

FOR THE HOMEBREWER &amp; BEER LOVER

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The Journal of the American Homebrewers Association®



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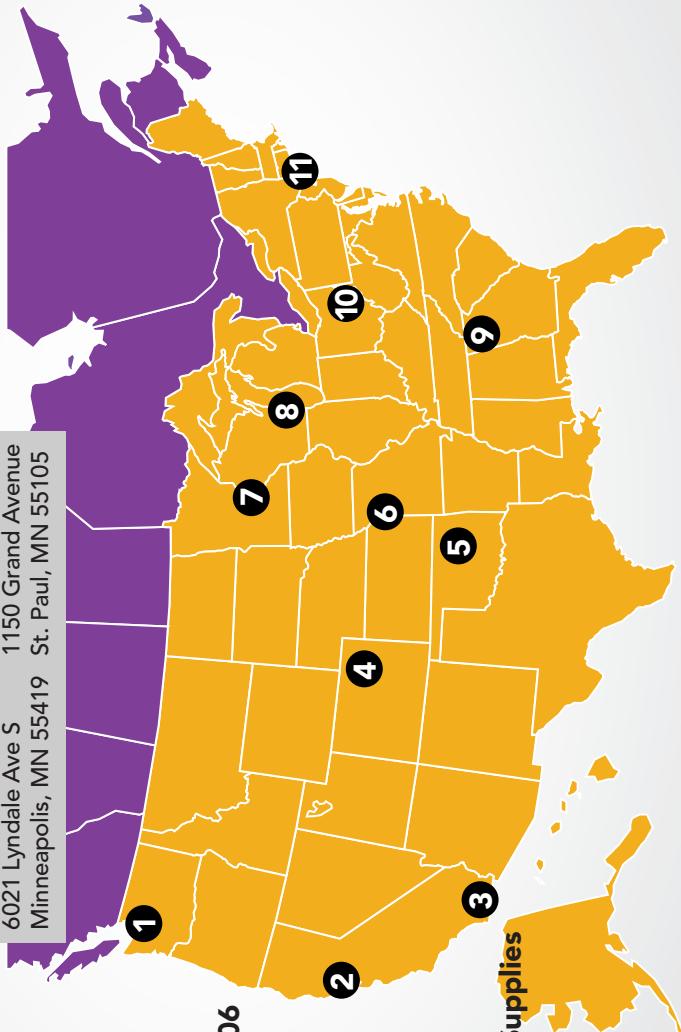
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# Smoke and Oak

I always enjoy attending events such as the Big Beers, Belgians and Barleywines Festival in Vail, Colo., to learn about new trends in brewing. Of course, sometimes the trends aren't necessarily new; they're just a new twist on an old theme.

"I always seem to be talking about hops or barrels," said Firestone Walker brewmaster Matt Brynildson, who presented a talk called "Oak Three Ways."

Firestone Walker recently started its Barrelworks program, a sour beer program that the brewery moved "far away" from its "clean barrel" program in Paso Robles to a former winery warehouse in Buellton, Calif. Firestone Walker also uses barrels for primary fermentation for beers such as DBA, and aging for beers such as Velvet Merkin. Brynildson refers to the Barrelworks program as a "secondary fermentation/acidification" project. Barrels in that program are inoculated with Brett, which Brynildson calls "the guardian of the barrel," before bacteria such as lacto and pedio are added.

"Brett forms a protective pellicle on the surface of the beer," explained Brynildson. "Brett is a surviving yeast—the roach of the brewing world. It can live on wood sugars in the barrel."

Brynildson shared oak-aged Lil Opal, a Brett Saison aged in French oak barrels from the Opus One winery. He has the benefit of snagging Brett-infected barrels from winemakers who want them as far away from their winery as possible.

Alaskan Brewing's Geoff Larson, Left Hand Brewing's Ro Guenzel, and Ray Daniels presented a seminar called "Smoke." Both Larson and Guenzel brought not only smoked beers for sampling, but also their own smoked malt.

Alaskan Smoked Porter was conceived in 1986 when the brewers used to hang out at a neighboring commercial smokehouse to eat smoked fish and drink beer. Alaskan started off by borrowing the smokehouse to smoke its own malt, and then eventually purchasing it.

"The beer survives time very well," said Larson, who brought three vintages of Alaskan Smoked Porter to share. "The smoke character adds a depth of preservation."

Guenzel, the instigator behind such Left Hand smoked beers as Smoked Goosinator, Fade to Black Vol. 1-3, and Smokejumper, equates smoke to "comfort, safety, and bacon," adding, "I love smoked everything."

Guenzel started homebrewing 14 years ago, and the third homebrew he ever made was a recipe from a *Zymurgy* article for an Alaskan Smoked Porter clone. Along with smoked malt, he also adds smoke character to beer with other elements such as lapsang souchong tea (TNT) and smoked chiles (Fade to Black Volume 3).

Daniels, who co-wrote *Smoked Beers* with Larson, offered some practical tips for homebrewers. For one, he said, buy enough smoked malt for at least two or three brews so you can experiment with the amount of smoke character using malt from the same batch. Substitute smoked malt for a percentage of the base malt. Also, smoked malt should be treated like Munich malt in that it has diastatic capabilities.

Amazingly, Daniels said that smoke character can carry over from yeast used to make smoked beer, so be careful if you're reusing yeast for another batch.

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



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

Vol. 36 \* No. 2 | March/April 2013

# zymurgy®

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*By Sean West*



### Pharaoh Ale: Brewing an Ancient Egyptian Beer

*By Horst Dornbusch*

To read this special, online-only feature, go to the *Zymurgy* page on [HomebrewersAssociation.org](http://HomebrewersAssociation.org).

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## >> GET THERE!

### KONA BREWERS FESTIVAL

The 18th annual Kona Brewers Festival takes place Saturday, March 9 in Kailua-Kona, Hawaii. Thousands of people gather in the spirit of *pualu* (working together) and *malama aina* (respecting the land) on the beautiful shores of Kailua Bay. To date, this amazing community celebration and benefit has raised \$555,000 on behalf of children and the environment.

More than 70 types of ales and lagers are served alongside a cornucopia of island-style cuisine from Hawaii chefs with live music as entertainment. The event takes place at the King Kamehameha's Kona Beach Hotel luau grounds. The multi-day celebration includes a homebrew competition, a beer and food pairing dinner, a charity golf tournament, and a walk/run. For more information, go to [www.konabrewersfestival.com](http://www.konabrewersfestival.com).



**March 2**

#### **Philly Craft Beer Festival**

Philadelphia, PA

[phillycraftbeefest.com](http://phillycraftbeefest.com)

**March 9**

#### **Spring Craft Beer Festival**

Uniondale, NY

[springcraftbeefestival.com](http://springcraftbeefestival.com)

**March 22-23**

#### **Beer, Bourbon & BBQ Festival**

Timonium, MD

[beerandbourbon.com](http://beerandbourbon.com)

**March 24**

#### **Mission Valley Craft Beer & Food Festival**

San Diego, CA

[ticketderby.com](http://ticketderby.com)

**March 29-30**

#### **Spring Beer & Wine Fest**

Portland, OR

[springbeerfest.com](http://springbeerfest.com)

**March 30**

#### **Washington Cask Beer Festival**

Seattle, WA

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

**April 6**

#### **Missouri Beer Fest**

Columbia, MO

[missouribeerfestival.com](http://missouribeerfestival.com)

**April 7**

#### **Classic City Brewfest**

Athens, GA

[classiccitybrew.com/  
brewfest.html](http://classiccitybrew.com/brewfest.html)

**April 19-27**

#### **Pittsburgh Craft Beer Week**

Pittsburgh, PA

[pittsburghcraftbeerweek.com](http://pittsburghcraftbeerweek.com)

**April 20**

#### **Big Tap In Real Craft Beer Festival**

Boardman, OH

[bigtapin.com](http://bigtapin.com)

**April 26-28**

#### **Oregon Garden Brewfest**

Silverton, OR

[ogbf2013.blogspot.com](http://ogbf2013.blogspot.com)

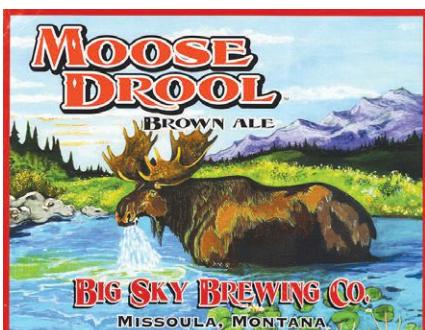
**For more craft brewing events, go to [CraftBeer.com](http://CraftBeer.com)**

## >> YOU'VE GOTTA DRINK THIS

### BIG SKY MOOSE DROOL

To the gang at Big Sky Brewing in Montana: great job with this brown ale. I'm an avid homebrewer in Massachusetts, and on a recent trip to Yellowstone National Park I discovered Moose Drool. This beer is goooood! Very malty and complex, starting smooth and ending abruptly. Advice to anyone heading that way: Drink a pint of Moose Drool! Back in Boston we say: "This is a wicked piss-a-bea!"

Reviewed by Mike Gerry, Woburn, Mass.



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](mailto:zymurgy@brewersassociation.org).

## >> BEER POEM

### BEER, IN FOUR PARTS

#### I. Barley

Driving rain on thirsty rows  
Heavens spill, then barley grows  
Through summer's shine, toil and fade  
When harvest moon brings mirth delayed

Wind will dance a melancholy sigh  
'round stalks of barley, swaying by-the-by  
In painful joy, as hopeful lovers may seem  
What grapes on vine can never dream

Now grind with steel to wondrous dust  
A sound like Marius's\* army must  
Fated means, for such noble ends  
Breed fine intentions, and occasional sins...

#### II. Mash

So little must the brewer do  
Add hot water and stir it up  
A lovely smelling steaming mash  
One hour only and you're through

Pour off its nectar, that potential elixir  
The remains are for swine in their trough  
Yet for this labor comes sate, not hash  
Which fills (not quite!) an ample mixer...

Submitted by Zymurgy reader Scott McPherson, Portsmouth, N.H.

\*Gaius Marius (157 - 86 BC)

#### III. Wort

Sweet wort, over heat  
Boiled like a treat  
Add hops, and hops  
But watch for the...  
Over it boils, down it seeps!  
Do save each  
Remaining drop;  
Cool, then yeast...

#### IV. Beer

Keep that perfect temperature  
A fortnight or more, or more to be sure  
Lodged in vessels since Egypt was pure  
Relished for body, brawn and alcohol

If feminine wines can be lavish or subtle  
No less is it true for beer—only doubled!  
Denial brings on all prohibition's muddle  
Too much tempts romance—or worse trouble

Fuels great folly and grand pretensions  
Revolution, masterpiece or bold invention  
Perhaps not proof of some divine intervention  
Benevolent universe is the fairer suggestion



## >> BREW NEWS

### BEST BEERS IN AMERICA

It's time once again for Zymurgy's Best Commercial Beers in America Survey!

As homebrewers and beer lovers, Zymurgy readers have the most educated and adventurous palates on the planet. So for the 11th year, we are asking you, "Who brews the best beers in the land?"

Just go to [www.homebrewersassociation.org/zym-best-beers](http://www.homebrewersassociation.org/zym-best-beers) and type in your favorite commercially-produced beers. You will need to have your AHA membership number handy. You can vote for both domestic and imported beers, but they have to be available in the United States. Voting ends March 15. We will tabulate the results and present them, along with clone recipes for some of the top beers, in the July/August issue of Zymurgy.

While you're voting, please take a minute to review one of your top beers, in 150 words or fewer, and include that in a "Comments" field (this is appreciated but not mandatory.) We'll include some of your comments in the July/August issue as well as in the "You've Gotta Drink This" in future installments of Beeroscope.

Thanks for voting!

## >> GREAT PRODUCT

### BETTER DRYER

The Better Dryer was created by homebrewer Brian Mathweg, who found existing bottle dryers on the market to be big, bulky, and expensive. Mathweg mostly kegs his beer, but found that he needed to occasionally bottle beer for gifts, competitions, etc.

The Better Dryer was designed to hold the bottles from the outside to minimize contamination. It was specifically designed to fit inside a 5-gallon bucket for easy sanitation before use. Each

Better Dryer holds six bottles at a time, and the design accommodates 12-ounce bottles, bombers, stubbies, wine bottles, and swing top bottles. The dryers are stackable for easy storage.

The Better Dryer retails for \$8.99 and can be purchased at various homebrew shops in Oregon, Washington, and Idaho, or online at [www.betterdryer.com](http://www.betterdryer.com).

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SAVOR THE FLAVOR  
RESPONSIBLY

By Gary Glass



# AHA Adds Web Coordinator

For 2013, the AHA has created a new AHA web coordinator position to focus more resources on building content for HomebrewersAssociation.org and to ensure we are posting the latest homebrewing news to the AHA website. I am pleased to announce that we have hired Duncan Bryant to fill the position. Bryant has 3 years of experience as a homebrewer and is thrilled at the opportunity to serve the larger homebrewing community via HomebrewersAssociation.org.

Bryant will also be working with the AHA governing committee's AHA Research & Educational Fund Sub-Committee, which will be selecting member-driven homebrew research projects to fund and develop into features for Zymurgy and HomebrewersAssociation.org, as well as presentations for the AHA National Homebrewers Conference.



## All-Grain Video

Speaking of HomebrewersAssociation.org, we recently added a new educational video to the website, starring yours truly, aimed at extract brewers looking to make the leap to all-grain brewing. The video is posted in the Let's Brew section of HomebrewersAssociation.org. This new video is a follow-up to the "How to Brew Beer At Home" video we posted a couple of years back. That video had such a tremendous response from newbie homebrewers that we figured it was time to



The recently released all-grain how-to video is available at [homebrewersassociation.org](http://homebrewersassociation.org).

help those nudged in the right direction by the beginner video to take the plunge into all-grain brewing.

Please direct your friends, relatives, club members, and whoever else might be itching to advance to all-grain brewing to check out the video and hopefully we'll get them started on solid footing. The video is based on AHA governing committee member Denny Conn's Cheap 'n' Easy batch sparge mashing method to highlight an inexpensive and simple means of brewing with malt. Many thanks go to Bryant for his help with planning and scripting for the all-grain video during his AHA internship.

Have an idea for what our next educational video should cover? Send your ideas to AHA web coordinator Bryant at [duncan@brewersassociation.org](mailto:duncan@brewersassociation.org).

## Zymurgy Applications

It took longer than expected to find a mobile application developer that we felt

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Grape and Granary, Akron OH USA

was the right fit to create mobile applications for Zymurgy magazine, but at long last we are on the verge of launching apps for iPad, iPhone, and Android devices. Look for Zymurgy apps to be available via the Apple Newsstand and Google Play magazine store within the next month or two.

The apps will be free to download and content will be free for all AHA members. Non-members must join to access Zymurgy via the mobile apps. We will have just a few issues available for viewing

to start, but will add more issues in the coming months.

### 2013 Homebrew Legislation

This year's state legislative session has gotten off to a busy start for homebrew legislation. Homebrew legalization bills have been filed in both Alabama and Mississippi, along with homebrewing rights bills in Illinois, Kansas, Missouri, and Ohio.

In Alabama, the campaign to legalize homebrewing has been led by a coalition

of homebrewers called Right to Brew. I have been working with this group for several years now and am excited that we have our best shot yet to get homebrewing legalized in Alabama this year. The same bill that was passed by the House and a Senate Committee last year was reintroduced in both the House and Senate at the start of the 2013 legislative session (having the bill simultaneously introduced in both chambers will greatly speed up the process). In addition, the House bill's sponsor Rep. Mac McCutcheon has been promoted to chair of the House Rules Committee, one of the most powerful positions in the legislature. Rep. McCutcheon's new position will help ensure the homebrew bill gets a timely hearing.

In neighboring Mississippi, homebrew legalization is being championed by the Raise Your Pints (RYP) organization. Having pushed through passage of a bill to increase the allowable ABV in beer sold in the state last year, Raise Your Pints has focused on homebrew legalization as its number one issue for 2013. RYP president Craig Hendry has informed me that Sen. John Horne and Rep. Scott Delano have agreed to sponsor a homebrew bill in 2013. Both were sponsors of the successful ABV bill in 2012, so chances of passage this year look promising. I recently met with Sen. Horne and Rep. Delano at an RYP event in Jackson, Miss. I'll have more on that meeting in the next installment of From The Glass.

The homebrewing rights bills filed in Illinois, Kansas, Missouri, and Ohio aim to expressly allow for transport of homebrew for club meetings, competitions, and other events, much like the bills passed in Oregon in 2011 and Wisconsin in 2012. We will continue to track those bills and support local efforts to get them passed. We'll let the AHA members in those states know when their action is needed.

Hopefully we'll be raising pints of homebrew in celebration of passage of all of these bills in 2013. Until next time, happy homebrewing!

**Gary Glass is director of the American Homebrewers Association.**

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Aroma - Slightly Spicy & Fruity  
Typical Beer Styles - Pale Ale, India Pale Ale,  
Lager, Wheat, and Berliner Weiss

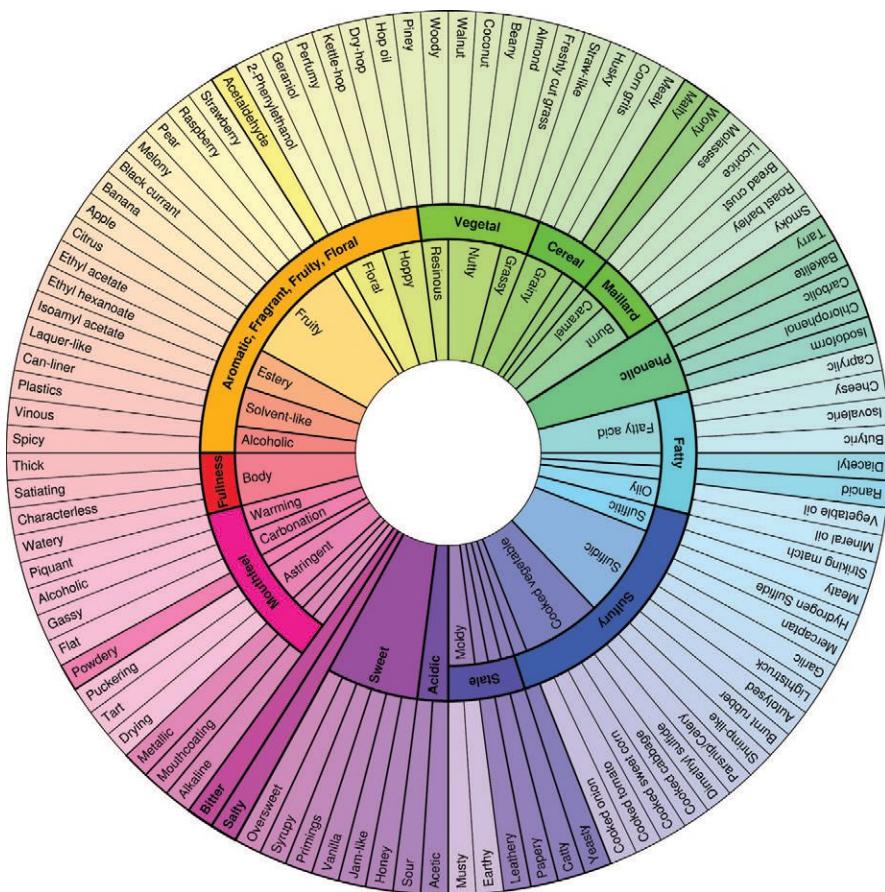
SUMMIT™  
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Aroma - Intense, Spicy, and Citrusy  
Typical Beer Styles - Double IPA, Imperial IPA, Pale Ale, India Pale Ale

UK FUGGLE  
Alpha: 3.5% Beta: 1.5%  
Aroma - Fruity, Citrusy, and Hops

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# **Yeast Off Flavors**



Dear Zymurgy,  
I loved the article in the November/December 2012 *Zymurgy* from Neva Parker about yeast off flavors. I started scrutinizing the article because a) I just had an imperial oatmeal stout ferment way too hot and b) I'm training for the BJCP and Cicerone tests, so I want to learn about off flavors and what causes them.

