

FOR THE **HOMEBREWER & BEER LOVER**

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The Journal of the American Homebrewers Association®

PLANET HOMEBREW



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by Jill Redding

Big Beers and Big Ideas

Every January I attend the Big Beers, Belgians, and Barleywines Festival in Vail, Colo., both as a judge for the homebrewing competition and as a journalist for the Brewers Association. With so many talented professional brewers and homebrewers in attendance, it's a great way to find ideas for future articles and also learn what's new in the way of craft and homebrewed beer.

Judging by the seminar topics and beers presented at the festival (and a few other things going on in the brewing world), here's a look at what's on tap for 2012.

- Barrel aging continues to be a hot topic. Firestone Walker now has a whopping 1,600 barrels in its barrel-aging program, and has made so many different kinds of beer that it started bringing in local winemakers to make a blend for its anniversary beers. "Oak is the fifth element we add to the beers in our portfolio," said Firestone Walker brewmaster Matt Brynildson. Aside from the usual suspects of stronger beers that do well with barrel aging, Brynildson is still tinkering with aging hoppy beers in barrels. "We tried aging Union Jack [IPA] but it didn't work—it just makes me think we need to find the right barrel."

Odell Brewing Co. uses virgin oak for its Woodcut Series, and has tried experiments such as aging 90 Shilling in barrels. "We always have those ideas after three or four pints," said Odell head brewer Joe Mohrfeld.

- Beer and food continue to offer a huge palette for experimentation. In the annual Beer and Food Pairing Taste-Off, four pro brewers presented four fabulous beer and cheese pairings,

but it was Bell's Brewery production manager John Mallett who provided an unexpected "wow" moment by pairing a "stinky cheese" with a fruit beer. He selected Uplands Cheese Rush Creek Reserve, made with unpasteurized milk and bound in spruce bark, paired with Bell's Cherry Stout, which is not a top seller for the brewery best known for Two Hearted Ale. "This is a neglected beer for us that really seemed to sing with the cheese," said Mallett.

The other pairings: Boulevard Tank 7 with a farmhouse gouda; Coronado Idiot IPA with Red Dragon cheese; and Grand Teton Black Cauldron Imperial Stout with blue cheese. Coronado Brewing won the coveted mash paddle for the people's choice award.

- Gluten-free beers will continue to become more popular, and more flavorful. Dogfish Head was boldly pouring samples of Tweason'ale, its new gluten-free beer, alongside its bigger beers at the festival. Tweason'ale, which hit the shelves in late January, is brewed with a mild sorghum base and malty buckwheat honey and has hints of strawberry.

"It seems as if lots of folks who have gluten-tolerance issues are pining for an interesting beer," said Dogfish Head founder and president Sam Calagione.

Since both craft brewing and homebrewing are overflowing with people who continually push the envelope and reach for new horizons, expect 2012 to be another great year for beer.

Jill Redding is editor-in-chief of Zymurgy.

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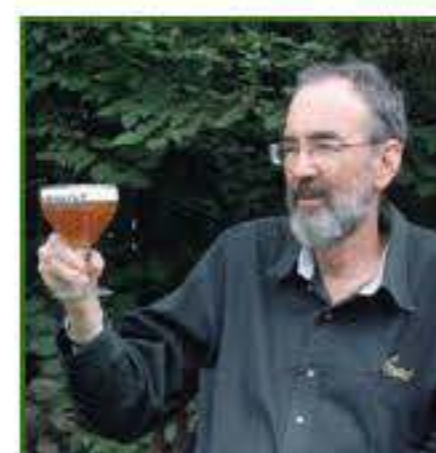
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By Alastair Kocho-Williams

A surprisingly complex history of Soviet beer reveals itself in the years between the two World Wars. Amidst vodka and mass-produced lager was a rising beer culture.

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By Joe Stange

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By Ross Mitchell and Stephen "Kurtz" Neilsen

In a country famous for idiosyncratic beers, Belgium's Orval combines several qualities from apparently disparate styles. Two Australians set out to brew their own version.

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>> GET THERE!

OREGON GARDEN BREWFEST

Dozens of breweries from throughout the West will descend on The Oregon Garden in Silverton, Ore. for the 8th annual Oregon Garden Brewfest April 27-28. The event will be held at the Garden's J. Frank Schmidt Jr. Pavilion, where attendees will enjoy flagship beers, seasonal beers, live music, and hearty fare from noon to 11 p.m. each day. The event's \$15 admission includes entrance to The Oregon Garden and the Brewfest event, a commemorative beer mug, and five tasting tickets. Additional tasting tickets may be purchased for \$1 each.

Participating breweries include Firestone Walker; Lagunitas; Ninkasi; Hopworks Urban Brewery; The Pelican Pub & Brewery; Alameda Brewing Co.; and Seven Brides Brewing.

New this year are "brewers talks" planned on the Friday of the festival from noon to 2 p.m. Brewmasters and brewing representatives will speak about their special brews, brewing history, and future plans. A reservation-only "Brewers' Dinner" featuring small-batch beer and food pairings is planned for Thursday evening, April 26.

For more, go to oregongardenbrewfest.blogspot.com.

March 3
Philly Craft Beer Festival
Philadelphia, PA
phillycraftbeerfest.com

March 9-10
Boulder Strong Ale Festival
Boulder, CO
averybrewing.com

March 10
Kona Brewers Festival
Kailua-Kona, HI
konabrewersfestival.com

March 10
Spring Craft Beer Festival
Uniondale, NY
springcraftbeerfestival.com

March 16-25
Charlotte Craft Beer Week
Charlotte, NC
charlottecraftbeerweek.org

March 23-24
Beer, Bourbon & BBQ Festival
Timonium, MD
beerandbourbon.com

April 14
Breckenridge Beer Festival
Breckenridge, CO
www.resortquestbreckenridge.com

April 21
Memphis Brewfest
Memphis, TN
www.memphisbrewfest.com

April 20-22
SweetWater 420 Fest
Atlanta, GA
www.sweetwater420fest.com

For more craft brewing events, go to www.craftbeer.com.



>> YOU'VE GOTTA DRINK THIS

LAGUNITAS WILCO TANGO FOXTROT

My favorite beer is Lagunitas Wilco Tango Foxtrot. This beer does not fit a category. It seems like a brown ale, but has big citrusy hops like an IPA. It explodes with layers of sweet malt followed by a mouthful of orange and grapefruit and finally a smooth bitter finish. I regret it is a seasonal beer. This year if they make it, I will buy a few cases so I can make it last longer.

Reviewed by Sean Railing, Clovis, Calif.



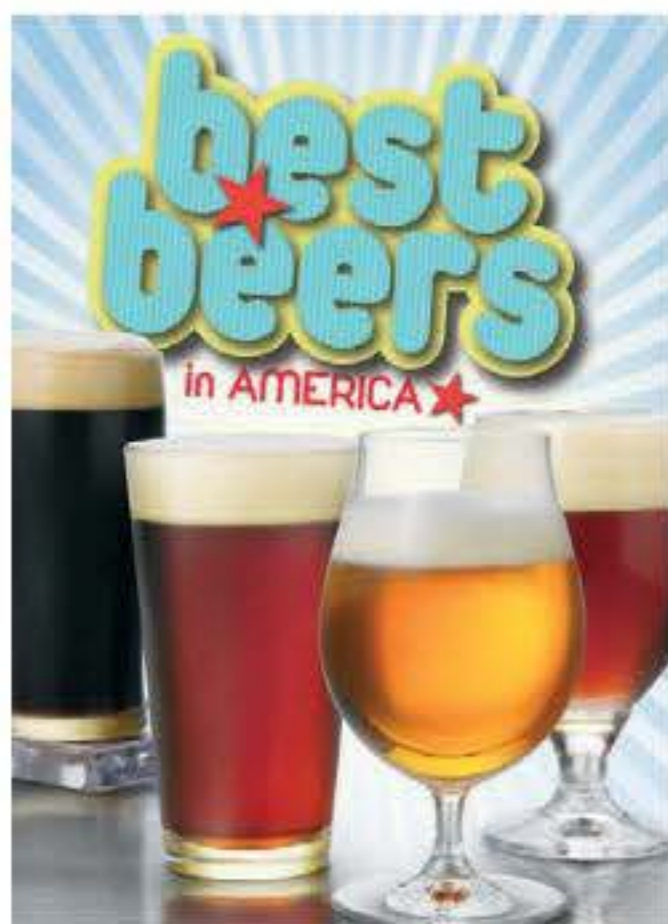
If you've had a beer you just have to tell the world about, send your description, in 150 words or fewer, to zymurgy@brewersassociation.org.

>> BREW NEWS

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 10th year, we are asking you, "Who brews the best commercial beers in the land?"

Just go to <http://bit.ly/bestbeers2012> and type in up to 20 of your favorite 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 16. 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. Five lucky winners chosen at random will receive AHA logo prize packs (T-shirt, pint glass, and sticker) for voting.

While you're voting, take a minute to review one of your top beers, in 150 words or fewer, and include that in the "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!

>> BEER QUOTE

"What we don't realize sometimes, even those of us who are inside the industry, is that nine out of 10 people still aren't drinking our beers. They are drinking macro beers, even in Colorado, where we have the most informed beer drinkers in the nation."

—Bill Eye, former Dry Dock brewer who is opening Prost Brewing

>> THE LIST

8 CRAFT BEER HIGHLIGHTS FROM 2011



Craft beer made even more headlines in 2011 as it continued to gain market share and fans. Julia Herz, craft beer program director of the Brewers Association, posted a year-end review at CraftBeer.com. Among the most-talked-about aspects of beer in 2011 she noted:

1. NUMBER OF BREWERIES: There are more craft breweries-in-planning than ever before: 855 known as of November 2011. Plus, more breweries exist now than since the late 1800s: 1,829.

