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The Journal of the American Homebrewers Association®

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from the 2016
National Homebrew
Competition



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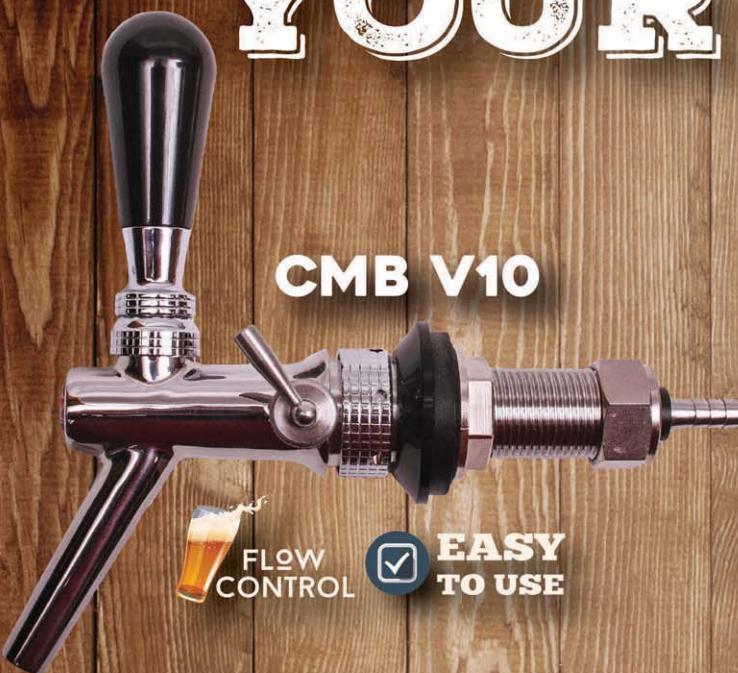
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Charmed, I'm Sure

For one glorious week at the beginning of June, a lab test would have shown my blood serum to consist of at least 10 percent Old Bay seasoning. The remainder would have been split more or less evenly between craft beer and Maryland seafood (oysters in Colorado tend to be of the Rocky Mountain variety, so traveling to a coast is a treat).

Homebrew Con Baltimore was tremendously rewarding, and not just because I got to eat my weight in crab. Here are a few of the highlights I can still remember after Club Night.

Baltimore lived up to its nickname. Members of the local organizing committee went out of their way to welcome the American Homebrewers Association (AHA) to Baltimore and provided vital information and insider tips, including a suggestion to go eat Bertha's mussels, which I did, and which were wonderful.

I finally got to meet members of the AHA Governing Committee (GC) face to face. I had gotten to know all the voices from our regular conference calls, and I had seen all of the headshots (as can you at HomebrewersAssociation.org/ahagc), but I hadn't yet connected voices to JPEGs of heads. The AHA GC is an elected group of passionate homebrewers who offer direction to AHA staff and ensure that our member dues, registration fees, and ticket sales support legislative efforts and the new Brew Guru app instead of, say, a Slip 'N Slide for the office. They do incredible work, and we should all feel proud to have the support of volunteers who are dedicated to maintaining a vibrant homebrew culture and a strong AHA.

Geoff Larson, co-founder of Alaskan Brewing Company, delivered a delight for the senses with his seminar "Wild Alaska, Wild Ingredients." In addition to sniffing spruce tips and cranberries, sampling

birch syrup and alder-smoked malt, and tasting side-by-side 2008 and 2015 vintages of Alaskan Smoked Porter, guests learned how Alaskan Brewing Company has become a leader in sustainability not just from a place of altruism, but because brewing in the wild north means using what you have and getting creative. The brewery's environmentally friendly investments include a CO₂ recovery system, a water-saving mash filter press, and a boiler powered by—get this—burning spent grain (turns out one pound of spent grain contains as much energy as 8 fluid ounces of diesel). Check out this seminar, and seminar materials dating back to 2011, at HomebrewersAssociation.org.

On closing night, the AHA GC honored outgoing NHC Director and Project Coordinator Janis Gross with the AHA Governing Committee Recognition Award. This award was first given to Fred Eckhardt in 1988 and honors an individual's outstanding service to the homebrewing community. The level of secrecy surrounding this award made the KGB resemble an open-source project in comparison, and Janis, in addition to truly deserving the recognition, was truly surprised and delighted.

My first Homebrew Con was a memorable experience, and I urge anyone who is possibly considering attending the 2017 event in Minneapolis to just go ahead and make plans right now to do so. You'll learn more than you thought possible, and you'll meet some outstanding homebrewers who love the hobby just as much as you do.

Minneapolis will have to try extra hard in 2017 to be as charming as Baltimoreans were this year. But given the simple fact that they have already given the world the Jucy Lucy, I'm confident they're up to the task.

Dave Carpenter is editor-in-chief of Zymurgy.



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To read this special, members-only online feature, go to HomebrewersAssociation.org/so16

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Find more homebrewing recipes on our website @ HomebrewersAssociation.org/homebrew-recipes



>> GET THERE!

DAS BEST OKTOBERFEST

If you can't make it to Munich for Oktoberfest this year, don't panic. Das Best Oktoberfest brings a heaping helping of Bavarian *gemütlichkeit* to National Harbor, Md. on September 24 and then to Baltimore on October 8.

In addition to enjoying beer from such craft breweries as Bell's, Boulevard, Dogfish Head, DuClaw, Flying Dog, Harpoon, Heavy Seas, New Belgium, Sam Adams, and Southern Tier, to name but a few, guests can compete in *Fingerhakeln* (Bavarian finger wrestling) or *Maßkrugstemmen* (beer stein holding). There's even a best beer belly contest for those of us whose stamina is more gustatory than physical.

If it all feels a little hedonistic, don't get your lederhosen in a pretzel. A portion of the event's proceeds benefits the Spirit of Hope Children's Foundation, a non-profit 501(c)(3) organization that provides support and promotes education for children and adults with mental and physical disabilities.

For full details, polka your way over to dasbestoktoberfest.com.

September 6

Old Bust Head Bleu & Brew Beer and Cheese Festival

Warrenton, VA
oldbusthead.com

September 17

6th Annual Brewery Vivant Wood Aged Beer Festival

Grand Rapids, MI
breweryvivant.com

October 7

Denver Rare Beer Tasting VIII

Denver, CO
(before Friday's GABF session)
pintsforprostates.org

September 10

Heavy Seas Sausage Fest

Halethorpe, MD
hsbeer.com

September 25

8th Annual Bear Republic Cellar Party

Healdsburg, CA
bearrepublic.com

October 14–15

Long Beach Craft Beer Festival

Long Beach, CA
lbbeerfest.com

September 17–October 3

Oktoberfest

Munich, Germany
oktoberfest.de

October 6–8

Great American Beer Festival®

Denver, CO
greatamericanbeefestival.com

October 22

Pottstown Brew Fest

Pottstown, PA
pottstownbrewfest.com

For more craft brewing events, go to CraftBeer.com

>> YOU'VE GOTTA DRINK THIS

BIRRIFICIO DEL DUCATO VERDI IMPERIAL STOUT

This is the beer that started it all for me. This chile-infused imperial stout was my first craft beer AND my first Italian beer all in one. It is great with a nice grilled steak or chocolate dessert! Verdi won a gold medal in the imperial stout category at the 2008 European Beer Star competition.

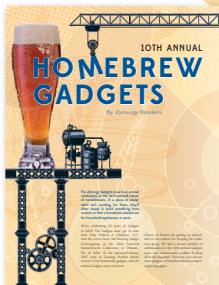
Reviewed by Jay Lum

Dayton, Wyo.



If you've had a beer you just have to tell the world about, send your description, in 150 words or fewer, to zymurgy@brewersassociation.org.

>> BREW NEWS:



ZYMURGY'S 11TH ANNUAL GADGETS ISSUE

Hey, homebrewers! It's time for Zymurgy's 11th annual Gadgets issue (January/February 2017). Have you created your own brewing equipment or tweaked your existing equipment to make brew day easier? Or have you discovered a brewing-related use for a common (or not so common) household item?

If so, please upload a description of your gadget along with (high-resolution) photos at homebrewersassociation.org/gadgets-submission. Please include your city and state (or country!), and, if relevant, your homebrew club. Submissions are due by September 16. Thanks in advance for helping us make the 11th annual Gadgets issue the best ever!

>> GREAT PRODUCT LOVE2BREW BLENDS

They say variety is the spice of life. And now New Jersey-based Love2brew is offering a way to bring even more variety to your brew day.

Love2Brew's new Blends kits are like two in one. Each kit includes two 2.5-gallon beer recipes that are specially designed to be brewed at the same time. Ferment and bottle (or keg) each batch separately, and you get two beers for the same time investment as one 5-gallon batch.

What makes the Blends kits unique, though, is that the recipes have been specifically formulated for blending. Mix the two companion beers together and voilà—you've got a different beer. Follow the included guidelines to blend at Love2Brew's recommended ratios, or strike out on your own and create the perfect blend for your tastes.

Each Blends kit includes complete instructions, a guide to blending, a blending data sheet, and a testing sheet to help you document your mixology experiments. At press time, available kits included such pairings as

- English dark mild and session IPA
- Irish red ale and rye pale ale
- Rauchbier and Baltic porter
- Oceania (southern hemisphere) pale ale and West Coast IPA

To learn more, check out love2brew.com.

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BLENDS™



Photos courtesy of Love2Brew



GET SCHOoled:

Ever dreamt of going to beer school and learning from legends in the field? Well, now you can thanks to new courses at the University of California, Davis. Offered by UC Davis' Extension program, these aren't your everyday homebrewing classes. With celebrity instructors like Charlie Bamforth and Michael Lewis, you'll have to get over your case of starstricken-ness before you can start taking notes. See the course descriptions below and visit extension.ucdavis.edu/brew to learn more.

Brewing Basics: Going Beyond the Kit September 17–18

Master the basics of brewing all-malt beer from UC Davis' longtime homebrewers. See, smell, and taste the raw materials that go into making a fine bottle of beer, and gain the confidence to go beyond the extract homebrewing kit stage. This intermediate-level homebrewing class is intended for budding homebrewers who have dabbled in homebrewing and want to know what went wrong.

Introduction to Practical Brewing December 12–16

Learn from one of the world's foremost brewing experts in this in-depth course for advanced homebrewers and early career professional brewers, using the amazing resources of the 1.5-barrel pilot brewery in the state-of-the-art brewing facility on the UC Davis campus.

Intensive Brewing Science for Practical Brewing January 16–20

Receive an intensive introduction to the sciences of brewing, drawing a direct connection between brewing science and brewing practice in this popular short course. Build your understanding of the technological and biochemical aspects of the brewing process, including raw materials, malting, brewing, fermentation, and finishing. Receive a tour of a famous craft brewery and beer tasting with a professional sensory scientist.



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>> SHOP NEWS:

HOMEBREW SHOP STUMPS CUSTOMERS WITH GLUTEN-REDUCED TASTING

Short Finger Brewing Co., a homebrew supply shop in Kitchener, Ontario, celebrated its move from a home-based business to a retail location on May 25.

To mark the occasion, owners Rob Hern and Kat Rogers-Hern hosted a Homebrew Hangout at which customers were invited to participate in a blind tasting of a split batch of American wheat beer. Rob added White Labs Clarity Ferm (WLN4000) to half the batch and left the other one as-is, keeping all other ingredients and processes the same between the two.

Close to 100 homebrewers were asked to identify which beer from the split-batch fermentation was gluten-reduced, and in the end, tasters were torn. With votes split exactly 50/50, the results were clear: Participants could not identify a discernable difference between beer treated with Clarity Ferm and beer *left au naturel*.

While lab testing is needed for official gluten-free certification, Hangout attendees agreed that enzymatic treatment is a great option for individuals with mild, non-celiac gluten intolerances. For more on gluten-free and gluten-reduced homebrewing, see "Beer for All" on page 34 of this issue of *Zymurgy*.



If you're in Southwestern Ontario, be sure to check out one of Short Finger's Homebrew Hangout events, hosted on the last Wednesday of every month at a different local brewery or craft beer bar. Learn more at shortfingerbrewing.com.



Photos courtesy of Rob Hern and Short Finger Brewing Co.

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By Gary Glass



New Initiatives from the AHA

We have unleashed the Brew Guru™! In August, the American Homebrewers Association (AHA) is launching an exciting new app for Apple and Android devices. This free app makes it easier than ever before for current members to access member deals, and it offers a taste of membership benefits to those who have not yet joined.

The app includes a locator for finding nearby AHA Member Deals participants, as well as all of the breweries and craft beer bars in the Brewers Association's extensive database. (The Apple version of the app includes a mapping function.) Users can receive geo-located push notifications to let them know when they are near an AHA Member Deals participant. The app also includes a digital member card along with the discount offer of any AHA Member Deals location a member happens to be near, making it very easy to redeem discounts.

In addition to the locator function, the app gives users access to curated collections of AHA articles and recipes drawn from Zymurgy magazine and HomebrewersAssociation.org on a wide range of homebrew-related topics. The app allows you to easily find content on the topics that most interest you.

Is your membership about to expire? No problem: you can renew right from the app.

For those who have never been members, the app includes a free 15-day trial membership so anyone can experience the awesome benefits that the AHA has to offer before committing to paying dues. Now you can introduce your friends and homebrew club members to the perks of AHA membership without commitment.

We are continuing to add new content to the app, and we already have plans for



future upgrades to include multimedia content such as Homebrew Con seminars, Zymurgy Live presentations, and more.

Download Brew Guru from the iTunes App Store and Google Play!

Member Deals

With Member Deals in mind, the AHA staff had already added 200 new locations to the AHA Member Deals program by mid-year, and we're on track to surpass 1,500 total locations before the end of the year.

Homebrew Con

The 2016 Homebrew Con in Baltimore was an amazing success. With 3,100 attendees, it was the second-largest National Homebrewers Conference in Homebrew Con's 38-year history. The

highlight for me, as always, was Club Night, where homebrew clubs from around the U.S. and Canada served up a mind-blowing variety of homebrews. The creativity of Club Night does not end with beer, mead, and cider, though. This year's elaborate, club-themed booths seemed to take it up a notch from previous conferences. I was particularly impressed with the members of the Scranton Brewers Guild of Scranton, Pa., whose booth featured a mobile pirate ship that delivered homebrew to attendees throughout the Club Night hall.

If you didn't make it to this year's Homebrew Con, I'm sad you missed out, but I'm also happy that we can offer all members access to the 63 recorded seminar presentations from the 2016 confer-

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ence, as well as seminars from past conferences going back to 2011. This members-only content is available in the Let's Brew section of HomebrewersAssociation.org.

As great as the 2016 Homebrew Con was, we are expecting an even better one for 2017 in Minneapolis. The AHA Governing Committee's Conference Subcommittee, along with the AHA staff, Brewers Association events team, and the 2017 local committee are looking at how we can improve the conference experience for next year's attendees.

Since Homebrew Con was last in Minnesota in 2010, the craft brewing scene around the Twin Cities has exploded. The Minneapolis Convention Center, our venue for Homebrew Con 2017, is located right in the heart of downtown Minneapolis, and numerous restaurants, breweries, and beer bars are accessible on foot or via the light rail just a few blocks away. I've been told that there are great beer destinations within walking distance of every single light rail stop in the city. That said, you don't actually have to leave

the conference to get great local craft beer, since the Minneapolis Convention Center actually has a craft beer bar located inside, featuring a beer menu curated by the Minnesota Craft Brewers Guild.

We'll post more details to HomebrewCon.org as we get closer to our 2017 dates of June 15–17.

National Homebrew Competition

During Homebrew Con, more than 200 Beer Judge Certification Program (BJCP) judges evaluated more than 1,000 final-round entries from the National Homebrew Competition (NHC). Starting from a pool of 7,962 entries in the first round—yes, the NHC remains the world's largest beer competition—the final round of judging narrowed the field to 93 medal winners. All of the gold-medal-winning recipes from the 2016 competition can be found in this issue of *Zymurgy*. Gold-medal-winning recipes from previous NHCs are available exclusively to AHA members on HomebrewersAssociation.org.



Radegast Club Award

Congratulations to the Hogtown Brewers of Gainesville, Fla., who earned the 2016 Radegast Club of the Year Award. This AHA club award, named for the Slavic god of beer, celebrates clubs that contribute to the hobby of homebrewing and to their local communities. The Hogtown Brewers have built a strong network for local homebrewers while also supporting their community through the power of beer. In the past year, club members raised more than \$40,000 for local charities and non-profit organizations through participation in events like the annual Hoggetown Medieval Faire and the club's own Hogtown Craft Beer Festival.

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We salute the generous spirit of the Hogtown Brewers and are happy to present them with the Radegast Club Award, which includes a \$500 cash prize and a \$500 donation to the charity of the club's choice. Thanks to YCH Hops for sponsoring this awesome award.

owner of Prairie Rose Meadery, present on meadmaking for the AHA's annual Mead Day event. Next up, renowned homebrew author Randy Mosher gives his insights on how to be a better beer taster on August 24, shortly after this issue mails.

Association Board of Directors once Jake's term expires in February 2017.

AHA members have exclusive access to recordings of Zymurgy Live presentations on HomebrewersAssociation.org.

AHA Governing Committee

Your member-elected AHA Governing Committee gathered in Baltimore this past June, just prior to Homebrew Con, for its annual face-to-face meeting. (The group also meets monthly via conference call and communicates regularly through email exchanges.) One item of business conducted at the meeting was electing officers for the Governing Committee. Roxanne Westendorf and Drew Beechum were reelected Chair and Vice Chair, respectively, and Kim Wood was elected Secretary. Roxanne was additionally selected to assume Jake Keeler's position as one of the two Governing Committee representatives on the Brewers

You can find photos and email addresses for your Governing Committee representatives in the Membership section of HomebrewersAssociation.org. Nominations for the 2017 Governing Committee election will be accepted this coming fall. Please reach out to Kim Wood, Roxanne Westendorf, or any member of the AHA staff if you are interested in nominating yourself or anyone you think would make a good addition to the GC.

Learn to Homebrew Day

Saturday, November 5 marks the 18th annual AHA Learn to Homebrew Day (always celebrated on the first Saturday of November). This is a great opportunity to share our mutual love for homebrewing with friends, family, and neighbors. Participation is easy, so check out the Events section of HomebrewersAssociation.org for details.

When introducing newcomers to homebrewing, it is important to remember that

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elaborate processes and fancy equipment can be intimidating to the uninitiated. Keep it simple when teaching people how to homebrew. Basic extract kits and one-gallon brew kits are great entryways into the hobby. From there, your newbies can take it anywhere they want to go.

Legislative Update

The AHA continues to work with the California Homebrewers Association on AB 2172, a bill in the California legislature that, if passed, would allow homebrew to be brought onto the premises of businesses licensed by the California Department of Alcoholic Beverage Control (such as breweries and restaurants) for homebrew club meetings and competitions. The Assembly has passed the bill and sent it to the state Senate. In its first Senate committee hearing, the bill was amended to clarify allowances for homebrew competitions—a positive thing for the state's homebrewers—and passed unanimously.

On August 1, the Senate Appropriations Committee passed the bill and sent it to the full Senate for a vote. If the Senate passes the bill, it will go back to the Assembly, since it was amended in the Senate. The AHA will send action alerts to California AHA members as needed to contact state legislators to help ensure passage of this important legislation. If you receive an alert from the AHA or the California Homebrewers Association, please take a few minutes to contact your legislators. Your letters, calls, and emails are critical to the success of this bill.

Homebrew Club Insurance

For the past few years, the AHA has offered AHA-registered clubs an affordable liability insurance option through West's Insurance. Last year, West's added a Director and Officers insurance option as well. The deadline for enrolling in the homebrew club insurance program is September 1. See westinsurance.com/homebrewers for details. The AHA receives no compensation from West's, as we wish to keep this insurance option as affordable to clubs as possible.

Until next time, happy brewing!

Gary Glass is director of the American Homebrewers Association.

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Reflecting on the Reinheitsgebot

Dear Zymurgy,

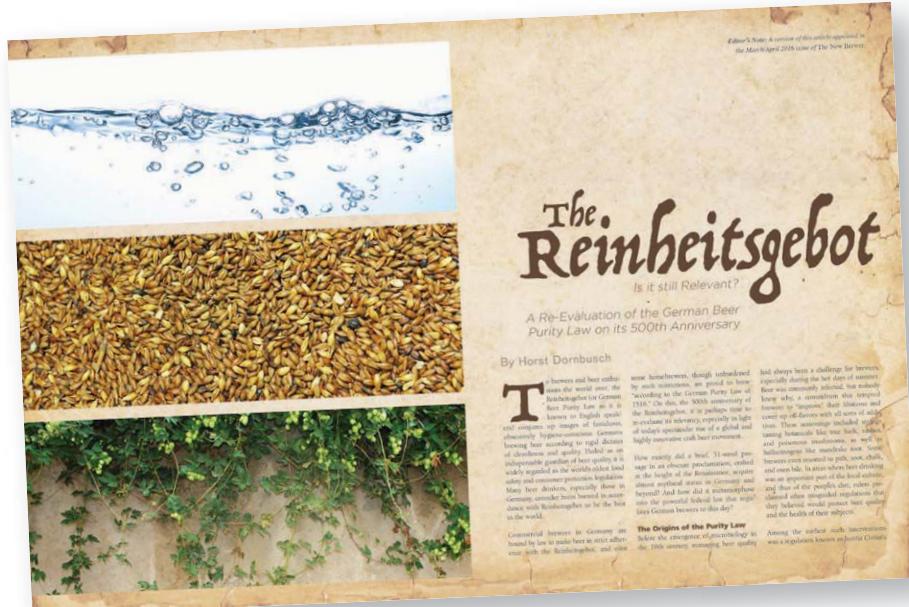
I have to disagree with Horst Dornbusch in his article “The Reinheitsgebot: Is it Still Relevant?” (May/June 2016). I love innovation and firmly believe it is great to shake things up now and then, but not everyone can create high-quality, unusual beers with the expertise of a veteran craft brewery.

Obviously there are some really good micro- and nanobreweries around, but they seem to be outnumbered by their less-impressive cousins. Unless the better breweries are represented, I often find myself with a choice between supporting the macro-beer monsters and buying a small brewery's concoction that might taste like a 6th-grade science experiment. But when I see real German beer on tap, I know I am getting a good product.

The Reinheitsgebot represents one of the last bastions of consistent quality and represents a part of German history and culture that should not be easily dismissed. As noted in the article, German brewers can still get inventive when they want to—they simply can't use the word *beer* on the label. Keep the Reinheitsgebot. It represents a standard that many of our craft brewers should aspire to and ensures that we can all get excellent beer.

Sincerely,
John Coloe
Sound Beach, N.Y.

Author Horst Dornbusch responds: Dear John, I totally agree with you in one respect: experimentation does not guarantee quality, something that many innovative modern brewers seem to have forgotten. It is indeed a sad truth that uninformed innovation all too often results in those 6th-grade science experiments.



However, the Reinheitsgebot is no guarantee of high quality. In Germany, I have been served many Reinheitsgebot-compliant beers—especially from small, local breweries—that were defective. Think cheesy hop flavors, excessive phenolics from poor milling and mashing, dimethyl sulfide from careless wort processing, acetaldehyde and diacetyl from poor fermentation management, and trans-2-nonenal flavors from too much packaged oxygen. Even infections do not technically violate the Reinheitsgebot!

Just as innovation and experimentation are not synonymous with quality, neither is conformity to the Reinheitsgebot, even though most Germans and many beer drinkers around the world think so. Prohibiting wheat lagers and unmalted grain does not necessarily ensure a quality product. It is the brewer's competence that does that, both within and without the Reinheitsgebot.

I recently brewed a truly smooth and sublime imperial oatmeal schwarzbiere with more than 70 IBUs and an alcohol content in excess of 7%

percent by volume. This “experimental” brew sold extremely well in the bars and restaurants that ordered it, but it would have been against the law to brew it in Germany because it was a lager with a small percentage of oats. However, omitting the oats or fermenting with ale yeast would have worsened this beer, not improved it.

The causal link between the present wording of the Reinheitsgebot and beer quality is a myth, which was the point of my piece.

Look How Far We've Come

Dear *Zymurgy*,

I really enjoyed Charlie's World of Worts article "Paving the Way for Pioneers" in the May/June issue.

I started homebrewing in 1968 after a college buddy and I figured that 3.2 beer probably wasn't the pinnacle of the brewer's art. It was a grim time for American beer: breweries were closing left and right, and it looked like there would be little or no choice in the future unless you made it yourself.

So we found what little information was available, got some rusty cans of Blue Ribbon malt extract, and started our adventure. The first batch tasted more like cider than beer: it was cloudy, thin, you name it. We'd done just about everything wrong, but we managed to drink it and survived.

Over the years, information, equipment, and ingredients have gotten amazingly better. I don't think anyone in 1968 could have imagined what today's beer scene would be like, with the thousands of brewpubs and craft breweries that are available.

It was people like Charlie and you fine folks at Zymurgy that lit the way out of that dark jungle and into this beautiful golden city we live in today. I'm glad I stuck around for the adventure. It just keeps getting better.

Thanks for everything,
Weston Sampson
San Marcos, Texas



Finding Those Best Beers

Dear *Zymurgy*,
I always eagerly read the annual results of the Best Beers voting and then spend the following year visiting retail outlets trying to obtain samples of each. I am rarely successful, as many of the beers have only local distribution. In this year's list, for

example, 26 of the 50 are unobtainable within 100 miles of my home.

It makes me wonder if some folks on the East Coast even get to taste any of the West Coast beers, and vice versa, unless they participate in beer-by-mail exchanges. I am curious how the votes broke down among East Coast and West Coast voters.

Bill Tucker
Sierra Vista, Ariz.

Editor-in-Chief Dave Carpenter responds:
It's a challenge to make the Best Beers list fair and representative. It's always possible that we would consider additional metrics in the survey, but doing so introduces a whole other layer of statistics to complicate matters. Accounting for geography sounds straightforward in theory, but it's quite complex because the data must then be adjusted for other factors before we can draw reasonable conclusions.

For example, it's likely that some Zymurgy readers participate in beer swaps, as you suggest. I know from personal experience that beer enthusiasts have been known to plan entire vacations around visiting breweries. And we beer enthusiasts ask favors all the time—I've not yet had the pleasure of visiting Vermont, but a few cans of Heady Topper accompanied my parents back from their last visit to the Green Mountain State, and they somehow ended up in my fridge (the cans of beer, not my parents). So even if we were to include geography in the data analysis, it would be hard to tease meaningful trends from those figures unless we started asking readers about their other habits.

My suggestion? Try making a list of great beers that are only available where you live,

and seek out each and every one of those. You never know when one of them will rise to the top of the national list!



Cheers to Madees!

Dear *Zymurgy*,
I just read "The Brewster of the Middle East" in the July/August 2016 issue, and I was so impressed with the author that I had to drop you a note. Starting a brewery is tough for anyone. To hear the story of such a passionate and determined woman beating the odds in a male-dominated culture and industry, in a place where she only gets access to water once every two weeks and has to dodge byzantine border restrictions, not to mention educate the local consumer on her product—well, it was truly amazing. Cheers to Madees Khoury for her perseverance in the face of such adversity, and thank you for sharing her inspiring story.

Best regards,
Kurt Elia
Chapel Hill, N.C.

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

Hey homebrewers! If you have a home-brew label that you'd like to submit for the Dear Zymurgy section, send it to magazine art director Jason Smith at jason@brewersassociation.org.

