

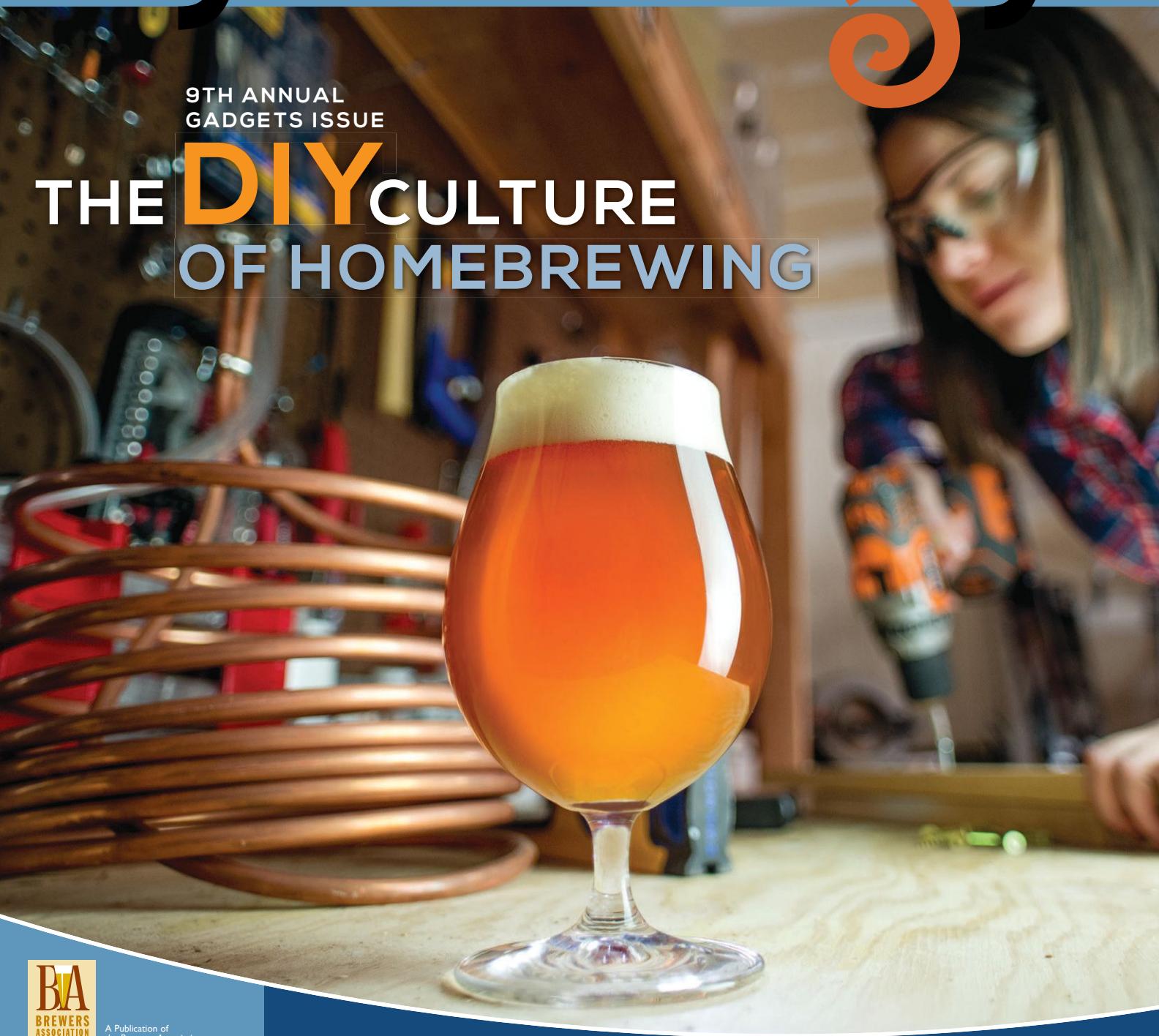
FOR THE HOMEBREWER & BEER LOVER

zymurgy®

The Journal of the American Homebrewers Association®

9TH ANNUAL
GADGETS ISSUE

THE DIY CULTURE OF HOMEBREWING

A Publication of
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Los Angeles

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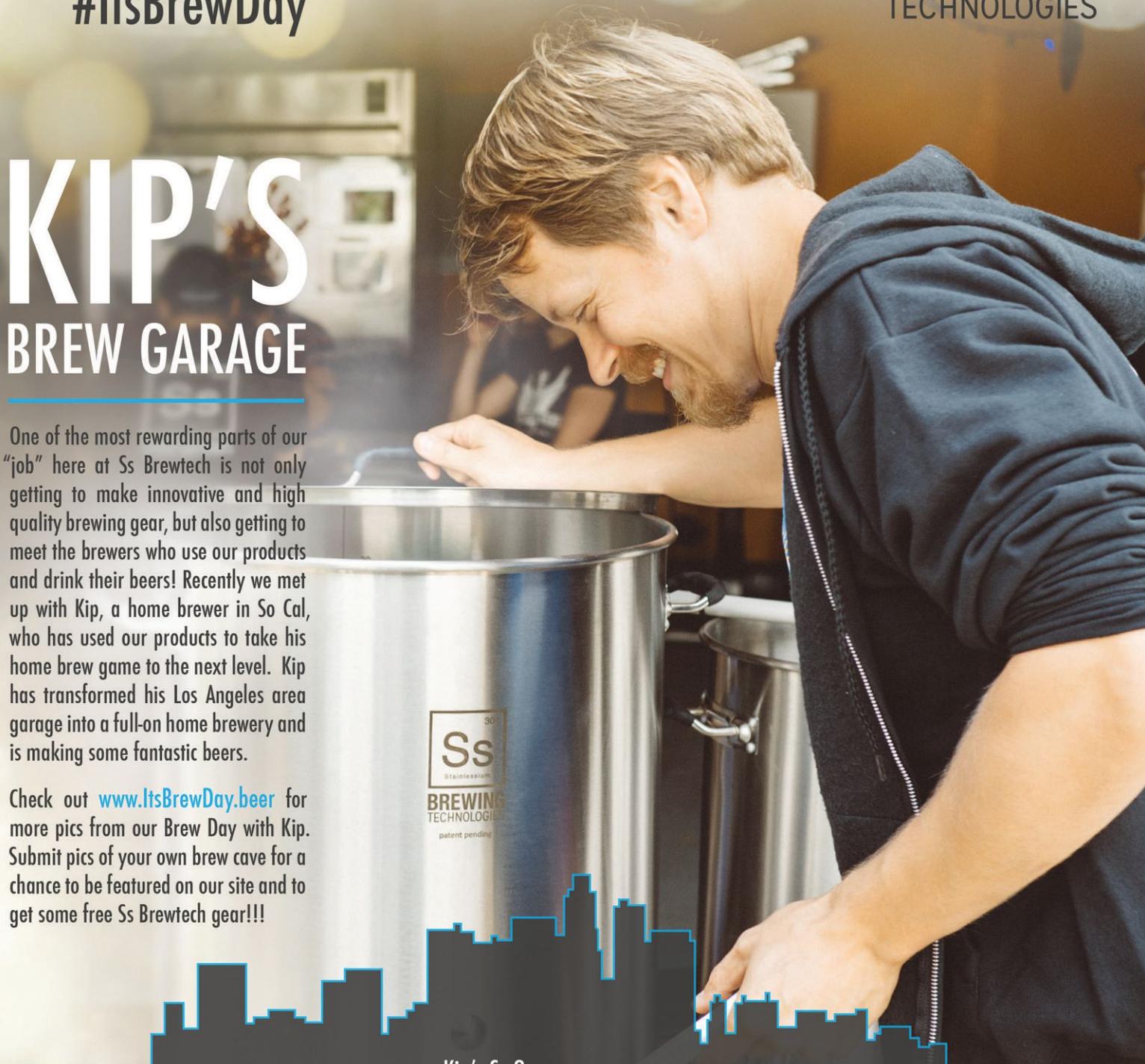
KIP'S BREW GARAGE

One of the most rewarding parts of our "job" here at Ss Brewtech is not only getting to make innovative and high quality brewing gear, but also getting to meet the brewers who use our products and drink their beers! Recently we met up with Kip, a home brewer in So Cal, who has used our products to take his home brew game to the next level. Kip has transformed his Los Angeles area garage into a full-on home brewery and is making some fantastic beers.

Check out www.ItsBrewDay.beer for more pics from our Brew Day with Kip. Submit pics of your own brew cave for a chance to be featured on our site and to get some free Ss Brewtech gear!!!

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GABF News and Notes

Noteworthy items from the 33rd Great American Beer Festival® October 2-4 in Denver.

- A glance at the winners list from both the Samuel Adams LongShot Competition and the Great American Beer Festival Pro-Am Competition shows a slant toward classic styles.

Before announcing the winners of the LongShot Competition on October 3, Boston Beer founder Jim Koch introduced two new beers, including Kosmic Mother Funk Grand Cru, featuring a “menagerie of microorganisms cultivated from our 150-year-old brewery in Boston.” He acknowledged that the trend among craft brewers these days is to introduce “weird new interesting beers that range from freak show to fanatical. But when you go back to a classic style that’s beautifully made, that’s amazing.”

LongShot winner (and AHA lifetime member) Greg Rasmussen created a Robust Porter that Koch deemed “a beautiful example of the porter style.” He said that drinking Matthew Knott’s Classic Rauchbier was “like being in Bamberg.” And for the third winner, Boston Beer employee John Marra created a classic dunkelweizen. The 2015 Samuel Adams LongShot variety pack will be available nationwide this spring.

- The GABF Pro-Am competition, pairing award-winning AHA member homebrewers with professional brewers, had 89 entries in 2014. The winning beers included a Scottish 80 Shilling, a pale ale, and a rauchbier. For more on the Pro-Am medalists, see page 68.
- As per usual, the category with the highest number of entries in the GABF competition was American India Pale Ale with 270. The win-

ner was Breakside IPA from Breakside Brewery in Milwaukie, Ore. All told, 222 judges from 10 countries evaluated a total of 5,507 beers. For results, go to GreatAmericanBeerFestival.com.

- Right before the GABF, Russian River Brewing Co. announced that Firestone Walker Brewing Co. would be brewing batches of Pliny the Elder to help Russian River keep up with demand while its new brewhouse is being installed in early 2015.

At the GABF media luncheon, Firestone Walker brewmaster Matt Brynildson said it is a “high honor” to be entrusted with brewing the iconic double IPA, named the Best Beer in America by Zymurgy readers for the past six years.

“When we were developing Union Jack IPA, I went to Vinnie [Cilurzo] and asked a lot of questions,” said Brynildson.

Brynildson said that when he told Firestone Walker brewers they’d be brewing Pliny the Elder, “they all started levitating.”

“It’s not work,” Brynildson added. “It’s a wonderful way to help a friend.”

- Like many professional brewers, Brynildson got his start as a homebrewer. “My bible was *The Complete Joy of Homebrewing*,” he said. “It was the 101 guidebook for all of us.” (For an update from Charlie Papazian on *The Complete Joy of Homebrewing*, see World of Worts on page 83.)
- The 2014 GABF had a record-breaking 3,500 beers from 700 breweries in the festival hall. Save the dates for the 2015 GABF: September 24-26 in Denver.

Jill Redding is editor-in-chief of Zymurgy.

Journal of the American Homebrewers Association

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Brewers Association

The purpose of the Brewers Association is to promote and protect small and independent American brewers, their craft beers, and the community of brewing enthusiasts. The Brewers Association is a not-for-profit trade Association under Section 501(c)(6) of the Internal Revenue Code.

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



>> GET THERE!

ARIZONA STRONG BEER FESTIVAL

Arizona's growing thirst for craft beer will be quenched when Arizona Beer Week returns for its fifth installment February 12-21. As in years past, the week of suds-soirees gets off to a strong start with the 15th annual Strong Beer Festival, set for Valentine's Day.

Sweethearts and singles alike can enjoy a broad variety of the state's strongest signature suds at the event widely recognized as Arizona's Best Beer Festival (which this year will boast a special Sweethearts Section), and then continue to enjoy craft beer-centric events throughout the week as dozens of the state's best breweries collaborate to bring craft brew connoisseurs food pairings, tap takeovers, pub crawls, special giveaways, meet-the-brewer nights, and other events that pay homage to the awesomeness that is craft beer in Arizona.

For more information, go to arizonabeerweek.com.

January 8-10

Big Beers, Belgians

and Barleywines Festival

Vail, CO

bigbeersfestival.com

January 10

Brew on the Bay

Key Largo, FL

keylargobrewonthebay.com

January 16-17

Great Alaska Beer & Barley Wine Festival

Anchorage, AK

auroraproductions.net/beer-barley.html

January 17

World Beer Festival Columbia

Columbia, SC

allaboutbeer.com/gather-for-beer/

world-beer-festival/columbia-sc/

January 23

Pour for a Cure

Philadelphia, PA

lls.org/pages/wpa/pourforacure

January 24

Atlanta Cask Ale Tasting

Atlanta, GA

classiccitybrew.com/acat.html

January 31

Queen City Brewers Festival

Charlotte, NC

qcbrewfest.com

February 6-15

San Francisco Beer Week

San Francisco, CA

sfbeerweek.org

February 20-March 1

New York City Beer Week

New York, NY

newyorkcitybrewersguild.com

For more craft brewing events, go to CraftBeer.com



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Using an innovative Swing Lok™ Cap with a threadless design that ensures a tight seal, the Growler is the perfect vessel for transporting beer, kombucha, cold pressed coffee, and more. The Swing Lok™ Cap will also be sold as an accessory, compatible with any Klean Kanteen Classic bottle design.

The suggested MSRP for the 64-ounce growler is \$49.95.

For more information, go to kleankanteen.com.

>> BREW NEWS:

HOP COURAGE GREAT AMERICAN HOMEBREW CONTEST

Beer Autism Hope announced the inaugural Hop Courage Great American Homebrew Contest presented by Rogue Ales and All About Beer magazine. The Hop Courage Great American Homebrew Contest is a sanctioned AHA/BJCP competition rewarding America's finest homebrewers and benefiting the Beer Autism Hope Movement, a cause that gives to the autism community and charitable causes within craft brewing.

Participants in the Hop Courage Great American Homebrew Contest will receive feedback from judges and a chance to win incredible awards and prizes including premium brewing equipment, cash, beer gear, VIP brewery trips, and the best of show grand prize: a VIP trip for two to visit Rogue Ales in Oregon and brew the winning recipe with a Rogue brewer.

"We are proud to embrace our homebrewing roots while supporting a good cause," said Brett Joyce, president of Rogue Ales.



"Our brewmaster of 25 years, John Maier, was named AHA Homebrewer of the Year in 1988 and we're honored to continue our relationship with the homebrewing community by sponsoring the first Hop Courage homebrew competition."

Registration goes through March 10, with judging taking place on March 21 in Los Angeles. The grand prize winner will be announced on national #BeerAutismHope Day, April 8. For more information, go to HopCourage.com.



>> YOU'VE GOTTA DRINK THIS SAUGATUCK NEAPOLITAN MILK STOUT

A great stout that is sweet, but not overdone. Definitely a surprise beer for me and would be a great stout for anyone not into the overly bitter and sometime heavy coffee-note stouts. This beer still had a true stout feel with a great twist of sweetness that was different from the usual vanilla notes of some others.

Reviewed by Grant Gilmore
Auburn, Ala.



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.

>> CRAFT BREWER PROFILE: MAUI BREWING'S DARREN MOSER

BY TOM HART

Somewhere over the rainbow is a brewing paradise where dreams are nurtured and creativity unleashed. It's an oasis of surf and sunshine, shaved ice and sushi, and some of the most awe-inspiring stainless steel you will ever behold. Darren Moser, director of brewery operations at Maui Brewing Company, calls it home. And if you can catch him long enough to share a pint, he will tell you that brewing in paradise is more than he ever imagined it would be.

Moser's path to paradise began in college, where he was invited to attend an advanced biology lab course in enzymology and fermentation. Under the tutelage of a beer-passionate professor, Moser became a zymurgy zealot, learning the rudimentary skills of serious brewing. Soon, previous career plans were abandoned and a new path was mapped.

Following graduation, Moser attended the Master Brewers Program at UC Davis, where he gained an appreciation for what makes brewing a profession. He also continued acquiring the practical skills needed to become a brewing tradesman. "You hear a lot about the craft of brewing and the artisans who make beer," Moser said. "Personally, I think of it as a trade, like the butcher, baker, and candlestick maker. Brewing requires learned skills that are passed along. Recipe design is well and good, but what I have been taught are the practical skills that back everything up."

Upon graduation from UC Davis in 2005, Moser began looking for a job, sending out nearly 50 resumes before landing a position with the Trumer Brauerei in Berkeley, Calif. For eight years, he helped brew the same beer, Trumer Pils. "At Trumer we only made one beer and because of that I learned essential skills for this trade. Even more, I got to work with master brewer Lars Larson, who taught me all kinds of lessons about consistency, equipment, and brewery management."

Wishing to further his career, Moser began looking for other opportunities and eventually began a nine-month interviewing process with Maui Brewing co-founder Garrett Marrero. "One of Garrett's concerns was my lack of experience with recipe development and multiple brands," acknowledged Moser. "Ultimately he came to believe that the skills I had developed for process and consistency were what he wanted in this position. My job is to provide the tools and structure to enable our team of brewers to succeed."

That team-focused approach is part of Maui Brewing Company's roots and remains crucial as it moves ahead. MBC is in the process of a major expansion, building what will be Hawaii's largest



brewery at a new location in Kihei on Maui. This project, which will dramatically increase the company's production capabilities, also emphasizes the difficulties of brewing in paradise.

"We have a commitment to this community and that has a price tag attached," Moser explained. "Grain, hops, equipment, even CO₂ have to be shipped in. Each of us has to do all we can to control costs. So you can see how process and procedures are crucial. Fortunately we have people like Garrett who see the big picture and understand how this complex operation flows."

All of Maui Brewing's beers, such as its signature CoCoNut Porter and Bikini Blonde Lager as well as its limited release Lahaina Town Brown, reflect their unique island roots. When asked what advice he would offer homebrewers, Moser simply flashed a "hang loose" gesture and said, "Keep it loose. After all, isn't that why we brew?"

Tom Hart lives and brews in Corrales, N.M. He recently visited Maui, where he learned he hates surfing but loves a cold Bikini Blonde Lager.

Lahaina Town Brown

BASED ON A RECIPE PROVIDED BY DARREN MOSER AT MAUI BREWING CO.

INGREDIENTS

for 5.5 U.S. gallons (20.82 L) in the fermenter, with a final packaged volume of 5 gallons (19 L)

7.0 lb	(3.18 kg) Maris Otter malt
1.0 lb	(454 g) 10° L Munich malt
1.0 lb	(454 g) Carahell or dextrin malt
0.5 lb	(227 g) 77° L crystal malt
0.5 lb	(227 g) 120° L crystal malt
0.5 lb	(227 g) flaked oats
0.5 lb	(227 g) 350° L chocolate malt

0.5 lb	(227 g) 50° L special roast
1.5 oz	(42 g) 500° L roasted barley
1.0 oz	(28 g) Willamette hops, 4.8% a.a. (60 min)
1.0 oz	(28 g) Willamette hops, 4.8% a.a. (30 min)
1.0 oz	(28 g) Willamette hops, 4.8% a.a. (0 min)

White Labs WLP001 California Ale

Original Gravity: 1.053 (13.0 °P)

Final Gravity: 1.011 (2.8 °P)

ABV: 5.2%

IBU: 25

SRM: 25

Boil Time: 70 minutes

Assumed Efficiency: 70%

Pre-boil Volume: 6.2 gallons (23.4 L)

Pre-boil Gravity: 1.046 (11.5 °P)

DIRECTIONS

Mash grains at 148° F (65° C). Using a yeast starter is recommended for optimum fermentation if using a ready pitch vial or packet. Cool to 64° F (18° C) and pitch yeast. Allow to rise to 66° F (19° C) for duration of fermentation. When finished, carbonate the beer to approximately 2.6 volumes.

PARTIAL MASH VERSION

Omit dextrin malt and substitute 5.4 lb (2.45 kg) Maris Otter malt extract syrup for all but 8 oz of the Maris Otter pale malt. Mash pale and Munich malts with crystal malts, chocolate malt, flaked oats, special roast, and roasted barley at 155° F (68° C) for 45 minutes. Drain, rinse, dissolve extract completely, and proceed with boil.

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—Matt Brynildson, brewmaster,
Firestone Walker
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>> THE LIST

2014 GREAT AMERICAN BEER BARS

Now more than ever, bars across the U.S. showcase the wide array of offerings from the more than 3,100 breweries in operation throughout the country. To help navigate the nation for some of the best places to imbibe, CraftBeer.com—the Brewers Association's website for beer lovers—surveyed its audience for its annual Great American Beer Bars competition.

More than 19,000 craft beer fans cast 3,400 nominations for better beer bars in 2014. CraftBeer.com collected nominations, and then narrowed the field to the 10 most-nominated bars in each of the five regions of the country. They then selected the top five craft beer establishments per region, and finally chose the overall winners (listed in alphabetical order):

- > BIER STEIN BOTTLESHOP & PUB, EUGENE, ORE.
- > CLOVERLEAF TAVERN, CALDWELL, N.J.
- > FALLING ROCK TAP HOUSE, DENVER, COLO.
- > HOPCAT, GRAND RAPIDS, MICH.
- > MEKONG RESTAURANT, RICHMOND, VA.



For more on the voting and to see the regional winners, go to CraftBeer.com.



Steve Berthel
Pub Brewer
New Holland Brewing
Holland, Michigan

BYOB

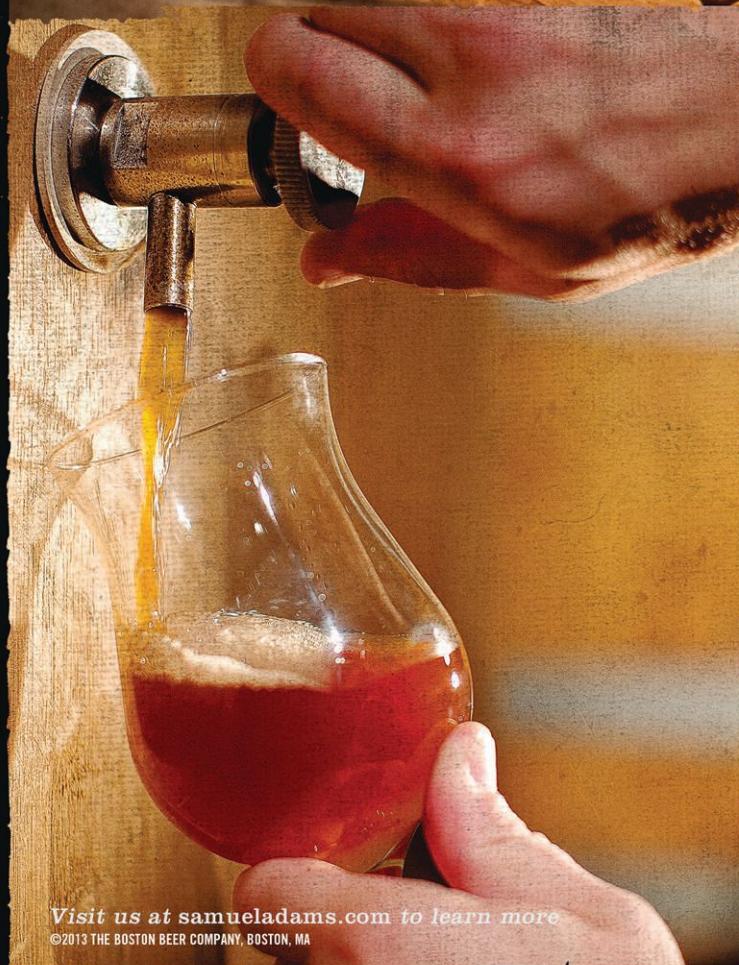
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By Gary Glass



Cheers to a Hoppy New Year

With this issue of *Zymurgy* mailing shortly before we close the books on 2014, it seems a good time to look forward to the year ahead. Tack that brand new calendar on the wall and be sure to mark the dates below for upcoming American Homebrewers Association events. While you're at it, take a look at the calendar on HomebrewersAssociation.org for upcoming AHA Rallies—we are planning for 30 rallies across the U.S. in 2015—and AHA/BJCP sanctioned homebrew competitions.

February 2-8
National Homebrew Competition
Application Window

February 18-24
National Homebrewers Conference
Application Window

March 13-April 12
National Homebrew Competition
First Round Judging

March 31
Deadline for entry submission for
AHA Radegast Club of the Year Award (see Community section of HomebrewersAssociation.org for details)

May 2
Big Brew/National Homebrew Day

June 11-13
AHA National Homebrewers Conference, San Diego

August 1
Mead Day

September 24-26
Great American Beer Festival, Denver

November 7
Learn To Homebrew Day



The Fairview Homebrew team from Montgomery, Ala. brews during 2014 Learn To Homebrew Day.



