.
- Dynamic dry hopping refers to additions where beer is either continuously circulated through an external vessel containing the hops, or in which hops are stirred in the fermenter or bright tank by means of a pump or an agitator.

Guns, rockets, and torpedoes are elements one might associate more with the military than with brewing; however, add the word *hop* in front of either of them, together with a shiny stainless-steel shell, and you get brewing equipment that every tech-minded brewer would die for. These brewing tools are needed to make dynamic dry hopping additions.

“Most large breweries use them” and “they increase hop flavor extraction efficiency” are phrases commonly heard or read in presentations from the suppliers of such equipment, but does this really mean

that the flavor itself is improved and that these methods are better than good old static dry hopping?

WHAT DOES SCIENCE HAVE TO SAY?

Wolfe's thesis from 2012, is one of the first studies to investigate both flavor and analytical differences between static and dynamic dry hopping.¹ His test results show that dynamic additions have a much higher extraction efficiency of hop compounds compared to static ones.

Whilst extraction efficiency for geraniol is similar in both techniques, the



Hop gun.

extraction efficiencies for linalool (approximately a 60 percent increase) and limonene (a roughly 90 percent increase) are considerably more; however, this is little compared to the extraction efficiency for compounds like myrcene and humulene which go up a whopping four- and twelvefold, respectively.

Wolfe also analyzed polyphenol extraction levels with results indicating that dynamic dry hopping results in more than double the quantity of polyphenols in the final beer.

As the extraction efficiency varies for each aromatic hop compound, it is easy to see how the beer's flavor profile can change considerably using a dynamic dry hopping method versus the traditional static dry hopping. The compounds that had the largest increase have the following characteristics:

- Polyphenols provide beer with astringency (which is perceived as a drying or puckering sensation on the tongue) and can also impart bitterness.²
- Myrcene is the most abundant odor-active hydrocarbon in almost all hop varieties and is associated with the “green hop aroma” in beer with a herbaceous, resinous, green-like aroma.^{3,4}
- Humulene produces earthy, woody, and peppery aromas, typically associated to noble hops.⁵

These descriptors are in accordance with a tasting panel's evaluation, which found that dynamic dry hopping produced higher aroma, bitterness, and astringency than static methods.

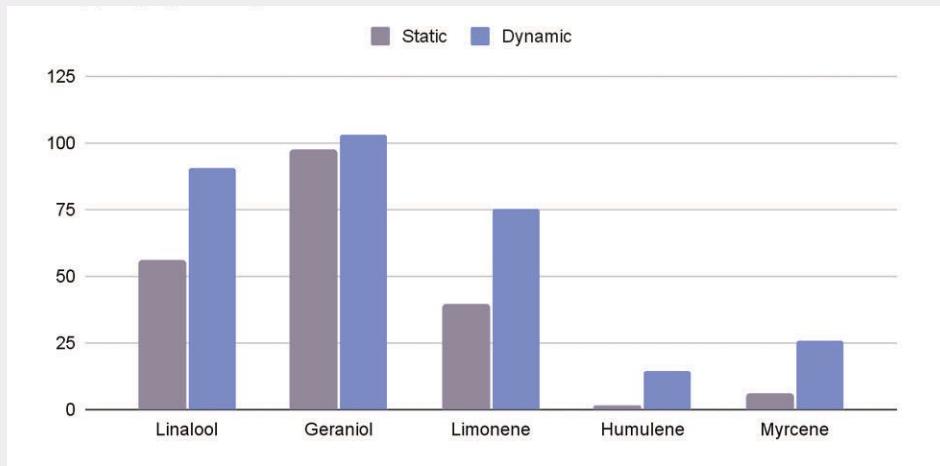
Results from a second study from 2018 also agree with Wolfe's thesis.⁶ In this case,



Hop torpedo.



AROMATIC COMPOUND EXTRACTION EFFICIENCY STATIC VS DYNAMIC DRY HOPPING PELLETS



a wider range of hop aromatic compounds was tested. All compounds show higher extraction efficiencies for dynamic dry hopping. Floral and citrus compounds (linalool, nerol, and geraniol) show significantly less increase in efficiency between dry hopping methods than the spicier/herbal fraction, which have more significant percentage increases.

Again, this shows that not only is the aromatic impact increased but that the aroma profile of the resulting beer is changed. It is worth pointing out that these compounds have similar aroma thresholds

(in the low ppm range) hence nonlinear increase of all these compounds is expected to produce a shift in flavor profile.

Another study was produced by BrauKon, who manufactures the dynamic dry-hopping equipment branded as HopGun.⁷ This study also shows similar analytical results to the previously mentioned studies for equivalent dry hopping rates (static vs dynamic). The analysis goes further, and the paper compares how the same hop aroma intensity is achieved halving the dynamic dry hop rate compared to a conventional addition.

It is important to remark that this study was made on a German Pilsner-type beer, with a 3 grams per liter (0.78 pounds per barrel) of dry hops using Saphir, which is characterized for having a noble hop character (which, as was shown with previous studies, is the aromatic fraction that increments the most when doing dynamic dry hopping).