I bought a Defects Wheel, which has been a great resource. However, I discovered a discrepancy when it comes to isoamyl acetate. Neva indicated in the article that high pitching rates can cause production of this ester, while the defects wheel says

under-pitching can cause it. Any idea which is more correct? Everything else jives between the article and wheel, but I would like to study the correct thing.

Thanks for the help,  
Steve Stowell

Article author Neva Parker responds: It's a common misconception, and one that we've even stated before as well, that low pitching rates can cause excess esters because you're encouraging a lot of yeast growth. However, the opposite is actually true, that lower growth rates (as a result of higher yeast pitching) cause more ester production. This

can be explained by the mechanism of ester production during metabolism. Acetyl CoA (an important metabolic enzyme) is involved in both the reaction that leads to yeast growth and the reaction that leads to ester production. The yeast preferentially wants to grow new cells, so it will direct Acetyl CoA towards growth pathways, rather than producing metabolic byproducts. When there is more yeast present, cells grow less and the Acetyl CoA can now be used for the alternative pathway, resulting in more esters being produced.

## Brewing on the Ones

Dear Zymurgy,

In the article "Brewing on the Ones" (November/December 2012), I noticed that the recipe for Saison of Zen has an OG of 1.066 and an ABV of 5.5 percent. This is impossible for a saison. An OG of 1.066 at 75 percent attenuation is 6.6 percent, but saison yeast is typically ~90 percent attenuation. A 1.066 OG should yield 7.5 percent or higher. I'm wondering where the mistake is?

Thanks,  
Justin Bruce

Zymurgy associate editor Amahl Turczyn Scheppach responds: The yeast called for in the recipe, Wyeast's 3711 French Saison, is rated to attenuate to 77-83 percent. So while you are correct in pointing out that 5.5 percent ABV is probably lower than what this saison strain would be expected to produce for this recipe, 7.5 percent is probably the very most one could expect. Providing a range between the two probably would have been the safest bet. Thanks for the feedback.

## Grätzer Water Treatment

Dear Zymurgy,  
I have a question on the Graetzer article in

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the November/December issue. The recipe is straightforward—I have even brewed a Graetzer using home smoked wheat malt. The beer style is very light colored, as stated in the sidebar at 3-6 SRM.

The water listed for the wells is very hard (high calcium and magnesium), and has very high levels of alkalinity. Just looking at the water (very close to my tap water), I would guess the residual alkalinity is over 150, making it suitable for a dark beer like a stout or porter.

The breweries in Grodzisk must have treated the water to hit the right mash pH and have a beer with crisp flavor. Would the author have more information?

Jeff Rankert  
AHA member

Article author Wm. Shawn Scott responds: Jeff, I have yet to see a water treatment protocol mentioned in any of the source documents regarding Graetzer beer. It's possible that some type of treatment may have been used, but I strongly suspect that they simply used the 30-minute acid rest to adjust for the alkalinity. The production batch at the Choc brewery used this mash regimen with no difficulties, and even managed to earn a silver medal at the Great American Beer Festival for their efforts! Thanks for your interest in the article and helping to preserve the tradition of Graetzer beer. Prost!

#### More Brew Dogs and Brew Cats

Dear Zymurgy,  
I enjoy the magazine each issue and keep trying new styles, but I also like features like Brew Dogs (September/October 2012).

I thought you might enjoy a photo of my brew dog, a black pug named Indigo Rose. She loves beer from start to finish. When I mill the barley, she is there licking up the bits and pieces. When I sparge, she is there to lap up any spilt wort, which she is ready to do in the photo. She also loves the finished product and gets a few licks off my finger as a reward for doing her round of tricks.

Phil Nissen

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Photos and artwork © beerflavorwheel.com,  
Phil Nissen and Dale Winham.

Dear Zymurgy,  
I hope to see a featured article on Brew Cats so I thought I would share a photo of my assistant brewer, Tobias.

Tobias has been my brew cat since 2008 when I began brewing all-grain batches on the deck. He knows when it's brew day and is eager to get a spot in the front row. He may not be able to make it through the entire session without a cat nap, but sure loves the time with me outdoors. Cats may not eat the spent grain like most of their canine companions, but Tobias does a good job at hunting the field mice that

attempt to burrow in the piles. Perhaps I will brew my next batch with catnip.

Regards,  
Dale Wingham  
Rochester, Minn.

**Send your Dear Zymurgy letters to [zymurgy@brewersassociation.org](mailto: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](mailto:allison@brewersassociation.org).**



Phil Nissen's brew dog, Indigo Rose, waits patiently for spilled wort.



Dale Wingham's brew cat, Tobias, gets a spot in the front row for brew day.

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by Professor Surfeit



# The Origin of Beer Categories



Dear Professor,

I am trying to track down the origin of the concept of beer being divided into two categories, ale and lager. Both terms have such long and interesting histories, I am a bit confused as to when and how they managed to morph into boring technical terms referring to different yeast strains.

I know that Charlie Papazian wrote *The Complete Joy of Homebrewing* quite a long time ago, but I still find it to be one of the most informative, helpful, and well-written books on brewing that I own. I am hoping that he may remember something from his research that might be of help to me.

Nick Jones

Dear Nick,

Contrary to what you might suppose, Papazian's book *The Complete Joy of Homebrewing* wasn't written in the Stone Age; if it was, that would be a lot of chiseling. His first two self-published editions were typed on a borrowed IBM Selectric typewriter in the mid-1970s. The first Avon/HarperCollins edition was published in 1984. Since then, there have been second and third

updated revisions, and now an expanded and even more complete fourth edition is forthcoming in 2013. There will also be an advanced volume coming out in tandem with the fourth edition. Both volumes have lots of references to beer styles divided among ales, lagers, and "other."

But Papazian wasn't the culprit who initiated beer style nomenclature. It was Louis Pasteur who in the late 1800s looked under the microscope and realized that there were critters, now called yeasts, responsible for beer fermentation. Can you imagine a world without knowing about yeasts? All beer in the English-speaking realm was known as

"ale." And in Germany, beer was just "bier." The pasty stuff at the bottom of the vats was called "Godisgood." There was ale and beer, but no one really knew that there were living organisms involved. They did know that the temperatures of fermentation produced certain characters in the beer.

In Great Britain, one can only imagine that ambient conditions optimized the brewing of English ales at about 70° F (21° C), and they found that cellaring at cooler temperatures helped clarify the beer. In Belgium in the pre-Pasteur age, ambient temperatures fluctuated a bit more on the continent with summer temperatures getting higher. Belgian

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beer yeasts and taste preferences evolved over centuries with certain yeasts acclimating to conditions to make good beer—unbeknownst to science, survival of the fittest was happening.

In Germany, cool caves and a tradition of stabilizing temperatures with ice collected in the winter months and used during summer months were the norm. They didn't know anything about yeasts as living organisms, but they found that cooler fermentations and storing (lager is the German word for "storage") created a smoother, more consistent beer. This knowledge and evolution happened over time and in all likelihood the original mass of yeast was a collection of wild top-fermenting and bottom-fermenting yeasts along with some bacteria thrown in for poor measure. Batch after batch of cold fermentation inhibited the bacteria, wild yeasts, and ale yeasts, and eventually the lager yeasts dominated since they were the only microorganisms that would thrive under the cold conditions.

When Pasteur discovered yeast, the scientific world of classification kicked in and the beer world became divided between top-fermenting and warm-fermenting strains of ale yeasts and easily identifiable strains of cold-fermenting lager yeasts. The name lager yeast came from the beer that had developed through cold fermentation, and it was discovered that it all seemed to be of a similar strain.

It's important to imagine what the world was like in Pasteur's day. No phones, very little electricity, and I imagine most households were void of bookshelves, let alone books about beer.

It's a safe bet that beer drinkers in the late 1800s and even in the early 1900s weren't keen on reading books about beer. Any that were around were technical. Beer geekdom hadn't arrived. It was a simple pleasure to champion your local beer and your local pub and at best you might wonder what someone else was drinking down the road. Other than a boatload of IPA heading to India every so often and bock beers shipped to kings and vagabonds in what's now Germany, beer didn't move around very much. Even if there was a book on beer styles, what could it have meant to anyone, even brewers? It was all local, and word of mouth was literally that.

The beer world according to Michael Jackson didn't really kick in until the late 1970s with

his quintessential book, *The World Guide to Beer*. Before that, British homebrew books referred to brewing ales and lagers in their quest to beat the high taxes imposed on British beer. In the process, beer drinkers were beginning to become aware of what other regions of the UK were enjoying. In the U.S., Fred Eckhardt too was pioneering beer types in his *A Treatise on Lager Beers*, published in the early 1970s, in which he clearly made the distinction between ales and lagers.

In his books, Papazian took all the available knowledge and made some practical sense of it all. He was partly driven by the need to improve the quality of homebrew competitions and the desire to help others appreciate and make world-class beer styles at home. One thing he also did in *The Complete Joy* was to encourage the use of creative names for beer recipes. Who knows: if it weren't for him, perhaps we'd still be enjoying our English Ale #35a or Batch 21 or simply Irish stout. Porter would have simply been porter and crazy names/stories such as Goat Scrotum Ale, Rocky Raccoon Honey Lager, and Toad Spit Stout never would have been embedded in homebrew culture.

Distinctively,  
The Professor, Hb.D.

### **Mastering the Tropics**

Dear Professor,  
I have come to master the art of "Keeping it Cool in Panama" (see related Dear Professor letters in the May/June 2010 and September/October 2012 issues).

My cooling system is composed of:

1. An old cooler that is the perfect size to fit either the fermenting bucket or the secondary.
2. A small bilge pump connected to a transformer with current regulator so I can control speed in order to slowly circulate the cooled water.
3. Two small (1.5 cm-thick) Styrofoam sheets with a semi-circular shape on one side to fit the fermenting bucket or secondary. These just float there to minimize heat exchange and keep the water cool at 23° C (73° F).
4. A fish-tank (red bulb) thermometer with a suction cup to hold inside the cooler.
5. One (1-liter) block of ice every night (or every other night) to lower the

temp to about 20° C (68° F), before it climbs to 23° C. I keep the temperature oscillating within the ale range.

6. A towel covering the top of the cooler to act as a heat barrier.

With this small investment of reusable stuff and great suggestions from the homebrewing community, I have been able to beat the heat. Now I have a nice English pale ale in the secondary (conditioning for about 10 days) waiting to be bottled.

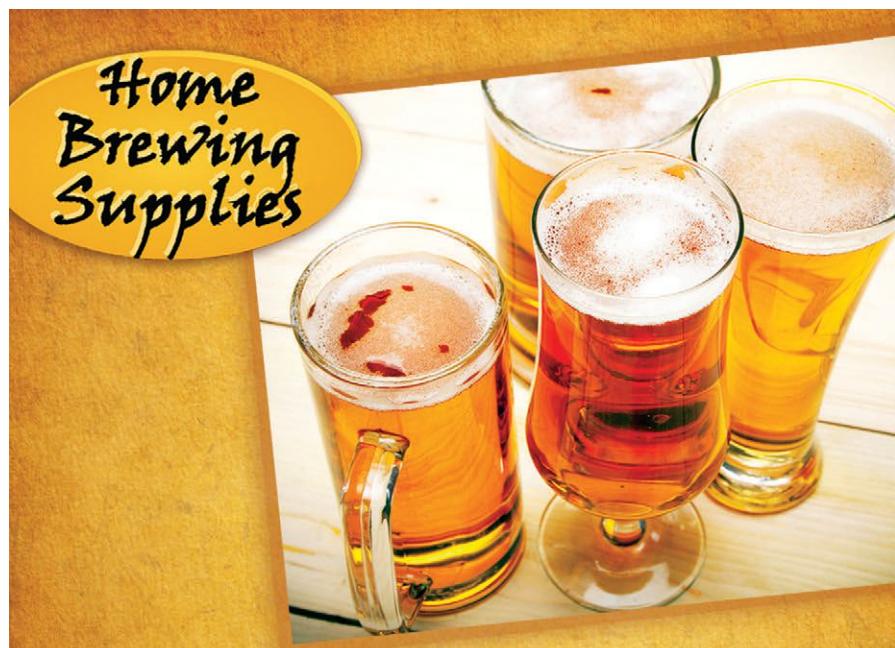
Cheers,  
Luis Rovira

Dear Luis,

Thanks for sharing your success in overcoming the challenges of brewing in the tropical areas of the world. With global warming, this may become more useful to others.

Heatedly,  
The Professor, Hb.D.

**Hey homebrewers! If you have a brewing-related question for Professor Surfeit, e-mail [professor@brewersassociation.org](mailto:professor@brewersassociation.org).**



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By Amahl Turczyn Scheppach



# English and American Barleywines



The Club-Only Competition for March/April 2013 focuses on two of the three subcategories in the BJCP style guidelines for category 19, Strong Ale: English and American Barleywines. English barleywine obviously predates its New World counterpart, and represents the strongest of that country's impressive lineup of ales. English barleywines are known for multi-layered malt depth, even though they may still be quite hop-heavy. The American version adds the complexities and bitterness of hops, and often showcases Pacific Northwest varieties in all their chewy, resinous glory. It is worth noting that unlike double or imperial American India pale ales, American barleywines still retain a rich, malty body to balance the hops, and may contain caramel (or caramelized) flavors and aromas.

English barleywines are like extremely strong old ales or stock ales, and since their emphasis is usually more on malt

than hops, they are often aged for a significant period before their release. They can also tolerate months and often years of additional cellaring, developing port wine or sherry complexities and mellow alcohol smoothness. Many commercial examples are vintage-dated. Thanks to the use of traditional English yeast varieties, they can also have a significant fruitiness in the flavor and aroma, usually of the fig, date, raisin, and other dried fruit variety. There can also be some bready, caramel malt character, and of course lots of residual malt sweetness, though they should never be overly sweet or cloying. Color ranges from full gold to dark brown, with good to low head retention, depending on how long they are aged.

Carbonation can vary from low to moderate. They should not be opaque, but some chill haze may be present. Thanks to aging, clarity usually improves as the beer warms. They may exhibit "legs" down

the side of the glass when swirled, due to alcoholic strength and malt viscosity. English hops are obviously favored for the most authentic profile, with IBUs ranging from 35 to 70. While usually less hoppy than American styles, some can feature hops quite prominently.

American barleywines allow a greater range of hop expression, and many are late- and dry-hopped for extra aroma. The latest citrus, earthy, and "catty" varieties are often preferred for West Coast and Pacific Northwest styles, as this malt-heavy beer is a challenging one to over-hop, and there is a lot of malt sweetness to balance. This is the main difference between an American barleywine and an imperial or double IPA: they may be heavily hopped, but malt sweetness, richness and fullness tend to counter hop aggressiveness, making the overall impression more balanced.

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Bitterness levels range from 50 to 120 IBUs, significantly higher than their English cousins, and while hop variety is not limited to American types, they are often preferred. Many brewers will also mix American and English varieties. These beers are also much more likely to be served young, to preserve that late hop signature, as it tends to subside with age. This also should lead brewers to consider



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## Batch 100 Barleywine

THIS RECIPE IS BASED ON RAY DANIELS' RECIPE FOR BATCH 100: BARLEY WINE FOUND IN *BARLEY WINE: HISTORY, BREWING TECHNIQUES, RECIPES* BY FAL ALLEN AND DICK CANTWELL, NUMBER 11 IN THE CLASSIC BEER STYLE SERIES FROM BREWERS PUBLICATIONS.

### INGREDIENTS

for 5 U.S. gallons (19 L) with a 4.3 gallon (16.3 L) boil
<b>2 cans</b> (6.6 lb, or 3 kg) Coopers Light Malt Extract
<b>1 can</b> (3.3 lb, or 1.5 kg) Coopers Amber Malt Extract
<b>1 can</b> (3.3 lb, or 1.5 kg) Coopers Wheat Malt Extract
<b>1.5 lb</b> (680 g) biscuit malt (35 °L)
<b>0.5 lb</b> (226 g) Cara Pilsner malt (10 °L)
<b>0.5 lb</b> (226 g) CaraMunich® malt (75 °L)
<b>0.5 lb</b> (226 g) crystal malt (80 °L)
<b>2.0 oz</b> (57 g) Chinook hop pellets, 13.0% a.a. (60 min)
<b>1.0 oz</b> (28 g) Perle hop pellets, 8.25% a.a. (60 min)
<b>1.5 oz</b> (42 g) Cascade hop pellets, 5.75% a.a. (15 min)
<b>1.0 oz</b> (28 g) Northern Brewer hop pellets, 9.0% a.a. (5 min)
<b>1.0 oz</b> (28 g) Cascade hop pellets, 5.75% alpha acid (5 min)
<b>0.75 tsp</b> (3.6 g) Irish moss (15 min)
<b>4 packages</b> Wyeast 1056 American Ale yeast or White Labs WLP001 California Ale yeast

For 2.0 to 2.5 volumes of CO<sub>2</sub>, use Coopers Drops, or 2.7 to 4.0 oz (77 to 113 g) corn sugar for bottling.