2014 Learn To Homebrew Day

Thank you to everyone who participated in this year's Learn To Homebrew Day on November 1! We had a record 347 sites participate, introducing 5,600 new homebrewers to the hobby. Teaching others the joys of homebrewing is not only rewarding, it also helps ensure we maintain a vibrant homebrewing community that can continue to grow and develop well into the future. For those who did participate, go ahead and offer a toast to yourself! Even if you weren't able to participate in Learn To Homebrew Day, there are another 364 days in the year when it is perfectly acceptable to teach someone to homebrew.

2015 National Homebrewers Conference

The 2015 National Homebrewers Conference, taking place June 11-13, brings us back to the Town & Country Resort in beautiful San Diego, host of the 2011 National Homebrewers Conference. San Diego County is home to 96 breweries with even more expected

to open before the conference comes to town, not to mention many great beer bars and restaurants. San Diego is truly a beer destination you won't want to miss.

The Town & Country Resort offers us the ability to handle at least 4,000 attendees—more than we've had at any previous conference. The nearby trolley station offers mass transit access to much of the city and many breweries.

As with last year's event, the 2015 conference will be open exclusively to AHA members (in California, membership is actually a legal requirement to attend the event). Also similar to last year, members interested in attending the conference can apply to register at any time during the February 18-24 application window. With room for 4,000, we anticipate being able to accommodate all members who want to attend, but should there be more applicants than we have capacity for, we will use a random selection method to determine which members can register. (Even if not

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For the 2015 conference, we will bring back the lower-priced Social Package registration, which does not include access to seminars. Anyone registered for a Full Conference registration will be able to add a guest for a Social Package registration, as long as both registrants are members.

The keynote speaker for this year's National Homebrewers Conference is Tomme Arthur, co-founder and director of brewing operations for The Lost Abbey/Port Brewing Co. In addition to the keynote, we'll have more than 50 presentations for attendees to choose from, covering a broad range of topics of interest to homebrewers.

Since the National Homebrewers Conference is taking over the entire resort, we are able to do some things that wouldn't be possible at other venues. For example, this year's Welcome Reception will be an outdoor event featuring a wide selection of craft breweries and their beers, spread amongst the fountains and gardens of the

everyone gets in on the first go-around, we always have cancellations that open opportunities for those on the waitlist.)

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hotel grounds. Likewise, Club Night will also be held outdoors on the hotel grounds.

We are anticipating the largest Homebrew Expo in conference history with around 140 vendors. The expo will feature equipment, ingredients, beer, and more, and offer attendees a glimpse of many of the new products available to homebrewers—there will be more than a few choice items to drool over.

For more information on the conference, see AHAConference.org.

2015 National Homebrew Competition

With the National Homebrew Competition entrant application window coming up in early February, it's time to start thinking about what you will be entering. For the 2014 competition, the AHA staff worked with the AHA Governing Committee's Competition Subcommittee to institute a number of changes. This year's competition will be run in largely the same manner as the 2014 competition with just a few minor changes.

First off, the Beer Judge Certification Program plans to introduce a new set of guidelines by January 1, 2015. With the release of the new guidelines coming so close to the application window, the AHA staff and the Competition Subcommittee decided to stick with the 2008 version of the guidelines for the 2015 National Homebrew Competition, with plans to switch to the new guidelines in 2016.

The 2014 competition had a record number of entrants, with 3,181 AHA members submitting 8,172 entries—an increase of nearly 1,000 entrants over the previous year's competition. That dramatic increase in entries was made possible by using a pre-registration process that allowed us to determine overall interest in the competition, set an entry cap (four entries per entrant in 2014) to maximize participation, and distribute entries as evenly as possible across the 12 first round judge centers.

We will be using that same pre-registration process for the 2015 National Homebrew Competition, and will once again have 12 first round judge centers, with a maximum

capacity of 750 entries each. One of the lessons learned from last year's competition is that some judge centers are much more popular than others. Entrants can select anywhere from one to all 12 judge centers that they are willing to send entries to. The more judge centers selected, the more likely a prospective entrant is to get into the competition. All judges and stewards from the 2014 competition, this year's competition organizer volunteers, and all lifetime members will be guaranteed entries in the 2015 competition. Those who judge or steward in 2015 will be guaranteed entries in the 2016 competition.

The 2015 National Homebrew Competition will again be using the Beer Judge Certification Program checklist scoresheets for beer entries in both the first and final rounds of the competition. These scoresheets provide a similar level of feedback to entrants while speeding up the judging process. You can find a sample checklist scoresheet on HomebrewersAssociation.org or BJCP.org.

In looking to the future, the AHA Competition Subcommittee recognizes that the National Homebrew Competition cannot be all things to all people. The emphasis moving forward will be on awarding the best homebrews and their brewers. That means less focus placed on providing feedback on individual entries with greater focus on identifying top entries in each category. With around 500 AHA/BJCP sanctioned competitions held each year and 1,900 homebrew clubs around the country, there are ample resources for homebrewers to get feedback on their beers, meads, and ciders; however, there is only one competition where homebrewers can test their skills against more than 8,000 entries. So, if you are planning to enter the National Homebrew Competition, plan to send your best beer, mead, or cider.

For more information on the 2015 competition, check out the NHC pages on HomebrewersAssociation.org.

Here's to a brewtastic 2015!

Gary Glass is director of the American Homebrewers Association.

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National Homebrew Competition

Dear *Zymurgy*,

In scanning the gold-medal winning recipes (September/October 2014 *Zymurgy*) from the National Homebrew Competition (NHC), I was surprised to see how many didn't fit style guidelines. I counted eight beers that were out-of-spec on gravity, along with a couple that had questionable hop additions. I have no axe to grind because I did not enter or judge in this year's contest, but I think it raises a question on the purpose of the Beer Judge Certification Program (BJCP) guidelines and the way we judge beers in amateur competitions.

In a few cases, the style spec violations actually put the beer in a different judging category. The winning Best Bitter was actually an English Pale; the winning Imperial IPA was actually a regular IPA; and—the most egregious example—the winning Scottish 60/- and Best of Show beer was clearly a Scottish 80/-. At an OG of 1.047, it wasn't even close to the 1.030 to 1.035 range specified by the BJCP style guidelines for a true Scottish 60/-. The great challenge of brewing a Scottish 60/- is to realize a complex malt character in such a low-gravity beer. Jack up the gravity by 12 points and it's a lot easier.

I don't mean to disparage the winning brewers. You have to be a damn good brewer to win any medal in the national competition, and I have no doubt all the winners had delectable beers. Winning a gold in the nationals was one of the highlights of my life.

But what are we judging? We have these highly specific, lengthy style descriptors from the BJCP, and I believe the aim is to find a beer that is a "classic example." This is already murky with the odd assortment of beers listed as classic examples. How can hoppy Victory Prima Pils be a classic



German Pilsner when it tastes nothing like Spaten Pils, a true German Pilsner? How can Three Floyds Gumballhead, with its over-the-top hoppiness, be a classic American Wheat when compared to Widmer hefeweizen?

Why don't we quit pretending that we can exactly define all these different categories and offer more general guidelines, similar to the much briefer descriptions Charlie [Papazian] writes for the Great American Beer Festival (GABF)? It would be perfectly logical—and a lot more authentic—to judge a broad group of Scottish ales, instead of breaking them down into gravity categories that brewers often don't respect and even top judges apparently can't discern. And while we're at it, why not consider the GABF style of judging, where all the beers are on the table and tasted randomly by multiple judges. Judging order plays a huge role in determining the winners, especially in categories that promote palate burnout.

I got some advice from a club member when I first started entering contests a dozen years ago. If you want to win medals, exceed the style guidelines. Seems like that's still good advice.

Paul Dienhart
Minneapolis, Minn.

Zymurgy editor Jill Redding responds:
Thanks for your letter, Paul. I asked BJCP president Gordon Strong to respond as well as AHA director Gary Glass. Both are BJCP judges as well as GABF judges. I hope their responses will shed some light on your concerns.

Gary Glass responds: The issue you point out of winning competition entries that appear to not fall within category guidelines is not at all uncommon and certainly not limited to the NHC. The GABF is not immune to this issue, either.

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Both the BJCP style guidelines that the NHC uses and the GABF guidelines contain parameters for the styles being judged, including original and final gravity, IBUs, SRM, etc. that assist judges in determining if an entry is within the style guidelines. Judging is conducted blind, so judges don't have access to the recipe info when they are evaluating the entries—so they aren't seeing gravity statistics or hopping levels. Human sensory perception is only so acute and varies from judge to judge, so determining if a particular entry is a few points higher in gravity than the guidelines specify or a few IBUs over or under what the guidelines

state is quite difficult unless the entry is fairly far out of the specifications.

Something else to keep in mind is that the beer on paper is not the beer in the glass. While a recipe may predict how a beer will be perceived, there are so many factors affecting the ultimate sensory perception of flavor, aroma and mouthfeel that even if a beer is technically out of guideline specs, it may well come across to the judges as being spot on.

Ultimately, the judges are looking to identify the best beers in the category. Falling within

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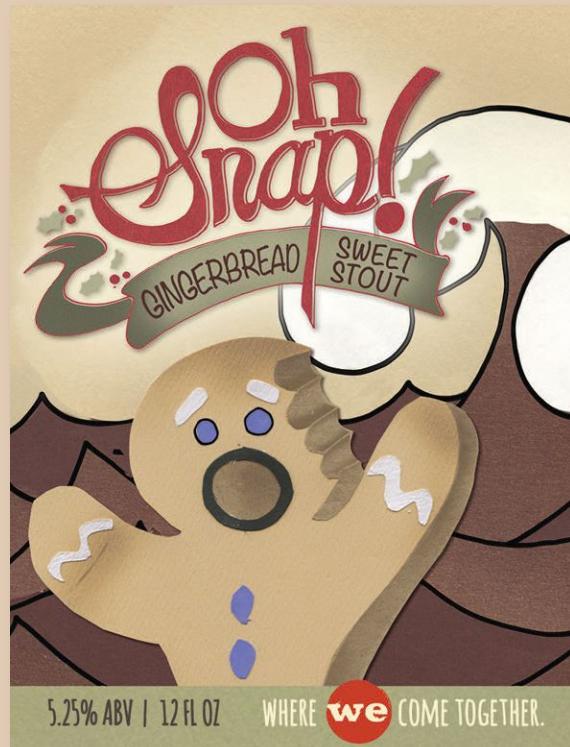
Thomas Jenkins was the winner of HomebrewersAssociation.org's first-ever Battle of the Bottle Labels in November. In all, 118 designs were entered into the competition. Fifteen finalists were selected, and more than 2,250 votes were cast to decide the grand prize design.

To see the runner-up label, go to HomebrewersAssociation.org. Stay tuned for information about the 2015 competition!



Thomas Jenkins
Cleveland, OH

Four years ago, Thomas Jenkins was introduced to homebrewing by a longtime friend in San Francisco, Calif., and since then it has quickly evolved into an obsession marked by his all-grain RIMS system. Jenkins' winning label design was for his seasonal stout with hints of chocolate, cinnamon, ginger, nutmeg and allspice. Being more technically focused with his background in software consultation management, Jenkins teamed up with good friend and graphic designer Ben Quinn to come up with the perfect name and design for the festive stout.



the style guidelines is one factor judges are looking for, but judges must also take into account flaws in the entries as well as balance and drinkability. It is not infrequent that the best entry in a flight does not exactly hit the style, but was better than other entries that had off flavors or were not well balanced and thus were not as good overall.

The subject of using GABF-style judging is one that the AHA Governing Committee's Competition Subcommittee has been discussing. Using GABF-style judging adds substantial logistical challenges to overcome and offers entrants far less feedback than traditional homebrew competition judging. In addition, the GABF has an exceptionally experienced judge pool. Applying that style of judging to a homebrew competition with a less-experienced judge pool may not work nearly as well as it does for the GABF.

Gordon Strong responds: I can comment on the style guidelines and how they are generally used in competitions. Competition organizers are free to use whatever guidelines they want, as well as whatever judging procedures they want; those are not dictated by the BJCP, as long as judging is conducted in compliance with published guidelines. Competitions can use GABF style guidelines if they want; however, note that those guidelines also recognize the same three categories of Scottish ales as the BJCP, so the exact same problem described would still exist.

There are limits to human perception, and not all judges are attuned to out-of-style beers. If you look at GABF winners, you will likely see the same phenomenon. Judges generally judge based on overall balance and impression of a beer, not strict conformance with numeric parameters. This is not limited to the NHC.

The goal of judging is not to choose a replica of a classic commercial example listed in the style guidelines. Commercial examples are listed in the guidelines to help judges learn the range of a style, not serve as a cloning target. Judges should judge against the perceptual characteristics listed in style descriptions, not their recollection of a commercial example.

Some classic examples listed in the guidelines drift over time. The two examples cited are outside the mainstream, and have

been removed from the 2014 BJCP Style Guidelines, as have many others. That helps illustrate the problem with judging based on conformance with commercial examples, not the descriptions.

Judges in competitions are free to judge the beers in whatever tasting order they prefer, and competitions can always randomize the selection. There is no rule in BJCP procedures that says that they must be tasted in a certain order.

GABF style judging is designed for commercial beers with feedback to commercial

brewers. The judging panel for the average flight at the GABF looks like the Best of Show panel that you'd see at the largest homebrew competitions. The quality of judging and judges is quite high; the same cannot be said for the average homebrew competition, where judges may not even be certified or experienced. The methods used at the GABF work there in part due to the level of judges, and the familiarity of the judges with the styles they are judging. If you used those methods at a homebrew competition, the outcome would most likely be similar to a people's choice award at a beer festival unless you used only highly

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experienced National and Master judges. The methods used at homebrew competitions allow relatively inexperienced judges to do a reasonable job judging a flight of unfamiliar styles, in part due to the level of detail in the guidelines.

So I think there is a lot of confusion here about the role of style guidelines in judging, and the amount of control competition organizers and judges have over the judging process. The BJCP doesn't run competitions, so if you think the NHC should adopt different rules, send your suggestions to the AHA GC Competition Subcommittee. However, I suggest you first try out your suggestions in a competition you run, so you can see how well they work; I think you would be surprised by the outcome.

More Brew Dogs

Dear Zymurgy,

Here is my brew assistant, Porter. She is a one-year-old coonhound who loves to eat the spent grain. She is also the only one in the house who doesn't mind listening to me constantly talk about brewing.

Jeff Henning
Prairie Village, Kansas



Brew assistant Porter.



Longtime brewing partner Bessie.

Dear Zymurgy,

This is my longtime brewing partner Bessie. She is eight years old and has been with me during every brew day since I got off of the kitchen stove and moved up to all-grain brewing. Unfortunately, when my family and I moved from the Four Corners area of New Mexico to the Black Hills of South Dakota so I could go back to college, I have been too busy to brew. Hopefully that will change soon.

That tank of a brewstand in the background is Big Blue, made by an awesome friend of mine named Neal. A homemade stand for homemade beer—there is nothing better.

Alec Snyder
Piedmont, S.D.

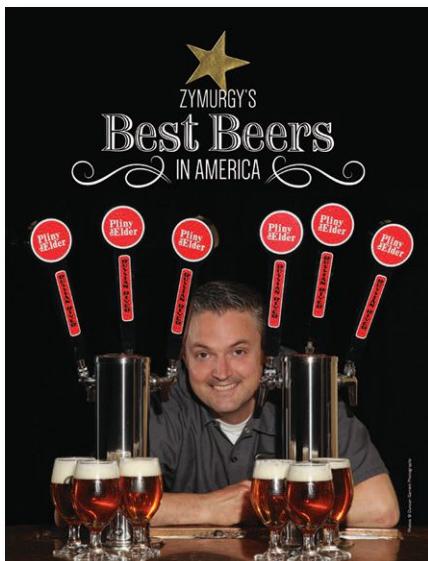
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Pliny the Elder

Dear Zymurgy,

I got my first issue of Zymurgy (July/August 2014) and I have to say it was a great read. I sat late into the evening reading all the articles. I was fascinated by the Pliny the Elder content and Russian River Brewery.

As I was looking into the recipe and the brewery, I came across a post on their website saying they brew Pliny the Elder with Amarillo, Centennial, CTZ, and Simcoe hops. They also said the OG is 1.070 and the ABV is 8.0 percent. But, in the magazine version of Pliny, the recipe calls for Columbus, Centennial, and Simcoe. The OG is 1.072 and the ABV is 8.2 percent.

I can understand the variations in OG and ABV, but I'm curious as to the omission of Amarillo and CTZ and the addition of Columbus. [Editor's Note: Columbus, Tomahawk, and Zeus (CTZ) and Columbus are the same hop variety.]

Did Vinnie Cilurzo explain the difference somewhere?

Thanks,
Robert Mosier
Columbia, Md.

Russian River's Vinnie Cilurzo responds:
As with most breweries, we are always trying to better our beer and this sometimes includes minor changes like gravity. Both

gravities will work; one just finishes a little drier but both yield around 8 percent ABV. We hit 1.070 these days. We have added in a little Amarillo to the recipe at the end of boil and in the dry hop. In general I see this homebrew recipe for Pliny the Elder as a starting point for homebrewers. My hope is they will take it from there and make it their own.

Correction

In the September/October 2014 Last Drop author's bio, Andrew Luberto is a BJCP National judge.

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

Hey homebrewers! If you have a homebrew 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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by Professor Surfeit



Firestorm Fueled by Nitrogen

The Professor's Note: No, don't worry, I'm not going to say nitrogen is flammable. But Carlos Ojeda's question (May/June 2014 Zymurgy) and my response both in that issue and in September/October really brought out some debate among readers. Does nitrogen gas impart a particular flavor to beer? Here are a couple of insights I received.

Dear Professor,

I have to comment on Trent Fargher's letter in the September/October issue that claims that the off-taste you associate with nitrogen could not be from the gas because nitrogen is inert. In fact, it is not inert. Only the noble gases are inert, and nitrogen is not among that group. Granted, it may not be the nitrogen causing that flavor (never experienced that myself), but that gas is definitely inert. Or reactive. I guess that is the correct term.

All the best,
Carl Weaver
RealHomebrew.com

Dear Professor,

Your insights are deep and rich, and your brewing career is long and storied. However, on the topic of nitro flavors, you have given in to some imagined fears that can't possibly play out in reality.

We spend our lives literally swimming in nitrogen because air is 78 percent nitrogen. You know from your years of tasting beers that taste and smell are highly related, and that as your senses are subjected to tastes and smells over a sustained period of time, they become acclimated and eventually lose their sensitivity for them.



Even if nitrogen had some characteristic taste or smell, your senses would have long ago lost their ability to discern it because they are constantly awash in the taste and smell of nitrogen as you breathe.

Of all the things that can be put into beer, nitrogen has to be the one with the least ability to influence its flavor profile. It can't react with any other beer ingredients, and your senses have been overwhelmed by it since the day you were born.

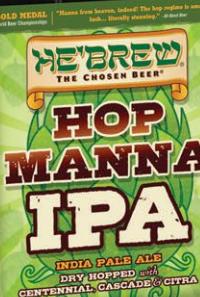
Bruce Onsager
Naperville, Ill.

Dear Carl and Bruce,
Carl, thanks for getting the inert/inert facts right about nitrogen. Bruce, your essay on nitrogen and your summary statement "Of all the things that can be put into beer, nitrogen has to be the one with the least ability to influence its flavor profile" really, I mean really, got me to thinking. And I want to offer this statement: I think we are both right.

Nitrogen in and of itself may not add flavors, but let's look at what's going on with beer. Beer normally carbonated with carbon dioxide has dissolved carbonic acid. Among other things, it results in a particular mouthfeel

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different than what nitrogen bubbles stimulate. Carbonic acid is acidic. Carbon dioxide contributes a balance of acidity that most all beer-loving folks really appreciate.

When you start infusing nitrogen into beer and reduce carbon dioxide, you take away the carbonic acid. The physics of nitrogen gas-created bubbles are different than carbon dioxide. Nitrogen has the tendency to create smaller bubbles. That's why it seems creamier in mouthfeel. Now then, if you take away carbonic acid and replace it with nitrogen gas, you are taking away the flavors we associate with a carbonated beer. Thus the addition of nitrogen has affected the flavor of beer. In addition, I would hazard to postulate that carbon dioxide bubbles release the aromas within more readily than the tiny nitrogen bubbles that tend to have more power to stay. And for sure there are fewer nitrogen bubbles released on an ongoing basis because I don't believe you can dissolve as much bubble-creating nitrogen in beer as you can carbon dioxide. What I'm saying here is that carbon dioxide has more ability to carry aromatics out of the beer.

taurant in Washington, D.C. They put Sierra Nevada Pale Ale on draft with forced nitrogen. The beer came out with a creamy head and I was immediately suspicious. I smelled, I drank, I tasted. I swore it was not Sierra Nevada Pale Ale, but the waiter insisted that it was. Then I realized that it was on nitrogen (contrary to the brewery's wishes, I might add). It was a completely different beer. It had minimal aroma and the lack of CO₂ and the sensation of nitrogen changed the taste of the beer. I opted to exchange the beer for something else.

So maybe we can all go back to enjoying our beer any way we like it.

In peace,
The Professor, Hb.D.



Weisse Wisdom

Dear Professor,
When using Pilsner malts, I've always heard that a good rolling boil for 90 minutes reduces DMS, and chilling the wort quickly minimizes DMS and its precursors. However, in brewing Berliner weisse, I've boiled the wort, consisting of 50 percent Pilsner malt and 50 percent wheat, for 15 minutes. At the 2012 National Homebrewers Conference in Seattle, a professional brewer mentioned a boil of 30 minutes. I've never noticed DMS in my Berliner weisse, nor have I noticed it in other people's Berliner weisse (and I can smell DMS). Why does a Berliner weisse not require an extended boil to rid the beer of DMS? Does the *Lactobacillus* somehow eliminate the DMS?

Nitrogen has reacted with the beer in other ways than simple flavor addition or reaction, which as you say doesn't happen. But I will go out on any limb with a statement that adding nitrogen gas and reducing carbon dioxide does dramatically affect the flavor, aroma, and physical experiences we perceive in the enjoyment of our beer. Furthermore, consider the difference in taste from a carbonated beer and a flat beer. To me, when CO₂ is reduced and nitrogen is added, the beer begins to have the flavor character of flat beer.

About that brass character that started all this with Carlos' question: It may be corroded brass fittings, but it also might be the realignment of a combination of flavor, aroma, and physical sensations that alter the reality we have with beer. I may have misrepresented it as a "metallic" character for lack of a better description. Someone else might describe their altered experience in some other manner. But most beer drinkers I discuss this with agree that "nitrogen-gassed" beer is a different experience than traditional carbonated beer.

In closing, let me share an experience I had many years ago at a well-known seafood res-

Yours in bafflement,
John Kelly



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Dear John,
I've had similar questions about DMS and lactic ferments, so I asked some of the brewing community's smartest minds about these observations.

First off, Chris Swersey, technical projects manager for the Brewers Association, confirmed what I already suspected, that "improved malt varieties in general will lower DMS production and evolution. They do this by containing less DMS precursor, s-methyl methionine. Quick chilling reduces DMS; it is produced at elevated temperatures from the precursor..."

Peter Bouckaert, brewmaster at New Belgium Brewing, is a master of sour fermented beers. He replies:

There are a few different things here to be mentioned.

- DMS is very temperature-dependent in its formation. Not boiling a Berliner weisse will not allow for DMS formation at the lower temperatures of lautering. The formation really starts around 167° F (75° C), the warmer the faster.
- The [perception of] DMS threshold [which is] around 50 parts per billion or ppb is higher if the beer is more complex.
- The lower the pH at boil, the lower the conversion rate. That is true within the regular range of boil pH—5.0 to 5.75—but can probably be [more dramatic] for lower pH [boils].
- [A note on lambic beers.] True lambics are boiled for a long time so the DMS should be way low going into fermentation, but the first wort bacteria step increases DMS again (up to 500 ppb) to be lowered again by fermentation and aging.

So John, for both you and me, we have some insight into the mysteries of DMS and sour weisse beers. Perhaps Zymurgy readers can offer additional insight.

Not as baffled,
The Professor, Hb.D.