VERDICT

While there is sound evidence that dynamic dry hopping considerably increases hop-compound extraction efficiency and overall aroma intensity, this does not necessarily translate to hop flavor improvement.

Dynamic dry hopping changes the hops' aromatic character. Green, spicy, and herbal notes tend to increase proportionally more than fruity, tropical, and citrusy ones. This can work wonders for certain types of beers that use noble hops (Pilsners, English bitters, helles, bock, etc.) but it could be terrible for modern-style beers that use New World hops (American pale ale, IPAs, hazy IPA, etc.)

Bitterness intensity and duration and astringency also increase considerably using dynamic dry hopping due to increased extraction of polyphenols and humulinones.

Thus, we can call this claim an **out-right myth**.

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TEST IT YOURSELF!

Whilst the subjects discussed in this edition don't necessarily lead to a particular test (unless you own a dynamic dry hopper, which is highly unlikely), we wanted to share the recipe for this quirky and flairy amber ale with *membrillo* (quince paste), perfect for autumn enjoyment.

Brew This!



QUINCE-Y JONES

American amber ale with membrillo (quince paste)

The biscuity, malty flavors of this off-dry amber ale are perfectly rounded by the *dulce de membrillo*, a typical Latin American quince paste, and enhanced by the coconut notes in Sabro hops.

You can buy *dulce de membrillo* in the USA through Amazon, or try your local Latin specialty food shop. Some of the available brands that we have tried and work a treat are Arcor, Esnaola, and Los Nietitos, but also several other brands are also available.

Batch volume:	19 liters [5 US gal.]
Original gravity:	1.055 [13.6°P]
Final gravity:	1.013 [3.3°P]
Color:	13 SRM
Bitterness:	medium-low
Alcohol:	5.5% by volume

MALTS

53.4%	[2.75 Kg] pale ale malt
14.6%	[0.75 Kg] Weyermann CaraHell malt
14.6%	[0.75 Kg] Vienna malt
9.7%	[0.5 Kg] melanoidin or honey malt
7.8%	[0.4 Kg] Weyermann CaraMunich I malt

HOPS

6 g	[0.2 oz.] Chinook, 13% a.a. @ 60 min
20 g	[0.7 oz.] Sabro @ flameout/whirlpool, after adding quince paste
50 g	[1.75 oz.] Sabro, dry hop when SG < 1.020

YEAST

Chico ale yeast

WATER

Ca 50 ppm, Mg < 10 ppm, Na < 10 ppm, SO₄ 60 ppm, Cl 40 ppm, HCO₃ < 10 ppm

ADDITIONAL INGREDIENTS

0.5 tablet	Whirlfloc @ 10 min
0.5 tsp.	[1.5 g] yeast nutrient @ 5 min
250 g	[0.6 lb.] <i>dulce de membrillo</i> (quince paste) @ flameout
110 g	[3.9 oz.] corn sugar [if bottle conditioning] to 2.4 vol. of CO ₂

BREWING NOTES

Mash at 66°C (151°F) and adjust pH to 5.2–5.5. Rest for 60 minutes. If sparging, do so at 75–78°C (167–172°F). Collect enough wort in the kettle to yield enough wort to achieve 5 gallons (19 liters) in the fermenter.

Boil the wort vigorously for 60 minutes, adding the hops, Whirlfloc, and yeast nutrient as per the indicated schedule.

After the 60-minute boil, turn off the heat and add first the *dulce de membrillo* paste: cut it into slices and add slowly, waiting for each piece to dissolve before adding the next. Then make the whirlpool hop addition and let steep for 5 to 10 minutes before chilling the wort.

Chill the wort to 20 °C (68°F) and transfer to the fermenter. Aerate thoroughly and pitch the yeast. Increase fermentation temperature 1 °C (1.8°F) each day.

Add the dry hops as per the indicated schedule.

After 3 days with no yeast activity (no gravity change), cold crash and chill the beer to as close to 0°C (32°F) as you can. Keep chilled for a week or two prior to bottling/kegging.

FERMENTATION VESSEL DESIGN AFFECTS FLAVOR PROFILE

BACKGROUND STORY

When talking about fermentation vessel design, we can think of two very different situations. We may consider different types of vessels (for example a Burton union versus a cylindroconical vessel (CCV) or the aspect ratio of the CCV itself.

For this discussion, we will consider both cases. First, we'll analyze open fermentation vs. closed fermentation, assuming a consistent vessel geometry. That is to say, we'll attempt to abstract any effects attributable to the change in shape of the fermenter and not whether it is sealed off from the environment. We've taken this approach because most alternative fermentation vessel designs (Burton union, Yorkshire square, etc.) are virtually extinct except for a handful of traditional breweries still holding on to them or a few modern breweries using it as a distinguishing factor.

Additionally, we'll consider the aspect ratio of CCV as a separate case, as this is what is likely to vary from one brewery to another.

