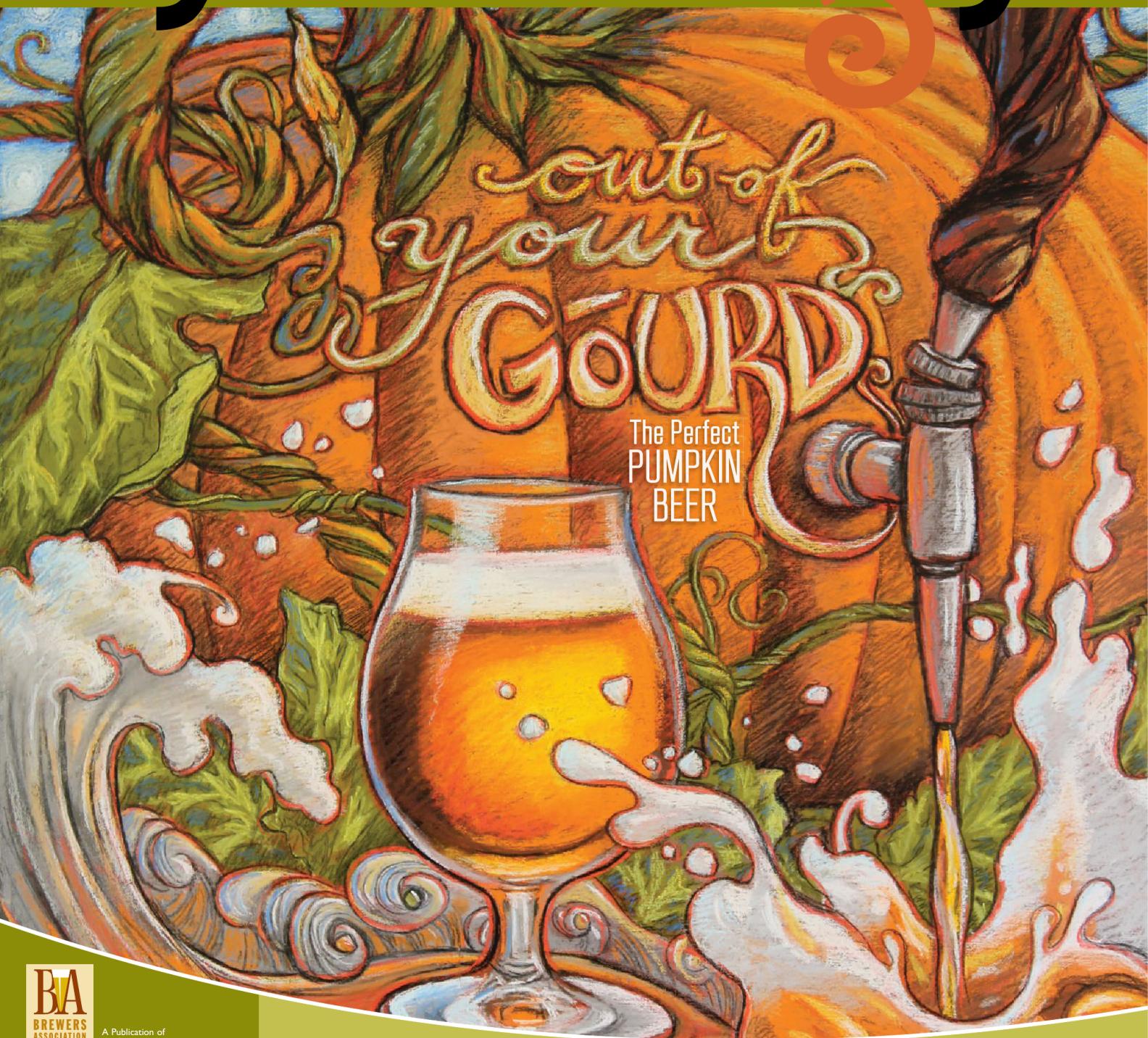


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Brewing Up a Revolution

With 3,400 attendees, the AHA's 35th National Homebrewers Conference in Philadelphia June 21-23 was one for the record books.

"This is the single largest gathering of homebrewers ever," proclaimed AHA director Gary Glass at the welcome toast preceding Pro-Brewers Night.

AHA founder Charlie Papazian said one of the questions he's most frequently asked is whether he imagined homebrewing and craft brewing would ever get this big. "Yes, I did," he said. "But only when I'd been drinking too much homebrew."

With 40 educational seminars, 2,000 kegs of homebrew (yes, you read that right!), a bustling homebrew equipment expo and social club, the dizzying array of beers at Club Night and Pro-Brewers Night, a delicious beer pairing dinner from Homebrew Chef Sean Paxton and Rogue Ales, a record 894 beers judged in the final round of the National Homebrew Competition, and the hospitality of the great beer city of Philadelphia, this year's Homebrewers Conference embodied the explosion in popularity of homebrewing and craft brewing.

"Homebrewing is the hot topic right now," said Glass. "It's really the cutting edge of craft beer. We are getting the word out about how great our hobby is." The conference wrapped up just two days before homebrewing officially became legal in all 50 states, something Glass has been working hard toward for the past several years.

"This is a great event," said Tom Peters, the proprietor of beer-centric Monk's Café in Philadelphia who delivered the keynote address. "I am blown away by the equipment downstairs [at the expo]—like I need another addiction."

Stone Brewing Co. brewmaster Mitch Steele, who presented a standing-room-only seminar on "Current Techniques and Recent Developments Used for Brewing Great IPAs" proclaimed, "Club night is awesome. This is the funnest event the BA puts on." (As a reminder, the Brewers Association's events include the Great American Beer Festival, the Craft Brewers Conference, and SAVOR.) Steele, Dogfish Head's Sam Calagione, Iron Hill's Mark Edelson, and Bell's John Mallett were among the professional brewers pouring their beer at Pro-Brewers Night.

Stone Brewing Co. has released several collaboration beers brewed with homebrewers such as AHA members Kelsey McNair and Jason Fields. "I have to salute homebrewers—they're giving us a lot of inspiration," Steele said.

Rogue Ales brewmaster John Maier echoed those sentiments. Regarding Club Night, he commented, "That's where I get the inspiration." Maier said he sampled some single hop beers at Club Night, and said, "Some of these guys are using hops I've never even heard of."

Incidentally, Rogue's Hazelnut Brown Nectar, which was served at the Grand Banquet, was originally brewed by homebrewer Chris Studach as the commemorative beer for the 1993 National Homebrewers Conference in Portland, Ore. Studach's picture adorns the bottle. And Maier himself was the Homebrewer of the Year at the 1988 conference in Denver.

"I'll never forget the roots we dedicated our lives to," Maier told the crowd at the Grand Banquet. "Thanks for your inspiration. Keep doing what you're doing."

Jill Redding is editor-in-chief of *Zymurgy*.



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>> GET THERE!

LIGHTHOUSE BEER FESTIVAL

The 12th annual Lighthouse Beer and Wine Festival is set for October 19 (the final day of Wilmington Beer Week) in Wilmington, N.C. on the Lighthouse Beer Festival grounds. The festival runs from 12 p.m. to 5 p.m.

More than 100 craft breweries—and, new this year, the addition of wineries—will be represented at the festival. Admission includes entrance to the Lighthouse Beer Festival grounds and a sampling glass. Food vendors will be onsite.

A portion of the festival proceeds will benefit The Carousel Center, a non-profit organization committed to assisting victims of child abuse, providing critical care services to children from 15 counties throughout southeastern North Carolina. For more information on the festival, visit www.lighthousebeefestival.com.



September 13-15 Telluride Blues & Brews Festival

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September 28 Texas Craft Brewers Festival

Austin, TX
www.texascraftbrewersfestival.org

>> THE LIST

COLLECTIBLE BEER CANS

Here's a brief description of some of the different kinds of collectible beer cans, provided by Last Drop author Nathan Solheim (see page 96).



Cone Tops: Beer cans that look like they're topped with a small metal funnel crowned by a bottle cap. In use from 1935-1960s.



Flat Tops: Cans that required a "church key" or can opener to punch a hole in the lid. In use from 1935-1960s.



Pull-Tabs: Cans that came with a pull-tab that could be removed by hand. Debuted in early 1960s and used until the early 1980s.

OI (Opening Instructions): Cans that featured directions on how to open the container. OIs are among the oldest cans in the hobby.

>> GREAT GADGET

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THE GRABOPENER

The GrabOpener, a nifty one-handed bottle opener, is the creation of Mark Manger, a photographer, applied artist, and inventor from Denver, Colo. Inspired by the stick and screw openers he encountered in bars while working in Africa in the mid-1990s, the GrabOpener uses the same leverage principle, but in a form that easily allows the kinetics of grabbing a bottle to also engage and remove the cap.

The GrabOpener has been designed in a way that accommodates amputees, stroke victims, and others who may only have full use of one hand. A strong magnet keeps the opener hanging on your refrigerator, as well as keeping bottle caps from falling to the ground.

The device doesn't require a lot of strength, but a firm grip is necessary. It is proudly made from aluminum extruded in Utah and manufactured in owner-operated workshops in the Denver area.

The opener retails for \$16-22 (depending on the model) and is available at www.gropener.com. A special CraftBeer.com version is available on the Brewers Association store at www.homebrewersassociation.org.



>> YOU'VE GOTTA DRINK THIS

CISMONTANE COULTER IPA

We sampled this beer after an exhausting day. Coulter IPA has a delightful golden copper color. An initial aroma of floral hops is enticing and makes you want to sample this beer now. Another whiff and the complex, bready malt character sneaks through.



At first sip, the multilayered malt backbone shines through with delightful citrusy character in the bold hop flavors. A slight caramel flavor to the big malt profile is balanced nicely by the 65 IBUs of bitterness encountered in this beer, which finishes strong.

This is an overall excellent beer with a good balance of malt and hops, more in the traditional IPA style than the now ever-popular West Coast version. A light, lacy head persists, perhaps brought about by the judicious use of rye in the original grain bill.

Reviewed by Tom and Lars Vedvick (father and son), both homebrewers and BJCP judges.



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.

COVER ARTIST

BRYCE WIDOM



Bryce Widom is a full-time artist with gallery representation, but it's his chalkboard art at the Mountain Sun Pub & Brewery in Boulder, Colo., that has captured the most attention.

"My art career began at Mountain Sun, where I was a post-college cook and server," explained Widom. One day he tried his hand at the pub's two chalkboards that were designed to draw attention to the tap wall and beer menu. "The first results were embarrassing, but I stuck with it," Widom said. "Some months later, I was receiving invitations from young bands like The Motet and Yonder Mountain String Band—who brought their live music to the pub on Sunday nights—to create posters, T-shirt designs, and album covers."

His chalkboard artwork hangs on the walls of tech company offices, eateries, and private homes, while his oil paintings can be found in Boulder's SmithKlein Gallery on the Pearl Street Mall. But he still continues to update the seasonal chalkboards at Mountain Sun and its three sister pubs/eateries in Denver and Boulder.

"I was thrilled at the invitation to create the artwork for this month's *Zymurgy* cover—a nod to my roots in the craft beer world," said Widom.

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>> HOMEBREWER PROFILE: REMEMBERING TOM FITZPATRICK

BY GORDON STRONG

No one likes to contemplate their own mortality, but it's kind of hard not to when one of your close brewing friends is taken way too young. How would you want to be remembered, particularly if beer and brewing were an important part of your life?

Tom Fitzpatrick of Batavia, Ill. passed away suddenly and unexpectedly at the age of 53 on Easter Sunday this year while visiting friends. For those who didn't know him, Tom was one of those unsung heroes of homebrewing. A Grand Master BJCP judge, NHC medalist, Longshot finalist, and the BJCP's first Competition Director, Tom was an accomplished brewer and judge who gave freely of his extensive knowledge and expertise yet who demanded excellence and didn't suffer fools gladly. He had a way of bringing out the best in people, and was a great guy to share a beer with.

While at his wake, I heard story after story about how he loved the outdoors, travel, and most of all his family. Beer was an important part of his life, but it wasn't the

only part. He lived life to the fullest while enjoying beer (his last one was reported to be an Alaskan Smoked Porter). I found it very appropriate that his wife, Luann, chose a German stein to inter his ashes. I think Tom would have been both amused and pleased by that choice. I wonder if that will start a trend?

I often got emails from Tom when he was in another country. He'd want to discuss the finer points of the style guidelines and how they could be improved based on his tastings of fresh examples. When I saw him in person, he'd always want to talk about his latest brewing project, and share whatever beer, mead, or cider he was most proud of at the moment.

One of his last passions was creating the perfect saison, the style that took him to the Longshot finals. Looking over his rec-



ipe notes and talking to his fellow Urban Knaves of Grain club members, I was able to reconstruct his best advice. I think he would find it fitting that his remembrance contained a recipe. I hope you join me in brewing his beer this summer, and in raising your first glass to Tom.

Three-time Ninkasi winner Gordon Strong is president of the Beer Judge Certification Program and author of *Brewing Better Beer*.

Tom Fitzpatrick's Last Saison

ALL-GRAIN RECIPE

INGREDIENTS

for 10 U.S. gallons (38 liters)

17.0 lb	(7.7 kg) French Pilsner malt
1.5 lb	(680 g) German Wheat malt
0.5 lb	(227 g) German Munich malt
0.5 lb	(227 g) German Rye malt
0.5 lb	(227 g) acidulated malt
1.0 oz	(28 g) Perle whole hops, 9.3% a.a. (75 min)
0.5 oz	(14 g) Willamette whole hops, 5.2% a.a. (75 min)
	Wyeast 3711 (Wyeast 3726 is a good alternative)

Original Gravity: 1.057 (78% efficiency)

Final Gravity: 1.005

IBUs: 27

SRM: 4

ABV: 7%

DIRECTIONS

Brewing liquor was two-thirds RO water and one-third bottled spring water. Step mash: 142 °F (61 °C) for 60 min, 155 °F (68 °C) for 30 min, and 165 °F (74 °C) for 5 min (mash out). Sparge 30 minutes with 170 °F (77 °C) water. 90 minute boil. Pitch at 64 °F (18 °C), raise to upper 70s °F (25-26 °C) to finish. Bottle with 200g corn sugar; target carbonation 3.5 volumes.

NOTES

Tom's tips for a great saison were: use mostly Pils malt; get spiciness from rye and yeast; use a multi-step mash for attenuation; don't go too hoppy or bitter—let the yeast character shine through; keep alcohol restrained—bigger and boozier isn't better; and to bottle condition the beer for the best effervescence and mouthfeel. He was a big fan of Wyeast 3711 for saisons, and did not like the Dupont strains with their finickiness and high temperature requirements. He felt the beer peaks at about six months of age.



Photo courtesy of Gordon Strong

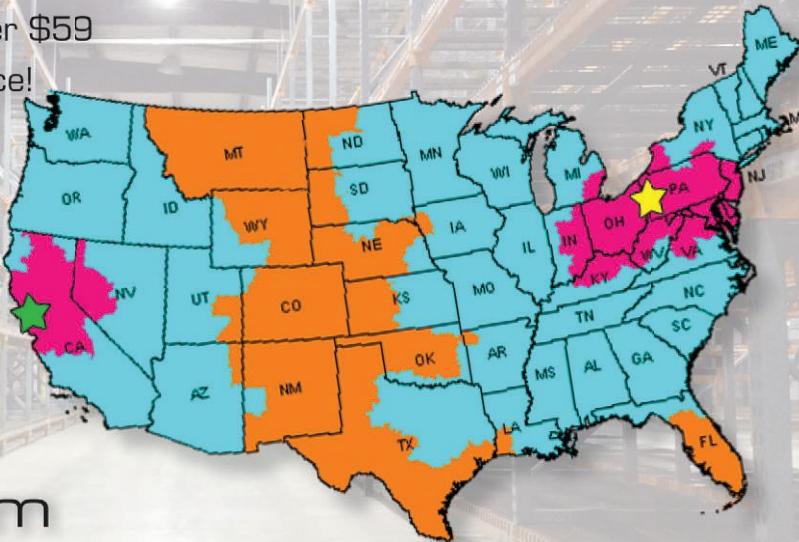
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By Gary Glass



2013 National Homebrewers Conference

With 3,400 attendees, this year's AHA National Homebrewers Conference in Philadelphia was almost certainly the largest gathering of homebrewers in history. In a word, it was awesome! The highlight for me, as usual, was Club Night, with 87 participating clubs from around the country and more than 1,000 kegs of homebrew served. The incredible diversity of beer, club wackiness, camaraderie, and fun make this event truly one of a kind.

We have once again posted recordings of the seminar audio and slides as members-only content on HomebrewersAssociation.org. Sharing the homebrew education that takes place at the conference with all members, whether or not they could attend in person, fits well with the AHA's mission to help homebrewers make the best beer in the world.

The conference concluded with the crowning of this year's National Homebrew Competition award winners during the Grand Banquet. You can read more about the winners in this issue's Winners Circle, where all of the 28 gold medal recipes are published. Congratulations to all of the winners! With nearly 8,000 entries judged, the National Homebrew Competition remains the world's largest beer competition, making earning an NHC award the pinnacle of achievement in amateur brewing.

AHA Governing Committee Meeting

One of the best things about being director of the AHA is that I have the privilege of working with the members of the Governing Committee (GC)—some of the most dedicated homebrewers you





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will ever meet. The members of the GC are chosen by members of the American Homebrewers Association to represent them and to help the AHA be the best possible steward for the homebrewing community. The GC members take their role as representatives of the membership very seriously. The GC communicates via email on a daily basis and meets via conference call every month. In addition, every member of the GC serves on one or more subcommittees focused on addressing specific needs of the association.

Every year on the Wednesday before the official kickoff of the National Homebrewers Conference, the members of the AHA Governing Committee and the AHA staff get together for the Governing Committee's annual in-person meeting. It's an intense four hours of discussion on the most pressing topics facing the Association. For this year's meeting, the major theme was the rapid growth of the AHA and the challenges that growth presents.

In particular, the GC addressed the topic of the growth in popularity of the National Homebrew Competition and National Homebrewers Conference. While work is underway on the long-term solution for the National Homebrew Competition involving an army of Gordon Strong-cloned judges (just kidding!), several short-term options can be applied to allow the competition to handle more entrants and provide a better registration experience for future competitions. Unfortunately, there are no silver bullet solutions that will address all issues in a way that will make everyone involved completely happy, but we will do everything we can to attempt to make the competition better.

Look for more details as we approach the launch of conference and competition registration in early 2014.

The AHA and the Homebrew Trade

Immediately following the AHA Governing Committee meeting, the AHA hosted the third annual Industry Workshop. The Industry Workshop came about shortly after AHA Governing Committee chair

Jake Keeler created a new Industry sub-committee intended to investigate ways that the AHA can further support the hobby of homebrewing by helping the retailers who serve the homebrewing community's needs.

This year's Industry Workshop had more than 100 attendees—a new record—representing homebrew supply shops, the wholesalers that serve those shops, and the businesses that make the equipment and ingredients we all use. I presented highlights from the AHA's annual survey of homebrew supply retailers, which showed that 2012 saw the highest rate of growth at retail in the last several years with shops experiencing year-on-year growth in sales of, on average, 26 percent. The survey also revealed that 43 percent of shops have been operating under the current owner for three years or less, which indicates that a lot of new shops have opened up over the last few years.

This year's workshop also included guest speaker Tracy Neal, a retail consultant who offered pointers to help retailers improve their businesses. Panel discussions with retailers and wholesalers also took place.

Ultimately, the more the AHA can do to help homebrew supply shops succeed, the better off all of us homebrewers will be.

Learn To Homebrew Day

Hopefully you have cleared your calendar of other obligations for November 2, the first Saturday of the month, which is of course the date for AHA Learn to Homebrew Day. You probably don't need much of an excuse to get excited about brewing a batch of beer, but on this particular day, we encourage you to invite friends, family, strangers, or even the neighborhood curmudgeon to join you in a crash course on how to make beer at home. As a homebrewer, you know how fun and rewarding it is to be a part of this great hobby. Learn to Homebrew Day is the perfect opportunity to share that joy with others.

Check out the Events section of HomebrewersAssociation.org for information on how to participate, register a

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The image shows a young man with short brown hair and a light beard, wearing a green t-shirt and a tan apron. He is holding a large glass filled with a golden-colored beer, looking down at it with a focused expression. In the background, there are shelves with various brewing equipment and supplies. A circular watermark logo for South College is overlaid on the left side of the image. The logo features a tree in the center, surrounded by the words "Growth • Direction • Excellence" and "SOUTH COLLEGE" at the bottom, with "Since 1882" written at the very bottom.

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site, and celebrate Learn to Homebrew Day. You can also find loads of resources for new homebrewers in the Let's Brew pages of HomebrewersAssociation.org, including a simple how-to-homebrew video starring yours truly.

Until next time, happy homebrewing!

Gary Glass is director of the American Homebrewers Association.

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by Our Readers

Hop Flavor and Aroma

Dear Zymurgy,
I have a question regarding Stan Hieronymus' article, "Hop Flavor & Aroma" (May/June 2013).

Apparently, the Japanese researchers have concluded that Citra hops and Hallertau tradition mixed with coriander are very similar in taste tests. What is the ratio of Citra to Hallertau, and how much coriander? I love using Citra in my DIPA, but find it hard to get ahold of.

Ben Wilder

Author Stan Hieronymus responds: First, the disclaimer. These experiments are looking at a variety of factors—focusing on the levels of linalool and geraniol—and they don't approach things quite like breweries. They'll use some syrups producing wort, extract the hops using hop water, etc. But basically, and I hope the comparisons work: the wort was hopped with 4.6g/200ml of Hallertau. The coriander was added 5 minutes before flame out: 0.5g/L. Don't forget that the biotransformation that takes place in the presence of yeast is at the center here. If you relish the raw aroma you get from Citra in the dry hop, then you'll still need Citra at that stage. Prosit!

Strutting Your Safety Gear

Dear Zymurgy,
I was quite impressed by Drew Beechum's article "Strutting Your Stuff" (May/June 2013). Whenever I see an approach to homebrew technology like that, I know the spirit of MacGuyver is alive and well among us.

I did have one concern, however. As a professional metalworker who has built systems and components for many breweries, I rarely deal with galvanized or powder coated metal. However, when I

do, I am always very certain to be in a well-ventilated area and wear a respirator. Always. The zinc coating on galvanized metal, and polymers in powder coat, are highly toxic, and can make

you quite sick, if inhaled in even small amounts.

I would advise all readers to make sure they take proper safety precautions



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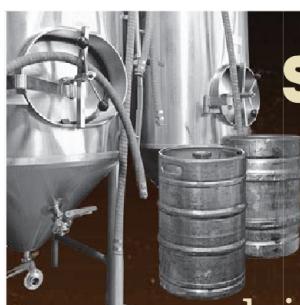
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BEACH READ

Dear Zymurgy,

I was in Belize recently and was relieved to find a decent stout to drink at the island resort while reading the latest issue. Here's the proof!

Thanks Zymurgy for the great articles!

Greg Brouwer
Chicago, Ill.



whenever working with metal, including proper hand, face, ear, and eye protection. I recommend you talk to a local welding supply shop or the good folks at a local scrap metal yard for advice. You might even find the square tubing at a lower price than your local home improvement store (though they'll call it C-channel or U-channel).

Taking a few moments to set up properly and donning the proper protective gear can save you from losing days due to sickness, or body parts due to accidents.

Seamus Jared King
Fort Vancouver Metalworks
Vancouver, Wash.

BWW: A Change of Heart

Dear Zymurgy,

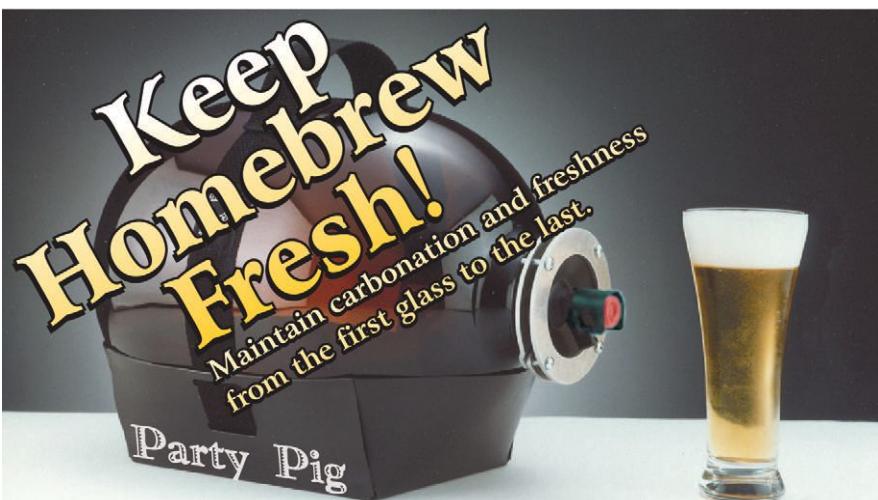
My recent letter (January/February 2013) in regards to Buffalo Wild Wings (BWW) ads depicting homebrewers as dangerous fools was analogous to a drunken text, fired off in an emotional moment when feeling personally attacked about an issue I am passionate about. I do see the humor now.

After reading the responses (May/June 2013), I've realized that, as usual, cooler heads prevail. Thank you for reeling me in a bit.

I've seen the changes in BWW's beer menu, planned long before my diatribe, and am looking forward to seeing a greater inclusion of craft beer in their menu...especially local beer. I hope my local franchise will reach out to the local brewers in such a manner.

According to BWW's official website, they give generously to many charities. Their focus is on children's sports as an avenue to build upon the values of self-esteem, teamwork, responsibility, and accomplishing a common goal. They also offer scholarships for food service education as well as contributions to local charities.

I value the responses from your readership as they help me gain a more complete understanding of how everyone can contribute to greater beer. I look forward to BWW being a continuing supporter



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of local charities as well as better beer. I hope to find them an enthusiastic supporter of our local clubs.

And to BWW, please don't fear lampooning brewers in the future...I get it now, and would gladly participate in a commercial. We do have a sense of humor.

Jason Holland

Erroneous Calculations

Dear Zymurgy,

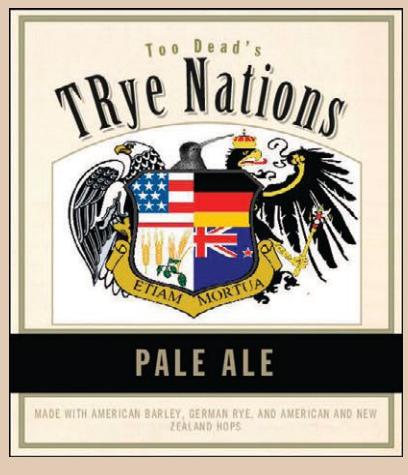
As is the case with most of the articles in *Zymurgy*, I found Nathan Watkins' article (May/June 2013) about mixing and pitching yeasts to be quite interesting and informative. I did notice, however, that his calculations regarding quantifying and calculating yeast quantities had a fundamental error.

The error appears in the middle of the example on pg. 36 when "100 billion cells are divided by 120 grams of slurry." The result is stated as "= 0.83g per billion cells yeast", when the actual result should be *0.83 billion cells per gram*. Therefore, 0.83 billion cells per gram = 1.2 grams per billion cells. ($1/0.83=1.2$)

Now that the correct yeast density per gram has been determined, the subsequent calculations should be modified as follows:

FROM OUR READERS

A homebrew label from *Zymurgy* reader Cody Gabbard.



44 billion cells WY1968 x 1.2 grams/billion cells = 52.8 grams (WY1968)

176 billion cells WY1056 x 1.2 grams/billion cells = 211.2 grams (WY1056)

The pitching rates calculated in the example are only two-thirds of what was originally stated as needed (i.e. another 50 percent needed from the 36 and 146 grams, respectively.)

It's easy to make this kind of mistake, but keeping proper track of the units in the

calculations helps to prevent it. Nathan is right when he states that it all seems a bit complicated!

Dale Raven (aka Ravenbräu Homebrewer)
St. Petersburg, Fla.

Author Nathan Watkins responds: I am reminded of a line from Office Space: "This is not a mundane detail!" Although Dale is correct, you can divide the units, which I intended to do, by the .83 billion (830,000,000) yeast cells per gram to get essentially the same results he did. My

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thought was that by making the units per gram, it might be easier for the brewer to visualize. But clearly I confused myself and probably should have done a quantity of slurry, as Mr. Raven suggested. Most importantly, the botched calculations are one-and-a-half times the amount of yeast in a typical smack pack; so I do not believe that anyone's homebrew will suffer too much from my error.

Correction

In the "Multiple Personalities: Successfully Blending Yeast Strains" article in the May/June 2013 Zymurgy, the Wyeast "Duvel"-like strain should have been listed as WY1388, not 1338.

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 would like to see in our magazine, send it to art director Allison Seymour at allison@brewersassociation.org. ☺

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by Professor Surfeit



Faith, Hops, and Clarity



Dear Professor,
I have two questions arising from Charlie Papazian's Sweet Mischief Vienna-Mild recipe in the May/June 2012 Zymurgy.

1. Re: "Add 60-minute hops and bring to a full and vigorous boil." Unless the addition is intended to be a first wort hop addition, I expect the order of the process should be reversed, e.g. bring to a full and vigorous boil and add 60-minute hops (...after removing hot break)?

2. Re: "Rack...to a secondary and add the hop pellets for dry hopping. Lager the beer...for 3-6 weeks." According to "How To Dry Hop Using Modern Methods" (March/April 2011 Zymurgy), dry hopping for more than 14 days can extract more of a grassy, vegetal character, which I would expect to be readily noticeable in a Vienna-Mild style ale. Charlie Papazian's recipe seems to suggest 50 to 100 percent longer than the maximum time recommended for dry hopping in the previously published article.

It would help me understand the apparent contradictions by having the Professor's clarification. Thank you for your help. Zymurgy is an absolute must for all homebrewers looking to up their game.

Jim Gillis
AHA Member
Pembroke Pines, Fla.

Dear Jim,
I've approached Charlie and confronted him. He was calm and didn't worry while offering these bits of perspective on your questions.

1. There has always been some doubt about the scientific validity of first wort hopping and whether it really makes a difference. I think it might and it would always be a "good" difference—potentially more flavor and more flavor stability of the hop character—so why not always do it? It can't hurt.

"Removing hot break before adding hops." I don't know of any professional brewer who does that as a routine matter, but many add the first charge after hot break forms in the kettle for better utilization. At the scale homebrewers are making beer, adding a few more hops to make up for small inefficiencies makes much more sense than additional labor with boiling wort.