- 2. BREWPUBS:** I personally feel brewpubs have not truly arrived until every food editor and Food Network star in the U.S. knows what a growler is and has toured their local brewpub. But of the 1,829 American breweries, 1,000 of them are brewpubs at the forefront of this craft and local beer movement.
- 3. WINE AND CRAFT BEER:** Wine lovers and chefs are starting to understand craft beer. One of the headlines of 2011 was "GQ's Wine Guy, Alan Richman, Reveals He's a Craft Beer Convert."
- 4. WOMEN AND BEER:** There has been more talk on women who are into craft beer in 2011 than any year prior. Media outlets like *The Wall Street Journal* featuring powerhouse brewmaster Tonya Cornett (Bend Brewing Co.), and *Slate* magazine's article "The Hops Ceiling," show this growing attention. Plus, women-only tasting groups are popping up in the beerscape like lily pads on a healthy pond.
- 5. HOT BEER STYLES:** Belgo/wild ales, saisons, seasonals, pumpkin beers, and IPAs were all the rage. Seasonals were the top craft "style" in 2011 as ranked by dollar sales, followed by IPAs. IPA was again the most entered beer category at the GABF with 176 entries in 2011.
- 6. BLACK IPA, AMERICAN BLACK ALE, OR CASCADIAN DARK ALE?:** It's hard to summarize the full debate that has gone on about this style, but in 2011, the discussion reached a new level. Check out Greg Koch of Stone Brewing Company's muse on this controversy, "In Defense of Language: or How I Learned to Stop Worrying and Love Black IPA," on CraftBeer.com.
- 7. EDUCATION PROGRAMS:** Ray Daniels' Cicerone® Certification Program was on steroids, reaching 5,000+ Certified Beer Servers, 300+ Certified Cicerones, and three Master Cicerones. Visit the Education section of CraftBeer.com to find out about available classes and programs. Start with CraftBeer.com's Beer 101 Course, which has logged almost 1,000 participants.
- 8. ALTERNATIVE PACKAGING:** 2011 was the year of alternative packaging, with growlers and canned craft beer becoming more popular than ever. More than 400 different beers from 144 breweries are now available in canned form, according to the diligent work of Russ Phillips at CraftCans.com.

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Gearing Up for the NHC

Hopefully you've been busy filling carboys, kegs, and bottles with plenty of homebrew over the winter months. Be sure to set aside some of the best of your brews to send to the AHA National Homebrew Competition (NHC). The NHC, now in its 34th year, is the world's largest beer competition and the most prestigious competition for amateur brewers. Last year, all nine U.S. judge centers maxed out their 750-entry capacities and a total of 6,996 entries were judged—the most ever in the competition's history. In anticipation of another record-setting year in 2012, we have added another judge center for a total of 10 U.S. judge centers.

Online entry registration for the 2012 NHC opened in mid-February. Even though we have added capacity, competition registration is likely to sell out again this year, so don't wait too long to submit your entries. The shipping window for this year's competition is March 19-28. Judging will take place March 30-April 22.

As you can imagine, judging 7,000+ entries requires a whole lot of judges and stewards. If you have judging experience or would like to be a part of the competition as a steward, please consider volunteering at your nearest judge center.

See the competitions section of HomebrewersAssociation.org for competition information and entry registration.

Get Your Bigfoot On

Speaking of selling out, the 34th annual "Brewin' With Bigfoot" AHA National Homebrewers Conference sold out quickly

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More than 7,000 entries are expected to be judged in the 2012 National Homebrew Competition.

"GOLD MEDAL - BEST AMERICAN CRAFT BEER"
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CONEY ISLAND LAGER
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GOLD MEDAL - 2011 World Beer Championships

ALBINO PYTHON
White Lager with Ginger, Fennel & Sweet Orange Peel - 6% Alc.
GOLD MEDAL - 2011 World Beer Championships

SWORD SWALLOWER
IPA Style brewed with lager yeast - 7.2% Alc.
GOLD MEDAL - 2011 World Beer Championships

MERMAID PILSNER
Dry Hopped American Rye Pilsner - 5.5% Alc.
SILVER MEDAL - 2011 World Beer Championships

HUMAN BLOCKHEAD
Imperial American Bock - 10% Alc.
GRAND CHAMPION - 2010 US Beer Tasting Championships

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INDULGE YOUR INNER BEER FREAK

after registration opened on February 1.

The 2012 Conference is taking place just across Lake Washington from Seattle at the Hyatt Regency Bellevue. It's a beautiful downtown hotel, with 45 restaurants and bars—including a brewpub and a tap room—within blocks. The entire Seattle area is hopping with homebrewers and craft breweries, so you know this is going to be a great one!

The local organizing committee has a great lineup of speakers and pre-conference events planned for this year's conference. See AHAConference.org for details.

AHA Conference Planning Guide

Ever wonder how sites for the National Homebrewers Conference are selected? The AHA gets bids from homebrewers who wish to bring the conference to their area. Here are the primary criteria:

1. A dedicated Local Organizing Committee, preferably with some competition/event planning experience.
2. Adequate hotel accommodations and convention space.
3. A location that is easily accessible to a large number of AHA members—

think about the logistics of getting 1,000+ kegs of homebrew there.

4. A location that attendees want to go to—we poll conference attendees on potential future sites each year.

That first point is critical. While the AHA and Brewers Association staff log hundreds of hours year-round to put on AHA conferences, it is the involvement of the local organizing committee that makes each conference a uniquely awesome experience. Think the homebrewers in your area have what it takes to put on a fabulous AHA Conference? Check out the National Homebrewers Conference Planning Guide in the Events section of the AHA Club Resources wiki: ahaclubs.homebrewersassociation.org.

Online Homebrew Club Resources

The Clubs Resources wiki isn't just a holding place for the National Homebrewers Conference Planning Guide. It's a resource for posting profiles of homebrew clubs, thus helping clubs get exposure with homebrewers in their area, plus it has sections for sharing club newsletters and articles on starting a club, running a club, and hosting club events.



AHA director Gary Glass and Brewers Association web architect Nate Zander brew a batch on the BA's new homebrew system.

If your club hasn't yet posted a profile on the Club Resources wiki, it's high time to tell the world what your group is all about. Who knows, your club profile might make it to the homepage of HomebrewersAssociation.org as a featured Club Story. Does your club hold a unique event that other clubs might learn from? Submit an article about it to the wiki. Use the Club Resources wiki to share information and get inspired with new ideas from other clubs—that's what it's there for.

Note that the club profiles in the Club Resources wiki are not the same as the Find a Homebrew Club directory on HomebrewersAssociation.org. You'll want to scan the directory as well to make sure your club is listed with the proper contact info. If you find a club listed that is no more, let us know so we can take it down. We're dependent on members like you to ensure the clubs directory is the most accurate listing of homebrew clubs anywhere.

Homebrew at the Office

Yeah, I've got a pretty cool job. Yes, we at the Brewers Association do get to drink beer on the job, though we don't just sit around drinking beer all day as some might think. However, grabbing a beer after 4:30 p.m. is perfectly acceptable behavior here. As I write this, we're getting ready to tap the very first beer brewed on the Brewers Association's new homebrew system. While many of the BA staff are already homebrewers, not everyone is so fortunate as to have their own brewing system. So at the prodding of the AHA division, the Brewers Association has acquired its own all-grain brewing system as a training tool to ensure everyone on our staff is familiar with every aspect of the brewing process, and thus better able to serve both the AHA members and the members of the BA Professional Division.

For the inaugural brew, Craft Beer Program director Julia Herz and I time-warped back to the early days of the AHA by brewing a batch of Silver Dollar Porter. The recipe for Silver Dollar Porter dates back to the very first edition of Charlie Papazian's *Complete Joy of Homebrewing*. Given that Charlie is the founder of the AHA and the

president of the Brewers Association, the recipe seemed a fitting choice.

The second batch brewed on the BA system—a training session for our brew team leaders—is now in the fermenter. Intended to be a milk stout, we underestimated the system efficiency and wound up with an imperial milk stout. Should be interesting. Subsequent batches will be brewed by teams of BA staffers, helping us ensure that we'll always have some fresh homebrew on tap at the office.

Well, even if you aren't so fortunate as to have homebrew on draught at your place of work, if you're reading this magazine, you more likely than not have some fresh homebrew sitting in your fridge or kegerator at home. Now would be a good time to grab one, so you can relax, not worry, and read the rest of this issue of *Zymurgy*.

Until next time, happy homebrewing!

Gary Glass is director of the American Homebrewers Association.

The advertisement features a laptop screen displaying the ezymurgy website. A hand is pouring beer from a glass into a glass. The website on the laptop shows the ezymurgy logo, a search bar, and a list of articles. A circular badge on the laptop screen reads "AHA Member Benefit". The background of the advertisement is a light green color with a subtle pattern.

ezymurgy

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Brewing Beer in a Hurry

Dear Zymurgy,

I picked up a copy of *Zymurgy* from a local bookstore because I was attracted by the article on brews that could be ready in less than a week. After reading Drew Beechum's article ("Express Beers," November/December 2011), I combined his technique with another article on no-sparge brewing and decided to brew a Mild. I made some tweaks to the Expressway Mild recipe, had a spot-on brew day on a Sunday (shot for and hit 1.035), and successful fermentation (down to 1.010) by Friday. After cold crashing, I did a "slam-n-bang" carbonation.

Six days and one hour from yeast pitch, I was enjoying a delicious Mild that was yeasty on the nose but roasted and fruity to drink, without any undesired yeast side effects. Great article that I'm sure I will put to use in the future and will share with my homebrew club. I even asked for an AHA membership for Christmas after that! Keep up the great articles on fun new techniques!

John Rugotzke
Rhineland, Wis.

More Express Brewing

Dear Zymurgy,

I have a question regarding Drew Beechum's article "Express Brewing." In "The Procedure" on page 47, Day 4, Drew says to transfer the beer to a keg prior to cold crashing. However, on Day 5 he says to transfer yet again to another keg. Is this extra keg step a form of secondary, or should I begin carbonating at this point? If not, would a second carboy also do the trick?

Bill Addison
Toms River, N.J.

Article author Drew Beechum responds: Hi Bill, sorry that wasn't as clear as it should have been. I use the first keg as a settling/bright tank because it's convenient to transfer and I can fit more beers in the fridge for settling purposes. There's no reason to start carbonating just yet.

If you prefer to use a carboy, that will work as well. Chill the carboy in an elevated position so you can rack without moving the carboy and stirring up the sediment. Otherwise, you can pressure rack with CO₂, but remember glass and pressure remain a dangerous affair!