Unfortunately, not much research has focused on this even though it remains an intensely contested debate both in terms of open versus closed fermentation and vessel aspect ratio. For example, German brewers often assert that a true hefeweizen cannot be brewed without open fermenters, such as those used by one of the iconic brands of the style, Weihenstephaner. On the other hand, there is much discussion on how aspect ratio affects yeast, with brewers such as Yvan de Baets from Brasserie de la Senne, one of Belgium's most respected brewers, swearing that his saison yeast strain needs wide, shallow vessels to thrive.

WHAT DOES SCIENCE HAVE TO SAY?

Fermentation profile isn't the only concern when selecting the type of fermentation vessel. Other factors include, but are not limited to, space constraints, yeast flocculation behavior, cropping technique, tradition, build costs, operation and maintenance costs, and beer loss.¹

Although there is a lack of scientific studies doing side-by-side comparisons of beers brewed in vessels of different geometry, there is evidence that vessel design affects fermentation profile and, thus, likely the resulting



Burton union-style system.



Yorkshire square style system.

beers. The aspect ratio in CCVs will affect CO₂ evolution, which affects mixing in the fermenter; with higher mixing rates leading to an increase in yeast growth, which has known fermentation consequences, partic-

ularly decreased esters.^{2,3,4} Additionally, the taller a CCV (due simply to sizing requirements or chosen aspect ratio) the higher the hydrostatic pressure, which also results in an altered flavor profile.³

The impact of vessel geometry on resulting organoleptic profiles explains why certain producers still opt for open fermenters, as mentioned in their use for German wheat beer production, or horizontal vessels.^{4,5}

In the latter case, horizontal tanks reduce head pressure and thus encourage an estery profile relative to the same tank configured vertically. The former is commonly attributed to (and supported by scientific evidence) shallower vessels, which produces less head pressure and reduced ester formation.³

It is commonly believed that an increase in ester formation in open fermenters is due to oxygen availability, yet there is a lack of scientific basis for this. The few available studies on the subject indicate that it has more to do with the purging effect of being open rather than the available oxygen itself; nevertheless, the effect can still be attributed to open vs. closed.^{5,6}

Also worth pointing out is that specific fermenter designs were commonly built around the behavior of specific yeast strains and not necessarily for flavor profile. Burton unions and Yorkshire squares, for example, automatically cleanse the beer and the rouse and ensure a complete fermentation from highly flocculating yeasts, respectively.¹

It is worth considering why the industry switched over to closed fermenters. The hygiene advantage and, thus, shelf stability offered by closed fermenters is undeniable. The efforts and costs incurred by modern breweries that still rely on open fermenters (and the associated clean rooms and air filtration systems) shows the difficulty in achieving similar sanitary standards. Hence, the widespread adoption of closed vessels, cylindro-conical vessels in particular, since the Nathan fermenters were first developed in the 1930s.

VERDICT

The statement “Fermentation vessel design affects flavor profile” with respect to closed versus open fermenters is true. However, the difference in resulting beer flavor may have more to do with CO₂ removal than the geometry itself. This could be an interesting avenue of research that might lead to a closed vessel design in which CO₂ is forcibly removed that mimics an open vessel in terms of the resulting beer, but with the sanitary advantages of a closed design.

From the other viewpoint we considered our statement, the aspect ratio of CCV, we can conclude that it is also likely true; as the aspect ratio affects both yeast growth and hydrostatic pressure, both variables known to lead to alterations in flavor profile.

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Leandro Meiners earned an MSc. in brewing and distilling at Heriot-Watt in Scotland. Having gained practical experience working at two breweries in France, he returned to his homeland of Argentina to start a brewery and taproom called PLACEBO (@placebo.brewing). Leandro also has a blog in Spanish about brewing science called Zythologia, and he is co-host of Birratecnia, a podcast in Spanish focused on sharing academic research and putting it into context of day-to-day brewing activities.

Matias Cavanna is head brewer at Dos Dingos Cerveza Independiente in Argentina and De Puerto brewpub and Rural barrel program in Uruguay. Matias started homebrewing in Australia and developed practical and technical knowledge in Australia, New Zealand, and Japan at Asahi's small and large breweries. Matias also co-hosts Birratecnia.

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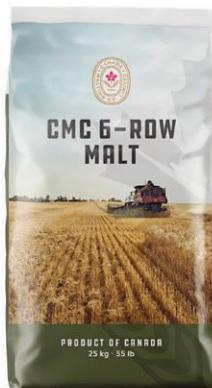
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That mantra rings as true today as it did in 1978 when Charlie Papazian cofounded the American Homebrewers Association with Charlie Matzen. Homebrewing can be as simple or as complex as you want to make it, but the first step is always to relax and 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 and dive into our How to Brew resources.

BREWING WITH ZYMGURGY

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 (66.7–67.2°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

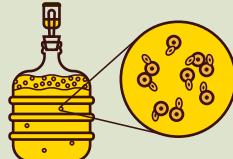
SMM – S-methyl methionine, precursor to dimethyl sulfide (DMS)

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

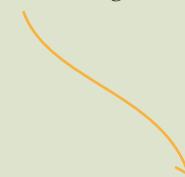
If you bottle,

- Use 1 oz. of dextrose (corn sugar) per gallon of beer (7.5 g/L) for a good, all-purpose level of CO₂.
- 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 CO₂ to g/L, multiply by 2.