2. You reference "dry hopping for more than 14 days can extract more of a grassy, vegetal character." I say: "It may or it may not." "Can" doesn't mean it will. I've never experienced excessive or negative grassy or vegetal notes from dry hopping for extended periods. As a homebrewer, I find time to keg or bottle when it is most convenient. Results are always excellent. I think there is a point whereby only a week or two of contact with dry hops may be optimal, but there are many more variables such as yeast strain, yeast in suspension, temperature of lagering or celaring, circulation, etc. that really affect what finally emerges from a beer with dry hopping. The "science" of dry hopping is mostly experiential, but someday brewers hope to get some real research done on these processes and figure things out accordingly. Keep in mind most homebrewers don't have as much control over the many variables that affect dry hopping results.

Have a hoppy day,
The Professor, Hb.D.

Cherries to Cherish

Dear Professor,
The Cherry Fever Stout recipe from *The Complete Joy of Homebrewing* calls for 5 pounds of sour cherries. Do they need to be fresh cherries or can they be frozen or

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canned? I live in Oregon; you'd think fresh cherries would be easy to find, but in all my research I can only come up with frozen or canned. The recipe sounds delicious!

Thanks,
Bill Bartman

Hi Bill,

This is an easy one. Frozen or fresh are best. If canned, read the label to assure there's nothing in the can except cherries and perhaps a bit of water. Frozen cherries have always worked well for me when fresh aren't available. You can substitute any kind of available cherries and get excellent results.

Save one for me,
The Professor, Hb.D.

Breaking through Gravity Barriers

Dear Professor,

I am mashing for roughly an hour at 152° F (67° C). I use the iodine test to check for conversion before vorlaufing (lautering). My OG tends to land plus or minus about 3 points from my recipe OG. I have tried a couple different methods of aeration: oxygen tank, air filtration pump, and splashing. My yeast is White Labs California Ale. My fermenters are 30-gallon plastic conicals that seem to get airtight. My fermentations seem to ramp up after a day and a half and go well for a couple days—but then get stuck around 1.025. Most of my beers have been halting around this final gravity.

If I mash around 146-149° F (63-65° C), would that yield better fermentable sugars? I have been struggling with this for a while but can't seem to resolve the



issue of low alcohol and high finishing gravity beers.

Thanks in advance for any help you can give.

Cheers,
Bret Burge

Dear Bret,

I'm going to assume that if you're using 30-gallon fermenters, your batch sizes are at least 20 gallons. That's four times the batch size of my homebrew. I find that in order to get healthy and complete fermentation, it's important to provide adequate oxygen/air to the wort before pitching. You seem to have that covered.

But the other factor that dictates how well your yeast does is to provide the wort with an adequate amount of pitched yeast. For a 5-gallon batch I'd say that an adequate amount is between half-cup to 1 cup of pasty, fresh, active yeast slurry. For a 20-gallon batch you'd need 2 to 4 cups of fresh, active yeast slurry.

I get it and understand that for most homebrewers, culturing up that much slurry is like brewing an extra batch of beer in order to have enough yeast to pitch. I'll suggest three things:

1. Keep your brewing completely clean and reuse the sediment off the secondary fermentation of your prior batch. You can use sediment off the primary ferment but if you have other sediment material in the mix (such as hop particles and protein break material) you might develop some vegetal related flavors in your beer—or you may not.
2. Get a slurry from a friendly local brewery that is brewing bacteria-free beer.
3. Culture up a yeast slurry/sediment from a one- or two-quart wort starter and use whatever you can harvest.

As long as the beer tastes great, don't worry.

Size (of yeast pitch) matters,
The Professor, Hb.D.

Hey homebrewers! If you have a brewing-related question for Professor Surfeit, e-mail professor@brewersassociation.org.

By Amahl Turczyn Scheppach

Czech Dark Lager



The Czech Republic is the birthplace of Pilsner, and Pilsners still make up the lion's share of this ancient brewing nation's beer production. But that doesn't mean it's the only Czech beer style; in fact, the popularity of Pilsner is a relatively recent phenomenon.

Prior to 1842, dark beers weren't just the most popular beers—they were the only beers. Then, as now, Czechs loved their beer, and since the renaissance that began in the early 1300s, they've been enjoying it in great quantity. As beer writer and historian Horst Dornbusch (one of the leading authorities on the style) explains, it all goes back to progressive homebrewing legislation. King Wenceslas II was able to have a papal ban on non-monastic brewing repealed for his subjects. Once families in his kingdom gained the freedom to brew their own beer, they began doing so with unbridled enthusiasm, forming the kingdom's first commercial

brewery in 1307, and a brewers' guild to help them compete with untaxed monastery breweries. Wenceslas II was later named patron saint of Czech brewers.

The beer the Czechs were brewing and enjoying at that time was not Pilsner; it was a dark beer probably not unlike German alt. While it was later to be eclipsed by the popular blonde lager originally brewed in Pilsen during the 19th century, the original dark beers persisted, and are today made almost exclusively

with lager yeast, Moravian barley, and considerable quantities of floral Bohemian noble hops, usually Zatec Saaz.

Probably the most famous modern version of this dark lager, called Flekovský tmavý ležák in its native language, is the only beer made at Prague's U Fleků brewery and restaurant. Founded in 1499, it's considered by many to be the world's oldest brewpub. And the beer is fantastic. It's a smooth, malty, dark session lager of 4.8 percent ABV, with just a trace

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of floral Saaz hop character and thick, tightly-beaded lacing. Hop bitterness, at around 28 IBUs, is more present than it is in a Munich dunkel (which is perhaps its closest relative) but does not reach altbier levels. But malt is the real star; as with Kölsch, it's a beer that goes surprisingly well with food, which might explain its continued popularity over the centuries.

When brewing a reasonable facsimile of this ancient style, then, one needs to keep in mind that even though it's possible, and many would argue preferable,

to use traditional ingredients (for example, under-modified malt) and traditional methods (like a triple decoction mash schedule), you can certainly achieve very good results with more widely available ingredients and modern methods. So let's break this beer down into its component parts to come up with a modern spin on a centuries-old classic.

Water

The soft water in the Pilsen area brings out the maltiness of the beer, without contributing any harshness to hop bitterness.

The numbers are among the lowest for any of the major brewing cities: 7-10 ppm calcium, 2-3 ppm magnesium, 3-16 ppm bicarbonate, 2-3 ppm sodium, 4-6 ppm chloride, 4-7 ppm sulfate, and a residual alkalinity of less than 8 ppm as CaCO_3 . This is the same water that lends Pilsner beer its characteristic soft, round, maltiness.

To reach a similar profile, it's easiest to start with distilled or reverse-osmosis water. Since calcium has multiple benefits in the mash, during fermentation, and for faster clarity during lagering, we can add a small amount of calcium salts; or if your local tap water supply is good for brewing and is low in alkalinity, you can simply plan on adding one part tap water to five or six parts RO or distilled water. Otherwise, build the water from 100 percent RO. In this case, calcium is all you really need, so an addition of 2 grams calcium chloride per five gallons will give you roughly 30 ppm calcium and 50 ppm chloride; all other mineral ions will be close to zero. (Calcium chloride is preferred here, since the chloride ion tends to bring out maltiness. Calcium sulfate, by contrast, will bring out hop bitterness and astringency, effectively cancelling the "noble" benefits of Saaz hops, so it's best to avoid gypsum here.)

Malt

Traditionally, the beer is made with undermodified barley, and undergoes a lengthy triple-decoction mashing schedule to maximize extraction. U Flecků uses Weyermann's® only slightly undermodified floor-malted Bohemian Pils as its base malt; while the brewpub still does a triple-decoction mash with this malt, you can probably get away with a single decoction. This will enhance the maltiness of the beer and help convert every last bit of starch available. Weyermann's Bohemian Pils malt offers a layered, earthy depth to the beer that's hard to find in other malts, but it does demand a more labor-intensive mashing schedule.

Alternatively, higher-modified Moravian Pilsner malts can be used—Dornbusch claims a step mash with modern Moravian malts yields more than acceptable results, with a 30-minute protein rest at 122° F (50° C), and 20-minute saccharification

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Tchaikovsky Flekovský Czech Dark Lager

INGREDIENTS

for 5.5 U.S. gallons (20.82 liters)

6.0 lb	(2.72 kg) Best Malz Vienna malt
2.3 lb	(1.04 kg) 10° L Best Malz Munich malt
8.0 oz	(227 g) 20° L Best Malz Munich malt
8.0 oz	(227 g) 412° L Weyermann de-husked Carafla malt
8.0 oz	(227 g) 56° L Weyermann Cara-Munich malt
0.65 oz	(18 g) Saaz pellets, 3.6% a.a (90 min)
0.65 oz	(18 g) Saaz pellets, 3.6% a.a (60 min)
0.65 oz	(18 g) Saaz pellets, 3.6% a.a (steep 10 min)
	Czech lager yeast culture or slurry

Original Gravity: 1.048

Finishing Gravity: 1.010-1.012

Brewhouse Efficiency: 75%

IBUs: 22

SRM: 23

ABV: 4-5%

Boil Time: 90 minutes

DIRECTIONS

Mash all grains together except de-husked Carafla. Start with a protein rest at 122° F (50° C) for 20 minutes. Raise to 150° F (66° C) and hold for 40 minutes. Mash out at 170° F (77° C) for 10 minutes, add Carafla malt and commence sparge. Boil 90 minutes. First hop charge may be first-wort hopped, if desired. Use kettle finings toward the end of the boil to encourage break, if desired. Add final hop addition at flameout and let the hops steep for 10 minutes before chilling the wort to either 70° F (21° C) if you are pitching a starter, or 49° F (9° C) if you are repitching slurry. Ferment one week at 49° F (9° C), then raise to 53° F (12° C) and ferment an additional week (this will allow for diacetyl reduction), or until terminal gravity is reached. Package, carbonate, and lager 4-6 weeks at 35° F (2° C).

Extract Version: Substitute 2.5 lb (1.13 kg) Pilsner malt extract syrup and 4 lb (1.81 kg) Munich malt extract syrup for base malts. Steep de-husked Carafla and Cara-Munich malts in 160° F (71° C) water for 30 minutes. Dissolve extracts completely and commence boil. Chill and ferment as above.

rests at 144° F (62° C) and 162° F (72° C). Would a single infusion work? Probably not with undermodified malt, but if you can find highly modified Moravian pale, there's no reason why not.

When I first tasted the house lager at U Flecků, I was struck by how similar it is to Graf Vienna, another rather obscure, ancient dark lager. So back home, I concocted a step-infusion version of this beer using Best Malz Vienna as a base that was every bit as good, to my palate at least, as the ones I tasted in Prague; that recipe is included, but you should also see the traditional approach, and make your best judgment as to which one best suits your palate.

In the U Flecků recipe, the 1.8° L Weyermann® Bohemian Pils malt makes up 50 percent of the grain bill, followed by 30 percent 6° L Weyermann® Munich I, 15 percent 56° L Weyermann® Cara-Munich® II and 5 percent 412° L Weyermann® Carafla® II malt. Other reci-

pes may have a higher proportion of light Munich malt, which seems a better route to go than relying on Carafla® for color, since any degree of roasty character is detrimental to the desired smoothness of the beer. Yes, it will smooth out eventually, especially if using de-husked Carafla® or Briess' de-husked Blackprinz® malt, but it still takes a while in the lagering tank for everything to come together. Munich itself tends to add a toasty character, especially Munich malt kilned to a higher color than 15° L; a little is nice and adds complexity, but too much can become overwhelming.

Diehard fans of the style will want to go this route, but with my own brewing, the large proportion of Cara-Munich®, which is essentially half Munich and half dark crystal malt, yielded a sweeter, fuller beer than I remember the original U Flecků beer being. Or perhaps it was my decoction technique, or a yeast issue, or an equipment issue, but the bottom line was,

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my attempt at the original U Flecků recipe as recorded by Dornbusch during his visit to the brewery yielded a bigger beer than I wanted. So I decided to come up with a simpler, modern version, using highly modified malt that was more to my taste.

Far be it from me to try to improve on a beer style that's enjoyed more than 500 years of popularity, but as brewers, we can't help but tinker with recipes, and I tend to favor drier beers and shorter brew days. So my recipe, shooting for malty but crisp, uses 61 percent 3.5° L Best Malz Vienna, 24 percent 10° L Munich, 5 per-

cent 20° L Munich, 5 percent 56° L Car-Munich® and 5 percent de-husked 412° L Carafa® II. The malt depth isn't quite the same as with the decoction method here, and replacing Bohemian Pils with Vienna as a base means the malt will be slightly breadier and less earthy. Several elements conspire to assure a sufficiently dry result, whichever recipe you employ. A good beta amylase rest keeps fermentability high, a long (two-hour) boil extracts the maximum bitterness from low-alpha Saaz hops, a proper pitching rate and controlled fermentation temperatures maximize attenuation, and the inherent low

original gravity also helps keep the beer balanced as far as drinkability.

Hops

Regardless of your chosen grain bill, the hop bill is simple: Saaz, and lots of it. With this floral, noble variety and a water profile ideally devoid of sulfates, there won't be much harshness, but you will need a long boil to get the most of this variety's low alpha acids. Saaz are added in three additions: two early in the boil and one at flameout. U Flecků boils its wort for two hours, but 90 minutes should be sufficient to reach the target bitterness of 24 IBUs. If you can't get imported Zatec Saaz, which is best, use its U.S.-grown equivalent and adjust for the higher alpha levels. These are the top choices, and will keep things smooth and flowery, two unique aspects to the style. Sterling would be a good option if U.S.-grown Saaz hops are not available.

The only other hops I would use are Sladek, or maybe Ultra (for bittering only) due to their higher alpha acid content and biological relation to Saaz. Sladek has more Saaz in it than Ultra (which is mostly Hallertau with about one-sixth Saaz) but both are 6-8 percent alpha acid, and are smooth enough to not be too obtrusive. Less hop material in the kettle is always a good thing, but go with all Czech-grown Saaz if at all possible.

Yeast

Several Czech lager strains will work for this beer, including Wyeast 2278 Czech Pils, White Labs WLP800 Pilsner, and White Labs WLP802 Czech Budejovice lager. It's a good thing you can get a dark corner booth at U Flecků, and it's a good thing their excellent beer is unfiltered; both of these allowed me to surreptitiously flame up my inoculating loop and slant a sample of the house yeast right from a fresh glass of beer. Once home and propagated, it proved to be an amazingly clean, malty strain, and I was quite proud of myself for appropriating it—until I learned that their "house yeast" is usually borrowed from a local Prague brewery, and is most likely one of the above strains. So much for stealth.

Of the three, it was probably the

Budejovice strain, and that remains my favorite, since it's the most attenuative (up to 80 percent), yet still expresses malt complexity very well. Lagers dark or pale come out crisp and malty with this yeast, and with good sanitation and harvesting technique, it can be repitched dozens of times. There is much debate as to whether pitching at ale temps, waiting for signs of activity, and then cooling the beer to fermentation temperature is better than simply pitching at fermentation temperature. Yeast manufacturers and brewers alike have good reasons for both methods; for me, if I'm pitching from a starter, I use the warm pitch method. The yeast is new to its surroundings and needs to go through a longer growth phase to begin fermentation, so warmer temperatures ensure health and viability. Lagers pitched this way often have a slightly fruitier profile, but still come out great.

But if I'm pitching freshly-harvested lager yeast slurry, the yeast are already used to their surroundings, and since I have the luxury of pitching a large quantity, they don't have to do much in the way of growth. I just warm the harvested slurry to the target fermentation temperature of 49° F (9° C), lower my wort to the same temp, and in it goes. I tend to get cleaner lagers with the latter method, but cold-pitching a starter can result in an unacceptably long lag time. So make sure you pitch a large enough starter: 3.7 billion cells (2.5 to 3 liters) for a 5.5-gallon batch. Or cold-pitch 300mL of clean, thick, freshly-harvested slurry for the same batch volume.

Pyotr Ilyich Tchaikovsky visited the city of Vienna several times in his career as a composer, as well as Prague; he may very well have tasted the dark lager beers of both cities. So it seems proper to dedicate this interpretation to him.

Amahl Turczyn Scheppach is the associate editor for Zymurgy. He is a former professional brewer who now brews at home in Lafayette, Colo.

Resource

1. Dornbusch, Horst. "Bohemian Dunkel." *The New Brewer Online Extra*, November/December 2010, www.brewersassociation.org

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THE QUEST FOR THE PERFECT PUMPKIN BEER

BY SCOTT JACKSON

Ah, the sights and sounds of fall approaching—the crisp mornings, the kids back at school, football starting up (finally), the leaves starting to turn just a bit, and the harvest. It must be time to brew pumpkin beer!

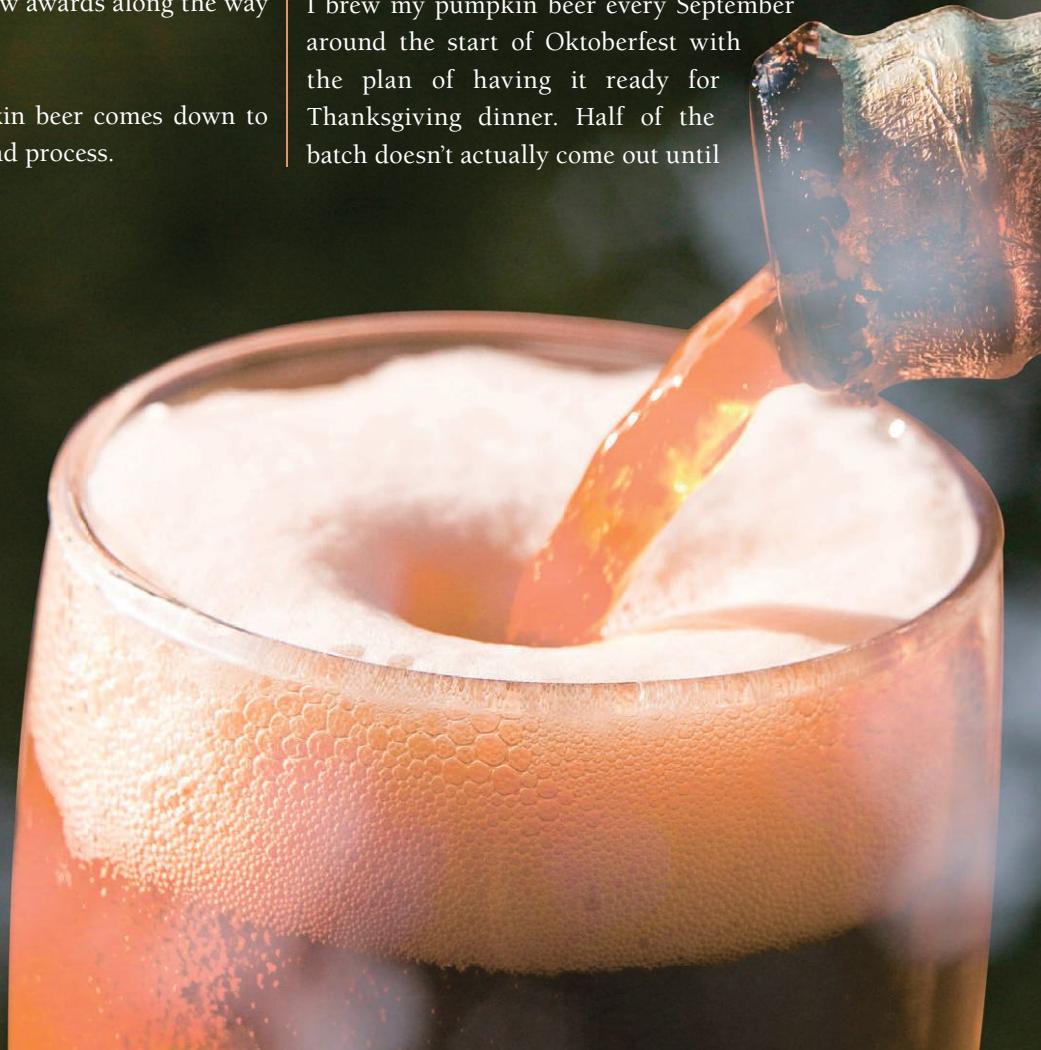
I have been brewing my pumpkin beer every fall for more than 15 years, and I've settled into brewing it the same way for about the last eight years. I think I have the process fully nailed down and have even won a few awards along the way for validation.

For me, brewing the perfect pumpkin beer comes down to three things—timing, ingredients, and process.

TIMING

Every year, I am quietly amused when I look on the brewing forums the second or third week of October and see people asking about brewing pumpkin beer. I think to myself, "It's too late now!" That's like brewing an Oktoberfest the last week of September or brewing a Christmas beer the second week of December. It's imperative to plan ahead.

I brew my pumpkin beer every September around the start of Oktoberfest with the plan of having it ready for Thanksgiving dinner. Half of the batch doesn't actually come out until



December, but more on that later. Of course, if you want your pumpkin beer to be ready for Halloween, then you need to brew it even earlier—preferably the last part of August.

INGREDIENTS

As with any beer, ingredients are important. But pumpkin beers require special ingredients not normally used in beer making. Over the years, I've brewed pumpkin beer with pumpkin, without pumpkin, with spices, and without spices. I have found that the best pumpkin

beers have both pumpkin and spices, plus a couple of other special ingredients.

In a nod to the first pumpkin beer brewers—the Pilgrims—I also use honey and maple syrup in my recipe. These ingredients would have been available to the Pilgrims and would probably have been used to supplement the malted barley in the recipe since it was in scarce supply. I have the good fortune of having my step-father send me fresh maple syrup from the “sugar shack” just down the street from his office in New Hampshire, so I

get to add a little New England authenticity that way. I use local Colorado wild-flower honey.

In formulating my recipe, the main goal is for a tasty beer, with the pumpkin flavors enhancing the taste. I use six-row malted barley as the base grain since it's indigenous to the United States and has the added benefit of helping with the stubborn mash. The specialty malts in the grain bill are chosen to enhance the desired orange color of the beer.

For the pumpkin, I've tried baking and processing my own, but it's very labor intensive and actually doesn't provide the consistency of a can of good old Libby's 100 percent Pure Pumpkin (or whatever brand you may prefer). Just remember to check the ingredients and make sure pumpkin is the only thing listed—do not use canned pumpkin pie mix. In addition, fresh pumpkins are sometimes not available when it's time to brew pumpkin beer, so this provides a convenient alternative.

For bittering, I use just one clean high alpha hop addition—no flavor or aroma hops so they don't interfere with the pumpkin and spice flavors.

PROCESS

The biggest question involving this style is usually how to use the pumpkin. Does it go in the mash, in the boil, or maybe even in the fermenter? I put my pumpkin in the mash. That makes for a tricky mash, but allows me to get color and a little sugar from the conversion of the starches in the pumpkin itself. I am convinced it enhances the mouthfeel of the beer as well. It also makes for a uniquely orange-colored mash.

A protein rest will help break up some of the gumminess of the pumpkin in the mash and the six-row plus rice hulls help with the sparge and collection of the precious pumpkin wort. I put the spices in at the end of the boil, then again at kegging for half of the batch.

I brew all-grain batches, but the recipe could easily be converted to do at least a partial mash and still be successful. I brew this as a 10-gallon batch and split it

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POCAHONTAS PUMPKIN ALE/SAISON D'POTIRON (SPLIT BATCH)

ALL-GRAIN RECIPE

INGREDIENTS

for 10 U.S. gallons (38 liters)

[Note: the ingredients are geared toward 12 gallons to allow for waste. Assumes 85 percent efficiency.]

19.0 lb	(8.62 kg) six-row pale malt
1.0 lb	(0.45 kg) 60° L crystal malt
1.0 lb	(0.45 kg) Victory malt
1.25 lb	(0.57 kg) melanoidin malt
1.0 lb	(0.45 kg) rice hulls
6.0 lb	(2.72 kg) canned pumpkin
2.0 lb	(0.9 kg) maple syrup (end of boil)
2.0 lb	(0.9 kg) wildflower honey (end of boil)
1.0 oz	(28 g) Magnum pellets, 14% a.a. (90 min)
1 Tbs.	McCormick's pumpkin pie spice (knockout)

FOR POCAHONTAS PUMPKIN ALE (HALF THE BATCH):

White Labs East Coast Ale Yeast

FOR SAISON D'POTIRON (HALF THE BATCH):

East Coast Yeast Saison Brasserie Blend (WLP 565 or Wyeast 3711 are also good choices)

Original Gravity: 1.070

Final Gravity: 1.014 (saison will go lower – I have gotten as low as 1.002)

IBUs: 28

SRM: 13

DIRECTIONS

Perform a protein rest at 120° F (49° C) for 10 minutes and a saccharification rest at 154° F (68° C) for 60 minutes. Mash out at 168° F (76° C) for 10 minutes. Boil for 90 minutes. Ferment at 68° F (20° C) for two weeks. See the article text for brewing tips and more specifics.

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for fermentation so I can use two different yeasts to end up with the regular pumpkin beer for Thanksgiving and a pumpkin saison for Christmas. Yes, you read that right! The subtle pumpkin pie spicing and the esters from the saison yeast are a good match.

BREWING TIPS

A protein rest really helps with this recipe if you can do it, and so does a mash out. I have a HERMS system, which makes it easy for me. This can be done by direct

heat, RIMS, or infusion if you are careful. Mash in with a fairly high water-to-grain ratio. I use 1.75 quarts water per pound of grain.

For the pumpkin, I put it in a separate pot containing about 1 gallon of water, stirring it in to make sure it is fully dissolved. Put the grain in the main mash vessel, mix, then add the pumpkin/mash water mixture. Also, don't forget the rice hulls. Depending on your filtering mechanism, an entire pound is not overdoing it. Full

bottom screens can use less, but something like a Bazooka T would need the whole pound. Be sure to admire the bright orange mash!

Take your time with the sparge—one hour at least. The pumpkin can really muck things up if you try to rush it. Also, make sure there is plenty of sparge water on the

THE GREAT PUMPKIN (IMPERIAL PUMPKIN ALE)

INGREDIENTS

for 5 U.S. gallons (18.93 liters)

15.0 lb	(6.8 kg) six-row pale malt
1.0 lb	(0.45 kg) 60° L crystal malt
1.0 lb	(0.45 kg) Victory malt
0.5 lb	(226 g) rice hulls
3.0 lb	(1.36 kg) canned pumpkin
1.0 lb	(0.45 kg) maple syrup (see Directions)
1.0 lb	(0.45 kg) wildflower honey (end of boil)
2.0 lb	(0.9 kg) beet sugar (see Directions)
1.5 oz	(42 g) Magnum pellets, 14% a.a. (90 min)
1 Tbs.	McCormick's pumpkin pie spice (knockout)
	Yeast: Whatever monster you have a lot of—Safale US-05, WLP001, etc.

Original Gravity: 1.118 (yeah baby!)

Final Gravity: 1.020

IBUs: 71

SRM: 16

DIRECTIONS

Perform a protein rest at 120° F (49° C) for 10 minutes and a saccharification rest at 154° F (68° C) for 60 minutes. Mash out at 168° F (76° C) for 10 minutes. Boil for 90 minutes. Anticipated gravity after boil is 1.096. Add honey at the end of the boil. Ferment at 68° F (20° C) for two weeks. Add oxygen again on day 1 (24 hours after pitch). Add maple syrup and yeast nutrient on day 4. Add 1 lb beet sugar and additional yeast on day 6. Add 1 lb beet sugar on day 8.

Obviously this one takes a while to age. At least one year is best. Your patience will be rewarded!

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grain. I have seen the whole thing turn into a brick if it gets too dry.

After you have collected the precious pumpkin wort, proceed as you normally would with a regular batch. Boil for 90 minutes using the noted additions. Cool to pitching temperature, separate into two vessels for fermentation, and pitch the appropriate amount of yeast. This is a pretty big beer (it's for the holidays, after all!) so do a starter or use harvested, washed yeast from a previous batch.

I normally ferment both beers at 68° F (20° C) for two weeks. I raise the temperature of the saison to 78° F (26° C) for a few days to ensure it finishes with the signature saison dryness.

I like to secondary the beers for at least a couple more weeks to help them clear. I normally keg the “regular” pumpkin beer (Pocahontas Pumpkin Ale) for tapping at Thanksgiving dinner. I also add a bit more pumpkin pie spice at kegging—usually one teaspoon will do. For the pumpkin saison (Saison D’Potiron), I bottle condition it, as I do with most of my Belgian beers, and do not add any more spices to it.

I've also included an imperial pumpkin recipe I did last year, called The Great Pumpkin. The techniques for the mash and spicing are the same, but it will require a bigger quantity of some hardy yeast, as it will have to work very hard.

The Pocahontas Pumpkin Ale is a fun beer to have around for the holidays. It can be fun to serve it in a glass rimmed with brown sugar. It is always popular and pairs well with fun pumpkin desserts such as pumpkin crème brûlée, pumpkin cheesecake, or even pumpkin flan (the best).

Scott Jackson is a member of the KROC (Keg Ran Out Club) and Foam on the Range homebrew clubs in Colorado. He has been brewing for more than 20 years and is a National-level BJCP judge. He enjoys brewing all types of beers from lagers to ales, but his favorite style to brew is saison.