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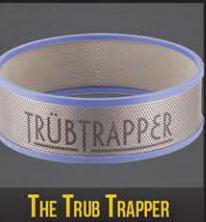
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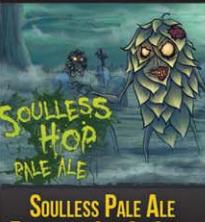
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By Professor Surfeit



Spot on Cider

Dear Professor,

I am not a cidermaker, just an experienced portfolio director for a Spanish cider importer and distributor, but your recent positive observations about the role of acidity in cider ("...aficionados consider tart sour apples to contribute to a much better-tasting hard apple cider...") are spot on.

Spanish cider apples are off-the-charts acidic (nothing like them yet in the United States) and produce tart ciders like those from no other region. As this regional style continues to wow American drinkers, boosting acidity will become increasingly interesting to American cidermakers. Some are already trying to make Spanish-style sidra, so a secondary means of boosting acidity is helpful, but note that ascorbic acid results in a very different tartness than that of Spanish fruit's integral acidity.

In fact, the only brand in our portfolio with any additives (sugar and ascorbic acid) has a lemony flavor more like a shandy, with the beer back note coming from natural, spontaneous malolactic fermentation.

Appreciatively,
James Asbel
Newport, R.I.

Hi James,
It looks like we're heading for the eye of the apple, as in apple of my eye. There's a song from my childhood I'm recalling. It goes something like, "...the prettiest girl I ever saw, was sippin' cider right through a straw..."

Salud,
The Professor, Hb.D.

Tracing Minerals

Hello Professor,
How important are trace minerals in brewing water? Minerals such as copper,



zinc, lithium, etc.? Some are important to yeast health and reproduction, but do these trace minerals enhance any sensory aspects of beer?

Anonymous
Via the AHA Forum

Hello Anonymous,

There are technical papers that take very deep dives into the relationships between trace minerals and beer quality. Trace minerals and other compounds are essential for yeast health and metabolism, but only very tiny, minute quantities are really needed. Healthy yeast makes the best beer, and yeast is a complex living organism. Yeast needs trace minerals and compounds, just as you and I do, in order to be healthy and function optimally.

But although trace minerals are beneficial, even essential, they don't necessarily affect

beer character in the small quantities needed for yeast health. In fact, it is often ill-advised to try to enhance trace mineral content in your brewing and fermentation process. Sourcing and measuring out such tiny amounts would be difficult, and overdoing trace minerals can be toxic to yeast and can negatively affect beer.

Manganese, for example, enhances enzymatic activity at levels of up to 0.2 parts per million (ppm), but it can lend a metallic taste in concentrations as low as 0.1 ppm. Similarly, a zinc concentration of 0.1 to 0.3 ppm promotes yeast health, but you might notice soapy off-flavors at higher concentrations. Zinc is even toxic to yeast if levels exceed 1 ppm.

So the answer to your question is "Yes." But if you use quality malt and clean, potable, proper water, then you need not concern yourself with trace minerals—they

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should be present in the amounts needed. If you'd like to dig deeper, though, I recommend checking out the Brewers Publications titles Yeast: The Practical Guide to Beer Fermentation by Chris White and Jamil Zainasheff and Water: A Comprehensive Guide for Brewers by John Palmer and Colin Kaminski.

Relax, don't worry, have a homebrew, The Professor, Hb.D.



Jimi Hendrix Wort Chiller!

Dear Professor,

I purchased a beer kit that was on sale. It turned out to be a sad version of saison, and my wort chiller turned metallic shades of blue, green, and silver after brewing it. That's what I get for trying to save some dough. Is my chiller dead or can it be saved? I boiled it again for about 40 minutes and it didn't clear up.

Are you experienced?

Mike Knoll

Farmington, Minn.

Holy Moly Mike,

What were you smoking when you made this beer? The good news and answer to your question is that you aren't really dead, your beer isn't dead, and your chiller is not dead. However, if you say so, your saison is...well, you infer R.I.P. Did you call it Frug-ale Mistake?

So what is happening with your 3-D psychedelic wort chiller? I ran a search for "blue-green copper staining," had a homebrew,

relaxed, and assessed your experience. It seems that the experts on these types of staining dissertations aren't sticking their necks out to completely reveal what is happening, but there are some clues.

I'm assuming that your coil is solid copper and not some other metal that has a copper coating. The good news is that this can be fixed and should eventually go away. The cause may be a reaction of bicarbonate and sodium in the water, or other compounds. Generally, it seems that if the wort or water surrounding the coils isn't turning green, and you don't get flakes or precipitates, then you can try cleaning the coil and moving on to the next brew.

How do you clean the coil? You can buy copper cleaner, or you can make your own by mixing up a paste from lemon juice and cream of tartar (a powder found in the baking aisle at a grocery store). Rub it on the copper, let sit for about an hour, and then wash it off. One source says if there is still discoloration, rub it with salt. I would also recommend humming "Purple Haze."

Or you could simply chalk up the discoloration to your "experience" and keep on brewing. Eventually the acidic worts you chill will normalize the appearance of that chiller.

Not knowing exactly what I mean by "normalize..."

Relax,
The Professor, Hb.D.

Plain Vanilla Bean Boil

Dear Professor Surfeit,
I am looking for some input on how to use vanilla beans in a brew. I am wondering if the entire bean should be added or if, as in baking, only the inside flesh of the bean should be scraped out and added to the boil. The desired outcome is a slightly spicy pale ale with hints of vanilla.

Josh Aune
St. Louis, Mo.

Josh My Man,
Hold your horses, pal. Vanilla beans come from a tropical orchid. They are inherently delicate and fragrant. Don't—I repeat, don't. Boil. Your. Vanilla bean. And yes, all that

goodness is distributed throughout the entire bean factory. For best results, break the bean up into smaller pieces and add it to your secondary fermenter. Okay, I will admit the world will not end if you boil your beans, but you can do better.

If you add the vanilla bean post-fermentation, in other words after fermentation has stopped, you are more likely to get authentic vanilla bean flavors and aroma. If you add it before or during yeast fermentation, yeast may metabolize some vanilla compounds, changing the character of your beer to some

degree. This all depends on yeast strain, temperature, mineral content of the beer, your recipe, yeast health, and many other factors. With the early addition of vanilla bean you may get some interesting and complex flavors and aromas. Maybe not. Consider yourself an explorer, seeking a beer you want to love.

It's all magic,
The Professor, Hb.D.

Have a question for The Professor?
Send it to professor@brewersassociation.org.



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By Amahl Turczyn

Oatmeal Milk Stout

Milk stouts, also called cream stouts, are brewed with lactose, or milk sugar, which is indigestible to yeast. This results in residual sweetness and body that remain in the beer after fermentation. Milk stouts have enjoyed unprecedented popularity in the US after having started out as somewhat of an obscure English style, first brewed in the 1900s and advertised as nourishing, low-alcohol brews for the infirm. With the advent of the craft beer renaissance, and arguably spearheaded by Left Hand Brewing Company's cult favorite Left Hand Milk Stout, the style was suddenly everywhere. But never content to sit back on their laurels, craft brewers have continued to tinker with it; what would happen, they mused, if we added oatmeal to a milk stout?

Thus, the chunky, adorable love child of oatmeal and cream stouts was born. While some similarities to Foreign Extra Stout could be made, this style falls squarely in Category 16, Dark British Beer, on the fence between 16A Sweet Stout and 16B Oatmeal Stout. For competition placement, it would probably do well in either, but it tends to lean closer to Sweet Stout, since finishing gravities are unavoidably (and intentionally) high. In fact, this style is 180 degrees from the "less filling" light lagers of the 70s and 80s, yet they seem to be popping up more and more, enjoying their own share of milk stout's popularity. Craft enthusiasts are discovering their combination of rich, silky oatmeal texture, milk chocolate flavor, and creamy sweetness. Oatmeal milk stout is the comfort food of craft beer. The best examples retain a beautiful balance between roast or black grain bitterness, the mouth-filling texture of oatmeal, and just the right lactose sweetness.

Tallgrass Brewing Company in Manhattan, Kan., names its Buffalo Sweat Oatmeal



Cream Stout as one of its two core flagship beers, along with 8-Bit Pale Ale. Buffalo Sweat has lightly sweet roast coffee aromas and some forward roastiness on the palate, with milky sweetness just present in the finish. It's 5 percent ABV, and while rich, it remains dry enough for enhanced drinkability over dessert-like decadence. River Horse Oatmeal Milk Stout from Ewing, New Jersey's River Horse Brewing Company keeps coffee and roast flavors strong but adds notes of molasses and caramel. Sweetness and fullness contribute to a weightier palate, and their version is a bit stronger at 6.7 percent ABV, so a touch of belly-warming alcohol accompanies the finish.

These are both fantastic beers, and there are other oatmeal milk or cream stouts available that are surely worthy of mention and praise. But Finkel & Garf Brewing Company in Boulder, Colo. makes the best example I've tasted. They really nail the new, hybrid style with a grain bill that delivers impeccable balance. Poured from its unassuming brown aluminum can, the beer awakens the senses with heady aromatics of cocoa nibs and cappuccino. The mocha sweetness in the aroma melds seamlessly into rich chocolate milk flavor that glides luxuriously past the palate, leaving a lingering, velvety sweetness kept just in check by dry cocoa notes from the dark grains. There is hot fudge sundae sweetness, there is slick,

grainy, oatmeal weight, and there is dark chocolate to balance, but nowhere is there actual bitterness. The modest 5.5 percent ABV contributes no alcohol warmth, heat, or dryness. It's the sort of treat you reward yourself with after a day-long bike ride or a marathon, or perhaps it's the perfect Valentine's Day gift. And with the generous assistance of Finkel & Garf's head brewer and former homebrewer Mychal Johnson, you can brew a virtual duplicate of the beer at home. Let's get started.

The whole concept for Johnson's version of the beer came from his wanting the best aspects of two distinct, established styles. "My inspiration behind using both oats and lactose was based on my personal feelings about both oatmeal stouts and milk stouts. A lot of oatmeal stouts have a nice silky body, but finish fairly dry on the palate. Milk stouts on the other hand tend to be a bit thinner-bodied but finish rich. By combining the two styles and ingredients, I wanted to end up with a beer that had both of the aspects I like from the styles, but without the parts I don't. The amount of oats and lactose should be roughly the same at about 10 percent each."

The recipe's base Pilsner malt may strike some as a surprising choice, but for a small brewery with multiple brands, it's more a matter of practicality than anything else. "The base malts are 50 percent Pilsner, as all our beers use here," Johnson explained, "and about 18.5 percent Munich 10° L to build a bit more character than the Pilsner malt provides on its own." Those toasty, mellow malty notes from the Munich no doubt add depth to the beer as well.

I felt sure the beer contained caramel malts to boost the finishing gravity and lend sweetness to the chocolate notes, but it turns out I was wrong. "There actually aren't any caramel malts in the beer," Johnson revealed. "The chocolate flavors come from the use of English chocolate malt and roasted barley in even amounts to help balance each other out. Together they make up about 10 percent of the grain bill."

Johnson cautions that restraint is appropriate on the lactose dose. "The amount of lactose that I use is based on other

Finkel & Garf Oatmeal Milk Stout

Recipe courtesy Mychal Johnson, Head Brewer, Finkel & Garf Brewing Co.

INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

5 lb.	(2.27 kg) Pilsner malt extract syrup
2.5 lb.	(1.13 kg) 10° L Munich malt
1.5 lb.	(0.68 kg) flaked oats
1.5 lb.	(0.68 kg) lactose
11 oz.	(15 min, in boil) (312 g) 450° L chocolate malt
11 oz.	(312 g) 500° L roast barley
11 oz.	(312 g) 25° L honey malt
1 oz.	(28 g) Horizon pellets, 12% a.a. (60 min)

White Labs WLP051 California V Ale yeast

Original Specific Gravity: 1.070 (17° P)

Final Specific Gravity: 1.028 (7° P)

IBUs: 36

SRM: 38

ABV: 5.5%



Boil Time: 90 minutes

Assumed Brewhouse Efficiency: 72%

PARTIAL-MASH DIRECTIONS

Mash grains at 156° F (69° C) for 60 minutes at a ratio of 1.35 qt./lb. (2.8 L/kg). Drain and sparge with 168° F (76° C) water, add malt extract, and top up to desired boil volume if needed. Boil for 30 minutes, then add 60-minute hops and boil for an additional hour. Add the lactose about 15 minutes before the end of the boil. Chill to 67° F (19° C) and ferment at 68° F (20° C) until terminal gravity is reached.

ALL-GRAIN VERSION

Substitute 7 lb. (3.18 kg) Pilsner malt for the Pilsner malt extract syrup. Follow directions as above.

beers I've brewed over the years and what I've learned from that. Obviously there's a huge difference in a beer with zero percent lactose and one with five percent, but the difference from five to 10 percent is much less pronounced. While it's definitely sweeter and richer, it doesn't taste like twice as much."

He also makes use of one of Charlie Papazian's favorite grains: honey malt. "One other trick I used when creating this recipe was something from an old homebrew robust porter recipe of mine, and that was the use of honey malt. I like the background residual sweetness that you get from it in darker beers. I use it at about five percent of the grain bill."

Yeast is always a critical aspect of any beer. I guessed that this brew might use a low-attenuating strain, perhaps an English ale yeast, as fruity esters are on the low side. But

again, I was surprised to learn what really takes care of fermentation. "Our house yeast strain is readily available, but it's a lesser-known American strain, White Labs WLP051 California V," Johnson confided. "It is very much like a hybrid American/English strain. It's somewhat estery, but relatively clean compared to most English strains, and the esters are easily controlled with proper fermentation temperatures. This beer is pitched at 67° F (19° C) and fermented at 68° F (20° C)." And if you've never used this strain before, Johnson has some valuable advice. "For homebrewers, proper pitching is critical for this strain. It is extremely sensitive to under-pitching, so a starter or multiple packs are necessary to get a good fermentation."

To come as close as possible to the milkshake-like consistency of F&G Oatmeal Milk Stout, Johnson recommends starting big and ending big. "Both the starting and

finishing gravities are going to be higher than expected, mostly due to the large amounts of unfermentable lactose and the higher mash temperature. Starting gravity should be at 17° P (1.070), with a finishing gravity of 7.2° P (1.028). Mash at 156° F (69° C) with a grain-to-water ratio of 3 pounds per gallon or about 1.35 quarts per pound."

Take standard precautions for avoiding dimethyl sulfide. Because of the Pilsner malt base, Johnson recommends a 90-minute boil with just one early hop addition. Hops are obviously not a big component to this beer, so there's a little wiggle room when selecting the variety. "I prefer a clean, high-alpha, low-cohumulone hop, but the bittering hop won't make or break this recipe." So the 36 IBUs can come from hops like Glacier, Warrior, Simcoe, or Vanguard, but I chose Horizon.

Many thanks to Myke Johnson for his guidance on brewing this beer—I hope you like it as much as I do.

Amahl Turczyn is associate editor of *Zymurgy*. 

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Members of Ireland's National Homebrew Club (NHC) taste and learn inside Dublin's Smock Alley Theatre.

HOMEBREW IN THE JAR

BY RICHARD LUBELL

Dublin's Smock Alley Theatre has played countless roles over the years. It opened its doors for the first time in 1662 as the elegant Theatre Royal. Some years later, it served as a warehouse, protecting fresh flowers and whiskey barrels. And during the theatre's stint as a Catholic church, parishioners claimed that Father Jack "Flash" Murphy could say a mass in less time than it took for a freshly drawn pint of Guinness to settle.

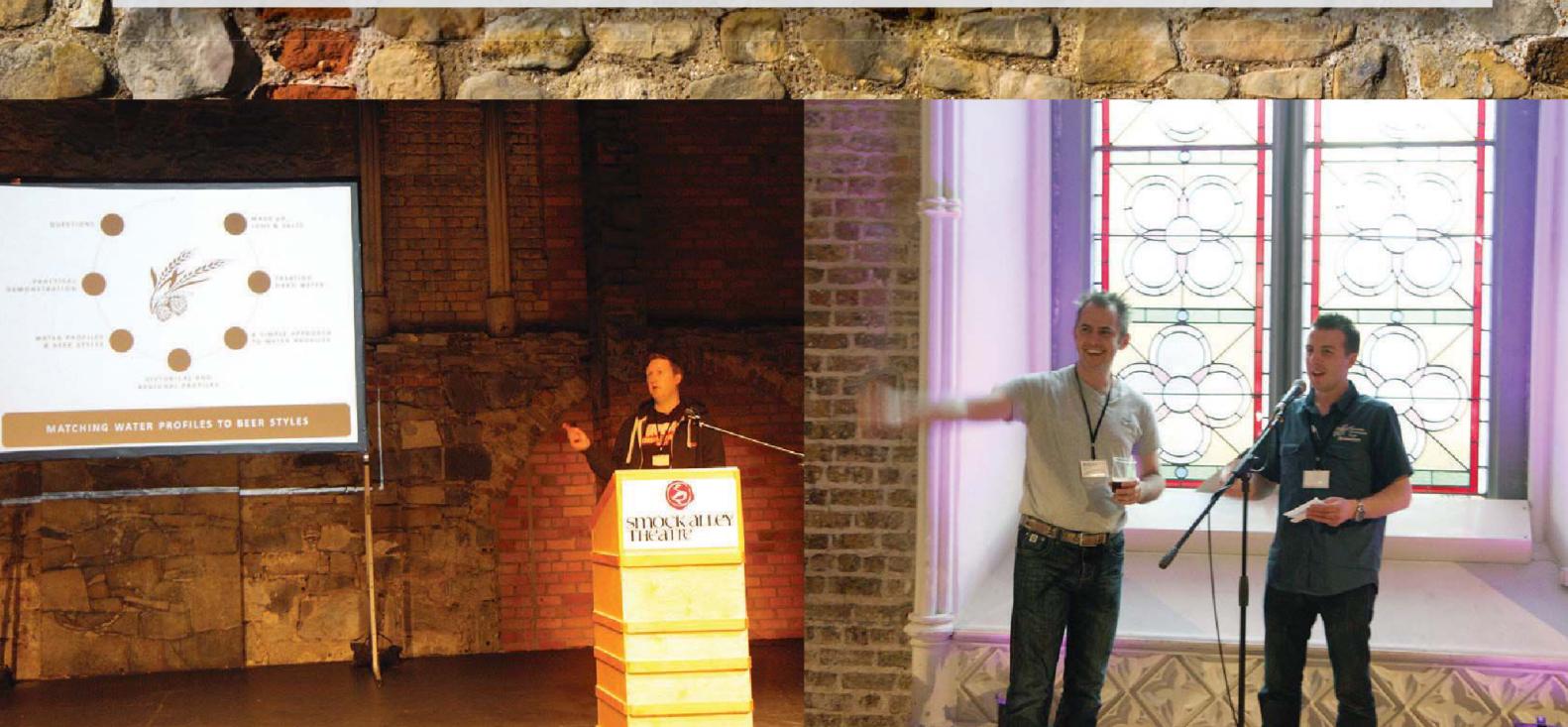
But on a mild Saturday last spring, the Smock Alley Theatre reprised a role it had played just once before. On April 23, 2016, the theatre hosted Ireland's second annual BrewCon, organized by the Irish National Homebrew Club (NHC). Despite logistical challenges, homebrewing in Ireland has taken off in the last two decades. And thanks to creative homebrewers, Irish beer now means far more than a pint of plain. We asked a few of them at BrewCon what it means to homebrew in Ireland.

HISTORY

Up through the early 2000s, homebrewing in Ireland had a bad name. Everyone knew someone who had given it a try in the 70s

and made something cheap, strong, and sour. Those who were truly determined dusted off the old demijohn in the attic and sought enlightenment in the hobbies section of the local bookstore. But even that proved problematic.

"We were reading stuff that was 20 years old. Our methods were archaic," said Rossa O'Neill, a recipe design consultant. Overnight mashes, stale hops from the United Kingdom, and carboys of homebrew fermenting right next to the hot water heater were common in the bad old days. And malt was expensive enough to justify bulk orders from professional breweries: "I'd come home and there'd be half a pallet in the driveway," he recalls.





Back then, the beer sold in pubs wasn't much better. Guinness was of course ubiquitous, and macro lagers occupied most of the other taps, with the occasional Czech Pilsner or German weissbier snuck in if you were lucky. In the bottle shops, the few Belgian and British imports sat warm on the shelf, condition unknown. "You didn't know what good beer tasted like," said O'Neill. "We were brewing to the style guidelines because you couldn't get that type of beer." The idea that Americans made good beer, never mind what they did with hops, was unheard of.

The starting gun for the craft beer boom in Ireland was fired in 2005 when a tax incentive took effect in the form of a 50-percent rebate for small breweries. Galway Hooker opened in 2006 with a classic gateway beer, a 35-IBU pale ale with Cascade in the whirlpool. In the ten years since, 100 more breweries have opened. Today's Irish beer scene would have been unthinkable just a decade ago.

INGREDIENTS

Fionn Wallace, Wexford
Gold medal, American IPA

INGREDIENTS

for 4.75 U.S. gallons (18 L)

7.8 lb. (3.56 kg) Maris Otter pale malt

7.8 oz. (221 g) caramel malt
(EBC 60-80)

7.7 oz. (217 g) torrified wheat

0.9 oz. (24 g) Galaxy hops,
14.9% a.a (60 min)

3.5 oz. (100 g) Amarillo hops,
9.2% a.a (5 min)

1.8 oz. (50 g) Chinook hops,
12.9% a.a (dry)

1.8 oz. (50 g) Amarillo hops,
9.2% a.a (dry)

White Labs WLP007 Dry English Ale Yeast
(1 L starter)

1 Whirlfloc tablet (10 min)

1 White Labs Servomyces capsule
(10 min)

Cane sugar to prime to 1.9 volumes of CO₂
(3.7 g/L)

Water profile after treatment: calcium
170+ ppm, bicarbonate 20 ppm, chloride
200 ppm, sulfate 400 ppm.

Original Specific Gravity: 1.054

Final Specific Gravity: 1.012

Boil Time: 60 min

SRM: 6 **IBU:** 66 **ABV:** 5.6%

Efficiency: 77%

Primary Fermentation:

4 days at 66° F (19° C)

Secondary Fermentation:

4 days at 54° F (12° C)

DIRECTIONS

Single infusion mash at 147° F (64° C) for 60 minutes, with a water-to-grain ratio of 2.7:1 by weight (1.3 quarts per pound). Sparge at 176° F (80° C).

PARTIAL MASH RECIPE

Reduce Maris Otter pale malt to 2 lb (0.9 kg). Mash with caramel malt and torrified wheat for 45 minutes at 150° F (66° C). Drain, rinse grains, and dissolve 4.75 lb (2.15 kg) Maris Otter malt extract syrup in wort. Top off to desired volume and proceed with boil.

It has been a big decade for Irish homebrewing. Internet ordering changed everything. As the craft beer movement exploded, online supply shops rushed to meet spiking demand. Hop selections expanded, liquid yeast appeared a couple of years ago, and, most recently, Irish maltsters began selling at homebrew scale.

Barley is Ireland's top cereal grain, and two-row spring barley grows in every county. Lower-yielding than American varieties, and therefore more expensive, Irish barley nonetheless offers good bang for the buck: a more fermentable malt structure with less haze-forming protein and a smaller husk, reducing the risk of tannin extraction in

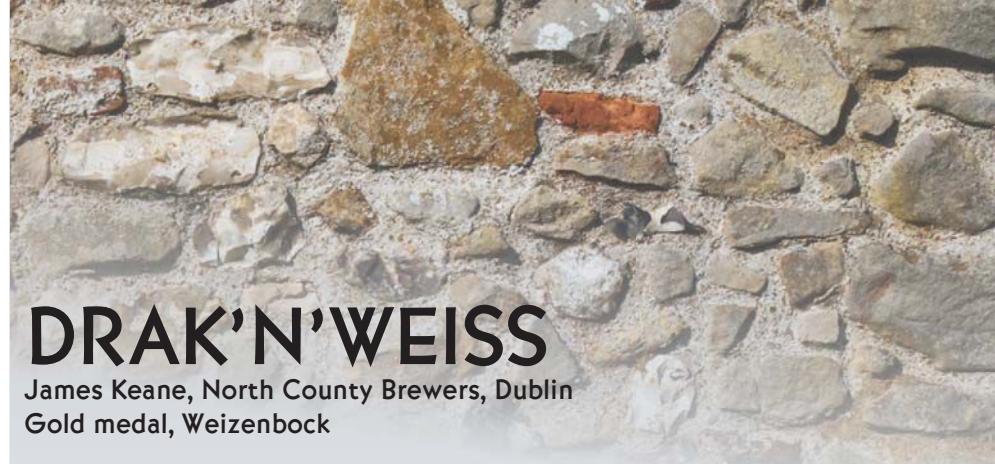
the sparge. Malting Company of Ireland makes an Irish Stout Malt with high extraction potential and strong diastatic power for converting adjuncts like oats. Minch Hook Head ale malt draws distinctive bitterness from seaweed fertilizer and salty sea air on County Wexford farms.

Irish taste of place goes back to the legend that Dublin water makes good stout. The truth, however, is more complex: there is no one Irish water. "Our water profiles tend to be very hard or very soft," said amateur chemist Peter Dudley, "There aren't many in between." From the limestone-lined flats of County Meath to the pillow-soft water of Ballymore Eustace, you need a treasure map to plot what comes out of your tap. Generally, though, water profiles are low in sulfate, chloride, magnesium, and sulfide. Heavy chlorination calls for Campden tablets, and a pinch of calcium chloride goes a long way.

Anything not local gets tricky because imports are expensive for an island. If you want to make a kriek, good luck finding fresh cherries in bulk. The same goes for maple syrup, peaches, and pumpkins. On the other hand, certain rare adjuncts are taken for granted. A trip to any supermarket baking section reveals muscovado and demerara, unrefined brown sugars that once gave character to historical British dark ales, similar to molasses in colonial porters. And if you want to make a medieval gruit, you've come to the right place: heather, yarrow, juniper, elderflower, and rosemary all grow wild and in abundance.

Once upon a time, hops grew in Ireland, too, but the industry died out in the 70s, undercut by cheap imports. Today, Ireland's hop supply suffers the quirks of distribution: Centennial and Amarillo command double or triple the price they do in the United States, but Mandarina Bavaria and Vic Secret are cheaper. Experimental varieties are scarce, last year's harvest hangs around too long, and you won't ever get your hands on wet hops, even from neighboring England.