Simple Pleasures

Dear Zymurgy,

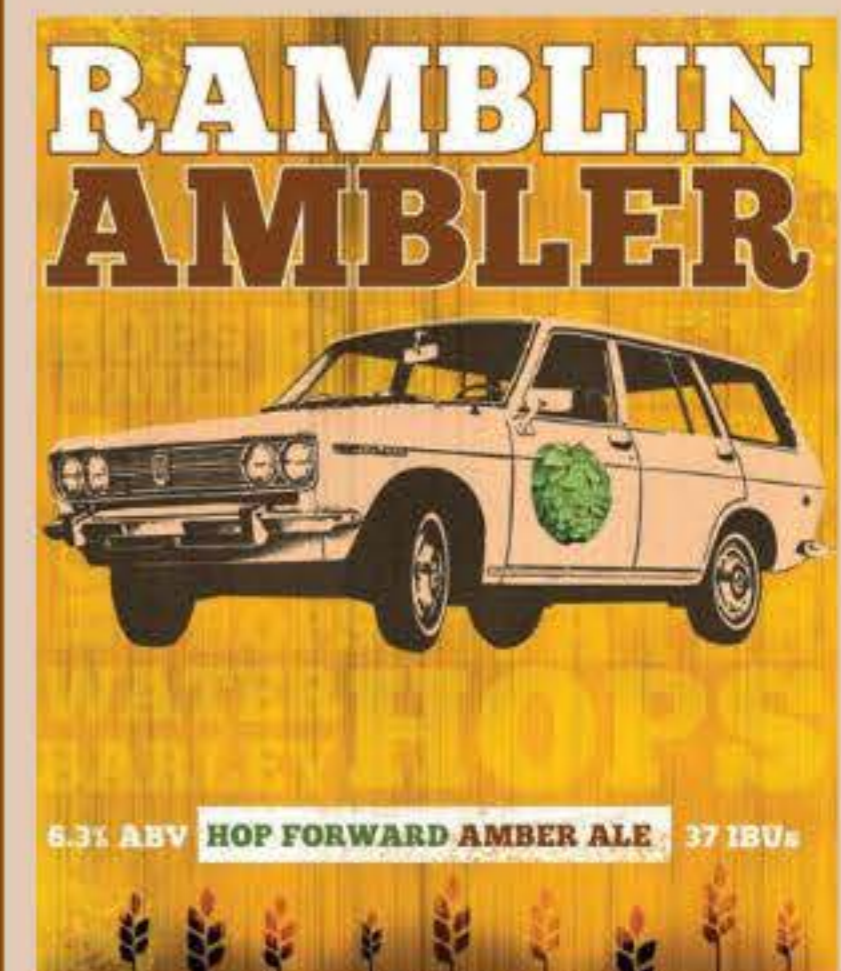
I've been a homebrewer for two years now and am currently working in conjunction with my cousin to begin distributing our beer as a business in upstate New York. One thing I have noticed over the years of craft beer drinking, and of course compared to our homebrew compilations, is that a more complex beer does not necessarily make for a better beer (or more palatable). I can appreciate the absurdities of some recipes (the aging in oak barrels, etc.) for certain types, and also realize the necessity of craft brewers to create these beers in order to inspire other brewers to step outside their realm of regular brewing. However, is it not so niche that it's simply not worth the effort to promote beers with this type of complexity?

We brewed an Oktoberfest, our first attempt, and sampled it at a scholarship fundraiser in October. I had two gentlemen, one from the band playing, and another that was a self-proclaimed "beer-connoisseur," who exclaimed that it was quite possibly the best Oktoberfest they had ever had. Our grain bill was

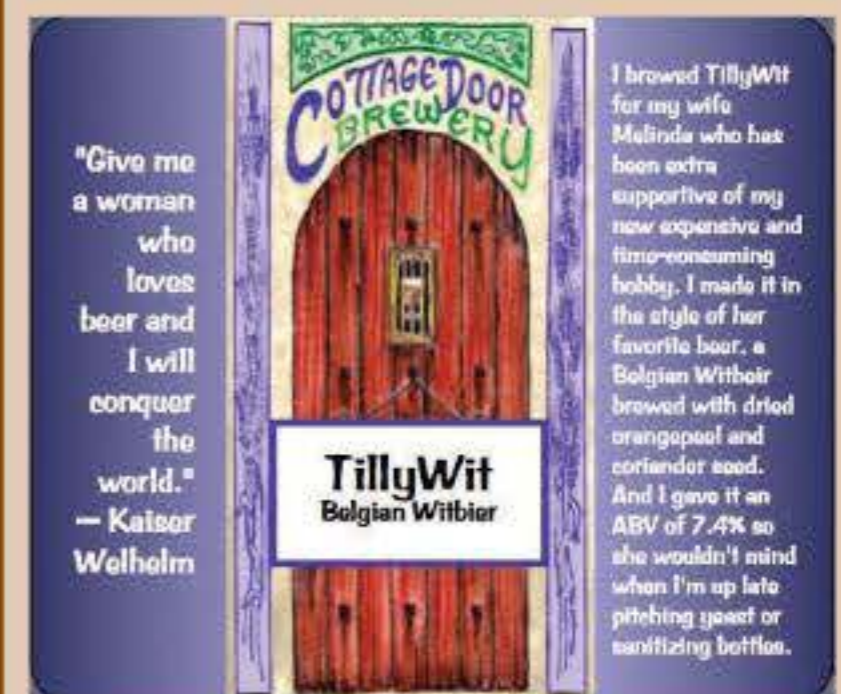


FROM OUR READERS

Nick Bolton sent us a label created for his homebrew.



Cheers to Jeremy Mattfeld for this homebrew label.



Ben Shaw sent us this homebrew label created for an Irish red ale brewed in the homebrewing course he taught at his local community college.



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simple and the hops were not over the top. Nothing fancy—we didn't add flavorings, etc. After the fundraiser, my friend (who started the annual fundraiser) told me that the majority of the compliments about the event were about the craft beer that was served.

Why does craft beer have to be so complex? Is it a vanity contest for some brewers? As Thoreau would say, "Simplify, simplify."

Justin A. Pytlak
H-Block Brewery

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Witchcraft in Salem?

Dear Professor,
I recently made the move from Montana to Salem, Ore. Brewing in Montana meant using untainted well-water for my brews with never a problem, and wonderful beers.

Now that I am an “urban” brewer, I seem to have too many instances of dry yeast that will not take off, fermentations that just sit there, never going into krausen overnight (like Montana). It may be my imagination, but I think I even smell chlorine in the shower. Is this my problem? Obviously many other microbreweries and homebrewers in Oregon seem to do just fine with the local water.

I have tried adding a Campden tablet to my brewing water. I have thought of brewing with bottled water as a test to see if the local city-provided stuff is the problem. Do you think this is a good approach, or do you see some

other brewing aspect I am missing? How can I—other than giving up my job and moving back—get back to brewing wonderful beers?

Dale Engstrom
Salem, Ore.

Hi Dale,
My first reaction is that maybe your water in Montana was “tainted.” Really, no kidding. Perhaps the water had some trace minerals that actually enhanced fermentation. Zinc? Calcium? Other?

Chlorine in water is never a good thing for brewing water, but you are right, there are so many of us homebrewers who live and brew with “city” water tainted with disinfecting chemicals. If you have the ability, it’s always best to filter that stuff out before brewing beer. Yes, I’ve heard of the Campden tablet approach to ridding water of chlorine, but I

am not a proponent of adding **more** inhibitory stuff to water to get rid of things.

You can get a city water report usually at no charge—what’s in your water and at what levels, usually average. How’s the plumbing in your house/apartment? That could be responsible for issues, but not extremely likely.

Sure, go ahead and test a batch from purified dependable source-bottled water and see if that makes a difference. Is the yeast fresh? Have you discussed with Salem, Ore.’s Anti-Gravity Brew Club members?

There are many ways to search and find the problem, but you have to look beyond what seems like the obvious.

What’s in your water,
The Professor, Hb.D.

Glass vs. Plastic Carboys

Dear Professor,
I’m not any kind of homebrewing expert, having less than three years’ experience, but I really think the advantages of glass carboys are overstated (Dear Professor, September/October 2011). More importantly, the risks are minimized. Glass is more expensive, much heavier, and just more dangerous than plastic.

The internet is full of reports of serious injuries from broken glass carboys. Certainly, there are many steps that can be taken to minimize the risk, but the fact remains that every time a glass vessel with 5+ gallons of liquid is moved, there is real risk. It may be that I’m just sensitive to possible hand injuries (I’m a surgeon), but this risk is entirely eliminated with a plastic bucket or better bottle.

The common reasons for choosing glass are minimizing risk of infection and of




Photo © Shutterstock

oxygen transfer. The BetterBottle website points out that if you ever open the lid to a carboy, you let in far more oxygen than will ever diffuse through the wall of the vessel. With regard to scratches and infections, I can only state that cleaning a plastic carboy is easier and safer than glass. Frequently, they can be cleaned by filling with warm water and shaking vigorously—something that would be dangerous with glass. When needed, a chemical cleanser such as PBW can be used. There is no need to ever scratch the inside of the carboy. While I can't guarantee that an infection could never occur, my experience with dozens of brews over two years (and no infections) shows it is unlikely.

To me, the potential increased risk of infection/oxygenation is worth the clearly decreased risk of injury. In fact, I think it's a "no-brainer." Just stating, as you did in the column, the advantages of glass without mentioning the risks does your readers a disservice.

J. Leonard DeCarlo
Tyler, Texas



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Hi Leonard,

You make some excellent points. There are many risks encountered throughout the brewing process, some greater than others. But it all depends on the situation you find yourself brewing in. You are absolutely correct: glass breaks; plastic doesn't; injury can happen.

I've had my glass carboys for over 35 years and they are good as new. I've had a few break due to temperature shock and inattention on my part. That was messy and very disappointing. I usually don't drink a lot of homebrew while brewing, so my "take care" regime is pretty strict. But life happens, so I am as aware as you are when emphasizing that glass can break.

Plastic carboys may or may not have come a long way since they were introduced. The more products that are outsourced abroad for production, the more suspect I am with any plastic that comes into contact with my beer. Food-grade or not food-grade? I am suspicious when costs continue to be cut in the manufacturing of anything.

Does plastic last forever? Here's an anecdote. I had a food-grade white plastic 20-gallon pail in which I used to make wine and fruit beer. Eventually the plastic became brittle and sprung leaks—on its own accord. Also, buckets get stuff thrown into them during storage. Scratches and such are inevitable over time. Beware.

Plastic carboys: I can't imagine they last forever, because plastic quality usually doesn't last forever, especially if subjected to beer, light, and chemical cleaning regimes. Bottle brushes are often part twisted wire—coming in contact with plastic while trying to get that hop resin off makes for invisible scratches, and those scratches could harbor undesirable microorganisms.

Risks versus playing it safer? It's nice we have the choice and the information to make those decisions based on our own individual circumstances. Plastic carboys are an option, but take care in assessing the need to retire them due to age and heavy use. Buckets have their place in homebrewing too, but know when to move on or replace.

I'm in it for the long term,
The Professor, Hb.D.

Mashing in Separate Bags?

Dear Professor,

When I do an all-grain or partial mash, I place the grains in a mesh bag and let it steep in the appropriate amount of 150° F (66° C) water. I then place the bag in a brew pot of 180° F (82° C) water to gently "rinse" the grains, then I set the bag in a colander to drain over the brew pot for a few minutes. I do the same for the specialty grains, but at different temps and times. Setting the bags aside, I then combine all liquids and other ingredients and start the boil.