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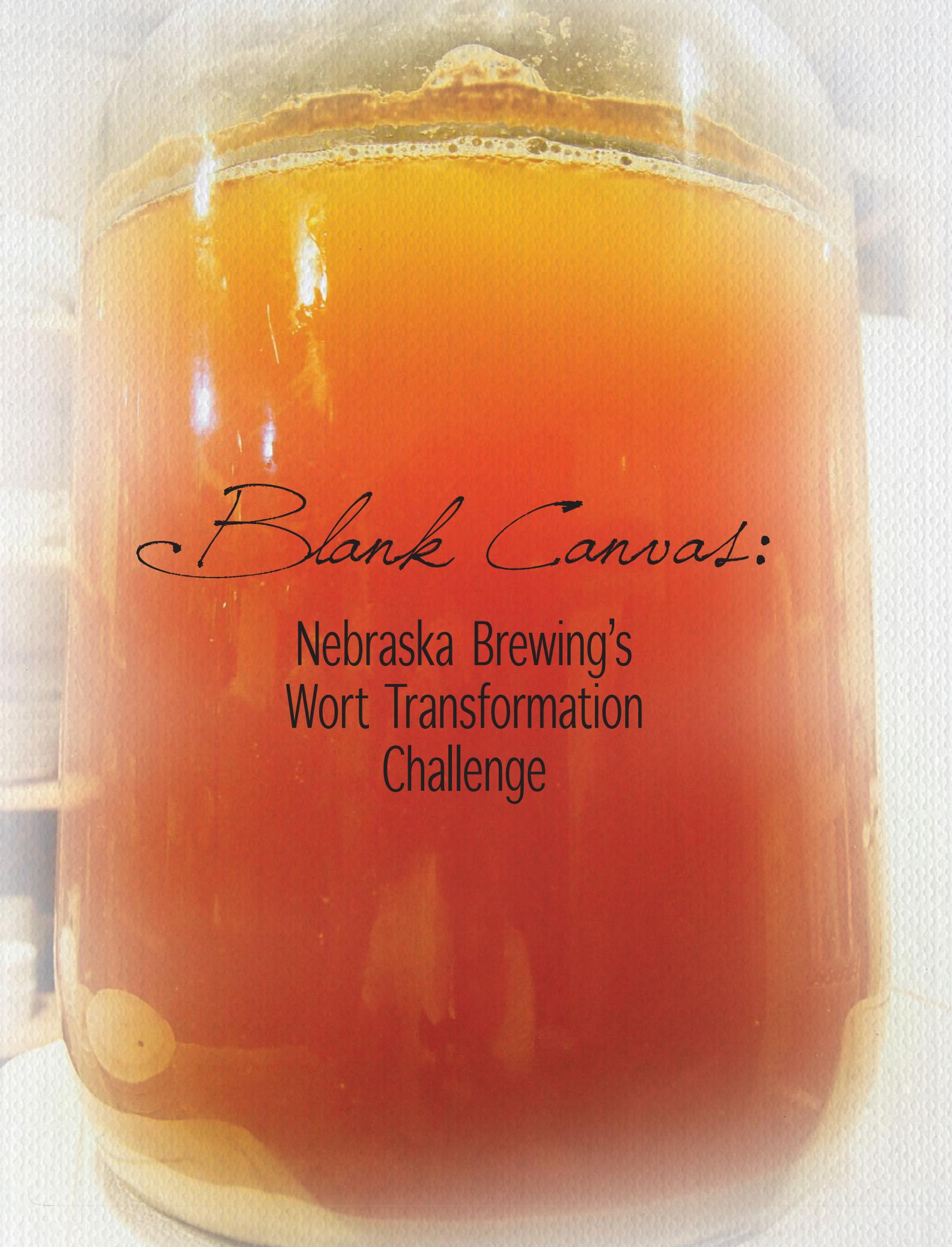
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Blank Canvas:

Nebraska Brewing's
Wort Transformation
Challenge

By J. Wilson

J

The smile on Zach Born's face is a dead giveaway—he's a homebrewer "sitting in." Pulling spent grains from the mash tun at Nebraska Brewing Company's 10-barrel system, the IPA-loving lab tech had earned the day's work by taking Best of Show in the Papillion, Neb. brewpub's first Wort Transformation Challenge in 2012.

The Wort Transformation Challenge, which wrapped up its second competition this year on May 16, was the brainchild of homebrewer-turned-head brewer Tyson Arp, who decided to bond with local homebrewers while unleashing their creative spirit in a competition that offered brewers a baseline wort to use as a blank canvas. "It sets them free to be really creative," said Arp. "I was shocked at the variety of beer we had last year. It all starts out the same, and some of them came back unrecognizable."

In its inaugural year, 60 homebrewers, in exchange for five gallons of Arp's pale ale wort, paid a \$10 entry fee to test both their brewing skills and creativity. The four judging categories included Traditional, Wood-Aged, Fruit and Spice, and Experimental.

In 2012, Born placed first in the Fruit and Spice Category with his dry-hopped Mango IPA. "I was surprised to win the category, much less to get Best of Show," said Born, who entered the fruit category to increase his chances in a division he thought might be populated with fewer entries.

Brewing partial-mash beers with a small circle of friends for less than four years, Born faced off against a wild assortment of imaginative entries, which made use of not only a wide array of fruits, hops, yeasts, bacteria, wood, and spices, but also with brewing strategies and sugar sources well beyond the norm.

While many brewers stopped at yeast, hop, and fruit choices to differentiate their entries, some brewers took the wort home and boiled it longer to increase its original gravity, added color and body with mash additions, or added ingredients as unconventional as cotton candy and Jolly Ranchers. The judges evaluated green tea pale ales, pineapple-habañero pale ales, and barrel-aged pale ales.

Others took a more traditional route. The father-son team of Floyd and Alex Prine, who have been brewing together for six years, earned silver and bronze respectively for their unadorned renditions of American pale ale in the 2012 contest.



2012 winner Zach Born (top) shovels out the mash tun. 2012 third-place finisher Alex Prine carefully transports the wort home.

Though judges found a creative “swing and miss” or two, the quality of the entries was impressive, said Arp, who speculated that poorer showings were likely “self-edited out of the process.” Fifty-two of 60 entries made it to the judging table.

“I think the biggest thing is how much you can experiment,” said Jimmy Vollmer,

who collaborated with girlfriend Kelly Fitzgerald to win gold in the Wood-Aged Category in 2012. “You start with a base beer that you know is already good. You can go in there and do whatever you want. When you come back to the awards, you don’t find any beers that are even close to the same thing. It’s cool to see how much you can do with basically the same beer.”

2013: Double the Fun

For the 2013 Challenge, Arp announced that a wheat beer would be the jumping off point for the competition. Clocking in at 13.2 degrees Plato, Arp’s wort consisted of 47.5 percent pale malt, 47.5 percent red wheat malt, and five percent Caramel 10, with 20 IBUs worth of Liberty hops in two additions.

Summer Nights Strawberry Rhubarb Saison

INGREDIENTS

for 5 U.S. gallons (18.93 L)

Base wort, provided by Nebraska Brewing Co.:

4.5 lb	(2.04 kg) pale two-row malt
4.5 lb	(2.04 kg) red wheat malt
8.0 oz	(227 g) 10° L caramel malt
0.85 oz	(24 g) Liberty, 17.6 IBU (60 min)
0.25 oz	(7 g) Liberty, 24 IBU (15 min)
Lactic acid	
Antifoam	
Yeast nutrient	
Whirlfloc	

Original Gravity: 13.2° Plato/1053

IBUs: 20

SRM: 4

DIRECTIONS

Mash grains at 152° F (67° C) for 60 minutes.

WILWERDING’S ADDITIONS (ALL ADJUSTED TO A 5-GALLON BATCH):

Pitch 750ml yeast starter of Wyeast 3711 French Saison yeast. Ferment in primary for 3 weeks at ~72° F (22° C). Simmer 4 lb (1.81 kg) frozen strawberries and 3 lb (1.36 kg) frozen rhubarb and add to secondary. Rack beer on top. Ferment in secondary for 3 weeks at 68° F (20° C). Move to a tertiary tank for 5 days. Bottle with 4 oz (113 g) dextrose. Condition at ~70° F (21° C).

EXTRACT VERSION:

Use 34 lb (1.54 kg) pale malt extract syrup and 34 lb (1.54 kg) wheat malt extract syrup in place of the base grains. Steep the crystal malt for 30 minutes in 155° F (68° C) water; strain, rinse grains, dissolve extract, and proceed with boil.



2013 winner Tony Wilwerding poses with head brewer Tyson Arp (left) and Kim and Paul Kavulak.



The winners and NBC staff at the May 16 awards ceremony.

The wheels immediately started turning in the minds of local homebrewers. Vollmer and Fitzgerald planned beers using four different yeasts, including a *Brettanomyces/Lactobacillus* culture acquired from Tallgrass Brewing Company. To further the experimentation, Vollmer and Fitzgerald split their batches and utilized various dry-hopping strategies to finish with seven choices of beers to submit for judging. "We're not going all-in on one," Vollmer said.

The laid-back Born found contentment with submitting a single entry, which he fermented with a saison yeast before adding kiwis and a charge of dry hops.

The elder Prine stuck to the same quality-over-creativity approach in his second year of the contest, fashioning his wort into a straight-up American wheat beer, while Alex infused his entry with cranberries.

When registration day arrived for the 2013 competition, NBC was overwhelmed with interest—the 60 available slots sold out in 43 minutes. "They begged and pleaded with us to make it bigger somehow," said Arp. "A lot of people that we knew wanted to be involved got shut out."

NBC co-owner Kim Kavulak started a waiting list, and then discussed widening the scope of the event with Arp and co-owner Paul Kavulak, who were out of town at the time. Though he didn't have his computer or schedule in front of him, Arp committed to doing a second batch on his 10-barrel system. "We had no intention of doubling the competition's size this year," said Arp. "We were happy doing it with 60 entries because it's one batch of beer for us."

Though his brewing schedule was crowded, Arp and assistant brewer Sam Riggins put in extra hours to squeeze in another brew day. Arp invited Born to the brew-house, and on March 1 the brewers convened to produce the second of two batches of wort for pickup by homebrewers competing in the now-BJCP-sanctioned event. Judging took place in the tasting room of NBC's distributor, Quality Brands of Omaha, who also provided cooler space for the entries.



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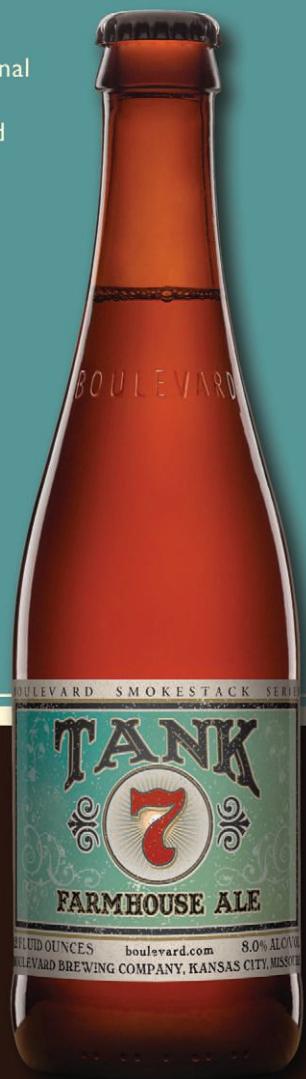
One day our brewers were busy developing variations on a traditional farmhouse ale, when the perfect combination of elements happened to come together in the most persnickety piece of equipment in the entire brewery: fermenter number seven. You could call it fate, but they just shrugged and called it "Tank 7." Beginning with a big surge of fruity aromatics and grapefruit-hoppy notes, the flavor of this complex, straw-colored ale tapers off to a peppery, dry finish.

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Twenty judges and 10 stewards convened on May 11 to evaluate a total of 107 entries from 89 brewers. "We had high quality stuff across the board and not a lot of surprises," said Arp of the 25 Traditional Wheat, 12 Hoppy, 29 Experimental, and 41 Fruit and Spice entries.

The NBC crew put together an elaborate awards ceremony on May 16 to honor the winning brewers with handsome prize packages in correlation with American Craft Beer Week.

The Best of the Best

For 2013, Best of Show went to Tony Wilwerding's Summer Nights Strawberry Rhubarb Saison. Though there were many more experienced brewers entered into the competition, Wilwerding proved that a little creativity and attention to detail could go a long way. At the time of the contest, he'd only been brewing for about seven months.

"Honestly, I was and still am speechless and trying to wrap my mind around it," said Wilwerding. "I know there are some amazing brewers around, so to be considered in a category I was thinking would be a bit of a stretch, especially for my first competition...was definitely a surprise, that's for sure."

A system and network administrator, Wilwerding assisted his brother-in-law during a brewing session about a year before the 2013 Wort Transformation Challenge. "That put the bug in my ear, and finally I got an equipment kit in October [of 2012] and brewed my first batch," he said. "I was hooked—not only for the good beer, although that is an added perk, but more on the process. I like being able to control what I can and see how it might change the outcome."

At the Best of Show judging, Wilwerding's saison topped Zach Fenton's Doggen Schlagen (Traditional Wheat); Bob Catherall's Funk Soul Hop Brother—Check It Out Now (Hoppy); and Phil Doerr's Tart Cherry Wheat (Experimental).

With high quality entries reaching well beyond the Best of Show table, Arp and the Kavulaks were pleased with the bot-

tled results of the Challenge. "I spotted at least two beers here that, with a little tweaking, are national quality," said Paul Kavulak, who started NBC in 2007 after homebrewing for 16 years. "At least one brewer here has aspirations of going pro. He gets validation from the pro brewers who understood his beer."

"It is a validation that I can make something really good," agrees Wilwerding. Whether he stays in the kitchen or moves to the professional brewhouse a few years down the road, his Best of Show trophy—and the opportunity to brew his winning beer in Arp's brewhouse—is sure to spur his confidence.

Valuable Feedback

For those who didn't make it to the winners' circle this time around, there was still a lot to be gained. Born was comfortable with the judges' assessment of his lone entry. "I think the saison swallowed up the kiwi taste," he said. "It wasn't as fruity as it needed to be."

In their second effort, the Prines also went home without a medal around their necks. Alex was happy with his cranberry wheat entry, but Floyd was displeased with his carbonation levels.

Vollmer and Fitzgerald were satisfied with their beers, but their only "prize" was an informal Best Beer Name nod for their Chop Suey, a beer packed with a blend of C-hops. But Vollmer was quick to point out that there was more to the competition than winning a medal. "I'm eager to see our feedback," he said. "If you win, you know it was good. But if you lose, you still get to see the professional opinions on the beer."

"We loved all of our beers," he added. "Nothing seemed like a failure to us."

J. Wilson is an award-winning home-brewer, BJCP Certified beer judge, and the 2012 Beerdrinker of the Year at Wynkoop Brewing Co. in Denver. He is the author of *Diary of a Part-Time Monk* and blogs at brewvana.net. He lives in rural Adams County, Iowa, with his wife and two sons.

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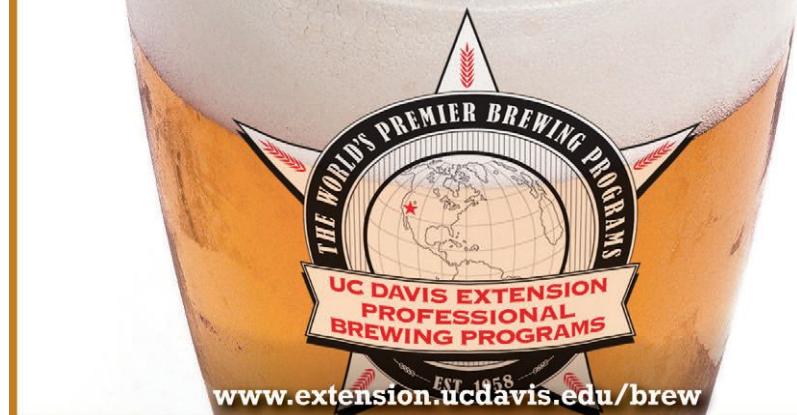


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LONDON AREA

BREWERS GO PRO



BY MARK DREDGE

In 2013, the number of London breweries will likely pass 50. Compare this to the five breweries that have survived in the capital from 2006, and it's a considerable jump. These new breweries have transformed London's beer scene, and one significant trait joins a number of them: they started as members of the London Amateur Brewers (LAB) before going pro.

In April 2007, Evin O'Riordain's day job was selling cheese. While in New York to help set up a new cheese store, he drank a lot of American craft beers, which had a profound impact on the course of his career.

"It opened my eyes as to what good beer could be," he says. "I couldn't find any of these beers when I got back [to London], so I decided to make them myself."

He started with 5-gallon batches before jumping to a 100-liter (26.4 gallon) stainless steel system. In September 2009, on a new 4-barrel kit, O'Riordain brewed his first commercial beer as The Kernel Brewery. In March 2012, The Kernel grew again, this time into a 20-bbl brewhouse.

"I think the idea to open a brewery had been there before I started homebrewing,"



The Kernel's Evin O'Riordain was inspired by the American craft beer scene.

said the Irish-born O'Riordain. "But you have to answer the question—'can you make good beer?'—before you seriously consider anything else."

As a homebrewer, O'Riordain experimented with a wide variety of styles, though his brewing mostly gravitated toward pale ales, IPAs, porters, and stouts, the beers he is best known for today. With The Kernel's pale ales and IPAs, the recipes typically change from brew to brew and are named after the hops that go into them, such as IPA Simcoe Citra.

"Sometimes I feel that by having a certain recipe, [brewers are] admitting that that's the best they can do," explains O'Riordain. "It's important for us to acknowledge that we're always trying to get better. It keeps us more engaged as brewers to keep ourselves motivated and interested, which is better for us and better for the beer."

LONDON AMATEUR BREWERS

Before starting The Kernel, O'Riordain was at the first ever LAB meeting, which was held at the end of 2007. The inspiration of South African-born Ant Hayes

THE KERNEL IMPERIAL BROWN STOUT, LONDON 1856

INGREDIENTS

for 5 U.S. gallons (19 liters)

12.4 lb	(5.64 kg) Bairds pale two-row malt
1.63 lb	(0.74 kg) Bairds brown malt
1.63 lb	(0.74 kg) Bairds Munich malt
1.45 lb	(0.66 kg) brown sugar (boil, 10 min)
1.3 lb	(0.59 kg) Bairds black patent malt
0.53 lb	(0.24 kg) Bairds amber malt
0.18 lb	(81 g) Bairds 150° L crystal malt
1.05 oz	(30 g) whole Magnum, 14% a.a. (90 min)
0.3 oz	(9 g) whole Apollo, 19% a.a. (90 min)
0.4 oz	(12 g) whole Nugget, 13% a.a. (90 min)
0.3 oz	(9 g) whole Columbus, 16% a.a. (90 min)

London ale yeast

Original Gravity: 1.101

Final Gravity: 1.025

ABV: 10%

SRM: 54.1 (calculated)

IBU: 120.1 (calculated)

DIRECTIONS

Single step infusion mash at 148° F (64° C) for 90 minutes. Boil for 90 minutes. Add sugar and hops at stated intervals. Ferment at 65° F (18° C).

EXTRACT VERSION:

Substitute 9.75 lb (4.42 kg) light malt extract syrup for Munich and pale malts. Steep remaining grains at 160° F (71° C) for 30 minutes. Rinse grains, dissolve extract and proceed with boil.

(a well-known homebrewer who died in 2012), LAB was intended as a homebrew club with practical relevance, and not simply a drinking group. Monthly meetings have always had a specific focus, whether it's a discussion around a specific ingredient, a themed tasting, a talk with a local brewer, or a demonstration of different techniques. An active online forum continues these discussions outside of the actual meetings, which are typically concluded with a critical and analytical tasting of homebrews. All members are encouraged to give honest feedback.

"The most useful, fascinating and best bit [of LAB] was just tasting beers," believes O'Riordain. "The environment was one of no platitudes, and no wishy-washy nonsense statements. Feedback erred on the side of harshness, because nobody learns anything if you just say 'that's nice.'"

"Members have never been afraid of critiquing a beer," agrees Paul Spearman, LAB chairman. "I've been to other homebrew groups where they're very nice and almost afraid to give negatives, but by identifying the faults, where they come from and how to avoid them next time, you learn so much." LAB is centered on being a resource for sharing knowledge, which enables better brewing all around.

"The knowledge in the room at LAB is pretty astounding," says Graham O'Brien, who, along with friends Sam Smith and Ben Freeman, launched Pressure Drop Brewery at the end of 2012. "It's an amazing thing. It's earnest and honest and I learned a lot from it because you get to try a lot of beers and a lot of beers which went wrong."

FOLLOWING DIFFERENT PATHS

Pressure Drop started on a 50-liter (13.2-gallon) Speidel Braumeister brewing system in O'Brien's house before moving (via a warehouse in Stoke Newington) into a railway arch in Hackney, East London. They are now looking to fill that location with a 6- to 10-barrel system. Brewing small batches every day, they are working at a homebrew scale but selling commercially, and that's been an important part of their development.

LAB COCONUT PORTER

THIS RECIPE COMES FROM LAB MEMBER KEN BAZLEY, WHO WON GOLD FOR THIS BEER AT THE UK NATIONAL HOMEBREW COMPETITION. IT WAS THE FIRST BEER BREWED FOR THE SEBRIGHT ARMS AND WAS INSPIRED BY MAUI BREWING'S COCONUT PORTER.

INGREDIENTS

for 5 U.S. gallons (19 liters)

10.8 lb	(4.9 kg) Maris Otter pale malt
0.55 lb	(250 g) crystal malt
0.48 lb	(218 g) chocolate malt
0.48 lb	(218 g) Carafa I
13.4 oz	(380 g) toasted coconut flakes (secondary)
3.8 oz	(110 g) black patent malt
0.5 oz	(14 g) whole Chinook, 13.1% a.a. (60 min)
0.7 oz	(20 g) Willamette 6.3% a.a. (40 min)
0.5 oz	(14 g) Willamette 6.3% a.a. (20 min)

Safale US-05, rehydrated

Original Gravity: 1.065

Final Gravity: 1.019

IBU: 39

SRM: 74

DIRECTIONS

Mash grains at 152° F (67° C) for one hour. Ferment at 68° F (20° C). After fermentation, preheat oven to 150° F (66° C) and toast coconut until golden brown (about 40 minutes). Turn the coconut every 10 minutes to ensure even toasting. Rack the beer into an airtight vessel (secondary or Cornelius keg) and add the coconut loose when cool. Give the vessel a good shake every day. Bottle after 12 to 14 days. Prime to achieve 2.0 volumes of CO₂.

EXTRACT VERSION:

Substitute 7.75 lb (3.52 kg) pale malt extract syrup for Maris Otter malt. Steep remaining grains for 30 minutes in 160° F (71° C) water. Drain, rinse grains, and proceed with boil.

WEIRD BEARD HIT THE LIGHTS

"A MIXED-UP IPA" USING A HOP BURSTING TECHNIQUE.

INGREDIENTS

for 5 U.S. gallons (19 liters)

8.6 lb	(3.9 kg) Crisp pale two-row malt
0.7 lb	(318 g) Munich malt
0.7 lb	(318 g) dextrin malt
0.1 lb	(45 g) 65° L crystal malt
Irish moss	(15 min)
1.76 oz	(50 g) whole Aurora, 8.25% a.a. (20 min)
1.41 oz	(40 g) whole Target, 11% a.a. (20 min)
1.76 oz	(50 g) Target pellets, 12.4% a.a. (dry hop, 4 days warm)
1.41 oz	(40 g) Aurora pellets, 5.8% a.a. (dry hop, 4 days warm)
1.06 oz	(30 g) Nugget pellets, 13% a.a. (dry hop, 4 days warm)
11 g	Safale US05, rehydrated

Original Gravity: 1.058

Final Gravity: 1.012

ABV: 5.9%

SRM: 5.6 (calculated)

IBU: 54 (calculated)

"It's one of the best decisions we made, not jumping to the big kit (brew system) too soon," believes Freeman. "The small kit is perfect for experimenting, with the bonus of selling it and getting feedback from paying drinkers and then reacting to it."

Pressure Drop's core range includes an American-style pale ale, a hoppy brown ale, a porter, and two hefeweizens. Their next step is commissioning a new brew-house and scaling up recipes. "The new kit can't get plumbed in quickly enough," says O'Brien.

In West London, three LAB members opened a shared 10-barrel brewery at the beginning of 2013: Mike Ellenberg of Ellenberg's Brewery, and Bryan Spooner and Gregg Irwin of Weird Beard Brewing Company. They share an industrial unit, brewhouse, storage space, and packaging line, with each brewery individually owning two fermenters.

"If I'd spent the money on the brew kit I wanted, I'd have had no money left

DIRECTIONS

Single-step infusion mash at 148° F (64° C) for 75 minutes. Boil 60 minutes. Ferment at 65° F (18° C).

MINI-MASH VERSION:

Replace pale and dextrin malts with 7.25 lb (3.3 kg) pale malt extract syrup. Conduct a mini-mash with Munich and crystal malts at 152° F (67° C) for one hour. Rinse grains, dissolve extract, and proceed with boil.



for anything else," says Ellenberg. So he, Spooner, and Irwin discussed the idea of a shared brewery that could do justice to all their ambitions. In November 2011, they started looking for suitable premises, finally finding the right place a year later.

Both breweries are making very different beers. Ellenberg is brewing an alt-bier, stout, dunkelweizen, black ale, and what he describes as a "hopfendunkel-weizendoppelbock"; while Weird Beard's Spooner and Irwin have an American influence to their beers, including a pale ale, various IPAs (including a DIPA and a black), coffee milk stout, and saison.

All the beers are scaled up from their favorite homebrew recipes. "The mash behaves differently in a big pot," says Ellenberg. "Suddenly you're working in a vessel that's 50 times the size of your homebrew one and even though you scale it up and follow the same recipe, you still get different results. You have to learn how to use a new machine."

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PRESSURE DROP STOKEY BROWN

INGREDIENTS

for 5 U.S. gallons (19 liters)

6.3 lb	(2.8 kg) Maris Otter pale malt
2.1 lb	0.95 kg) Weyermann Pilsner malt
0.5 lb	(0.23 kg) amber malt
0.5 lb	(0.23 kg) Weyermann 60° L crystal malt
0.5 lb	(0.23 kg) chocolate malt
0.65 oz	(18 g) whole East Kent Goldings, 6.5% a.a. (60 min)
0.3 oz	(9 g) Bramling Cross, 6% a.a. (30 min)
0.4 oz	(11 g) Bramling Cross, 6% a.a. (10 min)
1.0 oz	(28 g) Bramling Cross, 6% a.a. (flame out)
1.0 oz	(28 g) US Cascade, 5.5% a.a. (flame out)
1.0 oz	(28 g) US Centennial, 10% a.a. (flame out)
1.0 oz	(28 g) Bramling Cross, 6% a.a. (dry hop)
1.0 oz	(28 g) US Cascade, 5.5% a.a. (dry hop)
1.0 oz	(28 g) US Centennial, 10% a.a. (dry hop)
	Safale US-05 ale yeast

Original Gravity: 1.054

SRM: 25

IBU: 22

DIRECTIONS

Mash grains at 122° F (50° C) for 10 minutes. Raise to 156° F (69° C) and hold for 60 minutes. Boil 80 minutes. Rack to secondary and dry hop for three days at 68° F (20° C) and three days at 36° F (2° C).

EXTRACT VERSION:

Substitute 6.25 lb (2.83 kg) pale malt extract syrup for Pilsner and Maris Otter malts. Steep remaining grains for 30 minutes in 160° F (71° C) water. Drain, rinse grains, and proceed with boil.

MIX BREWERY STREET PARTY BITTER

A CLASSIC BRITISH BITTER, THIS ONE WAS FIRST BREWED FOR THE QUEEN'S DIAMOND JUBILEE IN 2012.

INGREDIENTS

for 5 U.S. gallons (19 L)

6.8 lb	(3.1 kg) Maris Otter malt
14.0 oz	(396 g) caramel wheat malt
7.0 oz	(198 g) amber malt
0.53 oz	(15 g) whole Challenger, 7.5% a.a. (75 min)
0.35 oz	(10 g) whole Northdown, 8.5% a.a. (75 min)
1.23 oz	(35 g) whole Bramling Cross, 6% a.a. (0 min)
0.35 oz	(10 g) whole Challenger, 7.5% a.a. (0 min)
0.18 oz	(5 g) whole Northdown, 8.5% a.a. (0 min)
1 tablet	Whirlfloc (15 min)
	Nottingham ale yeast

Original Gravity: 1.046

Final Gravity: 1.010

ABV: 4.5%

SRM: 8.1

IBU: 30

DIRECTIONS

Mash grains at 151° F (66.5° C) for 90 minutes. Batch sparge with first and second runnings. Add kettle hops, boil for 75 minutes, add aroma hops at flameout, and steep for 20 minutes. Ferment at 68° F (20° C) for 7 days, then keg and force carbonate.

EXTRACT VERSION:

Substitute 4.5 lb (2.04 kg) pale malt extract syrup or Maris Otter malt extract syrup for pale malt. Steep remaining grains for 30 minutes in 160° F (71° C) water. Drain, rinse grains, and proceed with boil.

It's the same for Irwin: "I know my home system inside-out; I know the limitations and what it can and can't do. Now we're learning it all again on the new kit."

But this doesn't mean the homebrewing is over. "We're still coming up with new ideas," says Spooner. "I want to keep experimenting; I want to keep the homebrew ethos, just by playing with bigger toys!"

LONDON'S VIBRANT BEER SCENE

It's not uncommon for 40 to 50 members, ranging from first-timers to professional brewers, to attend LAB meetings, though perhaps the most recognizable regular is Viola the collie dog, especially now that she's seen chasing hops in the logo for Hoppy Collie Brewery.

Started by Viola's owner Travis Mooney, a Californian living in London, Hoppy Collie is a one-barrel brewery located in the basement of an Italian restaurant in Hammersmith. Core brews include a California Common, American pale ale, and a blonde ale, all of which started as homebrew recipes.

Mooney works full time in technology and brews in the evenings. "You can't possibly make enough money full time from a one-barrel brewery," he says, "but I can create a product and create demand for it until I'm ready for the next step." For Mooney, the "next step" is part of a long-term plan to make a complete career change into brewing.

The first Hoppy Collie beers were sold in March 2013, meaning that Hoppy Collie, Ellenberg's, Weird Beard, and Pressure Drop all graduated from amateur to commercial within a few months of each other, and all have been well received. "London has a great and vibrant beer scene," says Mooney. "It allows the opportunity to open a small brewery as there's a passion for small businesses and people will go out of their way to find good products."

Hoppy Collie
Brewery was started by

Californian Travis Mooney.



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ELLENBERG'S DUNKEL HEFEWEIZEN

INGREDIENTS

for 5 U.S. gallons (19 liters)

4.85 lb	(2.2 kg) wheat malt
3.5 lb	(1.59 kg) Pilsner malt
3.4 oz	(98 g) 55° L crystal malt
3.0 oz	(87 g) Carafla® III
0.5 oz	(14 g) whole Northern Brewer, 11% a.a. (90 min)
II g	Lallemand Munich wheat beer ale yeast, Safbrew WB-06 or Wyeast 3068 Weihenstephan ale yeast

Original Gravity: 1.050

Final Gravity: 1.012

ABV: 5%

SRM: 15

IBU: 22

Water treatment: Treat water to suit a lager, to 30 ppm total alkalinity as CaCO₃. Very hard London water needs 58 ml of CRS (Carbonate Reducing Solution) in 50 liters to achieve this.

DIRECTIONS

Strike liquor needs to be about 129° F (54° C) to get a first mash step of 122° F (50° C), depending on your ambient temperature and grain temperature. Hold for 30 minutes, then raise the temperature to 150° F (66° C) and hold for one hour. Mash-out at 172° F (78° C), run-off and sparge to achieve a boil-er of wort at your pre-boil target gravity, to get an OG of 1.050 after one hour. At home Ellenberg loses 5 liters an hour in the boil, so he aims for a pre-boil gravity of 1.041 or so. The small quantity of hops goes in once you've got a rolling boil. Note that there are no late hops! Add kettle finings (he uses Protocloc, others use Irish moss) 15 minutes before the end of the boil.