This situation breeds brewers who use a light hand with hops—say, one ounce a minute before knockout in a five-gallon batch of session pale ale. Too few



DRAK'N'WEISS

James Keane, North County Brewers, Dublin
Gold medal, Weizenbock

INGREDIENTS

for 6 U.S Gallons (22.7 L)

5.5 lb.	(2.5 kg) dark wheat malt
3.3 lb.	(1.5 kg) Bohemian Pilsner malt
3.3 lb.	(1.5 kg) dry extra light malt extract
2.2 lb.	(1.0 kg) Munich malt
0.4 lb.	(181 g) Special B malt (Castle)
0.3 lb.	(136 g) Caramunich II malt
0.2 lb.	(91 g) chocolate malt
0.2 lb.	(91 g) Carafa Special II malt
0.2 lb.	(91 g) crystal malt 20° L
1.2 oz.	(30 g) Saaz hops, 3.0% a.a. (90 min)
0.5 oz.	(15 g) Saaz hops, 3.0% a.a. (10 min)

White Labs WLP380 Hefeweizen IV Ale Yeast (1.5 L starter)
Filtered Dublin Tap Water (quite hard)
Carbonate to 2.8 volumes (5.6 g/L) CO₂

Original Specific Gravity: 1.080

Final Specific Gravity: 1.027

Boil Time: 90 minutes

SRM: 23 **IBU:** 22 **ABV:** 7.0

Efficiency: 75%

Primary Fermentation:

14 days at 66° F (19° C)

Secondary in Bottle for 6 months

DIRECTIONS

Dried extract was included due to a brewhouse grist limitation of 12 lb. Increase Bohemian Pilsner malt to 8.3 lb (3.76 kg) and omit dry extract for an all-grain recipe. Mash in at 104° F (40° C) and hold for 25 minutes. Raise temperature to 150° F (66° C) and hold for 45 minutes. Raise to 160° F (71° C) and hold for 15 minutes, then raise to 170° F (77° C) and hold for 10 minutes.

Pitch a healthy volume of yeast (a 1.5 L starter is recommended). After primary is complete, bottle condition the beer to 2.8 volumes. After two weeks at 66° F (19° C) move to slightly colder storage for aging. This beer needs 6 months to mature and let flavors balance.



VULGAR DISPLAY OF SOUR

Peter Dudley, Capital Brewers, Dublin
Gold medal, Flanders red ale

INGREDIENTS

For 6.5 U.S. gallons (25 L)

5.7 lb.	(2.6 kg) Weyermann Munich I
2.3 lb.	(1050 g) raw wheat
1.1 lb.	(500 g) Weyermann Carahell
1.1 lb.	(500 g) Caravienne malt
1 lb.	(470 g) Dingemans aromatic malt
5.6 oz.	(160 g) Special B malt
3.5 oz.	(100 g) barley hulls
0.35 oz.	(10 g) Hallertauer Mittelfrüh hops, 4.4% a.a. (120 min)
5 g	yeast nutrient added to the boil

White Labs WLP665 Flemish Ale Blend
Oud Beersel Geuze dregs

Initial water profile: calcium 24 ppm, magnesium 2 ppm, sodium 6 ppm, sulfate 22 ppm, chloride 15 ppm, bicarbonate 45 ppm.

Add 2 g of sulfate, 2 g chloride and 2 mL lactic acid (80% strength) to the mash. Aim for a room temperature mash pH of 5.3.

Original Specific Gravity: 1.050

Final Specific Gravity: 1.010

Boil Time: 120 minutes

SRM: 14 **IBU:** 4 **ABV:** 5.2%

Efficiency: 80%

DIRECTIONS

Mash all grains except wheat with 6.6 gal (25 L) water and hold at 122° F (50°C) for 10 minutes. Raise to 145° F (63° C) and hold for 30 minutes.

Meanwhile, conduct a cereal mash by doughing in raw wheat with 4.2 quarts (4 L) of water. Hold at 113° F (45° C) for 15 minutes, then raise to 144° F (62° C) and hold for 10 minutes.

Draw 2.1 quarts (2 L) of turbid liquid from the wheat cereal mash, and add it to the main mash. Bring the rest of the cereal mash to a gentle boil. Boil 15 minutes.

Bring the main mash to 158° F (70° C) and hold for 30 minutes, then add the boiling cereal mash. Equalize combined mashes at 172° F (78° C) and hold for 10 minutes. Batch sparge with 12.5 quarts (11.86 L) water at 176° F (80° C).

Add hops and boil 2 hours. Chill to 70° F (21° C) and pitch yeast blend and bottle dregs. Allow to ferment up to one year.

EXTRACT RECIPE

Due to raw grain cereal mash, an extract version is not recommended.

people know what fresh hops can do. Inexperience and scarcity don't tell the whole story, though: new to homebrewing doesn't mean new to beer. True, not many in Ireland have had a lupulin threshold shift, but someone who lived in England for work—a common Irish experience—may have tried dozens of cask bitters and have a good feel for the soft carbonation and fruity esters of the style.

That model scales out. Fly a couple of hours for a wedding or a work conference and you could end up drinking lambic from pouring baskets in Brussels or unfiltered Pilsner out of the vat in Prague. "If you're not tasting a beer how it was meant to be served, you're not really tasting it," said Finney, "Unless you've been over to try it, you're less inclined to brew it."

EQUIPMENT

One upside of Ireland is space. If you want to find a plot of land and set up brewing paradise, it's all yours. That's what reigning NHC Brewer of the Year Brendan Murphy has done. Down a County Kildare dirt road, the first sign of his house is the traditional Zoigl star of Oberpfalz: "Brewing today." Polytunnels on the half-acre patch shelter Hallertauer and Target. "I don't grow bittering hops," said Murphy. "After minding my hops for a whole season, I want to taste them in my beer." His gear includes a 700-watt HERMS pot, a 100-liter kettle, and 50-liter flat-bottom stainless fermenters. A walk-in cooler holds 50 corny kegs.

On the way into his house is a stone-walled anteroom that maintains a steady 64° F (18° C). Ireland is temperate (40–68° F or 4–20° C) year-round so heat belts and cooling systems rarely justify their costs or the space needed to store them. That's why it's crucial to find that perfect spot with just the right ambient temperature. Lagers aren't worth the hassle for most, either, but Murphy is an exception—he has a dedicated lagering fridge and a wall of medals.

Not everyone is so lucky, though. Many Irish houses lack garages or basements, so the shed is king, workroom and refuge rolled up into one. And such outbuildings are as varied as they are ubiquitous. On one end of the spectrum is the humble shack in



which you don't even want to boil—with-out an extractor fan, an hour of steaming wort in a damp climate is an invitation to mold. The other extreme is a Winnebago without wheels: insulated, wired, ventilated, and plumbed. And you need electricity to plug in your *plastic* boiler.

The most idiosyncratic practice in Irish homebrewing owes its existence to the humble cup of tea. The Irish drink even more tea than the English, and the electric kettle is as integral to the Irish kitchen as the drip coffeemaker is to the American. Remove the heating element from a used kettle, cut a hole in a six-gallon food-safe plastic bucket, add a bit of sealant, and you have a boiler.

For people afraid to refill a Poland Spring bottle, boiling in plastic must certainly seem mad. But dismissing the plastic boiler undersells the strengths of polypropylene, which is inert, heat-resistant well above boiling, and regulated by the European Union. Flip over a baby bottle or sippy cup and you'll see the same type 5 recycling symbol. Those who tend to fret about health may scoff, but boiling in plastic is commonplace here.

As for electricity, it's all about control. With a 240-volt electrical supply (twice the oomph of the 120-volt circuits in North America), a 2 kilowatt element can take five gallons of wort from mash temperature to boiling in about half an hour. A mashing bin with a thermostat holds heat steady better than a converted chest cooler, and fish-tank-style immersion heaters maintain fermentation temperature more evenly than a brew belt. And without propane, the risks of fire and carbon monoxide poisoning fall dramatically.

GOOD CRAIC

Ireland knows how to do social. Meetups are in a pub at a big corner table on a quiet Tuesday or Wednesday, and etiquette dictates that you buy a pint. Occasionally, a legendary beer appears for sharing—one homebrewer honeymooned in California and brought back eight fresh bottles of Pliny the Elder.

All styles and skill levels are welcome. The organizer or chapter representative calls

PERMISSION STOUT*

Gearoid Beggan

Gold medal, Irish extra stout

INGREDIENTS

for 3 U.S. gallons (11 L)

7 lb.	(3.2kg) Maris Otter
10.5 oz.	(300g) roasted barley
7 oz.	(200g) chocolate malt
1 oz.	(28 g) Fuggle hops, 4.5% a.a. (60 min)
11 g	Safale US-05 yeast, no starter

Original Specific Gravity: 1.062

Final Specific Gravity: 1.011

Boil Time: 60 minutes

SRM: 41 IBU: 23 ABV: 6.6%

Efficiency: 62%

DIRECTIONS

Mash for one hour at 152° F (67° C). Ferment for 14 days at 66° F (19° C). Prime with 1.8 oz. (52 g) of table sugar before bottling. This beer was aged for 10 months before the competition.

EXTRACT RECIPE

Substitute 4.6 lb Maris Otter malt extract syrup for Maris Otter pale malt. Steep remaining grains for 30 minutes in 155° F (68° C) water. Drain, rinse grains, and dissolve extract completely before proceeding with boil.

*The name refers to the brewer's having made the beer for his future father-in-law just before he proposed to his fiancée.

Richard Lubell has written about beer for *DRAFT*, *The Dubliner*, and several Irish newspapers. He brewed the Best in Show entry, a weizenbock, at the 2015 National Brewing Championship in Dublin, and he tweets less often than he should @slugtrap.

the running order, light to dark or weak to strong, though one chapter uses a random selector app called Brewlette. Scoresheets are unknown, and feedback is delivered in the form of rapid-fire questions and answers. The Irish are as quick to offer praise as they are reluctant to criticize. This helps beginners feel comfortable, but troubleshooting a bad batch may mean pulling someone aside and insisting on honest criticism.

Another frequent guest at meetups is the professional brewer. The list of NHC members who've made beer their job is long, and they don't forget their roots. The line between professionals and amateurs remains pleasantly thin here. Homebrewers get invited to brew at professional scale, the brewer is often the one pouring your beer at a festival, and a brewery tour can be had just by asking. There's a saying here: Ireland is too small for anyone to be famous.

At BrewCon in April, the maxim proved true as the after-party wore on and brewers from Simon Lambert's & Co., Rascals, and Metalman—all NHC veterans—mingled with the crowd of homebrewers. Everyone clustered at the long oak tables of the banquet hall well after the last kegs kicked. It was cozy and unpretentious.

In other words, quintessentially Irish.

The advertisement for Shmaltz Brewing Company features the company logo at the top, which includes the text "Shmaltz Est. 1996 BREWING COMPANY". Below the logo, the text "GOLD MEDAL, GOLD MEDAL, SILVER MEDAL, GOLD MEDAL..." is displayed in large, bold letters, followed by "- World Beer Championships". The advertisement shows several bottles of Shmaltz beer, including "HOP MANNA IPA", "SLINGSHOT AMERICAN CRACK! LAGER", "MESSIAH NUT BROWN Ale", and "BITTERSWEET LENNY'S R.I.P.A. RYE DOUBLE IPA". At the bottom, the text "ENJOY THEM ALL YEAR ROUND" and "Also Available ON DRAFT" is shown, along with the website "ShmaltzBrewing.com" and social media icons for Facebook, Twitter, and Instagram.

AN AMERICAN IN DUBLIN

STORY AND PHOTOS BY CHIP WALTON

It was an honor and a privilege to travel from my home in Minnesota to Dublin, Ireland, for BrewCon 2016 last April. I was there to deliver a presentation on eccentric brewing, document the conference for my video web show *Chop & Brew*, and learn about Ireland's homebrew culture as a member of the Governing Committee of the American Homebrewers Association.

What I found in Ireland is a homebrew and craft beer scene that's somewhat young, but intensely passionate and growing. BrewCon is an intimate one-day gathering attended by fewer than 200 homebrewers. The event's small size means that all participants get to attend the same lectures and discussions throughout the day and then enjoy a spirited beer social in the evening. In contrast, the more than 3,100 homebrewers who attended Homebrew Con 2016 in Baltimore may have had trouble picking just a few seminars from among the 64 spread around the convention center.

Irish homebrewers are not stuck on brewing traditional stouts and Irish reds, but are instead charging full-speed ahead into experimental brewing. In fact, Ireland's homebrew clubs have become incubators and training grounds for many of the country's best commercial brewers. Homebrewers and pros are so interconnected here that I kept hearing one particular anecdote over and over: it is said that some homebrew clubs have nearly

had to disband because of declining membership. The reason? So many of their members have opened breweries!

If you find yourself in Ireland, you'll have a great time as a homebrewer and beer drinker. I suggest you start your trip by meeting up with a group of local homebrewers to sample some of their creations (check out nationalhomebrewclub.ie to connect with Irish clubs). Then track down craft beers from breweries like Galway Bay, Galway Hooker, Rascals Brewing, The White Hag, Wicklow Wolf, and Rising Sons, to name just a few!

To learn more about BrewCon, visit nhcconference.com, and look for a special BrewCon feature in an upcoming episode of *Chop & Brew* at chopandbrew.com.

Chip Walton is the host of *Chop & Brew* and serves on the AHA Governing Committee.





Millet malt makes gluten-free beer that is reasonably close to the flavor of traditional barley beer and yields a nice, easy-drinking pint.





Beer for All

By Steve Ruch

In my three Last Drop pieces, I took a facetious look at certain aspects of my “personal angst” involving various brewing uncertainties and conundrums (see the Last Drop from the Jan/Feb 2014, Mar/Apr 2015, and Mar/Apr 2016 issues of *Zymurgy*). Such a freestyle approach doesn’t feel right, though, when discussing celiac disease. Gluten intolerance plagues many people, and its effects can range from minor nuisance to major problem. Unfortunately for beer lovers, the grains we generally use in brewing are loaded with the stuff.

I don’t have a problem with gluten myself, but the plight of celiac sufferers got me wondering what could be done, if anything, to make beer safe for consumption at the homebrew level. I decided to experiment, and in my research I found that there are two main ways to brew beer that’s suitable for those who are gluten-intolerant:

1. Brew from traditional ingredients and add an enzyme that breaks down gluten.
2. Brew from ingredients that never contained gluten in the first place.

Thus, I set out to explore these two approaches.

Gluten-Reduced Brewing

My first effort was inspired by the Omission line of beers brewed at Widmer Brothers Brewing in Portland, Ore., which are tasty despite their reduced levels of gluten. Omission products are “brewed using a propriety

process to remove gluten” from barley wort. According to the company’s website, brewers add Brewers Clarex®, which contains an enzyme that breaks gluten into small pieces.

White Labs sells Brewers Clarex® to homebrewers in the form of Clarity Ferm (WLN4000). It’s easy to use: just add it when you pitch the yeast, using about 2 mL of Clarity Ferm per gallon of wort (about 0.5 mL per liter). Rather than attempt to clone an Omission beer, I decided to experiment with Clarity Ferm in the next brew in my schedule, which happened to be a British pale ale.

Comparison of Back Bench Bitter brewed with and without White Labs Clarity Ferm.

	CONTROL BATCH	BATCH WITH CLARITY FERM
ORIGINAL GRAVITY	1.050	1.050
FINAL GRAVITY	1.009	1.007
SENSORY NOTES	Light bronze Slightly cloudy Hoppy aroma Mildly fruity	Light bronze Clear Less hoppy Less estery



How Does *Clarity Ferm* Work?

First things first: nomenclature. Koninklijke DSM N.V., more commonly called DSM, is the Dutch company that manufactures Brewers Clarex®. White Labs, in turn, sells homebrew-sized vials of diluted Brewers Clarex® under the trade name Clarity Ferm. Same product, different dose.

Both Brewers Clarex® and Clarity Ferm feature an enzyme that contains a "proline-specific endopeptidase." For those of us without degrees in chemistry, it's an enzyme that selectively targets proteins containing the amino acid proline and chops them into little bits. Adding this enzyme to wort interferes with those proteins' ability to bond with polyphenols and, in doing so, helps prevent the phenomenon known as chill haze.

It just so happens that gluten also has an awful lot of proline, and it didn't take long for brewers to discover that this enzyme, in addition to keeping chill haze at bay, can drop gluten concentrations to well below 20 parts per million (ppm), the internationally recognized threshold below which a product may be marketed as gluten-free. In fact, according to White Labs, most beers that are treated with Clarity Ferm come back with gluten levels lower than 10 ppm.

Kara Taylor, an analytical lab manager with White Labs, says that just 10 milliliters of Clarity Ferm in 5 gallons (19 liters) of wort should reduce gluten concentrations in most recipes to negligible levels. *Should* and *most* are, of course, the key words here—an expensive laboratory test is the only reliable way to confirm such a reduction in gluten, but Clarity Ferm is designed to get you there.

Kara cautions homebrewers not to trust home gluten test kits when it comes to beer because alcohol hydrolyzes protein and can trigger false negatives. She also reminds gluten-sensitive individuals that cleanliness is even more important than sanitation when it's gluten you're after, so get in there and scrub. Draft lines, too, can hold on to residual gluten from other beers and should be thoroughly cleaned and rinsed before you offer to pour a reduced-gluten or gluten-free beer for someone with an allergy.

I brewed four gallons (15.14 L; see accompanying recipe for Back Bench Bitter) and split them between two 2-gallon (7.57-L) batches, both fermented using Munton's ale yeast. The control batch took off quickly and fermented vigorously, while the batch made with

Clarity Ferm took a bit longer to show signs of fermentation. However, it did reach final gravity more quickly than did the control batch. Three weeks after brew day, I bottled both batches and let them condition and carbonate for two weeks before sampling.

There were definitely differences, but the two kinds of beer were equally enjoyable. The gluten-y control batch had a cloudy, light-bronze color, mildly fruity esters, a pleasant hop character, and a bit more body than its final gravity of 1.009 might suggest. The batch brewed with Clarity Ferm finished at 1.007 and showcased the same bronze color as the control batch, but with brilliant clarity. It also had a smoother flavor—less hoppy and estery than the control—and left more trub in the fermenter. The body was also slightly thinner.

If you are only mildly bothered by gluten, enzymatic gluten reduction is an easy way to keep brewing and drinking beer. The flavor of the beer featuring Clarity Ferm was perhaps slightly muted when tasted side-by-side with the control batch, but the difference was minor: nothing that a few recipe tweaks couldn't fix.

I don't have the financial leeway to have my beer laboratory tested, so it's impossible to say exactly how much gluten remains in the finished product. White Labs says that "a Clarity Ferm-treated beer made from barley or wheat usually tests below 20 ppm [parts per million] of gluten, the current international standard for gluten free." So in theory, if you follow White Labs' recommended dosing instructions, your homebrew may very well qualify as "gluten free" by the FDA's definition. But you can't be 100-percent sure unless you send your beer to a lab, and that's pricey.

Those with severe gluten intolerance may wish to see how they react to gluten-reduced commercial beers (like Omission beers, New Belgium's Glutiny series, or Stone's Delicious IPA) before committing to five gallons or more of enzymatically treated homebrew. But individuals with elevated sensitivity may prefer to brew with gluten-free ingredients in the first place. And that is what I did in phase two.

Gluten-Free Brewing

Four weeks after I made my British pale ale, I brewed a beer from 100-percent gluten-free ingredients. I sourced them from glutenfreehomebrewing.org, which sells 18 varieties of gluten-free malts from

Back Bench Bitter

British pale ale

INGREDIENTS

for 4 U.S. gallons (15 L)

6 lb.	(2.72 kg) British pale ale malt
8 oz.	(227 g) Carastan malt
4 oz.	(113 g) British crystal 60 malt
4 oz.	(113 g) Belgian biscuit malt
1 lb.	(455 g) Demerara sugar (knockout)
0.33 oz.	(9 g) U.S. Golding hops, 5.7% a.a. (first wort hop)
0.125 oz.	(3.5 g) Admiral hops, 13.1% a.a. (first wort hop)
0.25 oz.	(7 g) Challenger hops, 8.9% a.a. (45 min)
0.5 oz.	(14 g) Admiral hops, 13.1% a.a. (45 min)
0.5 oz.	(14 g) U.S. Golding hops, 5.7% a.a. (9 min)
0.125 oz.	(3.5 g) Admiral hops, 13.1% a.a. (9 min)
1 oz.	(28 g) U.S. Golding hops, 5.7% a.a. (steep/whirlpool)
0.25 oz.	(7 g) Admiral hops, 13.1% a.a. (steep/whirlpool)
Pinch	Irish moss (15 min)
1/8 tsp.	yeast nutrient (15 min)
Munton's Ale Yeast	
10 mL	White Labs Clarity Ferm
3.5 oz.	(100 g) corn sugar to prime

Original Gravity: 1.050

Finishing Gravity: 1.007

IBU: 47 SRM: 8-9 ABV: 5.7%

Boil Time: 45 minutes

DIRECTIONS Mash at 155° F (68° C) for 65 minutes with 1.75 quarts water per pound of grain (3.7 L/kg) then batch sparge with 3 gallons (11.4 L) of 185° F (85° C) water. Boil for 45 minutes. Cool as quickly as you can, pitch yeast at 65° F (18° C), and add Clarity Ferm. Bottle after three weeks.

EXTRACT VERSION Substitute 3.75 lb. (1.7 kg) Maris Otter liquid malt extract for the British pale ale malt. Steep remaining grains in 155° F (68° C) water for 30 minutes. Drain, rinse grains, and dissolve extract completely before proceeding with boil. Add sugar at knockout.



PUREPITCH® UPDATES

Since releasing the PurePitch® package in 2014, we've taken valuable feedback from the homebrewing community and made some cosmetic and functional changes to our homebrew PurePitch® packages. Our proprietary process in which we propagate the yeast, the functionality of the FlexCell™ process has not changed and White Labs continues to produce the absolute purest yeast available on the market.

Look for the updated packages next time you are at your favorite homebrew retail shop!



WHITELABS.COM

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Eckert and Grouse malting companies. Gluten-free malts are made from naturally gluten-free grains like millet, corn, rice, and buckwheat.

My only prior experience with gluten-free rice beer reminded me too much of wine, so I avoided rice. I also passed on malted corn because I don't normally enjoy beers that include large amounts of corn in the grist. I also steered clear of the sorghum syrup that's readily available because it tastes too much like—well—sorghum, and nowhere in my research could I find

anyone who thought that sorghum tasted very beer-like. And so I turned to millet.

Millet is one of the oldest foods known to humanity and may have been one of the first domesticated cereal grains. It's a staple food in Africa and India and has been grown in China since as early as 2700 BCE. Millet sustains nearly a third of the world's population and is a significant part of the diet in northern China, Japan, and Manchuria, as well as parts of Africa, India, Egypt, and the former Soviet Union. There are more than 100 million

acres of millet planted across Africa and the Indian sub-continent alone.

Humans have made beer from millet for many hundreds, if not thousands of years. A form of millet beer called *boza* is brewed in the Balkans and Turkey. Millet beer may also go by such names as Bantu beer, malwa, and pombe, depending on local language and custom. For my attempt at gluten-free brewing, I used three types of millet malt (see recipe for Give it a Go millet beer), and I had to slightly alter my normal brewing procedures.

Grouse and Eckert malting companies strongly recommend a warmer mash temperature (163° F or 73° C) and a longer mash rest (90–120 minutes or more) than I normally use in order to ensure complete conversion. I also had to adjust my grain mill to its tightest setting because millet malt is much smaller than barley (see photo). The malt gave off a pleasantly malty aroma during milling, reminiscent of barley malt but less intense.

Gluten-free maltsters also recommend adding additional enzymes to the mash to promote the conversion of starch to sugar, so I included a small amount of alpha amylase. Other than the higher temperature, the nearly two-hour mash, and the addition of extra enzymes, I followed my normal mashing regimen.

After the boil, I cooled the wort down to 64° F (18° C) and pitched K-97 German ale yeast. By the next morning the wort had a one-eighth inch (3 mm) cap of foam, and the airlock was burping with reassuring regularity, about every 13 seconds. Fermentation chugged along at a moderate rate for six days.

I took a hydrometer sample on day 12 and found that the gravity had fallen from 1.042 to 1.016, giving me about 3.5 percent alcohol by volume. The sample had a tart edge in the aroma and a slightly sour flavor. It was golden and hazy, with a mildly malty character and a low level of hop bitterness. A few days later I racked one-third of the batch into another carboy on top of two pounds (0.9 kg) of frozen heirloom cantaloupe that I had left over from the summer's crop.

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Give It a Go

Millet beer

INGREDIENTS

for 3 U.S. gallons (11.4 L)

- 5 lb. (2.27 kg) millet malt
- 2 lb. (910 g) Munich millet malt
- 1 lb. (455 g) crystal 10 millet malt
- 1.75 lb. (795 g) oat hulls
- 2 g alpha amylase enzyme
- 0.5 oz. (14 g) Wakatu hops, 7% a.a. (60 min)
- 0.38 oz. (11 g) Wakatu hops, 7% a.a. (20 min)
- 0.33 oz. (9 g) Wakatu, hops, 7% a.a. (6 min)
- Pinch Irish moss (20 min)
- 1/8 tsp. yeast nutrient (20 min)
- 1 packet K-97 German ale yeast
- 4 oz. (113 g) corn sugar to prime

Original Gravity: 1.042

Finishing Gravity: 1.016

IBU: 32

SRM: 4-5

ABV: 3.5%

Boil Time: 60 minutes

DIRECTIONS

Mash at 163° F (73° C) for 110 minutes with 1.25 quarts water per pound of grain (2.6 L/kg) and fly sparge to collect 3.75 gallons (14 L) of wort in the kettle. Boil for 60 minutes. Chill as quickly as you can, and pitch yeast at 65° F (18° C). Bottle after 3 weeks.

In addition to trying the other varieties of millet malt available, this would be a good base beer with which to experiment with various sugars, fruits, herbs, or spices.

EXTRACT VERSION

Millet malt extract is not currently available.

On day 26, I bottled both batches, and after two weeks, I gave them a try. The straight millet beer had a little carbonation with no head. It was hazy like a wheat beer and still had a sour note on the nose, but that sourness had disappeared from the flavor. The taste was lightly malty and beer-like, with a slight hop presence, a nice body, and a tangy taste.

The batch that I had racked onto the cantaloupe had better carbonation and a generous but short-lived head. There was a pleasant fruit aroma and flavor, though neither was immediately identifiable as cantaloupe. Like the straight batch, it was hazy-gold with good body and a somewhat floral edge from the Wakatu hops. I found it to be an entirely enjoyable beer.

The next time I visited my local homebrew store in Vancouver, Wash., I took a bottle of the “un-cantalouped” batch and sought the opinion of longtime Bader Brewing associate Scott Keller (a gentleman, a scholar, and a good drinking partner) who pronounced it a “stellar effort.”

Beer for All

Brewing a regular beer with Clarity Ferm is easy and might be perfect for someone who has only a slight problem with gluten. Millet malt, on the other hand, makes gluten-free beer that is reasonably close to the flavor of traditional barley beer and yields a nice, easy-drinking pint. It’s a good first step, and by experimenting with different crystal and roast varieties of millet and other malts, you can brew a wide variety of styles.

With a bit of effort and experimentation, most celiac-suffering homebrewers should be able to enjoy great-tasting homebrewed beer. However, I strongly recommend that those with gluten sensitivities first consult their doctors to be safe. I also recommend reading John Palmer’s article “Gluten-Free Beer,” which you’ll find in the March/April 2016 issue of *Zymurgy*.

Steve Ruch lives in Vancouver, Wash. and has been homebrewing for 17 years.



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Dave Rosso and Greg Ehlers whip up a batch of tej mead on Big Brew day 2016 in Fort Collins, Colo.

Brewing up a Storm

By Angeline Grenz

What could possibly lure brewers, software designers, a plant geneticist, and other professionals to voluntarily spend a cold, wet Saturday outside? Big Brew, of course!

Big Brew is organized by the American Homebrewers Association (AHA) in celebration of National Homebrew Day, which was declared before Congress on May 7, 1988. Each year on the first Saturday in May, homebrew clubs, breweries, and beer enthusiasts sponsor a day of collective learning, imbibing, and camaraderie in which to spend quality time together and brew their labors of love.