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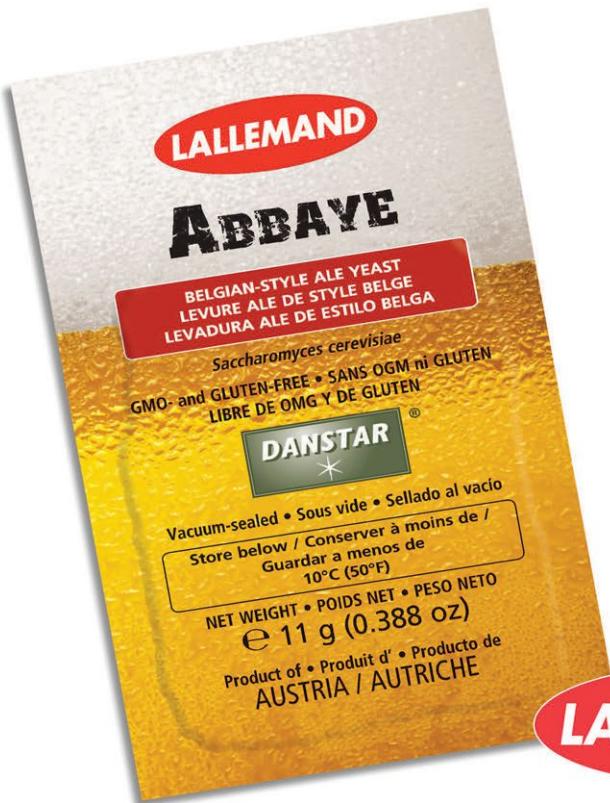


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By Amahl Turczyn

Classic American Pilsner and Cream Ale

For whatever reason, Pre-Prohibition-style American pilsners remain almost impossible to find commercially. Homebrewers, of course, have Classic American Pilsner (CAP), largely thanks to the efforts of historically-minded beer writers like Jeff Renner, Randy Mosher, and the late Dr. George Fix.

CAPs, along with their Cream Ale counterparts, are adjunct beers, with corn and/or rice making up part of the grain bill, though it's important to note that not all Pre-Prohibition pilsners were brewed with adjuncts; many were all-malt beers more in keeping with Old World pilsners. Considering that "American pilsner" before Prohibition was primarily brewed and enjoyed by German, Czech, and other European immigrants trying to replicate the beers of their homeland with locally available ingredients, this link is unsurprising. So why then did they become increasingly lighter, weaker in strength, and less bitter when the brewing industry began its slow recovery and eventual consolidation after Prohibition was repealed?

Some sources suggest American thrift during wartime was to blame; barley was needed more for cattle than for brewing, so brewers used less malt. Other sources suggest that as more women joined the workforce, brewers adjusted their products to more closely align with popular taste; by this argument, American women apparently preferred lighter, sweeter beer, though that's hardly the case today. Dark, strong, and bitter is all the rage in both the craft and amateur brewing sectors, and has been for some time.



Perhaps then it is fitting that "popular taste" is showing signs of once again swinging back the other way. With craft brewers seeking to outdo each other with all manner of IPAs, higher-octane black beers, imperial this, and ludicrously-hopped that, one lighter American beer style has enjoyed a bit of a resurgence: Cream Ale. Narragansett Cream Ale, Little Kings, and Genesee are perhaps the oldest and longest enduring of these pale, refreshing beers, but more recently craft brands like New Glarus Spotted Cow, Full Steam's El Toro, and Sixpoint Brewing's Sweet Action have quietly been establishing their own popularity. Spotted Cow is in fact Wisconsin's top-selling draft craft beer.

CAPs, in contrast, remain woefully scarce outside the homebrew community, though brewer Keith Villa made a noble attempt to revive Pre-Prohibition American style pilsners with Coors' Batch 19. Critics of course maintain Batch 19

was only inspired by the historical style, and that labeling it "banned," "defiantly bold" and "back from the lost archives" is merely a marketing stunt. But even without the historical nod, at 26 IBUs, 5.5 percent ABV, and with the use of high-grade nobles like Hersbrucker and Strisselspalt, it should at least get points as a sort of bridge product for would-be craft drinkers.

Even with the use of 20 to 30 percent corn, Classic American Pilsners can be wonderful, full-flavored showcases for the best-quality American barley and hop varieties. One could argue that domestic pale two-row and pilsner malts were meant for adjunct beer styles. After all, both craft and amateur brewers have mega breweries to thank for the availability of domestic brewing ingredients, and over the last century, base malt and high-alpha hop varieties have been selected and bred for brewing those same light, adjunct pilsners. It wasn't

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until the last two or three decades that this country saw any interest in breeding new varieties of hops, and as far as barley is concerned, nearly all craft brewers and homebrewers have been content to use the same Harrington and Klages pale malts grown for the big brewers. Those barleys are grown and malted to achieve high diastatic power for fast, convenient enzymatic conversion of adjunct starches.

That said, "full-flavored adjunct lager" can be somewhat of an oxymoron, depending upon the chosen starch. Corn adds a subtle sweetness to a barley-based beer, a light, grainy aroma, and a roundness of flavor that's a great complement to late-hopped, aromatic Old World pale beers like Bohemian Pilsner and Kolsch. Rice tends to add little to pale beers, instead making them lighter and drier in the finish by increasing alcohol content without contributing any flavor, aroma, or color. But rice isn't just cheap filler, either; in bitterer Old World styles like German pilsner, it can add a crispness and sharpness that accentuates bitterness and allows those kettle hops to really pop.

Brewing a CAP or a Classic American Cream Ale (affectionately abbreviated as CACA) isn't difficult, but for those using ungelatinized adjuncts, the extra cereal mash steps can be somewhat tedious. Corn grits, polenta, and rice must all be cooked before being introduced to the barley mash for enzymatic conversion. For homebrewers, this means an extra kettle on the stove, and an extra one to two hours of work. Renner's cereal mash procedure calls for mashing the cereal with milled barley malt prior to cooking it. This "loosens" the cereal starches, as enough conversion takes place to keep them from getting sticky as they cook. For rice and fine-ground cereals like corn meal this works very well. If using coarse corn grits or polenta, however, you can simply boil the grits in water as you would prepare them for the table (no butter or salt, please). When they are soft enough to eat—cooking time will vary depending on the coarseness of the grits—they are sufficiently gelatinized for conversion. You would then cool the grits to conversion temperatures of 154-156° F (68-69° C)—ice cubes work well for

this—and then introduce the barley. Add milled, dry six-row pale malt (a pound is sufficient for 2.5 pounds of adjunct used in the included recipes) to the thick boiled cereal and let the enzymes work their magic. It's really worth doing at least once, just to see the enzymes in action.

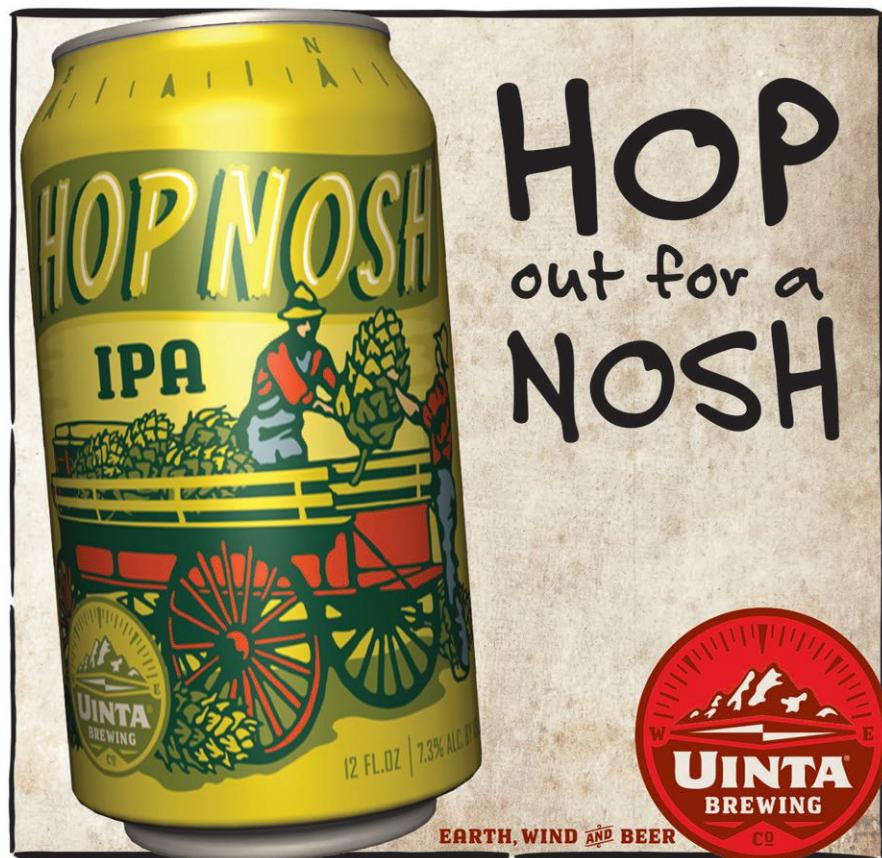
Intuitively, adding dry grist to the sticky, cement-like starch could only make it thicker. But once the dry barley goes in, the whole unwieldy mass turns into a thin, sugar-rich semi-liquid in seconds. If you ever had your doubts about the diastatic power of good old American pale malt, or wanted a fairly dramatic demonstration of enzymatic saccharification, this cereal mash schedule is a great confirmation.

Once all the cereal has been well blended and you've given the enzymes a chance to work—20 to 30 minutes is usually sufficient—the next step is to bring the partially converted cereal back up to a boil for a short period (15 to 20 minutes). Then you blend it with your main mash to give it a step up in temperature, as you would for a normal decoction schedule. Added to your 149° (56° C) main mash, everything should equalize at 156–158° F (69–70° C). Give the combined mash another 15 minutes to rest, then mash out and sparge.

Those with the patience and discipline to conduct decoction mashes will find it familiar territory; but those inclined to take the easiest path to brewing great beer might find flaked maize or flaked rice a much-preferred alternative. Using flaked adjunct couldn't be easier: just stir it in at the beginning of your mash and go.

So why cook thick starch if you don't have to? I feel the extra boil extracts more starch from the larger-particle cereals, though there are obvious drawbacks: stirring thick, hot cereal requires a lot of effort, and the risk of kettle scorching is much higher, so it also needs constant attention. The gooey stuff tends to leap out of the pot as it boils and spatters, so if you aren't used to cooking polenta in your kitchen, be warned: low temps, patience, and long sleeves are all recommended.

There is a third option for corn: popcorn. As with torrified wheat, heating kernels of



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Noble Cross Classic American Pilsner

INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

4.5 lb	(2.04 kg) U.S. pilsner malt
4.5 lb	(2.04 kg) U.S. pale two-row malt
2.5 lb	(0.90 kg) flaked rice
2.0 oz	(56 g) acid malt
1.0 oz	(28 g) Vanguard pellets, 5.5% a.a. (FWH)
1.0 oz	(28 g) Vanguard pellets, 5.5% a.a. (15 min)
WhirlFloc	(10 min, optional)
1.0 oz	(28 g) Vanguard pellets, 5.5% a.a. (5 min)
1.0 oz	(28 g) Vanguard pellets, 5.5% a.a. (steep 10 min)
1.0 oz	(28 g) Vanguard pellets (dry hop 3 days, optional)
Wyeast 1007	Pilsen lager yeast, 5L starter or 220 mL slurry
5 g	calcium sulfate (in mash) reverse-osmosis filtered (or activated charcoal filtered) water

Original Gravity: 1.057 (14° P)

Finishing Gravity: 1.010 (2.5° P)

IBUs: 40

SRM: 3.4

ABV: 6%

Boil Time: 90 minutes

Assumed Brewhouse Efficiency: 75%

corn quickly to high temperatures causes the soft, wet interior endosperm layer to vaporize into steam, detonating the hard exterior layer and turning the entire kernel inside out, gelatinizing the kernel's starches in the process. Can we use it just like flaked corn? You bet your father's mustache we can. No salt, butter, or oil though, which means a hot air popper is your best option. And have you ever seen two and a half pounds of popcorn once it's popped? Think of a filled lawn trash bag, and you'll be close. Then you have to get all that into your mash tun.

A word on base malts. Six-row is great, and enzymatically, it's the logical first

DIRECTIONS

Mash in at 149° F (65° C) and hold for 45 minutes. Increase mash temp to 158° F (70° C) and hold for 10 minutes. Sparge at 168° F (76° C) until runoff wort gravity reaches 1.008 (2° P) or pH 5.8 (whichever comes first). Collect enough wort to leave 5.5 gallons (20.8 L) after a 90-minute boil, adding hops and other ingredients at stated intervals. After flameout, wort may be whirlpooled for break separation while the last hop addition steeps. Chill to 68° F (20° C), aerate and pitch. When fermentation is evident, lower to 48° F (9° C) and hold for two weeks, or until activity slows. Raise fermentation temperature to 55° F (13° C) for a diacetyl rest and hold for three days. This is the time to dry hop, if you choose. Crash to lagering temperature, package and lager at least six weeks; eight is better.

PARTIAL MASH RECIPE

Substitute 4 lb (1.81 kg) pilsner malt extract syrup for the pale, pilsner, and acid malts. Mash 4 lb (1.81 kg) pale six-row malt with flaked rice at 155° F (68° C) for 45 minutes. Rinse grains, dissolve extract thoroughly and proceed with boil. Note that color may be slightly darker (3.5 SRM) with the partial extract recipe.

EXTRACT RECIPE

Substitute 7 lb (3.18 kg) pilsner malt extract syrup for the pale, pilsner, and acid malts, and 2 lb (0.9 kg) rice extract syrup for the flaked rice. Dissolve extract completely and proceed with boil.

choice. But unless you go whole hog with the cereal mash, it's not really necessary. You'd actually do better to increase the percentage of corn in order to offset six-row's higher protein content, but at around 20 percent adjunct, two-row will work fine. Domestic pilsner malt is also a great choice; I prefer a 50/50 blend of pilsner malt and two-row pale, with just a hint (1 percent total) of acid malt to moderate pH in the mash.

Cluster is the traditionally accurate choice for hops, and you are welcome to use it for bittering, but there are so many "neo-noble" American hops available today that I've switched to using low-

alpha hops in a relatively large first wort hop (FWH) addition, then a whole lot of the same in late and whirlpool additions. U.S.-grown Hallertau, Tettnang, Saaz, Mt. Hood, and Vanguard (which reminds me a little of Mittelfruh) would be my top choices. Ultra, Liberty, and Crystal are also viable candidates. You can of course go with a smaller first wort hopping addition of higher-alpha hops—I've used U.S. Magnum for these beers with great success.

One thing to keep in mind with first wort hopping is that the procedure as outlined by Fix calls for steeping the hops in the first kettle runnings prior to boiling, and keeping the wort at about 170° F until the total pre-boil volume has been run in. Note that this is lower than the assumed minimum temperature for hop isomerization: 185° F. But somehow, at least theoretically, aromatic hop compounds bind with the wort, and survive through the boil along with a "smooth" bitterness. Unavoidably however, hop bittering compounds get bound up with break material once the boil is finally reached, and perhaps for this reason, first-wort hopped beers do not have as much perceived bitterness as conventionally hopped beers.

For my own brewing, I've found that first wort hopping cuts down my utilization rates dramatically; what Beersmith 2 tells me should be a 60 IBU, 90-minute pellet addition ends up tasting, to my palate at least, more like 30 IBUs if I've added the hops before boiling. I adjust by simply doubling the first wort hop addition, and the beers come out clean, hoppy, and smooth. It might just be a quirk of my own system, but you might consider either skipping the first wort protocol and waiting until the boil has commenced before adding your first charge, or bumping up the FWH addition a bit.

Finally, I know it's not traditional to dry-hop a pilsner, but you might consider a three-day post-fermentation addition while you do your diacetyl rest. The aromatics really improve, and after a suitable lagering period, hop-derived haze is minimal. Heck, Dr. Fix dry-hopped his Pre-Pro pilsners—that's good enough for me.

Noble Cross Classic American Cream Ale

INGREDIENTS

for 5.5 gallons (20.82 L)

4.5 lb	(2.04 kg) U.S. pilsner malt
4.5 lb	(2.04 kg) U.S. pale two-row malt
2.5 lb	(0.90 kg) flaked or popped corn
2.0 oz	(56 g) acid malt
1.5 oz	(42 g) U.S. Tettnang pellets, 4.5% a.a. (FWH)
1.0 oz	(28 g) U.S. Tettnang pellets, 4.5% a.a. (15 min)
WhirlFloc	(10 min, optional)
1.0 oz	(28 g) U.S. Tettnang pellets, 4.5% a.a. (5 min)
1.0 oz	(28 g) U.S. Tettnang pellets, 4.5% a.a. (steep 10 min)
1.0 oz	(28 g) U.S. Tettnang pellets (dry hop 3 days, optional)

White Labs WLP029

German Ale/Kölsch yeast,
2 L starter or 145 mL
slurry

5 g	calcium chloride (in mash) reverse-osmosis filtered (or activated charcoal filtered) water
------------	---

Original Gravity: 1.058 (14.25° P)

Finishing Gravity: 1.011 (2.75° P)

IBUs: 36

SRM: 3.5

ABV: 6.3%

Boil Time: 90 minutes

Assumed Brewhouse Efficiency: 75%

DIRECTIONS

Mash in at 149° F (65° C) and hold for 45 minutes. Increase mash temp to 158° F (70° C) and hold for 10 minutes. Sparge at 168° F (76° C) until runoff wort gravity reaches 1.008 (2° P) or pH 5.8 (whichever comes first). Collect enough wort to leave 5.5 gallons (20.8 L) after a 90-minute boil, adding hops and other ingredients at stated intervals. After flameout, wort may be whirlpoled for break separation while the last hop addition steeps. Chill to 70° F (21° C), aerate and pitch. Ferment at 68° F (20° C) until terminal gravity is reached. Dry hop for three days at the same temperature, if desired. Crash to 40° F (4° C) and cold condition for three weeks, then package and carbonate (or bottle and prime).

PARTIAL MASH RECIPE

Substitute 4 lb (1.81 kg) pilsner malt extract syrup for the pale, pilsner and acid malts. Mash 4 lb (1.81 kg) pale six-row malt with flaked corn at 155° F (68° C) for 45 minutes. Rinse grains, dissolve extract thoroughly and proceed with boil. Note that color may be slightly darker (3.9 SRM) with the partial extract recipe. Due to the difficulty of obtaining brewer's corn syrup, a full extract recipe is not provided; supermarket corn syrup or corn sugar (dextrose) will not result in a flavor profile similar to the all-grain recipe.

The advertisement features the Ss Brewing Technologies logo and the text "FTSS CONTROL YOUR TEMPS!". It highlights the importance of temperature control in beer fermentation. A graph shows prototype testing results with ice water from a cooler, comparing ambient temperature (black line) and beer temperature (blue line) over time, demonstrating the system's ability to maintain a stable temperature of approximately 68°F. Below the graph, various components of the FTSS system are displayed, including a black control unit, a stainless steel immersion chiller, a coiled white tube, and a circular metal plate with mounting hardware.

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Choose very soft, de-chlorinated water, preferably reverse-osmosis treated or distilled. For softer, maltier CAPs and CACAs, a modest addition of calcium chloride will encourage those characteristics and allow floral hop aromas to mingle with luscious corn and barley flavors. For drier, sharper beers, especially if you are using rice instead of corn, calcium sulfate will accentuate a crisp finish. But no more than 1 gram per gallon of these salts is necessary either way; you are only targeting 60ppm calcium.

Pilsner lager yeast is perfect for CAPs, but Czech/Bohemian lager yeast strains work well too. If you are pitching the recommended 220 mL fresh slurry from a previous batch rather than a newly propagated starter, you can chill directly to 48° F (9° C) and pitch. The onset of fermentation might be delayed slightly depending upon the freshness of your yeast, but don't worry; that extra volume of yeast will result in a clean, smooth, ester-free beer. Otherwise, use a 2 L starter and pitch it at 68° F (20° C); when you start to see bubbles emerging from the airlock, lower it to fermentation temperatures. This will give the yeast a good head start. For the ale yeast, a 2L starter should be more than sufficient, or about 145mL of fresh slurry; you are targeting just under 300 billion viable yeast cells. While a partial mash recipe is included for both beers, all-grain is highly recommended, more for attenuation than color; these are dry beers, and both the hybrid ale and lager yeasts are fully capable of complete fermentation even from these relatively high starting gravities. Some malt extracts tend to be slightly less fermentable, however, so if you go that route, choose a high-quality brand.

Also, note that yeast types are interchangeable for these recipes; a round, malty CAP is every bit as good as a dry, crisp CACA. How often can you get away with saying that around non-brewers?

Resource

1. Renner, Jeff. "The Revival of the Classic American Pilsner," *Zymurgy*, September/October 2000. Available at HomebrewersAssociation.org/magazine/free-downloads.

Amahl Turczyn is associate editor of Zymurgy.



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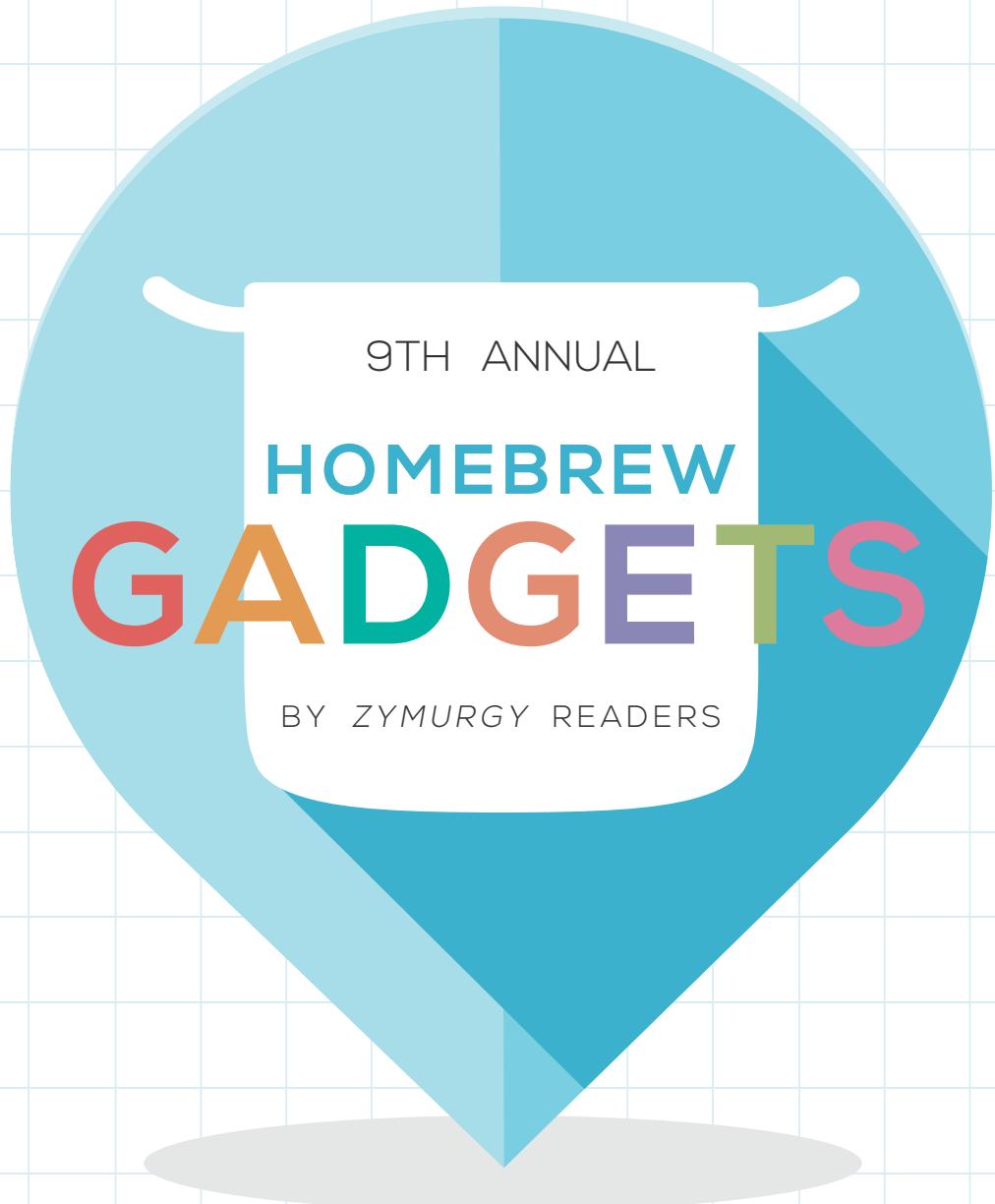
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The Zymurgy Gadgets issue is an annual celebration of the do-it-yourself culture of homebrewers. If a piece of equipment isn't working for them, they'll often tweak it, build something from scratch, or find a homebrew-related use for household appliances or parts.

As we do each year, we asked Zymurgy readers to submit their homebrewing gadgets for the ninth annual Gadgets issue, and here's what they've been working on. >>

01

CO₂ CANISTER AND GUN STABILIZER/STORAGE DEVICE

Many homebrewers use CO₂ at various stages of beer production. Whether blanketing the batch during transfer or sampling, or purging bottles before bottling, using a spring-triggered “gun” to dispense CO₂ as needed comes in handy, but the tank and attached gun assembly are unwieldy and difficult to transport. After struggling with the heavy canister destined to fall over as I moved it, I created a stabilizer and storage unit—all for \$25 and about 30 minutes of work.