One 11-gram packet of Lallemand Munich Wheat Beer Yeast, rehydrated, will count as a slight under-pitch, and this is what you want to get the maximum banana flavors. Fermentis Safbrew WB-06 will give much more clove and pepper, but Ellenberg prefers more banana than clove. He has also used Wyeast 3068 Weihenstephan Weizen successfully.

Chill down to 62° F (17° C) if you can, and pitch the rehydrated yeast.

If you can control your fermentation temperatures then try to keep it around 62° F (17° C) for say five days, then raise it to 68° F (20° C) for a day or so for a diacetyl rest.

Bottle or keg once the gravity has stayed the same for a couple of days. Ellenberg likes quite high carbonation in this beer (you should get a huge wheat beer head), so he puts a scraped-level 5ml teaspoon of sugar in each 500 ml bottle, weighed as 4.6 grams.

EXTRACT VERSION:

Substitute 3.75 lb (1.7 kg) wheat malt extract syrup for wheat malt and 2.75 lb (1.25 kg) pale malt extract syrup for pale malt. Steep remaining grains for 30 minutes in 160° F (71° C) water. Drain, rinse grains, and proceed with boil.

"We were looking at ways to get some interesting beer in the pub," says Charles Ross, manager of The Sebright Arms in East London, who launched a project with LAB early in 2013. "I got talking to the LAB guys and came up with a plan to enable them to brew beer which we would then sell." So Ross bought a 100-liter brew system that is hosted at Redchurch Brewery (they are also allowed to brew pilot batches on the system) and is regularly available for LAB brewers to use.

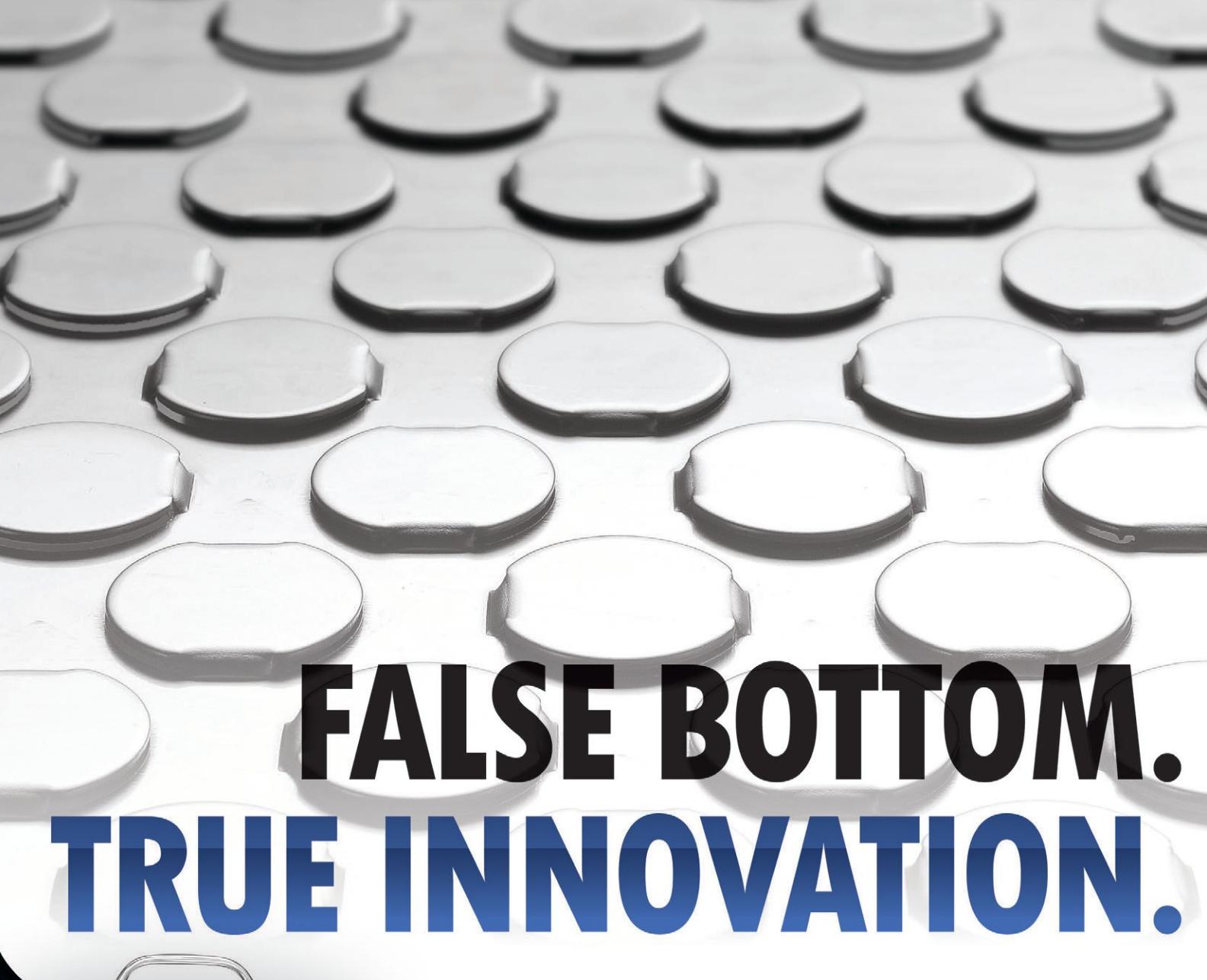
"You don't bake a cake to eat the whole thing yourself; it's the same with homebrew," explains Mark Charlwood, a member of LAB who's been involved with the Sebright beers. "Part of the fun of homebrewing is making something that you think is good and then being able to share that with your mates. This project is a way to do that on a bigger scale, while there's also something uniquely validating about having your beer be popular in a commercial setting."

London is undergoing a surge in interest for great beer, especially those brewed in the city, and it's exciting to see a homebrew club that has encouraged a significant number of its members to take the step from brewing at home to brewing commercially. In fact, beyond starting breweries, a number of LAB members have changed careers and moved into the brewing industry.

The environment of critical analysis and in-depth discussion at LAB has become a place where technical knowledge and honest feedback combine to create an all-around desire to brew better beer. With better beer, in a city thirsty for new brews, comes more confidence in being able to turn a hobby into a profession.

Mark Dredge is an award-winning beer writer from London, England. His first book, *Craft Beer World*, was published in 2013. He has judged at the World Beer Cup and the Great American Beer Festival.





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2013 National Homebrew Competition WINNERS



Homebrewer of the Year



Annie Johnson, Sacramento, Calif., ESB
(East Sacramento Brewers)

"Mow the Damn Lawn!"
Lite American Lager

Homebrewer of the Year goes to the brewer of the Best of Show beer from 23 categories.

Annie Johnson started brewing in 1999. “It all started with encouragement from my mom, and the help of some friends. I started brewing on the weekends.” The first batches were kits from her local homebrew store. “Our first efforts weren’t that great, mostly watery and phenolic,

but we kept at it. Eventually my friends retreated to the couch to watch football as I stayed in the kitchen to brew—I was hooked!”

From there, Johnson soon began branching out, trying different styles. “We brewed porters and brown ales, stouts and English ales.” When her friends moved to Delaware in 2000, she continued to brew on her own, and the following year entered her first competition, with gratifying results. “I entered the California State Fair homebrew competition in 2001 with an American amber and won first place.” Encouraged by this victory, she continued to enter competitions, and continued to







win. "A few years later in 2004, I won four first place awards and Best of Show in HAZE's Queen of Beer Competition with my Double Chocolate Stout."

Her passion for brewing and for learning about beer intensified with each success. In the process, Johnson consulted with other homebrewers, and after attaining the BJCP judging rank of National, began judging competitions herself. "Working as a beer judge has helped me hone my craft

probably more than anything. I strongly encourage all homebrewers who want to improve their brewing to train for BJCP judging certification."

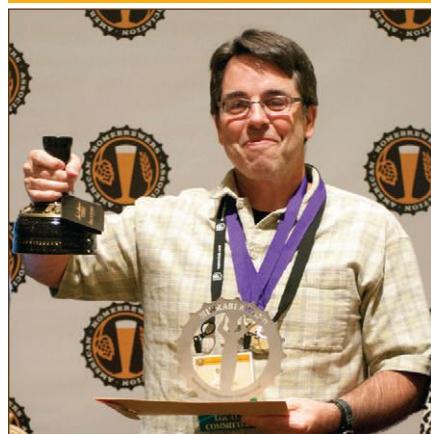
Johnson enjoys brewing difficult styles. "Experimenting with different recipes has resulted in some exciting beers. Some of my favorites to brew are Belgians and Czech beers. I enjoy the rich history of German, Belgian, and Czech beers and work hard to get my beers to match

theirs. For this competition, I went with a lite American lager because I enjoyed the challenge in brewing it."

She doesn't brew as often or as much as some homebrewers. "I brew on a three-tier, 10-gallon system. Some years, I have brewed as many as 20 batches; lately, I brew maybe six or eight in a year." But when she does, she takes it seriously. Her meticulous attention to detail in her chosen hobby comes with a professional-grade work ethic. "My golden rule is that I never drink while I'm brewing. Focus and precision are essential to good brewing."

With her win, Johnson became the first solo female recipient of the Homebrewer of the Year title in 30 years.

Ninkasi Award Winner



David Barber, Orwigsburg, Pa., Lehigh Valley Homebrewers
2 Gold Medals

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

Dave Barber has been brewing for 15 years, and blames his wife for this obsession after she bought him a beer kit for his birthday. Barber dabbled with extract for several years, then made the leap to all-grain and hasn't looked back. He brews five gallons at a time on a cobbled-together system, which includes a cooler for a mash tun, a 10-gallon brew pot, sawhorses, and pressure-treated lumber. He enjoys brewing all beer styles but hoppy American ales and German lagers in particular. Barber





won gold this year with a two-year-old Bigfoot-inspired American barleywine and a German weizen using a double decoction mash schedule. "The hefe is a beer I look forward to drinking, but not brewing, every summer," he commented.

Barber joined the Lehigh Valley Homebrewers in 2005 and is fortunate now to be living in an area that has some outstanding brewers, many of whom were instrumental in his motivation to make great beer. He credits past Ninkasi winners for sharing their expertise and the Brewing Network for making so much information on homebrewing so accessible.

Barber's greatest beer accomplishment before winning the Ninkasi Award was medaling at the NHC during the last four years and winning the Eastern Pennsylvania Homebrewer of the Year in 2009 and 2011. He is a BJCP National ranked judge and has judged in both local and national competitions. He also credits this for much of his brewing success. "Without a doubt, becoming a beer judge has made me a better taster and brewer," he said.

Meadmaker of the Year



Mark Tanner, Oak Harbor, Wash.,
Whidbey Island Zymurgy Association (WIZA)
"SRB Mead" Open Category Mead:
Strawberry, Rhubarb, Blackberry

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

Mark Tanner is a retired Army officer who began entering brewing contests in 2007, when he was stationed near Kansas City. He has been a homebrewer for more than 18 years and a student of mead making for the past five. Born and raised in Seattle, Tanner and his family returned to Washington in 2009.

While attending the 2008 National Homebrewers Conference in Cincinnati,

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Tanner attended the mead clinic led by the Minneapolis "mead mafia." Many of the wonderful meads the group had for sampling were less than two months old; that completely changed his perception that great mead needed to be aged for four or five years, as much of the literature suggests.

After a handful of follow-up emails with previous Meadmaker of the Year Curt Stock, Tanner purchased some orange blossom and Tupelo honey and started making mead. He thought his first two

meads were pretty solid. When he tried to share them with his wife of eight years, she informed him that she disliked the taste of honey.

Three months later, Ken Schramm was the guest speaker at the Kansas City Bier Meisters competition and brought samples of his famous Heart of Darkness mead. Photos of Tanner's wife Jo drinking Heart of Darkness from the bottle reinforced the fact that although she was not a fan of honey, she did like Ken's berry mead.

Tanner has been busy trying to craft great berry meads ever since. He has been fortunate to learn from many great meadmakers from Minneapolis/Saint Paul and other areas of the Midwest. Over the past five years, he has shared his meads at NHC and other brewing competitions and received invaluable feedback from a who's who of nationally renowned mead makers, including Stock, Schramm, Gordon Strong, Joe Formanek, Thomas Eibner, Steve Piatz, Steve Fletty, Michael Fairbrother, Al Boyce, Susan Ruud, and the late Marc Gaspard.

Tanner's approach to mead making is similar to his approach to brewing beer. As a competitive extract and partial mash brewer, he leverages a variety of creative techniques to capture key flavor components with partial mash recipes. Many of those techniques can be applied to capturing critical flavor components in mead. Nothing beats fresh, world-class ingredients, and the Pacific Northwest is a bountiful source of bees, fruit, and berries. His 2013 NHC best of show mead was a blend of rhubarb, strawberries, and blackberries with local Northwest honey.

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The advertisement features a collage of brewing equipment including stainless steel kettles, a copper Wort Chiller coiled in a circle, a Brew Rite Brew Kettle, and a yellow plastic Lauter Tun with a spigot. A small logo of a polar bear is at the bottom left, and the Polar Ware logo with the text "Polar Ware" and "Proud USA Manufacturer" is at the bottom right. The website "www.polarware.com" and phone number "Toll Free: 800-319-9493" are also present.



Tavish and Laura Sullivan, Bothell, Wash., Greater Everett Brewers League
"Northern Lights," Common Cider

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

Tavish and Laura Sullivan have been homebrewing since November 22, 2006 after brewing a Pyramid Snowcap clone

at Gallagher's, a local brew-on-premise shop. It was a date night for the couple, who had been together for just over a year. A couple nights later, Tavish showed up on Laura's doorstep with a homebrew kit from a local shop. The homebrew bug hit hard, and they have been brewing beer, mead, and cider since then, on an almost weekly basis.

For every batch, they trade off roles as lead brewer/recipe designer and assistant brewer. This allows each to alternate between directing the process on brew days and providing support. Both have achieved the rank of BJCP National judge, which has helped with perfecting recipes and refining their palates.

One year, the duo attempted to brew every single BJCP beer style. They made it through 75 percent of all categories and sub-styles, and it led to their winning the title of 2010 Washington State Homebrewers of the Year.

Living in Washington state, they have had a unique opportunity for cider resources, both talent and materials. Drew Zimmerman of Red Barn Cider spoke at their homebrew club, the Greater Everett Brewers League, about varietals and the different components of apples that, when blended, make the most desir-

able cider. Roger Kee, the 2012 NHC Cidermaker of the Year, was instrumental in not only educating Laura and Tavish about the cider making and blending process, but also arranged a group purchase of heritage cider apples from the WSU Extension Orchard in Mt. Vernon, Wash. These were then pressed at Minea Farm in Redmond, which operates the oldest cider press in the state. These apples, along with many other single varietals, provided an invaluable education for blending to achieve certain results. The Sullivans hit upon their best of show cider by carefully blending portions of fresh single-varietal ciders purchased from the same press.

Homebrew Club of the Year

The Brewing Network Club Martinez, Calif.

The Homebrew Club of the Year goes to the winningest club in the National Homebrew Competition and the six Club-Only Competitions.

For the third straight year, The Brewing Network Club took home the Homebrew Club of the Year trophy. Where is home for this group? All across the country.

"Our membership is defined simply by anyone in our listenership who does not have a home in a local club, or who feel that The Brewing Network club meets their needs as homebrewers better than their local club," explained Justin Crossley of The Brewing Network, a multimedia resource for homebrewers that banded together its own virtual club six years ago. The club has members in all 50 states and internationally.

"Our entire focus is on camaraderie, enjoying the hobby, and improving our brewing every chance we get," said Crossley, who is keenly aware that not everyone believes that The Brewing Network meets the traditional definition of a homebrew club.

"I have been affiliated with local clubs," commented Brewing Network Club member Jake Ocque of Pittsburgh, who won a gold medal at the NHC. "Now that I'm a family man with a wife who is busy with her work, I have lost the time to go to local homebrew club meetings."

Ocque credits The Brewing Network with providing an inspirational platform for his homebrewing efforts. "My passion for homebrewing has grown exponentially since I started listening to the Sunday Session," he said. "The quality of the



information BN provides is outstanding and that's why they attract outstanding homebrewers."

Fellow club member and gold medalist Steve Mifsud of Santa Rosa, Calif., agrees. "I've been fortunate enough to have contributed to all three Club of the Year awards, largely due to the wealth of brewing information I've absorbed listening to BN programming, having my beer critiqued at BN events, and joining the forum."

While most of the interaction among club members occurs online, the group makes an effort to cross its virtual borders as often as possible. "We meet at local gatherings around the country, including NHC of course," said Crossley. "The club hosts beer exchanges as well, allowing members from all corners of the country to try new beers."

Club members won five medals in the final round, including gold medals for Mifsud in Category 2 and Ocque in Category 17; and bronze medals for Patrick Saucier of Southington, Conn. (Category 3), Graydon Newman of Lawrenceville, N.J. (Category 10), and Justin Rogers of Hopkinton, Mass. (Category 23).

Finishing second in the Homebrew Club of the Year standings was QUAFF



(Quality Ale and Fermentation Fraternity) of Carlsbad, Calif. The Diablo Order of Zymiracle Enthusiasts (DOZE) of Concord, Calif. was third.

Gambrinus Club Award

Green Mountain Mashers

Jericho, Vt.

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

Now in its fifth year, the Gambrinus Club Award (named for King Gambrinus, the patron saint of beer) was won by the Green Mountain Mashers of Jericho, Vt. To be eligible, clubs must have a minimum of five club members entering the first round, and a minimum of two club members advancing to, and at least one entry placing in, the final round of the competition. Six points are awarded for first place, four points for second place, and two points for third place.

The Green Mountain Mashers had 17 entries from six club members in the NHC first round. Two members advanced three entries into the final round. Club member Matthew Welz of Cornwall, Vt. won the gold medal in Category 22: Smoke Flavored and Wood-Aged Beer with his "Slightly Smoked Helles" in the Other Smoked Beer category.

The Minnesota Home Brewers Association of Edina, Minn. finished second, with 46 entries from 10 club members in the first round. Five members advanced five entries to the final round. Finishing third were the Brewers United for Real Potables (BURP) of Rockville, Md.

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2013 Gold Medal RECIPES

The 2013 National Homebrew Competition saw 7,757 entries this year from 2,187 homebrewers across 49 states, the District of Columbia, Puerto Rico, three Canadian provinces, and Belgium. First round judging took place at 11 U.S. sites, up one from last year. Final round judges at the National Homebrewers Conference, held this year in Philadelphia, Pa., evaluated 894 qualifying entries, and the top three winners from each of the recognized 28 style categories are listed in the following pages.

Top honors in 2013 went to Ninkasi Award winner David Barber of Orwigsburg, Pa., who scored the most final round points



CONVERTING TO EXTRACT

Most all-grain recipes can be converted to extract recipes by substituting the base malt (e.g. pale malt or pilsner malt) with light malt extract. Multiply the pounds of base grain by 0.73 for liquid malt extract or by 0.60 for dry malt extract. Specialty grains can be steeped in water at 160° F (71° C) for 30 minutes or so and rinsed with hot water. If you are doing a partial wort boil [as opposed to boiling the entire 5 gallons (19L) of a 5-gallon batch], you will want to increase your bittering hops slightly to make up for the increased concentration of the wort, which decreases hop utilization.

You can always ask your local homebrew supply shop owner to help you convert a recipe.



for his two gold medals in the Strong Ale and German Wheat and Rye beer categories; Homebrewer of the Year Annie Johnson of Sacramento, Calif. for her Lite American Lager; Meadmaker of the Year Mark Tanner of Oak Harbor, Wash. for his Strawberry, Rhubarb and Blackberry mead; and Cidermakers of the Year Tavish and Laura Sullivan of Bothell, Wash. for their dry sparkling cider.

The Homebrew Club of the Year award goes to the club that earns the most points in the six AHA Club-Only Competitions held throughout the year, combined with the most points from both rounds of the NHC. Homebrew Club of the Year went to The Brewing Network for the third

year in a row, and the Green Mountain Mashers picked up the Gambrinus Club Award, which goes to the club earning the most final round points per number of total club entries. We now turn to competition organizer Janis Gross to find out how it all went down this year.

Zymurgy: How did the addition of a new site change the dynamics of the first round? Do you predict that the number of participating sites around the U.S., now up to 11, will continue to grow in coming years?

Janis Gross: It is becoming increasingly harder to locate sites to hold the first round competitions, so adding another



site this year was a real challenge. My site selection process first looks at the number of BJCP judges available within a reasonable driving distance. Next, there must not be any local or regional competitions scheduled in March or April. Additionally, there must not be any local or regional beer festivals or beer weeks scheduled in March or April. Lastly, the site should not be within easy driving distance of another first round competition.

With the current boom in homebrewing, the number of BJCP-registered competitions has increased by 25 percent in recent years. A similar boom in craft brewing has led to a proliferation of city beer weeks and specialty beer festivals. All of these activities act as a drain on the pool of available volunteers, so these are the challenges to further expansion.

Increasing the number of first round competitions also has an impact on the final round. Each first round site contributes 84 winning entries to the final round. With 11 first round sites, 924 entries now qualify for the final round. The beauty of the final round is that each category has the same number of entries (33) so we know ahead of time how many flights we need (three per category, or 11 entries per judge pair). As we add more first round sites, we must increase the number of flights per category in the final round to four, requiring two to three additional judges per category, or 28 to 42 additional judges per session in the final round.

While these kinds of changes to the final round are daunting, the larger attendance at the AHA's National Homebrewers

An advertisement for Midwest Supplies Homebrewing & Winemaking. The top half features the company logo with "MIDWEST SUPPLIES" in large, stylized letters and "HOME BREWING & WINEMAKING" in smaller text below. To the right is a graphic of a person wearing a black top hat and a large green hop cone where their head would be, holding a glass of beer. The bottom half contains text: "HOP HEAD DOUBLE IPA", "DOUBLE HOPS.", "DOUBLE MALT.", and "DOUBLE AWESOME.". At the bottom is a green bar with the website "MidwestSupplies.com" and the phone number "888.449.BREW (2739)".

Conference has given me some flexibility in the final round. For instance, this year in Philadelphia we used a combination of two-judge and three-judge flights for each category to enable us to judge all 23 beer categories in the morning session using only 197 volunteer judges. By doing this we were able to knock out the beer Best of Show early in the afternoon session, while the mead and cider categories were being judged.

So, the judge pool in the final round is now potentially sufficient to handle the extra entries resulting from up to three additional first round sites. Finding competition organizers, staff, and judges for up to three new first round locations, however, is a significant challenge.

Zymurgy: With so many seasoned veterans involved in site organization and judging, does organizing the event go more smoothly each year, or are there still logistical hiccups?

JG: It's a great thing to have experienced local organizers to set up the first and



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final rounds, but there are always logistical hiccups with this competition. Some problems encountered this year included a beer week festival being planned in the same city and on the same week as one new first round competition; we almost lost one judging venue shortly before the competition due to a union strike; and some of the shipping locations didn't have Wi-Fi available for easy online bottle check-in.

Zymurgy: The popularity of the event seems to be following the increasingly global popularity of homebrewing itself; do you see the NHC becoming a more international event with each year?

JG: I'm always amazed when we have first round entries submitted from countries other than the United States. Shipping entries within the U.S. is difficult enough, but international entries must also make it through the U.S. Customs gauntlet before the entry deadline passes. It seems like each year we have at least one international shipment that gets hung up in Customs, and either never makes it to the

competition, or finally arrives one or two months later. Because the shipping issues are so big, I don't anticipate the NHC becoming much more international than it is now.

On the other hand, with the increased interest in homebrewing around the world, I believe there are several international homebrew communities who are taking the steps to organize their own versions of our National Homebrew Competition, and that is a wonderful development!

Zymurgy: Are there any plans to add new style or award categories for upcoming National Homebrew Competitions? What are the biggest changes you see likely in this event's future?

JG: The addition of new styles or categories in the National Homebrew Competition will be the result of the next update to the BJCP Style Guidelines. I checked with BJCP president Gordon Strong for insight to the changes on the horizon. Gordon told me a significant

revision to the guidelines is in the planning stages, but it will not happen before the 2014 competition. I hope the NHC can help the BJCP with the revision by providing a summary of beer styles entered in the NHC over the last few years. In particular we'll look at the list of beers entered in the Belgian Specialty Ale, Fruit Beer, Spice/Herb/Vegetable Beer, Smoke-Flavored and Wood Aged Beer, Specialty Beer, and probably the Other Mead and Specialty Cider categories.

In early July, the AHA Governing Committee's Competition subcommittee sent an email to all AHA members containing a link to an online competition survey; I hope everyone took the time to submit their answers and ideas in the survey! The Competition Committee and I are using the survey responses to help determine the changes for 2014. Some changes that I'm sure will take place involve the online registration process, as well as the competition database.

Without further ado, here are the 2013 gold medal winning recipes.



Photos © Brewers Association and Edward C. Bronson

CATEGORY 1**Light Lager**

203 entries

Sponsored by Five Star Chemicals & Supply, Inc.



Annie Johnson, Sacramento, Calif., ESB
(East Sacramento Brewers)

2013 Homebrewer of the Year**GOLD MEDAL**

"Mow The Damn Lawn!"
Lite American Lager

Ingredients

for 5 U.S. gallons (18.93 L)

8.3 lb (3.76 kg) two-row pale malt
2.0 lb (0.9 kg) flaked rice
0.7 oz (20 g) Hallertauer pellets
(60 min)
White Labs American lager (4 L starter)
1 Whirlfloc tab
Force carbonated to 2 vol.

Original Specific Gravity: 1.048

Final Specific Gravity: 1.008

Boiling Time: 90 minutes

SRM: 2

ABV: 5.3%

Primary Fermentation: 21 days at 48° F
(9° C)

Secondary Fermentation: 30 days at 32° F (0° C)

DirectionsSingle infusion mash at 149° F (65° C)
for 60 minutes.**Runners-Up**

Silver Medal: Aaron Smith, Atascadero, Calif., San Luis Obispo Brewers (SLOB), Dortmunder Export

Bronze Medal: William Beeson, Denver, Colo., Rock Hoppers Brew Club, Munich Helles

0.8 oz	(23 g) Hallertau pellets, 6.5% a.a. (30 min)
0.3 oz	(9 g) Spalt pellets, 3.9% a.a. (30 min)
0.3 oz	(9 g) Hallertau pellets, 6.5% a.a. (5 min)
0.8 oz	(23 g) Spalt pellets, 6.5% a.a. (5 min)
Wyeast 2308 Munich Lager (4 L starter)	
1/2 tablet Whirlfloc (15 min)	
Force carbonated to 2.4 vol.	
7 g gypsum	

CATEGORY 2**Pilsner**

209 entries

Sponsored by Seven Bridges Cooperative



Steve Mifsud, Santa Rosa, Calif., The Brewing Network

GOLD MEDAL

"German Pils"
German Pilsner

Ingredients

for 6.75 U.S. gallons (25.5 L)

11.0 lb (4.99 kg) Pilsner malt
0.38 lb (172 g) melanoidin malt
4.0 oz (113 g) acidulated malt
0.5 oz (14 g) Magnum pellets, 14.1% a.a. (60 min)

Original Specific Gravity: 1.051

Final Specific Gravity: 1.008

Boiling Time: 90 minutes

IBUs: 34.5

SRM: 3.8

ABV: 5.7%

Primary Fermentation: 28 days at 48-54° F (9-12° C)

Secondary Fermentation: 60 days at 30° F (-1° C)

Directions

Thick decoction used to maintain saccharification temperature. Dough in at 126° F (52° C) for 15 minutes. Mash at 150° F (66° C) for 75 minutes. Mash out at 168° F (76° C) for 10 minutes.

Runners-Up

Silver Medal: Jim Satin, Saline, Mich., Ann Arbor Brewers Guild, Bohemian Pilsener

Bronze Medal: Philip Jensen, State College, Pa., HomeBrewTalk Brewers, Classic American Pilsner

"Experimenting with different recipes has resulted in some exciting beers. Some of my favorites to brew are Belgians and Czech beers. I enjoy the rich history of German, Belgian, and Czech beers and work hard to get my beers to match theirs."

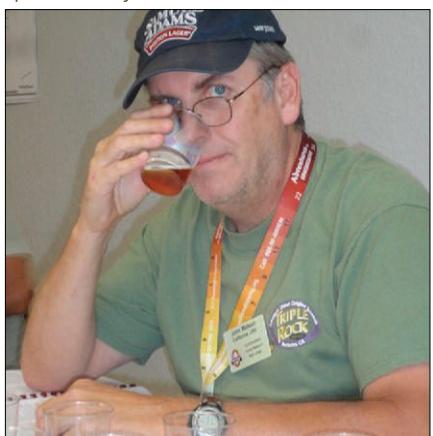
—Annie Johnson

CATEGORY 3

European Amber Lager

159 entries

Sponsored by Brewers Publications



John Watson, Antioch, Calif., Diablo Order of Zymiracle Enthusiasts (DOZE)

GOLD MEDAL

"A Festbier For The Rest-Of-Us"
Oktoberfest/Märzen

Ingredients

for 6 U.S. gallons (22.71 L)

5.0 lb	(2.27 kg) Weyermann floor malted Bohemian Pilsner malt
4.0 lb	(1.81 kg) Weyermann 5-7° L Munich malt
3.0 lb	(1.59 kg) Weyermann 3.5° L Vienna malt
0.25 oz	(7 g) Millennium pellet hops, 16.8% a.a. (FWH)
0.75 oz	(21 g) Tettnanger pellet hops, 4.8% a.a. (30 min)
0.5 oz	(14 g) Tettnanger pellet hops, 4.8% a.a. (10 min)
Wyeast 2633	Oktoberfest Blend lager yeast (1600 mL starter)
1 Tbs.	yeast nutrient
1 Tbs.	Irish moss
Carbon filtered	Antioch, Calif. tap water
Force carbonated	

Original Specific Gravity: 1.056

Final Specific Gravity: 1.014

Boil Time: 90 minutes

IBUs: 24.6

SRM: 7

Primary Fermentation: 2 weeks at 50° F (10° C)

Diacetyl Rest: 2 days at 68° F (20° C).

Lower temp 2°/day to 34° F (1° C).