Big Brew 2016 boasted 483 registered sites around the world (anyone can register to host an event at HomebrewersAssociation.org) and brought together more than 12,000 homebrewers in 50 states and 13 countries. The 2,363 batches of beer they made added up to an estimated 17,804 gallons of beer.

Homebrewers at the foot of the Rocky Mountains set out to break a Big Brew record this year. And a record was, in fact, set that day—just not the one they had in mind.

Club Collabeeration

Two northern Colorado homebrew clubs—the Liquid Poets Society of Fort Collins and the Weiz Guys of Loveland—joined forces for Big Brew on May 7. Despite a forecast that featured chilly temperatures and a strong chance of thunderstorms, the clubs still managed to draw more than 20 brewers, including several professionals.

Award-winning homebrewer Matt Smith and his wife Becky hosted the so-called *collabeeration* at their home in Fort Collins, where brewers set up brew rigs under tents in the backyard. Some participants paired up to brew together, some made annual summer brews in anticipation of warm weather to come, and others came



to learn about brewing and brew their first all-grain batches.

Mark Boelman, Weiz Guys president and controller at Left Hand Brewing Company, brewed an imperial milk stout to be split into two 5-gallon batches. He would later add locally roasted Allegra coffee to one of those batches for an upcoming Weiz Guys competition.

"I loved the idea of having a co-Big Brew day," said Boelman. "Loveland and Fort



Collins are so close to each other. In fact, we share quite a few members so the combined day makes a lot of sense."

"Big Brew is all about celebrating the hobby that we are just so excited about," he continued. "The guys and gals in our club, from the beginning brewer to the gnarly seasoned brewer, are all still mashing on cloud nine. Big Brew gives us an official day to celebrate together."

Alex Grote, president of the Liquid Poets Society homebrew club, also made it to Big Brew. Grote brewed with friend and fellow Liquid Poets Society member Matt Burton. Together, they made 20 gallons of the Kölsch that Grote brews every year. "It is easy to do at Big Brew—not complicated and a nice summer beer," he noted.

Grote, who has participated in a decade of Big Brew days, said he loves to see all the various examples of equipment and process, and appreciates being able to talk to so many enthusiasts of the hobby in one day. "It's a great way to expand your knowledge of beermaking and become a better brewer."

Cy Bevenger, a member of both homebrew clubs, was instrumental in bringing them together for the day. He pulled double duty, first brewing an American pale ale and then a blueberry wheat beer. Bevenger has participated in Big Brew for the past six years, is a BJCP Certified beer judge, and works for Loveland's Grimm Brothers Brewhouse as the Quality Kaiser.

Shannon Bruns and his wife Jill participated in Big Brew for the first time. He has homebrewed for the past four and a half years but rarely has the opportunity to brew with others. "It is fun to come and watch and learn how everyone else does it," he said. Bruns' brew for the day? Six-and-a-half gallons of saison.

<<

**Top: Audrey McDonald and Kyle Byerly.
Bottom: Anne and Rod Simpson.**

Photos courtesy of Angie Grenz.

Rod & Anne's Gruit Wit

Recipe courtesy of Rod and Anne Simpson

INGREDIENTS

for 5 U.S. gallons (18.93 L)

5 lb.	(2.27 kg) German Pilsner malt
4.5 lb.	(2.04 kg) flaked white wheat
0.75 lb.	(340 g) flaked oats
0.25 lb.	(113 g) light Munich malt
0.06 g	(several leaves) mugwort (60 min)
8	sage leaves (60 min)
A few	currant flowers* (60 min)
2 tsp.	(10 g) heather tips (40 min)
1/3 tsp.	(1.6 g) cracked grains of paradise (1 min)
1/3 tsp.	(1.6 g) cracked long pepper (1 min)
1/4 tsp.	(1.2 g) cracked green peppercorn (1 min)
2 Tbsp.	(9.9 g) cracked coriander (1 min)
Zest	of an orange (1 min)
1/4 tsp.	(1.2 g) grains of paradise (secondary)
1/4 tsp.	(1.2 g) green peppercorn (secondary)
5	currant flowers* (secondary)
2	bay leaves (secondary)
1.5 tsp.	(7.4 g) coriander (secondary)
Zest	of 2 oranges (secondary)
Wyeast 3944	Belgian Wit

Original Gravity: 1.045

Final Gravity: 1.008

DIRECTIONS

Mash for 60 minutes at 152° F (67° C) and boil for 90 minutes, adding herbs and spices at the indicated times. Chill, pitch yeast, and ferment to completion. Soak the secondary spices in enough gin to cover for a few days, then add the gin and spices to secondary.

"Taste the beer before adding spices because you may want to change things," says Rod. "We've also used rosemary instead of bay. The main thing is not to over-spice in primary. Start small, taste, and add what's needed in secondary."

* *Currant flowers have a clove-like aroma and flavor with some bitterness.*

EXTRACT RECIPE

Due to the high percentage of unmalted grains, an extract recipe is not recommended.



Steve Jones, owner and head brewer at Pateros Creek Brewing Company in Fort Collins, came out to support the community and brew old-school. Jones made 10 gallons of brown ale using hops grown in Palisade, Colo. "It was fun to come hang out with old buddies and make some beer. I haven't done a homebrew in years," he admitted. "I get to go back to my roots, and you can always learn something from these excellent brewers."

Mead-ieval Times

Dave Rosso, owner and head brewer of Snowbank Brewing Company, also in Fort Collins, came to try something new: mead. Working with homebrewer Kyle Byerly, he wasn't content to go standard. So he made tej, an Ethiopian honey wine featuring gesho entchet (Ethiopian aroma hop stems) that he sourced online.

Byerly, a local mead expert, made 22 gallons (83 L) of mead, split between three

session meads of roughly 4.5 percent ABV each, and one standard 12-percent mead made with avocado blossom honey.

Audrey McDonald also came for the mead. A plant geneticist at Anheuser-Busch InBev, McDonald made two 3-gal-

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Tej

(Ethiopian-style mead)

Recipe courtesy of Dave Rosso

INGREDIENTS

for 5 U.S. gallons (18.93 L)

8.5 lb.	(3.86 kg) clover/alfalfa blend honey
1 lb.	(0.45 kg) gesho entchet sticks
0.26 oz.	(8 g) D21 dry wine yeast (rehydrated)

Original Gravity: 1.082

Final Gravity: 0.986

DIRECTIONS

Combine all ingredients with enough water to yield a 5-gallon batch. Ferment in primary for a month at 65° F (18° C) then transfer to secondary (off the gesho sticks) until the flavor is right—this could take 2 to 12 months, depending on your preference.



Members of the Weiz Guys and Liquid Poets Society construct a homebrew tent city for Big Brew 2016.

lon batches of mead. The first featured Nanking cherries and elderberries she collected herself, while her second was a mixed berry mead. McDonald also keeps bees, so a portion of the honey came from her own hive.

McDonald's passion stems from sourcing her ingredients locally. "There is so much bounty growing all around us," she said. She has made meads for about six years and has homebrewed an assortment of sour beers. This was her first Big Brew event.

Husband-and-wife brewing team Rod and Anne Simpson whipped up one of the more exotic batches in the Smiths' backyard. The two have homebrewed together for 10 years, and this year they made their annual Belgian-style witbier. But instead of hops, they used an interpretation of a traditional gruit to bitter the brew.

Their 2016 vintage featured mugwort, sage, currant flowers, green peppercorns, bay leaf, coriander, grains of paradise, and other herbs, many of which they grew themselves. Anne, a BJCP beer judge since 2007, enjoys

recipe formulation, while Rod exults in the art of brewing. The duo, who always enter beer competitions as a couple and who developed their love of homebrewing together, share a microbiology background.

"I would love to see more women get involved," said Anne. She encourages other women who would like to explore homebrewing to check out their local homebrew clubs. Anne and Rod joined Liquid Poets Society as they became interested in the hobby as a way to get more familiar with the brewing process.

Many Worts in a Storm

Despite the weather, the Smiths' backyard was alive with activity during Big Brew. Even when a hailstorm started lobbing chunks of ice into the yard, everyone hunkered down for some "combat brewing" as they rode out the bad weather. As brewers huddled over boiling wort for warmth, they discussed brewing techniques, formulated recipes, and shared homebrew. The storm may have dampened their goal of breaking a record, but it didn't dampen their spirits.

As beers flowed from the Liquid Poets' multi-handle tap system, the Smiths generously offered up smoked pork for lunch. Once the storm had passed, Big Brew guests gathered around the fire pit or their brew kettles, and a handful of children chased each other around the yard. It was a day to celebrate the "best damn drink in the world," and it was done in true Colorado style, roughing the elements in shorts and hoodies while reminiscing over good—and bad—brews of years past.

"It was super cool to see representation from so many local craft breweries," Boelman observed. "They were all there to show support or brew themselves." In all, five northern Colorado breweries—Pateros Creek Brewing, Verboten Brewing, Grimm Brothers Brewhouse, Left Hand Brewing Company, and Snowbank Brewing—had representation at Big Brew, as did local homebrew shop Hops & Berries.

Grote said the clubs hope to make the *collaboration* an annual event. "The community aspect of homebrewing is on full display at events like Big Brew," he said, "with everyone enjoying the company of others, chatting with old friends, and making new ones. It is a truly great day to be a homebrewer!"

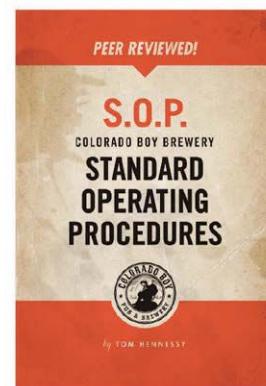
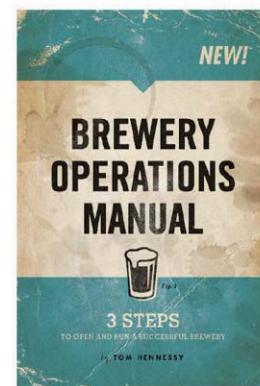
In the end, the Weiz Guys and Liquid Poets brewed approximately 186.5 gallons of beer on May 7, 2016. And while Fort Collins broke a record for precipitation that day, the local Big Brew record of 325 gallons remains safe.

Safe for another year, anyway. If the smiles at this year's Big Brew are reliable indicators, the forecast for May 6, 2017, sounds awfully bright indeed.

For more information about Big Brew and to learn about upcoming homebrewing events, visit HomebrewersAssociation.org.

Angeline Grenz is a freelance writer and co-owner of Verboten Brewing in Loveland, Colo. She can be reached at angie@verbotenbrewing.com. For more information about the participating homebrew clubs, visit Weiz Guys at weizguys.com and Liquid Poets Society at liquidpoets.com.

Cy Bevenger monitors the progress of his American pale ale.



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2016 American Homebrewers Association National Homebrew Competition Overall Winners

Homebrewer of the Year



Nick Corona, San Marcos, California

QUAFF
(Quality Ale and Fermentation Fraternity)

"Barb's Hef"
Weissbier

Homebrewer of the Year goes to the brewer of the Best of Show beer from 26 categories.

Casino manager by day and fun-loving husband and father by night, Nick Corona

began homebrewing in 2012 like many others: in his kitchen. He was self-taught, using resources he found online with Google searches, as well as information gleaned through the harassment of his fellow QUAFF (Quality Ale and Fermentation Fraternity) homebrew club members.

Corona quickly moved outdoors to a keggle before making the leap to a single-tier, electronically-controlled, Brutus 10-style rig in 2013. He shared how it began. "I found my passion for craft beer after ordering Avery's Maharaja IPA. I was swept

off my feet with the first sip. That beer inspired me to brew with the goal of one day opening my own brewery and hopefully giving someone out there that same experience with one of my creations."

After brewing one too many IPAs in his first year, Corona knew he needed to diversify and learn more styles. While he saw some success in local competitions, his weissbier was the most consistent winner. Corona introduced subtle changes to the usual banana, bubble gum, and clove-like profile of the style, focusing mostly on temperature control. He explains, "The recipe isn't where the magic is; just 50/50 wheat and German Pilsner. A lot of the flavors are derived from temperatures controlled during mash and fermentation. My first weissbier was appropriately named Banana Bomb Hef."

He soon learned that finding a good balance between the banana esters and clove phenols would be key to this beer's improvement. Corona found out early on that big banana flavors came relatively easily, so he set his sights on subduing the banana esters with larger, healthier pitches of yeast and cooler fermentation temperatures, which helped showcase more clove phenols.



Ninkasi Award Winner



**Derrick Flippin,
Rural Hall, North Carolina**

2 gold medals

The Ninkasi Award goes to the winningest brewer in the second round of the National Homebrew Competition.

Derrick Flippin has been brewing for less than three years but has quickly amassed several top homebrewing awards. In 2015, he was the Carolinas Master Brewer of the Year, and earlier this year he was named "Menace of the Monastery," an award given for beer styles traced back to the monastic brewing traditions of Belgium and Germany by the Urban Knaves of Grain homebrew club at their "Drunk Monk Challenge." Flippin has also earned entry in this year's Great American Beer Festival (GABF) Pro-Am competition with Upslope Brewing Co. of Boulder, Colo., and has qualified several beers for the final round of the Masters Championship of Amateur Brewing (MCAB) to be held in 2017.

Flippin decided to start homebrewing after writing more than 500 beer review blog posts. "I had created my own review sheets and point scale and did thorough research on every beer. I loved picking out all the nuances in the aroma and flavor. Little did I know how much this would help me when I started to brew," said Flippin. He then found a local homebrew

shop, Big Dan's Brew Shed, where owner Dan Morgan introduced Derrick to the fundamentals of brewing. "Dan has been with me since my first beer, the Brew Shed IPA kit. He was the 2010 Carolinas Master Brewer and has taught me so much. He helps every customer make the best beer they can, no matter the skill level. Without Dan and the Brew Shed's support, I doubt I would be making outstanding beer."

Morgan says he can usually tell how good a new brewer is going to be at their training session. "I've never worked with anyone as determined and curious as Derrick is about beer: real passion. It's unreal how far his brewing has come in just the last year and a half."

Flippin credits being embroiled in tough competition with Dexter Garner in 2015 as having played the biggest role in his improving enough to succeed at the national level. "Dexter and I competed on the same circuit last year and were neck-and-neck the entire time. We ended up splitting both major grand prize awards, which was the perfect ending. He's a fantastic brewer and having tough-yet-respectful competition can really drive you to make better beer. I always get the best feedback on my beer from Dexter," Flippin said.

"The level of passion that Derrick has for brewing is what sets him apart. It sounds so simple, but his approach is truly unique, and you almost have to experience it firsthand to understand it," said Garner.

"Brewing is like the perfect intersection of science and art," said Flippin. "There are things that happen for very specific reasons, and those things are necessary to understand. But there's also a side that is very open, and if you allow yourself to be open with it, it sparks creativity, and that's where the outstanding beer tends to hang out."

Corona saw his brewing success rise sharply in 2015, when he won numerous awards, including his first Best of Show at the 2015 Mayfaire Homebrew Competition for a Vienna lager. He credits his success to two things: a better understanding of each beer style's attributes and assistance from homebrewers who came before him. "Before I brew a new style of beer, I research as much information as I can find on the subject. While that research takes a good amount of time and effort on my part, it is truly the homebrew community that deserves the credit. Without their guidance, knowledge, and understanding, I would still be in my kitchen upsetting my wife with boil-overs and bad beers," Corona said.

With the homebrew community in mind, he has set his sights on helping guide others. Corona explained, "I've always reminded myself that the less I know, the more I can learn, and I think that mentality is important for everything in life. While I haven't scratched the surface when it comes to brewing beer, I feel it is important to be a contributing member to this community. I help out with the experiences that I have had, but I will never stop reaching out to those who are willing to offer their expertise."



Meadmaker of the Year



**Steve Fletty,
Falcon Heights, Minnesota**

"Holy Cacao"
Spice, Herb, Vegetable Mead

Meadmaker of the Year goes to the maker of the Best of Show mead from three mead categories.

Steve Fletty began brewing in 1997, starting with kits and gradually moving to partial-mash brewing and, finally, all-grain. "My first batch was a medicinal sorghum espresso stout, which I'm sure was terrible," Fletty recollects, "but my brewing

partner and I drank it anyway. It was ours and we were proud of it." After focusing on IPA and Classic American Pilsner (CAP), he won his first Best of Show for a CAP in 2002.

All it took was a bit of BJCP sensory training to set Fletty on the path to mead mastery. He remembers tasting no fewer than 68 meads one night at a BJCP class. "Yes, 68. Not exaggerating. I counted and made notes. Most were terrible, cloying, and fat, or nasty rocket fuel, out of balance. Not sure why mead was so prevalent in Minnesota or why we did a mead night, because it wasn't even on the BJCP test! Anyway, out of all those meads, two of them blew my mind. One was a mesquite chipotle, the other a Riesling pymtent. I tracked down as much info on both as I could, pestering the old-school local meadmakers. Over the course of a few years I was able to perfect my orange blossom Riesling pymtent, which earned me my first Meadmaker of the Year in 2007."

From his own experience, Fletty recommends four things that will improve brewing and meadmaking: joining a club, completing BJCP classes and sensory training, taking notes (so you can go back to see what worked and what didn't), and brewing to style for competition. "For a while, there were a number of fantastic

local brewer friends (Curt Stock, Thomas Eibner, Kris England) all competing head-to-head locally and nationally. We pushed each other to be better. When you beat Curt or Thomas or Kris, you knew you'd done well." Peer pressure at the club level was also a factor. "Going for Club of the Year really focused our skills. One year when a few of us were all going for High Plains Brewer of the Year, I medaled in every BJCP category and still lost to Curt Stock." But he admits that entering competitions is a lot of work. "I think the hardest thing I ever did from a competition standpoint was to win Midwest Homebrewer of the Year in 2009."

Yet perseverance has paid dividends. Fletty has won gold in the NHC second round, in the same mead category, for the last three years, all with different meads. "All of them were one-offs that I hadn't made before." And his winning ways aren't limited to mead. Along with seven NHC mead medals, he has also taken home six medals for beers, including golds for a Russian imperial stout and a strong Scotch ale.

For reading material, Fletty recommends Ken Schramm's *The Compleat Meadmaker* and Steve Piatz's *The Complete Guide to Making Mead*. For mead equipment, his favorite tools are "a stir stick and a cordless drill."

Inspiration for this year's NHC best-of-show mead "Holy Cacao" came with assistance from the internet. "It was my first attempt at a chocolate mead and a total experiment," Fletty explained. As a result, he only made two gallons. "I've been wanting to make a chocolate mead for a while now. I started with good honey. That's key. If you want to make great mead, don't scrimp on the honey. It has to taste and smell good. I thought meadowfoam honey, with its toasty marshmallow character, would pair well with chocolate. I Googled chocolate mead to see what others had done. That gave me some ideas. From there, I kinda winged it."

Suffice to say, if Fletty continues winging it, there's a good chance he'll grace these pages again.

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Cidermaker of the Year



**Jeff Carlson,
Grand Rapids, Michigan**

"Westside Sweet Heat"
Blended Pétillant, Standard New World
Cider aged on Jalapeño Peppers

Cidermaker of the Year goes to the maker of the Best of Show cider from two cider categories.

Jeff Carlson started homebrewing in 1992 and made his first cider in 1997. He's brewed more than 500 batches of beer and more than 200 ciders. While he also enjoys making mead and wine, the fact that he's fortunate enough to live in the great apple-producing state of Michigan means that cider makes up a larger share of his brewing output. He's also surrounded by people who share his passion for Michigan apples. "I'm fortunate to have the connections I do through the Michigan Cider Association," says Carlson. "I'd say that within an hour of Grand Rapids there are eight cider mills, and many apple producers are putting in new acres of true cider apples."

That also means local competitions see consistently excellent entries, and winning awards requires absolute dedication to the craft. "The Great Lakes Cider and Perry Competition is still going strong, 11 years now. I am no longer associated with organizing it, but I still enter. This year it had over 1,000 total entries, 219 of which were in the non-commercial category."

When asked if he has advice for fellow cidermakers looking to medal at the NHC, Carlson (who has now won Cidermaker of the Year five times) admits there aren't any tricks or shortcuts: it's all about education, practice, and access to other cidermakers. "I don't have any secrets here. A number of great cider books are available: *Apples to Cider: How to Make Cider at Home* by April White and Stephen Wood; *The New Cider Maker's Handbook* by Claude Jolicoeur; *Cider, Hard and Sweet: History, Traditions and Making Your Own* by Ben Watson; and *Craft Cider Making* by Andrew Lea come to mind. Join the AHA and a local club. I've been a member of the PrimeTime Brewers for over 22 years, and I attend meetings with another club called The Brewsquitos."

The quality of the juice counts for a lot, along with good yeast and proper technique. "Fresh ingredients are key, and good sanitation is always foremost of your equipment and your juice. Fresh-pressed juice is ideal. Sulfite according to pH, use nutrients, and ferment as cool as you can with a good, low-sulfur-producing white wine yeast. My favorites are Côte des Blancs and Premier Cuvée. I have been trying QA23 and a new strain called Vivace recently, both with good results. Whether you back-sweeten or not is up to you. To me it's all about finding that balance."

Carlson also manages to find balance in his interests outside the world of brewing and cidermaking. "I like to fish and hunt. Cooking and pairing with beer and cider. Barbecue, sausage making, woodworking."

Carlson's best-of-show cider combined two ciders into a single beverage that was greater than the sum of its parts. "Scott Husted was doing some single-varietal pressings in late October. I got eight different juices, one of which was Golden Russet. Mike Beck from Uncle John's Cider also did two special pressings in late November. Both were fermented out to dryness, racked, and aged until clear. By themselves they just seemed to lack something, even when small samples were back-sweetened. After much trial and error, I settled on that particular blend. Why? I don't know—it just seemed right. More than likely I was extremely lucky. Michael Fairbrother did give it a 47 though. So maybe it wasn't luck after all."



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Gambrinus Club Award



Cap and Hare Homebrew Club Fort Worth, Texas

The Gambrinus Club Award goes to the club with the most final-round points per number of entries from the club in the National Homebrew Competition.

Now in its eighth year, the Gambrinus Club Award (named for King Gambrinus, the patron saint of beer) recognizes clubs with the most success in the National Homebrew Competition. To be eligible, clubs must have at least five club members enter the first round. At least two of those club members must advance to the final round, where at least one must place in the top three. Six points are awarded for first place, four points for second place, and two points for third place.

Said 2016 Cap and Hare President Greg Etzel of the award, "We were very excited to receive the news that we'd won. And we were definitely glad that we had more members than usual submitting to this year's competition. We feel that our last few years had a stronger focus on competition entry, both locally and nationally. Plus, raising enthusiasm for judging and evaluation has not only improved our brewers' skills, but also increased the overall level of participation. We feel this leads to better brewers making better beer. And we like to drink good beer together!"

The Cap and Hare Homebrew Club of Fort Worth, Texas had 11 members and 17 entries qualify for the final round. Club members Mike Treadway and Sean Vreeland claimed a gold medal for "The Duke" English IPA in the ultra-competitive India Pale Ale category. The pair also took bronze for their Wee Heavy "MacGregor's Goat" in the Scottish and Irish Ale category. James Lallande won a gold for his "Buckwheat Buffalo" mead in the Traditional Mead category, while Brian Schoolcraft earned a gold medal for his "King of Eisbocks!" in the Bock category.

"These club members and all those who entered, helped judge entries, or helped discuss how to brew the best beer for entry were instrumental in our Gambrinus win," continued Etzel. "It also helps that we have a Grand Master BJCP Judge (James Lallande) and good-spirited competition between brewers to help us all improve our skills. Hopefully, you'll continue to see the Cap and Hare name at local and national levels."

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NHC Homebrew Club Award



QUAFF (Quality Ale and Fermentation Fraternity) San Diego, California

The NHC Homebrew Club Award goes to the winningest club in the National Homebrew Competition.

The NHC Homebrew Club award is given to the club whose members collectively win the most points in the final round of the National Homebrew Competition (NHC), with points awarded on a 6-4-2 basis for first, second, and third, respectively. This year, San Diego-area homebrewers wowed NHC final-round judges with their brewing, meadmaking, and cidermaking skills. The Quality Ale and Fermentation Fraternity (QUAFF) of San Diego, Calif., won the prestigious NHC Homebrew Club Award with five members bringing home medals in the final round.

Nick Corona led the QUAFF honors by claiming Homebrewer of the Year with his best of show hefeweizen, "Barb's Hef." Ryan Reschan won gold for his Czech Pilsner, "Pilz," and QUAFF member Curt Wittenberg took gold with his American Amber, "Cali Amber," in the Other American Ale category. Rounding out the club's medals were Mike Habrat with a silver medal in the Traditional Mead category for a sweet mead, and Tim

Wang, who nabbed a bronze with his Kölsch in the Light Hybrid Beer category.

QUAFF has a long history of success at NHC, including a streak of six consecutive Homebrew Club of the Year awards from 2001 to 2006 and two Ninkasi Award winners to its credit (Jamil Zainasheff in 2004

and 2007, and Paul Sangster in 2011). This legacy of local homebrewing talent naturally fuels San Diego's renowned craft brewing scene: since the club's inception, at least 56 QUAFF members joined the craft industry as professional brewers, and at least 34 breweries were founded or co-founded by QUAFFers.

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2016 American Homebrewers Association National Homebrew Competition Gold Medal Recipes



Homebrewers from 50 states and 13 countries submitted entries to the 2016 American Homebrewers Association National Homebrew Competition. At judging sites in Austin, Chicago, Denver, Indianapolis, Nashville, New York City, Philadelphia, Sacramento, Saint Louis, Saint Paul, San Diego, and Seattle, judges evaluated 7,962 beers from 3,396 entrants in the first round of the competition. Final-round judges fielded 1,074 of those entries in

Baltimore, Md. on June 9, and winners were announced at Homebrew Con (National Homebrewers Conference) on June 11.

"This year's Homebrew Con was a great success, and we look forward to hosting many more," said Gary Glass, director of the American Homebrewers Association. "As the hobby of homebrewing continues to grow and reach new heights, each year Homebrew Con and the National

Homebrew Competition—which is the pinnacle event for homebrewers from around the world to showcase their prized brews—bring the community together so we can all keep learning from and inspiring each other."

The AHA National Homebrew Competition recognizes the most outstanding homemade beer, mead, and cider being produced by homebrewers worldwide. Over its 38-year history, the National Homebrew Competition has evaluated 126,873 brews. The first competition, held in 1979 in Boulder, Colo., judged 34 beers.

Organizer John Moorhead, in his first year in the role, lent his perspective on how the world's largest brewing competition unfolded this year.

Zymurgy: When did the organizing of 2016's colossal event really begin for you, and how was the experience of assuming control of the event from veteran organizer Janis Gross?

John Moorhead: I started organizing the colossal event, as you put it, back in



2016 NATIONAL HOMEBREW COMPETITION

January. It was unexpected and one of the biggest learning experiences and most challenging tasks I've ever done. Janis, along with the AHA and BA team, was an absolutely invaluable resource throughout the competition.

ZYM: There were medal winners from some pretty far-flung locations around the world. Do you think numbers of international entries, and winning international entries, will continue to grow?