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

TEMP (°F)	VOL. CO ₂										
	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

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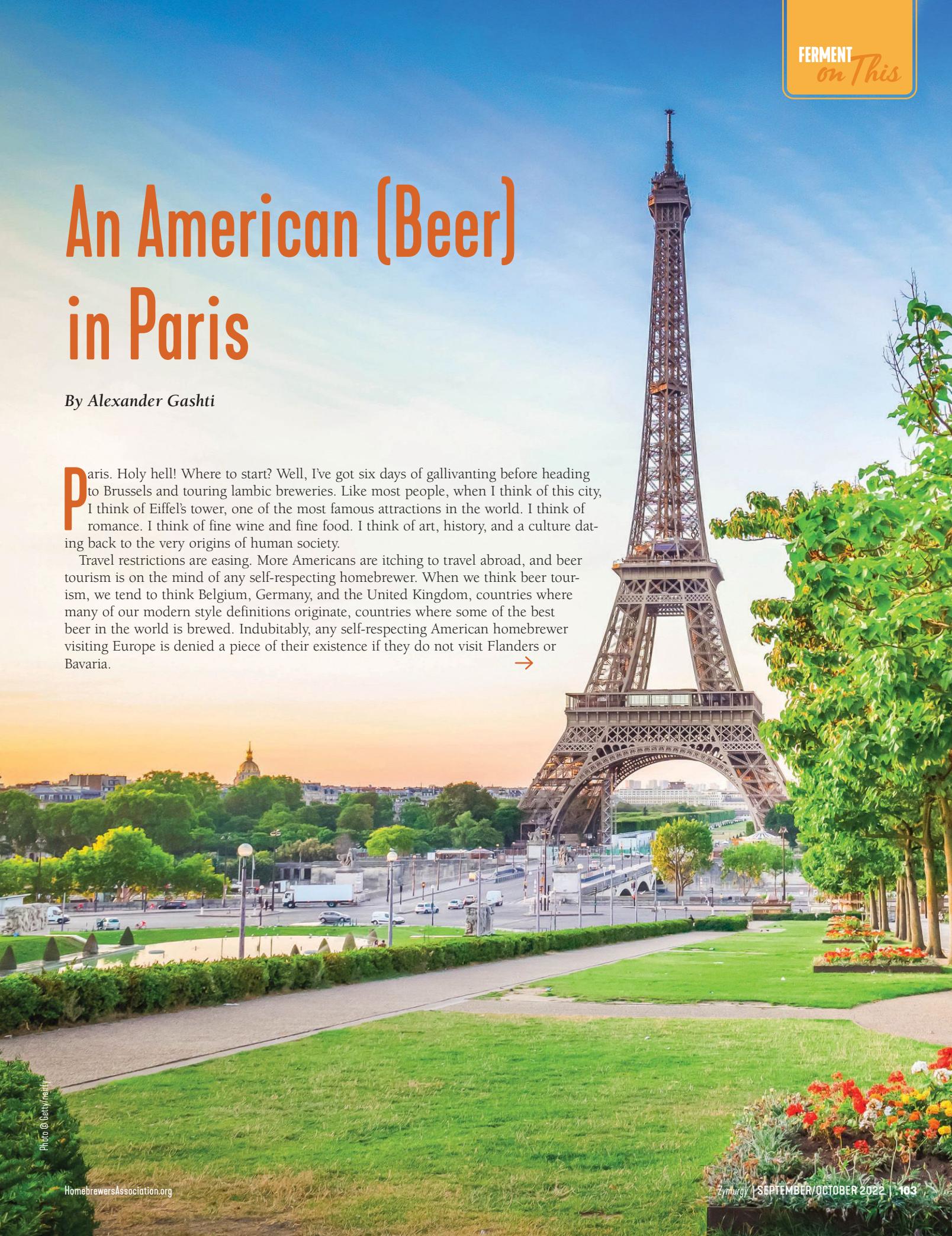
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An American (Beer) in Paris

By Alexander Gashti

Paris. Holy hell! Where to start? Well, I've got six days of gallivanting before heading to Brussels and touring lambic breweries. Like most people, when I think of this city, I think of Eiffel's tower, one of the most famous attractions in the world. I think of romance. I think of fine wine and fine food. I think of art, history, and a culture dating back to the very origins of human society.

Travel restrictions are easing. More Americans are itching to travel abroad, and beer tourism is on the mind of any self-respecting homebrewer. When we think beer tourism, we tend to think Belgium, Germany, and the United Kingdom, countries where many of our modern style definitions originate, countries where some of the best beer in the world is brewed. Indubitably, any self-respecting American homebrewer visiting Europe is denied a piece of their existence if they do not visit Flanders or Bavaria.





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Hespebay Graouhh saison sauvage.



However, when we only visit the big sights, like the Louvre or the Eiffel Tower, we don't really see Paris. It follows that when we are receptive to only the most widely known and respected breweries in the world, we are missing a lot of the beers that rightfully share their place at the table with those beers that define the standards.