Do you see anything wrong with this method? Am I missing out somehow on extracting the most I can get out of my grains? I also bag my hops. Should I not do this, and if not, why?

I use Irish moss and usually my ales pour quite clear, but every once in a while, a batch comes out with a slight haze.


Mark Scharlow
Toledo, Ohio

Dear Mark,

Haze can come from hops or yeast and may not be grain induced.

Mashing and sparging with a mesh bag is OK, though it is hard to get even temperatures throughout. The advantage of adding all the grains straight into the water and stirring is that it is evenly and quickly heated. Straining them out is not that much of a hassle once you've developed a system. Putting all the grains in at the same time is what I do and all pro brewers do. I'm not up on any advantage of separating different grains and mashing separately. I've not seen scientific papers on that process. I imagine some believe that, in theory, it makes a difference, they can taste a difference, and they like the difference. But I like my beer.

Scratch scratch,
The Professor, Hb.D.

Hey homebrewers! If you have a brewing-related question for Professor Surfeit, send it to "Dear Professor," PO Box 1679, Boulder CO 80306-1679; fax 303-447-2825; or e-mail professor@brewersassociation.org. 

What Makes It a Stout?



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All entries must be shipped to the address above; they are not accepting walk-in drop-offs. Hosted by Kelly Kruegel and the Rock Hoppers club of Parker, Colo., this competition covers BJCP category 13. For more information, contact Kelly Kruegel at kruegel.kelly@gmail.com.

While stout as a beer style is universally familiar to everyone in the brewing world, there is vagueness to the term when one wishes to differentiate it from other black ales. It has been suggested by many beer authors and historians that porter is traditionally a less robust or less alcoholic black ale than stout, but by today's standards, that distinction does not always hold true.

For example, Anchor Porter is substantially stronger in alcohol than Guinness Extra Stout. In the Classic Beer Style Series book *Stout*, author Michael J. Lewis surveyed several commercial breweries that made both a stout and a porter and posed the same question of what distinguishes one style from the other. There are of course the associations derived from porter as an inexpensive proletariat drink, and stout as a strong, nourishing tonic, but in the end, surveyed brewers avoided the question as irrelevant. Lewis had no choice but to conclude that what makes a stout a stout and not a porter is that that is what the brewery called it. So, two things we can say about the style is that it has two defining characteristics: one, that it is a black ale whose flavor is dominated by roasted malt, and two, that it is called a stout by the brewer.

There are several classic subtypes of stout, but because of its immense popularity worldwide, the dry stout that originated in Ireland is often thought to be the quintessential stout. Of that subtype, Guinness of Dublin is perhaps the most famous commercial producer, though Murphy's and Beamish, both brewed in Cork, are two of its most popular surviving rivals. A full, silky texture is often provided by flaked, unmalted barley, lending an unex-

pected heft and a distinctively thick foam to an otherwise low alcohol beer. Original gravities tend toward the lower side of the 1.036 to 1.050 range. Roast barley and 30 to 45 IBUs of kettle hops contribute to dryness, along with thorough attenuation, with finishing gravities from 1.007 to 1.011. Pale malt makes up the rest of the grain bill, though some brewers add chocolate or black malts to the roast grains. The interplay of dry/bitter grain and hop character with the flaked barley texture are crucial to dry stout. Save the crystal malt for Foreign Extra—residual sweetness should be minimized here.

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Water should be only moderately hard, with an alkaline Dublin profile emphasizing carbonates.

Sweet stouts have enjoyed a resurgence in popularity of late, with the classic Mackeson's XXX and Farson's Lacto giving way to craft brewed lactose formulations like those from Sam Adams, Left Hand, and Widmer. "Milk stout" and "cream stout" are generally considered interchangeable, though associations with nutrition are most likely responsible for the banning of these terms in the UK. "Sweet stouts" then, are dosed with milk sugar to add a bit of unfermentable sweetness and body to a base beer of pale, roast, black, and chocolate malt, crystal malt, and sometimes corn or sugar adjuncts. A balance of chocolate, coffee, and caramel flavors makes this a dessert-type beer, but enough grain dryness should remain to keep the beer palatable. Keep hops to the bare minimum (under 40 IBUs), and keep the OG moderate: 1.044 to 1.060 is the range. Finishing gravities are relatively high at 1.012 to 1.024 due to the unfermentable lactose, leaving a 4 to 6 percent abv beer. As with most stouts, high carbonate water helps balance the black grain acidity.

Oatmeal stout is generally similar to sweet stout, but there is a little more elbow room in terms of variation in the style. Five to 10 percent oatmeal in the mash lends the heavier body and oily texture rather than lactose, and hops are usually also subdued, but added complexity can come with toasting the oatmeal, or making the beer stronger (1.048 to 1.065 is generally the range). Target flavors should still be coffee, caramel, and chocolate, and hops still play a background role, so keep IBUs under 40. Finishing gravities will still be high, but a bit lower than with sweet stout, at 1.010 to 1.018. Caramel malts can be added for sweetness, though body is already well covered by the oatmeal. Be prepared for the flaked oatmeal to stick up the mash a bit if brewing an all-grain version; rice hulls can be used to help things along.

Foreign Extra stouts were traditionally brewed to a higher gravity for better storage in warmer climates, much like India

Pale Ale was, and often had a high hop bitterness to boot (though hop flavor and aroma were minimal); up to 70 IBUs. (Note that a Foreign Extra stout with hop flavor and aroma present may do better in the American Stout subcategory.) Tropical stouts are also included here, but while they can share the hefty strength (5.5 to 8 percent abv) of a Foreign Extra, they tend to be sweeter, with lower grain and hop bitterness. Export versions tend

to be sharper, with bitter cocoa flavors, much like a trumped-up dry stout. Tropical stouts may display fruity esters of coconut or rum, but are smoother and sweeter on the palate. Original gravities range widely, from 1.056 to 1.075, as do IBUs, which can be as low as 30 for tropical stouts. These beers finish out in the 1.010 to 1.018 range. Some tropical stouts are brewed with lager yeast to achieve the characteristic smoothness,

Sweet Milk Stout

MALT EXTRACT RECIPE

This recipe was inspired by the Milk Stout made by Left Hand Brewing Co. in Longmont, Colo. The ingredients list is found on www.lefthandbrewing.com.

INGREDIENTS

for 5.25 U.S. gallons (20 liters)

2 cans	(6.6 lb or 3 kg) Coopers Light Malt Extract
0.5 lb	(227 g) Coopers Light Dry Malt Extract
1.0 lb	(454 g) Milk Sugar
0.25 lb	(113 g) Chocolate Malt (350° L)
0.5 lb	(227 g) Crystal Malt (105° L)
0.75 lb	(340 g) Roasted Barley (450° L)
0.25 lb	(113 g) Flaked Barley
0.25 lb	(113 g) Flaked Oats
1.0 oz	(28 g) *U.S. Golding pellet hops, 4.75% a.a. (14 IBU) (60 min)
0.25 oz	(7 g) *Magnum pellet hops, 14.0% a.a. (10 IBU) (60 min)
2 packages	Wyeast 1099 Whitbread Ale Yeast, or 2 vials White Labs WLP006 Bedford British Ale Yeast, or 10 g Fermentis Safale S-04 Coopers Brewery Carbonation Drops for bottling

Original Gravity: 1.060

Final Gravity: 1.017-1.022

IBU: 24

ABV: 5.5-6%

DIRECTIONS

Steep grains in 2.3 gallons (8.7 liters) of cool water, heat to 170° F (77° C), strain and sparge with 2/3 gallon (2.5 liters) hot water. Stir in liquid and dry malt extract, and bring to a boil. Add the bittering hops at the beginning of the boil and boil for 60 minutes. Add the milk sugar at the end of the boil. Shut off heat, and cool the wort. Pour the wort into a clean and sanitized fermenter with enough cold water (~2.25 gallons, 8.5 liters) to make 5.25 gallons (20 liters). Aerate and pitch yeast when temperature drops to 65° F (18° C). Ferment at 67° F (19° C) for one to two weeks or until fermentation is complete. Prime with Coopers Brewery carbonation drops at bottling (at room temperature); aim for a low carbonation level.

*Use a similar hop, if listed hops are unavailable.

and many brewers add sugar adjuncts to enhance both strength and complexity. Just take care not to dry them out too much in the finish.

American stouts are distinguished mainly by their extra hoppy character, and can be thought of as strong, hoppy, robust porters with an emphasis on roast barley. American hop varieties are obviously favored, with spicy, resinous hop character enhancing the bitterness of the roast grains. IBUs should range from 35 to 75, with early, middle, late, and even dry additions. Gravities start at 1.050 to 1.075, and finish from 1.010 to 1.022, yielding 5 to 7 percent alcohol by volume. The stronger versions begin to resemble Imperial Stout in their bold roast grain and hop profiles. Caramel malt or oatmeal may be used in lesser amounts to add body and take a bit of the edge off.


Finally, for maximum sensory overload, Imperial Stouts are perhaps the most intense style in the beer world. They can range from the port-like Russian variety, with an emphasis on malt complexity, licorice, dark or dried fruit esters, and alcohol; to the American variety, which is like American barleywine with roast grain character adding to an already prodigious hop presence. Warming alcohol, not solventy or hot, should be present, with "legs" forming in the glass when swirled. Aging usually helps to meld flavors and soften sharpness, though late or dry-hopped versions may do better when served younger. Original gravities are generally in the 1.075 to 1.115 range, with alcohol content at 8 to 12 percent by volume. IBUs range from 50 to 90, though overall bitterness becomes very subjective with a heavy-handed use of black and roast grain. Needless to say, judges' palates become fatigued very quickly with these beers. Carbonation is generally modest, though longer-aged versions may develop a bit more over time; take care not to bottle them too early!

Amahl Turczyn Scheppach is a former craft brewer and associate editor for *Zymurgy*, and now brews at home in Lafayette, Colo.


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PLANET HOMEBREW:

GOOD BEER'S GLOBAL MOVEMENT

As someone who has been brewing for decades, it has been fascinating to witness the amazing transformation of homebrewing from a disjointed, rather primitive hobby to the sophisticated and well-connected community we have built.

I have had the ridiculous good fortune to be able to travel around the world on beer business over the last three years, and have gotten a close-up look at what's happening beyond our shores, and boy, is it happening! Legions of hobbyists, connoisseurs, and entrepreneurs are rising up everywhere, no longer willing to put up with the lack of variety and vapid-ity of industrial beer. As a result, good beer is exploding all over the world. Homebrewing is now a global movement.

Global homebrewers are inspired, as we in the U.S. were, by the classic brewing traditions of Europe, but also by the feast of variety and excitement going on here in the U.S. And more often than not, they are adopting our model as the one to build on.