JM: I think as we see the international homebrewing community grow and gain access to educational resources, information, and quality ingredients, we'll continue to see a rise in international entries to the NHC. It's a high-profile, high-caliber competition that brings the best of the best. These homebrewers are eager and hungry for quality feedback, which will only help their local homebrewing communities continue to make high-quality beer. I also think having two international winners—a bronze medal winner from Greece and a silver from Canada—is especially impressive given the hurdles they need to overcome to get their beer to the final round.

ZYM: As brewing skill among all competitors rises, how hard is it for judges to distinguish great beer from very good beer?

JM: I think any difficulty distinguishing very good beer from great beer is a great

problem to have. It's a lot of fun to judge a beer you need to critique and analyze deeply and thoughtfully. The AHA works closely with the Beer Judge Certification Program to help bring new judges into the BJCP. There are more Master-level and beyond judges today than ever before. As more of them become available to train newer judges, this elevates the overall skill of the NHC judge pool. So as brewing skill improves, so does the quality of judging.

ZYM: What sorts of prizes were up for grabs this year?

JM: We had a ton of awesome prizes this year, all made possible by generous donations from our sponsors! All category winners took home a hop spider, a hop bag, a White Labs yeast certificate, one pound of Yakima Chief – Hopunion (YCH) hops, a YCH hop booklet, hose clamps, and six feet of high-temp silicon tubing. More specifically, first-place category winners took home a Chugger Pump, second-place category winners took home a beer/wine filter kit, and third-place category winners took home a draft line cleaning kit.

ZYM: Lots of new names on the winners list this year, but a lot of familiar ones, too. Were there any big surprises?

JM: It was great to see such a large pool of homebrewers win this year. Only two

entrants received more than one medal, so Derrick Flippin was the clear Ninkasi winner with two gold medals. We saw Steve Fletty become a repeat Meadmaker of the Year, and Jeff Carlson has now won Cidermaker of the Year five times. Competition has really become quite fierce, and that speaks to the high quality of beer, mead, and cider that AHA members are creating.

ZYM: How was the transition to using the new 2015 BJCP style guidelines?

JM: Not only did the number of categories jump from 28 to 31, but many were shuffled around. The BJCP did an incredible job of expanding and updating the style guidelines for 2015, and the NHC will continue to adapt to entry counts and interest in styles year after year. To create the NHC-specific grouping of categories and subcategories, we used Method 2 in Appendix A of the BJCP 2015 Style Guidelines with the entry data from the 2015 National Homebrew Competition. The expansion was a result of breaking up the categories with the most entries: American Ale, Stout, and IPA. We split each of these in two to make the entry count more even across categories.

ZYM: What are you most looking forward to at next year's competition?

JM: AHA members are such passionate and fun people to be around, and I look forward to not just the competition, but Homebrew Con every year. I love reconnecting with them as much as they do with me. I'm excited to see how our members up the ante next year with the quality of their brews. Our members continue to improve their beers—it's really quite impressive and fun to watch.

Thanks for all of your hard work managing this amazing event, John! And now let's check out the winners, including gold medal recipes from all 31 categories judged at the 2016 National Homebrew Competition.

Amahl Turczyn is associate editor of Zymurgy.

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Category 1

LIGHT LAGER

224 entries

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Derrick Flippin

Rural Hall, N.C.

2016 Ninkasi Award Winner

"Barstool Blues"

American Light Lager

Category 2

PILSNER

215 entries

Sponsored by:

Brewing Tools



Ryan Reschan

Vista, Calif.

Quality Ale and Fermentation Fraternity
(QUAFF)

"Pilz"

Czech Pale Lager

INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

8.56 lb.	(3.88 kg) pale 6-row malt
2.12 lb.	(962 g) flaked corn
0.5 oz.	(14 g) Mt. Hood pellets, 5.5% a.a. (60 min)
0.5 oz.	(14 g) Mt. Hood pellets, 5.5% a.a. (5 min)
1/2 tsp.	(2.5 g) Wyeast nutrient blend
1 tsp.	(5 g) gelatin for cold-side fining
Campden tablets	to remove chlorine from tap water
	Wyeast 2042 Danish Lager yeast (starter)
	Carbonate to 3 volumes of CO ₂

Original Specific Gravity: 1.047

Final Specific Gravity: 1.010

Primary Fermentation:

3 weeks at 48° F (9° C)

Secondary Fermentation:

2 weeks at 33° F (1° C)

DIRECTIONS

Single infusion mash at 148° F (64° C) for 90 minutes. Mash out at 168° F (76° C) for 10 minutes.

RUNNERS-UP

Silver Medal: John Watson, Antioch, Calif., Diablo Order of Zymiracle Enthusiasts (DOZE), Munich Helles

Bronze Medal: Etienne Bourgeois, Palm City Fla., Treasure Coast Brewmasters, German Helles Exportbier

INGREDIENTS

for 6 U.S. gallons (22.71 L)

9 lb.	(4.08 kg) German Pilsner malt
0.3 lb.	(136 g) dextrin malt
0.18 lb.	(81 g) melanoidin malt
2.5 oz.	(71 g) Czech Saaz pellets, 3.6% a.a. (60 min)
2 oz.	(57 g) Czech Saaz pellets, 3.6% a.a. (10 min)
1.5 oz.	(42 g) Czech Saaz pellets, 3.6% a.a. (5 min)
2 oz.	(57 g) Czech Saaz pellets, 3.6% a.a. (whirlpool)
3/4 Tbsp.	lactic acid (optional, only for water adjustment as needed)
	White Labs WLP833 German Bock lager yeast (3.5 L starter)

Tertiary Fermentation:

60 days at 37° F (3° C)

DIRECTIONS

Split water 50/50 with filtered tap water and distilled water. Add 3/4 Tbsp. of lactic acid for pH adjustment. Mash in at 152° F (67° C) and hold for 90 minutes. Do the same split of water for sparging, and collect about 7.75 gallons (29 L) for the boil. Start whirlpool while chilling. Add whirlpool hops after temperature is below 190° F (88° C). Chill wort to 48° F (9° C) and aerate with pure oxygen for 60 seconds. Pitch WLP833 and allow temperature to rise to 50° F (10° C) over 48 hours. Allow temperature to slowly rise to 55° F (13° C) after a week. Ramp temperature to 63° F (17° C) for a three-day diacetyl rest and then slowly crash cool to 37° F (3° C).

RUNNERS-UP

Silver Medal: Jeremy Castellano, San Diego, Calif., German Pilsner

Bronze Medal: Ryan Gall, Louisville, Colo., Czech Premium Pale Lager



2016 NATIONAL HOMEBREW COMPETITION

Category 3

EUROPEAN AMBER LAGER

180 entries

Sponsored by:
Chugger Pumps



Derrick Flippin
Rural Hall, N.C.
2016 Ninkasi Award Winner

"Thanks for the (Decoction) Pot, Dan"
Vienna Lager

INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

4.62 lb.	(2.1 kg) Belgian Pilsner malt
4.62 lb.	(2.1 kg) Vienna malt
1.43 lb.	(649 g) Weyermann CaraAmber malt
1.43 lb.	(649 g) dark Munich malt
1 oz.	(28 g) Briess Midnight Wheat malt (steep)
0.55 oz.	(15.6 g) German Magnum hops, 13.2% a.a. (60 min)
1 oz.	(28 g) Tettnang hops, 3.9% a.a. (15 min)
1/2 tsp.	(2.5 g) Wyeast nutrient blend
1 tsp.	(5 g) gelatin for cold-side fining
Campden tablets	to remove chlorine from tap water
	White Labs WLP833 German Bock lager yeast (3.5 L starter)
	Carbonate to 2.5 volumes of CO ₂

Original Specific Gravity: 1.053

Final Specific Gravity: 1.010

Primary Fermentation:

21 days at 50° F (10° C)

Secondary Fermentation:

13 days at 33° F (1° C)

DIRECTIONS

Mash in at 158° F and hold for 60 minutes. Pull a decoction; boil 15 minutes, then add back to main mash, which should equalize at 168° F (76° C). Hold at 168° F (76° C) for 10 minutes.

RUNNERS-UP

Silver Medal: Stephen Mayo, Derry, N.H., Seacoast Homebrew Club, Märzen

Bronze Medal: Christopher Owen, Louisville, Ky., Louisville Area Grain and Extract Research Society, LTD, Kellerbier

Category 4

DARK LAGER

165 entries

Sponsored by:
Briess Malt & Ingredients Co.



Ryan Serwatowski
Bristol, Conn.

"Schwarzbier"
Schwarzbier

INGREDIENTS

for 6 U.S. gallons (22.71 L)

6 lb.	(2.72 kg) Weyermann Pilsner malt
3 lb.	(1.36 kg) Weyermann Munich I malt
0.625 lb.	(283 g) Briess Blackprinz malt
0.5 lb.	(227 g) Briess 40° L caramel malt
0.5 oz.	(14 g) German Magnum hops, 13.2% a.a. (60 min)
0.5 oz.	(14 g) German Hallertau hops, 2.7% a.a. (15 min)
0.5 oz.	(14 g) German Hallertau hops, 2.7% a.a. (5 min)
1/2 tablet	Whirlfloc
0.25 tsp.	(1.2 g) Wyeast yeast nutrient (in starter)
	Wyeast 2124 Bohemian Lager yeast (2 L starter)
	Carbonate to 2.4 volumes of CO ₂

Primary Fermentation:

14 days at 50° F (10° C)

Secondary Fermentation:

45 days at 36° F (2° C)

DIRECTIONS

Treat brewing water with 1.7 g gypsum and 1.7 g calcium chloride, both in the mash and in the kettle. Single infusion mash at 152° F (67° C) for 60 minutes. When fermentation is almost finished, raise temperature to 60° F (16° C) and hold until complete. Transfer to a keg and lager for 6 weeks.

RUNNERS-UP

Silver Medal: Ken Smith with Don Ackerman, Paso Robles, Calif., San Luis Obispo Brewers (SLOB), Czech Dark Lager

Bronze Medal: Nathan Zorich with John Kraut, White Salmon, Wash., B.O.G. (Brewers of the Gorge), Czech Dark Lager

Original Specific Gravity: 1.054

Final Specific Gravity: 1.014

Boil Time: 60 minutes



Category 5

BOCK

178 entries

Sponsored by:

Washington Hop Commission



Brian Schoolcraft
Bedford, Texas

Cap and Hare Homebrew Club

"The King of Eisbocks!"
Eisbock

INGREDIENTS

for 4.5 U.S. gallons (17.03 L)

15 lb.	(6.8 kg) Pilsner malt
7.5 lb.	(3.4 kg) Vienna malt
2.5 lb.	(1.13 kg) dextrin malt
1.5 lb.	(0.68 kg) Munich malt
0.75 lb.	(340 g) CaraRed malt
0.75 lb.	(340 g) Caramunich malt
0.25 lb.	(113 g) Carafa II
0.35 oz.	(10 g) Magnum pellets, 14.7% a.a. (65 min)
1 oz.	(28 g) Hallertau pellets, 3.8% a.a. (65 min)
	Wyeast 2633 Oktoberfest Lager Blend yeast
	Irish moss
0.25 tsp.	(1.2 g) White Labs yeast nutrient
	Force carbonate to 2.3 volumes of CO ₂

Original Specific Gravity: 1.174**Final Specific Gravity:** 1.045**Primary Fermentation:**

23 days at 48° F (9° C)

DIRECTIONS

Mash at 154° F (68° C) for 70 minutes.
Mash out at 168° F (76° C) for 10 minutes.
Sparge at 170° (77° C).

RUNNERS-UP

Silver Medal: Greg Hinton, Yorba Linda, Calif., BrewCommune, Doppelbock

Bronze Medal: Armand Houle, Pittsburgh, Pa., Three Rivers Alliance of Serious Homebrewers, Eisbock

Category 6

LIGHT HYBRID BEER

280 entries

Sponsored by:

Cargill Specialty Malts



Joe Edidin
Maryville, Tenn.

Tennessee Valley Homebrewers

"Kölsch"
Kölsch

INGREDIENTS

for 5 U.S. gallons (18.93 L)

8 lb.	(3.63 kg) Briess Pilsner malt
1 lb.	(0.45 kg) Weyermann Vienna malt
0.5 lb.	(227 g) Weyermann Carafaom
0.25 lb.	(113 g) Weyermann acidulated malt
1.4 oz.	(40 g) Tettnang pellets, 4.6% a.a. (60 min)
0.4 oz.	(11 g) Tettnang pellets, 4.6% a.a. (15 min)
0.4 oz.	(11 g) Tettnang pellets, 4.6% a.a. (1 min)
	White Labs WLP830 German Lager yeast (2 vials in a starter)
	Forced CO ₂ to carbonate (2.5 volumes)

Primary Fermentation:

14 days at 54° F (12° C)

DIRECTIONS

Mash at 148° F (64° C) for 60 minutes.
Mash out at 164° F (73° C) for 10 minutes.

RUNNERS-UP

Silver Medal: John Groeger, Mechanicsville, Md., Fredericksburg Brewing Insiders (FBI), Blonde Ale

Bronze Medal: Tim Wang, Carlsbad, Calif., Quality Ale and Fermentation Fraternity (QUAFF), Kölsch



2016 NATIONAL HOMEBREW COMPETITION

Category 7

AMBER HYBRID BEER

149 entries

Sponsored by:

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Keith Eisel

Raleigh, N.C.

Cary-Apex-Raleigh-Brewers-Of-Yore
(CARBOY)

"Dream Steam"
California Common Beer

INGREDIENTS

for 5.25 U.S. gallons (19.87 L)

8 lb.	(3.63 kg) US pale 2-row malt
0.75 lb.	(340 g) 40° L crystal malt
0.75 lb.	(340 g) 60° L crystal malt
8 oz.	(227 g) dextrin malt
0.38 lb.	(172 g) Victory malt
0.75 oz.	(21 g) Northern Brewer pellets, 10.2% a.a., FWH
0.5 oz.	(14 g) Northern Brewer pellets, 10.2% a.a. (20 min)
0.5 oz.	(14 g) Northern Brewer pellets, 10.2% a.a. (0 min)
0.25 oz.	(7 g) Northern Brewer pellets, 10.2% a.a. (dry hop)
1 tsp.	(5 g) Irish moss (10 min) White Labs WLP810 San Francisco Lager yeast (1.5 L starter)
	Carbonate to 2.4 volumes of CO ₂

Original Specific Gravity: 1.052

Final Specific Gravity: 1.010

Primary Fermentation:

12 days at 62° F (17° C)

Secondary Fermentation:

23 days at 5° F (13° C)

DIRECTIONS

Mash at 152° F (67° C) for 60 minutes.
Mash out at 168° F (76° C) for 10 minutes.

RUNNERS-UP

Silver Medal: Robbie Proctor, Pleasant
Hill, Calif., Diablo Order of Zymiracle
Enthusiasts (DOZE), Altbier

Bronze Medal: Brian Gregory, Santa
Maria, Calif., Valley Brewers, International
Amber Lager

Category 8

ENGLISH PALE ALE

216 entries

Sponsored by:

St. Louis Wine & Beer Making



Tom Thorpe

Parker, Colo.

Rock Hoppers Brew Club

"Golden Delight"
British Golden Ale

INGREDIENTS

for 5.625 U.S. gallons (21.29 L)

5.5 lb.	(2.49 kg) Golden Promise pale malt
2.75 lb.	(1.25 kg) light Munich malt
1 lb.	(0.45 kg) flaked corn
0.5 lb.	(227 g) white wheat malt
0.25 lb.	(113 g) dextrin malt
0.25 lb.	(113 g) Carahell malt
0.25 lb.	(113 g) biscuit malt
0.55 oz.	(16 g) Mosaic pellets, 11.7% a.a. (FWH)
1 oz.	(28 g) Mosaic pellets, 11.7% a.a. (5 min)
1 oz.	(28 g) Mosaic pellets, 11.7% a.a. (0 min)
1 oz.	(28 g) Mosaic pellets, 11.7% a.a. (dry hop)
	Wyeast 1469 West Yorkshire Ale yeast (starter)
	Carbonate to 2.6 volumes of CO ₂

Original Specific Gravity: 1.048

Final Specific Gravity: 1.011

Primary Fermentation:

14 days at 66° F (19° C)

DIRECTIONS

Mash at 152° F (67° C) for 60 minutes.
Batch sparge at 170° F (77° C).

RUNNERS-UP

Silver Medal: Brian Mulhall,
Winooski, Vt., Green Mountain Mashers,
Strong Bitter

Bronze Medal: Tom and Jan Tucker,
Chagrin Falls, Ohio, Society of Northeast
Ohio Brewers, Best Bitter



Category 9

SCOTTISH AND IRISH ALE

238 entries

Sponsored by:

St. Louis Wine & Beer Making



**Matthew and Brennan
Weissenbuehler
Parker, Colo.**

"D3 Scottish Ale"
Scottish Export

INGREDIENTS

for 5 U.S. gallons (18.93 L)

8.5 lb.	(3.86 kg) Simpsons Golden Promise pale malt
1 lb.	(0.45 kg) Weyermann Munich II malt
1 lb.	(0.45 kg) Briess 30° L crystal malt
0.25 lb.	(113 g) Weyermann wheat malt
0.25 lb.	(113 g) roasted barley
1 oz.	(28 g) Fuggle pellets, 5.2% a.a. (FWH)
0.5 tsp.	(2.5 g) Wyeast yeast nutrient (10 min)
9 gallons	Eldorado Springs water treated with 8 g calcium chloride and 3 g gypsum
	White Labs WLP028 Edinburgh ale yeast (starter)
	Force carbonate to 2.3 volumes of CO ₂

Original Specific Gravity: 1.052**Final Specific Gravity:** 1.010**Boil Time:** 60 minutes**Primary Fermentation:**

14 days at 61° F (16° C)

Secondary Fermentation:

28 days at 40° F (4° C)

DIRECTIONS

Mash in at 156° F (69° C) for 60 minutes. Raise mash to 168° F (76° C) to mash out for 10 minutes.

RUNNERS-UP

Silver Medal: Nick Madaffer, Madison, Wis., Madison Homebrewers & Tasters, Scottish Heavy

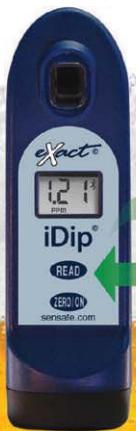
Bronze Medal: Sean Vreeland and Mike Treadway, Justin, Texas, Cap and Hare Homebrew Club, Wee Heavy

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2016 NATIONAL HOMEBREW COMPETITION

Category 10

AMERICAN PALE ALE

307 entries

Sponsored by:

BJ's Restaurant & Brewhouse



Joshua Veronee **Blythewood, S.C.**

Palmetto State Brewers

"Rainy Day Pale Ale"
American Pale Ale

INGREDIENTS

for 6.25 U.S. gallons (23.65 L)

4.75 lb.	(2.15 kg) Rahr pale 2-row malt
4.75 lb.	(2.15 kg) Weyermann Vienna malt
1 lb.	(0.45 kg) Briess Victory malt
1 lb.	(0.45 kg) Briess 20° L crystal malt
1 lb.	(0.45 kg) torrified wheat
1 oz.	(28 g) Mosaic pellets, 12.3% a.a. (30 min)
1 oz.	(28 g) Centennial pellets, 11.1% a.a. (30 min)
1 oz.	(28 g) Mosaic pellets, 12.3% a.a. (10 min)
1 oz.	(28 g) Centennial pellets, 11.1% a.a. (10 min)
1 oz.	(28 g) Mosaic pellets, 12.3% a.a. (0 min)
1 oz.	(28 g) Citra pellets, 13.4% a.a. (0 min)
1 oz.	(28 g) Mosaic pellets, 12.3% a.a. (dry hop)
1 oz.	(28 g) Citra pellets, 13.4% a.a. (dry hop)
White Labs WLP001 California Ale yeast (1.5L starter)	
Prime with corn sugar 2.45 volumes of CO ₂	

Water Profile: Ca 110 ppm, Mg 18 ppm, Na 17 ppm, SO₄ 280 ppm, Cl 50 ppm

Original Specific Gravity: 1.057

Final Specific Gravity: 1.013

Boil Time: 60 minutes

Primary Fermentation:

7 days at 65° F (18° C)

Secondary Fermentation:

21 days at 72° F (22° C)

DIRECTIONS

Mash at 153° F (67° C) for 60 minutes. Batch sparge at 168° F (76° C). Add half the dry hops 7 days before packaging, then add the remaining half 3 days before packaging. Recipe was inspired by 2010 NHC winner Opening Day Pale Ale and the teachings of Mike "Tasty" McDole.

RUNNERS-UP

Silver Medal: Alex Barr, Pearland, Texas, The Brewing Network, American Pale Ale

Bronze Medal: Curtis Sikyta, Omaha, Neb., American Pale Ale

Category 11

OTHER AMERICAN ALE

256 entries

Sponsored by:

FastBrewing & WineMaking



Curt Wittenberg **Encinitas, Calif.**

Quaff

(Quality Ale and Fermentation Fraternity)

"Cali Amber"
American Amber

INGREDIENTS

for 11 U.S. gallons (41.64 L)

9.5 lb.	(4.31 kg) pale 2-row malt
8.5 lb.	(3.86 kg) UK pale ale malt
1 lb.	(0.45 kg) Special Roast
1 lb.	(0.45 kg) 40° caramel malt
1 lb.	(0.45 kg) Victory malt
1 lb.	(0.45 kg) German melanoidin malt
0.75 lb.	(340 g) white wheat malt
0.75 lb.	(340 g) dextrin malt
0.5 lb.	(227 g) aromatic malt
0.8 oz.	(23 g) Warrior pellets, 15.5% a.a. (FWH)
1 oz.	(28 g) Mosaic pellets, 14.3% a.a. (20 min)
0.7 oz.	(20 g) Mosaic pellets, 14.3% a.a. (0 min)
1.5 oz.	(43 g) Mosaic pellets, 14.3% a.a. (dry hop)
1 tsp.	gelatin finings (in secondary)
White Labs yeast nutrient	
White Labs WLP001 California ale yeast (3 L starter)	

Filtered San Diego tap water adjusted with lactic acid to 5.4 pH (mash).

Force carbonate to 2.2 volumes of CO₂

Original Specific Gravity: 1.054

Final Specific Gravity: 1.014

Boil Time: 60 minutes

Primary Fermentation:

14 days at 66° F (19° C)

DIRECTIONS

Mash in at 154° F (68° C) and hold 60 minutes. Raise to 170° F (77° C) and mash out for 10 minutes.

RUNNERS-UP

Silver Medal: Mark Ranes, Turlock, Calif., Central Valley Brewer's Guild, American Brown Ale

Bronze Medal: Steven Rapko, Aurora, Ohio, Society of Northeast Ohio Brewers, American Brown Ale



Category 12

ENGLISH BROWN ALE

185 entries

Sponsored by:

Alternative Beverage



Tre Haydel
Baton Rouge, La.
Bicycle Brew Club

"Blackson Brown Ale"
British Brown Ale

INGREDIENTS

for 14 U.S. gallons (53 L)

17 lb.	(7.71 kg) Maris Otter pale malt
6 lb.	(2.72 kg) Vienna malt
2 lb.	(0.9 kg) flaked oats
2 lb.	(0.9 kg) 40° L crystal malt
0.75 lb.	(340 g) roasted wheat
0.75 lb.	(340 g) Victory malt
0.5 lb.	(227 g) pale chocolate malt
1 oz.	(28 g) Northern Brewer hops, 7.3% a.a. (60 min)
1 oz.	(28 g) East Kent Golding hops, 5.7% a.a. (60 min)
1 oz.	(28 g) East Kent Golding hops, 5.7% a.a. (0 min)
Whirlfloc	in the final 10 minutes of the boil
	Wyeast 1098 British Ale yeast (2.5 L starter)
	Wyeast yeast nutrient
	Force carbonate to 2.7 volumes of CO ₂

Original Specific Gravity: 1.052**Final Specific Gravity:** 1.013**Primary Fermentation:**

2 weeks at 68° F (20° C)

DIRECTIONS

Mash grains at 149° F (65° C) for 60 minute.
Mash out at 168° F (76° C) for 10 minutes.
Sparge at the same temperature.

RUNNERS-UP

Silver Medal: Michael Caylor, Alcoa, Tenn., Tennessee Valley Homebrewers, Dark Mild

Bronze Medal: Jim Sudduth, Columbus, Ohio, Scioto Olentangy Darby Zymurgists (SODZ), British Brown Ale

Water profile: Ca 90 ppm, Mg 4 ppm,
SO₄ 57 ppm, Na 61 ppm, Cl 76 ppm,
HCO₃ 239 ppm.

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2016 NATIONAL HOMEBREW COMPETITION

Category 13

PORTER

299 entries

Sponsored by:

Deschutes Brewery



Dan Martich
Stamford, Conn.

The Brewing Network

"Old Hound Dog"
Pre-Prohibition Porter (Historical)

INGREDIENTS

for 5 U.S. gallons (18.93 L)

11 lb.	(4.99 kg) British pale malt
1.75 lb.	(0.79 kg) amber malt
1.75 lb.	(0.79 kg) brown malt
0.75 lb.	(340 g) black patent malt
1 oz.	(28 g) Columbus (60 min)
Yeast nutrient	added in the final 10 minutes of the boil
	Wyeast 1028 London Ale yeast

Water Profile: Add brewing salts per John Palmer's water spreadsheet.

Original Specific Gravity: 1.066

Final Specific Gravity: 1.018

Boil Time: 90 minutes

IBUs: 60

Primary Fermentation:

3 weeks at 66° F (19° C)

DIRECTIONS

Single step infusion mash at 152° F (67° C) for 60 minutes. Mash out at 165° F (74° C). Sparge at 168° F (76° C) for no less than 30 minutes. After fermentation is complete, rack to a keg and allow to mature for 4 weeks in the low 40s °F (4–7° C). Carbonate at 15 psi for 5 to 6 days.

RUNNERS-UP

Silver Medal: Sean and Maggie Gemoules, Maplewood, Mo., STL Hops Homebrew Club, English Porter

Bronze Medal: Ryan Lotter, Boulder, Colo., Hop Barley & the Alers, Baltic Porter

Category 14

STOUT

278 entries

Sponsored by:

Brew & Grow



Sean Torres with
Patrick Wade and Philip Gardner
Staten Island, N.Y.
Pour Standards –
Richmond County Brew Society

"Padraig"

Irish Stout

INGREDIENTS

for 11 U.S. gallons (41.64 L)

10.5 lb.	(4.76 kg) Maris Otter pale malt
4 lb.	(1.81 kg) flaked barley
2 lb.	(0.9 kg) roasted barley
8 oz.	(227 g) chocolate malt
1 lb.	(0.45 kg) rice hulls
1 oz.	(28 g) East Kent Golding pellets (60 min)
1 oz.	(28 g) East Kent Golding pellets (30 min)
2 packs	Danstar Nottingham dry ale yeast
1 tablet	Whirlfloc

Original Specific Gravity: 1.046

Final Specific Gravity: 1.012

Boil Time: 60 minutes

Primary Fermentation:

15 days at 64° F (18° C)

Secondary Fermentation:

2 days at 36° F (2° C)

DIRECTIONS

Mash at 148° F (64° C) for 60 minutes.