**Original Specific Gravity:** 1.115

**Final Specific Gravity:** 1.021 to 1.028

**SRM:** 22

**IBU:** 100.5

**ABV:** 10 to 11%

### DIRECTIONS

Start with 2.0 gallons (7.6 L) of filtered water. Place the 3 lb (1.36 kg) of grains in a grain bag and steep the grains at 150 °F (66 °C) for 30 to 45 minutes. Remove the grains and strain the liquid from them. You can rinse the grains with 1 gallon (3.8 L) hot water to bring the volume to 2.65 gallons (10 L). Heat the wort to boiling, then turn off the heat and thoroughly stir in the 4 cans of extract. If needed, top up with water to

start with 4.3 gallons (16.3 L). Bring to a boil and boil for 60 minutes before adding the two 60-minute hops. Boil for 45 minutes and then add the re-hydrated Irish moss and the first Cascade hop addition. Boil for 10 minutes and add the last two hop additions. Boil for 5 more minutes and then remove from heat. Cool the wort, then pour into fermenter with enough pre-boiled cool water to make 5 gallons (19 L) (approximately 2 to 2.5 gallons, or 7.6. to 9.5 L). Aerate and pitch yeast when the temperature drops to 65-68° F (18-20° C). Ferment at 68° F (20° C) for about two weeks or until fermentation activity has subsided. Rack the beer into a clean, sterilized secondary fermenter to condition for 2 to 4 weeks. Use Coopers Carbonation Drops or prime with 2.7 to 4 oz (77 to 113 g) corn sugar at bottling for a carbonation of approximately 2.0-2.5 volumes of CO<sub>2</sub>.

Due to the high original gravity, bottle carbonation may take a month or more at room temperature. After the beer is carbonated, store cellared or refrigerated for up to a year or more. Allow some bottles to mature for two years.



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Hosted by Drew Boxrud and the Primary Fermenters Brewers and Vintners club of Saint Paul, Minn., this competition covers English and American Barleywine styles (BJCP categories 19B and 19C). For more information, contact Drew Boxrud at drewboxrud@hotmail.com.

alcohol warmth, which is acceptable, and alcohol heat or harshness, which is not. It is therefore imperative to watch fermentation temperatures carefully. Pitching rates are necessarily high, so temperatures in the primary should start low and not be allowed to rise over 70° F (21° C).

American barelywines can be aged extensively, which will lead to the development of nutty, dried fruit complexities usually associated with the English style. Some amount of oxidation may also be present, but hops generally mask the more subtle sherry-like tones. Like English barleywine, these beers often represent the strongest offering from the commercial or home brewery, and are associated with the winter or holiday brewing season.

For either style, kettle caramelization is unavoidable with such a high original gravity, so all-grain brewers should rely most heavily on pale malts in the grist—significant color and flavor will be developed during the boil, so dark and specialty malts should be used with caution and restraint. Due to the sheer amount of malt necessary to achieve the minimum gravity of 1.080 (and it can range upwards to 1.120), all-grain brewers may want to consider a double mash tun setup, or rely on the addition of pale malt extract to stand in for part of the base malt bill. Adjuncts are generally not used for these beers, though some brewers add honey or brewing sugars to bolster alcohol and add a balancing dryness.

Yeast with good alcohol tolerance and moderate to good attenuation will result in a finishing gravity of 1.016 to 1.030, though the bigger-finishing beers should have enough hop bitterness to keep them drinkable. Alcohol dryness can also play a big part in balancing sweetness, so low mash temperatures are usually a safe way to encourage thorough attenuation—8 to 12 percent by volume is typical. Fresh, healthy yeast in huge quantities is essential to avoid a stuck ferment, and bottling with a bit of wine yeast is usually not a bad idea.

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



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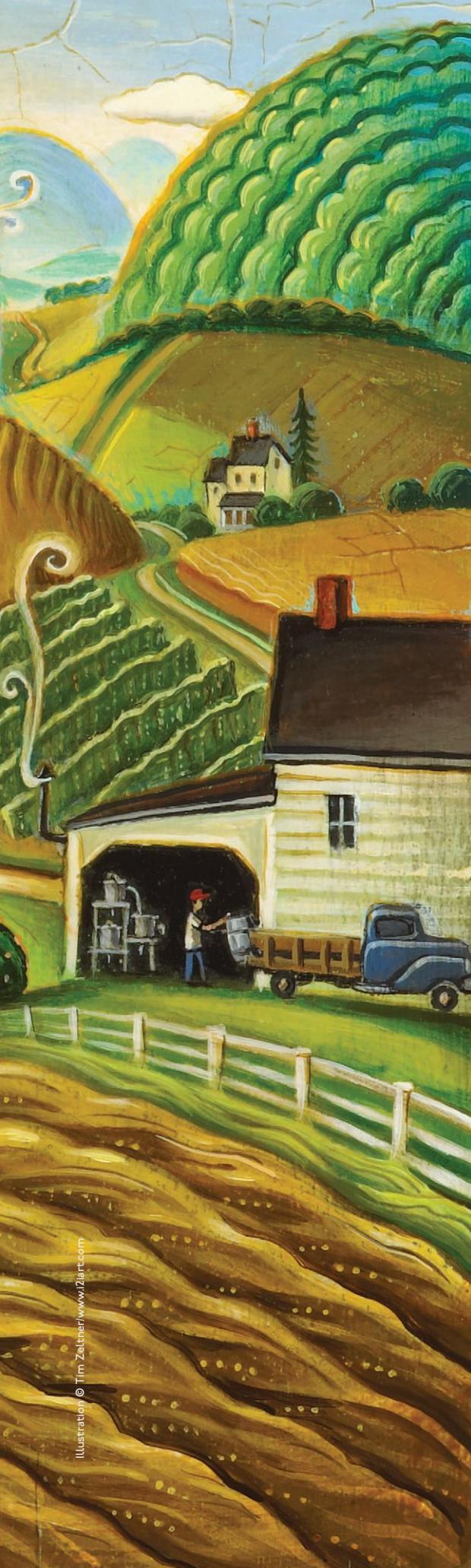


Illustration © Tim Zeltner/www.t2art.com

# *It Takes a Village:* **Brewing a Truly Local Beer**

*"It would be much easier if you tried making apple brandy or corn whiskey. That stuff grows much better here."*

water. I live less than a mile from the Chattahoochee River—Atlanta's primary water source—so my water is as local as it gets.

It has never been easy to brew beer in the South. Hops and barley prefer cooler and more northerly climates. But it has been done. Not long after moving to Tybee Island, Ga., in 1736, British Maj. William Horton planted barley and built a brewhouse. I like to believe it was at the top of his to-do list.

Horton's noble experiment didn't last. But in a part of the country with deep agricultural roots and a fast-growing appreciation for craft beer, I was going to make a go at brewing a truly local beer.

*By Coleman Wood*

**m**y quest to brew a beer using only local ingredients was not off to a good start. After a week of calling north Georgia farms looking for grain to brew with, the only thing I had to show for it was the advice at left. And

## Barley Getting Started

My initial attempts to find Georgia-produced barley failed spectacularly. A homebrewer friend who also is very involved with north Georgia's local farming community suggested alternative grains such as sorghum and millet, which do grow in the South. But he didn't recommend them, on account of undesirable flavors and difficulty of malting.

"Frankly, beer is very unsustainable in the South, which is why I have a preference for brewing mead," he said.

So now I had two doubters, but I wasn't ready to give up yet. I still needed malt, so I started looking for the closest malthouse. Luckily, I only had to look 200 miles north of Atlanta to find it. Asheville, N.C., is a beer lover's mecca and a place with a passionate love for locally made food. Thankfully, two men there had an even more ambitious idea than I did—they wanted to malt their own barley using only locally grown grain.

Brent Manning and Brian Simpson started Riverbend Malt House in 2010 with the

admirable goal of helping to create a truly sustainable craft beer that was environmentally conscious and supported the local economy. The problem is that the two-row spring barley most commonly used for malting does not grow in North Carolina. Instead, they use a six-row winter variety. Not only did they have to learn how to floor malt—doing stints at the Canadian Malting Barley Technical Centre in Winnipeg and Copper Fox Distillery in Virginia in the process—but they faced the uphill battle of overturning decades-old opinions about the inferiority of six-row barley.

"I put myself in that camp as well," Manning said. "When we first started doing this, I was quite skeptical that six-row barley could make a smooth, rich-tasting beer. Through working with the product extensively over the past 18



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## Southern Belle Blonde Ale

### Ingredients

for 5.5 U.S. gallons (20.8 liters)

<b>8.0 lb</b>	(3.6 kg) Riverbend six-row* pale malt
<b>4.0 lb</b>	(1.8 kg) Riverbend six-row* heritage malt
<b>1.0 oz.</b>	(28 g) whole dry Cascade hops (60 min.)
<b>0.5 oz.</b>	(14 g) whole dry Cascade hops (30 min.)
<b>1 T.</b>	(15 g) Irish moss (15 min.)
<b>1.66 T.</b>	(18 g) yeast nutrient (15 min.)
5 Seasons ale yeast (substitute any neutral American ale yeast)	

\*Note: Six-row kernels are smaller than two-row kernels, so narrow the gap slightly on your mill when crushing the grain for maximum efficiency.

**Original Gravity:** 1.056  
(72% efficiency)

### Directions

Single-infusion mash at 158° F (70° C) for 60 minutes. Boil for 60 minutes and add hops at specified intervals.



Floor malting barley is a labor of love for Brent Manning and Brian Simpson of Riverbend Malt House.

months, I can honestly say that in only a very limited number of occasions have I tasted a distinct grainy astringency, and that has only been under very cool fermenting temperatures and with certain strains of yeast."

Riverbend educates its farmers about soil additions that increase the carbohydrate content of the grain while reducing its protein content, which creates a product more like two-row barley than the six-row of the past. Seven Carolina breweries now use their grain, and two of them, Asheville's Wedge Brewing Company and Durham's Fullsteam Brewery, use the malt year-round.

"Just like people buy local, shop local and eat local, we want people to drink truly local beer," Manning said.

Photos © Douglas Taylor and Coleman Wood

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A custard dish (above) can be used for capturing wild yeast.



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### Hopping the Fence

Finally, I had kindred spirits. Now, I needed hops. This turned out to be the easiest ingredient to find. Though hops don't grow well in southern climates, it hasn't stopped many homebrewers from trying. One of these pioneers was a friend who has been growing Cascade hops in his backyard for several years. It took little convincing for him to let me keep some of his hops in exchange for helping him harvest.

Backyard growers have long been able to cultivate hops in less-than-ideal climates. It's easy to baby two or three plants regardless of the climate. However, it is not very likely that hops will ever be commercially viable in the South the way they are in the Pacific Northwest.

*“Breweries creating similar styles of beer will often share yeast as a way of extending its life cycle and sharing in the cost.”*

“Hops are a more northern latitude plant,” said Scott King, an agricultural extension associate at North Carolina State University. “They need a longer summer day to fulfill their potential. That is their biggest and most immediate limiting factor, which you can’t do much about.”

King and his colleagues recently completed a study of the commercial viability of growing hops in North Carolina. His findings show that regardless of variety, plant yields are approximately 80 percent less than in more northern latitudes, with shorter summer day length being the primary cause. The type of hop also made a big difference, with newer American varieties with higher alpha acid content yielding the most cones. Some more aromatic and European varieties produced no cones at all.

“The fact that variety differences were so stark is just remarkable,” King says. “I didn’t expect variety differences to be that pronounced.”

### *The Yeast of My Problems*

The only ingredient I had left to obtain was wild yeast, and the only tools at my disposal were a complete lack of post-secondary science education and enough naive enthusiasm to prevent that from stopping me. While buying malt extract at my local homebrew shop, I struck up a conversation with the owner about my quest. His response was like the Greek chorus I had been hearing since I began.

“I guess you can catch wild yeast around here, but it’s not going to taste any good,” he said.

My first few attempts did not go well. I tried leaving a mixture of malt extract and

water on my apartment balcony overnight, but all I got after a few days was a liquid that smelled like old cheese wrapped in an even older sock. Next, I created a solid malt extract using agar and put it into a custard dish, which was substituting for a petri dish. With this method, I could physically see the different things growing on the surface and separate the yeast cells from everything else.

Of course, I didn’t exactly know what yeast looked like apart from what I bought at the homebrew shop. So, I made my

best guess and swabbed what I thought was yeast into a starter then pitched it into my carboy on brew day. Four weeks later, I was dumping out a beer that tasted like pure sulfur. My collection method turned out to be the problem.

“Rather than capture yeast from the air, we find a more concentrated form that is already growing on the skins of fruit. So far, it’s been very successful,” said David Thornton, a research associate with Clemson University’s Sustainable Biofuels program who specializes in cellulosic

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# Capturing Yeast

## Method 1: Capturing via malt extract

1. Create a solid agar plate: Mix together 1 cup water and 2 tablespoons dry malt extract. Bring to a boil, then add 1 tablespoon agar (available in the Asian food section at specialty grocery stores). Boil for five minutes, stirring occasionally. Remove from heat, then pour into a sterile petri dish (a custard dish with a clear lid will also work). Seal lid. Mixture will solidify as it cools.
2. Open lid and expose to your capture environment. Locations near fruit orchards and beehives work the best. Leave exposed for several hours.
3. Reseal lid and place in a dark, room-temperature location for 1-3 days.
4. Once growth occurs on the plate, sterilize a loop and use it to scrape small pieces off the yeast colonies. Stir the loop into a weak starter containing a mixture of dry malt extract and warm water.
5. Once signs of fermentation begin, create a slightly stronger starter of dry malt extract and warm water. Pour only the liquid from your original starter into the new starter. Leave the sediment at the bottom of the container behind, as this could contain undesirable organisms.
6. Once fermentation begins with the new starter, transfer into a strong starter, again only transferring the liquid. This will increase the yeast cell count and the alcohol content, which will lower the pH and inhibit the growth of anything besides yeast.
7. If you are not confident you have the cell count to brew beer, keep transferring the yeast into stronger starters. Remember, only transfer the liquid, which contains the healthiest and most active yeast.

## Method 2: Capturing via fresh fruit

1. Sterilize a collection container (any bowl will do) and a fermentation container (preferably an Erlenmeyer flask or a clear growler bottle).
2. Take to a location containing ripe fruit that is ready to harvest.
3. While wearing sterile gloves, pick the ripest fruit off the plant. Overripe fruit is best, since sugars will already be secreting outside of the skin, attracting yeast. Place the fruit into your collection container, crush into pulp, and leave exposed to the open air for several hours.

*Note: A spray bottle containing ethyl alcohol or vodka can help you sanitize while in the field.*

4. Pour the inoculated mixture into your fermentation container and seal with an air lock.
5. Once signs of fermentation have begun, build the yeast count up via starters as described in Method 1. Make sure you have strained all fruit juice out of your starter before brewing, as this could contribute undesired flavors.

*Keep in mind that your nose is the best tool to decide if you have yeast or something else.*

ethanol, which is like brewing but with fuel as the end product.

Last summer, Thornton, who is also a homebrewer, received grant funding to study the wild yeast growing around Clemson. Taking cues from the spontaneous fermentation methods of saison brewers in the past, Thornton and his team went out to Clemson's experimental farm, crushed up ripe fruit in sterile containers, and sealed them up after a few hours' exposure to open air. If fermentation occurred, they built up the yeast cell count by pitching the mixture in stronger and stronger starters until it was ready to brew. If I had talked to him a week earlier, I may have been able to save my first batch.

Dejected and running out of time, I had to think fast. I regularly volunteer at 5 Seasons Brewing, a local brewpub, and they always have plenty of yeast leftover from brewing. Granted, this solution was not truly local, but it was more local than I thought.

5 Seasons actually gets its yeast from nearby Terrapin Beer Co., whose brewmaster has a longstanding relationship with the brewpub. This idea of sharing yeast is actually fairly common in the craft beer world.

"It reflects the whole craft beer industry, in that there is a mentality of 'you show me your cards and I'll show you mine,'" said Matt Williams, formerly a brewer at 5 Seasons and Atlanta craft beer pioneer Dogwood Brewing Company who is now a sales rep for Left Hand Brewing Company. According to Williams, breweries creating similar styles of beer will often share yeast as a way of extending its life cycle and sharing in the cost.

"The fact that you're building a relationship is what's important," he adds.

This arrangement has the added benefit of creating a stronger sense of community within the competitive craft brewing industry. It also trickles down to the homebrewing community. Williams commented that breweries often have excess yeast that they gladly share with

homebrewers, who simply have to politely ask and be willing to wait to collect their yeast.

With my 5 Seasons-by-way-of-Terrapin yeast in hand, I tried brewing again. I borrowed more hops from my friend and luckily had another bag of grain from Riverbend. I brewed my beer, said a little prayer, and waited.

### A Southern Belle is Born

A little over a month later, I had a sessionable blonde ale that I affectionately came to call Southern Belle. It did taste a little thin—all of my malt had been crushed when I brewed my first batch, so a month later when I brewed again it had lost some efficiency. Still, it was within style. It could've also used some additional hops, but when you are using the homegrown variety, you only have a general idea of your alpha acid level. It also had a slightly fruity taste, which Williams told me was one of the byproducts of the ale yeast. It wasn't perfect, but it was local enough for me.

### Small Malt Houses in the U.S.

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#### Rebel Malting Company

Reno, NV

[www.rebelmalting.com](http://www.rebelmalting.com)

#### Riverbend Malt House

Asheville, NC

[www.riverbendmalt.com](http://www.riverbendmalt.com)

#### Skagit Valley Malting

Mt. Vernon, WA

[www.skagitvalleymalting.com](http://www.skagitvalleymalting.com)

*Not in production yet, but their first product is expected by the second quarter of 2013.*

#### Valley Malt

Hadley, MA

[www.valleymalt.com](http://www.valleymalt.com)

Yes, I was happy that I knew exactly where all my ingredients came from. But I was happier about the community that was opened up to me during the process. Through brewing friends both old and new, I discovered that the brewing community in a place as sprawling as the Southeast is actually much smaller than I thought.

**Coleman Wood is an avid gardener, homebrewer, and freelance writer who has written extensively about the rise of Atlanta's craft beer scene. He lives in Atlanta, Ga.**

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Subtle + Savory  
Sake



There was a time in America's not-so-distant past when sake was considered a drink only to have with Japanese food. It was typically warmed up (sometimes too hot) and served to complement sushi. Modern diners are now beginning to understand the diverse possibilities of pairing sake with food, and not only the Japanese variety.