MATERIALS

- ❑ Bucket, preferably the 6.5 gallon “Ale Pail” size
- ❑ 1 inch (internal diameter) PVC pipe—20 inch length
- ❑ Elbow PVC 1 inch connector
- ❑ Zip ties—24-inch heavy duty (pack of 10) and 11-inch (pack of 10)

ASSEMBLY

1. Place CO₂ canister inside bucket aligned with one side of the bucket handle. Mark and drill two sets of drill holes 3 inches apart. This will allow the zip to wrap around the canister (usually 6 inches in diameter). Drill two additional holes 1 inch apart at the top of the bucket to secure the top of the canister.
2. Attach the two heavy-duty zip ties so that the locks are on the inside. The smaller zip tie will suffice for the top attachment.
3. Attach PVC elbow to end of pipe. Place into bucket opposite the canister at about the 4 o'clock position, elbow at the bottom, and mark top of pipe for a flush cut to the top of your bucket. Cut the pipe.
4. Reinsert pipe and mark and drill two sets of drill holes 1 inch apart.
5. Attach the two smaller zip ties again so that the locks are on the inside.

USE

1. Spray the gun and “holster”/PVC pipe thoroughly with Star San before use.
2. When it's time to change out the CO₂ canister, clip the zip ties and re-zip tie when your canister has been filled.

Kevin Crumpton

Colorado Springs, Colo.



02

TINCTURE IN A FLASH

like making aromatic tinctures to have on hand for adding new and interesting flavors to my beers. When I'm thinking ahead, they're easy as pie to create—a few ounces of vodka, a bit of the flavoring agent, a jar, and a week's time. But sometimes, I forget, or develop a plan on the fly, or want to correct a flaw and I don't have time to wait.

For those moments, I break out my stainless steel “whipping siphon.” These days you mostly find these nitrous-powered beauties at your local coffee joint topping up your caramel fudge coffee shake with a bit of whipped cream. They also have a secret power that I learned from the restaurant world: they can create powerful extracts in seconds.

All you need is to add vodka and a flavorful substance to your siphon, pressurize it, shake, and release the pressure. After a

bit of filtering, you have a clean, potent extract perfect for use in your beers/meads/ciders. I'll often do this to create interesting bottle variants on mead.

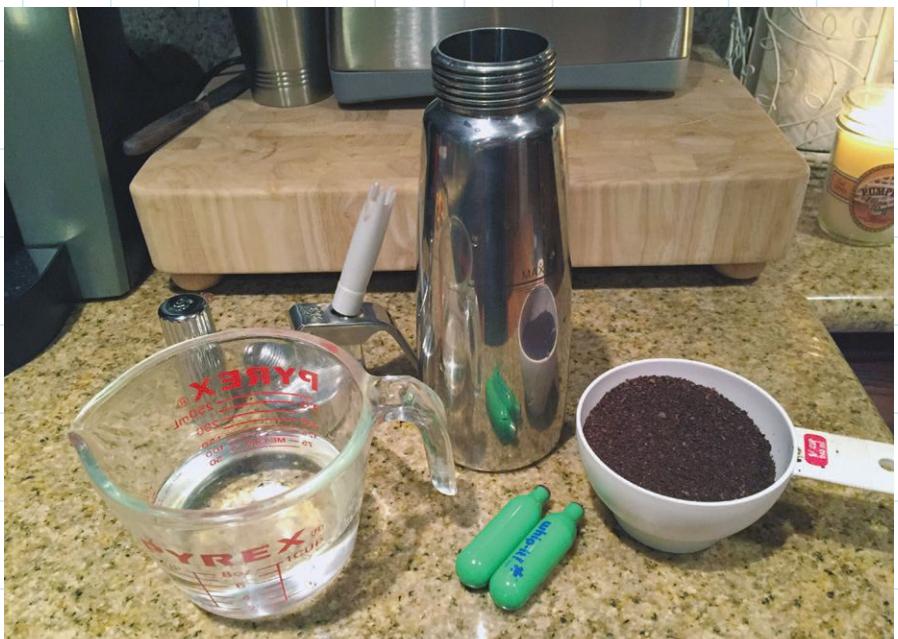
How does it work? When charged, the siphon's pressure rises to over six times the atmosphere. The N₂O and vodka suffuse the cells of the target material (shaking and swirling help). When the pressure is suddenly released, a violent cavitation ruptures the cell walls as the nitrous escapes. Voila! Instant extract.

The downside? A good whipping siphon isn't cheap—\$35 to \$100 plus the cost of the nitrous cartridges. But it also works great for making whipped cream, chocolate mousse, and flavored cocktails.

INSTANT BERRY

HIBISCUS EXTRACT

- | | |
|------------------------------------|---|
| <input type="checkbox"/> 4 teabags | Wild Berry Zinger Tea
(remove tea from
the teabags) |
| <input type="checkbox"/> 4 oz | vodka (good quality) |
| <input type="checkbox"/> 2 | nitrous cartridges |



Add tea leaves and vodka to the siphon and seal tightly. Crack two nitrous cartridges into the siphon. Shake/swirl for 15-30 seconds and let sit for 15-30 seconds. Cover the out spout with a towel and squeeze the trigger to release all the

pressure at once. Pour through a fine mesh sieve lined with a coffee filter or paper towel. Use as you like.

Drew Beechum
Pasadena, Calif.

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beer and ourselves.

03

FULL-SIZE FRIDGE CONVERSION

I converted a full-size fridge into a lagering cabinet, into which I can fit seven standard fermentation buckets. Alternatively, the bottom shelf area is tall enough for a full-size keg, corny kegs, and my 20 pound CO₂ bottle with the regulator attached.

This project requires a few inexpensive special tools, but will most likely take an entire weekend, lots of improvisation, and some thorough cleaning. I would peg the average cost of this project at about \$200 (including a secondhand fridge). I scored a fridge on Craigslist for \$100.

My initial pipe dream was to pull the guts from a cheap fridge and then fit them into a custom built cabinet meant to house many fermentation buckets, corny kegs, and anything else to keep cool. Time and the fact that I realized I could do it another way convinced me to just find an ideal fridge and tear out the divider between the freezer and the fridge. I also modified the doors to be one large full-length door.

MATERIALS

- 2 x 4 lumber to create support for shelves
- Drywall screws (lots)
- Plywood of your preference (I happened to have ½ inch)
- Stain or waterproof sealant for the wood
- Duct tape
- FRP Board (approx. \$25 for a 4 x 8 foot sheet)
- Aluminum angle
- Sheet metal screws
- Wire shelving

REQUIRED TOOLS

- Hacksaw
- Set of assorted drill bits
- Miter saw
- Circular saw
- Handheld jigsaw
- Hand drill

USEFUL TOOLS

- Set of assorted screw, torx, hex, socket, and screwdriver bits
- Tin snips
- Tack puller
- File set
- Magnetic bowl
- Nut setter

For disassembly, door modification and building and installing the shelves, go to <http://fermware.com/refrigerator-conversion-to-kegerator-lagerator-fermentation-cabinet/>.

Eric Strauss
Fishers, Ind.



04

CHILLUS TINYMUS

Can you use an immersion chiller for 5 liter yeast starters? Yes!

I sourced 10 feet of ¼ inch OD soft copper tubing, filled it with salt for a smooth bend, and formed it around a “mandrel” of ½ inch PVC pipe using eye bolts to help secure the coil. I then turned 12-13 coils down and back each way to create a double layer just over a foot in length. With the addition of 90-degree compression elbows, it was the perfect length to remain seated at the mouth of the flask, while leaving enough room for a stir bar underneath. After that, you simply flush out the salt with tap water and it’s ready to go.

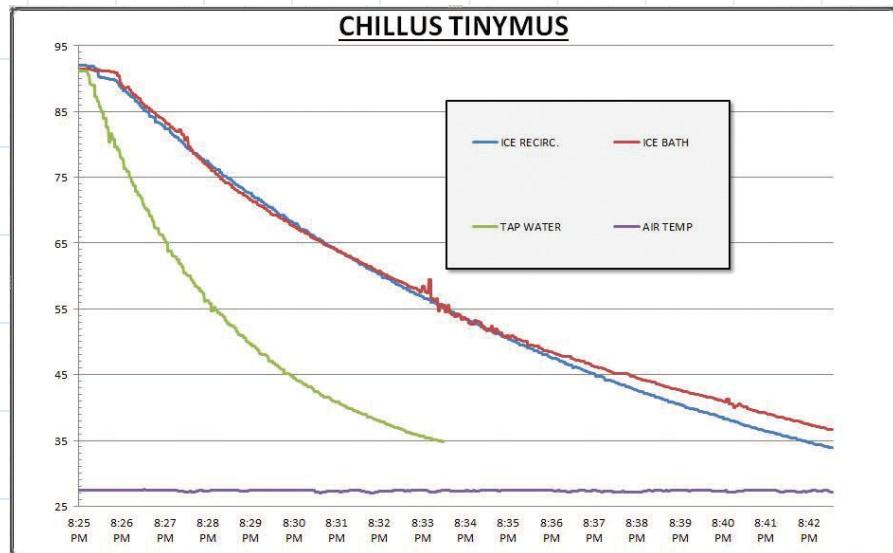
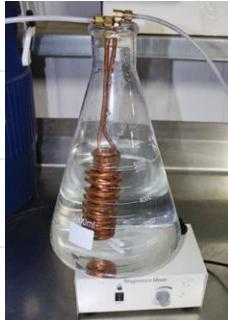
To test Chillus Tinymus, I boiled 5 liters of water in each flask and tried three dif-



ferent methods. I logged data, sampling every second, to produce a clear dataset. The baseline, Flask A, was tested with the traditional ice bath method, while Flask B and Flask C were tested on a stir plate. Flask B used a pond pump to recirculate ice water through the coil and Flask C had 86° F (30° C) tap water running through the coil. I was surprised to see the ice bath and ice water recirculation tests track together. >>

I was even more surprised to find that the “summer-in-Texas” tap water greatly outperformed the aforementioned methods better than 2:1. Each sample was allowed to chill to about 95° F (35° C) taking just under 20 minutes for the ice-bath and recirculated ice water tests and only eight minutes for the tap water test. The Chillus Tinymus is easily constructed and can help make your starters faster and easier than ever before.

Craig Gilbreath
Lipan, Texas



05

PELTIER COOLING AND HEATING

I modified my 14 gallon MoreBeer! Fermenter for peltier cooling and heating with a dual stage temperature controller. These instructions can be used in conjunction with information from Rob Swanson available at <http://conical-fermenter.com/TemperatureControlledBuildSetup.pdf>. I used his instructions as a springboard for my build.

MATERIALS

- ❑ White silicone thermal grease (35-40 syringes)
- ❑ Four HP XW4200 CPU heat sink and fan assembly 364409-001
- ❑ Four 90 watt thermoelectric Peltier chips
- ❑ Aluminum blocks
- ❑ 22 ga wire and 18 ga wire
- ❑ 3/8 inch plastic protective wire wrap
- ❑ #6-32 x 1/2 inch screws
- ❑ #6 flat washers
- ❑ 3/4 inch black foam insulation
- ❑ Control Products dual stage controller, TC9102D
- ❑ male- and female- insulated, red 1-wire bullet connectors

I used 22 ga wire to connect the heat sink fans and 18 ga wire to connect the peltier

chips. I then used 3/8" plastic protective wire wrap to run my wiring in. This is the corrugated black plastic stuff that has a slit down the middle to install the wires.



Depending on what heat sink you decide to use, it is important to snugly sandwich the peltier between them and the aluminum block. I used #6-32x1/2" screws and shimmed them up if they were too long with #6 flat washers.

For my setup, I did not install the power supply on the fermenter but installed it on the wall with a receptacle to plug in the power supply for cooling and a heating pad for heating. The 120V output of the controller was wired to the receptacles on the line side to supply power to the proper receptacle when calling for heat or cooling. I also installed a switch in the power to the controller so I could turn it on/off.

In order to keep the fermenters from being connected at all times to the power sup-



ply on the wall, I used male- and female-insulated, red 1-wire bullet connectors. I put the female ones on the power supply side and the male ones on the fermenter side to allow the power supply leads to be protected if the power supply is on and not connected to a fermenter.

A Breeze Make-A-Clamp Steel Hose Kit (available at amazon.com) was used to mount the aluminum blocks to the fermenter. I used two pieces to mount them, one above and one below the heat sink.

Dan Curtis

Infamous Parkersburg Alers
Parkersburg, W.V.

06

PUMP DRIVEN FILLING SYSTEM

As is the case for most homebrewers, I find that physically lifting gallons of 150° F-plus water for a gravity fed system totally sucks. So, I thought I'd save myself from potential injury and let my March pump lift the water for me. I started by drilling a ½-inch hole into the top of one of my two cooler lids. I attached

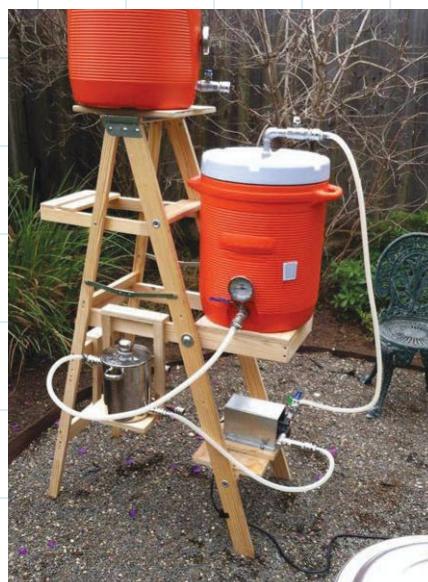
a ball valve setup I threw together using a stainless steel elbow and the mounting hardware from a Fermentap dial thermometer—my kettle came with threaded couplers so I didn't need the mounting hardware. The rest was simple: I attached a couple of hoses, one from the kettle to the pump and the other from the pump



to the cooler I need to fill, and let 'er rip. It worked like a champ from the get-go! It easily fills both my mash tun and my hot liquor tank, which I was totally stoked about considering the lid sits a good six feet above the pump.

I also attached a stainless steel disconnect to the bottom of the valve setup, which allows me to attach my recirculation and sparge arms.

Nick Martin
San Francisco, Calif.



07

BREWSTOOL

Some years ago I built the BrewLadder (see January/February 2010 Gadgets issue), a modified six-foot step ladder built to hold a mash tun and hot liquor tank. Recently, after buying the additional components needed to build out a Blichmann BrewEasy system from the kettles and burner I already owned, I began looking for ways to mount the chiller and pump on a more easily portable and storable stand than the BrewLadder. My eyes turned to an old wooden stepstool, and the BrewStool was born.

The pump hangs from the bottom step so that it is as low as possible, well below the kettle's valve. It slides on and off the stool with the addition of some aluminum "V" channels I found in the picture-hanger section of Home Depot (look for "French Cleat Picture Hanger Kit"). They are easily cut to size with a hacksaw, and drilled to mount with a couple of screws to create a mounting for the pump.



from an empty one-gallon jug (like those that PBW or honey comes in). Also, though I already use a GFI outlet on my deck, it was inconvenient to plug and unplug the pump as needed. Since these photos were taken, I have mounted a switched outdoor power strip to the side of the BrewStool so that all I need do to turn the pump on and off is to flick the switch.

After the chiller and pump are cleaned and sanitized, the whole BrewStool folds up and stores right inside my 20-gallon kettle.

Steve Kranz

Midnight Homebrewers' League
Westminster, Md.

08

HOMER HOPPER

If you're brewing all-grain and want to gain consistency with your efficiency and save money in the long run, consider milling your own grain (assuming you are buying some grains in bulk). Most grain mills can be purchased without a hopper, which in my opinion is a good thing since I was not satisfied with most of the hopper designs I have seen.

For my hopper, I use a 5-gallon hardware store bucket and a Monster Mill MM-2. It is all self-contained within the bucket, so it doesn't take up a lot of space in my garage. Advantages of this hopper:

- ✓ Uses a commonly available bucket
- ✓ When you're done, you can put a lid on the bucket

- ✓ Low dust while milling
- ✓ Design utilizes the entire roller area, instead of just a small section like with funnel based hoppers
- ✓ With the mill inside the bucket, it allows the bucket to sit flat and gives more stability
- ✓ Allows for using a power drill to drive it
- ✓ Holds an entire grain bill for most 5 gallon batches (19-20 pounds)
- ✓ Can mill the grain in just under two minutes, depending on the drill
- ✓ Low cost
- ✓ No shaking involved to get grain to rollers

The cost was less than \$20 in materials for the hopper assembly (it could be even less



**Robert Hilferding
Best In Show Winner
NHC 2014**

"I brewed a Scottish Light 60 (BJCP 9A) for the NHC. I call it "Way Off Kilter" and it is a malty, low alcohol ale brewed with a yeast that brings a very slight smoky or peaty aroma. I matched my water profile to Edinburgh and spent an hour at the LHBS tasting and smelling grain to get what I wanted in the ingredient list. One of the most important concerns I have is cleanliness and sanitation. I clean all my gear with PBW and sanitize everything with Star San so I do not have to worry about unwanted bugs." - Robert Hilferding



if you already have scraps of material). You'll also need some mounting hardware that is readily available.

MATERIALS

- Home Depot Homer Bucket (approximately \$3)
- Lid (optional) \$1-2
- 5/8 inch plywood, big enough for 14 inch diameter. You can go thinner or thicker. Use scrap wood or purchase a 24 x 24 inch square for around \$10 at the hardware store. I used birch, but only because I had it on hand
- Four 1 1/4-20 x 3/4 inch length stainless socket head cap screws or hex head
- Four washers for 1/4 inch bolts (\$1-\$5 for screws and washers). I used stainless so they don't rust while being stored in the garage.
- Two 1/4-20 x 1/2 inch cup point set screws (to replace the thumb screws on the Monster Mill).

RECOMMENDED TOOLS

- Router with 7/8 inch diameter "straight bit" or "end mill" type bit
- Jigsaw
- Oscillating multi-tool (for cutting into bucket)
- Drill with 3/16 inch drill bit
- Table saw or circular saw

For construction and assembly details, visit http://fermware.com/grain_mill_hopper/.

Eric Strauss
Fishers, Ind.

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10 Kitchen Gadgets FOR HOMEBREWERS

By Amahl Turczyn



F

ood Network personality Alton Brown once famously stated that everything in your kitchen should have more than one use; the only unitasker should be your fire extinguisher. If Brown were a homebrewer, he would realize that many of the same gadgets for culinary use lend their functionality to the home brewery as well.

I'm a bit of a kitchen gadget addict, but I tend to purchase carefully, and one consideration that always comes up is: how can I use this to make my brew day easier? In this article, I'll run down the short list, roughly arranged in order of usefulness, of my favorite kitchen tools that can also be used in the far more noble pursuit of making great beer.





1 Counter-Top Vacuum Insulated Water Boiler

Coffee, tea, instant noodles, hot cereal; the benefits of having a ready supply of near-boiling temperature water dispensed using this 4L electric kettle are obvious. The water—I use reverse-osmosis filtered water, which avoids any issues with mineral deposits—is brought to a boil from room temperature in about seven minutes and stays hot (208° F/98° C) with minimal electric power thanks to the vacuum insulation. Many professional brewers have a hot liquor tank (HLT) on hand all the time and

use the water for many tasks in the brewing process, so a dedicated HLT for home use is a godsend (albeit a pricey one; the recommended Zojirushi model runs about \$175). I use mine for a variety of brewing tasks, such as:

Incremental infusion mash steps: I still mash the old fashioned way, i.e. without a RIMS or a HERMS, so one use for this particular gadget is zeroing in on step mash temperature accuracy. If you overshoot your mash temp by a few degrees, you can always add cold water; but if you undershoot, and you don't want too much mash dilution (or you don't have room for it in the tun), this water heater provides a handy source of boiling water. The whole unit detaches from its magnetic power coupling and has a convenient handle, as well as a pour spout for dumping. The outside of the unit never gets hot, even though the contents are boiling.

Cleaning and heat sanitizing: Modern chemical sanitizers do a great job sanitizing things like transfer hoses, tap lines, and keg and fermenter parts. But heat penetrates; you aren't just sanitizing the surface. Ready to rack or transfer? Just open the top of the kettle—the device will keep the water hot whether the lid's up or not—and siphon the boiling hot water from the kettle into another clean container, making sure not to burn yourself, then quickly dip the spout end back into the kettle. Ten minutes of heat, and your tap line or

transfer hose will be piping hot, ready to be drained and sanitized for use. It ensures that wild yeasts and bacteria are out of the picture, and goes a long way toward cleaning as well, removing oil smudges that might affect head retention. Corny kegs, for all their stainless beauty and functionality, are hard to get truly clean and sanitary with keg wash, a brush, and chemical sanitizer. There are a lot of inner surfaces with poppet valves, down tubes and gaskets that the steel renders invisible without a complete breakdown and meticulous inspection. With heat, such attention to detail isn't always strictly necessary. Give it a good scrub with a surfactant brewery wash and a brush, inspect the interior for traces of soil, rinse with the hottest tap water available, and while it's still hot, give it a liter or two of boiling water from the kettle. Then clamp down the lid, turn the keg on its side, roll it back and forth to distribute the heat, and take an exterior temperature reading. (An infrared thermometer is great for this. See “Even More Gadgets” on page 49.) The outside of the keg should be too hot to touch. If you can sustain 170 to 180° F (77 to 82° C) for 10 minutes or so, you can be pretty sure that once it's cool, the keg is ready to fill.

Preparing finings or other post-fermentation additives: Isinglass is probably the most effective fining agent, but unflavored gelatin is inexpensive and convenient, especially with a ready source of hot water. You don't want to boil it though; about a pack of powdered gelatin per five gallons of beer can be mixed with a small quantity (25 mL) of cooled, deaerated water (also very easy to make with the boiler and a few Mason jars) or the fermented beer itself, and left to hydrate. Then fill with about 100 mL of boiling water per packet (borosilicate graduated beakers are great for easy measurement). The temperature will equalize at about 155 to 165° F (68 to 74° C). It is then ready to add to finished beer. Spices, herbs, yeast nutrients, and flavorings can also be added post-fermentation with a sanitizing shot of boiling water.





2

Pressure Cooker

Yeast management is a key factor in making good beer. It isn't strictly necessary to have lab equipment for clean yeast propagation, and most homebrewers make perfectly good beer using yeast packs purchased from the local homebrew shop. But a magnetic stir plate for starters and an autoclave can go a long way toward healthy yeast pitches (and repitches) and sterile fermentation/propagation environments.

A stir plate is pretty much a single-use device, but a large pressure cooker does a great job doubling as an autoclave. Glass airlocks, stoppers, beakers, flasks, and transfer hoses can all be brought up to and held at maximum pressure for 15 to 20 minutes to ensure the highest level of sanitation, if not something approaching sterilization. After investing in a heated and cooled steel conical fermenter, I autoclave all stainless steel parts I can fit into the cooker before brew day. The hot water sanitizing protocol for Corny kegs is great, but breaking down those valves and seals and adding them to the autoclave batch is better. One word of caution, however: plastic parts may melt or warp, and don't attempt to autoclave the rubber lid ring seal from a conical fermenter. It will no longer be a ring when it's done!



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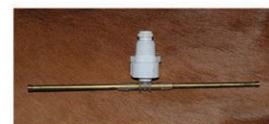
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3 Food Dehydrator

If you grow your own hops, a food dehydrator is a crucial part of the harvest procedure. Mine can be dialed down to air dry only, and fresh-picked hops can be spread out on the stackable trays to be gently kilned for six to 10 hours, depending upon moisture content. Then, when they've reached that perfect 10 percent moisture range between crispy and crumbly (see "Getting the Most from Your Hops" in the May/June 2014 *Zymurgy* for more details), they go into the next gadget: the vacuum sealer.

4 Vacuum Bag Sealer

I generally buy pellet hops in one-pound foil bags and keep them in the deep freeze until I need them, so the ability to measure out what I need, vacuum seal the bag, then return it to the chest freezer is fabulous. For folks who grow their own hops, after kilning, hops can be weighed, stuffed into bags, labeled, vacuum sealed, and put into cold storage. They will last for months or even years with minimal oxidation. It also saves space in the freezer...it's amazing how much air there is in a dried hop cone.



Vacuum sealing is not just for hops. Sending bottles of homebrew in the mail? Vacuum bag them first! If there is any leakage or even breakage during shipment, your recipient will thank you.

Other brewing ingredients like specialty grains and adjuncts also make sense to vacuum seal, particularly if you live in a warm, humid area. Many are prone to stalting, spoilage, or pests, and they will stay much fresher vacuum-sealed and refrigerated, if not frozen. Fruit beer brewers can process a summer bumper crop of berries or other fruit this way, conveniently pre-measured (with your handy kitchen scale; see Gadget 8). Coffee and spices benefit too, as long as you have the cold or cool storage space.