RUNNERS-UP

Silver Medal: Ryan Holt, Salem, Ore., Irish Stout

Bronze Medal: Tim Dozier, Rocklin, Calif., PUBS, Oatmeal Stout



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



Category 15

STRONG STOUT

340 entries

Sponsored by:

Experimental Brewing



Charles Macaluso
St. Helens, Ore.
Oregon Brew Crew

"Kaos Returns"
Imperial Stout

Category 16

AMERICAN IPA

403 entries

Sponsored by:

NikoBrew



Dan McGirr
Chino Hills, Calif.

"Sandy" | American IPA

INGREDIENTS

for 6 U.S. gallons (22.71 L)

7 lb.	(3.18 kg) pale 2-row malt
7 lb.	(3.18 kg) Pilsner malt
0.5 lb.	(227 g) flaked oats

INGREDIENTS

for 5 U.S. gallons (18.93 L)

12 lb.	(5.4 kg) Golden Promise pale malt
2 lb.	(0.9 kg) golden light dry malt extract
1.25 lb.	(0.57 kg) roasted barley
1 lb.	(0.45 kg) 120° L crystal malt
1 lb.	(0.45 kg) 60° L crystal malt
0.75 lb.	(340 g) chocolate wheat malt
0.45 lb.	(204 g) black malt
0.25 lb.	(113 g) flaked barley
0.25 lb.	(113 g) flaked oats
0.25 lb.	(113 g) brown sugar
1 stick	licorice
1 oz.	(28 g) cocoa nibs (in secondary)
2 oz.	(57 g) Magnum pellets, 12.4% a.a. (60 min)
0.5 oz.	(14 g) Magnum pellets, 12.4% a.a. (30 min)
1 Tbsp.	(15 g) Wyeast yeast nutrient
1 tablet	Whirlfloc

White Labs WLP090 San Diego Super Yeast (starter)

Force carbonate at 30 psi for 48 hours to 2.2 volumes of CO₂

Original Specific Gravity: 1.105**Final Specific Gravity:** 1.035**Boil Time:** 60 minutes**Primary Fermentation:**

30 days. Start at 65° F (18° C) and slowly ramp to 69° F (21° C)

Secondary Fermentation:

14 days at 70° F (21° C)

DIRECTIONS

Mash grains at 152° F (67° C) for 75 minutes.

RUNNERS-UP

Silver Medal: Kenneth Jacobson, Prescott Valley, Ariz., Whiskey Row Brew Club

Bronze Medal: Vasilis Segos, Athens, Greece, American Stout

Original Specific Gravity: 1.077**Final Specific Gravity:** 1.020**Boil Time:** 60 minutes**Primary Fermentation:**

14 days at 65° F (18° C)

DIRECTIONS

Treat reverse osmosis water with 1.5 g calcium chloride, 5 g gypsum, and 0.5 g table salt. Mash with a single infusion at 144° F (62° C) for one hour and sparge with 0.12 mL phosphoric acid added to sparge water. Add the three 0-minute hops right at flameout and allow kettle wort to cool naturally to 170° F (77° C). Add the three steeping hops and hop stand for another 30 minutes before force chilling to pitching temperatures.

RUNNERS-UP

Silver Medal: Richard Solis, Sun City, Calif., Society of Barley Alchemists, American IPA

Bronze Medal: Chris Anderson, Houston, Texas, Brewers of the Hood, American IPA



2016 NATIONAL HOMEBREW COMPETITION

Category 17

INDIA PALE ALE (IPA)

456 entries

Sponsored by:
Hopsteiner



Mike Treadway and Sean Vreeland

Keller, Texas

Cap and Hare Homebrew Club

"The Duke"

English IPA

INGREDIENTS

for 11 U.S. gallons (41.64 L)

12.75 lb.	(5.8 kg) Maris Otter pale malt
1.125 lb.	(0.5 kg) biscuit malt
0.875 lb.	(0.4 kg) crystal 40 malt
0.875 lb.	(0.4 kg) crystal 120 malt
0.875 lb.	(0.4 kg) wheat malt
2 oz.	(57 g) Magnum, 14% a.a. (60 min)
2.25 oz.	(64 g) Fuggles, 4.5% a.a. (10 min)
3 oz.	(85 g) East Kent Goldings, 7.2% a.a. (0 min)
1.5 oz.	(43 g) East Kent Goldings (dry hop)
2 tsp.	(10 g) yeast nutrient
2 tablets	Whirlfloc
White Labs WLP005 English Ale yeast	
Force carbonate to 2.5 volumes of CO ₂	

Original Specific Gravity: 1.063

Final Specific Gravity: 1.014

Boil Time: 90 minutes

IBUs: 50 **SRM:** 12 **ABV:** 6.3%

Primary Fermentation:

2 months at 70° F (21° C)

DIRECTIONS

Mash at 152° F (67° C) for 1 hour, mash out at 170° F (77° C). Ferment at 66° F (19° C) for the first 2 days and slowly ramp to 72° F (22° C) as signs of fermentation slow down. Hold at 72° F (22° C) until terminal gravity is reached. Dry hop with 1.5 oz. (43 g) of East Kent Goldings for 5 days, cold crash, and package.

RUNNERS-UP

Silver Medal: Lee Holyoak and Ross Hendricks, Bluffton, S.C., Lowcountry MALTS, Specialty IPA

Bronze Medal: Matt Cronin, Chevy Chase, Md., DC Homebrewers, Double IPA

Category 18

GERMAN WHEAT & RYE BEER

176 entries

Sponsored by:

Brewing with Wheat by Stan Hieronymus



Nick Corona

San Marcos, Calif.

Quality Ale and Fermentation Fraternity
(QUAFF)

2016 Homebrewer of the Year

"Barb's Hef"

Weissbier

INGREDIENTS

for 5 U.S. gallons (18.93 L)

4.25 lb.	(1.93 kg) German Pilsner malt
4.25 lb.	(1.93 kg) American wheat malt
0.5 lb.	(227 g) rice hulls
0.25 oz.	(7 g) Hallertau Mittelfrüh pellets, 3.75% a.a. (90 min)
0.75 oz.	(21 g) Hallertau Mittelfrüh pellets, 3.75% a.a. (60 min)
3.4 g	diammonium phosphate
6.5 g	CaCl
White Labs WLP380 Hefeweizen IV Ale yeast (starter)	
Carbonate to 3.5 volumes of CO ₂	

Primary Fermentation:

3 days at 62° F (17° C)

Secondary Fermentation:

3 days at 65° F (18° C)

Tertiary Fermentation:

5 days at 68° F (20° C)

DIRECTIONS

Mash in with a ferulic acid rest at 115° F (46° C) and hold for 10 minutes. Raise to 127° F (53° C) for a protein rest and hold for 10 minutes. Raise to 149° F (65° C) and hold 60 minutes. Sparge at 168° F (76° C).

RUNNERS-UP

Silver Medal: D. Scott Dayton, Chicago, Ill., Roggenbier (Historical)

Bronze Medal: Dennis Mitchell, Chandler, Ariz., Arizona Society of Homebrewers, Dunkles Weissbier



Category 19

BELGIAN AND FRENCH ALE

357 entries

Sponsored by:

Port Brewing Company/The Lost Abbey



**Mandy Naglich
and Wesley Carmichael
New York, N.Y.**

"French Saison"

Saison

INGREDIENTS

for 3 U.S. gallons (11.36 L)

5 lb.	(2.27 kg) Belgian Pilsner malt
1 lb.	(0.45 kg) flaked oats
1 lb.	(0.45 kg) flaked wheat
0.5 lb.	(227 g) German Vienna malt
0.3 lb.	(136 g) 80° L crystal malt
0.28 lb.	(127 g) acidulated malt
0.6 oz.	(17 g) Magnum pellets, 12% a.a. (90 min)
1 oz.	(28 g) Styrian Golding pellets, 5.5% a.a. (0 min)
0.5 oz.	(14 g) Czech Saaz pellets, 3.5% a.a. (0 min)
0.5 tsp.	(2.5 g) Wyeast yeast nutrient (10 min)
1 tablet	Whirlfloc
	Wyeast 3711 French Saison ale yeast (1L starter)
	Prime with cane sugar to 3 volumes of CO ₂

Water Profile: NYC water treated with Campden tablet, 3 g CaCl, and 2 g MgSO₄

Original Specific Gravity: 1.061**Final Specific Gravity:** 1.002**Boil Time:** 90 minutes**Primary Fermentation:**

4 days starting at 70° F (21° C)

Secondary Fermentation:

7 days at 77° F (25° C)

DIRECTIONS

Dough in at 102° F (39° C) and hold for 15 minutes. Mash at 148° F (64° C) for 60 minutes then 154° F (68° C) for 30 minutes. Mash out at 175° F (79° C) for 15 minutes. Whirlpool 1 oz. (28 g) of Styrian Goldings and 0.5 oz. (14 g) Czech Saaz for 10 minutes at 185° F (85° C). Pitch yeast at 70° F (21° C) and raise to 77° F (25° C) over 4 days, then hold at 77° F for another week.

RUNNERS-UP

Silver Medal: Zachary Typinski, Fraser, Mich., Kuhnhenn Guild of Brewers Homebrew Club, Saison

Bronze Medal: James Ferrier, Herndon, Va., Wort Hogs, Saison

Category 20

SOUR ALE

249 entries

Sponsored by:

Captain Lawrence Brewing Co.



**Amos Browne
and Jessica Tizard
Chicago, Ill.**

Chicago Home Brews Group

"This is Not a Gueuze"

Gueuze

INGREDIENTS

for 3 U.S. gallons (11.36 L)

6.6 lb.	(3 kg) Pilsner malt
1 lb.	(0.45 kg) flaked wheat
0.33 lb.	(150 g) oats
0.5 oz.	(14 g) East Kent Golding pellets, 4.7% a.a. (60 min)
	Wyeast 1318 London Ale III yeast (starter) and lactic acid bacteria

Original Specific Gravity: 1.052**Final Specific Gravity:** 1.002**DIRECTIONS**

Mash at 158° F (70°) for 70 minutes. This beer was a blend of four different pale sour beers. Three of the four were made with the recipe above, each with a different combination of lactic acid bacteria and yeast. For more information on the brewing and blending of this beer, please visit www.brownieandbitter.com/2015/10/autumn-2015-blending-pale-sours.html.

RUNNERS-UP

Silver Medal: Ben Kiely, St. Paul, Minn., Berliner Weisse

Bronze Medal: Thomas Jermine, Wallingford, Conn., Lambic



2016 NATIONAL HOMEBREW COMPETITION

Category 21

BELGIAN STRONG ALE

410 entries

Sponsored by:

Cargill Specialty Malts



Tom Berg and Wes Ruelle
St. Louis Park, Minn.

St. Paul Homebrewers Club

"Queen Bitch"
Belgian Dark Strong Ale

INGREDIENTS

for 11 U.S. gallons (41.64 L)

27 lb.	(12.25 kg) Belgian pale malt
2 lb.	(0.9 kg) Munich malt
2 lb.	(0.9 kg) amber candi sugar (add to boil)
1 lb.	(0.45 kg) aromatic malt
1 lb.	(0.45 kg) Special B malt
1 lb.	(0.45 kg) acid malt
0.5 lb.	(227 g) dextrin malt
1.1 oz.	(31 g) Magnum pellets, 12.4% a.a. (60 min)
3 oz.	(85 g) Styrian Golding pellets, 2.7% a.a. (60 min)
	Wyeast 3787 Trappist High Gravity ale yeast (starter)
	Carbonate to 3.5 volumes of CO ₂

Water Profile: 93 ppm Ca, 64 ppm Cl, 64 ppm SO₄, 34 ppm alkalinity, -41 ppm residual alkalinity

Original Specific Gravity: 1.099

Final Specific Gravity: 1.023

Boil Time: 30 minutes

Primary Fermentation:

3 days at 68° F (20° C)

Secondary Fermentation:

10 days at 75° F (24° C)

Tertiary Fermentation:

5 days at 32° F (0° C)

DIRECTIONS

Mash grains at 149° F (65° C) for 90 minutes. Sparge at 170° F (77° C). Mash pH should be 5.3.

RUNNERS-UP

Silver Medal: Curtis Bentley and Rob Doyle, Kleinburg, Ont., Canada, Belgian Golden Strong Ale

Bronze Medal: Paul A. Harden, Akron, Ohio, Society of Akron Area Zymurgists (SAAZ), Belgian Dark Strong Ale

Category 22

STRONG ALE

241 entries

Sponsored by:

Northern Brewer



Michael Grippi
Bensalem, Pa.

ALEiens Homebrew Club

"Split Thy Skull"
English Barleywine

INGREDIENTS

for 5.25 U.S. gallons (19.87 L)

14 lb.	(6.35 kg) Munton's Pearl malt
3.5 lb.	(1.59 kg) Briess extra-light dry malt extract
0.5 lb.	(227 g) Baird's 33° L Carastan malt
0.5 lb.	(227 g) Munton's 150° L extra dark crystal malt
0.25 lb.	(113 g) Fawcett 90° L dark crystal malt
1 oz.	(28 g) Herkules, 17.3% a.a. (60 min)
0.25 oz.	(7 g) Magnum, 14.2% a.a. (60 min)
1 oz.	(28 g) East Kent Goldings, 5.7% a.a. (20 min)
	White Labs WLP007 Dry English Ale yeast (1.5M cells/mL°P)
	Carbonate to 2.5 volumes of CO ₂

Original Specific Gravity: 1.106

Final Specific Gravity: 1.024

Primary Fermentation:

14 days at 67° F (19° C)

DIRECTIONS

Treat water with 4g CaCl₂ and 2g CaSO₄. Mash at 148° F (64° C) for 60 minutes. Shoot for a mash pH of 5.2. At the end of the boil, chill rapidly to 64° F (18° C). Oxygenate wort at 2 L/minute for 90 seconds, pitch yeast slurry, allow to free rise to 67° F (19° C) and hold there until fermentation is complete.

RUNNERS-UP

Silver Medal: Sean McCambridge, Lake Winnebago, Mo., ZZ Hops Homebrewing Club, English Barleywine

Bronze Medal: Scott Pointon, Crest Hill, Ill., Old Ale



Category 23

FRUIT BEER

173 entries

Sponsored by:High Gravity Homebrewing
& Winemaking Supplies

Manny Roque
Bonita Springs, Fla.

"If You Like Piña Coladas"
Berliner Weisse fermented
with Pineapple and Coconut

INGREDIENTS

for 5 U.S. gallons (18.93 L)

4 lb.	(1.81 kg) Pilsner malt
4 lb.	(1.81 kg) white wheat malt
4 lb.	(1.81 kg) pineapple
4 lb.	(1.81 kg) coconut
0.25 oz.	(7 g) Amarillo pellets, 9.2% a.a. (FWH)
0.25 oz.	(7 g) Amarillo pellets, 9.2% a.a. (15 min)
4 oz.	(113 g) sugar to prime to 2.3 volumes of CO ₂
0.5 tsp.	(2.5 g) Wyeast yeast nutrient

Wyeast 5335 Lactobacillus (starter) and Wyeast 1272 American Ale II yeast (starter)

Water Profile: Bonita Springs, Fla. tap water treated with 10 g gypsum and a Campden tablet

Original Specific Gravity: 1.040

Final Specific Gravity: 1.008

Boil Time: 60 minutes

Primary Fermentation:

6 days at 90° F (32° C)

Secondary Fermentation:

7 days at 69° F (21° C)

Tertiary Fermentation:

14 days at 69° F (21° C)

DIRECTIONS

Single infusion mash at 150° F (66° C) for 60 minutes. I created a lactobacillus starter using Wyeast 5335 and cultured it for 5 days. I collected 6 gallons (22.7 L) of initial wort, pitched the lacto starter, and let it sour for a week, keeping it warm at 90° F (32° C). Once the wort was nice and tart, I returned it to the kettle and proceeded with my boil schedule and fermented for a week using Wyeast 1272. I then racked to secondary with the pineapple and coconut for two weeks."

RUNNERS-UP

Silver Medal: Marco Borba, Littleton, Mass., Merrimack Valley Homebrew Club, Fruit Beer

Bronze Medal: Eric Gould and Phil Whited, Centennial, Colo., Rock Hoppers Brew Club, Fruit Beer

Category 24

SPICE/HERB/
VEGETABLE BEER

398 entries

Sponsored by:

BeerSmith



Vito Delucchi
Concord, Calif.

Diablo Order of Zymiracle Enthusiasts
(DOZE)

"Girl Scout Cookies"
Winter Seasonal Beer:
Mint Chocolate Chip Sweet Stout

INGREDIENTS

for 10 U.S. gallons (37.85 L)

17 lb.	(7.71 kg) pale 2-row malt
2 lb.	(0.9 kg) 40° L crystal malt
2 lb.	(0.9 kg) flaked oats
2 lb.	(0.9 kg) lactose
1.15 lb.	(522 g) roasted barley
1.15 lb.	(522 g) Special B malt
0.5 lb.	(227 g) black patent malt
0.5 lb.	(227 g) chocolate malt
0.5 lb.	(227 g) smoked cherrywood malt
1 dram	mint chocolate chip flavor candy oil

Wyeast 1968 London ESB ale yeast
Force carbonate to 2.8 volumes of CO₂

Original Specific Gravity: 1.068

Final Specific Gravity: 1.018

Primary Fermentation:

30 days at 65° F (18° C)

DIRECTIONS

Use carbon-filtered water. Mash at 156° F (69° C) for 45 minutes. Mash out at 168° F (76° C) for 10 minutes. This is a 10-gallon recipe but only 5 gallons of it gets an additive each year. This year I added 1 dram of mint chocolate chip flavor candy oil."

RUNNERS-UP

Silver Medal: William Lynch, Waxhaw, N.C., Carolina Brewmasters, Spice, Herb, or Vegetable Beer

Bronze Medal: Clay Turnbow, Salt Lake City, Utah, Lauterday Brewers, Spice, Herb, or Vegetable Beer



2016 NATIONAL HOMEBREW COMPETITION

Category 25

SMOKE-FLAVORED & WOOD-AGED BEER

183 entries

Sponsored by:

Alaskan Brewing Co.



**John Gladden
with Daniel Owens
and Matt Peterson
Alameda, Calif.**

"StOaked Brown"
Northern English brown ale
aged in a char 3 barrel

INGREDIENTS

for 6 U.S. gallons (22.71 L)

8.8 lb.	(3.99 kg) pale 2-row malt
2.9 lb.	(1.32 kg) amber malt
2.2 lb.	(1 kg) Pilsner malt
1.3 lb.	(590 g) dextrin malt
0.5 lb.	(227 g) 60° L crystal malt
0.3 lb.	(136 g) 30° L Carastan malt
0.22 lb.	(100 g) 475° L chocolate malt
1 oz.	(28 g) Horizon pellets, 7.9% a.a. (60 min)
1 oz.	(28 g) East Kent Golding pellets, 5.7% a.a. (5 min)
0.25 tsp.	(1.2 g) Wyeast yeast nutrient
	Wyeast 1028 London Ale yeast (1.5 L starter)
	Carbonate to 2.4 volumes of CO ₂

Original Specific Gravity: 1.057

Final Specific Gravity: 1.013

Primary Fermentation:

14 days at 67° F (19° C)

DIRECTIONS

Treat brewing water with 1 g/gallon CaCl₂. Mash grains at 152° F (67° C) for 60 minutes. Mash out at 168° F (76° C) for 10 minutes. Age finished beer in charred oak barrel until desired oak character is reached.

RUNNERS-UP

Silver Medal: Matthew Knott, Smithtown, N.Y., The Brewing Network, Classic Style Smoked Beer

Bronze Medal: John Vanworkum, Orlando, Fla., Piwo Grodziskie (Historical)

Category 26

SPECIALTY BEER

810 entries

Sponsored by:

Smart Brew Kit



**Jamey Barlow
Ruckersville, Va.**

Charlottesville Area Masters of Real Ale (CAMRA)

"Dreg Pirate Roberts"
Mixed Fermentation wheat ale
with Brett, Lacto, and Pedio

INGREDIENTS

for 12 U.S. gallons (45.42 L)

10 lb.	(4.54 kg) Pilsner malt
10 lb.	(4.54 kg) white wheat
1 lb.	(0.45 kg) maltodextrin
2 oz.	(57 g) whole aged hops (90 min)
2 packs	US-05 dry yeast, rehydrated
	ECY Bugfarm
	ECY Dirty Dozen Brett strains
	Dregs from Cantillon Iris and Jolly Pumpkin
	La Roja
	Wyeast yeast nutrient
	Whirlfloc

Original Specific Gravity: 1.050

Final Specific Gravity: 1.004

Boil Time: 90 minutes

Primary Fermentation:

14 days at 70° F (21° C)

Secondary Fermentation:

741 days at 70° F (21° C)

DIRECTIONS

Single step mash at 154° F (68° C) for 60 minutes. Age in a neutral oak barrel for 2 years.

RUNNERS-UP

Silver Medal: Michael Cook, Tucson, Ariz., Tucson Homebrew Club, Brett Beer

Bronze Medal: Chris and Cristina Collier, Smyrna, Ga., Covert Hops Society of Atlanta, Experimental Beer



Category 27

TRADITIONAL MEAD

89 entries

Sponsored by:

Moonlight Meadery

**James Lallande****Hurst, Texas**

Cap and Hare Homebrew Club

"Buckwheat Buffalo"
Sweet, Standard, Pétillant,
Buckwheat Mead

Category 28

FRUIT MEAD

155 entries

Sponsored by:

Moonlight Meadery

**Jason Call**
Marysville, Wash.

"Limey Bastard"

Still, Standard Melomel with Fresh-Squeezed Lime Juice and Fireweed Honey

INGREDIENTS for 5 U.S. gallons (18.93 L)

15 lb. (6.8 kg) fireweed honey
26 oz. 767 ml) fresh-squeezed key lime juice
 Zest from 3 standard limes
4 gal. (15.14 L) artesian well water

INGREDIENTS

for 3.5 U.S. gallons (13.25 L)

12 lb. (5.44 kg) buckwheat honey
2 packs D47 dry yeast
2.5 tsp. mix of 2 parts DAP and 1 part Fermaid K

Original Specific Gravity: 1.124**Final Specific Gravity:** 1.033

Primary Fermentation:

120 days at 63° F (17° C)

RUNNERS-UP

Silver Medal: Mike Habrat, San Diego, Calif., Quality Ale and Fermentation Fraternity (QUAFF), Sweet Mead

Bronze Medal: Thomas Noonan, Southbury, Conn., Sweet Mead

Fermaid K and DAP blend, plus degassing for 1 week
Wyeast 4184 Sweet Mead yeast

Original Specific Gravity: 1.106**Final Specific Gravity:** 1.007

Primary Fermentation:

1 month at 68–71° F (20–22° C)

Secondary Fermentation:

1 month at 68–71° F (20–22° C)

Tertiary Fermentation:

1 month at 68–71° F (20–22° C)

DIRECTIONS

Ferment approximately 1 month. Rack to secondary and add key lime juice. After 1 more month, add the zest of 3 standard limes. Bottle after 1 month. No sulfites, clarifying agents or any other additives to stop fermentation.

RUNNERS-UP

Silver Medal: John Raczkowski, Plymouth, Ind., Michiana Extract & Grain Association (MEGA), Melomel

Bronze Medal: Joseph Formanek, Bolingbroke, Ill., Urban Knaves of Grain, Cyser



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2016 NATIONAL HOMEBREW COMPETITION

Category 29

SPICE & SPECIALTY MEAD

123 entries

Sponsored by:

Celestial Meads



Steve Fletty

Falcon Heights, Minn.

Saint Paul Homebrewers Club
2016 Meadmaker of the Year

"Holy Cacao"

Spice, Herb, Vegetable Mead

INGREDIENTS

for 4 U.S. gallons (15.14 L)

18 lb.	(8.16 kg) meadowfoam honey
2.5 gal.	(9.46 L) water, carbon filtered
0.25 cup	(30 g) cacao nibs
3 oz.	(85 g) Dutch process cocoa
1	whole Madagascar vanilla bean
	Yeast nutrient
	71B and chardonnay yeast

Original Specific Gravity: 1.150

Final Specific Gravity: 1.048

Primary Fermentation:

22 days

Secondary Fermentation:

6 months

DIRECTIONS

Combine honey and yeast nutrient with enough water to achieve 4 gallons (15.14 L) of must and ferment with 71B and chardonnay yeast. Rack off 2 gallons (7.6 L) to a secondary fermenter and add cacao nibs, cocoa powder, and vanilla bean. Allow flavorings to blend in secondary for 3 or 4 days, then rack to a tertiary fermenter. Mead should clear beautifully with no fining agents. The winning mead was the cacao/vanilla-flavored 2-gallon portion.

RUNNERS-UP

Silver Medal: Mark Tanner, Oak Harbor, Wash., Wiza (Whidbey Island Zymurgy Association), Experimental Mead

Bronze Medal: Scott Behrens, Vero Beach, Fla., GotMead International Brewers, Experimental Mead

Category 30

STANDARD CIDER & PERRY

102 entries

Sponsored by:

Vermont Hard Cider Company



Edward Walkowski

North Abington Township, Pa.

Scranton Brewers Guild

"Heather's Perry"

New World Sparkling Perry with Fresh Bartlett Pears

INGREDIENTS

for 5 U.S. gallons (18.93 L)

6 gal.	(22.71 L) fresh Bartlett pear cider
10%	potassium metabisulfite solution
6 g	Fermaid-O
Malic acid	to adjust pH
	Go-Ferm, Scottzyme, and Super-Kleer.
	Lalvin DV-10 (6 g, properly rehydrated).
	Force carbonate to 3.5 volumes of CO ₂
	Back-sweeten with simple sugar syrup

Original Specific Gravity: 1.054

Primary Fermentation:

60 days at 60° F (16° C)

Secondary Fermentation:

90 days at 60° F (16° C)

DIRECTIONS

Start with 6 gallons of fresh Bartlett pear cider and adjust acidity to 0.6% with malic acid. Sulfite with a 10% solution of potassium metabisulfite to 50 ppm and allow to rest overnight. Prepare 6 grams of Lalvin DV-10 with Go-Ferm as per product directions, and add to the must along with 6 grams of Fermaid-O and pectic enzyme (Scottzyme). Ferment at 60° F (16° C) for several weeks before racking to secondary and fining with Super-Kleer. After cider drops clear, back-sweeten to taste with simple syrup, adjust sulfite to 50 ppm, and sorbate. Filter to 1 micron, transfer to a corny keg, chill to 32° F (0° C), and carbonate to 3.5 volumes of CO₂.