Wherever you find it, homebrewing attracts the same kind of curious, open-minded, passionate, and creative enthusiasts. It is the hobby's most valuable asset—we are passionately stricken by the beer bug.

There are some differences as well. Although homebrew shops are popping up, they are still rather rare, so access to supplies can be limited. Hops have always been an international product and as such can be mail-ordered. Quality malt producers like Weyermann have a footprint in most regions, and South America now has a micro maltster making a full range of products.

Yeast is the biggest problem. Liquid types don't travel well, and live cultures always draw scrutiny at customs. So most brewers, even many commercial ones, use dried yeast. This is not a bad thing in itself, but these strains have a tendency to emphasize a single characteristic, like ester or phenol, and tropical fermentation temperatures make it worse—saison,

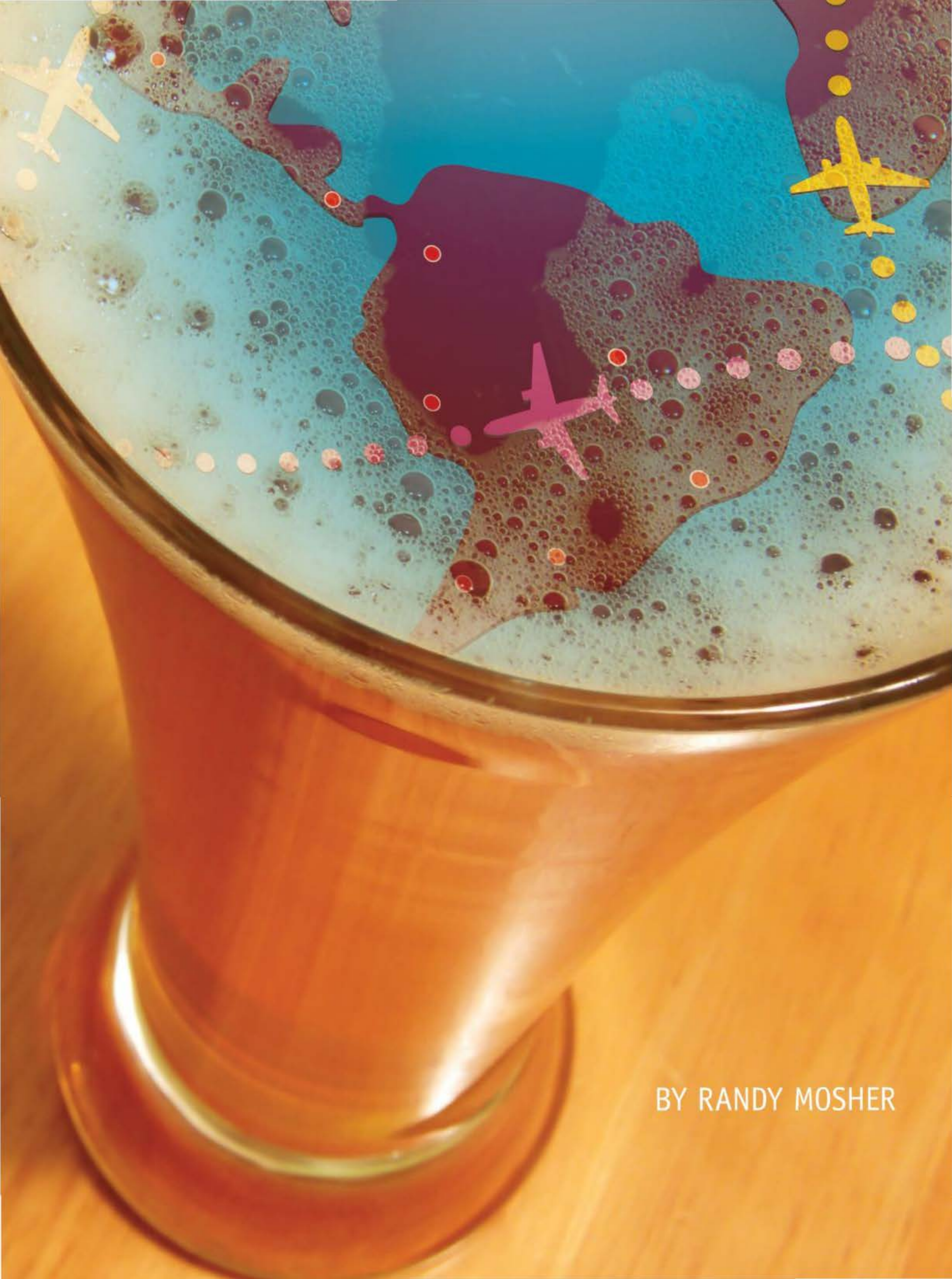
anyone? Equipment is another big problem, as many developing countries impose gruesome import duties.

In most places outside the U.S., there is simply less critical mass swirling around good beer. This means fewer commercial craft beers, less experience with judging and competitions, fewer homebrewing clubs, and not as many places to drink good beer. These are all problems we used to have in the U.S., and eventually grew out of, so we can expect great things in the near future from our friends around the world. Brewers everywhere are working to find their unique voices, taking advantage of local flavors and ingredients.

ITALY

This ancient land is home to great wine and one of the best food cultures on earth, but since the days of the Roman Empire, Italians have never considered beer as anything particularly artsy. Things have changed. In Italy's north, a vibrant and creative craft brewing scene has been established. Here, the craft brewers are out ahead of the homebrewers, leading with innovation, but homebrewers and beer enthusiasts are organizing rapidly, trying to empower themselves to make great beer.

To some degree, inspiration comes from Italy's incredibly diverse wine culture. In addition, the creative Belgian approach resonates with many Italian brewers. Spices and non-traditional ingredients are common, although there are plenty of straight-up classic styles as well. At this point, homebrewers are still something of a rare breed. The lack of a large pool of expertise has had an effect on both beer quality and the ability to develop a sizable following of fans. A beer enthusiast group called MOBI (MOVimento Birrario Italiano) is very active, and homebrewers are definitely on the rise. A recent excavation discovered the earliest known evidence for hopped beer, found in a 6th century BCE context in Liguria, a region in which wild hops can still be found. It turns out that beer may be more Italian than everybody thought.



BY RANDY MOSHER

Lampo Bianco (White Lightning)



**Witbier with
Muscat Grape Juice**

INGREDIENTS

for 5 U.S. gallons (19 liters)

All-Grain Recipe

3.5 lb (1.6 kg) U.S. Two-Row or Pils Malt
4.0 lb (1.8 kg) Malted Wheat
0.5 lb (227 g) Flaked Oats
0.2 oz (8 g) Chinook 11% a.a. (60 min)
0.35 oz (10 g) Simcoe 12% a.a. (10 min)
0.5 oz (14 g) Columbus 12% a.a. (0 min)
0.4 oz (12 g) Indian Coriander (2 min)
0.07 oz (2 g) Cardamom Whole Pod (2 min)
3 g Dried Ginger (2 min)
Zest of ½ lemon (2 min)
46 oz (1.4 liter) can muscat grape juice concentrate
Belgian Wit Ale (WLP550 or Wyeast 3944 or 3942)

Original Gravity/°P: 1.045/11.2 (w/o grape)
Brewhouse Efficiency: 75%
Estimated ABV: 5.8%
IBU: 19
Color: Gold/5.6 SRM
Weeks to Drink: 6–8

DIRECTIONS

Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Add Muscat grape juice concentrate to fermenter at the end of primary. Ferment at 75–78° F (24–26° C).

Extract plus steeped grain version:

Substitute 1.6 lb (726 g) dry malt extract and 1.6 lb (726 g) dry wheat extract for the pils and wheat malt. Conduct mini mash with 8 oz (227 g) Carapils and flaked oats, steeping for 30 minutes at 154° F (68° C). Strain, add extracts, top off with water, and proceed with boil. Ferment 4–5 gallons wort and add muscat juice to secondary.

The Lampo Bianco recipe was inspired by an “Italian saison” brewed by Del Borgo, a craft brewery in Borgorose, north of Rome. Their recipe used 50 percent juice from Sangiovese grapes, the variety used in Chianti. It featured a beautiful white wine nose, and a soft, beery texture on

Dado Duro (Hard Nut)



**Brown Ale with
Chestnuts and Honey**

INGREDIENTS

for 5 U.S. gallons (19 liters)

All-Grain Recipe

3.5 lb (1.6 kg) Pale Ale Malt
4.0 lb (1.8 kg) Malted Wheat
0.5 lb (227 g) Melanoidin Malt
0.5 lb (227 g) 40 °L Caramel Malt
0.5 lb (227 g) Black Malt
1.0 lb (454 g) Roasted Chestnuts (see article text)
0.3 oz (8 g) Northern Brewer, 11% a.a. (60 min)
0.35 oz (10 g) Northern Brewer, 11% a.a. (10 min)
1.0 lb (454 g) chestnut honey
London ESB (Fuller’s strain) (WLP002 or Wyeast 1968)

Original Gravity/°P: 1.055/13.6
Brewhouse Efficiency: 75%
Estimated ABV: 5.7%
IBU: 16/Low
Color: Brown/17 SRM
Weeks to Drink: 4–6

DIRECTIONS

Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Add chestnut honey to fermenter after primary fermentation. Ferment at 64–68 °F (18–20 °C) for four to six weeks.

Extract plus steeped grain version:

Substitute 1.6 lb (726 g) dry malt extract and 1.6 lb (726 g) dry wheat extract for pale and wheat malt. Conduct mini mash with 1.0 lb (454 g) six-row pils malt, 0.5 lb (227 g) melanoidin malt, 0.5 lb (227 g) 40° L caramel malt, 0.5 lb (227 g) black malt, 1.0 lb (454 g) mashed, roasted chestnuts (see article text), steeping for 30 minutes at 154° F (68° C). Strain, add extracts, top off, and proceed with boil and remainder of recipe.

the palate. I decided to change this up and make it a witbier and use less of a highly aromatic grape variety, muscat, used in Italy to make low-alcohol sparklers as well as dessert wines. I collaborated with San Diego master homebrewer Harold Gulbransen on this recipe.

Recipe: Lampo Bianco



TOP: HG Wiktorsson of Närke Kulturbryggeri in Örebro, Sweden. BOTTOM: The author, elated to be in a Danish bog picking bog myrtle.

A lot of small commercial brewers make chestnut beer in Italy, but nobody there seemed all that excited by them. This is explained by the fact that the Italian government subsidizes chestnut beers as a rural development program, going so far as to pay for an entire brewery to focus on them. Indeed, I found them to be lackluster for the most part, with little chestnut flavor other than a coarse astringency.