*By Paul "Zok" Zocco*

The poem goes, “East is east and west is west...never the twain shall meet.” But when it comes to sake, the rules have changed. There are currently at least eight sake breweries in America, mostly located in the western part of the country, with at least one more slated to open in 2013. The sake produced in these breweries approaches the quality of the Japanese versions. Ingredients such as highly polished rice, koji, and yeast are readily available. American sake brewers are mastering the brewing techniques to produce complex sake. This sacred drink, the origins of which date back to as early as 710 AD, is also fairly easy to make at home.

The brewing of sake is more similar to that of brewing beer than it is to distilling or winemaking. Sake is made from water, yeast, rice, and a mold called koji. Unlike beer making, which uses heat, water, malt enzymes, and specific temperatures to convert the starches from the grains into fermentable sugars, sake relies on koji for starch conversion. Koji are mold spores from a culture of *Aspergillus oryzae* that are inoculated into the rice mixture and allowed to propagate for a short time. Koji can perform starch conversion at fermenta-

tion temperatures, rather than at malt enzyme temperatures; as we'll soon see, this is a great advantage over using barley for producing fermentable sugars.

Sake is made from particular varieties of short grain rice such as Yamada Nishiki that contain extremely high percentages of starch. The short shape of this variety makes it beneficial in the polishing process (*seimai*)—that is, the rice granules are ground to remove a portion of their outer layer. This outer aleurone layer contains a high level of protein, fats, and minerals that could otherwise produce off flavors in the finished sake.

Similar to the process of mashing malted grains, sake production starts with washing the polished rice (*senmai*) to remove rice dust, then soaking it (*shinseki*) to allow the rice granules to absorb a specific volume of water. The washed rice is then boiled or steamed, effectively destroying any resident wild yeast or bacteria and making starches more accessible to koji mold. A starter is prepared to produce kome-koji, or koji-inoculated rice similar to a brewer's starter, but using koji spores and a portion of the cooked rice.

Unlike beer making, which uses heat, water, malt enzymes, and specific temperatures to convert the starches from the grains into fermentable sugars,

*sake relies on koji for starch conversion.*



After the koji has been inoculated into the cooled steamed rice mixture, white flecks can be seen on the surface of the rice starter, and a distinctive aroma is produced. At this stage, a portion of the newly made kome-koji, lactic acid, yeast, freshly steamed rice, and water are added to a seed mash in order to build up the sake yeast population. It is similar to a brewer's yeast starter, but is a necessary and critical part of sake brewing. The addition of lactic acid raises the acidity of the mash, which effectively inhibits the growth of unwanted wild yeast and bacteria that could have negative effects on the finished sake.

At this point the starter, or “moto,” is covered and held near 70° F (21° C) for a period of several days. The koji mold breaks down starches in the steamed rice to fermentable sugars while the yeast ferments and multiplies. This process is called “multiple parallel fermentation.” The fact that the yeast is fed sugar slowly and continuously allows it to perform amazing feats of attenuation—sake can easily ferment to 20 percent alcohol by volume.

When yeast activity slows, it's time to transfer the starter to the main fermenta-

tion vessel, where alternating additions of steamed rice, water, and koji-inoculated rice are added at specific intervals. Each addition doubles the size of the total batch. Temperatures must be carefully regulated, both of the rice/water additions and of the main fermentation itself. Most sake yeast strains available to the homebrewer are similar to lager yeast, and do their best work around 58° F (14° C), but can ferment at higher temperatures, too. After the fermentation process is complete, the entire “cake” of rice is pressed to remove the liquids. The wine may then be filtered and pasteurized for stability, with bottling to follow.

#### *Try This at Home*

Brewing a small batch of sake at home is similar to homebrewing a five-gallon

batch of beer. We may not have all of the bells and whistles of a professional operation, but it can be done. The following is a simplification of the classic sokujo-moto method, courtesy of Fred Eckhardt and made available by Bob Taylor at [www.taylor-madeak.org/media/blogs/tmblog/eckhardt-sake.pdf](http://www.taylor-madeak.org/media/blogs/tmblog/eckhardt-sake.pdf). For more information, check out Eckhardt's book, *Sake (USA)*.

The method below, courtesy of Vision Brewing, shortens and simplifies the process; it also uses widely available Champagne wine yeast rather than authentic sake strains, but most major yeast labs have at least one authentic strain available.

There are two distinct parts of brewing sake: making a rice starter, and brewing.

#### *Part 1: Kome-Koji Starter*

1. Wash 1 pound (0.45 kg) of short grain rice (polished rice is available) until the runoff water is clear. Soak for 90 minutes in cold water and then drain well for 30 minutes.
2. Steam the rice for one hour, or until it becomes slightly transparent. Note that steaming is different from boiling or using a rice cooker. Those methods leave the rice soft and water-logged—great for the table, but not for sake. Steaming *above* and not *in* water gelatinizes the rice without softening it too much, which means the koji will convert it slowly to sugar, and the yeast will ferment much healthier.
3. Cool the rice to 86° F (30° C).
4. Carefully add 1.5 grams of koji evenly throughout the rice mixture. Mix well.
5. Cover the rice with a clean cloth to prevent drying.
6. Keep the koji-inoculated rice in a warm area (86° F or 30° C). Stir the mixture every 12 hours.

After approximately 15 hours, the rice will develop a cheese-like aroma and the color will begin to whiten. After 40 hours, white fibers begin to form on the surface.

#### *Part 2: Sake Brewing*

1. Wash 3.3 lb (1.5 kg) of rice as described above. Soak for 90 minutes. Drain as above.
2. Steam the rice for one hour, or until it becomes slightly transparent.



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3. Cool the rice to 86° F (30° C).
4. Dissolve one teaspoon citric acid into 0.9 gallon chlorine-free water in an open-topped fermenter.
5. Add 0.9 lb. kome-koji produced in Part 1 and mix well.
6. Add the cooled, steamed rice and mix well.
7. Pitch 5 g of Champagne yeast. Ferment at 65-70° F (18-21° C). After two days, the rice will liquefy.
8. Stir the mixture at least once a day. Aromatic byproducts will begin to develop.
9. Ferment for two weeks.
10. Filter through a fine filter, or fine using Sparkolloid, allowing 24 hours to clear.
11. Though not indicated in Vision Brewing's procedure, pasteurization at 140-160° F (60-71° C) may be helpful in preserving the sake for longer periods.
12. Proceed to bottle.

#### *Types of Sake*

There are many different types of sake. Here is a brief overview.

**Futsu:** Generic, everyday sake made with rice that may not have been milled at all. This inferior style usually is served warm in sushi restaurants.

**Junmai:** Meaning "pure rice," junmai is made with only rice, water, yeast and koji. No alcohol has been added. It has a mellow bouquet and a rich, smooth flavor.

**Honjoso:** Sake with a small amount of brewer's alcohol added for enhancement of aroma and flavor.

**Nama:** Unpasteurized sake. This type of sake must be refrigerated for stability.

**Nigori:** "Cloudy" sake. This type of sake must be shaken up to re-suspend the solids. Can be sweet.

**Ginjo:** Sake made with rice milled so that 60 percent or less of the grain remains.

**Daiginjo:** Sake made with rice milled so that 50 percent or less of the grain remains. Lighter and fruitier than ginjo. May or may not have added alcohol.

**Tokubetsu:** Sake brewed using high quality rice and in a distinct, special manner.

If a label states Junmai Daiginjo, the sake has no alcohol added and the rice used has a polishing rate that leaves at least 50 percent of the rice grain. Alternatively, Honjoso Daiginjo is sake with a similar polishing rate, but with added brewer's alcohol.

After fermentation and filtering, some sakes are diluted with pure water to decrease their alcohol level to approximately 15 percent and to make them more palatable.

With a little patience and good technique, homebrewers can produce very nice sake at home. As in brewing beer, sanitation and dedication to your craft will reward you with the fruits of your labor. *Kanpai!*

**Paul "Zok" Zocco has been homebrewing for 20 years and has owned a homebrew shop in Willimantic, Ct., for 15 years called Zok's Homebrewing. He actively competes in many BJCP beer, mead and cider events and was named Meadmaker of the Year at the 2003 National Homebrewers Conference. This spring, he is planning to visit beer and sake breweries in Tokyo.**

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# Soda, Anyone?

## THE REJUVENATING TONIC BAR

How can a homebrewer talk homebrewing without, well, homebrewing? Every year, this riddle pops up for homebrewing clubs across the nation. We want to have some fun and pour our beer at beer festivals, but due to a variety of factors, many festivals declare that no homebrew can be poured. Ingredient displays, videos, and even fermenting flasks of fluid are fine, but beer and brewing are verboten.

It's only getting worse with new interpretations of state law as far as homebrew leaving the home (see *From the Glass* on page 7). The American Homebrewers Association, of course, is helping to fix those issues as they arise (your membership dollars are important!).

For Los Angeles area homebrewers, this problem arises every year with the LA Beer Week Festival. With a venue, Union Station, belonging to the era of starlets being plucked from obscurity at Schwab's soda fountain, it's the perfect opportunity to show the softer side of homebrewing with the kid-friendly art of soda making.

These are not the sickly sweet concoctions sold everywhere, but a more adult take: less sugar, brighter, more challenging flavors, and more refreshing. These are beverages designed to cool and quench, and provide a break from beer during a festival.

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can be a boon to fest organizers instead of a headache. For our part, we still have a chance to demonstrate our creativity and do it faster and cheaper than we'd be able to brew beer.

For those rolling their eyes with macho brio at merely making soda, just give it a try. You'll be amazed at the reception you get.

### THE HISTORY OF SODA

People love fizz. For centuries, naturally carbonated water springs have been prized as centers of healing. People went to "take the waters," drinking down the fizzy mineral-rich result of dissolved sodium carbonate reacting in mildly acidic conditions. Think of the old baking soda and vinegar volcano, but bigger, and flowing through rock instead *papier mâché*.

A major transformation came in 1832 with Brooklyn-based Brit John Matthews' invention of the countertop soda fountain machine. Plain water was charged with CO<sub>2</sub> from the reaction of sulfuric acid and marble. Initially, he used the leftover marble from the construction of St. Patrick's Cathedral!

The real revolution in soda pop came a few years later in 1838 when Philadelphia perfumer Eugene Roussel, a transplanted Frenchman, was reportedly the first to add flavored syrups to glasses of soda water at his perfume shop. As pharmacists and others began blending new ingredients, soda became the new patent medicine with claims to soothe every ailment or provide pep.

BY DREW BEECHUM



In 1886, Atlanta pharmacist John Pemberton, forced by local prohibition to change his Pemberton's French Wine Coca into a non-alcoholic beverage, created the iconic Coca-Cola. From there, all it took was the automatic glass bottle machine to come along in 1903, and soda pops with wacky flavors and health claims were soon flooding market.

### MAKING SODA

Like beer, soda making involves a balancing act among your ingredients. Here we deal with water, sugar syrup, acid, flavoring, and finally carbonation.

Let's start with the basics—the water itself. As with brewing, your tonic needs a base of clean, pure water free of chlorine, chloramine, and other less savory components. If you'd make beer with it, you can make soda with it. Store bought filtered water or carbon filtered water should work. Reverse osmosis or distilled water should be avoided out of fear of "blandness" (although, as with brewing water, it can be treated with various minerals to bring out desired flavors).

Big-name bottled water is usually processed municipal water with "minerals added for flavor." You could boil a small amount of chalk or sour salt (sodium citrate) into the water to fine-tune the character, but the primary mineral to focus on is sodium. A few dissolved grams of non-iodized salt will perk up flavors. Don't go overboard; it shouldn't taste like sea water!

If you've ever reconditioned a corny keg, then you know that commercial sodas come as a concentrate. The water may provide the canvas, but the color, sparkle, and boom all come from the syrup. Soda makers pack all the flavor of the drink into this concentrate. Tasting the syrup straight will blow your taste buds with undiluted strength.

Our syrups, packing less sugar, lack the tar-pit tackiness of regular soda syrup. Thankfully, this also means incorporating the syrup into the water is simpler. No matter the amount of sugar, make sure to boil for 10-15 minutes to concentrate and sanitize the syrup.

### THE SWEET STUFF

There's a reason why health experts are worried about American consumption of soda. The major brands contain in the neighborhood of a pound of sugar per gallon! The sweetener is there to mask the bitterness of the flavors and the caffeine. That level of sweetness may appeal to kids' palates, but for anyone past the age of 18, a sense of insipid, sugary monotony creeps in, and we long for relief from something more palatably bitter.

I prefer my sodas about a fourth as sweet as commercial varieties with approximately 4 ounces (by weight) of added sugar per gallon. Anything approaching mainstream "regular" soda tastes like sucking on a sugar cube.

How to get your sweet on? You can go liquid and use corn syrup (bleh), honey, agave nectar, or even malt extract for your hearty sodas. Or start with your favorite sugar, mix it 1:1 with water (e.g. 1 cup of sugar, 1 cup of water) and boil for 10 minutes. I typically use 2 cups for 3 gallons.



### SODA SANITATION

Since our sodas don't have the preservative power of hops or ethanol, sanitation is incredibly important. After all, even in our lower sugar adult sodas, there's still an abundant feast for all sorts of creepy crawlies. Take your time, sanitize well, and keep your pop cold!

If you prefer to use a no-calorie sweetener, dissolve it in pre-boiled flavored syrup. Don't boil it!

### THE SOUR

Acidity plays the yang to sugar's yin. Where hops cut through the earthiness and leftover sugars of a beer, soda depends on a combination of sourness and brisk carbonation. Almost every drink we consume for refreshment has an acidic nature.

Soda gets a zippy acid bite usually from a blend of citric and phosphoric acid. Citric acid is readily available from the produce stand and the homebrew store. Phosphoric acid is a little harder to come by and a lot more dangerous, so let's leave the rust remover alone.

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In that vein, people have been raising concerns about the dental impact of all this acid exposure. The “adult” sugar levels of these tonics require far less acid to balance. In fact, with the exception of small amounts of lemon juice or citric acid, I try to avoid overt acid additions, getting my acidity from my flavors. If you find the acidity too low for your tastes, feel free to adjust. For reference, the cola with red labels reportedly contains 3 ounces of citric acid per gallon, plus more phosphoric acid.

#### THE FLAVOR PACK

Finally, the heart of the matter: how to flavor our tonics. I'm a big fan of raiding the grocery store for anything that will contribute flavor to sodas.

**Herbs and spices:** Sodas began as medicinal infusions of herbs, roots, and spices, so of course they belong here. Everything from the usual—cinnamon, vanilla, and mint—to the unusual like celery seed is fair game.

**Fruits and veggies:** Chop and freeze them. Shred, blend, or macerate to a pulp, then strain off liquid and add to the hot syrup. Remember with citrus, zested peel is where the boom lies. Play around; some unexpected things like cucumber peels offer interesting characters.

**Fruit juice:** I prefer to use juices that are 100-percent fruit or make my own. Remember that many “all-juice” products also contain less-expensive apple, grape, and pear juice.

**Tea:** With all the various regular, spiced, and herbal teas on the market, it's no surprise that it makes a wonderful addition to soda. Coffee works too—it just needs more sugar to balance the bitterness.

**Bitters:** Forget the ancient Angostura bottle. Today's high-end bars and liquor stores carry a wide range of bitters in flavors from classic to cherry to Aztec chocolate. These can provide a great contrast note to your other flavors.

Astute readers will note the lack of mention of soda-flavoring kits or Italian style coffee and soda syrups. Those make great sodas, but unless you're doing something

beyond dump and stir, I don't see much creativity there.

The key with our flavor packs is to boil the heartier additions with the syrup or just steep things like tea. If you don't want to deal with the messy hassle of filtering fruit tea bags, etc. from the syrup, just run a small side boil and combine it with the syrup later.

Don't forget to take the time to strain, cool, and settle for clear syrup. OK, I usually forget, but you shouldn't.

#### PACKAGING AND SERVING

The usual soda recipes call for a pinch of yeast and heaping teaspoons of sugar (1.75 ounce by weight per gallon) to



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provide bottles with their punch. That generates ethanol and a layer of yeasty goodness dusting the bottom. If you must bottle, recycled plastic soda bottles do the trick. The static charge on the plastic will help hold yeast down; bottle stiffness gives a clear indication of carbonation; and if a bottle explodes, you have a mess but no shrapnel to clean up. Don't forget: keep them cold!

On the kegging side, we'll use about 30 PSI at 35° F (1.6° C) to achieve 4.5 volumes of CO<sub>2</sub>. Go for 8 feet in a serving line or prepare for a very spritzy pour. To force carbonate: chill overnight, set your regulator for 35 PSI, hook onto the gas fitting, lay the keg on its side, and rock for 10 minutes. Make sure to have extra o-rings on hand to replace in your keg when done if your soda is strongly flavored. ("So that's why my Pilsner tastes like root beer!")

Most of the soda recipes are designed to be mixed with 2.5 gallons of water to make a short keg's worth. If you don't have kegs or room and o-rings to spare, use the old-fashioned soda counter method—mix before you serve. Store the syrup cold in a sanitized container. Add syrup to a glass, a little warm water to dissolve, and then stir in sparkling water. This has the benefit of allowing you to adjust the sweetness/intensity.

### RELATING IT BACK TO BEER

You didn't honestly expect me to avoid the topic of beer in this article, did you? You can use your flavor syrups to play with your beer without blowing a whole batch. It's not unusual—think Berliner weisse and the whole red/green mystique (for more on creating your own syrups for Berliner weisse, see the article on page 44). Make Dr. Drew's Rejuvenating Blueberry Ginger Tonic and add small amounts to your favorite wheat beer. Once you've locked in on a ratio, you can formulate a standalone beer recipe like Drew's Bluebier. Just don't let the kids drink *that* one.

**Drew Beechum is a frequent contributor to Zymurgy and a member of the AHA governing committee. He lives in Pasadena, Calif.**

## Two Cents Plain

The classic seltzer water. The name comes from the Great Depression when seltzer was the cheapest option at the soda counter. Hard times, cheap drinks.

### INGREDIENTS

for 3 U.S. gallons (11.3 liters)

**3.0 gallons** (11.3 l) filtered water

### DIRECTIONS

Chill to 35° F (2° C). Force carbonate at 30 PSI for 10 minutes

## Club Soda

Club soda isn't just seltzer! It is seltzer mixed with several salts to both replicate natural spring waters and buffer the natural carbonic acid created when water is carbonated.

### INGREDIENTS

for 3 U.S. gallons (11.3 liters)

**3.0 gallons** (11.3 l) filtered water

**1.0 g** calcium carbonate (chalk), boiled in water

**0.5 g** sodium citrate (sour salt)

**0.5 g** kosher salt

### DIRECTIONS

Boil the chalk in a quart of water to dissolve. Allow the water to cool slightly and dissolve the salts. Blend into the keg of water, chill, and force carbonate.