Secondary fermentation: 3 months at 34° F (1° C)

Directions

Single decoction mash: "Initial strike temperature 120° F (49° C) with 3 gallons water at 130° F (54° C). Raise temperature to 140° F (60° C) with 1.5 gallons water at 212° F (100° C). Pull 4 quarts (3.78 L) of thick mash to second pot. Raise decoction to 154° F (68° C) for 15 minutes with heat, then raise temperature to boil for 20 minutes. Combine decoction with main mash, which is now at a temperature of 136° F (58° C). Resulting temperature of combined mash is 150° F (66° C). Raise temperature with heat to 154° F (68° C) for 15 minutes. Raise temperature with heat to 156° F (69° C) for 15 minutes. Raise temperature with heat to 168° F (76° C) for 5 minutes and mash out. Sparge with 6 gallons (22.71 L) 168° F (76° C) water."

Runners-Up

Silver Medal: Nick Talkers, Monroe, Ohio, Bloatarian Brewing League, Oktoberfest/Märzen

Bronze Medal: Patrick Saucier, Southington, Conn., The Brewing Network, Oktoberfest/Märzen

Ingredients

for 6.3 U.S. gallons (23.8 L)

9.0 lb	(4.08 kg) Pilsner malt
8.0 oz	(227 g) Carafa® Special
8.0 oz	(227 g) Munich malt
8.0 oz	(227 g) Caramunich® malt
1.3 oz	(37 g) Tettnang pellets 4.5% a.a. (60 min)
0.3 oz	(8.5 g) Hallertauer pellets 4% a.a. (15 min)
0.3 oz	(8.5 g) Tettnang pellets 4.5% a.a. (15 min)
0.3 oz	(8.5 g) Hallertauer pellets 4% a.a. (1 min)
0.3 oz	(8.5 g) Tettnang pellets 4.5% a.a. (1 min)
Wyeast 2124	Bohemian Lager yeast (1 quart of slurry)
Whirlfloc	in kettle
50%	distilled water
50%	filtered tap water
	Forced carbonated to 2.5 vol.

Original Specific Gravity: 1.048

Final Specific Gravity: 1.012

Boil time: 90 min.

IBUs: 20.8

SRM: 23

ABV: 4.8%

CATEGORY 4

Dark Lager

193 entries

Sponsored by Briess Malt & Ingredients Co.



Jeffrey Lewis, Hilliard, Ohio, Scioto, Olentangy & Darby Zymurgists (SODZ)

GOLD MEDAL

"Black Dog Lager"

Schwarzbier

Directions

Mash in at 129° F (54° C) for 5 minutes. Raise to 144° F (62° C) and hold for 50 minutes. Raise to 158° F (70° C) and hold for 30 minutes. Mash out at 165° F (74° C) for 5 minutes. Ferment in primary for 10 days at 47-48° F (8-9° C). Diacetyl rest for three days at 57-59° F (14-15° C). Gradually lower to 48° F (9° C) and hold for 8 days. Gradually lower to 33° F (1° C) and hold another 16 days.

Runners-Up

Silver Medal: Dan George, Westerville, Ohio, Scioto, Olentangy & Darby Zymurgists, (SODZ), Munich Dunkel

Bronze Medal: Michael Wilcox, Wichita, Kansas, Wichita Homebrewers Organization, (WHO), Schwarzbier

CATEGORY 5**Bock**

216 entries

Sponsored by Washington Hop Commission



Dennis Decker, Pleasant Valley, N.Y.,
Dunedin Brewers Guild

GOLD MEDAL

"Maibock"

Maibock/Helles Bock

Ingredients

for 9.5 U.S. gallons (36 L)

16.25 lb	(7.37 kg) Pilsner malt
8.4 lb	(3.8 kg) Munich malt
1.2 oz	(34 g) Magnum pellets, 13.1% a.a. (60 min)
Wyeast 2308	Munich lager yeast (1,040 billion cells)
2	Whirlfloc tabs
2 tsp	calcium chloride (mash)
0.75 tsp	Epsom salt (mash)
0.5	gypsum (mash)
Force carbonated	

Original Specific Gravity: 1.070

Final Specific Gravity: 1.017

Boiling Time: 90 minutes

IBUs: 24.3

ABV: 7.1%

Primary Fermentation: 20 days at 50° F
(10° C)

Secondary Fermentation: 14 days at 35° F (2° C)

Directions

Perform a single infusion mash at 156° F (69° C) for 60 minutes.

*Runners-Up*Silver Medal: Dave Bahler, Austin, TX,
EisbockBronze Medal: Dennis Talley, Las Cruces,
N.M., Desert Quenchers Doppelbock**CATEGORY 6****Light Hybrid Beer**

343 entries

Sponsored by Cargill World Select
c/o Cargill Malt

Mac Butcher, Tulsa, Okla., Fellowship of
Oklahoma Ale Makers (FOAM)

GOLD MEDAL

"Wheat Heavy"

American Wheat or Rye Beer

Ingredients

for 5 U.S. gallons (18.93 L)

3.5 lb	(1.58 kg) Pilsner malt
6.0 lb	(2.72 kg) wheat malt
8.0 oz	(227 g) light Munich malt
1.0 lb	(0.45) rice hulls (in mash)

1.0 oz	(28 g) whole Hallertau Mittelfruh, 4.5% a.a. (60 min)
1.0 oz	(28 g) Amarillo pellets, 9.5% a.a. (10 min)
1.0 oz	(28 g) Amarillo pellets, 9.5% a.a. (0 min)
Wyeast 1010	American Wheat - ~250cc slurry
1 g	CaCl
1 g	gypsum
Force carbonated to 2.5 vol.	

Original Specific Gravity: 1.050

Final Specific Gravity: 1.010

Boiling Time: 90 minutes

IBUs: 28.2

ABV: 5.3%

Primary Fermentation: 14 days at 62-65° F (17-18° C)

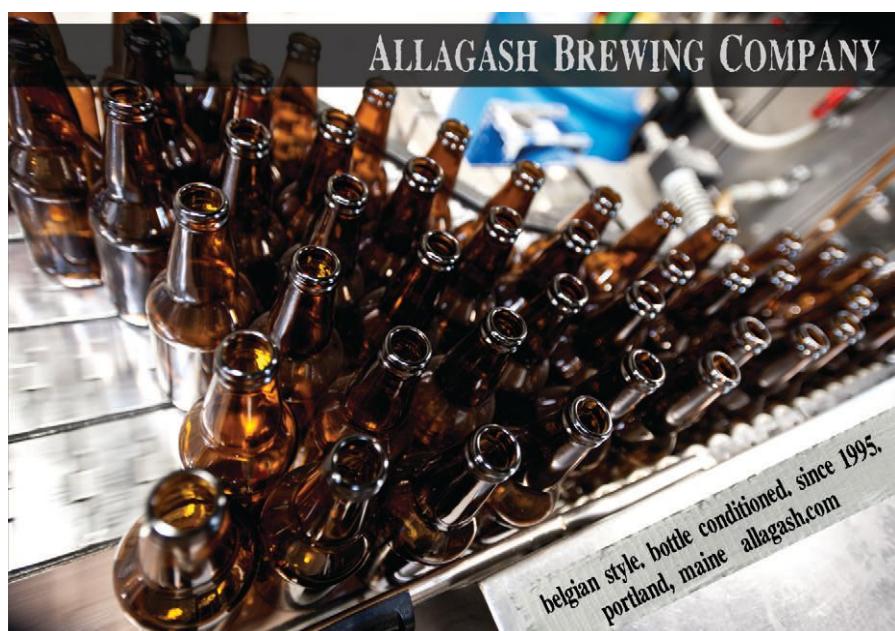
Directions

Mash in at 112° F (44° C) for a 30 minute acid rest. Raise to 130° F (54° C) for a 30 minute protein rest. Raise to 148° F (64° C) for 45 minutes. Raise to 158° F (70° C) for 20 minutes. Mash out at 165° F (74° C) for 15 minutes.

Runners-Up

Silver Medal: Dan Lechner, Lawton,

Mich., Cream Ale

Bronze Medal: Sean Sonnabend, West
Saint Paul, Minn., Saint Paul
Homebrewers Club, Kölsch

CATEGORY 7

Amber Hybrid Beer

156 entries

Sponsored by Grape & Granary



Jeffrey Jantz, Albuquerque, N.M., Dukes Of Ale

GOLD MEDAL

"Rauch Katze"

Northern German Altbier

Ingredients

for 5 U.S. gallons (18.93 L)

8.0 lb	(3.62) Pilsner malt
2.0 lb	(0.9 kg) light Munich malt
1.0 lb	(0.45 kg) aromatic malt
8.0 oz	(227 g) Caramunich® malt
4.0 oz	(113 g) Carafla® malt
1.0 oz	(28 g) German Magnum pellets, 14.0% a.a. (60 min)
0.8 oz	(23 g) Tettnanger pellets, 4.5% a.a. (15 min)
White Labs WLP036 Dusseldorf Alt yeast, 2 L starter	
1/2 filtered ABQ Municipal Zone 3 water, 1/2 RO	
Forced carbonated to 2.5 vol.	

Original Specific Gravity: 1.053

Final Specific Gravity: 1.012

Boiling Time: 90 minutes

IBUs: 55.9

SRM: 15

ABV: 5.5%

Primary Fermentation: 21 days at 58° F (14° C)

Directions

Mash grains at 152° F (67° C) for 90 minutes.

Runners-Up

Silver Medal: Jeremy Allison, Oak Harbor, Wash., Whidbey Island Zymurgy Association, Northern German Altbier

Bronze Medal: Chris Rauschuber, Austin, Texas, Austin Zealots, California Common Beer

0.5 oz.	(14 g) Fuggles pellets 4.5% a.a. (0 min)
0.4 oz	(11 g) U.S. Goldings pellets 4.7% a.a. (0 min)
1 pack	Wyeast 1469 West Yorkshire ale yeast

Treat water with half tablet of Campden. Add 0.25 tsp gypsum dissolved in hot water at 60 min.

Force carbonated to 2.3 vol.

Original Specific Gravity: 1.037

Final Specific Gravity: 1.012

Boiling Time: 60 minutes

IBUs: 19.5

SRM: 8.3

ABV: 3.3%

Primary Fermentation: 21 days at 65° F (18° C)

CATEGORY 8

English Pale Ale

211 entries

Sponsored by St. Louis Wine & Beer Making



Patrick Collins, Greensboro, N.C., Battleground Brewers Guild

GOLD MEDAL

"Ol' Bitter Bastard"

Standard/Ordinary Bitter

Ingredients

for 5.5 U.S. gallons (20.82 L)

6.75 lb	(3.06 kg) Maris Otter malt
0.56 lb	(254 g) 15° L crystal malt
0.44 lb	(199 g) Fawcett 85° L crystal malt
0.31 lb	(141 g) Dingemans biscuit malt
0.7 oz.	(20 g) U.S. Goldings pellets, 4.7% a.a. (FWH)
0.6 oz	(17 g) U.S. Goldings pellets, 4.7% a.a. (60 min)
0.5 oz.	(14 g) Fuggles pellets, 4.5% a.a. (20 min)
0.6 oz	(17 g) U.S. Goldings pellets, 4.7% a.a. (10 min)



CATEGORY 9

Scottish and Irish Ale

273 entries

Sponsored by Brew Brothers Homebrew Products



Russell Brunner, Tamarac, Fla., Fort Lauderdale Area Brewers

GOLD MEDAL

[Untitled]

Scottish Export 80/-

Ingredients

for 7 U.S. gallons (26.5 L)

13.5 lb	(6.13 kg) Maris Otter pale malt
1.38 lb	(623 g) 40° L crystal malt
0.69 lb	(313 g) honey malt
0.69 lb	(313 g) 10° L Munich malt
0.38 lb	(172 g) 120° L crystal malt
4.0 oz	(113 g) pale chocolate malt
1.0 lb	(0.45 kg) rice hulls (mash)
1.0 oz	(28 g) East Kent Goldings pellets, 6.4% a.a. (60 min)

White Labs WLP001 California Ale, 1.8 L starter
Force carbonated

Original Specific Gravity: 1.069

Final Specific Gravity: 1.019

Boiling Time: 75 minutes

IBUs: 14.4

ABV: 6.7%

Primary Fermentation: 14 days at 67° F (19° C)

Directions

Mash grains with 5.5 gallons (20.82 L) 175° F (79° C) RO water and 4.2 grams calcium chloride for a 158° F (70° C), 1-hour single infusion. Mash out. Batch sparge with 5.33 gallons (20 L) RO water at 168° F (76° C).

Runners-Up

Silver Medal: Dennis Tsonis, Phoenix, Ariz., Arizona Society of Homebrewers (ASH), Strong Scotch Ale

Bronze Medal: Jeffrey Oberlin, Friendswood, Texas, Bay Area Mashtronauts, Scottish Light 60/-

Ingredients

for 6 U.S. gallons (22.71 L)

10.0 lb	(4.5 kg) pale two-row malt
12.0 oz	(340 g) 20° L crystal
8.0 oz	(227 g) 80° L crystal malt
8.0 oz	(227 g) CaraVienne® malt
8.0 oz	(227 g) wheat malt
0.5 oz	(14 g) Nugget pellets, 13% a.a. (60 min)
1.0 oz	(28 g) Cascade pellets, 5.5% a.a. (5 min)
0.5 oz	(14 g) Nelson Sauvin pellets, 12.5% a.a. (5 min)
1.0 oz	(28 g) Cascade pellets, 5.5% a.a. (dry)
1.0 oz	(28 g) Nelson Sauvin pellets, 12.5% a.a. (dry)

White Labs WLP001 California ale yeast
Forced carbonated to 2.5 vol.

Original Specific Gravity: 1.052

Final Specific Gravity: 1.011

Boiling Time: 60 min

IBUs: 26.5

SRM: 9.3

ABV: 5.5%

Primary Fermentation: 9 days at 67° F (19° C)

Secondary Fermentation: 9 days at 68° F (20° C)

Directions

Mash at 154° F (68° C) for 60 minutes.

Runners-Up

Silver Medal: Greg Rasmussen, Forestville, Calif., Sonoma Beerocrats, American Brown Ale

Bronze Medal: Graydon Newman, Lawrenceville, N.J., The Brewing Network, American Amber Ale

CATEGORY 10

American Ale

598 entries

Sponsored by BJ's Restaurant & Brewhouse



Heath and Eileen Haynes, Lake Havasu City, Ariz., Mohave Ale & Lager Tasting Society (MALTS)

GOLD MEDAL

"Regal Pale Ale"
American Pale Ale



CATEGORY 11

English Brown Ale

215 entries

Sponsored by Alternative Beverage



Ben Adair, Blaine, Minn.

GOLD MEDAL

"Country Mild"

Mild

Ingredients

for 3 U.S. gallons (11.36 L)

3.5 lb	(1.59 kg) Simpsons Maris Otter pale malt
12.0 oz	(340 g) Crisp brown malt
4.0 oz	(113 g) Fawcett pale chocolate malt
4.0 oz	(113 g) Simpsons Golden Naked Oats
4.0 oz	(113 g) Simpsons Medium Crystal
4.0 oz	(113 g) flaked barley
0.5 oz	(14 g) East Kent Goldings pellets, 5.8% a.a. (60 min)
1 tsp	Irish moss
	White Labs WLP007 English ale yeast
	Bottle conditioned

Original Specific Gravity: 1.040

Final Specific Gravity: 1.008

Boiling Time: 60 minutes

IBUs: 19.4

SRM: 19

ABV: 4.3%

Primary Fermentation: 9 days at 70° F (21° C)

Directions

Mash at 150° F (66° C) for 60 minutes.

Runners-Up

Silver Medal: Scott Lothamer, Moraga, Calif., Diablo Order of Zymiracle Enthusiasts (DOZE), Northern English Brown Ale

Bronze Medal: Greg Irving, Strongsville, Ohio, Society of Northeast Ohio Brewers, Mild

CATEGORY 12

Porter

335 entries

Sponsored by Deschutes Brewery



Jeffrey Oberlin, Friendswood, Texas, Bay Area Mashtronauts

GOLD MEDAL

"Scooter's Lager"

Baltic Porter

Ingredients

for 8 U.S. gallons (30.28 L)

22.0 lb	(9.98 kg) Maris Otter malt
4.0 lb	(1.81 kg) light German Munich malt
1.0 lb	(0.45 kg) dark British crystal malt
1.0 lb	(0.45 kg) British roasted barley
1.0 oz	(28 g) Magnum pellets, 13% a.a. (60 min)
2.0 oz	(57 g) East Kent Golding pellets, 5% a.a. (20 min)
2.0 oz	(57 g) East Kent Golding pellets, 5% a.a. (10 min)
	White Labs WLP833 Bock, 2 vials
	RO water, adjusted with CaCl ₂ to 69 ppm Ca
	Forced carbonated

Original Specific Gravity: 1.098

Final Specific Gravity: 1.021

Boiling Time: 70 min

IBUs: 33.7

ABV: 10.3%

Primary Fermentation: 15 days at 56° F (13° C)

Secondary Fermentation: 21 days at 35° F (2° C)

Directions

Mash grains at 156° F (69° C) for 60 minutes.

Runners-Up

Silver Medal: Sean Kampshoff,

Minneapolis, Minn., Minnesota Home Brewers Association, Brown Porter

Bronze Medal: Bill Bopp, Westerville, Ohio, Scioto, Olentangy and Darby Zymurgists (SODZ), Baltic Porter



CATEGORY 13**Stout**

576 entries

Sponsored by Brew & Grow



Pat Craddock, Royal Oak, Mich.,
Kuhnhen Guild of Brewers Homebrew
Club

GOLD MEDAL

"Split Open and Melt"
Imperial Stout

Ingredients

for 5 U.S. gallons (18.93 L)

18.0 lb	(8.16 kg) two-row pale malt
2.0 lb	(0.9 kg) chocolate malt
1.0 lb	(0.45 kg) 120° L crystal malt
1.0 lb	(0.45 kg) CaraMunich® malt
2.0 oz	(57 g) homegrown Chinook hops (60 min)
1.5 oz	(42 g) homegrown Chinook hops (30 min)
0.5 oz	(14 g) homegrown Chinook hops (15 min)
1.0 oz	(28 g) East Kent Goldings hops (15 min)
1.0 oz	(28 g) East Kent Goldings hops (0 min)
1.0 oz	(28 g) East Kent Goldings hops (dry)

Whirlfloc

Yeast nutrient

White Labs WLP001 California ale yeast
(starter)

Force carbonated and bottled

Original Specific Gravity: 1.095

Final Specific Gravity: 1.025

Boil Time: 90 minutes

Primary Fermentation: 67° F (19° C)

Directions

Mash at 152° F (67° C) for 60 minutes.

Runners-Up

Silver Medal: Eric Ruzicka, San Jose, Calif., The Grain Trust, American Stout

Bronze Medal: Daniel Schroeder, Chula Vista, Calif., Imperial Stout

CATEGORY 14**India Pale Ale**

584 entries

Sponsored by S.S. Steiner, Inc.



Gregory Ulans, Fredericksburg, Va.

GOLD MEDAL

"Pike Ale"
American IPA

Editor's Note: Our heartfelt condolences to the family and friends of Category 14 winner Gregory Ulans, who passed away on June 14 between the first and final rounds of the National Homebrew Competition. His wife, Pamela, graciously contacted us with his recipe after his passing.

Ingredients

for 10 U.S. gallons (37.85 L)

26.0 lb	(11.79 kg) pale two-row malt
1.0 lb	(0.45 kg) crystal malt
2.0 lb	(0.9 kg) dextrose
2.0 lb	(0.9 kg) dextrin malt
2.0 oz	(57 g) whole Cascade, 8.9% a.a. (mash hop)
2.0 oz	(57 g) whole Cascade, 8.9% a.a. (FWH 120 min)
4.0 oz	(113 g) Magnum pellets, 14.6% a.a. (60 min)
1.0 oz	(28 g) Simcoe pellets, 13% a.a. (45 min)
1.0 oz	(28 g) Cascade pellets, 8.9% a.a. (30 min)
4.0 oz	(113 g) Centennial pellets, 9.9% a.a. (0 min)
2.0 oz	(57 g) Simcoe pellets, 13% a.a. (0 min)
2.0 oz	(57 g) Simcoe pellets, 13% a.a. (dry)
4.0 oz	(113 g) Columbus pellets, 15.2% a.a. (dry)
4 vials	White Labs WLP001 California ale yeast
2.0 lb	(0.9 kg) rice hulls (mash)

Whirlfloc

Gypsum, chalk (mash)
phosphoric acid (sparge)

Force carbonated to 2.5 vol

Wyeast nutrient blend

Original Specific Gravity: 1.068

Final Specific Gravity: 1.011

Boiling time: 120 minutes

Primary fermentation: 26 days at 64° F (18° C)

Directions

Mash at 151.5° F (67° C) for 60 minutes.

Runners-Up

Silver Medal: Kelsey McNair, San Diego, Calif., QUAFF (Quality Ale and Fermentation Fraternity), American IPA

Bronze Medal: Dan Lechner, Lawton, Mich., American IPA

CATEGORY 15

German Wheat and Rye Beer

194 entries

Sponsored by Widmer Brothers Brewing Co.



David Barber, Orwigsburg, Pa., Lehigh Valley Home Brewers

AHA 2013 Ninkasi Award Winner

GOLD MEDAL

"El Hefe"

Weizen/Weissbier

Ingredients

for 5.5 U.S. gallons (20.82 L)

3.65 lb (1.65 kg) German Pilsner malt
5.6 lb (2.54 kg) German wheat malt
0.8 oz (23 g) Hallertauer Mittelfruh pellets, 3.4% a.a. (60 min)
Wyeast 3068 Weihenstephan Weizen ale yeast, 1 quart
Force carbonated to 3 vol

Original Specific Gravity: 1.052

Final Specific Gravity: 1.012

Boiling Time: 90 minutes

IBU: 8.3

SRM: 3

ABV: 5.3%

Primary Fermentation: 9 days at 62° F (17° C).

Directions

Start with RO water, add 2.2 g calcium chloride to mash, add 2.7 g calcium chloride to sparge. Use a double decoction mash schedule with the following rests. Acid rest: 113° F (45° C) for 15 minutes. Protein rest: 126° F (52° C) for 15 minutes. Mash at 146° F (63° C) for 20 minutes, then 158° F (70° C) for 20 minutes. Mash out at 167° F (75° C) for 10 minutes.

Runners-Up

Silver Medal: Robert North, Manchester, N.H., Brew Free or Die, Weizenbock

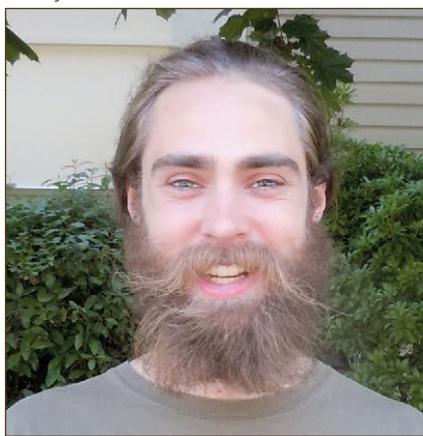
Bronze Medal: Rodney Kibzey, Lombard, Ill., Urban Knaves of Grain, Weizenbock

CATEGORY 16

Belgian and French Ale

560 entries

Sponsored by Port Brewing Co./The Lost Abbey



David Janssen, Seattle, Wash., BrewVIC

GOLD MEDAL

"Soma"

Saison

Ingredients

for 5 U.S. gallons (18.93 L)

10.0 lb (4.54 kg) Franco-Belges Pilsner malt
1.0 lb (0.45 kg) Vienna malt
1.3 oz (37 g) Hallertau Mittelfruh, 4% a.a. (30 min)
0.8 oz (23 g) Czech Saaz pellets, 3.2% a.a. (30 min)
0.8 oz (23 g) Hallertau Mittelfruh

pellets, 4% a.a. (5 min)

(14 g) Czech Saaz pellets, 3.2% a.a. (5 min)

(28 g) Hallertau Mittelfruh pellets, 4% a.a. (0 min)

(23 g) Czech Saaz pellets, 3.2% a.a. (0 min)

Wyeast 3724 Belgian Saison and 3711 French Saison blend, ~200 billion cells

1/2 tab Whirlfloc

Carbon filtered water, 6.5 g gypsum added.

Bottle conditioned to 2.8 vol. CO₂ with 135 g corn sugar

Original Specific Gravity: 1.053

Final Specific Gravity: 1.002

Boiling Time: 90 minutes

IBUs: 23.5

SRM: 4-5

ABV: 6.8%

Primary Fermentation: 8 days at 80° F (27° C)

Secondary Fermentation: 23 days at 56° F (13° C)

Directions

Sour mash: "Sour mash one pound of Franco-Belges Pils malt. Start with a saccharification rest at 152° F (67° C) for 60 minutes. Raise to 170° F (77° C) and allow to cool to 120° F (49° C) without introducing oxygen. At 120° F add small handful of acidulated Pils malt. Cover with Saran wrap to keep the air out. Incubate at 100-120° F (38-49° C) in a warm water bath for 24 hrs."

Main mash: 147° F (64° C) for 45 minutes, then 152° F (67° C) for 30 minutes.

Yeast propagation: "Make separate starters from one pack each of Wyeast 3724 and 3711. At high krausen, add roughly 1.5 L total starter in a 60% 3724, 40% 3711 blend."

Runners-Up

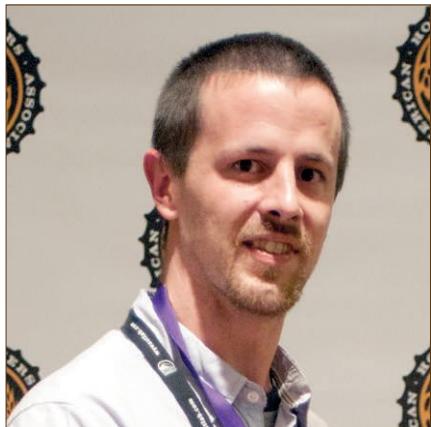
Silver Medal: Joshua Mann, Nipomo, Calif., San Luis Obispo Brewers (SLOB), Belgian Specialty Ale

Bronze Medal: Shawn Scott, McAlester, Okla., Fellowship of Oklahoma Ale Makers (FOAM), Belgian Specialty Ale

CATEGORY 17**Sour Ale**

295 entries

Sponsored by Captain Lawrence Brewing Co.



Jake Ocque, Pittsburgh, Pa., The Brewing Network

GOLD MEDAL

"Jam Out With Your Clambic Out"

Fruit Lambic

Special Ingredients/Classic Style: Peach Lambic

Ingredients

for 5 U.S. gallons (18.93 L)

7.0 lb	(3.18 kg) Pilsner malt
1.0 lb	(0.45 kg) acidulated malt
1.0 lb	(0.45 kg) flaked maize
1.0 lb	(0.45 kg) spelt
15.0 lb	(6.8 kg) "farmer's market" peaches

Wyeast B. Lambicus, 1 pack

Original Specific Gravity: 1.050

Final Specific Gravity: 1.002

IBUs: 0

ABV: 6.4%

Directions

Mash grains at 148° F (64° C) for 45 minutes. Make a 10-day starter of B. lambicus. "Various dregs from homebrewed and commercial sour beers were added during fermentation. Peaches were purchased organic and fresh, skinned, pitted, cut into small chunks, frozen then thawed before adding to fermentation."

Runners-Up

Silver Medal: Mark Easton, Portland, Ore., Oregon Brew Crew, Berliner Weisse

Bronze Medal: James Dugan, Portland, Ore., Fruit Lambic

**CATEGORY 18****Belgian Strong Ale**

421 entries

Sponsored by Dingeman's c/o Cargill Malt



Joe Nielsen, Berkley, Mich.

GOLD MEDAL

"Tripel"

Belgian Tripel

Ingredients

for 5 U.S. gallons (18.93 L)

11.75 lb	(5.33 kg) Dingemans Pils malt
0.13 lb	(59 g) Dingemans biscuit malt (Mout Roost 50)
0.13 lb	(59 g) aromatic malt (Amber 50)
1.75 lb	(794 g) white table sugar (boil)
4.0 oz	(113 g) honey (boil)
4.0 oz	(113 g) light brown sugar (in primary)
1.0 lb	(0.45 kg) fresh pink grapefruit (in primary)
1.5 oz	(42 g) Tettnanger pellets, 4.5% a.a. (60 min)

0.5 oz	(14 g) Tettnanger pellets, 4.5% a.a. (15 min)
0.5 oz	Czech Saaz pellets 3% a.a. (15 min)
0.5 oz	Czech Saaz pellets 3% a.a. (1 min)
	White Labs WLP500 Trappist Ale, 270 billion cells
2 Tbs.	Irish moss, 15 minutes
	Bottle condition to 2.15 vol. CO ₂ with 3.4 oz (96 g) table sugar

Original Specific Gravity: 1.079

Final Specific Gravity: 1.010

Boiling Time: 90 min

IBUs: 26.1

SRM: 6.8

ABV: 9.2%

Primary Fermentation: 7 days at 70° F (21° C)

Secondary Fermentation: 14 days at 64° F (18° C)

Directions

Mash grains at 152° F (67° C) for 60 minutes. Mash out at 170° F (77° C) for 30 minutes. Add 1/8 lb of honey and 1 5/8 lb table sugar to the boil at 30 minutes from flameout. Add the remaining 1/8 lb honey and 1/8 lb table sugar at 5 minutes from flameout. Ferment one week at 70° F (21° C) in primary, followed by two weeks at 64° F (18° C) in secondary. Use fresh, pink grapefruit, membranes removed, and add to primary at 60 hours along with the 4 ounces of light brown sugar.