I wondered if it was possible to make a delicious chestnut beer. With the help of another San Diego homebrewer, Guy Shobe, I found out that it is. Roasting the chestnuts first is the key. I used dried chestnuts from an Asian market, roasting them in the oven at 350 °F (177 °C) until they developed a pinkish, pale tan color and a deep, nutty aroma. I then smashed them up with a hammer and ran them through my old coffee mill. Chestnut

Smøkesbørd



Swedish Smoked Ale with Juniper

This beer is inspired by the fresh, smoky real ale of Närke Kulturbryggeri in Örebro, Sweden. It's a hybrid between an English brown ale and something more primal, with the flavors of smoke up front and juniper lurking in the background. The recipe calls for cherry-smoked malt from Briess, but feel free to smoke your own—birchwood would be most Swedish. For another Nordic touch, a large handful of juniper branches with berries can be added to the mash or mini-mash.

INGREDIENTS

for 5 U.S. gallons (19 liters)

All-Grain Recipe

- 2.8 lb (1.3 kg) Briess Cherry-Smoked Malt
- 2.8 lb (1.3 kg) Pale Ale Malt
- 3.3 lb (1.5 kg) Biscuit Malt
- 1.0 lb (454 g) Melanoidin Malt
- 0.29 oz (8.5 g) Northdown 8.5% a.a. (60 min)
- 2.29 oz (65 g) Fuggles 4.5% a.a. (10 min)

English or Scottish Ale yeast

Original Gravity/°P: 1.052/12.6

Brewhouse efficiency: 75%

Estimated ABV: 5.0%

IBU: 25/Low

Color: Brown/16 SRM

Weeks to Drink: 4–6

DIRECTIONS

Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Ferment at 62–66 °F (17–19 °C) for four to six weeks.

Extract and steeped grain version:

Substitute 3.7 lb (1.7 kg) dry malt extract for pale, biscuit, and melanoidin malts. Steep 2.0 lb (907 g) smoked malt, 1.0 lb (454 g) honey malt, and 0.7 lb (318 g) 120° L crystal malt at 154° F (68° C) for 30 minutes. Strain, add extract, and proceed with boil.

honey added another layer of flavor. It's a dark and intense honey, best used in moderation.

Recipe: Dado Duro (Hard Nut)

SCANDINAVIA

This region is a fascinating mix of the modern and the ancient. It's the home of Ikea, an icon of modernity. In design this

Valkyrie Tears



Scandinavian IPA with Bog Myrtle

Beer enthusiasts in far Northern Europe love a good IPA. I find the aroma of bog myrtle (*Myrica gale*) particularly enchanting, and a good partner with hops. It's a bit hard to find, but there are mail order sources, and it is fairly common in damp places in Alaska and elsewhere in the far north. Leaves are commonly sold, but they have some astringency. The tiny cone-like flowers have a much more refined and intense aroma, and they are the parts used in Denmark to make sweet gale schnapps.

INGREDIENTS

for 5 U.S. gallons (19 liters)

All-Grain Recipe

- 6.0 lb (2.7 kg) Pale Ale Malt
 - 7.0 lb (3.2 kg) Vienna Malt
 - 0.8 oz (25 g) Cascade, 5% a.a. (first wort)
 - 0.6 oz (17 g) Columbus, 15% a.a. (60 min)
 - 0.5 oz (15 g) Cascade, 5% a.a. (30 min)
 - 0.15 oz (4 g) Columbus, 15% a.a. (30 min)
 - 2.5 oz (70 g) Riwaka or U.S. Saaz, 5.5% a.a. (5 min)
 - 0.5 oz (15 g) bog myrtle/sweet gale
- California Ale (WLP 001/Wyeast 1056)

Original Gravity/°P: 1.072/17

Brewhouse efficiency: 75%

Estimated ABV: 6.8%

IBU: 77/High

Color: Deep Gold/6 SRM

Weeks to Drink: 8–12

DIRECTIONS

Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Add bog myrtle/sweet gale with finishing hops. Ferment at 62–66 °F (17–19 °C).

Extract and steeped grain version:

Substitute 7.3 lb (3.3 kg) dry malt extract for pale and Vienna malts. Steep 1.0 lb (454 g) honey malt at 154° F (68° C) for 30 minutes. Strain, add extract, and proceed with boil. Add bog myrtle at 5 minutes before end of boil.

isn't so bad, but what "modern" means in beers is the same sea of bland international pilsners as everywhere else on the globe. In fact, the lager strains now

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Monkey Toes

Brazil Nut Dark Ale with Rapadura Sugar, Conditioned on Ipê Wood



This was inspired by a fantastic beer by homebrewer Ricardo Rosa that was later brewed in a small batch at Cervejaria Colorado—"We had a thousand dollars worth of nuts in there!" The original version was aged in a barrel made of Brazil nut wood, castanha de Para. In the U.S., Ipê wood is widely available for use in decking and outdoor furniture. Just a handful of scrap wood cut down to fit into a carboy should be sufficient to add a delicate perfumy wood character.

INGREDIENTS

for 5 U.S. gallons (19 liters)

All-Grain Recipe

5.7 lb (2.6 kg)	Pale Ale Malt
6.0 lb (2.7 kg)	Munich Malt
0.75 lb (340 g)	Honey Malt
0.3 lb (136 g)	Chocolate Rye
0.9 oz (25 g)	Magnum, 14% a.a. (60 min)
0.5 oz (15 g)	Cascade, 5% a.a. (30 min)
0.14 oz (4 g)	Columbus, 15% a.a. (30 min)
0.5 lb (227 g)	lightly toasted Brazil nuts
4.0 oz (113 g)	ipê wood
Scottish Ale	(WLP 028/Wyeast 1728) or other ale of your choice

DIRECTIONS

Crush Brazil nuts in food processor and add to mash or steeping malts. Cut the ipê wood into pieces small enough to fit into a carboy, sanitize, and add to fermenter. Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Ferment at 62-66 °F (17-19 °C).

Extract and steeped grain version:

Substitute 6.5 lb (2.9 kg) dry pale malt extract for the pale and Munich malts. Steep 1.0 lb (454 g) honey malt, 0.5 lb (227 g) caramel wheat malt, Brazil nuts, and 0.3 lb (136 g) chocolate rye malt at 154° F (68° C) for 30 minutes. Strain, add extract, and proceed with boil.

Original Gravity/°P: 1.066/16.1

Brewhouse efficiency: 75%

Estimated ABV: 6.3%

IBU: 32/Medium

Color: Dark Brown/20 SRM

Weeks to Drink: 6-8

used to make nearly all the beer on the planet were first isolated and purified—a very modern idea—in Denmark at the Carlsberg and Tuborg facilities.

But miraculously, the ancient brewing traditions linger on. In Finland, a rye beer called sahti is still brewed by farmers using hollowed out logs and juniper branches as mash tuns, and this is even produced commercially on a small scale. On the Swedish island of Götland, a smoky beer called Götlandsdrickå is still brewed, and rustic brewing traditions are still very much alive in rural Norway.

Scandinavian beer is utterly dominated by the large breweries, who have a large chunk of the craft segment as well. A few huge retailers own the marketplace, and taxes are ruinously high. Norway has the embarrassing distinction of having

the highest beer taxes in the world, the equivalent of \$1.50 per 12-ounce bottle. In Sweden, only the state liquor stores sell beer with more than 3.5 percent alcohol by volume. Scandinavians have lots of good reasons to homebrew.

Creative brewers are trying to make something interesting, loving the wild flavors of North American hops, but at the same time embracing the ancient flavors of smoke, juniper, and bog myrtle, and respecting the centuries of porter-brewing before beer became utterly Bavarianized there.

**Recipes: Smøkesbørd and
Valkyrie Tears**

BRAZIL

Brazil is exotic, vivid, full of wild, diverse life—and that's just the people. It's a huge, diverse country, greater in size than the Continental U.S. The beer market is



Patricia and Ingrid, members of the ConFeCe women's beer enthusiast group in Belo Horizonte, Minas Gerais, Brazil.

dominated by A-B InBev, which actually started as the merger between the two biggest brands there, which tend to be every bit as uninteresting as industrial beer everywhere.

Craft brewing started about 15 years ago, and was not accompanied by a lot of homebrewing until more recently. A lot of the early craft breweries were Germanic, brewing timid all-malt beers with just the barest whisper of hops. But that's old news. Brazil's beer scene is expanding rapidly in size and concept. There's a palpable sense of excitement and a desire to make bold, delicious beers that reflect the liveliness of the country as a whole. Inspiration comes as much from U.S. craft beers as it does from European classics.

The country is a treasure trove of fascinating natural products that can taste absolutely delicious in beer, and new Brazilian brewers are experimenting with them, trying to find combinations that are fun and interesting, but at the same time profoundly delicious. Rapadura sugar, tropical fruits and fruit juices (cashew juice is made from the fruit attached to the nut, and is a popular breakfast beverage), exotic honeys, tropical hardwoods, and exotic spices such as cumaru are in abundance.

More widely known as Tonka Beans (*Dipteryx odorata*), cumaru contains coumarin, an aromatic substance with some toxicity; however, it is legal in France for culinary uses like chocolate. One-half to one bean (5–10 grams) per 5-gallon batch

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is a perfectly safe amount. It has a deep, aromatic quality, a bit vanilla-like, but heavier with something of the character of cherry pits (kirsch) as well.

Recipe: Monkey Toes

ARGENTINA

They think of Buenos Aires as the most European city in the Western Hemisphere, and the city is chock full of Beaux-Arts buildings designed by Parisian architects in the late 19th century, one tasty square wedding cake after another, as far as the eye can see.

And man, they love their sweet stuff! The streets are just about paved with *dulce de leche* (milk caramel), practically oozing from every pastry shop window.

Recipe: Vida Dulce

Quilmes beer, an InBev brand, utterly dominates the marketplace for commercial beer. Craft beer is just getting rolling, and is way less than 1 percent of the

market. There is a lot of enthusiasm for homebrewing, thanks in part to a gloomy economy. The level of skill and community organization is growing rapidly. Somos Cerveceros ("We are Brewers") is a large, well-organized homebrewing club.

My trip was commemorated by a special pale ale brewed with yerba maté, the ubiquitous herb tea drunk incessantly in Argentina. It has a pleasant herbal quality that blends nicely with beer. It needs no special recipe; just replace some of your aroma hops, ounce-for ounce, with the maté.

A beer called *Dorada Pampeana*, or "Pampas Gold," survives from the very beginnings of Argentine homebrewing, 20 or more years ago. In those days, anyone who wanted to brew had to beg a brewery to sell a bag of lager malt and some local Argentine Cascade hops. Grown way down south in Patagonia, they're a little rough around the edges. Liquid yeast was—and still is—difficult to obtain there, so a dry yeast called Nottingham was most often used. *Dorada Pampeana* is considered a test of skill among homebrewers.