## Dr. Drew's Rejuvenating Blueberry Ginger Tonic

First served at the 2011 LA Beer Week Festival, this is the soda that kicked off the whole project. Very simple and tasty. I threw this together in about 20 minutes the night before the fest and carbonated it that morning. The key is using good juice and you should probably give it more time to clear, which my instructions specify.

### INGREDIENTS

for 3 U.S. gallons (11.3 liters)

**2.5 gallons** (9.4 l) filtered water

**2 cups** (450 g) sugar

**4.0 oz** fresh ginger, grated

**1 T.** Powdered China #1 Ginger

**32 oz** (0.9 l) Trader Joe's Just

Blueberry Juice or similar

### DIRECTIONS

Combine 2 cups of sugar with 2 cups of water and bring to a boil for 5 minutes. Add the ginger and boil for another 10 minutes. Allow to cool and filter through a sieve. Cool overnight and pour off carefully. Blend with water and juice in a keg. Chill and force carbonate.

## Ketsara Thai Tea Soda

From Kip Barnes and John Rockwell of Pacific Gravity and LA Beer Works. This and the Szechuan Cherry were the hit of the 2012 LA Beer Week Fest. It pours a strikingly beautiful color and reminds you of that wonderfully refreshing Thai iced tea you sip while snarfing some pad Thai.

### INGREDIENTS

for 5 U.S. gallons (19 liters)

**5.0 gallons** (19 liters) filtered water

**1.0 lb** (454 g) organic cane sugar

**1.0 lb** (454 g) palm sugar

**160 g** Number One brand Thai Iced Tea Mix

**4 tsp** lime (or lemon) juice

### DIRECTIONS

Heat water and stir in sugars to dissolve. Boil for 15 minutes. Add tea and steep for 5 minutes. Remove the tea bags and squeeze the liquid from the bags. Stir in the juice. Cool the soda syrup with a wort chiller and keg.

## Szechuan Cherry Surprise

I really wanted to make a sour cherry soda and play with the dark earthiness found lurking behind the acidity of the cherries. I use turbinado in my syrup to provide a dark base on which to play the cherries and the tingling spiciness of Chinese five spice powder.

### INGREDIENTS

for 3 U.S. gallons (11.3 liters)

**2.5 gallons** (9.4 l) water

**2 cups** (450 g) turbinado sugar

**2 T.** Chinese five spice powder

**1 tsp** cinnamon

**32 oz** (0.9 l) sour cherry juice

(Trader Joe's or sour cherry juice concentrate, diluted)

### DIRECTIONS

Combine 2 cups of sugar with 2 cups of water and bring to a boil for 5 minutes. Add the spices by whisking vigorously; the syrup will foam up. Boil for 15 minutes. Remove from the heat, strain, and cool overnight. Strain again and add to cherry juice. Add to the 2.5 gallons (9.4 l) of water in a keg and shake to combine. Carbonate as usual.

## Lemon Lime Ginger

Cullen Davis contributed this spin on the classic lemon-lime soda. The ginger provides an extra punch that wakes you up and keeps things moving.

### INGREDIENTS

for 3 U.S. gallons (11.3 liters)

**2.25 gallons** (8.5 l) purified water

**3-4 cups** (675-900 g) sugar

**0.5 cup** fresh ginger juice

**6** lemons

**8** limes

### DIRECTIONS

Juice fresh ginger with a juicer or by grinding it to pulp in food processor and squeezing it in a clean kitchen towel. Zest six limes and six lemons; tie up zest in double-layer cheese cloth. Juice enough lemons and limes to get about a pint of each kind of juice. Heat the water to about 170° F (77° C), stirring in sugar whenever you like—just make sure it all dissolves. Add lemon, lime, and ginger juice and turn off heat. Add tied-up zest bundle, cover the pot, and let stand for half an



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hour. Chill the liquid in an ice bath or chilling method of your choice, then transfer to a clean Cornie keg or soda bottles with carb caps. Be sure to leave behind zest bundle.

## Lemon Lime Delite

What can I say? It's a classic and there are enough lemon and lime trees around Southern California that we have to do something with them. This is John Rockwell and Kip Barnes' take.

### INGREDIENTS

for 3 U.S. gallons (11.3 liters)
<b>2.5 gallons</b> (9.4l) filtered/purified water
<b>10.0 oz</b> (283 g) palm sugar
<b>10.0 oz</b> (283 g) cane sugar
<b>8.0 oz</b> fresh lime juice
<b>8.0 oz</b> fresh lemon juice

### DIRECTIONS

Heat water and stir in sugars to dissolve. Boil for 15 minutes. Stir in the juice. Cool the soda syrup with a wort chiller and keg.

Did you know that 7UP originally combined lemon and lime with lithia, aka the mood stabilizing drug known as lithium? Lithia remained part of the formula until the 1950s

## Crème Brûlée

Rives Borland of the Strand Brewers brought a trio of sodas. The Crème Brûlée captured the most attention with a big, sticky head and an overwhelming sense of vanilla custard and caramel.

### INGREDIENTS

for 5 U.S. gallons (19 liters)
<b>3 cups</b> (675 g) granulated sugar
<b>3 cups</b> (675 g) brown sugar
<b>2 cups</b> (474 ml) filtered water
<b>9 cups</b> (2.1 l) whole milk
<b>3 T.</b> vanilla extract
<b>4.25 gallons</b> (16 l) carbonated filtered water

### DIRECTIONS

Combine the granulated sugar, brown sugar, and water in a heavy saucepan/pot that can hold at least 1 gallon. Cook over medium-high heat until the mixture turns dark amber. While the sugar is caramelizing, heat the milk to a simmer in another saucepan or in the microwave. When the sugar is fully caramelized, stir the warm milk into it. The sugar will immediately crystallize, and the milk will vigorously bubble and steam. Stand back so you don't get burned. Then, as the bubbling subsides, stir the caramel until it becomes smooth and fluid again. Remove from the heat, stir in the vanilla, and let cool for 5 minutes. This syrup will keep in the refrigerator for up to two days, but must be warmed until liquid before using to make a soda.



Rives pre-combined the syrup with the rest of the carbonated water for the fest, but he thinks this recipe actually works better by stirring the syrup into carbonated water to taste as you serve it. The milk makes the pre-combined mixture thick and hard to carbonate without getting too foamy. Ideally, fill glasses with ice and soda water, then stir in syrup and serve.

## Prickly Pear Ginger

This year, the LA Beer Week committee chose to have brewers make beers based around the prickly pear for their "official LABW" beers. Rives was the only one of us smart enough to incorporate it into his soda.

### INGREDIENTS

for 5 U.S. gallons (19 liters)	
<b>2 liter</b>	Finest Call Prickly Pear Syrup (available at BevMo or online)
<b>3 cups</b>	(675 g) sugar
<b>0.5 gallon</b>	(1.89 l) filtered water
<b>1.5 lb</b>	(680 g) ginger
<b>4.0 gallons</b>	(15 l) filtered water

### DIRECTIONS

Chop ginger into thin slices by hand or use food processor (I did not bother to peel skin, with no noticeable negative effects.) Bring half-gallon water, ginger, and 3 cups of sugar to a simmer for 15 minutes. Strain ginger syrup into 4 gallons water (pressing on solids in strainer), add prickly pear syrup, then carbonate.

Alternatively, strain into an empty, sanitized keg, add prickly pear syrup, and then force the syrup mixture into a 5-gallon keg with 4 gallons pre-carbonated water, using a liquid-liquid jumper line and CO<sub>2</sub> pressure.

Try first mixing measured ratios of syrup and carbonated water on a small scale to desired sweetness level and then scaling up from there. You can make another small portion of additional simple syrup if not sweet enough, or use less than the full amount of syrup if too sweet. Chill to 32° F (0° C) and carbonate to 3-4 volumes CO<sub>2</sub>.

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## Cucumber Mint Basil Lemongrass

Unless you've enjoyed a Pimm's Cup or a nice glass of water at the spa, cucumbers in your soda may sound strange. There's a commercial soda, Mr. Q Cumber, for one, but Rives jazzes his up with the aromatic licorice punch of basil and mint.

### INGREDIENTS

for 5 U.S. gallons (19 liters)
<b>2.8 lb</b> (1.27 kg) sugar
<b>1 gallon</b> (3.79 l) filtered water
<b>3.75 oz</b> fresh mint
<b>2.25 oz</b> fresh basil
<b>4 stalks</b> lemongrass
<b>4.0 gallons</b> (15 l) filtered water
<b>6</b> cucumbers, thinly sliced

### DIRECTIONS

Bring 1 gallon water and 2.8 lb (6 cups) sugar to a boil in a pot to form a light simple syrup. Chop the lemongrass into small segments by hand or use food processor. Remove pot from heat and add cucumber slices, mint leaves, basil, and lemongrass. Cover and let steep for 30 minutes.

Strain cucumber-herb syrup into 4 gallons water (pressing on solids in strainer) and then carbonate. Alternatively, strain into an empty, sanitized keg and then force the syrup mixture into a 5-gallon keg with 4 gallons pre-carbonated water, using a liquid-liquid juniper line and CO<sub>2</sub> pressure.

Try first mixing measured ratios of syrup and carbonated water at a small scale to desired sweetness level and then scaling up from there. You can make another small portion of additional simple syrup if not sweet enough, or use less than the full amount of syrup if too sweet. Chill to 32° F (0° C) and carbonate to 3-4 volumes CO<sub>2</sub>.

## Drew's Bluebier

The base is a witbier.

### INGREDIENTS

for 5.5 U.S. gallons (20.8 liters)
<b>7.0 lb</b> (3.18 kg) Pilsner malt
<b>4.0 lb</b> (1.81 kg) flaked wheat
<b>1.0 lb</b> (454 g) flaked oats
<b>0.5 oz</b> (14 g) Magnum pellets
11% a.a. (60 min)
<b>4.0 oz</b> (113 g) grated ginger (10 min)
<b>1.0 T.</b> (15 g) powdered ginger (10 min)
<b>1/2</b> lemon, zested (10 min)
<b>64.0 oz</b> (1.8 liters) 100% blueberry juice

**Original Gravity:** 1.054 (before juice addition) - 70% efficiency

**IBU:** 20

**ABV:** 6.5%

### DIRECTIONS

Use a single infusion mash at 150° F (65° C) for 60 minutes. Add gingers and lemon zest 10 minutes before the end of the boil. When fermentation is finished, rack onto blueberry juice. Expect the beer to restart fermentation!

Mini-mash version: Conduct a mini-mash with 2.0 lb (0.9 kg) Pils malt and the flaked grains. Mash at 155° (68° C) for one hour. Strain and rinse grains. Substitute 3.75 lb (1.7 kg) pale malt extract syrup for the rest of the Pils malt. Add extract and proceed with boil.



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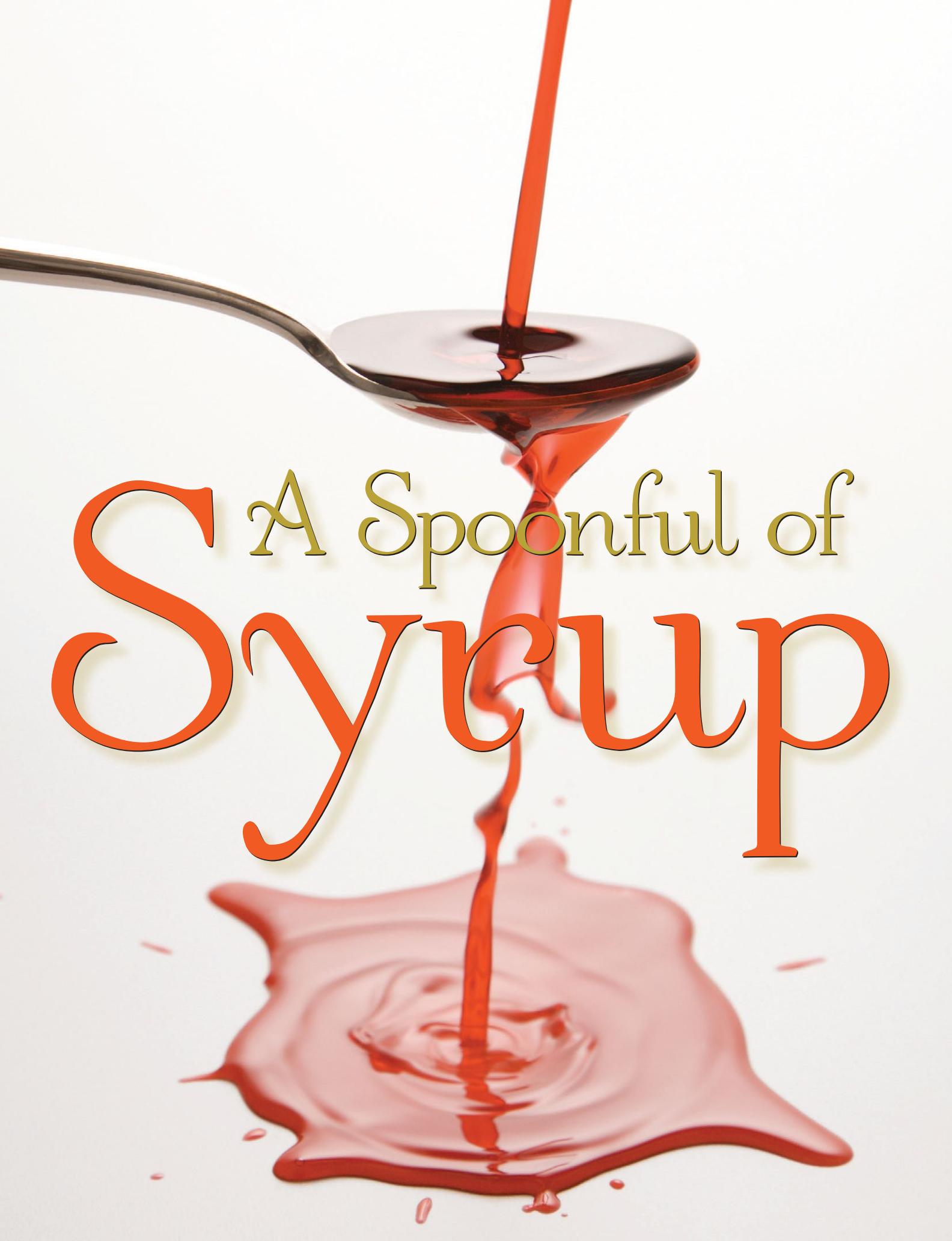
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A close-up photograph of a silver spoon being held horizontally. A thick stream of dark red syrup is being poured from the spoon's bowl, forming a thick, viscous column that curves downwards and then splashes onto a white surface below. The syrup has a glossy, reflective texture. The background is plain white.

# A Spoonful of Syrup



# Helps the Sour Beers Go Down

By Sean West

Last May I hosted my homebrew club's AHA Big Brew to celebrate National Homebrew Day. I wanted to serve my fellow club members something unique and highly sessionable since there would be multiple burners running throughout the event. Remembering Matt Lange's article "Funk with Less Fuss" in the March/April 2011 *Zymurgy*, I set my sights on my first sour beer, a Berliner weisse. For added authenticity, I thought it would be cool to offer the option to drink the beer *mit schuss*, with flavored syrup. Unfortunately, this turned out to be a lot easier said than done.

Calls to my local homebrew shop, grocery store, and liquor store as well as an extensive web search for the appropriate syrups left me empty handed. The few online options that I was able to locate were either out of stock, required a high minimum purchase, took too long to ship, or charged more in shipping than the syrups themselves. Additionally, a peek at the

ingredients listed little more than artificial flavors and colors, preservatives, and high fructose corn syrup. I quickly realized that if this was going to happen, I would have to make the syrups myself.

## Types of Syrup

Traditionally, there are three basic types of syrups made for Berliner weisse. The first is *himbeersirup*, or raspberry syrup. This syrup was by far the most popular at my Big Brew event. During other social gatherings, I was even able to convert a few non-beer drinkers who normally don't care for my "dark" and/or "bitter" beers. If you don't have access to fresh raspberries, the frozen bags at your local grocery store will work just fine. The freezing process will even help to break down the cell walls of the berries for better flavor and color extraction.

The second type of syrup is called *waldmeistersirup* or woodruff syrup. Woodruff, which is also referred to as sweet wood-

ruff, is a flowering perennial plant that thrives as ground cover in shady areas. It can be used to make potpourri, wine, brandy, sausages, jelly, soda, ice cream, and tea. Woodruff was the most difficult ingredient for me to find, but I was able to locate one-ounce bags of dry woodruff at my local homebrew shop as well as at a few larger online suppliers.

In general, most club members enjoyed getting to try this one, but were a little put off by the herbal flavor and murky yellow-brown color. Unfortunately, you will have to add food coloring if you want that traffic-light green that's often seen in photos; however, natural food colorings derived from vegetables, though expensive and perishable unlike the artificial versions, are available at natural food stores and online.

Next year I plan to plant some woodruff in my brew garden so I can compare the fresh version with the dried version. *Note: woodruff can potentially be harmful if ingested at high levels due to the toxicity of coumarin, the organic chemical compound that*

gives woodruff its sweet smell. Drugs.com recommends 3 to 3.5 grams of fresh woodruff per liter of beverage and that it should be avoided altogether during pregnancy and lactation. Large amounts will also lend the syrup an unpleasant medicinal flavor.

The final and slightly less well-known syrup is *zitronensirup*, or lemon syrup. I learned about this syrup after my Big Brew event and am just starting to try it out. As one might imagine, the lemon syrup really accentuates the lemonade qualities of a Berliner weisse. I even went so far as to make an all-beer shandy by blending the lemon-sweetened Berliner weisse with some pale ale. This turned out terrific, and I highly recommend you try it this summer. The key to making the lemon syrup is to take your time when zesting the lemons and to try to avoid as much of the white pith as possible because it will add bitterness to the syrup.

### Storage

Your homemade syrups should stay fresh for up to three weeks as long as you keep them refrigerated in tightly sealed con-

ainers. Canning, adding preservatives, and/or freezing will extend the life of the syrups, but you should always taste the syrups before mixing them into your beer. Readers interested in long-term storage should consider canning the syrups in pint-sized jars or freezing them in ice cube trays and then transferring them to freezer bags while removing as much air as possible, creating the ability to pull out a few cubes as needed.