5 Chest Freezer

Speaking of cold storage, lots of brewing ingredients stay fresher longer if kept in a cold, airless, and lightless environment. Food and brewing ingredients can be stored in the same freezer. Ice for cold plate chilling can be stored here too. But a chest freezer doesn't have to be for frozen items; attach a digital thermostat, and voila, you have a lagering fridge for kegs, or a serving fridge, or both. Crash cool your newly-fermented beer in carboys, maximizing the effectiveness of gelatin finings, or store Mason jars of canned wort for yeast propagation, super high-gravity fermentations with gradual

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wort additions—or for summer chilling. In the heat of summer, when the groundwater temp isn't quite low enough to get my wort to pitching temperature, I take quart jars of premeasured-gravity, hopped beer wort out of the 35° F (1.7° C) serving fridge and add them to my newly-chilled wort one at a time if I need to get those last few degrees of cooling. It's quick, sanitary, and effective.

6 Mason Jars

Mason jars are indispensable for your brewery's sanitary liquid storage needs. Besides the aforementioned wort cooling regimen, they can be used to store low-gravity yeast starter wort, medium-strength gyle or *speise* for priming Reinheitsgebot weisse beers, high-strength wort for incremental super high gravity fermentations, homemade invert sugar or caramel syrups for British ales, fruit purees... the list goes on and on. They can be filled with boiling hot liquid, left to cool until they



seal, and then stored indefinitely at cool or cold temperatures—as long as the seal on the lid remains, you'll know the contents are sanitary and can be added directly to fermenting or fermented beer. Wort can be removed during the boil of course; but for the ultra-cheap (I'm raising my hand), it can also be taken from the kettle dregs after the beer has been run into the fermenter. I have a tube hop screen in my 30-gallon kettle, and routinely prop the kettle up against a couple of 5-gallon carboys so that whatever wort is mixed in with the spent hops and trub at the bottom can drain into a 3 gallon bucket. Thanks to the screen, it dribbles out crystal clear. It goes into Mason jars (I usually end up with over a gallon total, plus a nice, dry chunk of

solids in the kettle) and from there into the microwave. As soon as it boils, I screw down the lids, leave the jars on a window sill to cool, take the exact gravity with a refractometer sample, label the jars, and store them in the fridge. Fresh canned beer wort is a wonderful thing.



7 Microwave Oven

This common kitchen appliance is great for heating small amounts of wort, sugar syrups, additives like yeast nutrient or energizer—any ingredient you need to spot-sanitize with heat. Before harvesting yeast for re-pitching, for example, I rinse a clean 2-liter beaker with hot water from the countertop water boiler, then pop it in the microwave for 30 seconds or so. The liquid steams on the inside surface, sanitizing it, so a clean sheet of foil can be placed over it while it cools, and it's now ready for slurry from the conical, to then be stored in the brew fridge until its next pitching.

Using these same 2-liter beakers, I've even conducted a "microwave decoction," filling a couple with thick mash, cooking them to a boil in the microwave, and adding them back to the mash tun. No scorching, no stirring, though extreme caution was needed getting the hot glass beakers from oven to tun. It takes a large and powerful oven to do this, but it worked brilliantly—though Maillard reactions were understandably less than with a typical stovetop decoction.

8 Electronic Kitchen Scale (oz and g)

An accurate kitchen scale is as necessary to the homebrewer as it is to the chef. Hops, water salts, sugars, specialty malts, fining agents, and other ingredients measure much more accurately by weight than by volume. For the big jobs, like base malts, a household scale may do the trick; these can also be used for propping up tanks of CO₂ and propane so that you have a good idea of how much is left and how soon you need to change out the tank.



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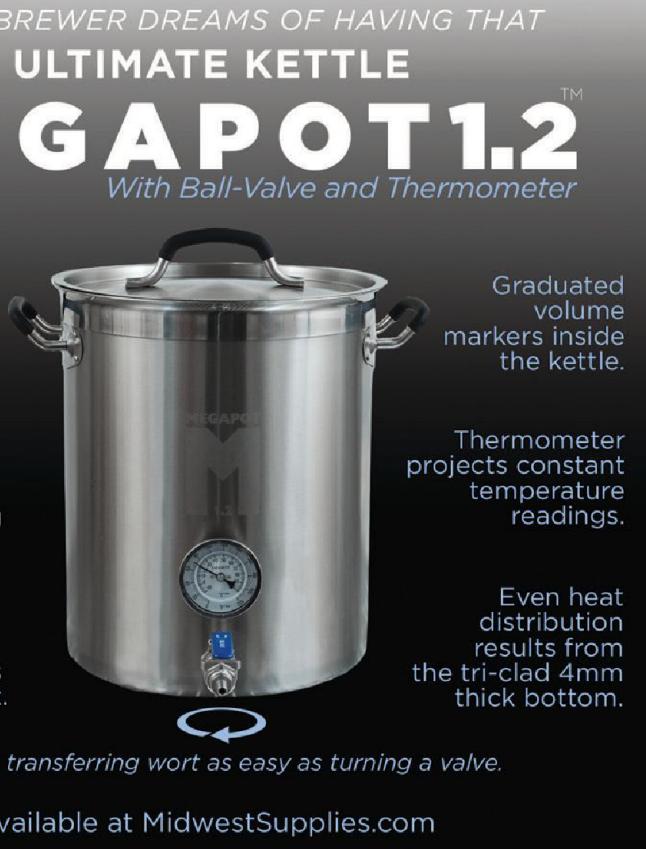
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9

Butane (Crème Brûlée) Torch

This gadget is great for yeast propagation; inoculation loops, sample jars, bottle-conditioned donor beers for yeast dregs, anywhere you need to spot sanitize with dry heat. The torches light up in an instant, and are great for clumsy brewers like myself who tend to drop sanitized items on the dirty brewery floor. I've used them to give a quick shot of heat to my oxygen stone before dipping it into the cooled wort kettle just prior to oxygenation. (Just make sure the oxygen isn't flowing yet—it may, shall we say, enhance the flame a bit.) Oh, and for you green chile beer fans, they work great for touching up a poblano or an Anaheim after a good roast on the gas grill.



10

Stainless Mesh Tea Infuser

Dry-hopping with whole hops in the keg or fermenter? I don't mess with cloth bags and marbles after discovering this little gem. It's stainless steel, so it's pre-weighted, and I can autoclave it in the pressure cooker. I try not to stuff too much in at one time, so the beer can circulate around the hop cones; plus the hops expand as they become water- (or beer-) logged. But nothing says you can't use two or even three. It's a hop torpedo for the homebrewer.

Amahl Turczyn is associate editor of Zymurgy. He lives and brews in Lafayette, Colo.

Even More Gadgets



IMMERSION BLENDER: Great for mixing fruit purees for fruit beers, and blending honey into mead must (See Ken Schramm's Mead article on page 62).



HOT AIR POPCORN POPPER:

The preferred method for readying corn adjunct for the mash when making a popcorn Classic American Pils or Cream Ale (see Style Spotlight on page 25). They can also be used for puffed or "torrified" wheat (see Dear Professor, November/December 2014).



SPICE GRINDER:

If you do a lot of spiced beers, Belgians, or methgellins, spice grinders are probably the fastest way of getting fresh ground spices into your beverage of choice. You can certainly use a mortar and pestle, but having a dedicated coffee grinder for spice use only (unless of course your spice happens to be coffee beans) converts your fresh, whole, possibly roasted spices to a ready-to-use powdered form in seconds.



INFRARED THERMOMETER: Quick-read culinary thermometers are great for taking mash temperature readings. Fermenters, liquor tanks, and even kettles often come with thermo-well dial thermometers, and adhesive strip thermometers work well for carboys. But a non-contact infrared thermometer with laser targeting allows you to take instantaneous surface temperature readings of both liquids and solids without coming in contact with them or introducing a probe. This proves valuable in the brewhouse, both for sanitation and convenience. You can do a quick, exact check on vessels that contain sanitary yeast cultures, slurry, or wort without risk of infection; water and wort temperatures along the path from kettle to wort chiller to fermenter; extremely high temperature applications, as with steam or flame sanitizing (these devices typically measure over 500° F); and accurate feedback on sugar syrups and caramels.

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Without question, the greatest invention in the history of mankind is beer...The wheel was also a fine invention, but the wheel does not go nearly as well with pizza.

—Dave Barry



ALE ON WHEELS: BUILDING A PORTABLE DISPENSING SYSTEM

BY DAVE CARPENTER

It's estimated that beer was invented a good 1,500 years before the wheel. Some historians think the gap may have been closer to seven millennia, suggesting that for perhaps 7,000 years, beer drinkers could not count on a dependable ride home.

In fact, early civilizations had such little appreciation for how *revolutionary* the wheel would be, that not only

did they prioritize the invention of beer, but also boats, baskets, irrigation, and the flute. And remarkably, the wheel wasn't even developed to enable transportation, but rather the production of pottery, which was, of course, necessary to hold the beer. It would be another century before a resourceful Greek would think to attach a wheel to a barrow and in the process, coin a new word.

PARTS LIST

These are the parts I used for my portable kegerator, but virtually every component is open to interpretation and improvisation. Have fun making it your own!

Insulating Cooler

- Iceman I barrel cooler (includes lid and caster wheels)
- 20 gallon round plastic trash can
- 4 ft x 8 ft foam board insulation (1.5 inch thick)
- Spray foam insulation
- Chalkboard spray paint

Liquid Hardware

- Two 2.5 inch or longer shanks, 3/16 inch ID bore with lock nut, coupling hex nut, coupling neoprene washer, and nipple
- Two black plastic shank collars OR galvanized washers with 7/8 inch or 1 inch ID
- Two brass beer faucets
- Two blue plastic tap handles
- Two lengths of 3/16 inch ID beverage tubing (Length depends on serving pressure, but 5 to 10 feet is typical for most beer.)
- Two ball-lock liquid (black) barbed disconnects
- Four hose clamps

Gas Hardware

- 20 ounce paintball tank
- Ninja flexible coil with slide check remote
- Paintball tank to CO₂ regulator adapter
- Carbon dioxide regulator with wye adapter, shutoff valves, and hose barbs
- Two lengths of 5/16 inch ID gas tubing
- Two ball-lock gas (gray) barbed disconnects
- Four hose clamps

Fast forward to the summer of 2013. When my wife and I decided to serve homemade beer and soda at our wedding reception, we faced a challenge. Our venue had a state-of-the-art jockey box for the homebrew (and apparently a flexible liquor license), but like most restaurants, it had switched to a bag-in-a-box soda system years ago. Thus, somewhat incongruously, packaging our homemade soda in actual soda kegs required that we supply our own soda dispenser.

Clearly, this was an opportunity I could not pass up. I decided that I would create a portable, long-lasting wedding memory—a completely selfless memory that I would later retrofit with shorter draft lines for serving beer. And so it was that, combining two of humanity's greatest inventions, I got to work figuring out how to put ale on wheels.

Inspiration

Isaac Newton's famous statement about standing on the shoulders of giants applies to my design. Credit for the idea of a rolling kegerator must absolutely be given to Kevin Mattie, known on HomeBrewTalk.com as BierMuncher. His rolling garbage can kegerator is as legendary as his Centennial Blonde recipe, so it was only natural to seek inspiration from his design.

The BierMuncher rolling kegerator is functional, affordable, and elegant. But I wanted something a little more compact that the waitstaff could easily roll around in as small a space as possible. So I decided to wrap the functional bits and pieces of Kevin's idea into a smaller, nimbler package.

My solution was to build the dispenser around a barrel cooler. Barrel coolers are those cylindrical ice-filled chests you see in convenience stores near the register. They often advertise a certain energy drink that claims, upon consumption, you'll sprout feathered appendages and gain the gift of flight. Plain Jane coolers are available from specialty retailers, or you can easily find branded ones on Craigslist and eBay.

I sprung for a new Iceman I model (Photo 1) because I didn't want my kegerator to look like an NFL promo.



A barrel cooler offers several nice features. It's insulated, so you're already a step ahead on the refrigeration issue. The lid is easily removable and won't get in your way while you void the warranty of a perfectly good cooler. And like the BierMuncher garbage can solution, integrated wheels make portability a breeze. But the barrel cooler is considerably more maneuverable because those wheels are on casters. No need to tip and roll, just give it a gentle push and let the low-friction bearings do their thing: a nice benefit when it's loaded down with beer and ice.



One disadvantage, however, is that most barrel coolers are smaller within than they appear: only the upper half actually holds ice (Photo 2). The lower half is hollow, except for a small drain assembly that lets water flow from the insulated upper chamber to an external spigot. Making



full use of the available space means removing the false floor, along with the drain assembly and insulation beneath, but a handheld rotary tool and garden spade make this a breeze (Photos 3-5). Once the whole unit is open for business, it's simply a matter of insulating the bottom part of the cooler and lining it with something waterproof.

Construction

I had originally planned to fortify the bottom of the barrel cooler with a couple of foam hot water heater pads, but it was less expensive and more convenient to simply purchase a full 4-by-8-foot sheet of foam insulation and cut two circles of the desired size (Photo 6). Scoring each circle along its centerline made positioning them a snap in more ways than one (Photo 7).



With a respectful nod to BierMuncher's original design, a small 20 gallon trash can turned out to be the ideal liner (Photo 8). Two 5 gallon Corny kegs fit snugly with just enough space for ice and the dispensing hardware. Once again

wielding a rotary tool, I freed the trash can of its side handles so that the whole thing could slide down into the barrel cooler (Photo 9). The fit was tight, but not so tight as to preclude a good dose of spray foam insulation. Even though the cooler already features insulation between the outer shell and the inner chamber, the spray foam offers additional thermal insurance and helps secure everything in place (Photo 10).



To install the dispensing hardware, using a 1 inch hole saw, I cut two holes in the cooler for the shanks, which, conveniently, sit just above the top of the inner trash can (Photo 11). Before installing the faucet assemblies, I sprayed the outside of my portable kegerator with chalkboard paint so that we could indicate what's on tap. I considered painting the lid as well to conceal the internal hardware but ended up leaving it transparent. This turned out to be a great decision because many of our wedding guests were curious about



the system's inner workings (we invited a number of engineers).

I usually prefer Accuflex Bev-Seal Ultra barrier beverage tubing because standard vinyl lines can impart a discernible plastic flavor if beer sits in them overnight. But in portable applications, beer shouldn't hang out very long, so I chose food-grade polyethylene tubing, which costs about a third as much as the Bev-Seal Ultra. Furthermore, since the system first dispensed root beer and ginger ale,

the lines would need to be replaced anyway (root beer aroma has admirable staying power).

I also prefer stainless steel forward-sealing faucets for my home draft system, but again, if a portable kegerator is doing its job, the faucets should never be closed for very long. So I opted for brass faucets with blue tap handles for a bit of an antique look. The shanks I chose are 2.5 inches long, but you could comfortably go longer, especially if you wish to use standard black plastic shank collars. I decided on large galvanized washers instead of the standard-issue black collars to lend some contrast to the outside of the unit (Photo 12).

Because the kegerator was to be fully self-contained, I built a miniature carbon dioxide system. A 20 ounce refillable paintball tank supplies more than enough gas to dispense two 5 gallon

kegs, and a paintball remote coil coupler offers flexibility for where you place the cylinder (Photo 13). This is important when working within such a tight space. A simple adapter connects the coil to a standard carbon dioxide regulator, which then distributes gas to the kegs.

The beverage and gas lines sit neatly on top of the kegs with room to spare (Photo 14—attention, nitpickers: The image was taken during testing, which is why only one keg is on the gas and bubbles are visible in the beverage lines). I didn't bother to insulate the lid because the evening was cool and the serving area was shaded, but there's enough room in the lid to put some foam to prevent, well, foam.

Happily Ever After

The portable dispenser was a big hit at the wedding: Just as many beer drinkers tried the soda as did kids and teetotalers.

CITRA NUPTI-ALE

I think just about everyone brews some variation of a Citra-Cascade pale ale these days. This one just happens to have been served at our wedding reception. It was well-received, even by a few guests who don't normally drink craft beer, and it's easy to brew with just a handful of ingredients. If Colorado Base Pale isn't available where you live, substitute a good quality pale ale malt. This recipe assumes 5.25 gallons going into the fermenter with about a quart lost to trub and dry hop material.

INGREDIENTS

for 5 U.S. gallons (19 L)

- 11.0 lb** (4.99 kg) Colorado Base Pale (Colorado Malting Company)
- 0.75 lb** (340 g) 60° L caramel malt
- 1.0 oz** (28 g) Chinook hops, 13% a.a. (60 min)
- 0.5 oz** (14 g) Citra hops, 12% a.a. (5 min)
- 0.5 oz** (14 g) Cascade hops, 5.5% a.a. (5 min)
- 0.5 oz** (14 g) Citra hops, 12% a.a. (0 min)
- 0.5 oz** (14 g) Cascade hops, 5.5% a.a. (0 min)
- 0.5 oz** (14 g) Citra hops, 12% a.a. (dry hop 7 days)
- 0.5 oz** (14 g) Cascade hops, 5.5% a.a. (dry hop 7 days)

Fermenter Safale US-05, White Labs WLP001, or Wyeast 1056

Brewhouse Efficiency: 70%

Original Gravity: 1.057

Final Gravity: 1.012

IBU: 45

DIRECTIONS

Mash for one hour at 154° F (68° C). Sparge to 6.5 gallons (24.6 L) and boil for one hour. Chill, oxygenate, and ferment at 64-68° F (18-20° C) until final gravity is reached. Rack to secondary and dry hop for 7 days, then bottle or keg.

EXTRACT VERSION

Steep the caramel malt for 30 minutes at 155-160° F (68-71° C) and replace the Colorado Base Pale with 7.8 lb (3.54 kg) pale liquid malt extract.

**"The moonroof design
made for a great
conversation piece,
and my wife and
I were thrilled to
offer homemade
beverages at
the reception."**

The moonroof design made for a great conversation piece, and my wife and I were thrilled to offer homemade beverages at the reception.

Now that the wedding has come and gone, I've swapped the soda lines for beer lines, but the design remains otherwise just as it did for our reception. Every time we roll it out of the garage, we're reminded of our wedding and all of the guests it served. And thanks to the inventiveness of distant cultures many years ago, our portable dedication to both wheels and beer stands ready to serve us for many years to come.

Dave Carpenter is a freelance writer, a regular contributor to beer magazines, and an avid homebrewer. He enjoys hiking, travel, coffee roasting, and cooking. Dave lives in Fort Collins, Colo., with his wife, two cats, and numerous projects he has begun but not gotten around to finishing. 





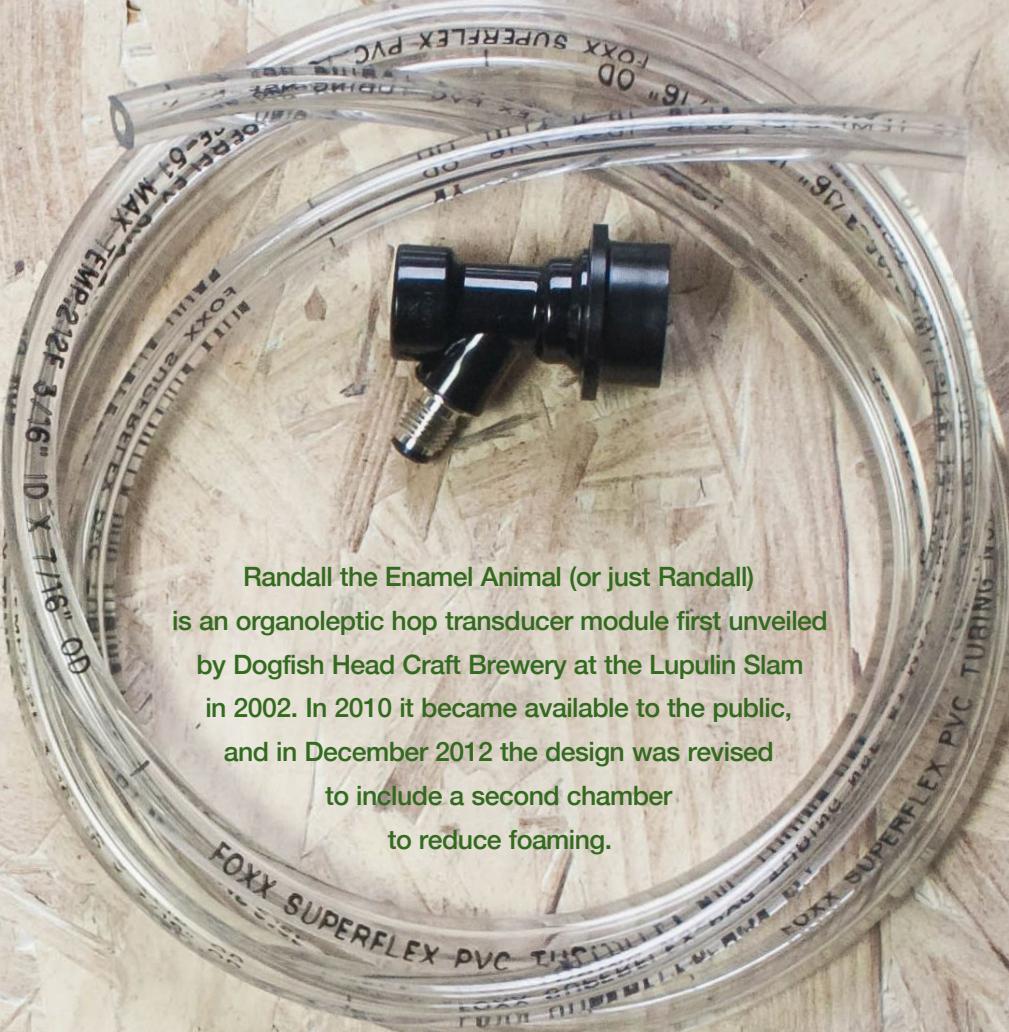
Draft Hopback: Build Your Own

RANDALL

By Drew Beechum and Denny Conn



Editor's Note:
The following is
an excerpt from
Experimental
Homebrewing
by Drew
Beechum and
Denny Conn.
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Randall the Enamel Animal (or just Randall) is an organoleptic hop transducer module first unveiled by Dogfish Head Craft Brewery at the Lupulin Slam in 2002. In 2010 it became available to the public, and in December 2012 the design was revised to include a second chamber to reduce foaming.

Although the original idea was to fill the chamber with hops, which makes it a draft hopback, it didn't take long for people to figure out that you could put fruits, vegetables, coffee, cookies, and bacon into the Randall to infuse those flavors into your beer. Want to reinforce or com-

plement the fruit flavors of the hops in the beer? Add some fruit! Wish you'd made a coffee stout instead of a plain one? Add some coffee beans!

Here's how to build your own single-chamber Randall.

YOU WILL NEED:

- One 10 inch whole house water filter—you're looking for the kind with a screw-on lid that accepts a cartridge. The ones with 1/4 inch NPT-threaded inputs and outputs are easiest to use. Also, the ones with clear housing make for the best presentation.
 - Two 1/4 inch NPT to 1/4 inch male flare fittings for quick disconnects. Many filter housings have 3/4 inch FPT threads. If the filter housing has threads other than 1/4 inch NPT
- threads, you will need reducers to fit the flares. Alternatively, you can use Kynar barbed fittings (McMaster-Carr #53055K213).
- One 1 inch long piece of 0.5 inch ID by 3/4 inch OD PVC hose
 - One 0.5 inch OD length of stainless steel tubing cut to fit the length of the canister interior (about 10 inches)
 - One keg line to flare (input connector)
 - One serving line or beverage line for faucet hookup

[Build Instructions >>](#)



OPTIONAL PARTS FOR SPLIT SERVICE: ONE KEG, TWO BEERS

- One keg line (no flare)
- One Y barb connector
- One beverage line to flare
- One beverage line to tap or faucet

INSTRUCTIONS

1. Clean the filter in soapy water to remove the packaging gunk.
2. Screw flare connectors (and optional reducers) into the input and output of the filter.
3. Plug the PVC hose into the port on the underside of the top lid. It will act as the gasket for your stainless tube.
4. Place stainless tube into the PVC hose gasket. The fit should be secure.
5. Screw the filter housing together. If your stainless is cut to the right length, it should fit snugly into the bottom port. If not, trim the tube and repeat.
6. Remove the stainless-steel tube and drill approximately twenty 1/16 inch holes in the bottom two thirds of the tube.
7. Deburr the tube. Voilà, you have a draft hopback!

USAGE INSTRUCTIONS

1. Check the placement of the PVC gasket in the lid.
2. Place the stainless steel tube, holes down, into the well on the bottom of the housing.
3. Stuff about 2 ounces of fresh whole hops or the ingredient of your choice around the stainless rod. Enjoy the aroma!
4. Push the tube into its gasket and screw down the housing lid.
5. Securely attach the serving line to the output side of the housing.
6. Securely attach the keg line to the input side. It's important to get this right, or the beer will always pour foamy.
7. Attach the draft hopback to your keg.
8. Open the pressure relief on the filter housing and allow beer to slowly fill the chamber.
9. Once it's filled, close the housing, let it sit for a couple of minutes, and then let the beer flow!