The scene Down Under, which is still picking up steam, is the closest thing to American-style homebrewing I have seen. The clubs are well organized, there is a lot of interest in BJCP judging, and brewers are making a wide variety of styles based both on European classics and American craft beers, with uniquely Australian styles such as sparkling ale in the mix.

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Vida Dulce

(Sweet Life)

Dulce de Leche Porter



I was invited to a beer festival in the beach resort city of Mar Del Plata, informed that there would be homebrewers waiting for me there. I was led to the middle of the room where two 10-gallon systems were going full tilt, one with a porter and the other a brown ale. The brewers anxiously asked, "Mister Randy, Mister Randy, what should we add?" It was Sunday afternoon, and of course we had to think of something that we knew we could get, so we settled on black pepper and a pinch of nutmeg for the brown ale, and a kilogram (2.2 lb) of dulce de leche.

INGREDIENTS

for 5 U.S. gallons (19 liters)

All-Grain Recipe

7.5 lb (3.4 kg)	Mild Ale Malt
2.0 lb (908 g)	Biscuit Malt
1.0 lb (454 g)	Brown Malt
0.5 lb (227 g)	Chocolate Malt
0.9 oz (25 g)	Argentine Cascade, 5% a.a. (60 min)
0.5 oz (15 g)	Argentine Cascade, 5% a.a. (30 min)
1.1 lb (500 g)	dulce de leche (60 min) (see directions)
London ESB (Fuller's strain) Wyeast 1968 or WLP002, 2L starter on stir-plate	

Original Gravity/°P: 1.056/13.8

Brewhouse efficiency: 75%

Estimated Alcohol: 6.0%

Approx. BU: 22/Medium

Color: Dark Brown/20 SRM

Weeks to Drink: 6-8

DIRECTIONS

Dulce de leche can be purchased ready-made, or made by heating unopened cans of sweetened, condensed milk in a pan of simmering water for 2.5 hours. Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Ferment at 62-66 °F (17-19 °C).

Extract and steeped grain version:

Substitute 5.5 lb (2.5 kg) dry pale malt extract for mild, biscuit, and brown malt. Steep 1.0 lb (454 g) honey malt, 0.5 lb (227 g) caramel wheat malt and 0.3 lb (136 g) chocolate malt at 154° F (68° C) for 30 minutes. Strain, add extracts and dulce de leche, and proceed with boil.

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Wattle Itbee?

Roasted Wattleseed Brown Ale



Wattleseed comes from various species of the acacia tree. When roasted, it develops an intense, nutty aroma a little like dark-roasted peanut butter. The base beer is a creamy brown ale that enhances the nutty character. For a variation, add a pound of macadamia honey to the fermenter once the primary is winding down.

INGREDIENTS

for 5 U.S. gallons (19 liters)

All-Grain Recipe

8.5 lb (3.9 kg)	Vienna Malt
0.75 lb (908 g)	Biscuit Malt
1.0 lb (340 g)	Caramel Malt, 80 °L
0.3 lb (151 g)	Black Malt
0.8 oz (25 g)	Galaxy, 5% a.a. (60 min)
0.5 oz (15 g)	Galaxy, 5% a.a. (30 min)
0.49 oz (14 g)	Roasted wattleseed (2 min)
Yeast	London ESB (Fuller's strain) (WLP002 or Wyeast 1968)

Original Gravity/°P: 1.050/12.5

Brewhouse efficiency: 75%

Estimated ABV: 6.0%

IBU: 16/Medium

Color: Dark Brown/20 SRM

Weeks to Drink: 6-8

DIRECTIONS

Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Ferment at 64-68 °F (18-20 °C).

Extract and steeped grain version:

Substitute 4.8 lb (2.2 kg) dry pale malt extract for the Vienna and biscuit malts. Steep 1.0 lb (454 g) 20°L caramel malt, 0.5 lb (227 g) 80°L caramel malt, and 0.3 lb (151 g) black malt at 154° F (68° C) for 30 minutes. Strain and proceed with boil, adding wattleseed at 2 minutes.

I attended their national Homebrewing Conference, which was well-organized, fun, and full of great content and interesting people.

Craft brewing has been going for 20 years or more. The pattern there has been to sell out to larger business interests as soon as some degree of success has been attained. However, a new crop of more free-spirited entrepreneurs is popping up, and the beers are becoming bolder and more flavorful.

Because the Australian landmass separated from the rest of the world 96 million years ago, it developed a unique community of plants and animals unlike anywhere else on earth. For brewers and cooks alike, this means a treasure chest of spices, herbs, honeys, and exotic woods.

Native herbs and spices include Tasmanian pepperberry, a wild roller-coaster ride of flavor ranging from fruity to juniper to a stinging prickly heat to a weird, lingering sweetness. I can say with certainty that it's the strangest thing I've ever tasted. I'm thinking it might be great in some kind of Southern Hemisphere saison.

Smoke Signals

Sonoran Black Ale with Mesquite-Smoked Malt and White Sage



INGREDIENTS

for 5 U.S. gallons (19 liters)

2.0 lb (907 g)	Home-Smoked Pale Malt
3.0 lb (1.4 kg)	Home-Smoked Wheat Malt
1.0 lb (454 g)	Home-Smoked Carastan Malt
1.0 lb (454 g)	Home-Smoked Flaked Oats
2.0 lb (907 g)	Pilsner Malt
0.5 lb (227 g)	CaraMunich Malt
0.3 lb (151 g)	Debittered Black Malt
0.5 oz (15 g)	Chinook, 11% a.a. (60 min)
0.5 oz (15 g)	Hallertau, 3% a.a. (10 min)
0.49 oz (14 g)	Indian coriander seeds, cracked (2 min)
0.4 oz (12 g)	White Sage leaves (2 min)
Belgian Wit or Wheat, Wyeast 3522 or Wyeast 3944 or 3942	

Original Gravity/°P: 1.059/14.5

Brewhouse efficiency: 75%

Estimated Alcohol: 5.7%

Approx. BU: 20/Low

Color: Dark Brown/16 SRM

Weeks to Drink: 6-8

DIRECTIONS

Infusion mash for 60 minutes at 154 °F (68 °C), then mash out. 60 minute boil. Ferment at 68-72 °F (20-22 °C).

Extract and steeped grain version:

Substitute 2.5 lb (1.1 kg) dry wheat malt extract for the pale and wheat malt. Steep 4.0 lb (1.8 kg) rauch malt, 1.0 lb (454 g) six-row malt, 0.5 lb (227 g) flaked oats, 0.5 lb (227 g) carastan malt, 0.5 lb (227 g) cara-munich malt, and 0.3 lb (151 g) debittered black malt at 154° F (68° C) for 30 minutes. Strain, add extract, and proceed with boil.

Lemon myrtle (*Backhousiacitriodora*) has a super-clean, bright, lemony aroma that would be perfect to blend with citrusy hops to make a bright, happy summer ale, perhaps based on a classic sparkling ale. Roasted wattleseed (*Acacia victoriae*) has an aroma that has been described as similar to both vanilla and coffee, but I find it also has a nice dark-roasted peanut butter aroma. In cooking, it is typically used in desserts. It's comfortably at home in brown ales and porters.

Recipe: Wattle Itbee?

Several of these indigenous ingredients can be sourced from sellers on eBay or Amazon, but outbackchef.com.au is a handy single source.

Australia and New Zealand are also home to fabulous honeys. Leatherwood is the most popular variety, exotic and complex, with savory, herbal, and floral qualities. Macadamia honey, yellow box, iron bark, and sugarbag honey (produced by the native stingless bee, it has a complex,

wine-like aromatic profile) are also in abundance. New Zealand has an altogether different set, including tawari, manuka, honeydew, and rata.

And I'll just leave you drooling with this list of native fruits, all of them virtually unobtainable outside of their homeland: black apple, burdekin plum, Cedar Bay cherry, Davidson plum, desert lime, finger lime, midyim, native raspberries, quandong, and riberry.

MEANWHILE, BACK IN CHICAGO

Through my recent commercial venture, 5 Rabbit Cerveceria, my partners and I have challenged ourselves to re-imagine Latin American beer. You have to go a long way back to find any indigenous traditions, and current beers in that region are simply international lagers that have little or nothing to do with the culture and cuisine there. Neither of those things is a big drawback, as we've used past and present inspirations to create 21st century beers that are fun and tasty. Current offerings include a passionfruit witbier with fresh lime peel; "Oaxacan" dark ale with piloncillo sugar and ancho chili; and a bent Oktoberfest beer with dulce de leche and Mexican cinnamon.

In trying to conceptualize some dark beers, the notion of a Mexican black witbier popped up, flavored by mesquite and aromatized by white sage. Done right, the beer would smell like a desert campfire. Gulbransen came to my aid again with a delicious version, even smoking the malt on his barbecue smoker.

Recipe: Smoke Signals

All in all, there's a feeling of passion and possibilities infusing the brewing scenes across the world. Despite their small numbers and sometimes challenging conditions, the unstoppable spirit of homebrewers will persevere.

Randy Mosher is the author of several beer and brewing books. He is a partner and creative director for 5 Rabbit Cerveceria, the USA's first Latin craft brewery.