When traveling to Continental Europe, I personally feel I'm missing out if I haven't spent at least some time in Paris. And holy

Brasserie de l'Être Linnæus pale ale.



Modern Parisian water well.

hell, Paris!! Beer is not what the city is known for. The French winemaking tradition is placed on such a high pedestal that it is easy to overlook craft beer.

However, by most accounts, in the last ten years there has been a blossoming of craft beer in Paris, and there are many craft beer bars in the city right now. They are producing what you would expect in the United States, styles such as American pale ale and New England IPA. There is a new generation of breweries that have sprung up all over the city in the last decade.

Craft beer in Paris is not brewed under an appellation like lambic or Trappist beer, nor are their beers required to conform to

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Ma Bière homebrew shop.

Reinheitsgebot rules like German beer. Like us, Parisians are free to use whatever ingredients they wish, however they wish.

This is a huge selling point for me. Since they brew the way Americans brew at home, it's very easy to relate with them and very easy to find a common basis for friendship when traveling here. And, although a great civilization may partly be judged by its works of architecture, so may it also be judged by its artisans, who are a necessary and proper ally in the development of human affairs.

Parisian homebrewers are much more involved with their local homebrew supply shops than most of us in North America, since living in a small dwelling complicates how we brew. Customers are free to take their ingredients home after purchase, but generally they brew their beers on premises at the homebrew supply shop. They return two weeks after an ale fermentation, bottle, and take their beers home. The local homebrew shop serves a teaching and con-



Bottles for sale at Bierocratie.

sultative role, manages the fermentations, and performs some lagering, given the shop's storage considerations. This format lends itself to non-brewers in the form of team-building events or date nights.

Parisian homebrewers have access to many American hop varieties and American-style APAs and IPAs are very popular in Paris craft beer bars. Craft brewers are beginning to experiment with new hop varieties grown here.

Most professional hop production takes place in Alsace. Although artisanal hop production is occurring all over France, I did have the opportunity to try a beer

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TABLE 1: COMMON FRENCH HOP VARIETIES

French Hop	Aroma Character
Aramis	Floral, herbal, earthy with a touch of citrus
Strisselspalt	Spices, citrus, floral, earthy
Triskel	floral, spicy, citrus
Mistral	jasmine, lychee, white raisins
Barbe Rouge	red fruits (strawberry), herbs and spices
Tardif	grape, dry figs, earthy, herbs
Bouclier	spicy
Elixir	floral, piney, citrus
Perle	herbal, spicy, vegetative
French Cascade	citrus, grapefruit, floral

“
Parisians are free to use whatever ingredients they wish, however they wish.

made exclusively with hops from Alsace. “Linnæus” was one of the most unique beers I’ve tried on this trip. The only way to describe it would be a dry blond ale made exclusively with new French hop varieties and with the haziness of NEIPA. It showcases a delicate Meyer lemon aroma with a neutral ale character.

The farms growing these hop varieties are very small operations, producing cones for a small artisanal market. However, given the impracticality of harvest ales and demand from their customers for these new hops, pelletizing may be on the horizon for the larger production facilities.

If you are looking for French aroma hops, Brasserie de l’Instant has a pale ale brewed exclusively with Mistral hops. Toussaint makes la Française or La FPA, (or French Pale Ale) brewed with mostly French hops, and Brasserie de l’Être uses as many local ingredients as possible including locally grown hops.

Roughly half the drinking water in Paris is diverted from the Seine. The remainder arrives from aquifers and aqueducts that are tapped from wells distributed throughout the city. As a result, the water can run hard or soft depending on where it is tapped.

I have had a chance to sample well water in the 13th Arrondissement, and it was very potable. Consequently, many local brewers make no adjustment to their water. However, some of these wells run so soft as to not meet the 50 ppm of dissolved calcium widely considered beneficial in beer manufacturing. As a result, some brewers titrate brewing salts into their mashes and/or worts. Some brewers will reverse osmosis their source water, and some will acidify their mash or sparge water with liquid acids or acidulated malt. This will vary considerably depending on the source water and the style being brewed.

For now, malts are widely available, but the current situation in Eastern Europe is nearly doubling the barley price and the availability of wheat. This is trickling down to what customers pay at craft beer bars. At present the main factor affecting the global grain trade is the invasion of Ukraine, colloquially called the “Breadbasket of Europe.” Grain supply to the rest of Europe from Ukraine is dramatically reduced. This is offset somewhat by exports from other wheat producers.

The current US administration is proposing a spending bill for farmers in an effort to increase domestic grain production given

A photograph of a brown glass bottle of Cider House Select Hopped Apple Hard Cider and a large green apple with a wedge removed from its side, resting on a wooden surface. The background is a scenic autumn landscape with colorful trees and a rustic wooden building under a blue sky with clouds. A red banner with the word "NEW" is positioned above the product name. The text "CIDER HOUSE SELECT" is in large, bold, dark letters, followed by "Hopped Apple Cider" in a stylized script font, and "CIDER MAKING KIT" in a smaller serif font.

surging prices. These efforts are curtailed by drought throughout large sections of the United States. As of April 2022, the Ukrainian wheat and barley crop was not planted in contested or occupied regions of the country, and this impact on the grain supply will probably continue or worsen until the war ends.