If you'd like to be able to compare regular beer with draft-hopped, attach the input line from the keg to a Y connector. One output of the Y should go straight to a serving line or faucet. The other output gets connected to the draft hopback. Now it's possible to try a beer two separate ways from one keg!

FORCE INJECTION OF FLAVORS

The normal mode of operation for a draft hop infuser is to have it stuck at the end of a keg, just before a draft faucet. Fill it with hops, coffee, mushrooms, or whatever else you want.

It's a great gizmo, but for the average homebrewer it's not terribly practical. Outside of a party situation, you have to figure out how to store the infuser. (Do you let the beer continue to sit in contact or do you disconnect it and drink that last pint, toss out the hops and so on, and get ready to go again?)

Why not just use the infuser to infuse the beer from keg to keg? Remember, we're normally building these things out of cartridge filter housings. When filtering, you're using a fiber mesh filter to trap all the undesirable particles. You slowly push uncarbonated beer from the source keg through the filter housing and filter media and out into a receiving keg.

So what we propose is to filter through your flavoring material instead of a filter straight into another keg. Boom! You now have flavor-infused beer that you never have to worry about (or waste a ton of hops) to make happen. For anyone who just heard the word torpedo in their head: this was inspired by Sierra Nevada's invention of their fermentation dry hopping Hop Torpedo.

YOU WILL NEED:

- One draft infuser
- One beverage line with a black liquid-out fitting
- One keg, filled with fermented beer (uncarbonated makes the cleanest transfer, but some swear that carbonation helps strip volatiles)
- One empty keg to receive the filtered beer
- Enough flavoring—hops, coffee, chocolate, fruit, herbs, spices—to flavor 5 gallons

OTHER ITEMS WE FOUND TO BE HELPFUL DURING OUR ZYMURGY RANDALL BUILD:

- Adjustable Wrench
- Flat Head Screwdriver
- Thread Seal Tape
- 1/16" Metal Drill Bit
- Drill
- Scissors
- Steel Hose Clamps
- Liquid Pin or Ball Lock Disconnect



5 Things You Can Put in a Randall

Find out more at
HomebrewersAssociation.org/Randall

Build Instructions >>



INSTRUCTIONS

1. Remove the draft line from the output of the filter housing. Replace it with another line with a black QD fitting from your receiving keg. Sanitize the infuser.
2. Make sure the receiving keg is flushed with CO₂.
3. Fill the infuser with the flavorings of your choice. Stuff it full of hops, coffee, frozen fruit, or whatever floats your boat. With some items, like spices, you'll only need a few teaspoons. In general, look at how much of an item you'd use for a 5 gallon batch and load a little more than that into the infuser. Some ingredients, like fruit, are even better when you go bananas!

**BOOM!
YOU NOW HAVE
FLAVOR-INFUSED BEER
THAT YOU NEVER HAVE
TO WORRY ABOUT
(OR WASTE A
TON OF HOPS)
TO MAKE HAPPEN.**

4. Hook the receiving keg up to the infuser and open the infuser relief valve (or other quick disconnect) and let the infuser flood with CO₂. Pull the receiving keg off the infuser.
5. Hook the source keg of carbonated

beer to the input of the infuser. Hook the output to your receiving keg's liquid out. This will create less turbulent flow in the receiving keg.

6. Gently release some of the pressure in the receiving keg and allow the infuser to fill with beer. Let the beer pour slowly into the new keg. Allow the pressure to equalize until the flow stops.
7. Let the beer infuse for five minutes before releasing the receiving keg's pressure again. Repeat until all the beer has flowed through the infuser. If you think the flavoring needs a double charge, disconnect everything, sanitize the infuser again, replace the flavorings, reconnect everything, and repeat.

WESTCOASTMALLE TRIPEL

RECIPE BY DENNY CONN

Here's my basic recipe for tripel. As you might guess, it's my homage (I don't use the word clone) to Westmalle Tripel.

INGREDIENTS

for 5.5 U.S. gallons (20.8 L)

12.0 lb	(5.4 kg) pilsner malt (continental, not domestic)
2.5 lb	(1.1 kg) table sugar (cane or beet)
1.0 oz	(28 g) Czech Saaz pellets, 4.3% a.a. (first wort hop)
1.25 oz	(35 g) Hallertauer whole hops, 4.8% a.a. (60 min)
0.5 oz	(14 g) Tettlinger Tettngan pellets, 4% a.a. (30 min)

1.0 oz	(28 g) Czech Saaz pellets, 4.3% a.a. (5 min)
½ tablet	Whirlfloc (10 min)
Wyeast	3787 Trappist High Gravity ale yeast (2 L starter)

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Original Gravity: 1.081

Final Gravity: 1.010

IBU: 34

ABV: 9.4%

DIRECTIONS

For mash, rest at 148° F (64° C) for 90 minutes. Add sugar any time after boil starts. Ferment for 14 to 21 days, starting at 63–65° F (17–18° C). Check the gravity, and if it's near 1.010, let the temperature rise. That will make sure the beer reaches the 1.010 goal.

VARIATIONS

Kentucky Revival Tripel by Drew: Soak 1 ounce of American oak cubes in enough Bourbon to cover for at least two weeks, although longer is preferable. When the primary has completed, transfer the beer to a cold space (50° F, 10° C) and add the oak for 2 to 4 weeks. The result is a smooth vanilla-and-bourbon tropical custard in your glass!

Sugar Sugar Tripel: Replace the 2.5 pounds of table sugar with an equal amount of demerara, piloncillo, or date sugar to deepen the flavor and add fruit notes. You can also caramelize some honey, agave syrup, light candi syrup, or even liquid malt extract in a sauté pan and add that. Boil down the syrup or honey until it turns a little darker and is reduced by about 25 percent, then add it to the kettle at the end of the boil.

EXTRACT VERSION

Substitute the 12 lb pilsner malt with 9.25 lb (4.2 kg) pilsner malt extract syrup.

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10 Tips for Making Great Mead

By Ken Schramm

As part of this great, growing hobby, we all want to make some really delicious mead. Making great mead allows us to share one of the finest joys that life has to offer. It can be very easy, and immensely satisfying.

For the purposes of this article, I'm going to assume that you're familiar with a few basics when it comes to mead. The defining element of mead, honey, is critically important, and you're going to want to find a reliable source of high-quality honey at a decent price. It's a matter of personal preference, but supporting your local beekeepers is one thing you can do to ensure that good honey is available to you. You'll also need to follow solid sanitation procedures. No amount of skill in recipe formulation or process will overcome a lack of cleanliness. But once we've gotten this far, what are some practices that will help a good meadmaker move up to making consistently great meads? Here are 10 tips for making meads you can serve with pride.

1. Use nutrients.

Use a compleat nutrient supplement regimen, and specifically a nutrient addition protocol that delivers the nitrogen and other metabolic needs of your yeast on a just-in-time basis. Many people refer to these as staggered nutrient additions, but the protocol I prefer is not staggered at all, and is timed at even 24-hour intervals. Regardless of the name or the regimen, proper nutrient additions make for healthy fermentations. This is not to say that I haven't made great mead without any of these timed protocols. When I first started making mead that my friends and family raved about, it was a result of adding nutrient to the fermentation right at the end of the lag phase.

A good deal of available information indicates that frequent degassing is a necessary part of a healthy fermentation. Removing carbon dioxide during your fermenting must reduces the chances of stuck fermentation. Degassing at the nutrient additions has proven sufficient for me.



My current method is to divide the nutrients needed into five additions, then add two at the end of the lag phase, and one more every 24 hours with a vigorous stir to degas and dissolve the nutrients. More information on nutrient types and amounts is available at HomebrewersAssociation.org in the "Mastering Mead" article available in the Magazine/Free Downloads section.

2. Make mead locally and in season.

It's easiest to make great mead if you use quality local ingredients at their freshest, peak condition. The central aphorism in winemaking is "Great wine is made in the vineyard," and the same can be paraphrased for meadmaking. The odds that you are going to be the breakthrough individual who figures out how to make top-shelf mead out of government surplus honey and canned fruit are not in your favor. Show me a talented, conscientious meadmaker in Minnesota, and I'll bet they can make a killer mead from local black currants. Similarly, the best prickly pear mead is probably going to come from the Southwest. Find your best sources and use them to your advantage.

3. Don't scrimp on ingredients.

This is especially true if your goal is to rack up a medal or two with your mead. You will come up against other meadmakers who have spared nothing to make incredible mead. In head-to-head competition, given a sound fermentation, better ingredients will always show. You only get one chance to choose what goes into each batch of mead. Whether for competition or personal consumption, in two or 10 years, you will never be bummed that you spent an extra \$20 or \$50 when it comes down to it.

4. Keep it simple: Don't overthink your recipes.

It's easy to be seduced into trying to craft a perfect Montmorency cherry/chocolate/



bacon mead (Bacon? Seriously? Well, no, but you get the idea) in one try. The chances of that happening on your first crack, though, are probably pretty low. Bill Pfeiffer, the 1985 AHA Meadmaker of the Year, was a firm advocate of this philosophy. His suggestion: "Never adjust more than one variable at a time when you are perfecting a recipe you want to nail." One approach might be to make meads with each component individually, and blend them to achieve the desired profile. Another would be to get a Montmorency cherry mead recipe to where you like it,

then add the chocolate component, and then finish with the bacon.

It can be a slow process. The truth is, if you want it to taste like you've been working on perfecting it for years, you might just need to work on it for years.

5. Don't be afraid to blow a batch.

Taste in advance—pair your ingredients well, and do your best to match them

with honeys that harmonize rather than contrast. Blown batches are the cost of becoming great—wear them as badges of honor and not disgraces. No big risk will always equal no big reward. That is at the heart of commercial pilot batching, which regularly results in a spectrum of meads, some not so appealing, and some decidedly more so. There is no shame in that; quite the contrary, that is the cost of true repeatability and progress.

6. Timing, Part 1: Embrace impatience when impatience is needed.

Two points in the meadmaking process where timing is critical include post-fermentation and post-clarification.

Get your mead off the yeast when fermentation is completed.

This is most important if you are using a plastic fermenter. The geometry of bucket fermenters creates a huge surface area for oxygen absorption, and a fruit cap, if



there is one, provides even more opportunity to move oxygen down into the mead. Many plastic fermenters are also oxygen permeable; all these conditions will allow damaging oxygen to enter your mead. Beyond that, you can reduce the chance of yeast autolysis, which can also impart off flavors to your mead.

Get your mead off the sediment as soon as it clears.

That is not to say that a little *sur lie* character may not be desirable. Many wine styles rely on the complexity and mouthfeel created by a definite and recognizable yeast component in the flavor, and frequently in the aroma. It can be quite attractive in traditional meads, sparkling ones in particular. If that is your goal, just keep everything clean, and be consistent about tasting regularly at roughly one-month intervals to be sure you do not overshoot your goal. On the other hand, if a yeasty note is not in your planned profile, it is good practice to rack again, get the mead off of any additional sediment that may flocculate in the secondary, and let the mead age in as pure an environment as possible.

7. Timing, Part 2: Embrace patience when patience is needed.

There are stages when being decisive is key, and there are stages when patience is a virtue. The most important of the latter is to let the fermentation finish before racking off the yeast. As illustrated in the previous section, you don't want the mead sitting on lees too long after fermentation is complete, but the reverse is also true: you don't want to jump the gun and rack before the yeast has had a chance to attenuate completely. The end of the fermentation is the toughest part for the yeast, because the nutrient levels have been depleted, sugar levels in the must are lower, and the yeast has to move alcohol into a solution with an ever-higher concentration outside the cell wall. Let the yeast finish the job, and then rack off of the yeast cake.

The next stage is to age well. Really, you can't say you've wasted any mead you got to drink, but the regret of having consumed a truly spectacular mead too young is tough to swallow on its own. Three months is a





Winter Spiced Mead

INGREDIENTS

for 5 U.S. gallons (19 L)

This is a medium-to-sweet, still mead with several years of aging potential. It will have layers of complexity, and will evolve subtly in its character and expression of spices as it matures.

- 20.0 lb** (9.07 kg) honey
(I like raspberry, orange, or blackberry blossom)
- Water** (bottled spring water is best) to 5+ gallons (19 L)
- 7.0 g** (1.4 tsp) ground cinnamon
- 7.0 g** (1.4 tsp) ground nutmeg
- 7.0 g** (1.4 tsp) ground, dried ginger*
- 1.0 g** (0.2 tsp) ground cloves*
- 1** small vanilla bean
 - * Optional

Combine all ingredients, mix and aerate thoroughly with a kitchen mixer or immersion blender. Creating about one quart more than 5 gallons of must will allow you to completely fill your secondary 5-gallon carboy while leaving behind all of the lees.

Pitch:

15.0 g (3 tsp) rehydrated yeast
(I like Lalvin 71B-1122 and Wyeast 1056 for this mead)

At the end of Lag Phase (8-12 hours after pitch), add:

- 4.0 g** (0.8 tsp) diammonium phosphate (DAP)
- 3.0 g** (0.6 tsp) Fermaid K

Every day for 3 more days, add:

- 2.0 g** (0.4 tsp) DAP
- 2.0 g** (0.4 tsp) Fermaid K

Stir vigorously with each addition to degas the mead. Transfer to secondary when fermentation has completed (21-28 days, may be slightly longer for 1056). Age 6-12 months. If the mead has not cleared completely, you can fine with Sparkolloid per manufacturer's instructions. One more racking will help to ensure a minimum of sediment in your finished bottles. Bottle only after all signs of fermentation activity have ceased.

minimum for me, six months is not too long to wait, and at a year, meads will be hitting their stride completely. The smaller the bottle or container, the faster meads will mature, so if you're really impatient, bottle as soon as you're sure all activity has ceased.

8. Oxygen: Know when it's good and when it's not.

Oxygen enables reproduction in your yeast culture, allowing it to grow to the level where fermentation happens smoothly and cleanly. But after fermentation ceases, oxygen becomes your enemy, in plastic fermenters, carboys, and bottles.

There are several good ways to get your must the oxygen it needs. Using an oxygen diffusion stone and bottled oxygen is an extremely effective method, but for those who are not either well-heeled, obsessive amateurs or going pro, it is a pretty expensive solution to the problem. I accomplish the task by mixing my must with a high-speed immersion blender. Watching it dissolve the gas into the liquid is really satisfying, and it mixes the honey into the must faster than any method shy of a commercial mixing tank. An immersion blender (or a power drill stir attachment) kills two birds with one stone.

After that initial oxygenation, I make sure the must gets a few bumps over the first four days of the fermentation by vigorously de-gassing, using a sanitized, stainless steel slotted spoon. Give it several aggressive stirs, and splash at the surface as much as you can without spraying the mead all over the floor. You could make this more complicated if you'd really like to, but this method has allowed me to make award-winning mead for a decade or so.

After the point at which you've transferred your mead out of the primary fermenta-



Learn the basics of making mead

Find out more at

HomebrewersAssociation.org/how-to-brew/mead/making-mead/



tion vessel, avoid introducing oxygen meticulously. Rack the mead as quietly as possible, fill all carboys completely (fill with sanitized marbles if needed, or jacket with CO₂, especially after wine thieving off any samples), and leave only half an inch or less of headspace below corks or caps when filling bottles. Mead can be very long-lived if it is treated well, which brings me to my next tip...

9. Use good closures.

Closures protect your mead for the long haul. Use quality ones, whether they are corks or caps. Depending on whose scale you use, there are either three grades of natural cork (A, B, and C), or nine (the best of which are Flor, Extra, Super, and First, then Second, Third, Fourth, Agglomerated, and Colmated). There are also synthetic corks from Nomacorc and other manufacturers. At Schramm's Mead, we use natural corks of Super or better grade, in lengths intended to provide a good seal for 10 or more years.

I haven't seen conclusive evidence on the effectiveness of oxygen-absorbing caps used as mead closures, but I would be inclined to give them the benefit of the doubt. If they do what they claim to do, they should be worth the small additional expense.

10. Treat your mead well.

Ours is a world of massive capability and instant gratification. Beer, wine, and mead traders can and do ship beverages around

the world, sharing their love of the craft. That may tempt us to abuse our meads by shipping them under less-than-ideal conditions. The wine crowd acknowledges the realities of this practice, and tries to ship in the spring and fall when most of the country is bathed in temperatures between about 38 and 70° F. It is a good philosophy to embrace, as it ensures that the quality of the mead when it is received is as close as possible to the quality of the mead when it was shipped, and that it is neither frozen nor cooked en route. Similarly, a mead cellar is great if you live where one is possible and affordable.

Finally, I am a fan of really nice glassware. Currently, there aren't any glasses manufactured to the specifications of mead makers, but high quality wine glasses make for great presentation both aesthetically and organoleptically. The Riedel Vinum Bordeaux and the Spiegelau Vino Grande Burgundy glasses make great choices for the connoisseur looking for premium options.

Collectively, these are some of the best tricks to ensure that the mead you have created is as delicious on your palate as it was in your imagination. There's nothing more instructive than experience, but as wonderful as it is to learn from your own mistakes, never pass up a chance to learn from the mistakes of others. It's time to get at it.

Ken Schramm is the author of *The Compleat Meadmaker* and the owner of Schramm's Mead in Ferndale, Mich. He is the recipient of the 2014 AHA Governing Committee Recognition Award.

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SCALING UP: Amateurs, Pros Collaborate at GABF PRO-AM



BY STAN HIERONYMUS

Dan Christensen almost missed hearing his name being called when the winners of the 2014 Great American Beer Festival Pro-Am Competition were announced in Denver on October 4. He had barely found a seat when he saw Spencer Ale, the beer he brewed in collaboration with Kokopelli Beer Co., flash on one of the giant screens in Bellco Theater in the Colorado Convention Center.

Running behind, he wasn't exactly focused. "I thought, 'Is there another Spencer Ale?'" he said. Then he heard his name, bounded from his chair, and hurried to the stage to share the silver medal along with Kokopelli head brewer Rick Holt.

Holt was seated with owner Christine Wares, who likewise read the result before American Homebrewers Association director Gary Glass announced it. "She grabbed me before I could absorb it," Holt said. When he met the homebrewer on stage, "(Christensen) was shaking so hard he could hardly speak."

A few moments before, the brewing team at Springfield Brewing didn't actually hear Glass read off the name of the bronze medal beer, their own I Wanna Rauch!, because homebrewer Keith Wallis began celebrating as soon as he saw his name on the big screen. "They said that was because I was yelling so loudly," Wallis said.





Not long after, Michael Kelly walked off the stage wearing the gold medal he had won in partnership with Bear Republic Brewing and headed to the back of the theater along with Bear Republic brewer Brian Denn to be interviewed for this story. And by the time he returned to his home in Occidental, Calif., his local newspaper had printed a feature about his beer, Bonnie Prince Charlie's Scottish 80 Shilling.

Every beer competing in the GABF Pro-Am is already a winner—that's one of the

rules of entry—but taking a medal home from Denver is something altogether different. “The experience of winning hasn’t really hit me yet,” Holt said several days after the award. “I sat in here yesterday after we closed and just looked at the medal and thought, ‘Wow.’”

This contest is officially separate from the GABF competition, but is judged by the same professional panel as the entries in 90 commercial categories. Craft breweries begin by selecting award-win-

ning homebrew recipes from American Homebrewers Association members who have won an AHA/BJCP sanctioned competition. The professional brewers then scale up those winning recipes, making them available commercially, to be served and judged at GABF.

The GABF Pro-Am began in 2006 with 35 entries, and the 2014 competition had 89 entries, more than in 77 of the 90 commercial categories. Each Pro-Am beer had a 3.4 percent chance of winning

2014 GREAT AMERICAN BEER FESTIVAL PRO-AM COMPETITION

- **89 entries**
- **GOLD:** Bonnie Prince Charlie's Scottish 80 Shilling Ale, Bear Republic Brewing Co., Healdsburg, Calif. Brewmaster: Team Bear Republic/Richard Norgrove. AHA Member: Michael Kelly
- **SILVER:** Spencer Pale Ale, Kokopelli Beer Co., Westminster, Colo. Brewmaster: Kokopelli Brew Crew. AHA Member: Daniel Christensen
- **BRONZE:** I Wanna Rauch!, Springfield Brewing Co., Springfield, Mo. Brewmaster: Ashton Lewis and Bruce Johnson. AHA Member: Keith Wallis



a medal once it got to Denver, but the odds were in a sense longer, because they had to win their way into the field. For example, in order to even qualify for the Pro-Am, Spencer Ale had to be the best out of the 159 entries in the Kokopelli Homebrewers Competition. Brewers Association chief economist Bart Watson calculated that each beer in the commercial competition had a 4.8 percent chance of earning a medal, and pointed out that is harder than getting into any college or university in America.

GOLD MEDAL: STICKING TO THE CLASSICS

The first weekend in October was a good one for members of the Sonoma Beerocrats. The day before Kelly, who is club vice president, and Bear Republic won the Pro-Am gold medal, Boston Beer Co. announced fellow Beerocrat Greg Rasmussen's robust porter would be one of three beers included in the 2015 Samuel Adams LongShot variety six-pack. Rasmussen and Denn collaborated on Bear Republic's 2013 Pro-Am entry.

"I always thought the next movement would be back to classic styles," Kelly said. There isn't much he doesn't brew ("big IPAs, saisons, I have barrels of lambic"), but the recipe for Scottish 80 Shilling has long been his favorite. He first made it because of his Scottish heritage, using the late Greg Noonan's *Scotch Ale* as a roadmap.

"I had to bone up on the style," Denn said. Kelly takes an "old school" approach, running off four gallons when he makes a 12-gallon batch at home, boiling it for 30 minutes to create the caramelized flavor that is a hallmark of the style, and then completing the runoff. "It's amazing how that wort changes throughout the whole boil," Denn said.

They sensed they had something special during the brewery's annual GABF Cellar Party just before the competition. Bear Republic serves beers made for GABF as well as cellar rarities from both its production and pub breweries, and lets attendees vote on their favorites. Bonnie Prince Charlie's finished third, behind a stout aged in rum barrels and a rye pale ale.

2014 GREAT AMERICAN BEER FESTIVAL® PRO-AM COMPETITION MEMBER BA BREWERS ASSOCIATION

Michael Kelly & Bear Republic Brewing Company (CA) Scottish-Style Export Ale

BONNIE PRINCE CHARLIE'S 80/- SHILLING SCOTTISH ALE

Michael Kelly, Gold Medal, 2014 GABF Pro-Am

Ingredients
for 12 U.S. gallons (45 L)

Assumes 70% efficiency

24.0 lb	(10.9 kg) Maris Otter pale malt
0.75 lb	(340 g) roasted barley
4.0 oz	(113 g) East Kent Golding hops, 5.7% a.a. (60 min)

White Labs Edinburgh Ale yeast

Original Specific Gravity: 1.054
Final Specific Gravity: 1.016
Boiling time: 90 minutes
Primary Fermentation:
 14 days at 62° F (17° C)
Secondary Fermentation:
 14 days at 36° F (2° C)

Directions
Mash at 156° F (69° C) for 60 minutes, heat to 168° F (76° C) over 10 minutes, sparge. Run off 4 gallons (15.14 L) of the first runnings and boil hard for 30 minutes. Then continue the runoff, collect 16 gallons (60.57 L), boil for 90 minutes. Transfer 12 gallons (45.42 L) to fermenter.

Extract Version
Substitute 17.75 lb (8.05 kg) Maris Otter malt extract syrup for pale malt. Steep roasted barley in 160° F (71° C) water for 30 minutes. Dissolve extract completely and proceed with boil, omitting first-wort preboil.



Kelly, a lineman for AT&T for 30 years, now retired, began homebrewing about 10 years ago, and since has regularly added to his equipment. Now he uses a RIMS system and has his pick of six different boiling vessels as well as different ways to fire them. He now uses his first seven-gallon brewing kettle as a CIP vessel.

Not surprisingly, he's thought about opening his own brewery, but nothing bigger than 10 barrels. "My goal would be to have only a few employees, make everybody happy," he said. He would sell only draft beer, he said, reciting one of his favorite quotes from Brian Hunt at Moonlight Brewing in Sonoma County: "Bottling beer is alcohol abuse."

SILVER MEDAL: HANDS-ON TRAINING

Christensen and two partners, Ernie Smith and Jack Miller, plan to open Fat Canvas Brewing in Casper, Wyo., within a year. They'd already discovered the value of competitions in which the winner earns the opportunity to brew a batch of beer on a commercial system. It was

**"I sat in here
yesterday after we
closed and just looked
at the medal and
thought, 'Wow.'"**

—Kokopelli head brewer Rick Holt

certainly worth traveling from Casper to Westminster, Colo., to make Spencer Pale Ale. "What a great experience. They (Kokopelli) were so wonderful to work with," Christensen said. Smith also participated in the Pro-Am, brewing a batch at Ska Brewing in Durango.

Kokopelli held its first homebrew competition in 2013, before it opened its doors last January, but this was the first time it collaborated on a Pro-Am entry. Watching entries come in from every time

zone in the country, Holt said, they asked themselves, "What happens if the winner is from New Hampshire or someplace else far away? As the entries grew we knew that was a possibility."