It's also possible to add syrups to your beer prior to packaging. Just remember that you are adding sugar that will ferment and create additional carbonation if yeast is present and stored at fermentation temperatures. I would suggest using your preferred method of removing as much of the yeast as possible and storing at lagering temperatures (around 35° F or 2° C) to prevent further fermentation, or pasteurizing if you're bottling. Personally, I crash the beer down to 32° F (0° C) for 48 hours and then rack the beer into a keg with some potassium sorbate (about a half-teaspoon per gallon). Alternatively, you could try replacing the

## Berliner Weisse

*This recipe is based on Matt Lange's recipe and process from the March/April 2011 Zymurgy article "Funk with Less Fuss."*

### Ingredients

for 5.5 U.S. gallons (21 liters)

3.5 lb	(1.8 kg) plus 2-3 tablespoons Floor Malted Bohemian Pilsner malt
2.8 lb	(1.4 kg) white wheat malt
8.0 oz	(227 g) Munich 10° L malt
0.25 oz	(7 g) Hallertauer pellets (4.3% a.a.) 60 min
Homegrown sour starter or commercial Lactobacillus culture	
Wyeast 2565 Kolsch or WLP029 German Ale/Kolsch yeast	

Original Gravity: 1.031

ABV: 3.0%

IBU: 5

### Directions

Mash at 152° F (67° C), collect wort, boil for 15 minutes, and cool to around 100-115° F (38-46° C). Strain and pitch sour starter or commercial lactobacillus culture (refer to "Funk with Less Fuss" article) into the wort and maintain the same temperature for 18 to 24 hours depending on how sour you want the finished beer to turn out. I use a heatstick and a temp controller to achieve this but you could try a cooler, electric smoker, oven, or even covering it with a blanket and reapplying heat as needed. It should smell and taste good, kind of like lemonade and fresh baked bread with a white to off-white slightly bubbly pellicle forming on top. Boil for 90 minutes adding hops, chilling, oxygenating, and pitching yeast as you normally would. Ferment at around 65° F (18° C).

### Extract Version

Substitute 2.5 lb (1.13 kg) Pilsner liquid malt extract for the Pilsner malt, 2 lb (0.9 kg) wheat liquid malt extract for the wheat malt, and 5.4 oz. (153 g) Munich liquid malt extract for the Munich malt. Add malt extract to water, bring to a boil for 15 minutes, and then proceed with the recipe as shown.

# Syrup Recipes



## Himbeersirup (Raspberry Syrup)

### Ingredients

- |           |                                  |
|-----------|----------------------------------|
| 1.5 cups  | (354 ml) cold water              |
| 1.5 cups  | (337 g) plus 2 tablespoons sugar |
| 2 cups    | (300 g) raspberries              |
| 0.25 tsp. | lemon juice                      |

### Directions

In a small saucepan with a heavy bottom, mix the raspberries and 2 tablespoons sugar over medium heat. Stir until the berries begin to break down and release their juices. This should take about four minutes. Add 1.5 cups cold water and lemon juice. Bring to a boil and then immediately turn down to simmer for about 15 minutes. Cover and refrigerate the entire mixture for 24 hours. Strain the syrup into a storage/serving container.

## Waldmeistersirup (Woodruff Syrup)

### Ingredients

- |                |  |
|----------------|--|
| 2 cups         | (473 ml) water   |
| 1.5 cups       | (337 g) sugar  |
| 0.25 tsp.      | lemon juice  |
| 1 generous cup | woodruff sprigs/flowers<br>or 1 oz (28 g) dried woodruff |

### Directions

In a small saucepan with a heavy bottom, mix the water and sugar over medium heat until the sugar dissolves completely. Remove from heat and add the woodruff and lemon juice. If using fresh woodruff, you will need to bruise the leaves gently by pressing them against the pan with a spoon. Return pan to burner, bring to a boil, and then immediately turn down to simmer for about 15 minutes. Cover and refrigerate the entire mixture for 24 hours. Strain the syrup into a storage/serving container. Note: see the article for information about the safe use of woodruff.

## Zitronensirup (Lemon Syrup)

### Ingredients

- |          |  |
|----------|--|
| 1.5 cups | (354 ml) water   |
| 1.5 cups | (337 g) sugar  |
| 0.5 tsp. | cream of tartar  |
| 1 cup    | (236 ml) lemon juice from about<br>8-10 lemons plus the zest from 4-6<br>of those lemons. (Don't worry too<br>much about the seeds or pulp; you<br>will strain the syrup later.) |

### Directions

In a small saucepan with a heavy bottom, mix water, sugar, and cream of tartar until fully dissolved over medium heat. Remove from heat and add lemon juice and zest. Return to burner, bring to a boil, and then immediately turn down to simmer for about 15 minutes. Cover and refrigerate the entire mixture for 24 hours. Strain the syrup into a storage/serving container.

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cane sugar with a non-fermentable sugar like lactose.

### Mixing it Up

These traditional Berliner weisse syrups are great and I enjoyed trying them, but one of the best parts of homebrewing is getting to make whatever you want, and this benefit certainly extends to syrups. The most obvious changes would be to substitute different berries, herbs, and citrus in the recipes provided. You may have to play around with amounts depending on the potency of the ingredient you've chosen.

For example, if you replace the lemons in the zitronensirup/lemon syrup recipe with limes, you will have basically cloned Rose's Sweetened Lime Juice. You could also try swapping out the table sugar with other sweeteners like honey, turbinado sugar, or brown sugar. Mixing up multiple fruits, spices, and citrus as well as blending different syrups can also lead to some interesting flavors. My first deviation from the traditional syrups was blending raspberry syrup with mint syrup.

Finally, these syrups can be used to sweeten all kinds of different foods and drinks, which make them a great project for brewers with young children.

**Sean West is a homebrewer and a member of the Worthogs homebrew club in Macomb, Ill.**

### Resources:

1. "Fragrant Herb Syrup." <http://projects.washingtonpost.com/recipes/2010/08/25/fragrant-herb-syrup/>
2. "Galium Odoratum." [http://en.wikipedia.org/wiki/Galium\\_odoratum](http://en.wikipedia.org/wiki/Galium_odoratum)
3. "Berliner Weisse." [www.homebrewtalk.com/wiki/index.php/Berliner\\_Style\\_Weisse\\_\(Wheat\)](http://www.homebrewtalk.com/wiki/index.php/Berliner_Style_Weisse_(Wheat))
4. "How to Make Lime Cordial aka Homemade Rose's Lime Juice." [www.youtube.com/watch?v=et\\_7TLmjHc&list=UUn-V0kT-G1GP9TCdwsb2tf&index=75&feature=plcp](http://www.youtube.com/watch?v=et_7TLmjHc&list=UUn-V0kT-G1GP9TCdwsb2tf&index=75&feature=plcp)
5. "Sweet Woodruff Syrup (Waldmeistersirup)." [www.celtnet.org.uk/recipes/miscellaneous/fetch-recipe.php?rid=misc-waldmeistersirup](http://www.celtnet.org.uk/recipes/miscellaneous/fetch-recipe.php?rid=misc-waldmeistersirup)

by Amahl Turczyn Scheppach

# Land of the Muddy Water

The Mississippi Unquenchable Grail Zymurgists (MUGZ) held their 18th annual Land of the Muddy Water homebrew competition at the Blue Cat Brewpub in Rock Island, Ill. on November 10. The competition is part of the Midwest Homebrewer of the Year and the High Plains Brewer circuits.

For 2012, the club had a record 355 entries. According to competition organizer Scott Welch, that number has been increasing over the last few years, by about 10 percent each year.

The best of show beer was MUGZ member Jason Gabriel's 10 Year Bière de Garde, which beat 30 other BOS beers. The best of show Mead/Cider was a Common Cider, Forest Whispers My Name, by Calvin Rowland of the Urban Knaves of Grain. Ben "No T" Siltman took the Master of the Muddy Water award, which goes to the MUGZ member with the most ribbons won.

MUGZ was founded in 1987, and represents the Mississippi River Quad Cities area, which includes Moline and Rock Island, Ill., and Davenport and Bettendorf, Iowa. The club meets once a month at the Great River Brewing Company in Davenport, where MUGZ members and the Great Rivers brewers just completed their second collaboration brew, Clarty Lads Wee Heavy Scottish Ale.

Best of Show winner Gabriel's first brew session was on January 1, 2000. He brews on a gravity/pump dual level propane-fired system. His brewery is the envy of the club (and of his wife, too). When they purchased their new house, Jason failed to inform his wife

## 10 Year Bière de Garde 11-29-10

**BEST OF SHOW BEER, 2012 LAND OF THE MUDDY WATER HOMEBREW COMPETITION. RECIPE BY JASON GABRIEL, MUGZ.**

### INGREDIENTS

for 6.5 U.S. gallons (24.6 L)

**12.46 lb** (5.65 kg) German Pilsner malt  
**3.25 lb** (1.47 kg) German Munich malt  
**1.08 lb** (0.49 kg) cane sugar  
**0.81 lb** (367 g) Weyermann Cara-Vienne malt  
**1.1 oz** (32 g) black patent malt  
**1.5 oz** (42 g) Fuggle pellets, 5% a.a.  
(60 min)  
**1 tablet** Whirlfloc (15 min)  
White Labs WLP011 European Ale

**Original Gravity:** 1.078

**Final Gravity:** 1.011

**SRM:** 9

**IBU:** 20

**Brewhouse Efficiency:** 74%

**Boil Time:** 90 minutes

### DIRECTIONS

Use a single step infusion mash at 147° F (64° C) for one hour. Sparge with 170° F (77° C) water. Ferment at 66° F (19° C) until one third of expected attenuation is complete, then raise to 70° F (21° C) for remainder of fermentation. Age at least one year in steel at 60-65° F, then carbonate to 2.5-3 vol. CO<sub>2</sub>.

### Extract Recipe

Substitute 9.5 lb (4.31 kg) pale malt extract syrup for the Pilsner malt. Conduct a mini-mash with the Munich, Cara-Vienne, and black patent malts and hold for one hour at 155° F (68° C). Drain, rinse grains, add extract and cane sugar and dissolve completely. Proceed with boil.



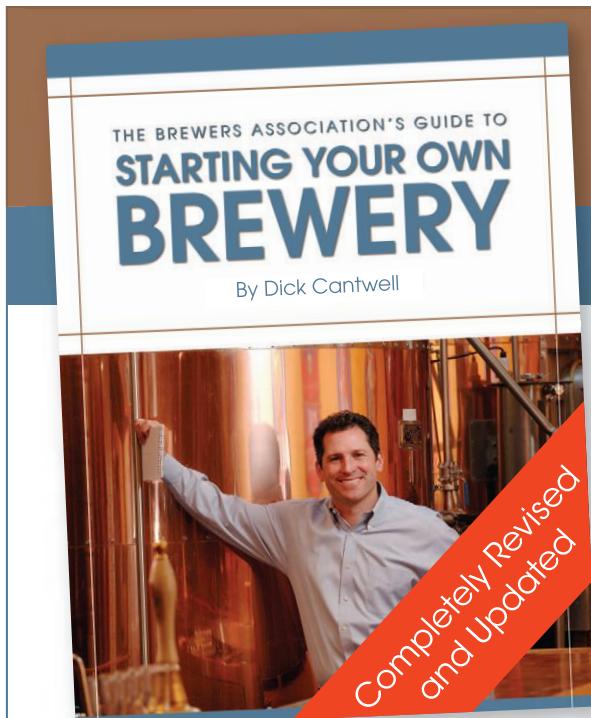
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LOTMW competition organizer Scott Welch (left) congratulates Ben Siltman (right).

that the place where vehicles normally go wasn't a garage as much as it was his new brewery. She did get a remote starter for her vehicle as a consolation prize. Yes, they are still married.

Gabriel's bière de garde is based on a recipe in the Brewers Publications book *Brewing Classic Styles*. Knowing that full malt complexity was a key element of this particular style, he aged this beer for two years at near cellar temperatures of 60-65° F (16-18° C). One of the Best of Show judges of National ranking asked Gabriel how old it was, because of the obvious cellared malt character.

Gabriel commented, "I think that helps to give it a deep malt base with a well-developed and mature yeast ester profile. The brewing process has to be impeccably clean so that the beer can receive enough age to develop complexity while maintaining shelf life."

The beer was aged with just enough head pressure to keep the Cornelius keg lid sealed. Aging in stainless steel under a blanket of CO<sub>2</sub> minimized harmful oxidation and prevented any light damage for the extended period.

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

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## AHA SPECIAL EVENTS

Visit the Events section of [HomebrewersAssociation.org](http://HomebrewersAssociation.org) for more information.

**February 24**  
**AHA Rally - Saint Arnold Brewing Co.**  
**Houston, TX**

**February 26**  
**AHA National Homebrew Competition - Registration Opens**

**March 16**  
**AHA Rally - Stone Brewing World Bistro & Gardens**  
**Escondido, CA**

**March 18-27**  
**AHA National Homebrew Competition - Entry Deadlines**

**March 29-April 1**  
**AHA National Homebrew Competition - First Round Judging**

**April 21**  
**AHA Rally - Summit Brewing Co., Saint Paul, MN**

**May 4**  
**AHA Big Brew - A Celebration of National Homebrew Day**

**June 27-29**  
**AHA National Homebrewers Conference Philadelphia, PA**

**June 29**  
**AHA National Homebrew Competition - Award Ceremony**

## KUDOS—BEST OF SHOW

### AHA/BJCP Sanctioned Competition Program

#### August 2012

2012 NSW Amateur Brewing Championship, 320 entries—Sam Haldane, Sydney, NSW, Australia.

#### September 2012

ACT (Canberra) Amateur Brewing Championship, 219 entries—Mark Overton, Canberra, ACT, Australia.

The Big Fresno Fair Homebrew Competition, 77 entries—Sean Railing, Clovis, CA.

North Carolina Brewers' Cup, 177 entries—Chris Creech, Chapel Hill, NC.

Wild Willow Farms Homebrew Competition, 30 entries—Brad Jeffries, San Diego, CA.

#### October 2012

SA National Homebrew Competition, 43 entries—Ruanne & Carl Sandrock, Johannesburg, Gauteng, South Africa.

Good Beer Home Brew, 37 entries—Michael Piorunski, Salisbury, MD.

Ceveceros Caceros- 15.B. Dunkel Weizen, 21 entries—Lucas Ernesto Peisino, Buenos Aires, Argentina.

III Concurso Estadual, 25 entries—Marcelo Roll Cury & Frederico Ming, São Paulo, SP, Brazil.

Southeast Alaska Autumn Pour, 45 entries—Jim Kohler, Juneau, AK.

New Virginia Creeper Brew Off, 68 entries—Jose Piriz, Pounding Mill, VA.

Oregon Brew Crew Fall Classic, 199 entries—Chuck Macaluso, St. Helens, OR.

#### November 2012

Music City Brew Off, 358 entries—Brandon Jones, Franklin, TN.

Cider Days Amateur Cider Competition, 41 entries—Lance Reed, Lexington, MA.

2012 Skirmish in the Triad, 307 entries—Mark Lowles, Greensboro, NC.

Monterey Autumn Brewer's Competition, 68 entries—Mark Trent, Salinas, CA.

The Dig Pub 5th Annual Monster Homebrew Competition, 47 entries—Bob Kapusinski, Austin, TX.

Novembeerfest, 240 entries—Nic Templeton, Burien, WA.

Rocky Mountain Homebrew Competition, 375 entries—Chris Egolf, Denver, CO.

California State Homebrew Competition, 386 entries—Brian Holter, Culver City, CA.

Props & Hops Craft Beer Conclave Homebrew Competition, 63 entries—Chris Anderson, Yucca Valley, CA.

Beer Quest Winter Ale, 21 entries—Tim Thomssen, Lincoln, NE.

The Spirit of '76 Challenge, 55 entries—Brian Schoolcraft, Bedford, TX.

Land of the Muddy Waters, 355 entries—Jason Gabriel, Davenport, IA.

Monster Mash, 115 entries—Eric Smiley, Florence, MS.

SCH\*ABC V, 338 entries—Adam LeVan, Barto, PA.

Beer for Boobs, 285 entries—Greg Irving, Strongsville, OH.

Butler Brewfest Homebrewers Competition, 109 entries—Brian Reed, Monroeville, PA.

London and South East Craft Brewing Competition, 127 entries—Allan Gayton, Barrow Upon Soar, Leicestershire, Great Britain.

II Concurso Estadual Acerva Gaúcha, 43 entries—Eduardo Balbinot, Porto Alegre, RS, Brazil.

AHA Club-Only Competition, Ant Hayes Memorial Burton (Old) Ale, 42 entries—Darren Bystrom & Nick Crabb, Pullman, WA.

QUAFF Strong Ale Challenge, 57 entries—Brett Goldstock, San Diego, CA.

FOAM Cup, 753 entries—Mac Butcher, Tulsa OK.

MALT's Annual Turkey Shoot, 195 entries—Mark Girard, John Gosselin, Greg McCullough & Heath Ehret, Annandale, VA.

#### December 2012

Monk Melee II, 71 entries—Joe Moran & Matt Kennedy, Reading, PA.

4th Annual Temecula Valley Homebrewers Association Homebrew Competition, 208 entries—Lucas Nelson, Fallbrook, CA.

Humpy's Big Fish Homebrew Competition, 60 entries—Matt Wallace, Anchorage, AK.

6th Annual Virginia Beer Blitz, 360 entries—Daniel Deibler, Yorktown, VA.

Palmetto State Brewers Open, 361 entries—Bryan Cox, Summerville, SC.

Bière de Rock, 166 entries—William Beeson, Denver, CO.

Iº Concurso Estadual de Cervejas Caseiras da ACervA Catarinense, 17 entries—Gabriel Alexandre Kollross, Florianopolis, SC, Brazil.

Fugetaboutit 2012, 388 entries—Robert Miller, Dunwoody, GA.

2012 Washington Mead & Cider Cup, 133 entries—Mark Tanner, Oak Harbor, WA.

Happy Holidays Homebrew Competition, 486 entries—Chuck Collis, Fenton, MO.