For the time being I believe the French will use as much locally sourced grain as possible and supplement their grain bills with imports from free markets. I also think they will increasingly rely on adjuncts in the short term. This may translate into new brewing methods or perhaps new beer styles will develop.

Homebrewers use percarbonate based cleaners, surfactants, and Star San, but lack access to brewer's grade iodine. They prefer to use iodine where the rubber meets the fermenter, rods for brew jackets, gaskets, and thermowells.

Most of the yeast used is dry, since many Parisian brewers lack a local laboratory producing liquid yeast. White Labs has an operation in Copenhagen, but many brewers in France prefer the convenience of dry yeast over shipping liquid yeasts. Spontaneous fermentation is an accelerating trend in the French countryside. Most of these beers are naturally inoculated in coolships and local hops are sourced. Isolated mixed cultures are used by very few brewers. Commercial examples of spontaneously fermented beer include La Montagnarde, Ammonite, and Sacrilege.

There are also early discussions to form mixed fermentation projects over the next few months (probably years) among Malpolon, Effet Papillon, Mont Salève and Goutte d'Or. If you are a fan of mixed fermentation beers, keep your ears close to the ground on these breweries.

Such a brief sketch cannot possibly present the complete story of French craft beer to the reader. The Promethean flame started in the United States is inspiring French

craft brewers and is also drawing from Belgian and English traditions. It is probable that this movement will gain popularity and spread throughout Europe.

Given the prospect of visiting 300-year-old breweries next week and observing traditional and established brewing methods, it is just as exciting to observe where craft beer is going in Europe. Nascent to the French are their artisans, who hold our craft in the highest regard and whose craft shares their place the table with any traditional beer in Europe. I have great admiration for their work. French craft brewers are an example of history in the making, not just a mirror held up to us. They make me nostalgic for my own country.

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Alexander (Alex) Gashti lives in Tampa, Fla., and has been homebrewing since 2009. Alex's formal education includes a BS in biochemistry from Indiana University and a Doctor of Pharmacy from the University of Maryland. He enjoys learning about drugs and alcohol.



French Farmhouse Ale

Batch volume:	5.5 US gallons [20.8 L]
Original gravity:	1.050 [12.4°P]
Final gravity:	1.010 [2.6°P]
Color:	13 SRM
Bitterness:	22 IBU
Alcohol:	5.3% by volume

MALTS & ADJUNCTS

4.4 lb. [2 kg]	Pilsner malt
4.4 lb. [2 kg]	Vienna malt
8 oz. [227 g]	flaked oats
8 oz. [227 g]	flaked wheat

HOPS

0.85 oz. [24 g]	Aramis pellets, 8% a.a. @ 60 min
0.5 oz. [14 g]	Aramis pellets, 8% a.a. @ 0 min

ADDITIONAL ITEMS

½ tablet	Whirlfloc @ 10 min
4 oz.	[113 g] cane sugar @ 0 min
4 oz.	[113 g] Weyermann Carafa II Special, prepared as a tincture and added at knockout (see notes)

YEAST

2 L starter Wyeast 3711 French Saison

BREWING NOTES

Mash at 150°F [66°C] for 90 minutes. Boil 90 minutes. During the boil, steep the Carafa Special II in approximately one quart (946 mL) of water at 150°F [66°C] and add resulting liquid to wort at knockout.

Pitch Wyeast 3711 French Saison [2 L Starter] at 60°F [16°C]. After 36 hours, allow fermentation to rise to 75°F [24°C]. Hold the beer here for 2 weeks and package. Carbonate the beer to 3 vol. [6 g/L] of CO₂.

VARIATION

Funky French Farmhouse

Brew the beer as directed. Once primary fermentation is complete, rack the beer to a 5-gallon (19-liter) carboy and chill to 60°F [16°C]. Add one package of Wyeast 5112 *Brettanomyces bruxellensis*. Allow secondary fermentation to take place over 4 weeks. In the final week, dry hop with 2 oz. [57 g] Mistral hops. Then rack the beer, and carbonate the beer to 3 vol. [6 g/L] of CO₂.