RUNNERS-UP

Silver Medal: Lisa Searfass, Everett, Wash., Greater Everett Brewers League, New World Cider

Bronze Medal: Edward Walkowski, North Abington Township, Pa., Scranton Brewers Guild, New World Cider

KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

April 2016

2016 ALES Open, 738 entries—*Mark McGraw, Saint John, NB.*
Wild West Brew Off, 14 entries—*Seth Earnest, Conroe, TX.*
Colonial Cup 2016, 309 entries—*Dennis Pike, Chapel Hill, NC.*
Hammerdown Brewcup, 335 entries—*Christopher Owen, Louisville, KY.*
No Label Brewing/CIA Homebrew Shootout ProAm, 28 entries—*Benson Ledbetter, Houston, TX.*

21st St. Louis Lift for Life Microfest Homebrew Competition, 223 entries—*Davo McWilliams, St. Louis, Missouri, MO.*
2016 Maltose Falcons Mayfaire Competition, 423 entries—*Jeff Koehler, Pasadena, CA.*
20th Annual Chico Homebrew Competition, 230 entries—*Chris Chandler, Chico, CA.*
Skylands Regional Taste of the Town Homebrew Competition, 161 entries—*Jason Change, Avon, CT.*
Open Season at the ZOO, 103 entries—*Andrew Lagerstrom, Fairway, KS.*

5th annual Larry Fest Twisted Beer Competition, 25 entries—*Charles Young, Baton Rouge, LA.*
London and South East Craft Brewing Competition and Festival, 341 entries—*Kevin Black, Reading, UK.*

Alaska Masters IPA Championship, 29 entries—*Willie Creamer, Anchorage, AK.*
American IPA Challenge, 15 entries—*Matt Kennedy, Santa Rosa, CA.*
San Mateo County Fair Homebrew Competition, 26 entries—*Karl Konnerth, Redwood City, CA.*
Titletown Open XXII, 104 entries—*John Mulligan, Swanton, OH.*
20th Annual Cascade Brewers Guild, 377 entries—*Jim Dunlap, Woodinville, WA.*

May 2016

THOTCON Hacker Brew, 15 entries—*Kevin Wuebbles, Chicago, IL.*
2° Concurso Interno del Club Cerveceros Caseros del Uruguay, 57 entries—*Pablo Cancela, Costa de Oro, Uruguay.*
20th Annual BEER Brew-Off, 168 entries—*John DiSpirito, East Meadow, NY.*
MCAB XVIII Championship, 170 entries—*David Merz, Marquette, MI.*
Alameda County Fair Homebrew Competition (BABO), 200 entries—*Jason Davis, Oakland, CA.*
Lunar Rendezbrew 23, 403 entries—*Ricardo Fritzsche, Austin, TX.*
Jackalope Brewing Co. Presents “Let’s Get Weird,” 68 entries—*Keith Baker, Toledo, OH.*
Home Brew League: Perrin Brewing Challenge, 32 entries—*Ken Pitchford, Grand Rapids, MI.*
HOWL Annual Club Competition, 13 entries—*Kevin Koch, Leesburg, VA.*
Wisconsin State Fair Amateur Homebrew Competition, 199 entries—*Bob Manke, Kansasville, WI.*
4th Annual Heart of Cascadia: The Colors of IPA!, 76 entries—*Alex Brehm, Portland, OR.*
Homebruin Cup VI, 51 entries—*Jesse Bowers, Knoxville, TN.*
Upland Brewing Company UpCup, 53 entries—*Brandon Schaefer, Louisville, KY.*
Wort Hogs Summer Beer Festival 2016, 56 entries—*Danie Odendaal, Johannesburg, South Africa.*
Wort Transformation Challenge, 180 entries—*Eric Barron, Omaha, NE.*
Boston Homebrew Competition, 326 entries—*Matt Dirckx, Somerville, MA.*
BUZZ OFF 22, 376 entries—*Josh Nacey, Philadelphia, PA.*

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KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

Kokopelli Home Brew Cup, 39 entries—Geoff Shipley, Aurora, CO.

Battle of the Bubbles VI, 115 entries—Lee Mahony, Odenton, MD.

2016 West Sixth Brew-Off, 41 entries—Alex Caldwell, Lexington, KY.

QUAFF Club Only Cider vs Mead, 34 entries—Brian Trout, San Diego, CA.

Carolina BrewMasters US Open, 413 entries—Jason White, North Charleston, SC.

4th Annual Hop Blossom Homebrew Competition, 179 entries—Jason McQuesten, Winchester, VA.

WAZE Homebrew Competition, 160 entries—Richard Romanko, East Pittsburgh, PA.

Arkansas Pro Brewers Challenge, 24 entries—Rebel Kettle, Little Rock, AR.

2016 Door County Homebrew Championship, 95 entries—Mark Flynn, Racine, WI.

Brew Masters Competition, 33 entries—Dan Pipp, Kingsford, MI.

OC Fair Homebrew Competition, 438 entries—James Hilbing, Redondo Beach, CA.

5th Annual RiverRoots Brew-Off, 14 entries—Chris Bible, Knoxville, TN.

34th Oregon Homebrew Festival, 303 entries—Michael Dewey, Corvallis, OR.

Bloatarian Open, 117 entries—Mark Hauer, Fairfield, OH.

21st Annual Big Batch Brew Bash, 79 entries—Don Sajda and Aaron Nixon, Spring, TX.

XI Concurso Nacional das ACervAs, 571 entries—Marcos Ruperti, Porto Alegre, RS, Brazil.

Great Alaskan Craft Beer and Homebrew Festival, 70 entries—Matthew Barnaby, Douglas, AK.

Manitoba Pros versus Schmoes, 55 entries—Mike Simon and Andrew Sookram, Winnipeg, MB.

Jebbs (GEB's) Slovenian Challenge, 20 entries—Brian Clarke, Dublin, Ireland

Hogtoberfest Home Brew Competition, 56 entries—Mark Witzel, Douglassville, PA.

Barley's 21st Annual Homebrew Competition, 27 entries—Christopher Sipko and Bob Milewsky, Delaware, OH.

2016 Paws for Rhythm and Brews Homebrew Contest, 30 entries—Gregory Zobel, Calistoga, CA.

San Diego County Fair Homebrew Competition, 779 entries—Bob MacKay, Carlsbad, CA.

June 2016

THRIVE Homebrew Competition 2016, 33 entries—Dave Sanderson, Medford, OR.

The 22nd Annual Boneyard Brewoff, 117 entries—Alexander Long, Champaign, IL.

Ohio State Fair Homebrew Competition, 600 entries—Ed Janesz, Westlake, OH.

V. Hrvatsko homebrew prvenstvo, 325 entries—Miha Tome, Ljubljana, Slovenia.

22nd Annual 8 Seconds of Froth, 228 entries—Kevin Otting, Fort Collins, CO.

MoMashOut Round I Semi-Final, 4 entries—Todd Brenningmeyer, O'Fallon, MO.

The Beer Project, 58 entries—Andrew Palumbo, St Petersburg, FL

Fiction Beer Company Big Brew Pro-Am Competition, 6 entries—Ryan Foley, Denver, CO.

Town Hall Brewery Cider Week Competition, 31 entries—Kevin Meintsma, Wayzata, MN.

ZCZ ProAm 2016, 24 entries—Paul Armstrong, Missoula, MT.

Wild Willow Farm Sundown Brew Run, 10 entries—Mary Irausquin, San Diego, CA.

Bluegrass Cup, 247 entries—Christopher Allen, Nashville, TN.

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KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

2nd Annual Nashua River Brewers Festival Homebrew Competition, 102 entries—Wet Willies, Providence, RI.

Alamo City Cerveza Fest, 329 entries—Kevin Jones, Austin, TX.

Walk on the Wild Side, 106 entries—Doug Stallard, Santa Cruz, CA.

California State Fair Commercial Craft Beer Competition, 1,206 entries—Jim Harte, Nevada City, CA.

Milford Brewgrass Homebrew Competition, 4 entries—Jaime Burk, Milford, DE.

Phantom Home Brew, 3 entries—Shawn Olsson, Santa Ana, CA.

Home Brew League: The Mitten Challenge, 32 entries—Zach Dryer, Grand Rapids, MI.

Because Beer Homebrew Competition, 500 entries—Jeremy Cowan, Calgary, AB.

CRAFT & Brooks Brewing Homebrew Competition, 13 entries—Daniel Fick, Berkley, MI.

Nottoway Beer Fest: Toast under the Oaks, 34 entries—Brenton Day, Baton Rouge, LA.

Lift Bridge GABF Pro-Am, 38 entries—Sean Kampshoff, Minneapolis, MN.

DeKEGGER Homebrew Competition, 37 entries—Gary Mann, Bluffton, IN.

Hangar 24 Craft Brewery Homebrew, 218 entries—Nick Corona, San Marcos, CA.

King of the Mountain, 275 entries—Steve Rapko, Aurora, OH.

NorthloopBFD, 85 entries—Dave Matson, Champlin, MN.

HOP Off Home Brewing Competition - DIPA, 6 entries—Jamie McKendry, Grove City, OH.

The Gulf Coast Brewers League Summer Homebrew Competition, 88 entries—Kenneth Roberts with Graham Linder, Little Rock, AR.

Wine or Wort Home Brew Supply, 30 entries—Steve Kolwitz, Eagle, CO.

ASH HBOY Specialty IPA, 28 entries—Danielle Schanke, Chandler, AZ.

Tried & True Homebrew Competition, 37 entries—Griffin Gibbs and B.J. Rotz, Mt. Zion, IL.

July 2016

5th Annual Merrimack Valley Homebrew Competition, 132 entries—Phil Nerboso, Belmont, MA.

AHA/BJCP SANCTIONED
COMPETITION PROGRAM CALENDAR

For complete calendar, competition and judging information go to HomebrewersAssociation.org/
pages/competitions



September 1
Schooner Homebrew Championship
Racine, WI. Entry Deadline: 8/28/2016.
dpwigley.com/schooner

September 3
Concurso Nacional - Lamas Brew Day
Campinas, São Paulo, Brazil.
loja.lamasbrewshop.com.br

September 3
Western Australia State Amateur Brewers Competition
Perth, Australia.
wasabc.org

September 4
High Desert Brewers Association/Eastern Idaho State Fair
Blackfoot, ID. Entry Deadline: 8/12/2016.
highdesertbrewers.wordpress.com

September 4
Iº Concurso de Cerveja Caseira da Armada Cervejeira
Sao Jose, Santa Catarina, Brazil. Entry Deadline: 8/29/2016.

September 4
Deep Ellum Brewing Co. Labor of Love 5 Homebrew Competition
Dallas, TX. Entry Deadline: 8/24/2016.
lolhombrew.com

September 6
Picnique Belga
North Kansas City, MO. Entry Deadline: 8/28/2016.
graingtglass.biz

September 7
Toronto Micro Brewery Challenge
Toronto, ON.

September 10
UK National Homebrew Competition
Bristol, UK.
nationalhomebrewcompetition.org.uk

September 10
State Amateur Brewers Show of South Australia
Adelaide, Australia

September 10
The Brew Hut's Annual Homebrew Competition
Aurora, CO.

September 10
Aurora-Dearborn County Brewoff
Aurora, IN. Entry Deadline: 8/27/2016.
gcbeer.com/aurora---dearborn-county-brewoff.html

September 10
Hospice Foundation of the South SeptemBeer 2016
Slidell, LA.
hospicefoundationofthesouth.org

September 10
Santa Cruz County Fair Homebrew Competition
Watsonville, CA. Entry Deadline: 8/13/2016.
santacruzcountyfair.com

September 10
New Water Brew
Tampa, FL. Entry Deadline: 06/30/2016.
specialhoperations.org

September 10
Roberts Cove Germanfest Home Brew Competition
Rayne, LA. Entry Deadline: 9/5/2016.
robertscovegermanfest.com

September 10
Vicbrew 2016
Melbourne, Australia. Entry Deadline: 8/20/2016.
vicbrew.org

September 11
2016 Sonoma County Harvest Fair Home Brew Competition
Santa Rosa, CA. Entry Deadline: 8/31/2016.
harvestfair.org/homebrew

September 11
Kirkland OktoBREWfest
Kirkland, WA. Entry Deadline: 9/3/2016.
oktoberfestkirkland.com/homebrew

September 11
The Great Frederick Fair Homebrew Competition
Frederick, MD.
thegreatfrederickfair.com

September 16
Salt City Brew Club Homebrew Competition
Syracuse, NY. Entry Deadline: 9/2/2016.
comp.saltcitybrew.org

September 16
Forever Grateful
Summerville, SC. Entry Deadline: 8/31/2016.

September 17
III Concurso Estadual Da ACerva ES
Vitória, Espírito Santo, Brazil. Entry Deadline: 9/12/2016.
acervaes.com.br

September 17
Rocktober Fest Homebrew Competition
Redmond, OR. Entry Deadline: 9/12/2016.
cfahomebrew.org

September 17
Pecsi Sörverseny
Pecs, Baranya, Hungary. Entry Deadline: 9/15/2016.
pecsisorverseny.info

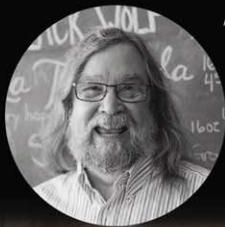
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 **AHA/BJCP SANCTIONED
COMPETITION PROGRAM CALENDAR**

September 17

Commander SAAZ

Cocoa Beach, FL.

saaz.org/commander

September 17

Tulsa State Fair Homebrew Competition

Tulsa, OK. Entry Deadline: 9/9/2016.

tulsastatefair.com

September 17

VEToberfest Brew-Off

Sparta, WI. Entry Deadline: 9/14/2016.

facebook.com/SpartaVEToberfest

September 17

Fugetaboutit

Chattanooga, TN. Entry Deadline: 8/19/2016.

fugetaboutit.barleymob.com

September 17

Queensland Amateur Brewing Competition

Booval, Queensland, Australia. Entry Deadline: 9/3/2016.

qabc.org.au

September 17

Made on American Street

Philadelphia, PA. Entry Deadline: 9/10/2016.

moas.phillyhomebrewcup.com

September 24

7th Copa Cerveceros Caseros de Chile

Santiago, Chile.

minicerveceria.cl

September 24

Rocky Mountain Homebrew Challenge

Denver, CO. Entry Deadline: 9/9/2016.

foamontherange.org

September 24

Texas Mead Cup

Montgomery, TX.

texasmeadcup.com

September 24

Wild & Wonderful Craft Beer Festival

Charleston, WV. Entry Deadline: 9/1/2016.

charlestonwvciviccenter.com/f/36

September 24

Members of Barleyment & Beau's Oktoberfest 4th Annual Homebrew Competition

Ottawa, ON. Entry Deadline: 8/24/2016.

comp.barleyment.ca

September 24

Oaktoberfest in the Diamond

Oakland, CA. Entry Deadline: 9/3/2016.

oaktoberfest.brewcomp.com

September 24

LJT's 11th Annual Rhymes & Vines Texas Music Festival and Homebrew Competition

Stephenville, TX. Entry Deadline: 9/17/2016.

larryjoetaylor.com/rhymes_and_vines.htm

AHA/BJCP SANCTIONED
COMPETITION PROGRAM CALENDAR

For complete calendar, competition and judging
information go to HomebrewersAssociation.org/
pages/competitions



September 24
Saskatoon Headhunters Brewing Competition

Saskatoon, SK. Entry Deadline: 9/9/2016.
saskatoonheadhunters.ca/registration

September 24
Pacific Brewer's Cup

Long Beach, CA. Entry Deadline: 9/3/2016.
longbeachhomebrewers.com/comp

September 24
Big Fresno Fair Homebrew Competition

Fresno, CA. Entry Deadline: 9/10/2016.
fresnh.fairmanager.com

September 24
Oktoberfest Brew Competition

Grand Forks, ND. Entry Deadline: 9/17/2016.

September 24
Blue Ridge Brew Off

Asheville, NC.
maltsters.org/blue-ridge-brew-off-2016-home-brew-competition

September 24
Lonerider Brew it Forward VIII

Raleigh, NC. Entry Deadline: 9/10/2016.
loneridershowdown.beer

September 24
HOPS ENVY Home Brew Competition

Gardnerville, NV. Entry Deadline: 9/17/2016.
hopsevny.com

September 24
Maryland Microbrewery Festival Homebrew Competition

Westminster, MD. Entry Deadline: 9/10/2016.
mdmicrobrewfest.brewcompetition.com

September 24
NOLA on Tap 2016 Homebrew Competition

New Orleans, LA. Entry Deadline: 9/17/2016.
nolontap.org/homebrewer

September 25
Tapping into Local

West Sacramento, CA. Entry Deadline: 9/21/2016.
shopbrewmeister.com/index.php/blog/brewing-comp-2016

September 26
COPA CERVEZAS DE AMERICA

Santiago, Chile.

September 30
GTA Brews - Brew Slam 2016

Toronto, ON. Entry Deadline: 9/23/2016.
gtabrews.ca/competitions/brew-slam

October 1
Orpheus MeadFest

Denver, CO. Entry Deadline: 9/16/2016.
orpheuspcc.org

October 1

Ozapft Is!
Fort Worth, TX. Entry Deadline: 8/31/2016.
ozapfthomebrew.com

October 1

Tangled Up in Brew
Connellsville, PA. Entry Deadline: 9/18/2016.
Tangled Up in Brew

October 1

Educate the Mash Heads
San Diego, CA. Entry Deadline: 9/23/2016.
mashheads.com

October 1

NC Brewers Cup Homebrew Competition
Hillsborough, NC. Entry Deadline: 9/16/2016.
ncstatefair.org/2016/Competitions/Entering/BeerCompetition.html

October 1

Keep EM Brewing Home Brew Contest
Emmitsburg, IA.
kembsevents.com

October 1

Son of Brewzilla Homebrew Competition
Middleburg Heights, OH.
Entry Deadline: 9/24/2016.
beersnobs.org/cbwcomp

October 1

2016 Roxtoberfest Homebrew Competition
Philadelphia, PA. Entry Deadline: 9/16/2016.
roxborough.us/roxbtoberfest

October 1

Brixtoberfest
Brookfield, IL. Entry Deadline: 9/23/2016.
brixtoberfest.brixiesbrewers.com

October 1

Byggvir's Big Beer Cup
Shakopee, MN. Entry Deadline: 9/24/2016.
rennfestbeercup.com

October 2

Big Muddy Monster Brewfest Homebrew Competition
Murphysboro, IL. Entry Deadline: 9/17/2016.
bigmuddymonsterbrewfest.com

October 8

2º Copa CervaSerra de Cervejas
Caxias do Sul, Rio Grande do Sul, Brazil. Entry Deadline: 10/1/2016.
concurso.cervaserra.com.br

October 8

HAZtoberfest
Erie, PA. Entry Deadline: 9/23/2016.

October 8
Ozarktoberfest
West Plains, MO.

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AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR

October 8

Valhalla: The Mead-ing of Life 2016
Phoenixville, PA. Entry Deadline: 9/24/2016.
brewdrinkrepeat.com/valhalla

October 8

Tri-State Homebrew Competition
Huntington, WV. Entry Deadline: 9/17/2016.
tshbc.net

October 8

Best Florida Beer Championships
Tampa, FL. Entry Deadline: 9/10/2016.
bestfloridabeer.org

October 9

BigGals Brewshed SW Budding Brewers
Bunbury, Western Australia, Australia. Entry
Deadline: 10/1/2016
facebook/biggalsbrewshed

October 9

MoBI European Homebrew Competition
Rome, Italy. Entry Deadline: 9/15/2016.
movimentobirra.it/pagina.aspx?id=28

October 10

2016 Taiwan Homebrew Competition
Taipei, Taiwan (R.O.C.).

October 13

Copa Cerveceros Mitad del Mundo
Quito, Ecuador.

October 13

**Australian Amateur Brewing
Championship**
Adelaide, Australia. Entry Deadline: 9/30/2016.

October 14

2016 BrewUnited Challenge
Lake View, AL. Entry Deadline: 9/16/2016.
brewunited.com

October 15

HOPS BOPS 2016
Philadelphia, PA. Entry Deadline: 10/4/2016.
hopsclub.org

October 15

**Old Forge BIG Beer and Odd Ale
Competition**
Old Forge, NY. Entry Deadline: 9/17/2016.
kencarman.wix.com/ofbb16

October 15

Lincoln Lagers Sower's Cup
Lincoln, NE.
lincolnlagers.com/sowers-cup

October 16

Ida Grove Wine & Bier Contest
Ida Grove, IA. Entry Deadline: 10/16/2016.

October 19

**Winnipeg Brew Bombers Pro/Am
Challenge**
Winnipeg, MB. Entry Deadline: 10/14/2016.
proam.beer

October 19

Copa Peruana de Cervezas Artesanales
Lima, Perú.
cerveceriasperuanas.com

October 21

Arizona Fall Classic Homebrew Competition
Scottsdale, AZ. Entry Deadline: 10/18/2016.
azhomebrewers.org/public-competitions

October 21

Proctoberfest - Pints for Prostates
Indianapolis, IN. Entry Deadline: 10/15/2016.
facebook.com/groups/1572881206342586

October 22

Great American Beer Challenge
Westminster, CO. Entry Deadline: 10/7/2016.

October 22

Motown Mash
Morristown, NJ. Entry Deadline: 10/8/2016.
mashnewjersey.com/competitions/motown-mash

October 22

**11th Annual New England Regional
Homebrew Competition**
Nashua, NH. Entry Deadline: 10/7/2016.
bfd.org/nerhc

October 22

Queen of Beer
Placerville, CA. Entry Deadline: 10/12/2016.
queenofbeer.hazeclub.org

October 22

Tulare County Home Brew Competition
Visalia, CA. Entry Deadline: 10/7/2016.
tchops.org

October 22

**4th Annual O'Connor's Home Brew
Competition**
Grand Rapids, MI.

October 23

**Southern New England Regional
Homebrew Competition**
Stratford, CT. Entry Deadline: 10/8/2016.
undergroundbrewers.org/snerhc

October 23

Homebrew Harvest 3.0
Middletown, PA. Entry Deadline: 10/9/2016.

October 29

Greater Topeka Hall of Foamers Brew Bash
Topeka, KS. Entry Deadline: 10/23/2016.
topekabrewers.com

October 29

Salmonid's Grim Reaper Challenge
Salmon, ID. Entry Deadline: 10/15/2016.

October 29

4º Concurso Pernambucano de Cerveja
Recife, Pernambuco, Brazil.

October 30

Liquid Poetry Slam
Fort Collins, CO. Entry Deadline: 10/14/2016.
liquidpoets.com

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COMMERCIAL CALIBRATION

One way beer judges check their palates is by using commercial “calibration beers”—classic versions of the style they represent. Zymurgy has assembled a panel of four judges who have attained the rank of Grand Master in the Beer Judge Certification Program. Each issue, they score two commercial beers (or meads or ciders) using the BJCP scoresheet. We invite you to download your own scoresheets at bjcp.org, pick up a bottle of each of the beverages and judge along with them in our Commercial Calibration.



Pilsner is back!

Actually, it never went away. But with the popularity of styles like IPA, imperial stout, and barrel-aged everything-under-the-sun, the humble Pilsner hasn't enjoyed much time in the spotlight lately. Things are, however, changing, and American craft brewers are breathing new life into this stalwart style.

In this installment of Commercial Calibration, we offer two award-winning Pilsners for our judges'—and your—consideration. Both are German-inspired lagers but are brewed right here in America, which means they've never seen the inside of a container ship. And unlike many examples from Europe, these sessionable beauties come lovingly packaged in skunk-free brown glass.

pFriem Pilsner, from pFriem Family Brewers of Hood River, Ore., took silver at the 2015 Great American Beer Festival (GABF) in the German-Style Pilsner category. It offers 4.9 percent ABV and 38 IBUs, and the brewer says to expect “aromas of fresh grass, spring flowers, with a touch of lemon zest.” Hops include Perle, Saphir, Tettnang, and Spalt Select, all of which are noble or noble-like: classic choices for German-style Pils.

Russian River Brewing Company of Santa Rosa, Calif. is best known for legendary IPAs like Pliny the Elder and such complex sours as Consecration. But Vinnie Cilurzo's riff on a traditional Keller Pils earned a gold in the Kellerbier/Zwickelbier category at the 2015 GABF.

OUR EXPERT PANEL David Houseman, a Grand Master V level judge and competition director for the BJCP from Chester Springs, Pa.; Beth Zangari, a Grand Master II level judge from Placerville, Calif. and founding member of Hangtown Association of Zymurgy Enthusiasts (H.A.Z.E.); Scott Bickham, a Grand Master III judge from Corning, N.Y., who has been exam director or associate exam director for the BJCP since 1995; and Gordon Strong, a Grand Master IX judge, principal author of the BJCP Style Guidelines, and president of the BJCP board who lives in Beavercreek, Ohio.



Russian River
Brewing Company
russianriverbrewing.com

pFriem Family Brewers
pfiembrewer.com

BJCP Style Guidelines
bjcp.org

Commercial Calibration Index
HomebrewersAssociation.org/pages/zymurgy/commercial-calibration

Named after Sonoma County's airport, STS is made from a single type of Pilsner malt and is hopped with nothing but Alsatian Aramis. With 5.35 percent ABV and 33 IBUs, Russian River describes STS as “hop forward...with a mild malt foundation, strong lager yeast characteristic, and a dry, bitter finish.”

If it's been a while since you sat down with a cold, crisp, hoppy Pilsner, it's time to get reacquainted with this classic lager style. And for more on Aramis and other legacy hops, see Charlie Papazian's World of Worts on page 89 of this issue of Zymurgy.