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## AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR

For complete calendar, competition and judging information go to [www.HomebrewersAssociation.org/pages/competitions](http://www.HomebrewersAssociation.org/pages/competitions)



### March 2

#### Bockfest Cincinnati 2013

Cincinnati, OH. Entry Deadline: 2/22/2013.  
[bockfest.brewcomp.com](http://bockfest.brewcomp.com)

### March 6

#### Kona Brewers Festival 18th Annual Homebrew Competition

Kailua-Kona, HI. Entry Deadline: 2/25/2013.  
[www.konabrewersfestival.com/contest.html](http://www.konabrewersfestival.com/contest.html)

### March 9

#### Drunk Monk Challenge

Aurora, IL. Entry Deadline: 3/1/2013.  
[knaves.org/DMC/index.html](http://knaves.org/DMC/index.html)

### March 9

#### Brew Masters Competition

Florence, WI. Entry Deadline: 3/4/2013.  
[www.tricountyfermenters.com](http://www.tricountyfermenters.com)

### March 9

#### March Mashness

St. Cloud, MN. Entry Deadline: 2/24/2013.  
[www.cloudytownbrewers.org](http://www.cloudytownbrewers.org)

### March 9

#### AHA Club-Only Competition Barleywine Ales

Saint Paul, MN. Entry Deadline: 3/1/2013.  
[www.homebrewersassociation.org/pages/competitions/club-only-competitions](http://www.homebrewersassociation.org/pages/competitions/club-only-competitions)

### March 9

#### 2nd Annual WHO Brewship Brewoff

Wichita, KS. Entry Deadline: 3/2/2013.  
[www.wichitahomebrewers.org](http://www.wichitahomebrewers.org)

### March 9

#### Slurp & Burp Open

Tigard, OR. Entry Deadline: 3/1/2013.  
[www.strangebrew.org](http://www.strangebrew.org)

### March 9

#### Shamrock Open

Raleigh, NC. Entry Deadline: 2/23/2013.  
[carboyclub.com/shamrock-competition/](http://carboyclub.com/shamrock-competition/)

### March 15

#### Hoppy St. Patrick

Springfield, MO. Entry Deadline: 3/8/2013.  
[www.homebrewzoo.com/competition/index.php](http://www.homebrewzoo.com/competition/index.php)

### March 15

#### Márciusi söförradalom

Budapest, Hungary. Entry Deadline: 3/1/2013.  
[www.elsosor.hu](http://www.elsosor.hu)

### March 16

#### Mazer Cup International Home Competition

Boulder, CO. Entry Deadline: 3/1/2013.  
[www.mazercup.com](http://www.mazercup.com)

### March 16

#### 2013 Las Vegas Winterfest Competition

Las Vegas, NV. Entry Deadline: 3/8/2013.  
[snafubrew.com](http://snafubrew.com)

### March 16

#### Hudson Valley Homebrew Competition

Poughkeepsie, NY. Entry Deadline: 3/8/2013.  
[www.hvhomebrewers.com](http://www.hvhomebrewers.com)

### March 21

#### Ultimate Brew-Off Homebrew Challenge

Halifax, NS, Canada. Entry Fee: \$15. Entry Deadline: 2/25/2013. [noblegrape.ca/?page\\_id=64](http://noblegrape.ca/?page_id=64)

### March 22

#### Sonoma Community Center's Beervana

Sonoma, CA. Entry Deadline: 3/15/2013.  
[www.sonomacommunitycenter.org](http://www.sonomacommunitycenter.org)

### March 22

#### WNY Homebrew Competition

"Amber Waves of Grain"  
Buffalo, NY. Entry Deadline: 3/8/2013.  
[niagarabrewers.org](http://niagarabrewers.org)

### March 23

#### 20th Annual Peach State Brew Off

Atlanta, GA. Entry Deadline: 3/2/2013.  
[www.coverthops.com](http://www.coverthops.com)

### March 23

#### Peak-to-Peak Pro Am

Longmont, CO. Entry Deadline: 3/15/2013.  
[peaktopeak.brewcomp.com](http://peaktopeak.brewcomp.com)

### March 23

#### Barley Legal 3

Baltimore, MD. Entry Deadline: 3/21/2013.  
[www.wootown.org/comp](http://www.wootown.org/comp)

### March 23

#### 22nd Annual Charlie Orr Memorial Chicago Cup Challenge

Crest Hill, IL. Entry Deadline: 3/15/2013.  
[www.bossbeer.org](http://www.bossbeer.org)

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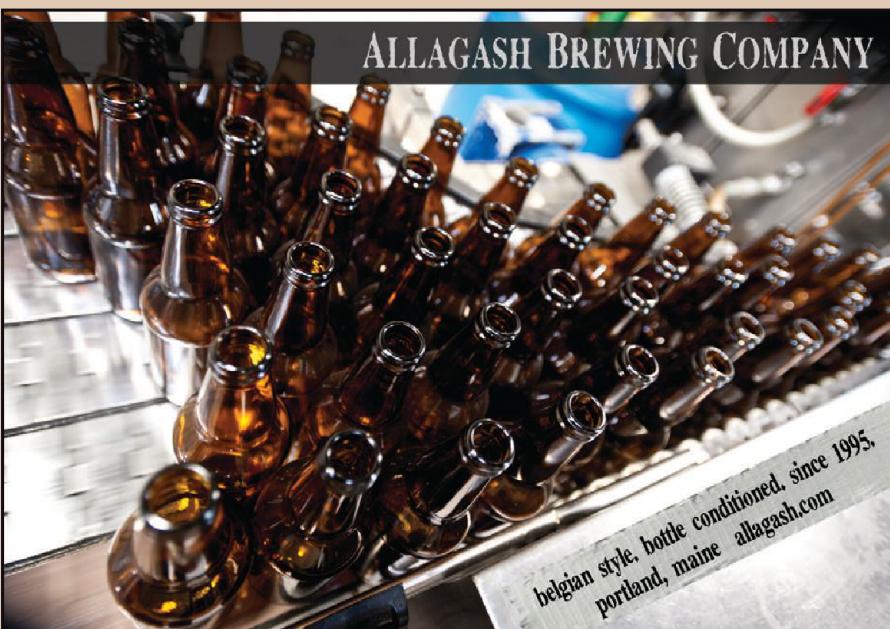


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AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR (CONTINUED FROM PREVIOUS PAGE)

**April 5**  
**AHA National Homebrew Competition**  
**1st Round**  
 Seattle, WA. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 5**  
**AHA National Homebrew Competition**  
**1st Round**  
 New York City, NY. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 5**  
**AHA National Homebrew Competition**  
**1st Round**  
 Saint Paul, MN. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 5**  
**AHA National Homebrew Competition**  
**1st Round**  
 Kansas City, MO. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 7**  
**Ocean State Homebrew Competition (OSHC)**  
 Providence, RI. Entry Deadline: 3/17/2013.  
[www.oshc.brewcompetition.com](http://www.oshc.brewcompetition.com)

**April 12**  
**AHA National Homebrew Competition**  
**1st Round**  
 San Diego, CA. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 12**  
**AHA National Homebrew Competition**  
**1st Round**  
 Alpharetta, GA. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 13**  
**The Thirsty Orange**  
 Johnson City, TN. Entry Deadline: 4/10/2013.  
[thirstyorange.com](http://thirstyorange.com)

**April 19**  
**AHA National Homebrew Competition**  
**1st Round**  
 Arvada, CO. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 19**  
**AHA National Homebrew Competition**  
**1st Round**  
 Milwaukee, WI. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 19**  
**AHA National Homebrew Competition**  
**1st Round**  
 Zanesville, OH. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 19**  
**AHA National Homebrew Competition**  
**1st Round**  
 Tulsa, OK. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 20**  
**The Great Arizona Homebrew Competition**  
 Surprise, AZ. Entry Deadline: 4/12/2013.  
[www.brewarizona.org](http://www.brewarizona.org)

**April 20**  
**Upstate New York Homebrewers Association**  
**35th Annual/24th Empire State Open**  
 Rochester, NY. Entry Deadline: 4/6/2013.  
[www.unyha.com](http://www.unyha.com)

**April 20**  
**AHA National Homebrew Competition**  
**1st Round**  
 Pleasanton, CA. Entry Deadline: 3/27/2013.  
[www.homebrewersassociation.org/pages/competitions/national-homebrew-competition](http://www.homebrewersassociation.org/pages/competitions/national-homebrew-competition)

**April 20**  
**Heart of Cascadia CDA Competition**  
 Portland, OR. Entry Deadline: 4/12/2013.  
[www.oregonbrewcrew.org/heart-of-cascadia](http://www.oregonbrewcrew.org/heart-of-cascadia)

**April 27**  
**Sasquatch Brew Fest**  
 Eugene, OR. Entry Deadline: 4/20/2013.  
[www.northwestlegendsfoundation.org/homebrew.html](http://www.northwestlegendsfoundation.org/homebrew.html)

**April 28**  
**Great Basin Brew Off**  
 Reno, NV. Entry Deadline: 4/20/2013.  
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**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](http://www.bjcp.org), pick up a bottle of each of the beverages and judge along with them in our Commercial Calibration.**

**T**wo sour ales from northern Colorado breweries were sent to our judges last Thanksgiving for some holiday sipping.

First up was Crabtree Berliner Weisse from Crabtree Brewing Co. in Greeley, Colo. This beer won a gold medal in the German-Style Sour Ale Category at the 2011 Great American Beer Festival and has also won a medal at the Colorado State Fair.

The brewery describes it as “light and crisp with an acidic sour bite that aims to please.” It checks in at 4.3 percent ABV. Berliner Weisse is available year-round in 22-ounce bottles in the brewery’s distribution area of Colorado, Kansas, and Nebraska.

Next up was The Meddler, a barrel-aged oud bruin from Odell Brewing Co. in Fort Collins, Colo. The Meddler was the brewery’s fifth Single Serve release in 2012.

The Meddler is a blend of several generations of brown ales that were aged for more than 18 months. Wild yeasts, Lactobacillus, and Brettanomyces meddle with the beer, creating complexity and depth of flavor. It has an ABV of 8.9 percent.

“At first sniff you get a caramel crystal malt aroma with hints of tartness,” said Brent Cordle, Odell’s barrel aging manager. “A creamy tan head appears after the pour, giving way to flavors of brown sugar, oak, and vanilla paired with sour black cherry and a crisp dry finish.”

The Meddler is offered in cork-and-cage finished 750 ml bottles and is available throughout the brewery’s 10-state distribution area.

#### ON THE WEB

**Crabtree Brewing Co.**  
[www.crabtreebrewing.com](http://www.crabtreebrewing.com)

**Odell Brewing Co.**  
[www.odells.com](http://www.odells.com)

**BJCP Style Guidelines**  
[www.bjcp.org](http://www.bjcp.org)

**Commercial Calibration**  
[HomebrewersAssociation.org/pages/zymurgy/commercial-calibration](http://HomebrewersAssociation.org/pages/zymurgy/commercial-calibration)  
(Note: This is a Members Only area of the website)

**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



Berliner Weisse—Crabtree Brewing Co., Greeley, Colo.  
BJCP Category: 17A Berliner Weisse

## THE JUDGES' SCORES FOR CRABTREE BERLINER WEISSE



DAVE HOUSEMAN



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

**Aroma:** Low lactic sourness. Papery, grassy aroma—oxidation. No hop aroma. Low bready malt aroma. Very low fruity esters. No phenols. No DMS. No diacetyl. No Brettanomyces character. No alcohol evident. (7/12)

**Appearance:** Noticeable ring at liquid line of bottle. When poured, the beer is very hazy, a bit too much even for the style. Pale yellow color. Effervescent. Large, dense, white, long-lasting head initially, but when the CO<sub>2</sub> dissipated the head fell flat and could not be resurrected. (2/3)

**Flavor:** Bready malt and moderate lactic sourness. No hop flavor. Low hop bitterness. Moderate, indistinguishable esters. No phenols, Brett character, DMS, diacetyl, or alcohol. Somewhat dull and oxidized, not bright and crisp. Finish is fairly dry. Sourness is there but not dominant; nearly balanced. (14/20)

**Mouthfeel:** Highly carbonated, but the carbonation doesn't sustain itself for very long. No alcohol warmth—good. Medium-thin body. Lighter mouthfeel initially but as the CO<sub>2</sub> dissipates the mouthfeel was fuller. (4/5)

**Overall Impression:** A drinkable, somewhat sour wheat ale with oxidation that dulled the sharp character of lactic sourness. The initial big head was not sustainable, likely due to a shortage of head-retaining proteins. Additional lactic sourness would brighten up an otherwise good, light wheat ale that would be refreshing on a hot day or accompany a light meal on a long bike ride as a substitute for a Radler. (7/10)

**Total Score:** (34/50)

**Aroma:** Initial sharp tartness is mouthwatering. A bready, graham cracker malt character is subtle, but present. A hint of Brettanomyces is detected, leaving an impression of spiciness similar to cardamom. No hop aroma. (9/12)

**Appearance:** Very lively in the glass. On the pour, rocky head forms to three-fourths of the glass and persists a very long time above the straw-colored, almost murky liquid. (3/3)

**Flavor:** Sharp lactic tartness hits the tongue first, followed by a graham-like wheat berry grain character. No hop flavor detected, though a very low hop bitterness amplifies the Brett character mid to mid-late palate. Balance is all about seemingly unmalted wheat and lactic tartness, which fades toward the end of the glass as the sample sits. Finish is very clean. (17/20)

**Mouthfeel:** Light bodied, not thin, with creamy, somewhat silky texture, moderately carbonated. No alcohol warmth. A light, clean tartness at first adds a mouthwatering finish that quickly disappears. (4/5)

**Overall Impression:** Clean, elegant and quenching sourness invites sip after sip, making an excellent aperitif. The lactic component is, however, fairly soft, and would likely be overwhelmed if served *mit schuss* (with syrup) of woodruff or raspberry. This is a good transition to sours for the uninitiated palate with its soft elegance, but it loses the refreshing quality as carbonation fades toward the end. Still a lovely American example of the style. (7/10)

**Total Score:** (40/50)

**Aroma:** A mixture of bready wheat malt, carbonic acid, and lactic acid notes leap out as soon as the effervescent beer is poured. As the head dissipates, a low level of peppery notes emerges, vaguely reminiscent of a saison but at a complementary level. Leathery notes that I usually associate with Brettanomyces are also present, but I don't pick up any acetic acid. (10/12)

**Appearance:** High carbonation, as expected for this "Champagne of beers," and the creamy white head lasts for a surprisingly long time. The slight haze is acceptable for the style, and the straw color is on the money. (3/3)

**Flavor:** The profile is quite complex, with several flavors contributing. It starts with soft, bready notes from malted wheat, and these provide a little resistance to the lactic acid notes before they surge into a moderately sour flavor. I also pick up some leathery and horsey notes, presumably from Brettanomyces, that complement the malt and other fermentation flavors. The lactic acid gives some interesting lemony notes in addition to the sourness. (18/20)

**Mouthfeel:** The high carbonation level gives a nice creaminess, and the finish is appropriately dry without being astringent. The sourness coats the mouth without leaving too much of a puckering sensation. (5/5)

**Overall Impression:** This sample is an excellent example of the Berliner Weisse style, with a good balance of lactic sourness, wheat malt, and other fermentation components. (9/10)

**Total Score:** (45/50)

**Aroma:** Tart but bready—both moderate. Definite impression of sourness. Fairly clean with hints of apple. No hops. The malt is subdued with a smell of fresh unbaked sourdough. Not funky or vinegary. (10/12)

**Appearance:** Huge white rocky head, persisted well. Effervescent. Pale straw color. Quite hazy, which detracts from the presentation. (2/3)

**Flavor:** Moderate acidity with a clean lactic tartness and a light apple flavor. Moderate bread dough flavor. Dry but not bone dry. High carbonation lifts the flavors from my tongue quickly. Low bitterness, with acidity providing most of the balance to the malt. Light acidity, apple, and dough in the aftertaste. Barest hint of hop flavor. Quite clean, relative to the style. (17/20)

**Mouthfeel:** Very high carbonation—spumante—excellent for the style. Medium body but seems lighter with the carbonation. Acidity and carbonation give it a prickly mouthfeel. No astringency, creaminess or warming. (4/5)

**Overall Impression:** Light, bubbly and very drinkable. Acidity is restrained and the body is a bit full. A lighter body and more acidity would improve the beer, as would better clarity. But the other flavors are pretty much spot on. A very nice job in a difficult style. The flavors of bread dough and clean lactic sourness are particularly well done. (8/10)

**Total Score:** (41/50)



## THE JUDGES' SCORES FOR THE MEDDLER



**Aroma:** Oaky tannins and vanilla up front with light lactic sourness. No hop aroma. No DMS or diacetyl. Fruity esters reminiscent of figs and raisins. Bit of chocolate in the melanoidin-like malt. Some alcohol evident. Very complex and inviting. (10/12)

**Appearance:** Quite dark amber with a bit of haze. Rocky, tan head with good retention. Nice looking beer. (3/3)

**Flavor:** Smooth lactic sourness up front and in the finish accompanied by lingering oakiness of tannins and vanilla. No hop flavor. Moderate balancing hop bitterness. Fruitness and malt are restrained with rich melanoidins and notes of figs and raisins. Alcohol is not evident. Finish is dry and complex. (16/20)

**Mouthfeel:** Well carbonated. Medium to medium-thin body. Acidity and carbonation lighten the mouthfeel. Low alcohol warming. Smooth with some sharpness from lactic acidity. (3/5)

**Overall Impression:** Complexity and balance are the hallmarks of the very drinkable oud bruin. Alcohol is quite subtle throughout. Maltiness is a bit thin for the style and could benefit from more toffee and caramel notes also contributing to body. Instead the acidity seems to be challenging the oak from barrel aging for dominance. Still very enjoyable and refreshing as an aperitif, equally with sausages or cheeses. (8/10)

**Total Score:** (40/50)



**Aroma:** Very complex mélange with burnt currants, tart cherry, and pronounced vanilla bourbon barrel component. A moderately low lactic sourness is present. Malt is a background character, chocolate covered toffee-like with a bit of sherry. No hop aroma or diacetyl. (10/12)

**Appearance:** Brown, somewhat hazy with just a light layer of light tan foam that persists but does not form a head. (2/3)

**Flavor:** Chocolate and bourbon barrel dominate the initial impression, followed by a prominent clean lactic sourness, then lots of woody oak. No hop flavor; bitterness is barely detectable. Balance is toward the sourness, though does not completely overpower burnt currant and plum fruit that serve as background notes. As the beer warms a bit, notes of fresh cured tobacco and leather emerge, adding another layer of complexity. A low acidity plays on the tongue as well. (17/20)

**Mouthfeel:** Medium bodied with creamy carbonation. A low alcohol warmth accentuates the moderately high oak tannin, giving an impression of a rather dry finish. (4/5)

**Overall Impression:** Continually changes in the glass and through the bottle. At first the aroma promised more fruit and sweetness than the flavor delivered. Dominant characteristics vacillated between vanilla-bourbon and lactic sourness with woody oak, both balanced with a chocolate-covered cherry fruitiness in the back. Definitely meddles with the palate, and exhibits more complexity as it warms. A little more sherry might help balance the rather pronounced oak. (8/10)

**Total Score:** (41/50)



**Aroma:** Acetic notes are prominent at the outset, persisting as some of the malt characteristics percolate through the foam. I pick up nuttiness, dark chocolate, and a hint of roast. The caramel character is understated compared to classic examples, but this is partly because the balance is skewed toward acetic acid. Subtle notes of dried cherries and dark fruit exist in the background. (7/12)