Runners-Up

Silver Medal: Brian Schoolcraft and Karl King, Bedford, Texas, Cap and Hare Homebrew Club, Belgian Dark Strong Ale

Bronze Medal: Eric Blaine, Staten Island, N.Y., Belgian Dark Strong Ale

CATEGORY 19**Strong Ale**

277 entries

Sponsored by Northern Brewer



David Barber, Orwigsburg, Pa., Lehigh Valley Home Brewers

2013 Ninkasi Award Winner**GOLD MEDAL**

"2010 Barleywine"

American Barleywine

Ingredients

for 5.5 U.S. gallons (20.82 L)

13.0 lb	(5.9 kg) American two-row pale malt
7.0 lb	(3.18 kg) Maris Otter pale malt
4.0 oz	(113 g) 60° L crystal malt
8.0 oz	(227 g) Caravienne® malt
4.0 oz	(113 g) light Caramunich® malt
4.0 oz	(113 g) 120° L crystal malt
4.0 oz	(113 g) 40° L crystal malt
1.0 lb	(0.45 kg) cane sugar
1.0 oz	(28 g) whole Cascade, 8.6% a.a. (120 min/first wort)
1.0 oz	(28 g) whole Zeus, 15.2% a.a. (60 min)
0.4 oz	(11 g) whole Chinook, 12.7% a.a. (60 min)
1.0 oz	(28 g) whole Centennial, 10.5% a.a. (15 min)
1.0 oz	(28 g) whole Cascade, 8.6% a.a. (0 min)
1.0 oz	(28 g) whole Centennial, 10.5% a.a. (0 min)
1.0 oz	(28 g) whole Simcoe, 12.7% a.a. (0 min)
1.0 oz	(28 g) whole Amarillo, 8.7% a.a., (dry hop)
1.0 oz	(28 g) whole Centennial, 10.5% a.a., (dry hop)

1.0 oz (28 g) whole Simcoe, 12.5% a.a., (dry hop)
 Wyeast 1056 American Ale yeast
 1 tablet Whirlfloc
 1.5 g gypsum (mash)
 1.8 g calcium chloride (mash)
 Forced carbonated to 2.3 vol

Original Specific Gravity: 1.090
 Final Specific Gravity: 1.019
 Boiling Time: 120 minutes
 IBUs: 76.4
 SRM: 12
 ABV: 9.5%
 Primary Fermentation: 30 days at 68° F (20° C).

Directions

Mash in at 149° F (65° C) and hold for 90 minutes.

Runners-Up

Silver Medal: Peter Perrecone, Carlsbad, Calif., QUAFF (Quality Ale and Fermentation Fraternity), English Barleywine

Bronze Medal: Adam Wyss, Walnut Creek, Calif., Diablo Order of Zymiracle Enthusiasts (DOZE), American Barleywine

GOLD MEDAL

"Fruity McFruitFruit"

Premium American lager with strawberries

Ingredients

for 18 U.S. gallons (68.14 L)

34.0 lb (15.42 kg) Pilsner malt
 2.0 lb (0.9 kg) Munich malt
 1.0 lb (0.45 kg) melanoidin malt
 6.0 oz (170 g) Hallertauer Mittelfrueh pellets, 3.2% a.a. (60 min)
 White Labs WLP838 Southern German Lager yeast
 6 g calcium chloride
 strawberry extract (at bottling)

Original Specific Gravity: 1.050

Final Specific Gravity: 1.011

Boiling Time: 54 min

IBUs: 19.5

SRM: 4.4

ABV: 5.2%

Primary Fermentation: 28 days at 48° F (9° C)

Secondary Fermentation: 7 days at 36° F (2° C)

Directions

Mash at 150° F (66° C) for 90 minutes. Add strawberry extract to taste at bottling.

CATEGORY 20**Fruit Beer**

181 entries

Sponsored by High Gravity Homebrewing and Winemaking Supplies



Mark Girard, Annandale, Va., with co-brewers John Gosselin, Greg McCullough, and Heath Ehret, Brewers United for Real Potables (BURP)

Runners-Up

Silver Medal: Rick Bobbitt, Thornton, Colo., KROC (Keg Ran Out Club), Fruit Beer

Bronze Medal: Dwight Mulcahy, San Antonio, Texas, Worts of Wisdom Homebrewers, Fruit Beer

CATEGORY 21

Spice/Herb/Vegetable Beer

311 entries

Sponsored by Austin Homebrew Supply



Scott Lothamer, Moraga, Calif., Diablo Order of Zymiracle Enthusiasts (DOZE)

GOLD MEDAL

[Untitled]

Northern English brown ale with hazelnuts

Ingredients

for 23 U.S. gallons (87 L)

30.0 lb (13.61 kg) British pale malt
2.25 lb (1.02 kg) Briess Special Roast malt
1.75 lb (0.79 kg) pale chocolate malt
1.5 lb (0.68 kg) 50° L crystal malt
1.5 lb (0.68 kg) Victory malt
5.8 oz (164 g) East Kent Goldings, 5% a.a. (60 min)
2.3 oz (65 g) East Kent Goldings pellets, 5% a.a. (5 min)
White Labs WLP013 London Ale (3 L starter)
Hazelnut extract (at bottling)
Force carbonated to 2.2 vol.

Original Specific Gravity: 1.052

Final Specific Gravity: 1.010

Boiling Time: 90 minutes

IBUs: 24.2

SRM: 13

ABV: 5.6%

Primary Fermentation: 7 days at 65° F (18° C)

Directions

Mash at 152° F (67° C) for 90 minutes. Mash out at 168° F (76° C) for 15 minutes. Add hazelnut extract at bottling, about 6 drops per 12 ounces.

Runners-Up

Silver Medal: Deb Loch, St. Paul, Minn., Northern Brewer Fermentation Brigade, Spice, Herb, or Vegetable Beer

Bronze Medal: Richard Castle and Gill R. Cornwall, Phoenixville, Pa., Spice, Herb, or Vegetable Beer

Ingredients

for 3.35 U.S. gallons (12.68 L)

4.0 lb	(1.81 kg) Pilsner malt
2.0 lb	(0.9 kg) rauchmalt
8.0 oz	(227 g) dark Munich malt
0.7 oz	(20 g) Tettnanger pellets, 3.7% a.a. (60 min)
0.4 oz	(11 g) Tettnanger pellets, 3.7% a.a. (15 min)
Wyeast 2206 Bavarian lager yeast, about 250 billion cells	
Calcium chloride and gypsum added to soft water	
Force carbonated to 2.4 vol.	

CATEGORY 22

Smoke-Flavored and Wood-Aged Beer

384 entries

Sponsored by Alaskan Brewing Company



Matthew Welz, Cornwall, Vt., Green Mountain Mashers

GOLD MEDAL

"Slightly Smoked Helles"
Other Smoked Beer

Original Specific Gravity: 1.051

Final Specific Gravity: 1.012

Boiling Time: 90 minutes

IBUs: 18

SRM: 4.6

ABV: 5.2%

Primary Fermentation: 14 days at 50° F (10° C)

Secondary Fermentation: 35 days at 34° F (1° C)

Directions

Mash grains at 152° F (67° C) for 60 minutes. Mash out at 168° F (76° C) for 10 minutes. "I batch-sparged with an efficiency of about 72%."

Runners-Up

Silver Medal: William Beeson, Denver, Colo., Rock Hoppers Brew Club, Classic Rauchbier

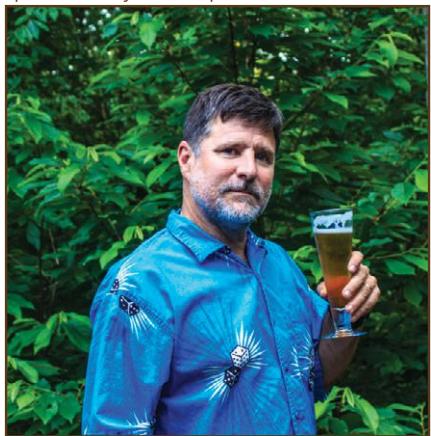
Bronze Medal: Rives Borland and Jeff Sanders, Redondo Beach, Calif., Strand Brewers, Wood-Aged Beer



CATEGORY 23**Specialty Beer**

359 entries

Sponsored by The Hops Shack



Greg Reshetiloff, Davidsonville, Md.,
Midnight Homebrewers League

GOLD MEDAL*"Sto-Lat!"*

Gratzer: Oak-smoked Wheat Ale, Low Gravity, Crisp, Dry

Ingredients

for 12 U.S. gallons (45.42 L)

15.0 lb	(6.8 kg) Weizenrauchmalz (smoked wheat malt)
8.0 oz	(227 g) sauer (acid) malt
2.0 lb	(0.9 kg) rice hulls
1.0 oz	(28 g) Hallertau pellets, 4.3% a.a. (150 min/first wort)
0.5 oz	(14 g) Hallertau pellets, 4.3% a.a. (60 min)

2.0 oz (57 g) Hallertau pellets,
2.7% a.a. (30 min)
1.0 oz (28 g) Hallertau pellets,
2.7% a.a. (15 min)
White Labs WLP029 German Ale/Kölsch
yeast, 4 L starter
2 tablets Whirlfloc (boil)
2 tsp gelatin (secondary, 10 days)
1 tsp lactic acid (added to mash
water)
Force carbonated to 3.6 vol.

Original Specific Gravity: 1.036
Final Specific Gravity: 1.008
Boil Time: 150 minutes
IBUs: 21.4
SRM: 2.8
ABV: 3.7%
Primary Fermentation: 7 days at 65° F
(18° C).
Secondary Fermentation: 21 days at 30°
F (-1° C)

Directions

Mash in for an acid rest at 100° F (38° C)
and hold for 30 minutes. Raise to 125°
F (52° C) and hold 15 minutes. Raise
to 149° F (65° C) and hold 10 minutes.
Raise to 158° F (70° C) and hold 30 min-
utes. Mash out at 167° F (75° C) for 10
minutes. Fly sparge at 167° F (75° C).

Runners-Up

Silver Medal: Simon Tepas, Brooklyn,
N.Y., New York City Homebrewers
Guild, Specialty Beer

Bronze Medal: Justin Rogers, Hopkinton,
Mass., The Brewing Network,
Specialty Beer

CATEGORY 24**Traditional Mead**

78 entries

Sponsored by Moonlight Meadery



Susan and Bob Ruud, Harwood, N.D.,
Prairie Homebrewing Companions

GOLD MEDAL*"OB Mead"*

Sweet Mead

Special Ingredients/Classic Style: Orange
Blossom Honey

Carbonation: Still

Sweetness: Sweet

Strength: Sack

Ingredients

for 6 U.S. gallons (22.71 L)

18.0 lb (8.16 kg) California orange
blossom honey
deionized water
diammonium phosphate
yeast energizer
pinch of grape tannin
tartaric acid to taste, at end of ferment
Lalvin 71B-1122 yeast

Original Specific Gravity: 1.126

Directions

No heat. Use staggered nutrient addi-
tions once a day for 4 days.

Runners-Up

Silver Medal: Brian Eichhorn, Chicago, Ill.,
HOPS! (Homebrewers Pride of the
Southside), Sweet Mead

Bronze Medal: Harold Gulbransen, San
Diego, Calif., QUAFF (Quality Ale
and Fermentation Fraternity), Sweet
Mead



CATEGORY 25**Melomel (Fruit Mead)**

119 entries

Sponsored by Moonlight Meadery



Matt Weide, Minneapolis, Minn.,
Minnesota Home Brewers Association

GOLD MEDAL

"Key Lime Mead"

Other Fruit Melomel

Special Ingredients/Classic Style:

Key Lime with Wildflower Honey

Carbonation: Still

Sweetness: Sweet

Strength: Standard

Ingredients

for 4 U.S. gallons (15.14 L)

13.0 lb (5.9 lb) wildflower honey

16.0 oz (473 mL) key lime juice
(primary)8.0 oz (236 ml) key lime juice
(secondary)Lallemand Lalvin 71B-1122 yeast,
2 packets

3 gal spring water

Primary Fermentation: 30 days at 66° F
(19° C)Secondary Fermentation: 90 days at 60°
F (16° C)**Directions**

"Honey and juice fermented together.
I then added another 8 oz (236 mL) key
lime juice after full ferment."

Runners-UpSilver Medal: Chris Smith, Minneapolis,
Minn., Northern Brewer

Fermentation Brigade, Pyment

Bronze Medal: Peter Polczynski, Tulsa,
Okla., Fellowship of Oklahoma
Ale Makers (FOAM), Other Fruit
Melomel**CATEGORY 26****Other Mead**

93 entries

Sponsored by Celestial Meads



Mark Tanner, Oak Harbor, Wash.,
Whidbey Island Zymurgy Association (WIZA)
NHC 2013 Meadmaker of the Year

GOLD MEDAL

"SRB Mead"

Open Category Mead

Special Ingredients/Classic Style:

Strawberry, Rhubarb & Blackberry

Carbonation: Still

Sweetness: Sweet

Strength: Standard

Ingredients

for 5 U.S. gallons (18.93 L)

16.0 lb (7.26 kg) clover honey

8.0 lb (3.63 kg) rhubarb

8.0 lb (3.63 kg) strawberries

6.0 lb (2.72 kg) blackberries

1 tsp Fermaid-K

2 tsp diammonium phosphate

9 g Go-Ferm

2 packets Lalvin 71-B dry yeast

Force carbonated to 2.5 vol

Original Specific Gravity: 1.157

Final Specific Gravity: 1.036

Directions

"Rehydrate and proof yeast in 100° F (38° C) water with Go-Ferm. Mix honey with bottled spring water to bring volume to 5 gallons. Pitch yeast, mix, aerate. Add initial nutrients and fruit (frozen, thawed, chopped). Stagger remaining nutrient additions for a week. Stir daily for first week to release CO₂. Ferment to completion, rack, age one month, package."

Runners-UpSilver Medal: Wesley Underwood,
Westminster, Colo., KROC (Keg Ran
Out Club), Open Category MeadBronze Medal: Eric Holden, Temecula,
Calif., Temecula Valley Homebrewers
Association, Open Category Mead

CATEGORY 27**Standard Cider and Perry**

103 Entries

Sponsored by Woodchuck Hard Cider



Tavish and Laura Sullivan, Bothell, Wash., Greater Everett Brewers

NHC 2013 Cidermakers of the Year**GOLD MEDAL**

"Northern Lights"

Common Cider

Carbonation: Sparkling

Sweetness: Dry

Ingredients

for 12 U.S. gallons (45.42 L)

4 gal (15.14 L) Honey Crisp apple juice

4 gal (15.14 L) Aurora apple juice

4 gal (15.14 L) Jonagold apple juice

White Labs English cider yeast, 1 vial
Force carbonated to 2.5 vol.

Original Specific Gravity: 1.055

Final Specific Gravity: 1.008

SRM: 2

ABV: 6.3%

Primary Fermentation: 12 days at 64° F
(18° C)**Runners-Up**

Silver Medal: Melissa Allison, Oak Harbor, Wash., Whidbey Island Zymurgy Association (WIZA), Common Cider

Bronze Medal: Dennis Talley, Las Cruces, N.M., Desert Quenchers, Common Cider

CATEGORY 28**Specialty Cider and Perry**

96 entries

Sponsored by Woodchuck Hard Cider



Donald and Stephen Boyle, Colonia, N.J., Woodbridge Homebrewers Ale & Lager Enthusiasts Society

GOLD MEDAL

"Jalapeño Cider"

Carbonation: Petillant

Sweetness: Semi-Sweet

Ingredients

for 5 U.S. gallons (18.93 L)

5 gal (18.93 L) Pine Hill Orchards, Mass. pressed apple cider:

38% Pippin

20% Reine Pomme

20% Snow Apple

10% Mutsu

6% Suncrisp

6% Gala

225 ml homemade jalapeño extract

10 g Lalvin 71B-1122 yeast

8 g DAP

4 g Fermaid K

12.5 g Go-Ferm

0.5 g Lallyzme EX

Potassium metabisulfite

Potassium sorbate

Force carbonated to 2.8 vol.

Original Specific Gravity: 1.047

Final Specific Gravity: 0.012 (after back sweetening)

ABV: 5.2%

Primary Fermentation: 14 days at 63° F
(17° C)

Secondary Fermentation: 2 months

Directions

"Add a sulfite addition to the cider based off of the pH to kill off/suppress wild yeast and bacteria. One day later, pitch the yeast that was properly hydrated in Go-Ferm along with half the nutrient additions and the pectic enzyme. Add one minute of oxygen with a diffuser stone. On the second day, add the last half of the nutrient additions. Ferment at 63° F (17° C) until fermentation is complete. Transfer to a secondary and add 45 ppm of sulfites and 2.5 teaspoons of potassium sorbate. Back sweeten with your sugar of choice based on taste. Let the cider condition in the secondary. Add a clearing agent if needed. Transfer to a keg; add 30 ppm of sulfites and carbonate at 2.8 volumes. After fully carbonated, pull a sample and determine how much jalapeño extract you want to add based off of taste. Make any other final adjustments if necessary."

Runners-Up

Silver Medal: Rodney Kibzey, Lombard, Ill., Urban Knaves of Grain, Fruit Cider

Bronze Medal: Brett Glenna, Lakeville, Minn., Minnesota Home Brewers Association, Fruit Cider



AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR

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

August 17

Malt Madness VII

Allentown, PA. Entry Deadline: 8/1/2013
www.lvhb.org/mm_2013

August 17

Beer & Sweat

Erlanger, KY. Entry Deadline: 8/8/2013

August 17

Dominion Cup

Richmond, VA. Entry Deadline: 8/3/2013
dominioncup.jrhc.org/

August 23

Colorado State Fair Homebrew Competition

Pueblo, CO. Entry Deadline: 8/10/2013
www.coloradostatefair.com

August 23

For What It's Worth

Bloomington, IL. Entry Deadline: 8/16/2013

August 24

East Idaho State Fair Homebrew Competition

Idaho Falls, ID. Entry Deadline: 8/16/2013
www.wildhops.webs.com

August 24

2o. Concurso de Cervejas Artesanais da ACervA Catarinense

Blumenau, SC, Brazil. Entry Deadline: 8/22/2013
acervacatarinense.com.br/ii-concurso-estadual

August 24

Macon Beer Festival Homebrew Competition

Macon, GA. Entry Deadline: 8/9/2013
www.themaconbeerfest.com

August 24

2013 Limbo Challenge

Irving, TX. Entry Deadline: 8/1/2013
www.limbocomp.org

August 24

Castle Hill & Hills District (& NSW State) Homebrewing Competition

Castle Hill, New South Wales, Australia. Entry Deadline: 8/17/2013
www.castlehillshow.com.au

August 25

Washington State Fair

Puyallup, WA. Entry Deadline: 8/17/2013
www.thefair.com

August 25

Byggvir's Big Beer Cup

Shakopee, MN. Entry Deadline: 8/11/2013
rennfestbeercup.com

August 31

Grain to Glass Picnique Belgique

Kansas City, MO. Entry Deadline: 8/25/2013
www.graintoglass.biz

August 31

2013 RBT British Ales Brewing Competition

Townsville, Queensland, Australia. Entry Deadline: 8/27/2013
www.righteousbrewers.com

September 5

Competencia Profesional - Cerveza Mexico 2013

Mexico DF, Mexico. Entry Deadline: 7/31/2013
www.copacerveza.mx

September 6

Competencia Amateur - Cerveza Mexico

2013

Mexico DF, Mexico. Entry Deadline: 7/31/2013
www.copacerveza.mx

September 7

Gemueltlichkeit Days Homebrew Competition

Jefferson, WI. Entry Deadline: 09/6/2013

September 7

Consumers Beverages 2nd Annual HomeBrew Comp

Buffalo, NY. Entry Deadline: 8/31/2013
www.consumersbeverages.com

September 7

Schooner Homebrew Championship

Racine, WI. Entry Deadline: 8/24/2013
theschooner.org

September 7

Santa Cruz County Fair Homebrew Competition

Watsonville, CA. Entry Deadline: 8/14/2013
www.zymurgeeks.org

September 7

WA State Amateur Brewers Competition

Perth, Western Australia, Australia. Entry Deadline: 9/4/2013
www.wasbc.org

September 7

The Art of Darkness

Ozark, MO. Entry Deadline: 8/30/2013
www.homebrewzoo.com/competition/index.php



American Homebrewers Association® RALLY!

Join us at an AHA Rally near you:

September 14 | 3 Stars Brewing Co. | Washington, DC

September 21 | Rochester Mills | Auburn Hills, MI

November 14 | Great Lakes Brewing Co. | Cleveland, OH

See the [Events](#) section of HomebrewersAssociation.org
for an up-to-date calendar

AHA RALLIES — Fun celebrations of the local homebrewing community, hosted by Brewers Association member breweries. Enjoy tours, samples, prizes and meet beer enthusiasts and homebrewers in your area.

HomebrewersAssociation.org

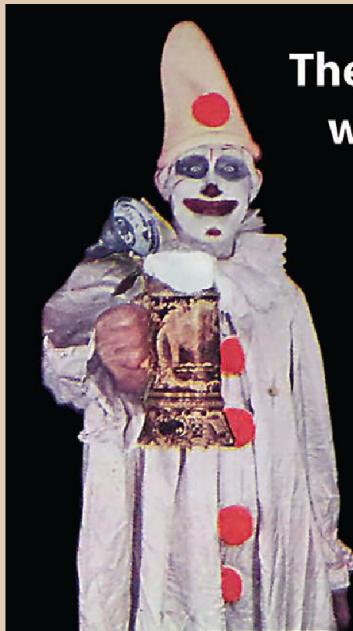
Entrance to an AHA Rally is always free for AHA members; non-members may attend by joining the AHA on-site at a discounted rate.

American Homebrewers Association
A Division of the Brewers Association
BrewersAssociation.org



They all laughed
when I told them
I make my own beer...

until I poured
them a pint.



www.RebelBrewer.com

AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR

September 8
Tulare County Fair Homebrew Contest
Tulare, CA. Entry Deadline: 8/23/2013
tchops.org

September 14
Pacific Brewers Cup
Long Beach, CA.
pacificbrewerscup.com

September 14
Blue Ridge Brew Off
Asheville, NC.
maltsters.org/generalinfo2013htm

September 14
Tulsa State Fair Homebrew Competition
Tulsa, OK. Entry Deadline: 9/6/2013
www.tulsastatefair.com

September 14
OC Fest of Ales Home Brew Challenge
Anaheim, CA. Entry Deadline: 9/10/2013
www.ocfestofales.net

September 14
Dayton Art Institute Oktoberfest Home Brew Contest
Dayton, OH. Entry Deadline: 9/12/2013
www.daihomebrew.com

September 14
Lees Summit Oktoberfest
Lees Summit, MO. Entry Deadline: 9/7/2013
www.apexbrewwares.com/Lees-Summit-Oktoberfest-2013html

September 14
Big TAP ChautauquaFest
Bayfield, WI. Entry Deadline: 9/14/2013
www.bigtop.org

September 14
Commander SAAZ Interplanetary Homebrew Blastoff!
Melbourne Beach, FL. Entry Deadline: 8/20/2013
www.saaz.org/commander

September 14
Brewfest

Dayton, OH. Entry Deadline: 9/4/2013
www.dayondraft.org/

September 18
Nez Perce County Fair
Lewiston, ID. Entry Deadline: 9/17/2013

September 20
Roberts Cove Germanfest Homebrew Competition
Crowley, LA. Entry Deadline: 9/16/2013
www.robertscovegermanfest.com

September 21
H.A.Z.A.R.D. Haztoberfest
Erie, PA. Entry Deadline: 9/14/2013
www.hazardhomebrewing.org

September 21
Grace Lutheran Oktoberfest Bier Brauen
Sandy, UT. Entry Deadline: 9/14/2013
www.gracelutheranoktoberfest.com

September 21
Good Time Brewer's Brew Classic
Sulphur, LA. Entry Deadline: 9/6/2013
goodtimebrewers.com

September 21
Oktoberfest in the Country
Woodbury, MN. Entry Deadline: 9/14/2013

September 22
The Big Fresno Fair Homebrew Competition
Fresno, CA. Entry Deadline: 9/15/2013
www.sjworthogs.org/competition.html

September 22
7th Annual KROC Great American Beer Challenge
Broomfield, CO. Entry Deadline: 9/14/2013
kroc.brewcompetition.com

September 28
Cactus Challenge
Lubbock, TX. Entry Deadline: 8/24/2013
www.ale-iansomociety.org

September 28
Orpheus Cup MeadFest

(Continued from previous page)

Denver, CO. Entry Deadline: 9/28/2013
www.orpheuspc.org

September 28
Maryland Microbrewery Festival Homebrew Competition
Westminster, MD. Entry Deadline: 9/14/2013
www.midnighthomebrewers.org/competition

September 28
Texas Mead Association 2013 Home Mead Maker Competition
Seguin, TX. Entry Deadline: 9/7/2013
www.texasmead.org/mead-fest.aspx

October 4
II Concurso Paranaense de Cerveja Feita em Casa
Curitiba, Parana, Brazil. Entry Deadline: 9/21/2013
www.acervapr.com.br

October 5
West Texas Shootout
Abilene, TX. Entry Deadline: 8/31/2013

October 5
Ale Riders Homebrew Competition
Rapid City, SD. Entry Deadline: 9/14/2013
aleriders.brewcompetition.com

October 5
University City Home Brew Contest
San Diego, CA. Entry Deadline: 9/27/2013
uc-educate.org

October 5
Arizona Society of Homebrewers Oktoberfest Competition
Scottsdale, AZ. Entry Deadline: 10/4/2013
club.azhomebrewers.org

October 5
Brixtoberfest
Brookfield, IL. Entry Deadline: 9/27/2013
brixtoberfest.brixiesbrewers.com

October 6
Big Muddy Monster Home Brew Competition
Murphysboro, IL. Entry Deadline: 9/20/2013
bigmuddymonsterbrewfest.wordpress.com

October 11
Valdez Brew Fest
Valdez, AK. Entry Deadline: 10/10/2013

October 12
Queen Of Beers
Placerville, CA. Entry Deadline: 10/1/2013
queenofbeer.hazeclub.org/QOBResults.html

October 12
2013 Delafield Brewhaus Schnapp Hans Cup
Delafield, WI. Entry Deadline: 9/28/2013
schnapphanscup.com

October 12
Ames Oktoberfest Home Brew Contest
Ames, IA. Entry Deadline: 10/5/2013
www.amesbrewersleague.org/comp.htm

October 13
Good Beer Home Brew Competition
Salisbury, MD. Entry Deadline: 10/1/2013
www.goodbeerfestival.com

October 13
Queensland Amateur Brewing Championships 2013
Brisbane, Queensland, Australia. Entry Deadline: 9/28/2013
www.qabc.org.au

LAGUNITAS
MEGA-NANO HOMEBREW DEAL Y BOB
MINNESOTA WINNERS!

PATRICK DWYER...PETER SKOLD...JEFFREY HOADLEY...DANIEL HERMAN
BEER SPEAKS, THEY MUMBLED.

70 ZYMBURG September/October 2013

HomebrewersAssociation.org

KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

April 2013

The Karma Factor, 15 entries—Michael Soo, Philadelphia, PA.
Colonial Cup, 281 entries—Barry Ledford, Wadmalaw, SC.
Enchanted Brewing Challenge, 250 entries—John Rowley.
The Brew-seum - Battle of the Brew, 35 entries—Fidel Rosales, McAllen, TX.
Parkway Am-Pro, 92 entries—Bob Yeaw.
Capitol Brewers 8th Annual Homebrewers Classic, 152 entries—Dave Swisher, Salem, OR.
St. Louis Microfest Homebrew Competition, 297 entries—Nick Pucci, Matt Buck, St. Louis, MO.
Upstate New York Homebrewers Association 35th Annual/24th Empire State Open, 323 entries—Brett Taylor, NY.
Hurricane Blowoff, 458 entries—Mike Logsdon, Tampa, FL.
Wort Hog Brewers Summer Beer Festival 2013, 42 entries—Mike Heydenrych, Pretoria, Gauteng.
Sicilianos Market 10th Annual Homebrew Competition, 228 entries—Michael Carr, Port Huron, MI.
VanBrewer Awards, 347 entries—Jochen Fahr, Vancouver, BC, Canada.
The Great Arizona Homebrew Competition, 209 entries—Eric Cyr, Maricopa, AZ.
17th Annual Cascadia Cup and Pro Am, 469 entries—Johnathan Permen, Renton, WA.
Sasquatch Brew Fest, 120 entries—Nick Molenda, Eugene, OR.
2013 Mayfaire Homebrew Competition, 525 entries—Brian Holter & Kingsley Toby, Los Angeles, CA.
Noda Brewing's Top of the Hop Pro-Am, 112 entries—David Tollefson, Apex, NC.
Arizona Mead Cup, 52 entries—Mino Choi & Molly Noyes, WI.
17th Annual Chico Homebrew Competition, 175 entries—Ray Graves, Martinez, CA.

May 2013

BioMarin Brewer's Cup, 15 entries—Pablo Romero, Santa Rosa, CA.
Arizona Society of Homebrewers Club Only April 2013, 24 entries—Dennis Mitchell, Chandler, AZ.
Spring Beer and Sausage Fest, 13 entries—Ed Coffey, Philadelphia, PA.
Fourth Annual Greg Noonan Memorial, 249 entries—Matt Welz, Cornwall, VT.
17th Annual Celtic Brew-Off, 302 entries—Dwight Mulcahy, San Antonio, TX.
Dark Days of Winter, 70 entries—Chris Kossow, Boise, ID.
2013 Nebraska Shootout, 53 entries—Tim Thomssen, Lincoln, NE.
Battle of the Bubbles, 103 entries—Bobby Jarvis & Nate Anderson, Baltimore, MD.
Santa Clara de Asis 5th Annual BrewFest Homebrew Competition, 41 entries—Patrick Schulz, Torrance, CA.
2013 Wisconsin State Fair Homebrewers Show, 153 entries—Dan Schlosser, Wauwatosa, WI

Spirit of Free Beer, 504 entries—Edward Bielaus, Rockville, MD.

Alameda County Fair Homebrew Competition (BABO), 213 entries—Ryan Pappas, Oakland, CA.

19th Annual Eight Seconds of Froth, 378 entries—Jesse McConnell, Ft. Collins, CO.

Homebruin Cup III, 38 entries—John Peed, Knoxville, TN.

Hangar 24 Craft Brewery 4th Annual Homebrew Competition, 400 entries—Brad Nixon, Corona, CA.

BrewFest at Mount Hope Homebrew Competition, 294 entries—Mick Spencer, Mechanicsburg, PA.

OMB Members Only Competition, 14 entries—Bennett Cowan, Bristol, TN.

Monterey Spring Homebrew Fest, 16 entries—Kye Ricks, Salinas, CA.

King of the Mountain, 145 entries—Justen Pelton, Toledo, OH.

Beer Quest High Alpha, 21 entries—Tim Thomssen and Dean Fryda, Lincoln, NE.

2013 Organic Hausbrau Battle, 24 entries—Matthew Ingram, Kuna, ID.

Nebraska Brewing Company, Wort Transformation Challenge, 107 entries—Tony Wilwerding, Omaha, NE.

Arvada Beer Company Pro Am Homebrewing Comp, 53 entries—Geoff Shiley, Aurora, CO.

AHA Club-Only Competition, Extract Beers, 71 entries—John Abbott, Chico, CA.

Bloatarian Open, 227 entries—David Harsh, Cincinnati, OH.

War of the Wort, 158 entries—Richard Force, Birmingham, AL.

Charlotte US Open, 500 entries—Shawn McBride, Charlotte, NC.