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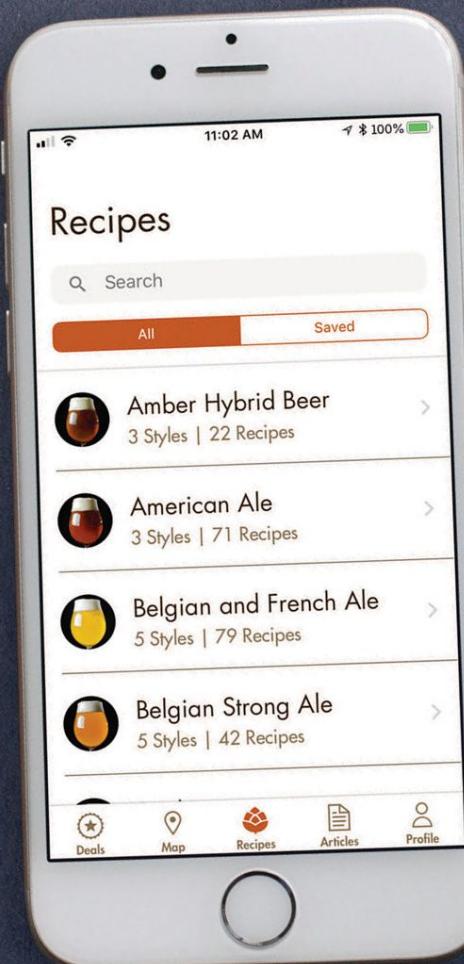
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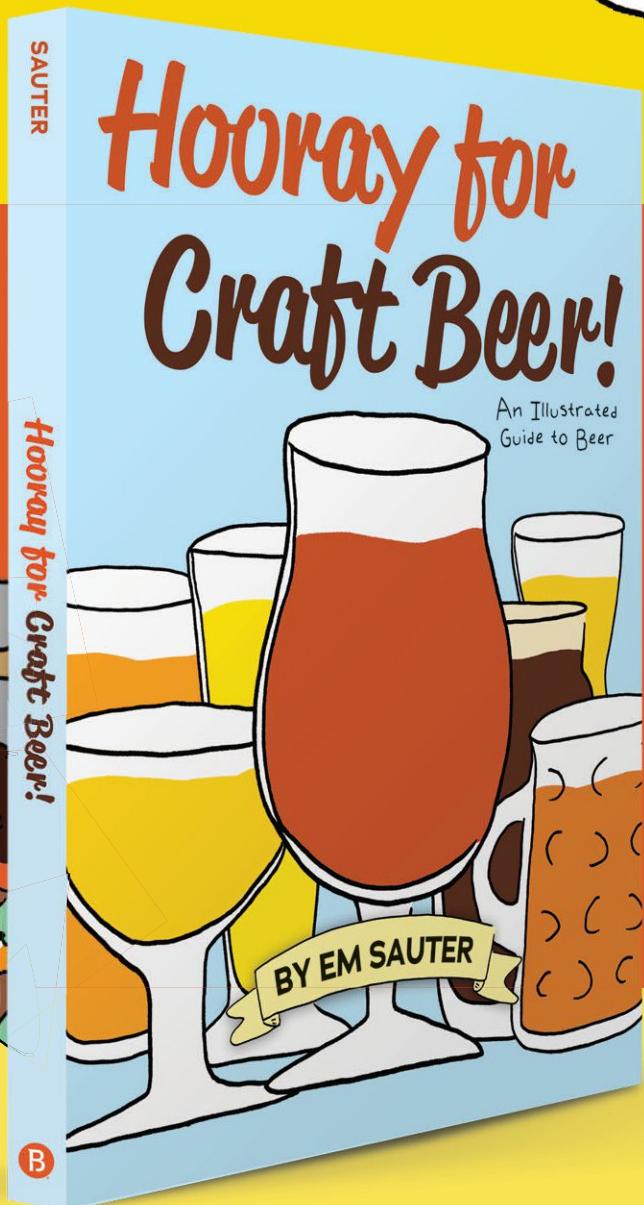


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THE VAULT

RELEASE THE YEAST

2022 SEASONAL VAULT RELEASES

July - September

WLP037 - Yorkshire Square Ale Yeast

Malty and well balanced. Expect toasty flavors with malt-driven esters. Great for English-style pale ales, brown ales, and milds.

WLP520 - Sigmund Kveik Ale Yeast

Also known as Voss Kveik, this strain can produce earthy-like flavors with a touch of orange peel aromas.

WLP631 - Appalachian Tart

Mildly fruity, Tart beers result from this unique co-fermenting blend. Ideal for beer styles like Berliner weisse, gose, or experimental beers.



October - December

WLP009 - Australian Ale Yeast

This yeast produces a clean, malty beer with pleasant ester characters that can be described as "bready."

WLP519 - Stranda Kveik Ale Yeast

Considered a "cleaner" Kveik strain, used to produce a wide range of beer styles over a large temperature gradient.

WLP665 - Flemish Ale

Blended culture used to produce classic styles of the West Flanders region of Belgium. Complex, dark stone fruit character.



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Storytelling through Beer

Homebrewers are an inspired lot, always ready to make beer for a friend's birthday or a family member's wedding, always thinking about flavors to fit the occasion. As the hosts of the *Pop Culture Brews* podcast, my friend Tyler and I are inspired by books, movies, and music. We want to tell a story with each beer.

Brewing beer inspired by pop culture is similar to pairing beer with food: you're looking to create something that will complement, even enhance, the experience of the meal or, in this case, watching your favorite movie. What will enhance the storytelling, acting, or soundtrack?