**Appearance:** Dark brown with a creamy, off-white head that lasts. Great work on the conditioning! The clarity is also spectacular. (3/3)

**Flavor:** The acetic character comes through powerfully here as well, but the balance is better than in the aroma. Pleasant dark fruit and sour cherry notes that, with the malt, give the sweet-and-sour character that exemplifies this style. The malt components include caramel, bittersweet chocolate, walnuts (including some of the bitterness), raisins, and plums. The finish is off-dry with a moderate bitterness, but seems to be derived more from the dark malts and acetic acid than hops. (17/20)

**Mouthfeel:** The creaminess is medium due to an appropriately high carbonation level and some residual sugars. A moderate astringency with a somewhat chalky character coats the mouth. A little alcoholic warmth is also evident. (4/5)

**Overall Impression:** Great job on crafting one of the more difficult styles to brew. The aroma was a little skewed toward the acetic character, but the flavor was closer to what I would expect in terms of the balance between the malt and fermentation character. (8/10)

**Total Score:** (39/50)



**Aroma:** Woody-oaky nose suggests barrel aging. Finely textured and layered aromatics: light milk chocolate, vanilla, dark cherries, and acidity. Moderate maltiness, more malty-rich than malty-sweet. Light alcohol warming on the nose. Complex, interesting. (9/12)

**Appearance:** Tall head, tan colored, frothy, persisted well. Pretty mahogany-brown color. Opaque. Hazy when held to a light. (2/3)

**Flavor:** Moderately sour initially with fruity flavors—cherries and a hint of orange, and a fairly strong oaky-woody flavor. Medium-low bitterness. The malt flavor is fairly strong—rich with light caramel, some chocolate and stone fruit. Malty-sweet finish is more than matched by the bitterness, acidity, and oaky tannins. Malt, fruit, and oak in the finish and aftertaste. (15/20)

**Mouthfeel:** Very high carbonation. Medium to medium-full body. Lightly warming—deceptive for its strength. Some oaky tannins provide a bit of astringency. Acidity and tannins keep the mouth active. (4/5)

**Overall Impression:** The barrel character is not really traditional for Belgian versions. As an American interpretation, it might do better in a specialty or wood-aged category. A bit high in gravity for a Belgian as well. However, it does retain the balance and feel for the style. The acidity level and character are absolutely superb. Great malt complexity, although not quite as much intensity and caramel qualities as Belgian examples. I probably took off 5 or 6 points for the oaky/barrel character, so you can see how good a beer this is given the score. (8/10)

**Total Score:** (38/50)

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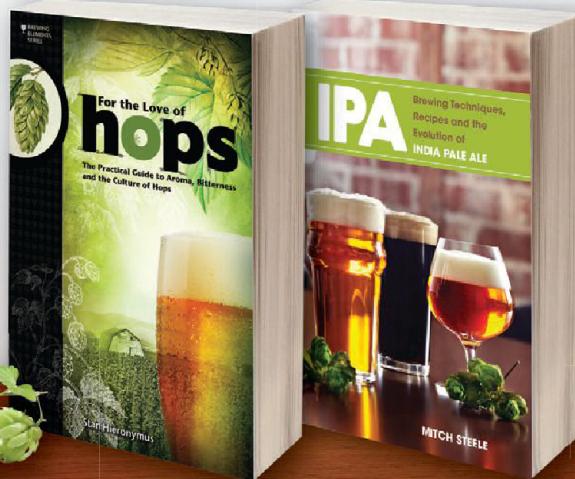
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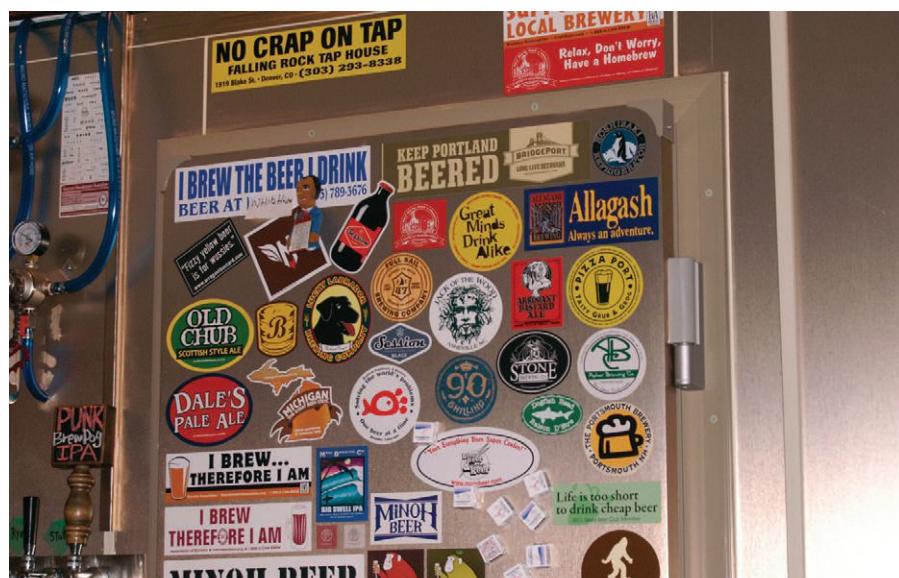


# Coconuts at the Watering Hole

After judging 250 beers at the Japan Craft Beer Association's International Beer Competition last August, 20 other thirsty international beer judges and I switched on our reserves, piled into Tokyo taxis, and headed for one of Tokyo's newest craft beer pubs, The Watering Hole. Opened on June 26, 2012, it was something special that American Homebrewers Association members will appreciate and applaud.

Upon entering, any person who has been to the last several Great American Beer Festivals might sense something familiar in the ambiance. Fifteen years' worth of GABF commemorative glasses line a shelf, and you'll find a bookshelf that looks like an American homebrewer's library. Craft beer stickers behind the pub make you feel like you've just toured all of Colorado's Front Range breweries. Empty growlers from Colorado and other U.S. craft breweries fill in the shelf space.

The Watering Hole is the dream craft beer pub of Ichiri Fujiura and his wife, Michiko Tsutsui. It has been many years in the making, no doubt after many beers of inspiration. American homebrewers who can count their membership years in decades might recall that Ichiri won top honors at the American Homebrewers Association's 1998 National Homebrew Competition as Homebrewer of the Year. That accomplishment is noteworthy not only because he was the first non-American to win the title, but because his winning beer was a toasted coconut porter. It wowed the best of show judges at the Portland, Ore. gathering. Remarkably, it was the first time anyone had heard of the idea of combining toasted coconut with beer.



Ichiri was a pioneer in 1998 and continues that tradition today. At his pub, Japanese homebrewers and beer enthusiasts love to hang out and enjoy the tremendous selection of beer. It's not too unusual to find a homebrewer hanging out reading

a well-worn Japanese translation of *The Complete Joy of Homebrewing* accompanied with a fresh Japanese or American craft beer. Plans are underway to open a small brewery in the space next door. Great food, both Japanese and western, is served

# Someplace You Gotta Go Coconut Porter

ALL GRAIN RECIPE

## INGREDIENTS

for 6 U.S. gallons (23 liters)

<b>7.0 lb</b>	(3.2 kg) Maris Otter two-row English malt
<b>2.0 lb</b>	(0.9 kg) Munich type malt
<b>1.0 lb</b>	(454 g) English crystal (15° L)
<b>0.5 lb</b>	(227 g) aromatic type malt
<b>0.5 lb</b>	(227 g) English chocolate malt
<b>0.5 lb</b>	(227 g) Gambrinus honey malt
<b>0.5 lb</b>	(227 g) debittered black malt
<b>3.0 oz</b>	(84 g) English black malt
<b>0.5 lb</b>	(227 g) golden colored home-toasted unsweetened dried coconut flakes*
<b>0.75 oz</b>	(21 g) English Fuggle or Golding hops, 5.4% a.a. (60 min)
<b>0.5 oz</b>	(14 g) English Challenger hops, 6% a.a. (60 min)
<b>1.0 oz</b>	(28 g) English Kent Golding hops (20 min)
<b>1.0 oz</b>	(28 g) Santiam hops (5 min)
<b>0.5 oz</b>	(14 g) Santiam hop pellets (dry hop)
<b>0.25 tsp</b>	(1.25 g) Irish moss powder
White Labs Cry Havoc yeast or Irish Ale Yeast	
<b>0.75 cup</b>	(175 ml) corn sugar (dextrose) or 1.25 cup (300 ml) dried malt extract (for bottling); or 0.33 cup (80 ml) corn sugar (dextrose) for kegging

**Target Original Gravity:** 1.054 (13.3 B)

**Target Extraction Efficiency:** 78%

**Approximate Final Gravity:** 1.016 (4 B)

**IBU:** about 30

**Approximate Color:** 40+ SRM (80+ EBC)

**Alcohol:** 5% by volume

## DIRECTIONS

\*Toast unsweetened dried coconut flakes at 300° F (149° C) for 10 to 15 minutes. They will be added to the primary.

A step infusion mash is employed to mash the grains. Add 12 quarts (11.5 liters) of 143° F (61.5° C) water to the crushed grain, stir, stabilize, and hold the temperature at 132° F (53° C) for 30 minutes. Add 6 quarts (6 liters) of boiling water and add heat to bring temperature up to 155° F (68° C) and hold for about 30 minutes. Raise temperature to 167° F (75° C), lauter and sparge with 4.5 gallons (13.5 liters) of 170° F (77° C) water. Collect about 6.5 gallons (25 liters) of runoff. Add 60-minute hops and bring to a full and vigorous boil.

The total boil time will be 60 minutes. When 20 minutes remain, add the 20-minute hops. When 10 minutes remain, add the Irish moss. When 5 minutes remain, add the 5-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 45 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 6 gallons (21 l) with additional cold water if necessary. Aerate the wort very well. Add the toasted coconut flakes.

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



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If you like chocolate and coconut and haven't yet brewed with that combination, well, what are you waiting for? Coconut porter was a bombshell in 1998. The ensuing creativity has infected both American homebrewers and craft brewers. In 2012,

# Someplace You Gotta Go Coconut Porter

## MALT EXTRACT RECIPE

### INGREDIENTS

for 6 U.S. gallons (23 liters)

<b>6.75 lb</b>	(3.06 kg) amber malt extract syrup or 5.5 lb (2.49 kg) dried amber malt extract
<b>1.0 lb</b>	(454 g) English crystal (15 Lovibond)
<b>0.5 lb</b>	(227 g) English chocolate malt
<b>0.5 lb</b>	(227 g) debittered black malt
<b>3.0 oz</b>	(84 g) English black malt
<b>0.5 lb</b>	(227 g) golden colored home-toasted unsweetened dried coconut flakes*
<b>1.25 oz</b>	(35 g) English Fuggle or Golding hops, 5.4% a.a. (60 min)
<b>0.5 oz</b>	(14 g) English Challenger hops, 6% a.a. (60 min)
<b>1.0 oz</b>	(28 g) English Kent Golding hops (20 min)
<b>1.0 oz</b>	(28 g) Santiam hops (5 min)
<b>0.5 oz</b>	(14 g) Santiam hop pellets (dry hop)
<b>0.25 tsp</b>	(1.25 g) Irish moss powder
White Labs Cry Havoc yeast or Irish Ale Yeast	
<b>0.75 cup</b>	(175 ml) corn sugar (dextrose) or 1.25 cup (300 ml) dried malt extract (for bottling); or 0.33 cup (80 ml) corn sugar (dextrose) for kegging

**Target Original Gravity:** 1.054 (13.3 B)

**Target Extraction Efficiency:** 78%

**Approximate Final Gravity:** 1.016 (4 B)

**IBU:** about 30

**Approximate Color:** 40+ SRM (80+ EBC)

**Alcohol:** 5% by volume

### DIRECTIONS

\*Toast unsweetened dried coconut flakes at 300° F (149° C) for 10 to 15 minutes. They will be added to the primary.

Place crushed grains in 2 gallons (7.6 liters) of 150° F (68° C) water and let steep for 30 minutes. Strain out (and rinse with 3 quarts [3 liters] hot water) and discard the crushed grains reserving the approximately 2.5 gallons (9.5 liters) of liquid to which you will now add malt extract and 60 minute hops. Bring to a boil.

The total boil time will be 60 minutes. When 20 minutes remain, add the 20-minute hops. When 10 minutes remain, add Irish moss. When 5 minutes remain, add the 5-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 15-30 minutes or the time it takes to have a couple of homebrews. Strain out and sparge hops and direct the hot wort into a sanitized fermenter to which 2.5 gallons (9.5 liters) of cold water has been added. If necessary, add cold water to achieve a 6-gallon (23 liters) batch size. Aerate the wort very well. Add the toasted coconut flakes.

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

Maui Brewing Co. won the Washington Post's annual March "Beer Madness" taste tournament with its subtle tasting Coconut Porter. That beer has also won two medals, including a gold, in the prestigious World Beer Cup.

It's easy to make your own coconut porter. The secrets lie with your own lightly toasted unsweetened coconut flakes and going easy on the hops. The roasted malts add a rich and cocoa-like character, balanced with a moderate amount of alcohol and coconut character. Ramp the coconut amount up or down, depending on your preference. Enjoy the drinkability. Simply put, the realm of coconut porter is someplace you gotta go.

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

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**American Homebrewers Association®****2013 Governing Committee Election**

Your AHA Governing Committee representatives play a critical role in your Association. The AHA Governing Committee develops AHA benefits and programs, and provides direction for the organization.

**Please cast your vote today!**

[HomebrewersAssociation.org/vote](http://HomebrewersAssociation.org/vote)

**Candidates**

Please read candidate statements at [HomebrewersAssociation.org](http://HomebrewersAssociation.org) and cast your ballot online. For the 2013 election, there are seven candidates running for two open seats on the Governing Committee.

**Fred Bonjour**

**Martin Brungard**

**Bruce Buerger**

**Steve Cook**

**Justin Crossley**

**Chris Hummert**

**Matt Johnson**

**Election Guidelines**

**Balloting is done online.** Go to [HomebrewersAssociation.org](http://HomebrewersAssociation.org), read the candidate statements, and cast your vote. Vote for up to two (2) candidates. You will need to include your name, member number and contact information. If you do not know your member number, would like to become a member or cannot vote online, call us toll free at 888-822-6273 or email [info@brewersassociation.org](mailto:info@brewersassociation.org).

All ballots must be submitted before midnight Pacific time, March 31, 2013.

All AHA members voting in the election are eligible for an additional entry in the Lallemand Scholarship drawing for Siebel Institute's two-week Concise Course. Check the appropriate box on the ballot to submit your entry into the drawing. The drawing will take place June 29, 2013 at the AHA National Homebrewers Conference in Philadelphia, Pa.

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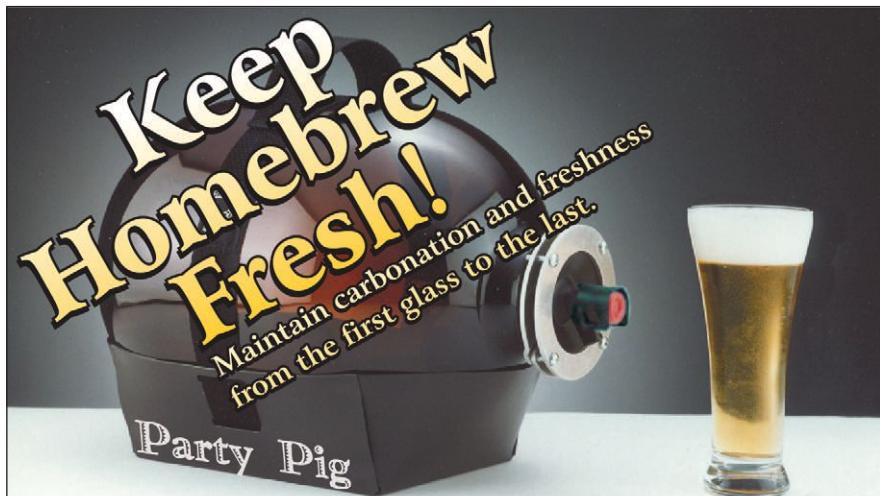
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# Ice Brewing: Why Not?



"Let's brew on Winona Lake!"

"On the lake?"

"Yeah, when it freezes, let's brew on it!"

"Why?"

"Why wouldn't we?"

This was my exchange a couple winters ago with fellow Kosciusko Kettlehead homebrew club member Daren Deffenbaugh. Daren was the one with the inspired idea; I was the one in excited disbelief. Brew a batch of beer on the surface of a frozen lake? Yes, why wouldn't we?

Several hurdles would need to be dealt with. First of all, timing. We would need a batch that could be brewed at a moment's notice. Second, we would need an easily

brewed beer. All-grain was out; good luck maintaining a good mash temperature when it could be 20 degrees outside (that, and having a few frozen brewers). Also, chilling the wort would be tricky, since no amount of hose would reach that far from the shore out to the lake.

We decided the quickest way to get a batch brewed and get it back indoors would be a simple two-can dump. No grains to steep, no temperature to maintain, and something hophead Daren could easily pile more hops into. We chose an English bitter.

After a week of freezing temperatures, the ice on Winona Lake was almost a foot thick. My concern was setting a propane burner on the ice; fishing a kettle out of the lake in the spring didn't sound fun. Daren rigged a toboggan with sheets of plywood

under the burner, along with another two pieces of plywood attached together at an angle to act as a wind block. This setup would be mobile and would be able to be turned if the wind direction changed.

Along with fellow homebrewer Matt Livengood and Daren's wife, Lorraine, we dragged everything out on the lake on a beautiful, sunny, 30-degree day in January 2011. After bringing a few gallons of water to a boil on our toboggan brewing rig, we added the cans of wort. Over the next hour, more hops were added, homebrews were shared, and snowballs were thrown. We drew attention from various ice fishermen who were surprised to find us with stirring spoons instead of fishing poles.

After an hour, the problems of chilling the wort and topping up to five gallons were solved with one readily available solution: snow. We added piles of untouched snow from the surface of the ice (insert yellow snow joke here) and miraculously, at around five gallons, the wort was almost under 80 degrees. We piled snow around the fermenting bucket and in a half hour we pitched yeast. Beaming with frozen pride, we put a lid on the bucket, loaded the toboggan, and headed for land.

The beer was most definitely not the tastiest homebrew we've ever made, but it certainly was the most fun brew day in my 10 years of brewing. We considered this a test run with the intention of having the rest of the Kettleheads out for a massive ice brew day. Why not?

**AHA member Jason Rich is president of the Kosciusko Kettleheads homebrew club in Warsaw, Ind.**

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