31st Annual Oregon Homebrew Festival, 305 entries—Michael Marino, Burlington, MA.

SFHG's Tribute to America Competition, 60 entries—Jennifer Jordan, Brisbane, CA.

TRASH 23, 475 entries—Robert Withee, New Columbia, OR.

Hopfest Homebrew Competition, 78 entries—Tom Bastian, Lawrence, KS.

OC Fair & Event Center Homemade Beer Competition, 507 entries—Martin Dix, Mission Viejo, CA.

San Diego International Beer Competition, 942 entries—Eagle Rock Brewery, Los Angeles, CA.

Big Batch Brew Bash, 71 entries—Mark Lurton, Houston, TX.

Great Alaskan Craft Beer and Homebrew Festival, 113 entries—Michael Kulachkosky & Rachel Finn, Whitehorse, Yukon, Canada.

Hogtown Brew-Off, 296 entries—Dan Graston, Largo, FL.

Impracion Miniconcurso Apertura Tandil 2013, 82 entries—Mezzano Favio, Bahia Blanca, Argentina.

Aurora Brewing Challenge, 300 entries—Roxanne Hastings, Edmonton, AL, Canada.

California State Fair Homebrew Competition, 601 entries—John Sanatar, Davis, CA.

8 Concurso Nacional das ACervAs, 409 entries—Kelvin Azevedo de Figueiredo, Belo Horizonte, MG, Brazil.

June 2013

Digfest Homebrew Competition, 85 entries—Robert Burger, Branford, CT.

2nd Annual MVHBC Competition, 179 entries—Joe Rezendes, Burlington, MA.

Joel's Ride for Justice - Homebrew Competition, 101 entries—Michael Fagan, Edwards, MO.

Upstate Brewers Cup, 90 entries—Jason Schmaltz, Atlanta, GA.

Drugo hrvatsko homebrew natjecanje, 107 entries—Michal Ferko and Peter Antal, Sec ovce, Slovak Republic.

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www.AuthorTracker.com



KUDOS—BEST OF SHOW

Kohler Festival of Beer Homebrew Competition, 27 entries—*Summer Triangle, Jeremy Young, Chicago, IL.*
 New York State Fair Homebrew Competition, 402 entries—*Carl Woodward, Bernhards Bay, NY.*
 Camra Amateur Brewing Competition, 256 entries—*Jared Carlberg, Winnipeg, MB, Canada.*
 RAM “Rye Not?” Homebrew Challenge, 39 entries—*Shawn Kessel, Jake Robinson, Fishers, IN.*
 6th Annual - Liquid Poetry Slam Homebrew Competition, 507 entries—*Pam Bradley, Austin, TX.*
 Black and Tan Competition, 59 entries—*Don Howell, Canton, IL.*
 Hop Blossom Homebrew Competition, 206 entries—*Tim Arndt, Front Royal, VA.*
 Toronto Beer Week Homebrew Competition, 193 entries—*Geordan Saunders, Napanee, ON, Canada.*
 San Mateo County Fair Homebrew Competition, 207 entries—*Nathan Smith, San Leandro, CA.*
 Upland Brewing Company's UpCup Home Brew Competition, 65 entries—*Tom Wallbank, Indianapolis, IN.*
 MontréAles Ale & Lager Throwdown, 156 entries—*Jared Carlberg, Winnipeg, MB, Canada.*
 Animas Alers - Ska Brewing Pro-Am Homebrew Competition, 94 entries—*Kevin Ripley, Denver, CO.*
 A Walk on the Wild Side, 57 entries—*Allan Myers, Tampa, FL.*
 Barley's 17th Annual Homebrew Competition, 32 entries—*Anthony McKeiver & Tony Hill.*

(Continued from previous page)

Bluegrass Cup, 412 entries—*Dave Dixon, Burlington, KY.*
 Ohio State Fair Homebrew Competition, 530 entries—*Michael Creveling, Akron, OH.*
 2013 Samuel Adams Longshot Competition, 140 entries—*Robert Horst & Jose Savedra, Sacramento, CA.*
 Battle of the Homebrews, 54 entries—*Steve Ferrell, Richard Bush & Jeff Clarke, Grants Pass, OR.*
 CBA(UK) Club Only Competition - Belgian and French Ales, 36 entries—*David Halse, London, England.*
 Door County Beer Festival Homebrew Competition, 77 entries—*Justin Minikel, Oak Creek, WI.*
 Ramona Brew Supply/ChuckAlek Brewing, 54 entries—*Travis Hammond, Poway, CA.*
 Keep Austin Beered ProAm, 43 entries—*Dan & Joelle Dewberry, Austin, TX.*
 Iái Concurso Cerveceros Santafesinos “Leandro Laferriere” - Somos Cerveceros Reg. Sta Fe, 21 entries—*Favio Brollo, Santa Fe, Argentina.*
 Helena Summer Homebrew Competition, 42 entries—*Kerry Kieres, Coeur D'Alene, ID.*
 Ohio Brew Week Homebrew Competition, 282 entries—*Cameron Fuller, Athens, OH.*
 Lift Bridge Brewery Pro Am selection, 46 entries—*James Henjum, St. Paul, MN.*

AHA SPECIAL EVENTS

Visit the Events section of HomebrewersAssociation.org for more information.

- August 18**
AHA Rally- Hardywood Park Craft Brewery
Richmond, VA
- September 14**
AHA Rally- 3 Stars Brewing Company
Washington, DC
- September 21**
AHA Rally- Rochester Mills Production Brewery
Auburn Hills, MI
- November 2**
AHA Learn To Homebrew Day
- November 14**
AHA Rally- Great Lakes Brewing Company
Cleveland, OH

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By Chris Bible

Wort Chillers: Options, Performance Characteristics, and Operational Comparisons

Wort chilling is an important step in the brewing process. It is important to bring the boiling wort temperature down to the optimal fermentation temperature as quickly as possible in order to minimize the potential for contamination of the wort, and to minimize the potential for production of DMS precursors within the wort. Rapid chilling of the wort is also important in order to maximize the precipitation of protein and protein-polyphenol complexes out of the wort as cold break.

Homebrewers have several options for wort chillers that are specifically designed for use in a home brewery. These options include immersion chillers, counterflow chillers, and plate-type chillers.

Immersion Chiller

An immersion chiller is typically comprised of a 25'-50' long, 3/8" diameter coil of copper tubing. The coil is attached to a cooling water supply and then placed into the wort boiling vessel during the last 10-15 minutes of the boil in order to sanitize the coil. After boiling is complete, cooling water is allowed to flow within the coil and cool the wort until the desired temperature is achieved. Figure 1 shows a typical setup for using an immersion chiller.

Counterflow Chiller

A counterflow chiller is typically comprised of a 20'-50' long piece of copper tubing that has been placed inside a larger copper pipe or garden hose. The "pipe-within-a-pipe" is then coiled up in order to make the whole assembly as compact as possible. Hot wort is allowed to flow from the boiling vessel through the inner copper tube, and cooling water is allowed to flow in the opposite direction through

the annular space between the inner tube and the wall of the outer tube. Having the liquids flow in opposite directions maximizes the overall heat transfer capability within the system by maintaining a relatively constant temperature differential gradient between the wort and cooling water throughout the length of the chiller. This temperature differential gradient is, on average, greater in a countercurrent flow situation than it is in a situation in which the liquids are flowing in the same direction. Since temperature differential is the driving "force" for heat exchange, a larger overall temperature differential gradient means that faster cooling will be achieved. Figure 2 shows a typical setup for using a counterflow chiller.

Plate-Type Chiller

A plate-type chiller for homebrewer use typically has a design that consists of numerous stainless steel plates that have

READER ADVISORY: Warning!

These pages are rated XG (eXtra Geeky) by the Bureau of Magazine Muckymucks. Items in this section may contain raw data, graphic functions, full statistics and undiluted biochemistry. Keep away from poets, squeamish novices and others who may find the joyously technical nature of this prose to be mindbendingly conceptual or socially offensive. Also, because of the complex nature of brewing science, there is no guarantee that you will live longer, brew better or win any awards in the next homebrew competition based upon the conclusions presented here.

been welded together in a way that allows hot wort to flow across one side of each plate, and cooling water to flow along the other side of each plate. The liquids flow in the gaps between each plate, with the cooling water and wort filling the gap between alternating plates. See Figure 3 for details about the flow of liquids within a plate-type chiller.

FIGURE 1: TYPICAL IMMERSION CHILLER ARRANGEMENT

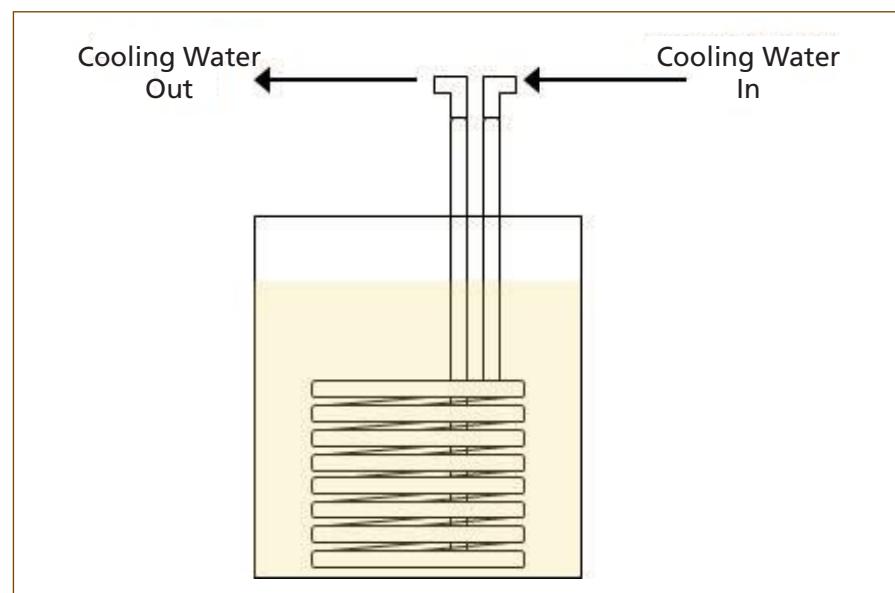


FIGURE 2: TYPICAL COUNTERFLOW CHILLER ARRANGEMENT

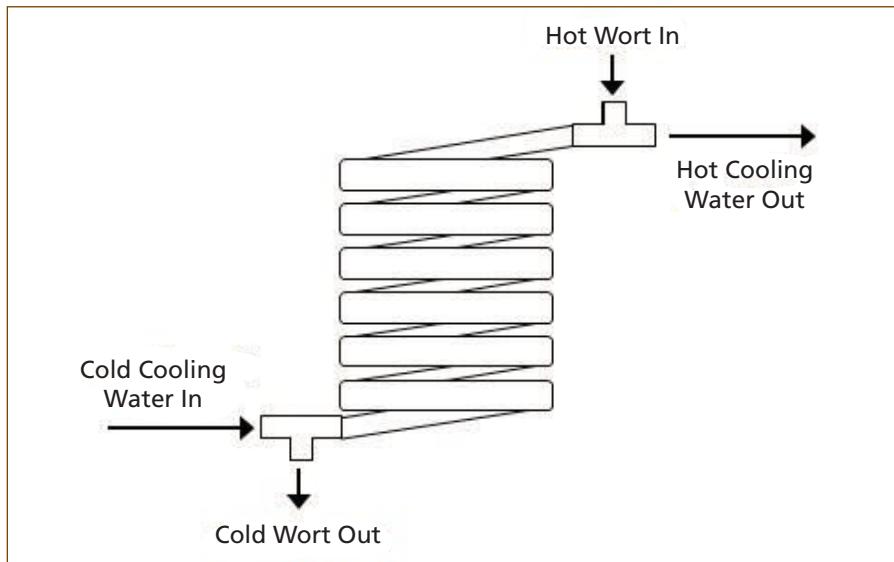


FIGURE 3: PLATE CHILLER LIQUID FLOW DETAILS

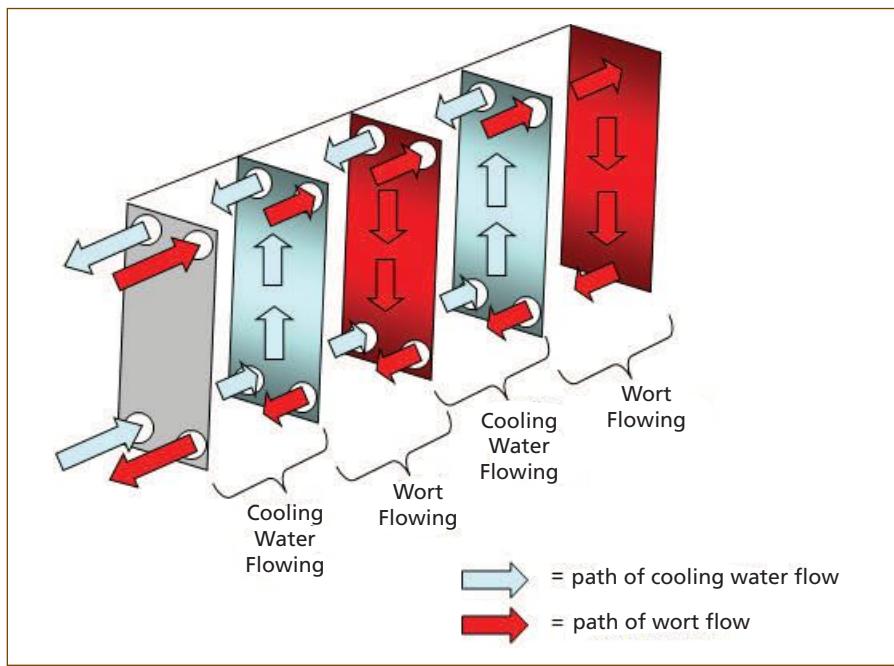
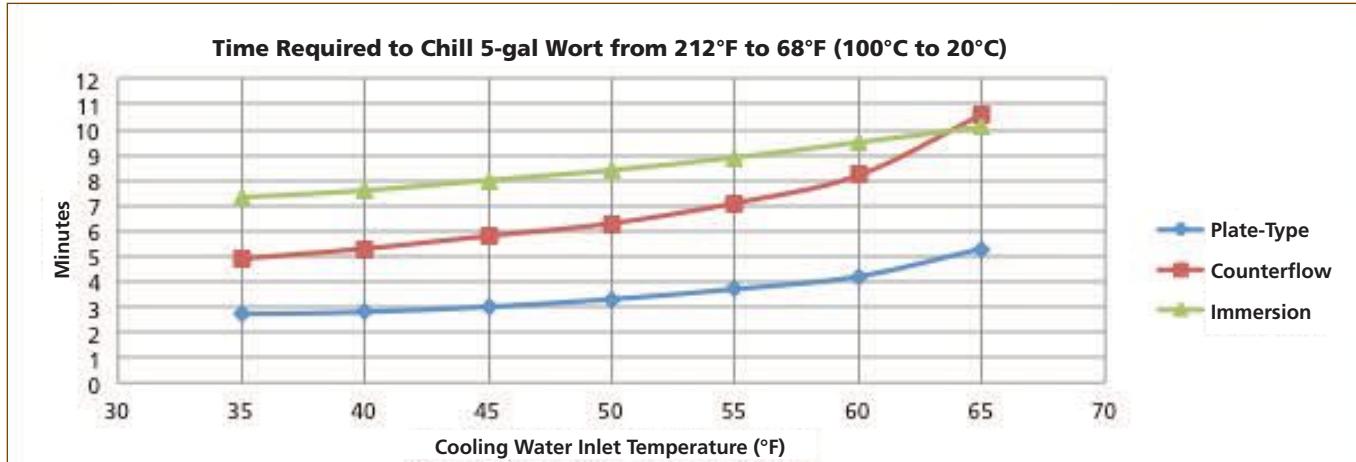


FIGURE 4: TIME REQUIRED TO CHILL WORT



A plate-type chiller is essentially a high-surface-area-per-unit-volume counterflow chiller. A relatively large amount of heat-exchange surface area can be packed into a relatively small space as compared to an immersion or counterflow chiller. For example, the Blichmann Therminator has physical dimensions that are advertised as 7.5" x 4" x 3" (a volume of approximately 0.05 ft³), but has approximately 6.5 ft² of heat exchange surface area. Plate chillers also typically have overall heat transfer coefficients that are larger than immersion or countercurrent-type chillers. Because of this, plate chillers are very efficient at cooling wort and use the least amount of cooling water per unit heat transfer. They are also the industry standard for use in professional breweries.

Wort Chiller Performance

Wort chiller performance, as with any other type of heat exchanger, is driven by the surface area of the chiller, the temperature difference between the hot and cold liquids within the system, and the value of an overall heat transfer coefficient. For counterflow and plate-type wort chillers, the equation describing this is shown succinctly as:

$$Q = U A \Delta T_{LM}$$

For immersion chillers, the equation describing the relationship is:

$$Q = U A \Delta T_{avg}$$

Where:

Q = Rate of heat transfer (BTU/hr)

U = Overall heat transfer coefficient (BTU/hr-ft²-°F)

A = Surface area for heat transfer within the chiller (ft²)

ΔT_{LM} = "Log Mean Temperature Difference" between hot and cold liquids

ΔT_{avg} = Average temperature difference between cooling water and wort during batch cool-down

For immersion chillers, ΔT_{avg} is defined as the average temperature difference between the wort and the cooling coil throughout the whole cool-down operation. This temperature difference is larger at the beginning of the cool-down process when the wort is very hot, but becomes smaller as the wort is cooled and the temperature of the wort approaches the temperature of the cooling water within the coil.

For counterflow and plate-type heat exchanger, ΔT_{LM} is defined as:

$$\Delta T_{LM} = \frac{(T_{hotin} - T_{coldout}) - (T_{hotout} - T_{coldin})}{\ln \left(\frac{T_{hotin} - T_{coldout}}{T_{hotout} - T_{coldin}} \right)}$$

Where:

T_{hotin} = Inlet temperature of wort (°F)

T_{hotout} = Outlet temperature of wort (°F)

T_{coldin} = Inlet temperature of cooling water (°F)

$T_{coldout}$ = Outlet temperature of cooling water (°F)

For a counterflow or plate-type chiller the overall heat transfer coefficient, U , is derived by the summation of local heat transfer coefficients associated with the hot and cold liquids, and with consideration for the wall thickness and thermal conductivity of the material comprising the chiller. For a counterflow or plate-type chiller, this relationship is given by:

$$\frac{1}{U} = \frac{1}{h_{hot}} + \frac{\Delta x}{k} + \frac{1}{h_{cold}}$$

Where:

U = Overall heat transfer coefficient (BTU/hr-ft²-°F)

h_{hot} = Local heat transfer coefficient on the hot (wort) side (BTU/hr-ft²-°F)

h_{cold} = Local heat transfer coefficient on



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the cold (cooling water) side (BTU/hr-ft²-°F)

Δx = thickness of tube wall or thickness of plates (ft)

k = thermal conductivity of tube wall or plates (231 BTU/hr-ft-°F for copper, 8.7 BTU/hr-ft-°F for 316 stainless steel)

Correlations that allow the determination of h_{hot} and h_{cold} based on specific system characteristics are available for plate chillers from several reference sources¹. For a plate-type chiller used by homebrewers, reasonable estimates for the local heat

transfer coefficients, h_{hot} and h_{cold} , are: $h_{hot} = 1350 \text{ BTU/hr-ft}^2\text{-}^\circ\text{F}$, and $h_{cold} = 1020 \text{ BTU/hr-ft}^2\text{-}^\circ\text{F}$. This leads to a value for the overall heat transfer coefficient that is about 404 Btu/hr-ft²-°F.

For immersion chillers, the overall heat transfer coefficient is derived experimentally. Perry's *Chemical Engineer's Handbook*² states that for a system with forced convection and with hot-side/cold-side medium consisting of watery solution/water respectively, the overall heat transfer coefficient of the system will be between 195–245 Btu/hr-ft²-°F. For our

calculations, we will use a U value of 220 Btu/hr-ft²-°F for immersion type chillers.

For counterflow chillers, the overall heat transfer coefficient can also be derived experimentally. Perry's *Chemical Engineer's Handbook*² states a counter-current heat-exchange system with adequate turbulence and with hot-side/cold-side medium consisting of water/water respectively, the overall heat transfer coefficient of the system will be between 200–250 Btu/hr-ft²-°F. For our calculations, we will use a U value of 225 Btu/hr-ft²-°F for counterflow type chillers.

Using all of this information, it is possible to predict the amount of time that will be required to chill wort using the different types of wort chillers. Figure 4 shows the predicted amount of time required to chill 5 gallons of wort using the different wort chillers.

Assumptions:

- 1) Cooling water flow rate for the counterflow and plate-type chillers is held constant at 3 gallons/minute.
- 2) Immersed coil length for immersion chiller is 46 ft. with 3/8" od
- 3) Length of counterflow chiller is 50 ft. with 3/8" od inner copper tube
- 4) Heat exchange surface area for plate chiller is 6.5 ft².

The wort chiller operational variables that are directly controllable by a homebrewer are cooling water inlet temperature, cooling water flow rate and, for counterflow and plate-type chillers, wort flow rate. For a given level of performance, these variables are all interdependent. Changing one of these variables will affect the others because any change to one of these variables will alter the temperature differential gradients within the chiller, which will in turn change the rate of heat transfer between the cooling water and the wort.

Pros and Cons

Immersion chillers, counterflow chillers, and plate-type chillers are all commonly used by homebrewers. Any of these types of chillers can be very effective at quickly cooling wort to yeast-pitching temperature. Each type of wort chiller has both

TABLE I: QUALITATIVE COMPARISON OF IMMERSION, COUNTERFLOW, AND PLATE-TYPE CHILLERS

Factor	Chiller Type		
	Immersion	Counterflow	Plate-type
Overall Simplicity	Highest	High	High
Cost	Lowest	Medium	Highest
DIY Difficulty	Lowest	Low	Very High
Maintenance/Cleaning/Sanitizing Difficulty	Lowest	Highest	High
Labor required on brew day	Medium	Low	Low
Cooling Water Use	Medium	Low	Lowest
Wort Chilling Rate/Efficiency	Medium	High	Highest
Suitability for Use with Large Batches	Low	High	High

TABLE 2: QUANTITATIVE COMPARISON OF IMMERSION, COUNTERFLOW, AND PLATE-TYPE CHILLERS

Factor	Chiller Type		
	Immersion	Counterflow	Plate-type
Typical Heat Exchange Surface Area, A (ft ²)	4.5	4.9	6.5
Overall Heat Transfer Coefficient, U, Value Range (BTU/hr-ft ² - °F)	195–245	200–250	380–420
Operational Variables Controllable by Brewer	Cooling water temp & flow	Cooling water temp & flow & wort flow	Cooling water temp & flow & wort flow
Typical Time to Chill 5 gal wort	7–10 minutes	5–10 minutes	3–5 minutes

pros and cons that might matter to you depending upon your specific brewing equipment configuration, the amount of wort to be chilled, and your brewing technique.

Immersion chillers are simple, inexpensive, easy to clean, easy to sanitize, easy to make do-it-yourself style, and require very little maintenance. Immersion chillers typically require more hands-on labor from the brewer on brew day, and are not as quick to chill the wort as the other chiller types. Immersion chillers, especially the smaller, 25' long version, are likely not a good choice if you typically brew large volumes of beer with each batch. It would probably take longer than desired for an immersed 25' copper coil to chill 20-30 gallons of boiling wort.

Counterflow chillers are relatively simple, but less simple than an immersion chiller. They are also more expensive than an immersion chiller. They can be made do-it-yourself style, but it is more difficult to DIY a counterflow chiller than it is to DIY an immersion chiller. Counterflow chillers are relatively easy to clean and sanitize, but less so than an immersion chiller. Because wort flows through the inner tube in a counterflow chiller, any particulate matter contained in the wort (e.g. bits of hops or hot break material) or precipitated from the wort during cooling (e.g. cold break) has the potential to deposit on the inner wall of the tube in which the wort is flowing. These deposits will increase the resistance to heat transfer within the system and will cause decreased heat transfer efficiency. Counterflow chillers require very little hands-on work by the brewer on brew day during the actual wort chilling operation, but do require that the brewer properly clean and flush out the system after the chilling operation in order to remove any solid material that may have been left in the tubes after chilling. Failure to remove precipitated solids will result in decreased performance by the counterflow chiller. Counterflow chillers are a good option if you brew larger volumes with each batch. Since the brewer can adjust both the wort flow rate and the cooling water flow rate, a brewer can easily "dial in" these variables in order to achieve the desired wort temperature.

Plate-type chillers are relatively simple and can be thought of as a high-surface-area-per-unit-volume counterflow chiller. They are more expensive than either immersion chillers or counterflow chillers, and really aren't easily made DIY style unless you are a competent welder and also have the necessary metalworking tools available. Plate-type chillers are relatively easy to clean and sanitize. Although plate-type chillers are less easy to clean and sanitize than an immersion chiller, plate-type chillers are (debatably) easier to clean and sanitize than a

conventional, coiled, counterflow chiller due to their smaller size and all-metal construction. Plate-type chillers used by homebrewers have the same issue as counterflow chillers regarding the potential for internal fouling by suspended or precipitated solids on the internal heat-exchange surfaces, but because of their relatively small size, a plate-type chiller can usually be detached from the brewing system and be fully immersed in cleaning/sanitizing solution. Due to their all-metal construction, they can also be exposed to higher temperatures during

The image shows a vial of White Labs yeast against a blue grid background. The vial has a black cap and a yellow label. The label features a microscope icon and the text 'WHITE LABS HOME BREWING SINCE 1995', 'WHITE LABS', 'PURE YEAST AND FERMENTATION', 'CALIFORNIA ALE YEAST', 'Instructions For Use:', and 'White Labs Inc. 9495 Canfield'. Six callout boxes point to various features of the product:

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the cleaning/sanitizing process than a counterflow chiller that has an outer pipe that is made of garden hose. This means that it is possible to use live steam to clean and sanitize a plate-type chiller, or that you can place the plate-type chiller into an oven to heat-sanitize it. Plate-type chillers require very little hands-on work by the brewer on brew day during the actual wort chilling operation, but do require that the brewer properly clean and flush out the system after the chilling operation in order to remove any solid material that may have been left in the interior after chilling. Plate-type chillers are a good option if you brew larger volumes with each batch, with the same operational advantages as the counterflow chiller. Additionally, plate-type chillers are the most efficient type of chiller available to the homebrewer, use the least amount of cooling water, and will chill wort faster than any other type of chiller. Plate-type chillers are the industry standard for pro brewers.

Table 1 summarizes and compares the pros and cons of each chiller type. Keep in mind that this summary and comparison is based on opinion and generalizations, and may or may not be accurate when comparing one specific chiller to another. Table 2 summarizes a comparison of important physical and operational parameters associated with wort chillers.

Chris Bible is a chemical engineer whose love of beer and science intersected when he became a homebrewer over 12 years ago. He resides in Knoxville, Tenn. with his wife and son and especially enjoys brewing porters and stouts.

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1. www.cheresources.com/content/articles/heat-transfer/plate-heat-exchangers-preliminary-design?pg=2
2. Perry, Robert H. and Donald W. Green (editors). *Perry's Chemical Engineers' Handbook*, 6th Ed, p.10-45, McGraw-Hill, 1984.

The advertisement features a yellow header with a beer mug icon and the text "Brew-Magic™ by SABCO". Below the header, there are three sections: "Chill-Wizard" (a compact unit with a gauge and valves), "Process & Storage" (two stacked stainless steel kegs), and "Rims-Wizard" (a small unit with a pump and tank). In the center, the "Brew-Magic V350MS Pilot System" is shown, consisting of two large stainless steel kegs connected to a central control unit with various gauges and valves. The text "Brew-Magic V350MS Pilot System" is printed next to the kegs. At the bottom, the website "Brew-Magic.com" is displayed.



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.

Two cream ales were sent to our judges for some summertime sipping.

First up was Carolina Blonde from Foothills Brewing in Winston-Salem, N.C. Foothills acquired the Carolina and Cottonwood brands when it bought the beer division of Carolina Beer & Beverage in January 2011.

Foothills brewmaster Jamie Bartholomaus revamped the Carolina Blonde recipe, switching from a Kölsch yeast to Foothills’ house yeast, and amping up the IBUs. Bartholomaus calls Carolina Blonde a “gateway beer” for luring non-craft drinkers into the fold.

Carolina Blonde is brewed with two-row barley, German wheat, and German Tradition hops. It checks in at 4.3 percent ABV and 15 IBU. Foothills suggests pairing it with grilled burgers and chicken, seafood, and spicy foods.

Next up was Nuptiale R&D Cream Ale from Ninkasi Brewing Co. in Eugene, Ore. Originally brewed for the wedding celebration of Ninkasi co-founder Nikos Ridge, the beer is for “celebrating the loves in our life and our love of life” and is brewed for the summer wedding season.

The straw-colored ale offers a rich, creamy mouthfeel and a smooth drinkability. It has a light, crisp malt aroma with a bright, refreshing hop finish. Flaked barley lends

a toasted oat malt flavor and creamy finish. Nuptiale is hopped with Simcoe, Santiam, Crystal, and Liberty. It checks in at 5.7 percent ABV and 26 IBU.

Ninkasi suggests several pairings for the beer, including pastas, barbecue, most meats, shortbread cookies, and fruit tarts.

ON THE WEB

Foothills Brewing
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Ninkasi Brewing Co.
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OUR EXPERT PANEL includes David Houseman, a Grand Master IV judge and competition director for the BJCP from Chester Springs, Pa.; Beth Zangari, a Grand Master 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 VII judge, principal author of the 2004 BJCP Style Guidelines and president of the BJCP board who lives in Beavercreek, Ohio.