Christensen, a financial advisor by profession, and Miller happily drove four hours for a chance to brew on Kokopelli's 10-barrel system. However, Christensen left it to Holt to take care of dry hopping the beer after primary fermentation. Holt had to make one change from the original recipe, which called for whole leaf Columbus and Simcoe for dry hopping. Holt didn't have enough whole leaf Columbus, so used Chinook instead.

Christensen said he thinks the pale ale, named for his bird dog that died two years before, tastes more refreshing and cleaner when he uses whole leaf hops (in a bag) instead of pellets for dry hopping. "I get the best response," he said.

The beer that won the Kokopelli competition—there were three BJCP Master judges on the panel—was a partial mash.

SPENCER PALE ALE

Daniel Christensen, Silver Medal, 2014 GABF Pro-Am

Ingredients

for 5 U.S. gallons (19 L)

5.0 lb	(2.27 kg) dry light malt extract
4.6 lb	(2.1 kg) two-row American pale malt
4.0 oz	(113 g) CaraMunich® I
8.0 oz	(227 g) Bonlander Munich malt 10° L
0.4 oz	(11 g) Columbus, 16.4% a.a. (90 min)
0.25 oz	(7 g) Columbus, 16.4% a.a. (15 min)
0.25 oz	(7 g) Simcoe, 12.1% a.a. (15 min)
0.50 oz	(14 g) Columbus, 16.4% a.a. (flameout)
0.60 oz	(17 g) Simcoe, 12.1% a.a. (flameout)
2.0 oz	(56 g) Columbus, 17.4% a.a., whole leaf (dry hop 7 days)
2.0 oz	(56 g) Simcoe, 13.7% a.a., whole leaf (dry hop 7 days)
Wyeast	1056 American Ale yeast

Original Specific Gravity: 1.070

Final Specific Gravity: 1.020

Boiling time: 90 minutes

Primary Fermentation:

7 days at 68° F (20° C)

Secondary Fermentation:

7 days at 65-66° F (18-19°C)

Directions

Mash at 152° F (67° C) for 60 minutes, heat to 168° F (76° C) and hold 10 minutes, sparge. Add extract to boil. Dry hop for seven days in secondary. Refrigerate for 4-5 days before kegging.

All Grain Version

Omit extract and increase amount of two-row pale malt to 13.25 lb (6 kg). Proceed with mash per directions.

I WANNA RAUCH!

Keith Wallis, Bronze Medal, 2014 GABF Pro-Am

Ingredients

for 5.5 U.S. gallons (20.82 L)

Assumes 82% efficiency

4.0 lb	(1.8 kg) Beechwood Smoked malt
3.0 lb	(1.36 kg) Munich malt
2.0 lb	(0.9 kg) German Pils malt
1.5 lb	(0.7 kg) Caramunich
1.0 oz	(28 g) Perle, 7% a.a. (60 min)
Wyeast	2206 Bavarian Lager yeast

Original Specific Gravity: 1.056

Final Specific Gravity: 1.012

Boiling time: 75 minutes

Primary Fermentation:

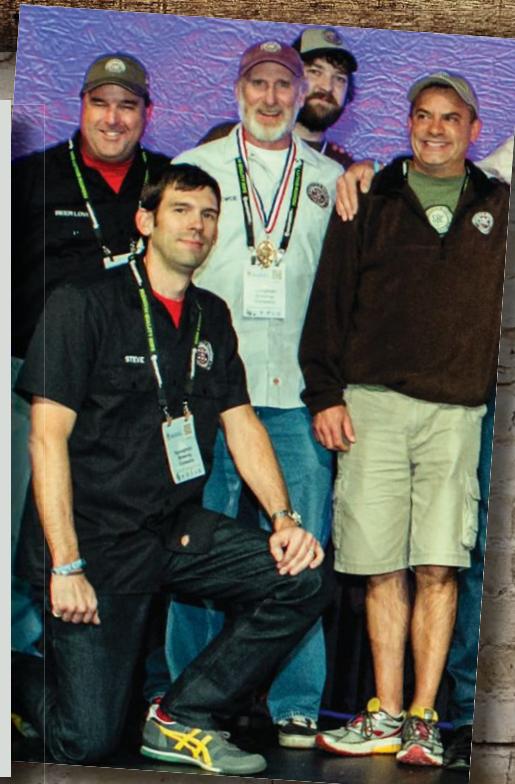
14 days at 50° F (10° C) with diacetyl rest at 68° F (20° C)

Secondary Fermentation:

Step down temperature 2-3 degrees a day until it reaches 36° F (2° C), hold for 14 days

Directions

Mash at 150° F (65.5° C) for 60 minutes.



**"I always thought
the next movement
would be back to
classic styles."**

— Michael Kelly,
Pro-Am gold medal winner

Although Christensen makes many all-grain beers, he still does partial mashes as well. "I find they turn out just as good and I can get two done in the time I'd use for one," he said. It has meant putting up with some kidding from his future partners.

"That made winning especially nice, after they gave me so much grief," he said.

**BRONZE MEDAL:
SECOND TIME IS CHARM**

Wallis has also been a target for friendly banter—he calls it “guff—from other members of the Zymurgists of the Ozarks

(ZOO), because he won the right to represent the club for a second straight year. In announcing in an online publication that Wallis and Springfield Brewing collaborated to win a bronze, fellow club member Ben Stange wrote, “I think I speak for the rest of the homebrew club when I say that he will be even more insufferable in his bragging than before.”

Springfield Brewing participated in the Pro-Am for the first time in 2013 and quickly made it special for Wallis and ZOO. While Wallis brewed his 2013 entry, 585 ESB, club members toured the brewery, participated in a Q&A session, and sampled beers. Springfield also created a logo for the beer and put it on T-shirts.

The 2014 spring competition included only German styles. “I’ve always enjoyed rauch beers,” Wallis said. Although he previously brewed a smoked porter and a smoked wheat beer, I Wanna Rauch! was his first classic rauchbier. “I like to formulate recipes. That’s my favorite part,” he said. “I started with the Märzen (component) and then swapped in smoked malt.” (Springfield Brewing also knows a little bit about Märzen; its Mayhem Märzen won a gold medal at the 2014 World Beer Cup.)

Like last year, Springfield opened up the brewery to ZOO members on brew day. Since Wallis already knew his way around the brewhouse, head brewer Bruce Johnson reminded him of the essentials, then let him do as much on the 15-barrel system as he felt comfortable with. “Very hands on,” Wallis said. For instance, because he lives only 12 minutes from the brewery he could participate in every phase of the process, even filtering beer into the brite tank.

The logo described the beer as a “Rauch”-toberfest-style lager, which made it perfect to serve the week after GABF at the Ozarks Bacon Fest and perhaps lead a drinker or two to comment, “This is the beer that brought home the bacon.”

Stan Hieronymus is the author of several books including *Brew Like a Monk* and *For the Love of Hops*. He is a frequent contributor to Zymurgy.

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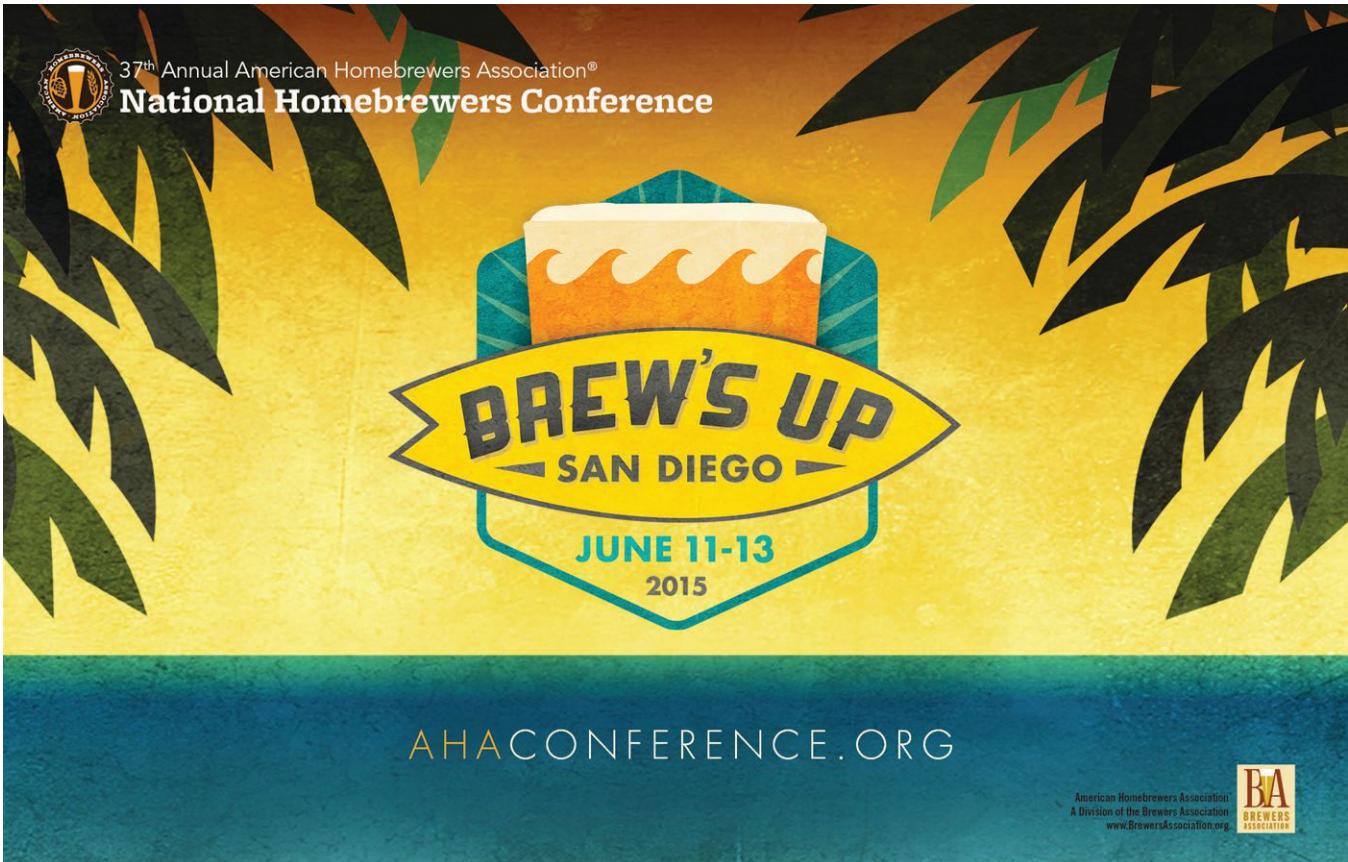
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KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

April 2014

2014 Parkway Am-Pro, 80 entries—*Benjamin Brown, Tacoma, WA.*

36th Annual Mayfaire Homebrew Competition, 540 entries—*Daniel Owens and Matt Peterson, San Francisco, CA.*

May 2014

SFHG's Tribute to America Competition, 26 entries—*Alex Deacon, San Francisco, CA.*

August 2014

Arkansas Beer Challenge, 35 entries—*Andrew Teague, Little Rock, AR.*

2nd Annual Denver Beer Co. Homebrew Competition, 16 entries—*Brandon Burns, Arvada, CO.*

East Idaho State Fair Home Brew Competition, 71 entries—*Leon Jensen, Idaho Falls, ID.*

Picnique Belge, 63 entries—*Rodney Beagle, North Kansas City, MO.*

Washington State Fair, 68 entries—*Troy Wormsbecker, University Place, WA.*

National Capital Home Brew Competition, 271 entries—*Andy Morrison, Vaudreuil-Dorion, QC, Canada.*

September 2014

Taste of Tennessee Homebrew Competition, 226 entries—*Michael Semich, Murfreesboro, TN.*

Competencia Amateur Cerveza Mexico 2014, 191 entries—*Ricardo Perez, Zapopan, Jal, Mexico.*

Summer Beer Dabbler Home Brew Contest, 50 entries—*Collin Pearson, Burnsville, MN.*

Schooner Homebrew Championship, 556 entries—*Edward Mathis, Beecher, WI.*

Ramona Homebrew Competition, 62 entries—*Todd Barrett, Ramona, CA.*

ACT Championships, 301 entries—*Kevin Hingston, Canberra, Australia.*

2014 Sun City Craft Beer Festival Home Brewing Competition, 102 entries—*Julio O'Hara, El Paso, TX.*

Santa Cruz County Fair Homebrew Competiton, 107 entries—*Ernie Costello, Santa Clara, CA.*

Pacific Brewers Cup, 501 entries—*Jamie and Tricia Gallant, San Diego, CA.*

Tulare County Fair Home Brew Competition, 77 entries—*Damon de Roma, Visalia, CA.*

2014 Society of Barley Engineers Homebrew Competition, 41 entries—*Todd Barrett, Ramona, CA.*

Beer Quest Garden Market, 20 entries—*Kurt Fossen and Dan Smith, Lincoln, NE.*

NC Brewers' Cup Homebrew Competition, 182 entries—*Brandon Moyer, Carrboro, NC.*

Wort Hog Homebrew Festival, 131 entries—*Dennis Bell, Walnut Creek, CA.*

Tulsa State Fair Homebrew Competition, 72 entries—*Pete Polczynski, Tulsa, OK.*

Sowers Cup, 227 entries—*Doug Finke, Lincoln, NE.*

DRAFT Brewfest 2014, 258 entries—*John Mulligan, Swanton, OH.*

UK National Homebrew Competition, 673 entries—*Graeme Coates.*

Malt Madness VIII, 482 entries—*Mike Urban, Conshohocken, PA.*

Blue Ridge Brew-off, 491 entries—*Tim Thomssen, Lincoln, NE.*

2nd Annual Critical Mash Homebrew Competition, 125 entries—*Jerome Mondragon, Santa Fe, NM.*

8th Annual KROC Great American Beer Challenge, 151 entries—*Greg Foley, Boulder, CO.*

Nez Perce County Fair, 78 entries—*Troy Dotson, Lewiston, ID.*

Gemueltlichkeit Days Homebrew Competition, 9 entries—*Glenn Feit, Helenville, WI.*

The Local Brewers Cup, 69 entries—*Jeremy Reeves, Bellingham, WA.*

Jackson County Harvest Fair & Brew Fest, 100 entries—*Don Johnson, Medford, OR.*

2nd Annual Grace Lutheran Bier Brauen, 102 entries—*Andrew Ayers, South Jordan, UT.*

Celestial Meads Equinox Competition, 27 entries—*Steven Kunemund, Anchorage, AK.*

Ale Riders' Homebrew Competition, 78 entries—*Bud Molyneux, Sioux Falls, SD.*

Roberts Cove Germanfest Homebrew Competition, 35 entries—*Kris Pault, Summit, MS.*

KFB Brew Fest, 24 entries—*Patrick Dube, Florence, SC.*

Byggvir's Big Beer Cup, 270 entries—*Kevin Meintzma, Minnetonka, MN.*

Fresno Fair Homebrew Competition, 121 entries—*Matt Meadows, Fresno, CA.*

Western Australian State Amateur Brewers Competition, 305 entries—*Cameron Stewart, Perth, Western Australia.*

Texas Mead Association 2014 Competition, 83 entries—*David Webb.*

Home Brew Alley - Oktoberfest, 21 entries—*Adris Ludlum, Auburn, AL.*

17th Annual Cactus Challenge, 267 entries—*Mark Schoppe, Austin, TX.*

Douglas County Fair Home Brewed Beer Comp/River City Roundup, 7 entries—*Erik Martin, IA.*

Quaff Club Only Competition Extravaganza, 47 entries—*Brian Trout, San Diego, CA.*

XBrew, 191 entries—*Mike Ritzer, Newcastle, WA.*

Arizona Society of Homebrewers Oktoberfest, 211 entries—*Derek Wolf, Harrisburg, PA.*

Monster Mash 2014, 86 entries—*Brad Justice, Brandon, MS.*

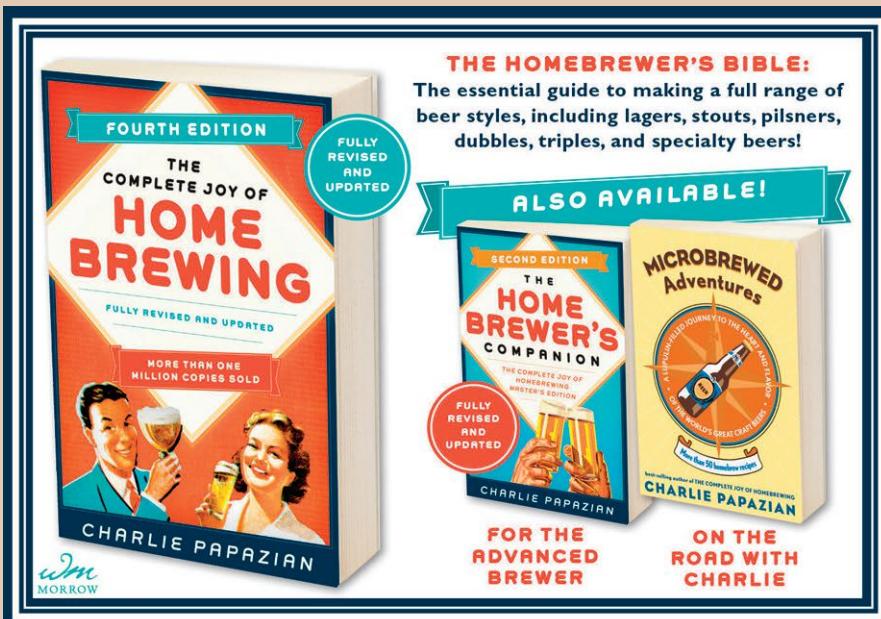
New Orleans On Tap - Homebrew Competition, 47 entries—*Mitch Grittman, New Orleans, LA.*

Queensland Amateur Brewing Championship, 378 entries—*Andrew Mahony.*

Maryland Microbrewery Festival Homebrew Competition, 188 entries—*Bobby Mowell, Silver Spring, MD.*

2014 CRAFT Invitational - European Amber Lager, 6 entries—*Mike Zukowski, Macomb, MI.*

Continued >>



KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program – (Continued from page 76)

Burgfest Home Brew Competition, 40 entries—
Robert Rys, Roeland Park, KS.

Jersey City Brew Club 4th Annual Homebrew
Competition, 40 entries—Keith Koval,
Jersey City, NJ.

Son of Brewzilla, 552 entries—John Mulligan,
Swanton, OH.

Bavarian Beer Bash, 6 entries—David Goodridge,
Kokomo, IN.

October 2014

Half Pints Pro/Am Brew Challenge, 311 entries—
Kent Courtice, Vancouver, BC, Canada.

The Old Forge Old Ale Competition, 25 entries—
Brian Boeckel, Brick, NJ.

Fresh Hop Ale Festival Home Brew Competition,
32 entries—Garret Burge and Stephanie Rodriguez,
Yakima, WA.

Members of Barleyment & Beau's Oktoberfest
Homebrew Competition, 407 entries—
Michel Lecavalier, Orleans, ON.

O'Zapft Is! German Homebrew Competition,
152 entries—Rick Pagnano, San Antonio, TX.

Brixtoberfest, 172 entries—David Fetty, Darien, IL.

Orpheus Cup MeadFest, 37 entries—David
Theibault and Christina Mallos, Denver, CO.

Southern New England Regional Homebrew
Competition, 373 entries—Thomas Jermine,
Wallingford, CT.

Big Muddy Monster Brew Fest Home Brew
Competition, 97 entries—Rob and Laura Tegel,
Godfrey, IL.

Fall Brew Review, 28 entries—Peter Jauert,
Minneapolis, MN.

2014 Delafield Brewhaus Schnapp Hans Cup,
135 entries—Julie Lawson, Fond Du Lac, WI.

Queen of Beers, 68 entries—Mary Wieler,
Hayward, CA.

Hirter Uberbrew Homebrew Competition,
109 entries—Roger Cuzelis, Chicago, IL.

WRBC Fall Comp, 13 entries—Miles Rollins,
Prescott, AZ.

Concurso Cerveza Artesana Neuquina,
58 entries—Pablo Mendez, Neuquen, Argentina.

Cafe Au Ale, 11 entries—Brandon Danzinger,
Sacramento, CA.

Lonerider Brew It Forward VI, 30 entries—
Adam Reinke, Asheville, NC.

New England Regional Homebrew Competition,
441 entries—Jeff Muse, St. Louis, MO.

Northeast Big River Homebrew Competition,
119 entries—Adam Meyers, Rochester, MN.

2nd Annual Nevada State Homebrew
Championship, 223 entries—Jeff Current, Reno, NV.
Schleswig Wine & Bier Club Contest, 67 entries—
Dave Miller, Milford, IA.

ZZHops Club Only - Scottish and Irish Ales,
9 entries—Nathan Briscoe, Holden, MO.

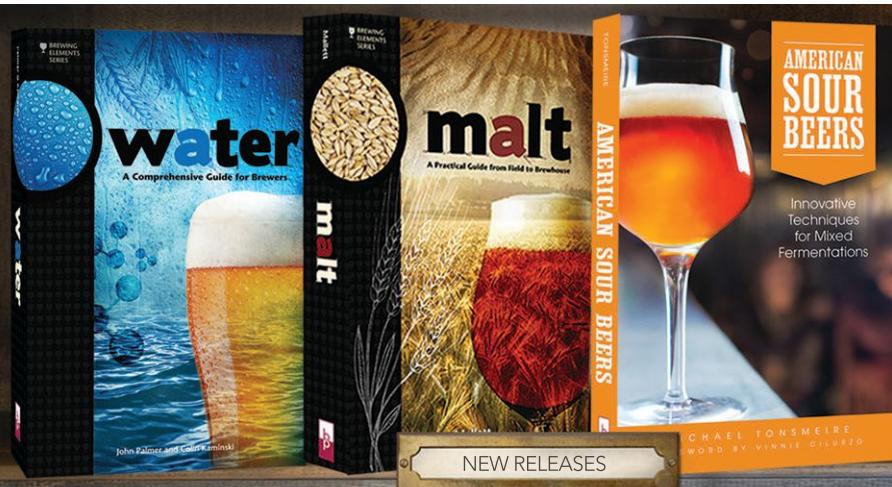
TRASH 24 Homebrew Competition, 247 entries—
Shane Terrick, Shane Walters, and Terry Denham.

Spooky Home Brew Review, 223 entries—
Peter Sloan, Chicago, IL.

IPA Fest, 61 entries—Mark Clarke, Dublin, Ireland.

NEMO Homebrew Competition, 46 entries—
Phillip Sovocool, Dixon, MO.

OCB Fall Classic 2014, 250 entries—
Jenn McPoland, Portland, OR.



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AHA/BJCP SANCTIONED
COMPETITION PROGRAM CALENDAR

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



January 9
Big Beers, Belgians & Barleywines Homebrew Competition
Vail, CO.
Entry Deadline: 12/6/2014.
www.bigbeersfestival.com

January 10
Good People Brewing's Heart of Dixie Open
Birmingham, AL.
Entry Deadline: 12/1/2014.
www.goodpeoplebrewing.com

January 10
Belle City Winter Warmer
Racine, WI.
Entry Deadline: 1/3/2014.
www.winterwarmer.org

January 17
Big Bend Brew Off
Tallahassee, FL.
Entry Deadline: 1/9/2015.
www.nfbl.org

January 17
21st Annual Boneyard Brewoff
Savoy, IL.
www.buzzbrewclub.org/competition

January 18
Hammond River Brewing Homebrew Competition
Saint John, NB, Canada.
Entry Deadline: 1/16/2015

January 24
Upper Mississippi Mash-Out
St. Paul, MN.
Entry Deadline: 1/10/2015.
<https://mashout.org/index.html#Poster>

January 24
Best of Craft Beer Awards
Bend, OR.
Entry Deadline: 10/15/2014.
www.bestofcraftbeerawards.com

January 24
Biere De Rock
Castle Rock, CO.
Entry Deadline: 1/10/2015.
www.bierederock.com

January 24
2015 Doug King Memorial Homebrew Competition
Woodland Hills, CA.
Entry Deadline: 1/9/2015.
<http://competitions.maltosefalcons.com/>

January 25
Arizona Mead Cup
Phoenix, AZ.
Entry Deadline: 1/16/2015.
www.brewarizona.org

February 6
10th Annual Peterson Air Force Base Homebrew Competition
Colorado Springs, CO.
Entry Deadline: 1/23/2015.
<http://pafb.brewcompetition.com/>

February 7
17th Annual Domras Cup Mead Competition
Savannah, GA.
Entry Deadline: 1/28/2015.
www.savannahbrewers.com

February 7
Oxford Arts Alliance Homebrew Competition
Oxford, PA.
Entry Deadline: 1/31/2015.
www.oxfordart.org

February 8
Romancing the Beer
Thousand Oaks, CA.
Entry Deadline: 1/30/2015.
www.toaked.com/competition

February 15
Sweethearts Revenge
Windsor, CO.
Entry Deadline: 2/6/2015.
www.weigguys.com

February 21
Bluff City Brewers & Connoisseurs Extravaganza
Memphis, TN.
Entry Deadline: 2/5/2015.