THE SCORES



pFriem Pilsner—pFriem Family Brewers, Hood River, Ore.
BJCP Category: 5D, German Pils

THE JUDGES' SCORES FOR PFRIEM PILSNER



Aroma: Light, fresh herbal and spicy hop aroma. There's a bit of sulfur followed by a light, grainy Pils malt aroma. No esters; this is a crisp, well-made lager. No DMS. No diacetyl. No overt alcohol aroma. (10/12)

Appearance: Pale gold color with brilliant clarity. Dense, rocky, white, long-lasting head. Beautiful beer. (3/3)

Flavor: Grainy Pils malt sweetness up front with a balanced medium-high hop bitterness and a medium-high spicy hop flavor. Finishes balanced, crisp and dry; well-attenuated. No esters. No DMS. No diacetyl. Very clean lager with some lingering sulfur. Low alcohol presence. (18/20)

Mouthfeel: Moderate carbonation. Medium to medium-light body. No astringency. A bit of lingering bitterness in mouthfeel. Crisp lager mouthfeel. Soft palate. Low alcohol warming. (5/5)

Overall Impression: A very well-made and drinkable German Pilsner that is nicely balanced without too much assertive hop bitterness. It showcases the hops, Pils malt, and lagering technique. I'd personally like to see less sulfur in the aroma and flavor, perhaps with lower sulfates in the water, but it's acceptable as it is. I'd like to also see more floral hop notes as well, but that's personal; this is right on target. Pilsners generally go with many foods, and fish tacos would be a great accompaniment to this one. (9/10)

Total Score: (45/50)



Aroma: Biscuit, slightly grainy malt up front with low bready yeast notes. On a swirl, pronounced Granny Smith green apples and honey emerge, along with light, peppery, graham cracker components. (8/12)

Appearance: Pale yellow and very clear, with a creamy, mousse-like persistent layer of foam. (3/3)

Flavor: Light bready malt provides a background to the moderately strong bitterness. Malt is first lightly sweet on the tongue, then a firm, moderately strong, almost sharp hop bitterness comes forward accompanied by a subdued herbal, cinnamon, and privet blossom hop flavor. Low level of alcohol is evident and accentuates the herbal character, with an impression of horehound candies. Light Pils malt grain and honey emerge at the finish, then vanish with a crisp, firm, and moderately dry finish. (17/20)

Mouthfeel: Medium-bodied with a moderately soft carbonation for a silky texture. Somewhat crisp finish that lingers with light, low alcohol warmth. (5/5)

Overall Impression: Crisp hop bitterness and dry finish follow the promise of a floral, herbal hop flavor that complements graham crackers and bready malt. Clean yet complex, with a chewy quality, but not heavy. Stands up against full-flavored sausages and cheese, but equally pleasant as a first draught on a warm (hot!) afternoon. (8/10)

Total Score: (41/50)



Aroma: Medium-high, fresh hop aroma with floral and spicy notes. Low level of DMS is reminiscent of sautéed onions but pleasant. Light bready and cracker-like malt. Fermentation is clean with faint pear and apple esters in the background, along with sulfur and mineral notes. (10/12)

Appearance: Pristine clarity with bubbles rising up to form a creamy, white, lasting head. Pale straw color is on the money for the style. (3/3)

Flavor: The flavor has both breadth and length, with the balance leaning strongly toward hops. Moderately high spicy and herbal German hop flavor is supported by the bready, slightly grainy quality of continental malt. The finish is dry and crisp, with a lingering bitterness that is at the high end of the range for the style, but in the spirit of classic German Pils examples. Light oniony DMS notes blend well with the spicy hop flavor. Clean fermentation profile. (18/20)

Mouthfeel: Moderately high carbonation provides a creamy mouthfeel without too much sizzle. Slight astringency from the high hop rate and a low, warming sensation from the alcohol. The slightly chalky mineral character in the finish is pleasant and typical for this style. (4/5)

Overall Impression: Excellent example of a German Pils, showcasing German hops and finishing crisp and clean. Appearance and carbonation are flawless. The freshness of the hop character in this sample is hard to find in imported examples of this delicate style. An immensely quaffable beer that is very well done in both recipe and technical execution. (9/10)

Total Score: (44/50)



Aroma: Clean aroma with moderately strong hop character. Fresh hops with a spicy, floral, almost grassy-woody note (dry-hopped?). Very light malt, fairly grain-neutral. Hint of sulfur but otherwise clean. No esters. Fresh. (10/12)

Appearance: Very pale yellow color. Quite clear but not brilliant. Effervescent. Tall, pure white head with a frothy stand of foam that settles slowly and exhibits good retention. (3/3)

Flavor: Clean, lightly bready malt initially, with a slight impression of doughy sweetness, quickly overcome with strong bitterness and a crisp, dry finish. High hop flavor with the fresh qualities similar to the aroma: spicy, floral, and woody. The hop flavor and bitterness dominate the palate and last through the finish. Clean lager character, neutral fermentation with a sulfur note (from the water?) in the background that stays into the finish. (17/20)

Mouthfeel: Medium-high carbonation with some prickle. Slight warmth, barely a hint. Not creamy or astringent. The body is medium-light to medium, which the carbonation enhances. (4/5)

Overall Impression: Very fresh and well-crafted. Clean fermentation and dry finish allow the hops to dominate. Much fresher-tasting than many classic German imports. The hops are aggressive, to the point of seeming dry-hopped. There is a sulfur character that adds to the dryness but unfortunately leaves a flavor that clashes slightly with the hops. Neutral, clean Pils malt character. Quite drinkable—a good warm-weather beer. (8/10)

Total Score: (42/50)



THE JUDGES' SCORES FOR STS PILS



Aroma: Light, fruity, green/bruised apple aroma followed by a faint skunked note. No to very low hop aroma. Malt is subtle, slightly grainy. No DMS. No diacetyl. No overt alcohol aroma. A crisp, clean, young lager. (10/12)

Appearance: Pale gold color with bright clarity; just a hint of chill haze, not cloudy or hazy. Dense, thick, rocky, white, long-lasting head. A very good-looking Pilsner beer. (3/3)

Flavor: Grainy Pils malt sweetness up front with nearly balancing, moderately high hop bitterness. Moderate peppery, spicy hop flavor. Low to medium fruity esters, more residual green apple acetaldehyde than other fermentation esters. No DMS. No diacetyl. Low alcohol presence. Bitterness lingers in the finish. Not quite fully attenuated, but that's OK: the lingering sweetness goes well with the bitterness. A little yeasty. (16/20)

Mouthfeel: Moderate carbonation. Smooth, crisp lager, not a creamy ale. Low alcohol warming. Soft palate with the edge of lingering bitterness in the mouthfeel. Very low hop astringency. (5/5)

Overall Impression: Good example of a keller Pils that's yet to be fully lagered so that yeast byproducts remain. This example continued to lager in the bottle in the fridge so it's no longer as much a kellerbier as many examples fresh out of the tank, but it's still a very good German Pils. A bit more floral hop aroma and flavor would be appreciated. Very drinkable for this summer day with burgers and hot dogs on the grill and bacon-wrapped onion rings. (8/10)

Total Score: (42/50)



Aroma: Pronounced bready malt, bread dough yeast and a bare hint of diacetyl. Moderately strong herbal and white-pepper spicy hop aromas are metal-sharp but not metallic. Bready quality dissipates on a swirl of the glass. (7/12)

Appearance: Golden, with a creamy, off-white, persistent foam stand; laces the glass nicely with each sip. Brilliant clarity. (3/3)

Flavor: Firm, pronounced black-white pepper mélange hop flavor surges up front, with a firm bitterness that gives way to medium sweet, bread-crust malt. Balanced to the firm hop character, a faint note of sulfur and a mineral quality emerge mid-palate into the finish and accentuate the clean, somewhat dry lingering post-finish. (16/20)

Mouthfeel: Medium-light bodied, soft creamy carbonation and texture. Alcohol warmth emerges as an afterthought. (5/5)

Overall Impression: Full-flavored and quite pleasantly hopped with balance to the peppery herbal hop character—definitely a showcase for hops, with the bready sweet malt backbone as support. Reflects the style heritage well and calls for a plate of deep-fried cauliflower and Emmenthaler cheese. (8/10)

Total Score: (39/50)



Aroma: Initial impression is moderately sweet, slightly grainy malt with creamed corn DMS notes. Hops resemble nutmeg and are complemented by a pleasant floral character. Some light apple esters, but otherwise fermentation character is clean. In later impressions, the hops have an earthy, tobacco-like character. (11/12)

Appearance: Straw color with excellent clarity. The modest white head is persistent and forms easily when the glass is swirled. (3/3)

Flavor: Hops are prominent and suggest an American interpretation of the style. Malt character follows the aroma and is slightly grainy with a little sweetness. DMS also contributes some corn-like complementary notes. Hop flavor is moderately high, with a spicy and herbal emphasis that is softened by floral notes. Hop bitterness lurks for a few seconds then crescendos to a pronounced level that lingers. Finish is dry and crisp, as it should be in this style. (16/20)

Mouthfeel: The carbonation is moderately high and provides good creaminess and a pleasant mouthfeel. There is very low warmth, and the only detraction is a medium-low, lingering astringency from the hops. (3/5)

Overall Impression: This is a very nice example of a German Pils, but it exceeds even the mighty Jever in terms of the hop focus. The balance is a little too hop-forward, and while this is certainly enjoyable, to me it is little too aggressive to be a session beer. However, given the brewery's demographics, it makes sense to create a style that one might label an American Pils. (8/10)

Total Score: (41/50)



Aroma: Moderate hop aroma along with an unusual dark berry ester. Kind of fruity (hops or yeast?). Clean otherwise. Neutral malt overshadowed by fruitiness. There is an herbal-grassy freshness to the hop aroma but the fruitiness is somewhat odd. (7/12)

Appearance: Moderately tall white head, frothy and persistent. Medium yellow color. Very slight haze—quite clear for the style. Effervescent. (2/3)

Flavor: Moderate malt flavor with a rich graininess and a high hop flavor and bitterness. The finish is dry but with a fullness on the palate that tempers the bitterness. The aftertaste is hoppy. Barest hint of a light caramel flavor. The fruity character from the aroma is present but much less intense. The hops are a touch coarse in flavor and rough in the finish. Clean fermentation profile and lager character. Doesn't have the expected yeasty character of a kellerbier. (14/20)

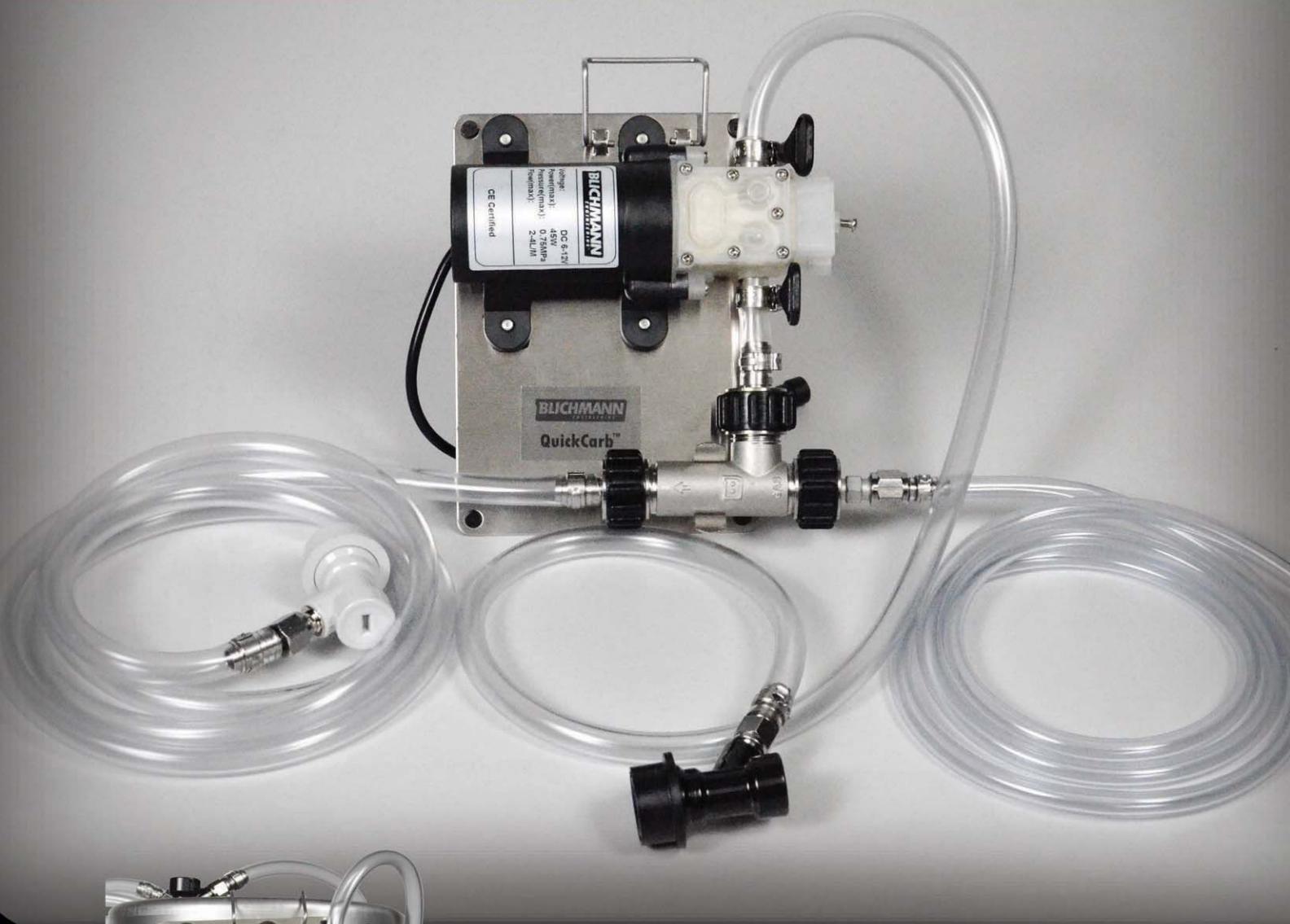
Mouthfeel: Medium body. High carbonation. Somewhat rich mouthfeel. Not creamy or astringent. (4/5)

Overall Impression: There is a slight unfinished quality to this beer, but it reminds me more of Czech lagers than kellerbiers (although without the Czech hop profile). The yeast/lager character is subdued. I do wonder about that fruitiness and whether it's a hop character or something that could lager out. Regardless of style, it seems well-crafted and is enjoyable. Fresh flavors, just kind of odd for style. (7/10)

Total Score: (34/50)

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By Charlie Papazian



Imperiled Pedigree Hops

We've grown to love our hops. Citra, Simcoe, Amarillo, Mosaic, Galaxy, Nelson Sauvin, Mandarina, Equinox, and many more are making beer headlines. They are exotic and intensely fruity, with big aromas that emerge from an abundance of hop oils. High sales and production volumes reflect brewers' and beer drinkers' celebrations of these popular varieties. Homebrewers love them, too, and continuously experiment with new varieties at the forefront.

Meanwhile, Versatile Hops May Be Endangered

Beware trends born of headlines. Exaggeration may be creeping into our beloved craft beer culture to the detriment of true diversity.

I have always loved big hop fruitiness pioneered through modern American India pale ales. The trickle effect is evident as other styles of beer become newly engaged with an expression of up-front hop oils from new varieties. It's always fun, usually delicious, and currently quite popular.

I've also always loved heading in contrary directions and am developing a new appreciation for hop varieties that have been around for quite some time: hop varieties that are underutilized by homebrewers and professional brewers alike.

Many varieties of hops offer a spectrum of characters that are fun, diverse, interesting, and incredibly delicious. A few of these that I am well acquainted with are American-grown Tettnanger, Mt. Hood, Vanguard, Crystal, Santiam, and French-grown Aramis. These are mid-range alpha acid varieties (usually 4.5 to 7 percent) that offer smooth,



delicious hop bitterness and a superb floral, honey-like, earthy hop flavor and aroma when used as late kettle hops or dry hops.

Having been bred primarily for blending of low-flavor-profile American light lager beers, these hops were never explored when first introduced. They never got their chance to shine with the craft brewing phenomenon, and they've now fallen to the bottom of hop lists, relegated to the old and passé, and assumed uninteresting. It's our crime. These hops and others like them deserve to be resurrected. They deserve an elevated presence in the repertoire of today's brewers. Hop growers need to be encouraged to maintain these varieties. For that to happen, we must explore and use them.

Such varieties are different than today's juicy headliner "IPA" hops. My assessment is that pedigree hops will be the future foundation of a new wave of lagers

and ales that repositions both with a more sessionable kind of hop bitterness and a different kind of hoppy flavor and aroma. Their use has hardly been explored because, like in all other food and beverage markets, everyone plays follow-the-leader and becomes captured by the latest headline trends.

Craft brewing has a long history of diversity. Part of the equation for success is that authentic craft brewers and homebrewers continue to offer a spectrum of flavors and characters in both their lagers and ales. The future will not always be about new, juicy-hop IPAs.

I was personally wowed at this year's USA Hop Growers Convention when I tasted STS Pils, brewed by Russian River Brewing Company. It was artfully brewed and hopped with French-grown Aramis hops. It was as hoppy a beer as you'd expect from Vinnie Cilurzo, co-founder of Russian River, and it was exception-

Shina's Helles-Pils

ALL GRAIN RECIPE

INGREDIENTS

for 5.5 gallons (21 L), yielding 5 gallons (19 L) of beer

7.5 lb.	(3.4 kg) Weyermann floor-malted Bohemian Pilsner malt
6 oz.	(170 g) Belgian aromatic malt
6 oz.	(170 g) Gambrinus honey malt
4 oz.	(113 g) German acidulated malt (sauermalz) if your water benefits from added acidity
0.67 oz.	(19 g) Mt. Hood hops, 5% a.a. (4 HBU/112 MBU) at 60 minutes
0.5 oz.	(14 g) Aramis hop pellets, 5.9% a.a. (3 HBU/84 MBU) at 60 minutes
0.5 oz.	(14 g) Aramis hop pellets at 1 minute
0.5 oz.	(14 g) Aramis hop pellets at racking from primary to secondary fermenter
0.5 oz.	(14 g) Aramis hop pellets added during the final 3 to 6 days of lagering
1/4 tsp.	(1 g) powdered Irish moss
German or Bavarian lager yeast. I use White Labs Cry Havoc yeast.	
3/4 cup	(175 ml) corn sugar (priming bottles) or 1/3 cup (80 ml) corn sugar for kegging

Original Gravity: 1.045 (11.2 B)

Final Gravity: 1.009 (3.5 B)

IBUs: about 29

ABV: 4.7%

Color: 5 SRM (10 EBC)

Target Extract Efficiency: 80%

DIRECTIONS

Use a step infusion mash to mash the grains. Add 8.5 quarts (8 L) of 140° F (60° C) water to the crushed grain, stir, stabilize, and hold the temperature at 132° F (56° C) for 30 minutes. Add 4 quarts (3.8 L) of boiling water, adding heat if necessary, to bring temperature up to 155° F (68° C), and hold for about 30 minutes. Then raise temperature to 167° F (75° C), lauter, and sparge with 3.5 gallons (13.3 L) of 170° F (77° C) water. Collect about 6 gallons (23 L) of runoff. Add 60-minute hops and bring to a full and vigorous boil.

The total boil time will be 60 minutes. When 10 minutes remain, add the Irish moss. When one minute remains, add the 1-minute hops. After a total wort boil of 60 minutes, turn off the heat and place the pot (with cover on) in a running cold-water bath for 30 minutes. Continue to chill in the immersion or use other methods to cool the wort. Then strain the wort into a sanitized fermenter, bringing the total volume to 5.5 gallons (21 L) with additional cold water if necessary. Aerate the wort very well.

Pitch yeast when wort temperature is about 70° F (21° C). Once visible signs of fermentation are evident, ferment at a temperature of approximately 55° F (12.5° C) for about a week or until fermentation shows signs of calm and stopping. Rack from primary to a 6.5-gallon (25 liter) secondary fermenter and add 0.5 oz. (14 g) Aramis hop pellets for dry hopping. If you have the capability, "lager" the beer at temperatures between 35 and 45° F (1.5 to 7° C) for 3 to 6 weeks. Three to six days before bottling or kegging, add the final 0.5 oz. (14 g) of Aramis dry hop pellets. Be cognizant that at this point the cold lagering beer may hold dissolved carbon dioxide, and adding this last charge of hop pellets could cause foaming. This is why I recommend lagering your 5 gallons of beer in a 6.5-gallon (25 liter) secondary fermenter.

Prime with sugar, and bottle or keg when complete.

ally smooth for a hopped-up Pilsner (see what our panel of judges thought about STS Pils in Commercial Calibration on page 85).

Use It or Lose It

At the same convention, I enjoyed beer and conversation with Val Peacock, who helped develop Aramis when he worked for Anheuser-Busch during the pre-merger days. I told him about some of my favorite hops, which I mentioned above, and—strangely enough—he mentioned that he had a hand in developing many of them. He agreed with my assessment that they are, for the most part, underutilized and under-discovered. Interestingly, several varieties

were bred for blending (into oblivion) with other hops in American-style light lagers. With no particular hop character emphasized, these hops didn't matter individually.

What I've discovered about these hops, most of which I've been using for decades, is that they create a different and welcome spectrum of delicious characters when not over-blended with other varieties. They all have unique personalities. I'll admit they are not powerful like Citra, Simcoe, Mosaic, and the like, but these pedigree hops have a solid and sustainable personality that I am certain beer enthusiasts would love. They are worth exploring.

We can't afford to lose them. Use-it-or-lose-it is the dynamic that governs the hop market. I encourage revisiting these foundational and pedigree hops. Use them.

Here's a recipe for a hybrid German-style Helles/Pilsner using American-grown Mt. Hood and French-grown Aramis as foundational hops, and Aramis for late and dry hopping. It is a worthy light-colored lager that offers intoxicating floral complexity (when not served ice cold) and clean, smooth, earthy hop bitterness.

Charlie Papazian is founder of the American Homebrewers Association and the author of *The Complete Joy of Homebrewing*.

Shina's Helles-Pils

MALT EXTRACT RECIPE

INGREDIENTS

for 5.5 gallons (21 L), yielding 5 gallons (19 L) of beer

6.75 lb.	(3.06 kg) very light malt extract syrup or 5.7 lb. (2.6 kg) very light dry malt extract
0.67 oz.	(19 g) Mt. Hood hops, 5% a.a. (4 HBU/112 MBU) at 60 minutes
0.75 oz.	(21 g) Aramis hop pellets, 5.9% a.a. (4.4 HBU/124 MBU) at 60 minutes
0.5 oz.	(14 g) Aramis hop pellets at 1 minute
0.5 oz.	(14 g) Aramis hop pellets at racking from primary to secondary fermenter
0.5 oz.	(14 g) Aramis hop pellets added during the final 3 to 6 days of lagering
1/4 tsp.	(1 g) powdered Irish moss
German or Bavarian lager yeast. I use White Labs Cry Havoc yeast.	
3/4 cup	(175 ml) corn sugar (priming bottles) or 1/3 cup (80 ml) corn sugar for kegging

Original Gravity: 1.045 (11.2 B)

Final Gravity: 1.009 (3.5 B)

IBUs: about 29 **Color:** 5 SRM (10 EBC) **ABV:** 4.7%

DIRECTIONS

Add malt extract and 60 minute hops to 2.5 gallons (9.5 L) of water. Stir to dissolve and bring to a boil.

The total boil time will be 60 minutes. When 10 minutes remain, add the Irish moss. When one minute remains, add the 1-minute hops. After a total wort boil of 60 minutes, turn off the heat and place the pot (with cover on) in a running cold-water bath for 15 to 30 minutes, or the time it takes to have a couple of homebrews. Then strain out and sparge hops and direct the hot wort into a sanitized fermenter to which 2.5 gallons (9.5 L) of cold water have been added. If necessary, add additional cold water to achieve a 5.5 gallon (21 L) batch size. Aerate the wort very well.

Pitch yeast when wort temperature is about 70° F (21° C). Once visible signs of fermentation are evident, ferment at a temperature of approximately 55° F (12.5° C) for about a week or until fermentation shows signs of calm and stopping. Rack from primary to a 6.5-gallon (25 liter) secondary fermenter and add 0.5 oz. (14 g) Aramis hop pellets for dry hopping. If you have the capability, "lager" the beer at temperatures between 35 and 45° F (1.5 to 7° C) for 3 to 6 weeks. Three to six days before bottling or kegging, add the final 0.5 oz. (14 g) of Aramis dry hop pellets. Be cognizant that at this point the cold lagering beer may hold dissolved carbon dioxide, and adding this last charge of hop pellets could cause foaming. This is why I recommend lagering your 5 gallons of beer in a 6.5-gallon (25 liter) secondary fermenter.

Prime with sugar, and bottle or keg when complete.



FastFerment Wins Gold Medal

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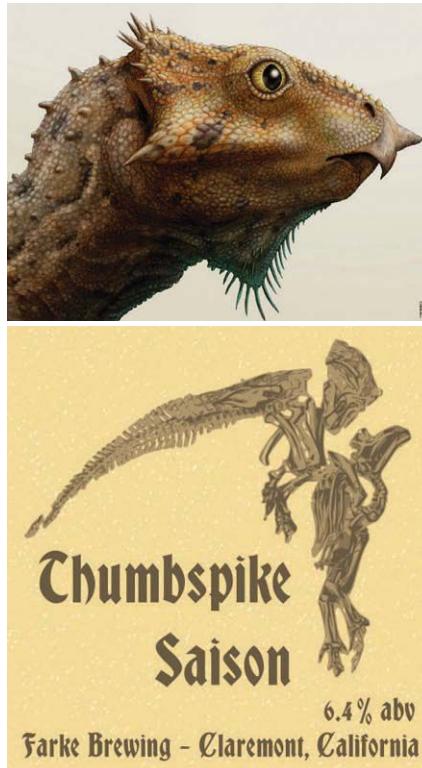
Homebrew for Dinosaurs

As a paleontologist, I reconstruct our planet's past life. Much like homebrewing, paleontology sounds absolutely glamorous (Exotic travel! Adventure! Dinosaurs!), but is, in reality, often mundane (Paperwork! Logistical headaches! Weeks without a shower!). Even so, the hardships of fieldwork are forgotten the instant a discovery is made, when you encounter a creature never before seen by human eyes. Similarly, that first sip of a perfect brew chases away memories of carboy scrubbing and infected batches.

I'm always looking for an excuse to blend my seemingly unrelated passions for beer and dinosaurs. In 2014, some colleagues and I announced a dinosaur discovery in Montana. This cousin of Triceratops was the oldest horned dinosaur yet named from North America, and we dubbed it *Aquilops* (a Greek and Latin combination meaning "eagle face") in reference to its hooked beak. To celebrate, one of my collaborators got an *Aquilops* tattoo. I decided a homebrew would be more my style.

So, Eagle Face Oatmeal Stout was born. My first commemorative batch turned out pretty well, and I poured a second batch of the recipe with my club (Horse Thief Brewers Association of San Dimas, Calif.) at the 2015 National Homebrewers Conference. Not only was it a chance to share a beer with fellow homebrewers, it was also an opportunity to share paleontology with a new audience. Many of my batches have had paleontological themes—everything from Gondwana Pale Ale (named after an ancient supercontinent) to The Celtic Elk Stout (in honor of the extinct "Irish elk" *Megaceros*, which also earned my first medal in competition).

As my participation in homebrewing has expanded, it has also deepened my



connection with fellow paleontologists. Many paleontologists are beer drinkers, and a common refrain in our field is, "Let's chat about that over a beer." Perhaps unsurprisingly, then, there are quite a few brewers in the profession! My colleagues, many of them world-renowned scientists, are also homebrewers, beer judges, and hop growers. We've exchanged brewing tips, discussed new fossils, swapped bottles, and planned expeditions over homebrew.

Just the other day I shared a homebrew with a researcher who is searching for fossil amber in the same rocks that have yielded both *T. rex* and the oldest fossilized hops. The fossils are cool, but I got really excited when he mentioned that he had found wild hops growing on an old homestead nearby! Needless to say, we're

planning an "amber ale" later this year (alongside our research on a new flying reptile found by my museum). Homebrew solidifies connections between members of this small and closely-knit field.

Just as meaningful, though, are the opportunities that paleontology has afforded me within the homebrew community. There aren't many better ice breakers than a beer named after a dinosaur! This has led to some great friendships and brewing collaborations, all of which have taken my beer to new levels. Brewing melds many disciplines, and I have found its synergy with paleontology richly rewarding.

Andy Farke is a paleontologist and homebrewer based in Claremont, Calif. He blogs about his brewing adventures at andybrews.com.

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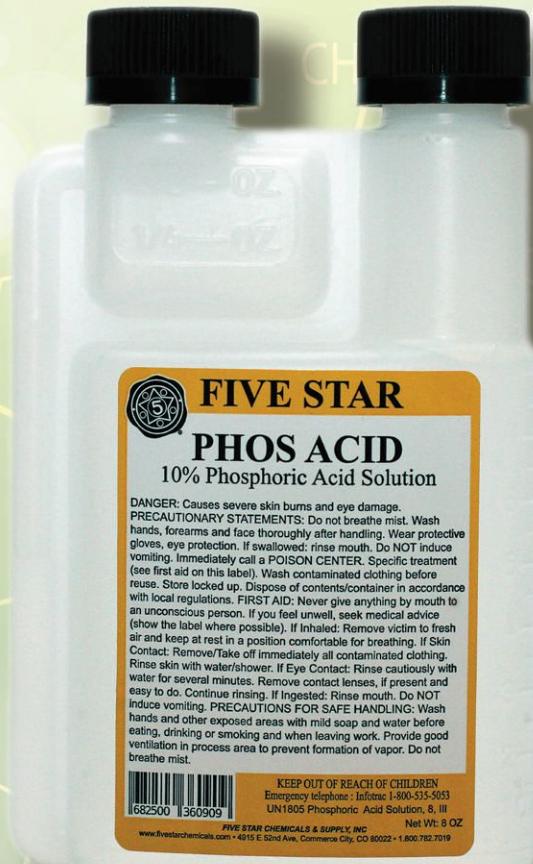
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