THE SCORES

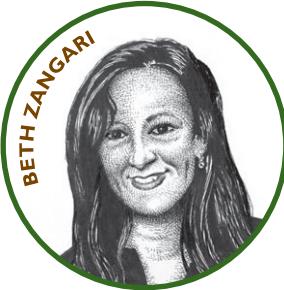


Carolina Blonde—Foothills Brewing, Winston-Salem, N.C.
BJCP Category: 6A Cream Ale

THE JUDGES' SCORES FOR CAROLINA BLONDE



DAVE HOUSEMAN



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

Aroma: Fruity esters reminiscent of apples and pears. Light, grainy Pilsner malt aroma. No hop aroma. No diacetyl. No DMS. No overt alcohol. Pleasant, crisp aroma. (7/12)

Appearance: Light yellow color. Clear, but not bright to brilliant. Rocky, thin, white head with fair retention. (3/3)

Flavor: Grainy Pilsner malt up front with medium-high hop bitterness that lingers into a dry finish. Bit of corn-like notes but not DMS. No diacetyl. Low fruity esters. Astringent tannins mid-palate through the finish. Very attenuated. No apparent alcohol. Very low hop flavor. Hop bitterness weighs the balance toward hops. (12/20)

Mouthfeel: Medium-thin body. Low to medium carbonation. No alcohol warming. Harsh, astringent mouthfeel. Not smooth and creamy. Thin, dry finish to mouthfeel. (3/5)

Overall Impression: Dry finish with excessive hop bitterness and astringent mouthfeel detracts from a nice, grainy maltiness and crisp, refreshing drinkability. Exchanging some of the bittering hops for aroma and flavor hops and attention to water chemistry to avoid tannin extraction would bring up a bit of needed sweetness. Good training beer for those moving to IPAs. Good as a lawnmower beer on a hot day and to accompany a cook-out afterward. (6/10)

Total Score: (31/50)

Aroma: Low biscuity malt with background notes of sweet corn; light fruity pear esters and a fleeting wisp of DMS. No hop aroma to speak of. (9/12)

Appearance: Brilliant pale gold with spongy off-white foam, falls from two-thirds of the pour to a one-fourth inch layer on the surface. Dense, creamy foam speckled with variously sized bubbles laces the sides of the glass on a swirl. (3/3)

Flavor: Moderately pronounced biscuity malt hits the tongue first, then quickly gives way to fresh bread dough, followed by a surprisingly crisp bitterness and a grainy note. Balance is first to malt, then shifts with a slight acidity to grain, like a freshly opened grain bag, that seems to amplify the lingering crisp, firm hop bitterness into the finish. No hop flavor. Clean fermentation with none of the esters found in the aroma. (14/20)

Mouthfeel: Light bodied, not watery. Firm, sparkling carbonation gives a carbonic "bite." Low warming alcohol tingles on the tongue, mixes with a grainy texture as a light lingering astringency in the somewhat dry finish. (4/5)

Overall Impression: Seems more assertively bittered than the 15 IBUs indicated on the bottle notes. Perhaps the combination of carbonic bite, light graininess, alcohol warmth, and dry finish amplify each other to produce the illusion of higher hop bitterness. The crispness is refreshing; just the right thing for a midsummer early evening as it starts to cool and the day slows down. (7/10)

Total Score: (37/50)

Aroma: Initial aroma is sweet with a healthy dose of creamed corn. Malt character is otherwise subdued, with some understated toasted bread crumb notes. Low to moderate esters, mainly apples, followed by mineral and faintly metallic notes. (9/12)

Appearance: Color is light straw, with a white head that sits and stays nicely on top. It produces a nice lace on the glass when the beer is swirled. The clarity is excellent. (3/3)

Flavor: Overall character is soft yet neutral, with low caramel and toasted malt notes up front. The hop bitterness is medium, appropriate for the style, but a little strong compared to the subdued malt character. A burst of bitterness at the end, just as the beer is swallowed, is pleasant and might be a lure for those who favor hoppy beers but also seek a summer session beer. A sour/grainy character in the finish becomes more elevated as the beer warms. (14/20)

Mouthfeel: Carbonation is low to moderate, lending a light body and a little crispness. Low alcoholic warmth. The lingering astringency is a little high for style, and the mineral dryness would be more appropriate in an English bitter. (4/5)

Overall Impression: A very clean session beer that fits nicely into the cream ale category. Rough edges could be softened with a little less emphasis on hop bitterness and perhaps some attention to water chemistry. Even though this is a fairly neutral style, perhaps adding a low level of aroma and flavor hops such as Tettnanger or Hallertauer would add complexity without chasing away customers who prefer subtle-flavored beers. (7/10)

Total Score: (37/50)

Aroma: Fairly neutral, with a light corny and vegetal note. Some grainy character. The corn quality builds over time. Doesn't have a "clean" fermentation character. Light herbal hops. As it warms, there is a fruity-solventy acetaldehyde note. (7/12)

Appearance: Absolutely crystal clear—filtered? Medium yellow color. Tall white head that persisted well. A beautiful beer in the glass. (3/3)

Flavor: Grainy and corny, but with kind of a "hard" flavor. Dry, moderately bitter with some harshness late. Moderate hop flavor—spicy and herbal—adds an interesting flavor dimension. Dry finish with grassy aftertaste. Light acidity. Low fruity notes. Yeast character is a little muddy. Lingering harshness in aftertaste. (13/20)

Mouthfeel: Medium to medium-light body. Medium to medium-high carbonation. Light creaminess. (4/5)

Overall Impression: Nice dryness and body. Grainy harshness—wheat?—is a distraction; it gives it a "harder" flavor and palate quality than is typical. The light corny notes are OK except that they seem to have a vegetal edge, which makes me think more of DMS than corn adjuncts. Reads a little more like a Kolsch, although the harshness doesn't really belong in either style; it makes it seem more bitter than it is. The fermentation character doesn't seem all that clean; I wonder if a different yeast would be more successful. (6/10)

Total Score: (33/50)



THE JUDGES' SCORES FOR NINKASI NUPTIALE



DAVE HOUSEMAN



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

Aroma: Corn and grainy Pilsner malt with a hint of caramel sweetness. Low herbal hop aroma. Mixed berry esters from ale fermentation. No DMS. No diacetyl. No noticeable alcohol. Not the bright crispness expected for a cream ale. (6/12)

Appearance: Gold color at high end of color range for a cream ale. Clear, but not bright to brilliant clarity. Thin, white, rocky head with fair retention. (3/3)

Flavor: Grainy, husky maltiness with a touch of toastiness accompanying corn-like notes. A bit of caramel sweetness. Medium hop bitterness and low herbal/floral hop flavor. High fermentation esters, more indicative of pale ales than crisp cream ales. No DMS. Very low diacetyl. Alcohol not apparent. Finish fairly balanced with a lingering bitterness. (14/20)

Mouthfeel: Medium to medium-full bodied. Grainy malt and bittering hops linger in mouthfeel. No alcohol warming. Bit of slickness. Creamy but a big mouthfeel for style. (3/5)

Overall Impression: Quite drinkable but lacking the light crispness of a well-attenuated cream ale. This drinks more like a very light pale ale. The grainy malt and corn notes add a good depth of complexity. The hop bitterness is somewhat assertive for a cream ale. Good beer for the summer barbecue, more flavorful than American lagers, but not quite meeting the cream ale style definition. (7/10)

Total Score: (33/50)

Aroma: Low grainy malt aroma dominates first impression, followed with hints of pink tea roses and a dash of DMS. Low sweet corn note emerges late. (10/12)

Appearance: Golden with brilliant clarity. Foam forms to one-third of the pour, but falls from a moussey stand to a thick fog on the surface. Lace slides slowly down the sides of the glass. (3/3)

Flavor: Lightly sweet, somewhat biscuity malt profile dominates first sip, with very clean fermentation. Moderate hop bitterness emerges mid-palate and lingers lightly into the finish and post-finish. Balanced toward slightly sweet malt, though light and still crisp at the finish. The grain profile—sweet kernel corn and husky barley malt—becomes more pronounced as the sample sits. Still, balance is to sweet side, with crisp bitterness and moderately dry finish as accents. (15/20)

Mouthfeel: Medium bodied with creamy carbonation. Moderate alcohol warmth tingles and lingers on the tongue and lips; not astringent, but with a clean, crisp, moderately dry finish. (5/5)

Overall Impression: Even though the beer is surprisingly sweet (especially for a Ninkasi offering), it is very refreshing and quenching. The alcohol content at 5.7 percent ABV is on the high end of the cream ale style. By choice, I do not have a lawn, but I do enjoy a lawnmower beer. I have heard it is common to mow the lawn in the rain in Eugene, Ore. Perhaps that explains things: less need for lightness to replenish and rehydrate, and more so for the sweet creaminess to comfort the soul and soothe tired muscles. (7/10)

Total Score: (40/50)

Aroma: Light biscuit and caramel malt comes through at first, with moderate grain husk notes following. The combination is reminiscent of spent grains. I also pick up a little sweet corn underneath. The esters are moderately low, with light tropical fruit notes (pineapple, mango) coming through as the beer is swirled. Some earthiness and muskiness that could speak to English hops. (9/12)

Appearance: Dirty blonde color is deeper than most examples of the style, with copper/red notes that speak to the use of crystal malts. The head retention is good. The clarity is excellent. (3/3)

Flavor: Hops are prevalent, with woody and earthy notes. The finish is moderately bitter. The malt has a grainy character that accents the bitterness and gives it a grassy, new-mown hay character. Some biscuit notes are evident. A little more corn-like sweetness would improve the balance and soften the finish. (15/20)

Mouthfeel: Moderate carbonation and low alcohol warmth, both within the style boundaries. The finish has a lingering astringency that leaves a chalky sensation on the back of the tongue. (3/5)

Overall Impression: A good example of the cream ale style and quite enjoyable to drink. It should also appeal as a "crossover" beer. The finish is a bit more dry and astringent than expected in a cream ale—perhaps a higher percentage of flaked maize would soften the profile? Fermentation is clean with just enough esters to add complexity without taking away from the clean, crisp finish. (7/10)

Total Score: (37/50)

Aroma: Moderate malt sweetness with a light corn character and an odd vanilla-like note. Hint of berry-like fruit, like blackberries. Fairly clean otherwise. The fruity note builds over time. No hops. The berry quality is interesting but not expected. (9/12)

Appearance: Crystal clear. Lovely medium gold color. Fluffy white head, persisted well. (3/3)

Flavor: Smooth but full palate, clean fermentation character. Medium-low bitterness with a hint of acidity. Light fruity-berry flavor. Light corny note. Some grassy hop flavor comes out late. Dryish finish. Grainy notes build as it warms. Light toasted flavor. Has a fair amount of complexity beyond the typical cream ale, although I'm not sure those components work together seamlessly. (15/20)

Mouthfeel: Medium-full body—seems kind of big and heavy in the mouth. Moderate carbonation. Creamy-smooth impression. Less body and/or more carbonation would improve the drinkability. (3/5)

Overall Impression: Smooth and fairly easy to drink with an unusual fruitiness. Full palate and slightly heavy body reduce the drinkability, although the dryness helps. Finish is a touch grainy-harsh. The berry quality and tartness make me think of a fruit beer, although the character is quite subtle. It's not unpleasant, just a little strange. (7/10)

Total Score: (37/50)

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by Charlie Papazian



Beer Hijacking

As the popularity of homebrewing continues to grow, I can't help but have at least a small degree of concern that our hobby and our homebrewed beer may soon be hijacked. How do you "hijack" homebrew? It's kind of like what happened to "homemade pie" and "homemade ice cream" and "homemade cookies" and other "homemade" commodities we see in the supermarket. These items are labeled as homemade, but are as far from the original premise as you can get.

When will a commercial brewery or a tap house, restaurant, or pub brand its beer as

"homebrewed?" I think it's only a matter of time before someone is going to have the dim idea to commercially produce a "homebrewed" beer and market it as such. Then what happens to the entire idea of homebrewed beer actually being made at home by amateur hobby brewers?

Will authentic homebrewers mind? I, for one, would care. I feel a bit violated when authentic ideas that I value are hijacked; I don't have much respect for untruthfulness or being misled by labels. For me it's an immediate turnoff once I find out that what I've been led to believe isn't really what I'm getting.

The alarm bells don't need to be rung yet, but I can foresee the question: "What is real homebrew?" And what isn't? It's a question that will arise and it just might be worth thinking about now. Maybe we should start staking the boundaries before someone else stakes those boundaries for us.

A Taste of Things to Come

For several years now, beer hijacking has been an issue for small and independent commercial brewers. They've been working hard to differentiate themselves from the very large brewing companies that offer special beers that would appear to

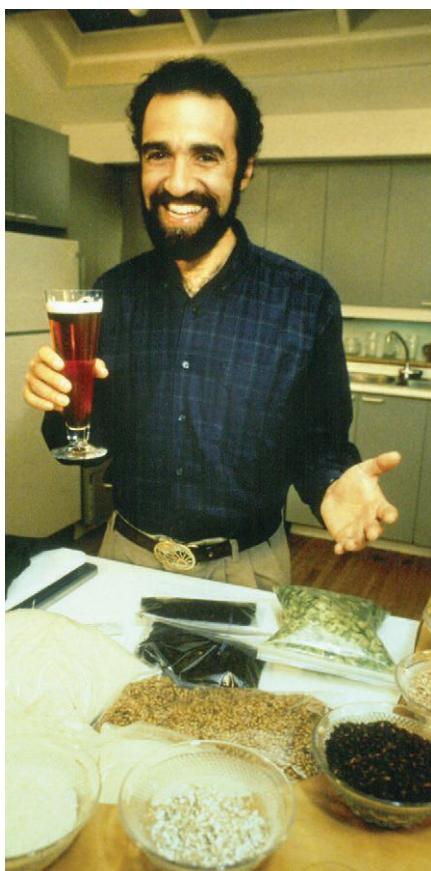
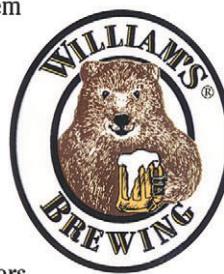


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come from small and independent breweries. The beer is probably of great quality, but the marketing is deceiving.

The terminology of what constitutes a craft brewer and the beers they make is an issue of establishing differentiation and truthfulness. For many craft beer enthusiasts, it's important. For some, it is not. But there are enough of us out there indicating that it does matter.

The existing situation regarding craft brewers and their claims to authenticity is perhaps a taste of things to come for us as homebrewers.

**I'VE BEEN AMONGST
BEER ENTHUSIASTS SINCE
1970 WHEN I NOTICED
THAT MY FIRST BATCHES
OF HOMEBREW INSTILLED
A SENSE OF "OWNERSHIP"
BY ALL WHO ENJOYED
A PERCEIVED NEW
PHENOMENON.**

What is craft beer? What is a craft brewer? What isn't craft? What's up with "crafty"? In the beer business, these are sometimes sensitive questions that keep making the rounds. The answers come from all points of view and the conversation sometimes gets emotional. The actual definition of a craft brewer appears on the Brewers Association's web page (www.brewersassociation.org in the Business Tools dropdown).

At first I might say, "Getting emotional about craft beer is not the point," but maybe it is the point. I've been amongst beer enthusiasts since 1970 when I noticed that my first batches of homebrew instilled a sense of "ownership" by all who enjoyed a perceived new phenomenon. It was my observation that personally crafted beer evoked a gut reaction among beer drinkers. Personal discovery, knowing the brewer, vision, excitement, and a hope of what beer could become sud-

Claude of Neptune 2

ALL-GRAIN RECIPE

INGREDIENTS

for 5.5 U.S. gallons (21 liters)

9.0 lb	(4.1 kg) Munich malt (10° L) [note: combine 1 cup of this ground malt with flaked corn—see Directions]
8.0 oz	(227 g) Belgian aromatic malt
4.0 oz	(113 g) German sauer acid malt
4.0 oz	(113 g) German Cara-Munich malt (75° L)
4.0 oz	(113 g) Belgian Special B malt
4.0 oz	(113 g) honey malt
1.5 lb	(680 g) flaked corn
1.0 oz	(28 g) Vanguard whole hops, 5.5% a.a. (5.5 HBU/154 MBU) 60 min
0.75 oz	(21 g) Liberty whole hops, 4.5% a.a. (3.2 HBU/88 MBU) 60 min
1.0 oz	(28 g) Mt. Hood hops, 5% a.a. (5 HBU/140 MBU) 10 min
1.0 oz	(28 g) Mt. Hood hops, 1 min
0.5 oz	(14 g) Crystal hop pellets 5.5% a.a., dry hop
0.25 tsp	(1 g) powdered Irish moss
Your favorite lager yeast	
0.75 cup	(175 ml measure) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.060 (14.7 B)

Target Extraction Efficiency: 79%

Approximate Final Gravity: 1.020 (5 B)

IBUs: about 38

Approximate color: 19 SRM (38 EBC)

Alcohol: 5.3% by volume

DIRECTIONS

A step infusion mash is employed to mash the grains. Add 10.5 quarts (10 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. While the preceding is mashing for 30 minutes, in a separate vessel add flaked corn and 1 cup of crushed Munich malt to 7.5 quarts (7.1 l) of warm water and bring to a boil. Add this boiling corn mash to the finished 30-minute malt mash. This should raise the temperature of the combined mash to about 155° F (68° C). 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 5.5 gallons (21 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. When 1 minute remains, add the 1-minute hops. After a total wort boil of 60 minutes, turn off the heat and place the pot (with cover on) in a running cold-water bath for 30 minutes. Continue to chill in the immersion or use other methods to 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). Once visible signs of fermentation are evident, ferment at temperatures of about 55° F (12.5° 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, "lager" the beer at temperatures between 35-45° F (1.5-7° C) for 4-7 weeks. Prime with sugar and bottle or keg when complete.

denly became meaningful in the context of beer and brewing.

Good things developed over the following 40+ years. The emotional attachment beer enthusiasts are now developing for their beer goes deeper and is more personal than ever before. For a growing number of beer drinkers, it is no longer sufficient

to simply identify with a mass-marketed brand image. For many, it is about knowing the brewery and brewer; it's about flavor, local brand image, and real or imagined emotional attachment. It's about belonging to a group that mirrors one's lifestyle and ideals.

The world of small and independent

Claude of Neptune 2

MASH/EXTRACT RECIPE

INGREDIENTS

for 5 U.S. gallons (19 liters)	
6.5 lb	(3 kg) amber malt extract syrup or 5.5 lb (2.5 kg) amber DRIED malt extract
14.0 oz	(397 g) honey
8.0 oz	(226 g) Belgian aromatic malt
4.0 oz	(113 g) German Cara-Munich (75° L) malt
4.0 oz	(113 g) Belgian Special B malt
1.0 oz	(28 g) Vanguard whole hops, 5.5% a.a. (5.5 HBU/154 MBU) 60 min
0.75 oz	(21 g) Liberty whole hops, 4.5% a.a. (3.2 HBU/88 MBU) 60 min
1.0 oz	(28 g) Mt. Hood hops, 5% a.a. (5 HBU/140 MBU) 10 min
1.0 oz	(28 g) Mt. Hood hops, 5% a.a. (1 min)
0.5 oz	(14 g) Crystal hop pellets, 5.5% a.a. (dry hop)
0.25 tsp	(1 g) powdered Irish moss
Your favorite lager yeast	
0.75 cup	(175 ml measure) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.060 (14.7 B)

Target Extraction Efficiency: 79%

Approximate Final Gravity: 1.020 (5 B)

IBUs: about 38

Approximate color: 19 SRM (38 EBC)

Alcohol: 5.3% by volume

DIRECTIONS

Heat 2 quarts (2 l) water to 172° F (77.5° C) and add crushed grains to the water. Stir well to distribute heat. Temperature should stabilize at about 155° F (68° C). Wrap a towel around the pot and set aside for about 45 minutes. Have a homebrew.

After 45 minutes, add heat to the mini-mash and raise temperature to 167° F (75° C). Pass the liquid and grains into a strainer and rinse with 170° F (77° C) water. Discard the grains.

Add more water to the sweet extract you have just produced, bringing the volume up to about 2.5 gallons (9.5 liters). Add malt extract, honey, and 60 minute hops and bring to a boil. The total boil time will be 60 minutes. When 10 minutes remain, add the 10-minute hops and Irish moss. When 1 minute remains, add the 1-minute hops. After a total wort boil of 60 minutes, turn off the heat.

Immerse the covered pot of wort in a cold water bath and let sit for 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 gallons (7.6 l) of cold water has been added. If necessary add cold water to achieve a 5.5-gallon (21-liter) batch size. Aerate the wort very well.

Pitch the yeast when temperature of wort is about 70° F (21° C). Once visible signs of fermentation are evident, ferment at temperatures of about 55° F (12.5° 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 "lager" the beer at temperatures between 35-45° F (1.5-7° C) for 4-7 weeks. Prime with sugar and bottle or keg when complete.

breweries has always desired to maintain differentiation between what they do and what the large brewing companies do. The effort to differentiate has evolved from tagging themselves as small brewers, microbrewers, and now to defining themselves as craft brewers. The term "craft brewer" is an effort by small and indepen-

dent brewers to differentiate themselves. It is not an effort to denigrate those who are not craft brewers.

The point of the craft brewer definition is to frame the spirit beer drinkers want to embrace and what small and independent brewers represent in the world of beer and

brewing. It is natural for small and independent brewers and their beer fans to have a desire to frame their differentiation from the much larger companies. In the process of doing so, they have succeeded in de-commoditizing beer. That is a good thing for all brewers large and small.

The term "craft" is not about snobbery or being elitist as some have suggested. It is not a claim about the quality of the

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beer. It is not about what's in the bottle or can. It is about giving the beer drinker a tool to identify who makes the beer they enjoy. Being able to identify what is small and independent is good. It is important to enough beer drinkers that it makes the craft brewer definition a legitimate point of differentiation. For craft brewers, it offers an opportunity for honest, transparent identification of the craft beers they brew.

Beer drinkers would rather personalize their enjoyment and celebration of beer rather than simply knock down a commodity product.

RDWHAHB

There are many ways to personalize enjoyment of beer. All beer is good. Respect all beer drinkers. Differentiation is good.

And what about homebrew? What's the idea? Our charter? Our course?

Maybe it's time to relax, don't worry, and make homebrew. Here's a recipe I featured almost 10 years ago. I recently brewed it with results that reminded me of just how much more we can explore the use of traditional and not-so-traditional ingredients and still make great homebrew.

Claude of Neptune 2 is a rich, malty beer brewed with 10 percent flaked corn. Who would have thought this? I was originally inspired by Brewers Publications author Darryl Richman and his book *Bock* published in 1998. Darryl was a pioneer homebrewer who turned many of us onto using a high percentage of Munich malt in our beers. Naturally I wanted to go to the edge and brew a unique beer at the time.

Munich malt makes up about 85 percent of the grain bill while other specialties add to the complexity. The corn enhances the qualities of the malt by lightening the palate. The hop varieties lend a smooth and enjoyable hop character without aggressive bitterness. I am a homebrewer.

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

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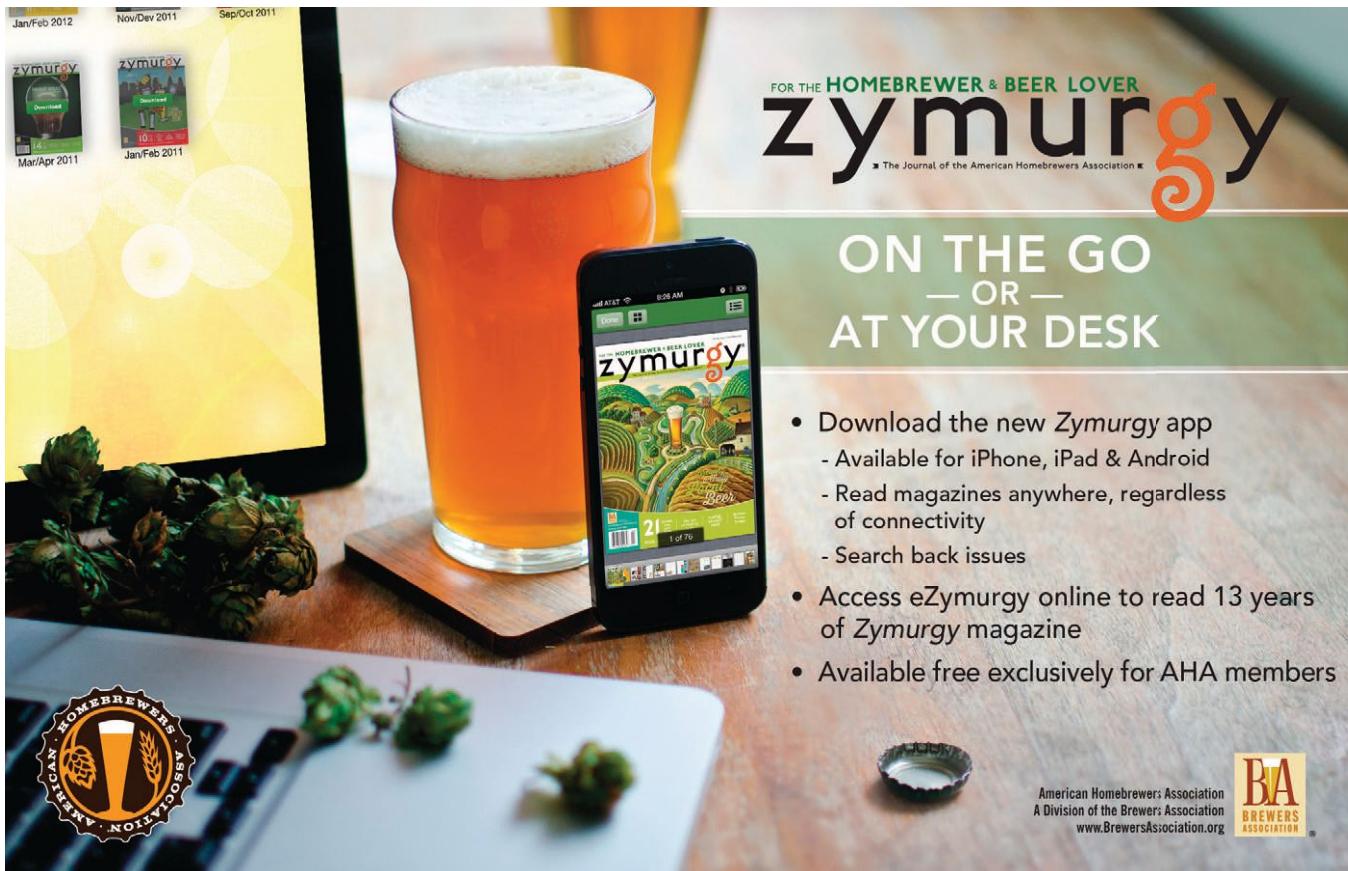
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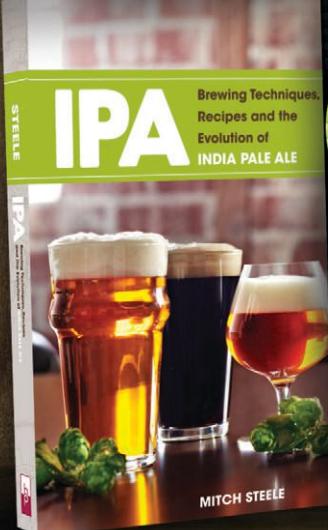
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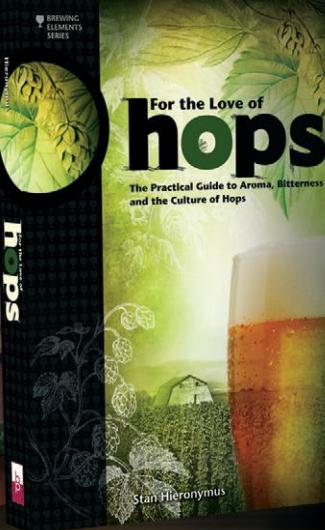
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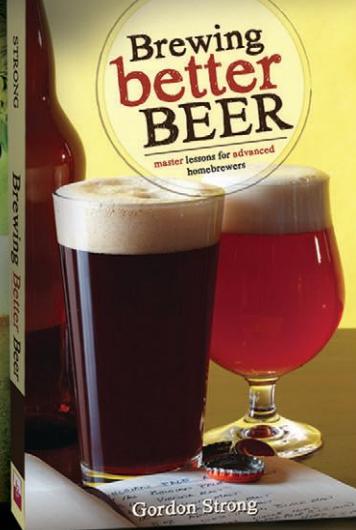
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Because They Can



Look into breweriana collecting, and it's easy to see that there are as many different kinds of memorabilia as varieties of hops. Some people collect neon signs. Others collect glasses, coasters, or trays. But beer can collectors—hearty souls who stockpile the tin or aluminum vessels that once held the best thing ever made from water, yeast, barley, and humulus lupulus—make up one of the largest and most dedicated factions of the breweriana community.

"It's a hobby that you can take as seriously as you want," says Gary Zimmerman, a collector from Rochester, Ill. "We have truly high-end collectors who spend a lot of money and we have people who collect microbrew cans. I do mine because I love the hobby." Zimmerman's collection is on the small side—about 350 cans—but it's known the world over for its rare specimens in fine condition.

Beer can collectors can trace their avocation's origin back to January 24, 1935,

when the Gottfried Krueger Brewing Company of Newark, N.J., delivered the first canned beer to drinkers in Richmond, Va. As canning became ubiquitous among the nation's legion of breweries, people began to collect the containers for novelty, and then as a serious hobby. Breweries began to supply containers with designs ranging from the ordinary to the ornate as well as special editions and commemoratives.

In the 1970s, as many of the nation's breweries closed, can collecting took off, particularly among teenage boys. By the early 1980s, the Brewery Collectibles Club of America (BCCA), which started out as a club devoted strictly to beer cans, had around 12,000 members. Though its ranks have shrunk, the BCCA says the hobby is picking up once more with the explosive growth of the American craft beer industry. The hobby supports a well-attended annual "CANvention," a well-traded corner of eBay, and dozens of regional shows.



GET OFF YOUR CAN

For a great resource on collecting beer cans and breweriana, visit the BCCA website at www.bcca.com or the American Breweriana Association at www.americanbreweriana.org. For more on can collecting, see Beeroscope on page 4

As in other hobbies, a beer can's worth depends on scarcity and condition. There's even a grading scale for collectors to assess the quality of collectibles. Collectors tend to focus their collections—some people collect cans from specific breweries, others collect from a state, region, or overseas, and still others focus on different types of cans including cone-tops, flat-tops, and pull-tabs. Rare cans often sell for thousands of dollars at auction. Last year, a 1930s-era Gibbons Bock can attracted a \$36,000 winning bid at a Pennsylvania auction.

What is believed to be the largest beer can collection in the world belongs to Jeff Lebo, who built a 6,500-square-foot house near Harrisburg, Pa., for his 83,000 cans. Lebo turned the can house into a bed-and-breakfast called the Brewhouse Mountain Eco-Inn. An upstairs area is populated with vintage cone-top cans. Lebo's a rare breed among can collectors—he collects everything.

"Part of what appeals to me is the preservation," Lebo says. "It's sort of like preserving some of our social history. We want to preserve these things so people in the future can enjoy them."

Nathan Solheim is a freelance writer based in Denver, Colo. An active home-brewer, Solheim writes about craft beer and the beer industry for several local and national publications.

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