A favorite summer movie of mine is the kid baseball classic *The Sandlot*. A robust, thick, 13% ABV barleywine made with earthy, spicy Target hops wouldn't quite suit the movie's nostalgia for the endless summers of childhood. However, an ice-cold American Pilsner you and your friends can enjoy on repeat fits the mood nicely. Take a dark movie like *Terminator*, and suddenly that big barleywine feels more fitting.

Brewing a beer for a piece of pop culture all begins with the source material. If you're going to make a beer for it, it's probably something you love. Why do you love it, though? Clearly, it speaks to you, and it's something you've probably shared with those important to you. You'll have memories and feelings attached to it. How do you tell its story in liquid form?

One of my favorite comedies, *This Is Spinal Tap*, is a mockumentary about a hapless rock band on a nightmare tour. I regularly quote two scenes. The first is the infamous "These go to eleven" scene. The other captures the band's reaction to an all-black album cover: "How much more black could this be?" And the answer is "None. None more black." It never fails to make me laugh, and it inspired my 11% ABV None Blacker Stout. Thanks to a pound of roasted barley and two pounds of chocolate malt, this midnight-black stout fits a metal band's image. And what comedy isn't funnier after a couple of 11% beers!

Brewing "in-universe" beers, fictional beers that appear in a film or that might exist there, offers a different way of thinking about beer for a film. You're now incor-

porating setting, plot, and, in some cases, time period.

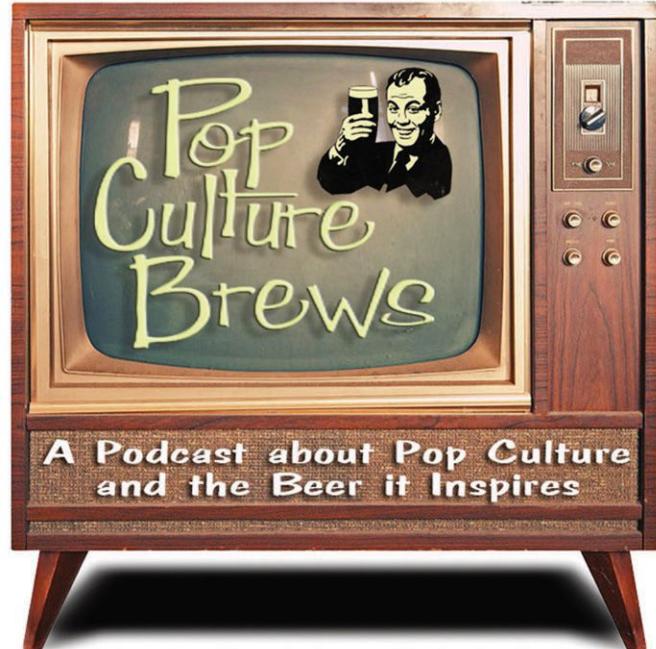
When designing a *Blade Runner* beer, Tyler and I considered the on-screen city and its dystopian culture. It's set in California, where steam beers originated, in a multicultural L.A. with a language that morphs English, Japanese, European dialects, and many more into city speak. Food stands and market stalls mesh cultures together. No single culture dominates in this L.A., so the beer should complement an assortment of foods.

We started with a Pilsner base and, because malted grain would be at a premium in dystopian L.A., added corn to the grist. The hops were all North American, and we fermented with a Bohemian lager yeast at ale temperature. We added Szechuan peppercorns in secondary as a nod to the noodle bar where we meet Harrison Ford's character.

Drinking this beer while watching *Blade Runner*, I couldn't help but imagine the smells and tastes of this different L.A. The result—delicious and lightly hopped with a fiery finish—is, like the movie, striking, original, and probably not for everyone.

You can brew beers that capture the spirit of a piece. Look for the connection between art and beer and find the small detail that spurs a new idea. A piney IPA made for *Back to the Future* honors Twin Pines Mall, which later becomes Lone Pine Mall. Or you could cheekily brew a brut IPA inspired by one-hit wonders. What a glorious summer it was, when brut IPA was seemingly everywhere. It really was the "Closing Time" of beer styles.

The great thing about considering beer this way is each brewer will create something different. I was once in a brewery in California that served a beer inspired by *The Boondock Saints*, an action movie about two Irish American brothers dispensing



their own brand of justice. The brewery had made a delicious dry Irish stout, but I, assuming the characters would enjoy something light as a chaser, chose an Irish-whiskey-aged American cream ale. Both told the story of the characters from different perspectives.

Brewing beer is all about creativity, and creating beers that tell stories has pushed my brewing into interesting areas. There are flavors I never thought I would consider, ones I was nervous about when I added them. But drinking something original and delicious that you couldn't get at any brewery is perhaps the greatest reward of homebrewing. So put on your favorite movie or read your favorite book and be inspired. You'll be surprised what you create!

Andrew Sanders is cohost of the Pop Culture Brews podcast.



ON THE WEB

For a selection of pop-culture-inspired beer recipes, see *Now on Tap* (pg 13) in this issue of *Zymurgy*, and check out HomebrewersAssociation.org.



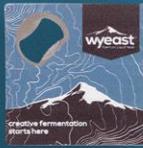
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