February 21
2015 Midwinter Homebrew Competition
Milwaukee, WI.
Entry Deadline: 2/7/2015.
<http://midwinterhbc.com/>

February 21
Boston Homebrew Competition
Boston, MA.
Entry Deadline: 2/6/2015.
<http://bhc.wort.org/>

February 28
Best Florida Beer Competition
Tampa Bay, FL.
Entry Deadline: 1/24/2015.
<http://bestfloridabeer.org/>

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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 widely available commercial beers (or meads or ciders) using the BJCP scoresheet. We invite you to download your own scoresheets at www.bjcp.org, pick up a bottle of each of the beverages and judge along with them in our Commercial Calibration.



A peek at the 2008 BJCP Style Guidelines for Category 28A, New England Cider, reveals that the category is fairly exclusive:

There are no known commercial examples of New England Cider.

So when Michael Fairbrother, owner of the award-winning Moonlight Meadery in Londonderry, N.H., contacted us and offered to send How Do You Like Them Apples to our judges, we jumped at the chance. You won't find it in stores; this New England Cider is available on draft only, but Fairbrother bottled some samples to send.

Fairbrother describes it as "a New England hard cider, made with the finest New Hampshire apples that were avail-

able to us, which we had fresh pressed into apple cider. This fresh cider was delivered the day it was pressed to our meadery, where we blended it with just a touch of honey and some brown sugar and let it ferment." The cider was aged in freshly emptied Last Apple barrels for a minimum of sixth months.

We also rounded up a perry from Snowdrift Cider Co. in East Wenatchee, Wash. Crafted with the méthode champenoise, Snowdrift Perry is made with true Old World perry pear varieties grown in central Washington. The experience is "rich, full-bodied, and juicy with ripe and dried pear flavors, honey smoothness balanced with crisp astringency, and a touch of appealing subtle woodsy tannin."

Snowdrift Cider Co. suggests pairing Perry with French cuisine, hearty artisan breads, and rich double-crème brie cheese. It checks in at 10.1 percent ABV.

OUR EXPERT PANEL includes 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.



Moonlight Meadery
www.moonlightmeadery.com

Snowdrift Cider Co.
www.snowdriftcider.com

BJCP Style Guidelines
www.bjcp.org

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

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THE SCORES

How Do You Like Them Apples?—Moonlight Meadery, Londonderry, N.H.
BJCP Category: 28A, New England Cider



THE JUDGES' SCORES FOR HOW DO YOU LIKE THEM APPLES?



DAVE HOUSEMAN



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

Appearance: Brilliant clarity. Golden yellow color. Still. While this commercial example did not declare the carbonation level, this does work as a still cider. (6/6)

Bouquet/Aroma: Robust apple aroma. Alcohol is complex with notes of rum or white wine. No sulfur or off aromas. Fruity fermentation esters. Hints of raisins, brown sugar, and honey. A very inviting aroma. (8/10)

Flavor: Very sweet with a huge apple flavor and honey notes. High alcohol presence but not hot or fusel. Notes of raisins, brown sugar, and rum; yummy and complex. A moderate level of acidity does not quite balance sweetness. Low tannins; more would have aided balance. Full body fits this big cider. No mousiness or other off flavors. (20/24)

Overall Impression: Wonderful full apple character enhanced by adjuncts and barrel aging. This just needed some additional tannins and acidity to be entirely balanced. The alcohol, apple, and other aromas and flavors are in excellent balance. Carbonation would have added some of the needed acidity and livened the mouthfeel. I heated some of this cider and it produced a really nice, buttery, self-mulled cider where the sweetness and alcohol worked on a cold October night. (8/10)

Total Score: (42/50)

Appearance: Brilliant golden liquid with a bright yellow-white sheen; tiny bubbles rise in a short-lived cloud upon swirl. (6/6)

Bouquet/Aroma: Honey hits the nose first, followed by sweet apple, then a hint of whiskey. Oak also plays in the background as an earthy, spicy vanilla note. (8/10)

Flavor: Sweet, fruity cider apple flavors prevail at first, a bit floral in nature. Honey emerges with a slightly earthy, spicy herbal note with fruit flesh, skins, and wood as supporting structure. Again, whiskey plays in the background, just a ghost. Apple-honey honey-apple play back and forth, until the sip finishes with a low alcohol warmth and the accent of skins, barrel, and whiskey. Medium bodied and pétillant. (19/24)

Overall Impression: Engaging mélange of apple, honey, barrel, and whiskey, it invites another sip, and another and another. Balance is toward honey sweet, similar to a dessert wine, but skin tannins and barrel oak add structure and enhance drinkability. A humble, friendly, and homey beverage, this consumable comforter evokes cozy fires, comfort food, and good friends. (8/10)

Total Score: (41/50)

Appearance: Slight hiss of carbonation escaped when the bottle was opened, and a modest amount of bubbles was released when poured, forming a small ring around the periphery. Pale gold in color with pristine clarity. (6/6)

Bouquet/Aroma: Sweet and tart apples are balanced in the aroma, with light peppery and oak notes underneath. Alcohol is apparent but is well-masked given its strength. Brown sugar and raisin notes lend a dessert-like character. Fermentation character is light, but does lend some cherry and pear notes to the background. (9/10)

Flavor: Flavor profile is long and complex. Some sweetness up front, reminiscent of apple pie with a robust apple character blended with sugary notes. These slowly fade to a moderately tannic finish with a slight acidity. The overall sweetness is medium, although the finish is off-dry due to the balancing effect from the tannins. Alcoholic warmth is evident, but clean without any solvent notes. The complexity comes largely from the barrel-aging, which adds oak, vanilla, and light peppery notes. Medium body, with a light spritziness from the pétillant carbonation. (21/24)

Overall Impression: This cider was a treat to taste and judge. The aroma and flavor are both complex but balanced, with everything in harmony. The time it takes the flavor to transition from the initial apple pie character to an off-dry slightly tart and tannic finish is impressive. (9/10)

Total Score: (45/50)

Appearance: Crystal clear. Some tiny bubbles on pour, clinging to the sides of the glass. Deep burnished gold color—very pretty. (6/6)

Bouquet/Aroma: Moderate apple aroma with an aged or baked apple character. Medium-low wood, as if freshly cut, suggesting tannin. Slight hints of alcohol and acidity. Moderate-low sweetness follows as it warms, reinforcing the apple impression. Complex and inviting. The wood quality is perhaps a bit too forward, and slightly masks the apple. (8/10)

Flavor: Full body. Light sparkle. Quite strong; warming but not burning. Light brown sugar quality, almost chewy in its viscosity. Clean aged apple with a light baked quality. Full flavor with a moderate tannin and acid balance. Warming aftertaste. Moderately sweet in the balance; probably sweeter on an absolute scale, but the tannin adds dryness that makes it a perceived medium level. Aftertaste of apple with wood/tannin, balanced sweetness and acidity, and alcohol warmth. Delicious. (21/24)

Overall Impression: Super clean flavors, very well balanced. A huge cider, it could use some additional cellaring (although not in the barrel) to better integrate the alcohol. The tannins and barrel character help give it a rich, full body. Delicious apple flavor, slightly baked quality. A substantial sipping cider, worthy of respect. Nice wood character—a bit forward in the nose but not the flavor—enhances the rustic quality. Should age beautifully. It's a cool day as I judge this, but I wish I were drinking this in the dead of winter. (9/10)

Total Score: (44/50)



THE JUDGES' SCORES FOR SNOWDRIFT PERRY



Appearance: Very pale yellow color. Highly carbonated, like champagne. Clear but somewhat hazy. (5/6)

Bouquet/Aroma: Light, fruity, white-wine-like character. A noticeable sulfur aroma comes through along with some tannins. (7/10)

Flavor: Low fruitiness from perry pears or fermentation. Medium sweetness with high tannins perceived as bitter astringency. Full body but a thinner mouthfeel. Sulfur character from yeast or added sulfites. Alcohol evident—a bit higher than current guidelines but not out of balance. No acetification. No mousiness. Salty aftertaste, perhaps from water chemistry. (18/24)

Overall Impression: This example of a Traditional Perry meets the individual style expectations well but the whole is less than the sum of the parts with the sulfur in aroma and flavor and salty aftertaste that detracts from drinkability. Correcting these characteristics would leave an exemplary traditional perry. Still a nice addition to the brie and cheddar cheeses in my fridge. (7/10)

Total Score: (37/50)

Appearance: Light straw; clear, but not brilliant. High white foam forms to three-fourths of the glass, but quickly dissipates. Tiny bubbles continue to rise and sparkle on the surface. Light lacy legs cling to the sides of the glass. (5/6)

Bouquet/Aroma: Ripe and fermenting pears are quite pronounced; wood and earth mingle. A hint of acidity whisks past the nose with a promise of tartness for complexity. (9/10)

Flavor: Light sweetness at first disappears to pronounced ripe and dried pear flesh with an earthy note toward late middle to finish; this gives way to a crisp lactic tartness. Medium bodied. Spritzy carbonation dances on the tongue. The tartness lingers pleasantly. A light tannin nibble (not a bite) boosts a warming alcohol character. Warmth and sweet-tart sensations linger long into the finish with whispers of earthy complexity emerging and retreating. (20/24)

Overall Impression: Amazingly complex, yet light on the tongue. The pear fruit and lightly tannic peel character are highlighted with the earthy, woody notes. These flavors and aromas transport me to summers spent working in the pear shed, late in the season after the main harvest was done. Delicious with Humboldt Fog cheese (or brie, as the maker recommends) and dark rye bread. (9/10)

Total Score: (43/50)

Appearance: Very light straw color with a light hazy sheen, not unlike some wheat beers. The carbonation is modest in the glass, but had enough force to blow the cork out of the bottle when the cage was removed. (5/6)

Bouquet/Aroma: Champagne-like aroma, with a pleasant pear character enhanced by chardonnay grape notes. Light mustiness lends some earthy and woody notes. Sweet dessert apple notes provide a honey-like sweetness in the background. Alcohol is evident as it warms and breathes, but it is clean without much solvent character. (9/10)

Flavor: An interesting array of flavors comes across individually in different layers, rather than being blended and in harmony. Not quite as balanced as expected from the aroma. It starts with light honey notes, but this sweetness rapidly attenuates into a moderately tart finish with low to medium woody tannins. The pear character is most apparent in the middle of the flavor profile, and is appropriately restrained without being buried. I like that aspect of the balance, but the sourness is a bit too assertive in the finish. (18/24)

Overall Impression: A pleasant concoction, though the tartness makes the finish too one-dimensional and throws off the balance. However, this is in the same vein as some Italian wine varieties, so this might have been intended. The pear notes are reminiscent of biting into a sweet, juicy pear or a caramelized pear dessert. However this character was a little too fleeting. (7/10)

Total Score: (39/50)

Appearance: Highly carbonated, spumante, huge stand of white bubbles that settled fast then continued to effervesce. Somewhat hazy, detracts. Pale yellow color. (5/6)

Bouquet/Aroma: Rich, deep pear aroma like a Poire William without the big alcohol nose. The pear aromatics are complex, rustic, and very enticing. Light whiff of alcohol with hints of acidity. There is a woody note as well. (8/10)

Flavor: Very highly carbonated. Dry with a lightly acidic bite, like champagne. Light alcohol warmth with a robust pear flavor for a fairly dry perry. Medium-full body but seems lighter due to the high carbonation level. Although dry, the perceived dryness is a bit less due to the body and the silky, almost viscous, texture. Flavors are generally similar to the aroma, with the same rich, complex, rustic pear quality. Moderate tannin adds to the long finish. Aftertaste of complex, rustic, rich pears, with a lightly acidic sparkle. (20/24)

Overall Impression: Quite champagne-like but with a fuller body. Highly carbonated with a rich, complex pear flavor, moderate tannins, and juicy acidity. Very well balanced. Fairly strong, this seems like a great sparkling pear wine. The pear qualities are center-stage throughout. Just wish it was a bit clearer, and slightly less acidic. I think the carbonic bite is adding more acid and tilting the balance a bit too much toward the acidic. However, if you think of this as a champagne-like drink with more body and a pear flavor, it all works really well. Would like to have this at New Year's. (8/10)

Total Score: (41/50)

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by Charlie Papazian



30 Years of Complete Joy



This past October marked the 30th anniversary of the publication of the original large-volume format of my book *The Complete Joy of Homebrewing*. I started homebrewing in 1970, and in 1976, I self-published a 40-page “booklet” called *The Joy of Brewing*. I followed that with a 1980 self-published 88-page edition called *The New Revised and More Joy of Brewing*.

In the summer of 1983, I went all-out. For five months, I sequestered myself from the pleasures of a Colorado summer to research, gather information, and translate my own experiential knowledge of brewing for the original 1984 large-volume version of *The Complete Joy of Homebrewing*. Little did I know that it was a manuscript destined to help change the world of brewing.

On September 30, 2014, the 467-page *The Complete Joy of Homebrewing, Fourth Edition* was released by HarperCollins Publishers. It also was the official release day of my 440-page *The Homebrewer’s Companion, Second Edition*. For ease of use and quick access to extended information and insight, the two books are extensively cross-referenced; it was no small feat cross-referencing and revising, writing, and publishing two books at one time. I can’t think of any other brewing books so intertwined.

The completion of the fourth edition of *The Complete Joy of Homebrewing* marked the end of a long two-and-a-half years spent reviewing, revising, editing, adding, updating, researching, changing, correcting, deleting, and improving this book.

**LITTLE DID I KNOW
THAT IT WAS
A MANUSCRIPT
DESTINED TO HELP
CHANGE THE WORLD
OF BREWING.**

I derive a great deal of pleasure and satisfaction from having taken this 44-year journey called homebrewing. While savoring my homebrew, I reflect on how much people’s attitudes toward beer have changed. A profound and extraordinary shift has occurred in the paradigm outlining our ideas about what we want in a beer and how we enjoy it.

But what is even more profound to me is the impact that beer and brewing—and particularly homebrewing—have had on people’s lives. I think about this book as a continuation of my journey and the beginning of many people’s journeys. So far, all editions of this book have sold more than 1.3 million copies. I have met tens of

Continued on page 86

Blinky Session IPA

MALT EXTRACT RECIPE

INGREDIENTS

for 5.5 U.S. gallons (21 L)

Note: you will need at least a 6.5-gallon fermenter

6.0 lb	(2.7 kg) light malt extract syrup or 5 lb (2.3 kg) light dried malt extract
8.0 oz	(227 g) crystal malt (10° L)
4.0 oz	(113 g) Belgian Special B malt
1.75 oz	(49 g) Liberty hops, 4.5% a.a. (7.9 HBU/221 MBU) 60 min
2.0 oz	(56 g) homegrown (if available) dried Cascade hops, 5% a.a. (10 HBU/128 MBU) 10 min
1.0 oz	(28 g) homegrown (if available) dried Cascade hops, end of boil
0.5 oz	(14 g) Simcoe hop pellets, dry hop
0.25 tsp	(1 g) powdered Irish moss
White Labs	Cry Havoc or American Ale type yeast
0.75 cup	(175 ml) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.044 (11 B)

Target Extraction Efficiency: 70%

Approximate Final Gravity: 1.014 (3.5 B)

IBU: 46

Approximate Color: 14 SRM (28 EBC)

Alcohol: 4% by volume

DIRECTIONS

Place crushed crystal and Special B malted grains in 2 gallons (7.6 L) of 155° F (68° C) water and let steep for 30 minutes. Strain out (and rinse with 3 quarts [3 L] hot water) and discard the crushed grains, reserving the approximately 2.5 gallons (9.5 L) of liquid to which you will now add malt extract and 60 minute hops. Bring to a boil.

The total boil time will be 60 minutes. When 10 minutes remain, add the 10-minute hops and Irish moss. After a total wort boil of 60 minutes, turn off the heat and add the 1 ounce of Cascade hops.

Immerse the covered pot of wort in a cold water bath and let sit for 15-30 minutes or the time it takes to have a couple of homebrews. 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 has been added. If necessary add cold water to achieve a 5.5 gallon (21 L) batch size. Aerate the wort very well.

Pitch the yeast when temperature of wort is about 70° F (21° C). Ferment at about 70° F (21° C) for about one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary and add the hop pellets for dry hopping. If you have the capability "cellar" the beer at about 55° F (12.5° C) for about one week. Prime with sugar and bottle or keg when complete.

The advertisement features a purple and yellow design with a torn paper effect. A yellow diagonal banner on the left reads "THE LARGEST BEER COMPETITION IN THE WORLD". The top center features the American Homebrewers Association logo. Below it, the text "American Homebrewers Association® 37th Annual" is displayed. The main title "NATIONAL HOMEBREW COMPETITION" is prominently shown in large white letters. To the left of the title is the "NATIONAL HOMEBREW COMPETITION" logo. Below the main title, the application window is listed as "APPLICATION WINDOW: February 2–8, 2015". Entries due are "ENTRIES DUE: March 2–11, 2015". The final round is "FINAL ROUND: June 11, 2015". The awards ceremony is "AWARDS CEREMONY: June 13, 2015". At the bottom, it says "37th Annual National Homebrewers Conference • San Diego, California". A note at the bottom left says "Visit the Competitions section of HomebrewersAssociation.org for rules, regulations and judging center locations." The bottom right corner features the Brewers Association logo.

Blinky Session IPA

ALL GRAIN RECIPE

INGREDIENTS

for 5.5 U.S. gallons (21 L); yield 5 U.S. gallons (19 L)

Note: you will need at least a 6.5-gallon fermenter

8.5 lb	(3.9 kg) English Maris Otter malted barley
8.0 oz	(227 g) crystal malt (10° L)
4.0 oz	(113 g) Belgian Special B malt
1.5 oz	(42 g) Liberty hops, 4.5% a.a. (6.8 HBU/189 MBU) 60 min
2.0 oz	(57 g) homegrown (if available) dried Cascade hops, 5% a.a. (10 HBU/128 MBU) 10 min
1.0 oz	(28 g) homegrown (if available) dried Cascade hops, end of boil
0.5 oz	(14 g) Simcoe hop pellets, dry hop
0.25 tsp	(1 g) powdered Irish moss
White Labs	Cry Havoc or American Ale type yeast
0.75 cup	(175 ml) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.044 (11 B)

Target Extraction Efficiency: 70%

Approximate Final Gravity: 1.014 (3.5 B)

IBU: 46

Approximate Color: 14 SRM (28 EBC)

Alcohol: 4% by volume

DIRECTIONS

A step infusion mash is employed to mash the grains. Add 9 quarts (8.5 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 4.5 quarts (4.3 L) of boiling water and add heat to bring temperature up to 155° F (68° C) and hold for about 30 minutes. Raise temperature to 167° F (75° C), lauter and sparge with 3.5 gallons (13.25 L) of 170° F (77° C) water. Collect about 6 gallons (23 L) of runoff. Add 60-minute hops and bring to a full and vigorous boil.

The total boil time will be 60 minutes. When 10 minutes remain, add the 10-minute hops and Irish moss. After a total wort boil of 60 minutes, turn off the heat and add the 1 ounce of Cascade hops. 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 chill your wort. Strain and sparge the wort into a sanitized fermenter. Bring the total volume to 5.5 gallons (21 L) with additional cold water if necessary. Aerate the wort very well.

Pitch the yeast when temperature of wort is about 70° F (21° C). Ferment at about 70° F (21° C) for about one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary and add the hop pellets for dry hopping. If you have the capability "cellar" the beer at about 55° F (12.5° C) for about one week. Prime with sugar and bottle or keg when complete.

The book cover features a large, stylized word 'malt' in black and red. Below it, the subtitle 'A Practical Guide from Field to Brewhouse' is written. The author's name, 'By John Mallett of Bell's Brewery, Inc.', is at the bottom. To the left of the book is a logo with a white 'b' and a red 'p' inside a square frame. The background of the entire advertisement is a photograph of a wheat field.

Fourth in the Brewing Elements series, this book delves into the history, agricultural development and physiology of a key ingredient used in virtually all beers: malt.

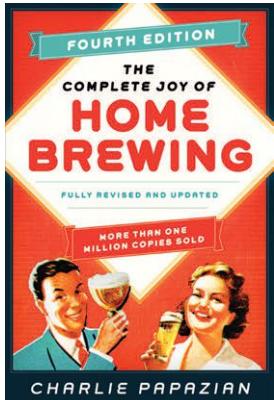
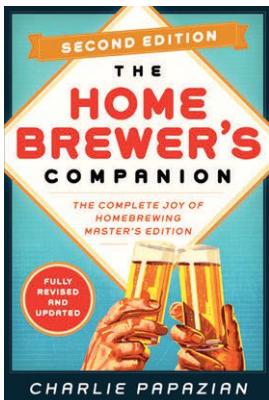
With a comprehensive overview from the field through the malting process, *Malt* is of value to all brewers, both novice and experienced, who wish to learn more about the ingredient often called the soul of beer.

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cent of the craft breweries in America were started by homebrewers. There are more than 3,000 small breweries in the United States, and those breweries employ about 120,000 people—not including the extended businesses that supply or provide services to the professional and amateur craft beer brewing community.

thousands of homebrewers over the years, but I'm still awed every time someone says to me, "Charlie, you've probably heard this a thousand times, but your book changed my life." For me, it never gets old. Yes, this beer thing we've all found our way to get involved with has changed us—not only with the quality of the beers we enjoy, but the quality of our lives.

I am dumbstruck when I realize how many people who started with this book now have careers in the beer business or own a brewery. Well over 90 per-

cent of the craft breweries in America were started by homebrewers. There are more than 3,000 small breweries in the United States, and those breweries employ about 120,000 people—not including the extended businesses that supply or provide services to the professional and amateur craft beer brewing community.

My head starts spinning when I consider what homebrewing has done for so many people. Making, sharing, and enjoying your own homebrew is powerful stuff. There is nothing like a glass of my own beer to get myself centered on the most important things in life. Along the way, the most important thing has not been the beer or the homebrew—it's about the journey of creating and sharing, of family and friendship.

But let's cut the shuck and jive and get on with the recipe. Here's a session IPA

"CHARLIE, YOU'VE PROBABLY HEARD THIS A THOUSAND TIMES, BUT YOUR BOOK CHANGED MY LIFE." FOR ME, IT NEVER GETS OLD.

that gets back to basics. It's late-hopped with a generous amount of homegrown "heirloom" Cascade hops.

Remember to enjoy life and homebrew responsibly, wherever your journey may take you.

Charlie Papazian is founder of the American Homebrewers Association. 

FOR THE HOMEBREWER & BEER LOVER

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Homebrewing in Cyprus



It all started a couple of years ago, when my wife and I were watching the Discovery Channel and stumbled upon the “Brew Masters” series. I was immediately hooked!

At the same time, the first craft beer pub was opening in my hometown on the Mediterranean island of Cyprus, importing a variety of beers from the U.S., Belgium, UK, and the rest of the world, bringing to us a newly-found world of flavors and aromas. I came to understand that there was more to beer than the mass-produced, yellow lagers that the two breweries on the island sold. And indeed there was! IPAs, amber ales, pale ales, weizens, bocks, and many more styles were inviting me to try them. I started learning about different beer styles, ingredients, and homebrewing.

I was eager to start making my own beer, but there were no homebrew shops on the island. Shipping to Cyprus was quite expensive, so I decided to develop an online homebrew shop and import some

starter kits from the UK to sell. We did that for a couple of years, but eventually shut it down due to the small homebrewing market in Cyprus. Despite that, I am happy that I managed to help some people start homebrewing and began my own journey into this wonderful hobby.

A couple of months after making my first beer from a starter kit, I began brewing with extract, and a couple of months after that, all-grain. I experimented with malting my own grains, growing hops in my backyard, making hop breads, freezing yeast, and kegging. I was lucky enough in the process to meet people who shared my passion and enthusiasm for homebrewing and craft beer in general, and made some great friends.

Last January, we decided to start the Cyprus Homebrewers Association, and had our first Homebrew Festival on May 31, allowing attendees to taste our homebrews for free. Around 20 different beers were available. We had a great time, introduced home-

brewing to attendees, and met some other homebrewers interested in joining our association. Beers were served in small tasting cups, from taps or bottles. We had a sausage guy come by and sell hot dogs. We printed flyers about the different beer styles, had different kinds of malts available for tasting, and had some music playing. Around 300 liters were consumed, most of it by people who didn't know about amber ales, wheat beers, or smoked beers, but were willing to try. This great day was the first step in organizing the homebrew scene in Cyprus.

Reading Zymurgy, I was always fascinated with all those great American beers that I couldn't try, the festivals and events I couldn't attend, the breweries I couldn't visit. I still am, don't get me wrong, but I can now see that it's not where you are and what you have the opportunity to try that matters, but the friends you have to share your journey. And this is an exciting one!

George Botsaris is co-founder of the Cyprus Homebrewers Association.

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