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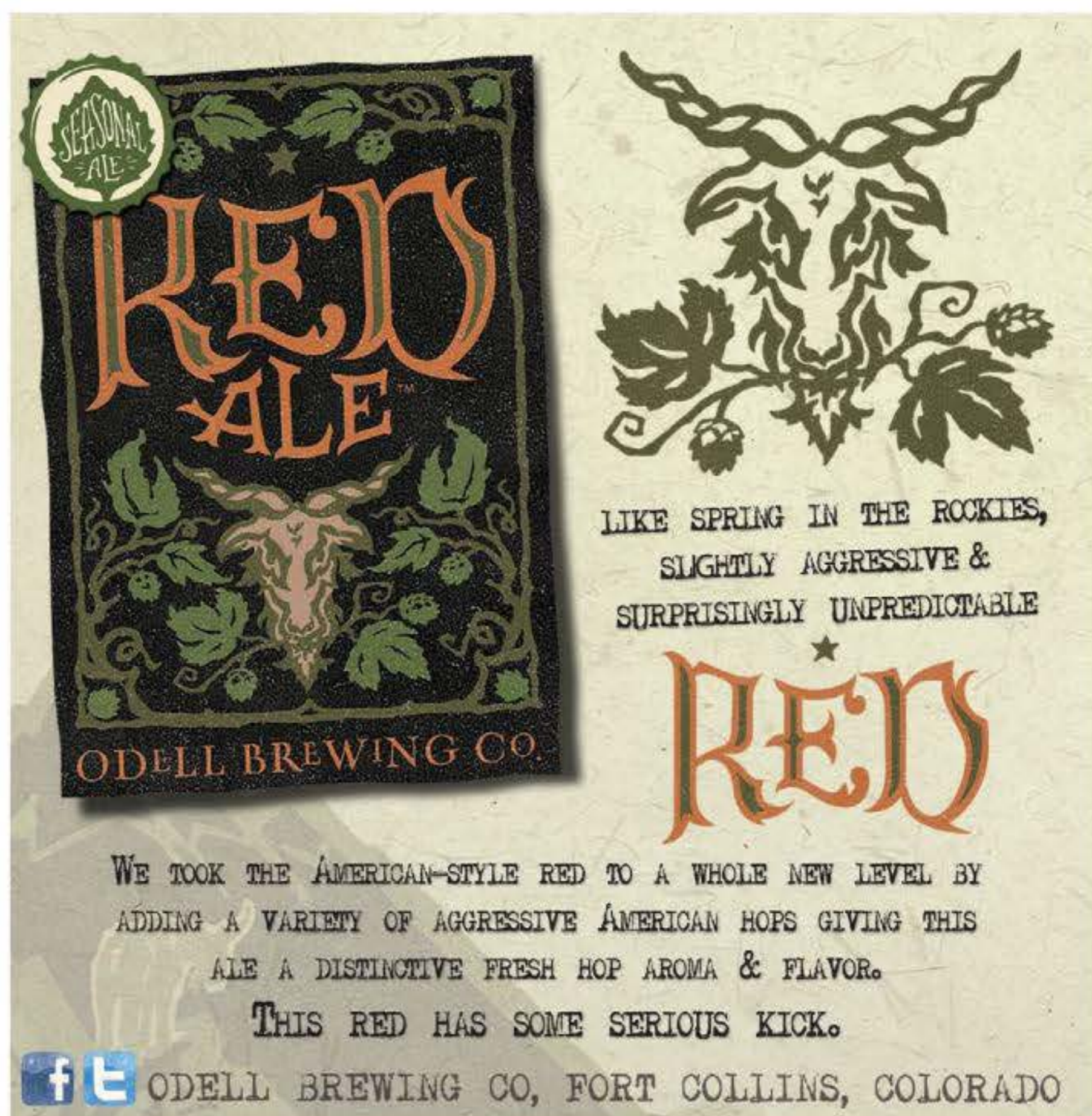
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SOVIET BREWING BETWEEN TWO WORLD WARS

When you think of alcohol and the former Soviet Union, vodka and mass-produced lager come to mind. There are good reasons for these preconceptions, as both were (and are) the dominant products in the market.

Similarly, when thoughts turn to brewing in Russia, kvas, a low-alcohol fermented drink made from bread or grain, inevitably springs to mind. What few are aware of, though, is that there is a deeper and much more complex history of Soviet beer in the years between the two World Wars.

INTERWAR SOVIET BREWING AND BEER STYLES

In order to understand Soviet beer, one has to go back to the Russian Empire. The well-known story is that Russian Imperial Stout was a product desired by the Russian Court, and when Russia shut out British imports, British brewers established breweries in the Baltic and began brewing Baltic porter. This, however, is only part of the story. Beer in the late Russian Empire was being produced domestically in a broader number of styles, most of them German influenced, in breweries that had often been established by German, Austrian, and Czech émigrés.¹ It appears that Russian beer in the latter years of the Empire before World War I bore similarities to beer in the rest of Europe.

BY ALASTAIR KOCHO-WILLIAMS



¹ For a re-examination of Russian Imperial Stout and Baltic Porter see Martyn Cornell, *Amber Gold and Black: the History of Britain's Great Beers* (2010)



Then crisis befell the Russian beer industry with the outbreak of World War I. The Russian Empire issued a prohibition on alcohol, and breweries closed. The Tsar was overthrown in 1917, to be replaced by a provisional government, which was in turn displaced by the Bolsheviks. It took seven years before beer would reappear in Russia, and it was only after Bolshevik victory in the Russian Civil War in 1921 that the prohibition was repealed with the launch of the New Economic Policy (NEP).

NEP was designed to stimulate a weak economy and address the disastrous effects of centralized requisitioning under the War Communism, by allowing the flourishing of limited market capitalism. Beer was among the products that appeared within this market, although

not until late 1921, as the previous year's grain supply had been depleted. It was at this point that a better harvest and a newly established trade relationship with Britain yielded an influx of grain into the Soviet market.

It is difficult to ascertain the precise details of the style parameters of all Soviet beer in the NEP era between 1921 and 1928, after which NEP was abandoned in favor of Stalin's First Five Year Plan. Records indicate that breweries were revived, with equipment still in place and in some cases with their archives of recipes intact, even if their names changed. As an example, the old Bavaria Brewery in Leningrad became Red Bavaria (later renamed New Bavaria). Other breweries kept their names, such as Vienna in Leningrad, and Stepan Razin (Russia's

oldest brewery, founded in 1795), which also went by the name of Stenka Razin. Not only were the breweries resurrected, but so too were the old beers.

The beers of the NEP era were largely those that had been brewed before the Russian Revolution and included a range of replicated Germanic lager styles (Vienna, Munich, Pilsner, Bavarian, Extra-Pilsner, Kulmbach, Marzen, Bock), a table beer, English-influenced pale ales and Baltic-style porters, and beers with evocative names such as "Light," "Black," and "Velvet" (sometimes "Black Velvet"). All of these survived through the 1920s, although the indication given in the documentation on standards suggests that they were initially classified in quite broad terms.

A better indication of what Soviet beer was actually like comes from a series of All-Union Standards for beer that were issued from 1927 onwards (the Russian Federation still issues such documents). They do not show the full range of beers produced, but rather the standards laid out for the parameters for beer, giving basic flavor and aroma profiles, minimum alcohol levels, starting gravities, and atten-

SOVIET BEER STANDARDS 1927 AND 1932

	Light No. 1	Light No. 2	Dark	Black
Min %ABV	3.6	3.6	3.8	1.2
Min SG	1.042	1.044	1.048	1.053
Color (SRM)	3-7	7-14	20-40	Not established

SOVIET BEER STANDARDS 1938

	Zhigulevskoe	Russkoe	Moskovskoe	Leningradskoe	Ukrainskoe	Martovskoe	Porter	Karamelnoe (pasteurized)
Min ABV	3.5	4	4.3	6.2	4	5	6.2	<1.7
Min SG	1.044	1.048	1.053	1.074	1.048	1.059	1.083	1.044
Color (SRM)	4-8	2-5	2-4	2-6	17-35	17-26	35+	35
Allowed adjuncts	15% raw barley, soft wheat, rice or corn	10% rice		7% sugar				10% sugar and 1% caramel coloring

Art © Shutterstock and courtesy of Alastair Kocho-Williams.



uation figures as well as color, acidity, the number of days to brew and condition the beer, and the adjuncts or specialty ingredients permitted in a style. The standards were not, it seems, designed to reduce the breadth of beers sold in the Soviet Union, but rather to define certain parameters. They began as broad, sweeping categories, but later became more specific codifications of style. Despite their apparent imposition from above, they were born out of a desire to categorize, and were a response to the realities of Soviet beer production.

SOVIET BEER CATEGORIES

The first codified set of beer categories appeared in 1927, coinciding with the abandonment of NEP and the launch of the First Five Year Plan under Stalin. In 1927, there were four standardized Soviet beer style groups: two light lager categories (named Light No. 1 and Light No. 2), a dark lager, and a top fermented black beer. These were broad categories into which the styles brewed through the 1920s fit, but showed the way in which the state attempted to understand them. The Light No. 1 was characterized as having a distinct hop flavor; Light No. 2 displayed a blend of hop and malt flavors; Dark beer was distinctly malt flavored; and the Black beer was entirely open to interpretation (as long as it was black and top fermented). Thus, the various lager styles of the 1920s fit into the first three categories, while the Black category, with a minimum original gravity of 1.052 and a minimum ABV of 1.2 percent, encompassed porters and quickly-brewed-and-pasteurized low alcohol beers.

The standardization document for 1932 contained the same set of beers. It was in 1936 that a change seems to have swept through Soviet beer standards, and shows that a range of beers was being brewed under umbrella categories. Legend has it that the watershed in classification stemmed from the All-Union Exhibition in 1936, when Anastas Mikoyan, People's Commissar for Trade, tasted a beer that he particularly enjoyed. That beer fell into the Light No. 2 category, and was called "Vienna." The brewery was Zhigellovskoe, opened in the late 19th century by an Austrian, Phillip von Vacano. Vienna was deemed to be a bourgeois name, so it was suggested that the beer could become a standardized product under the name Zhigulevskoe.

A Soviet beer archetype, sometimes the only beer available, was born.

This led to a new set of Soviet beer standards that gave a greater number of subdivisions to the existing categories. Some of these referred to the region, or more frequently city, of their associated production; some were the older styles; while still others related to the products of specific breweries. Gone, though, were the markers of Light and Dark as the sole distinctions between beer categories, with a broader set of distinct styles articulated.

These new standardizations gave a slew of variant beer categories as issued in 1938 under the agency Glavpivo, which had been formed to direct beer production.

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PIRATE OF THE BALTIC PORTER

INGREDIENTS

for 5 U.S. gallons (19 liters)

12.2 lb	(5.53 kg) Pilsner Malt
4.7 lb	(2.13 kg) Rye Malt
0.75 lb	(340 g) Crystal 120°L
0.75 lb	(340 g) Chocolate Malt (450L)
0.37 lb	(170 g) Black Malt
2.0 oz	(57 g) Fuggle 5% a.a. (60 min)
1.0 oz	(28 g) Serebrianka* 3.5% a.a. (10 min)

WLP004 Irish Ale/Wyeast 1084 Irish Ale
*If Serebrianka is unavailable, substitute Saaz


Original Gravity: 1.100
(75% efficiency)
Final Gravity: 1.022
SRM: 38
IBU: 42

DIRECTIONS

Mash at 149° F (65° C). Ferment at 64° F (18° C) for 10 days, then transfer to secondary for six weeks. If bottling, bottle condition for at least 10 days.

Extract/mini mash version: Substitute 10.0 lb (454 kg) light dry extract for the pils and rye malt and steep the remaining grains for 30 minutes at 150° F (66° C). The lack of rye malt will affect the texture somewhat.


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Zhigulevskoe was a light beer with a low hop flavor, Russkoe had a strong hop flavor, Moskovskoe had a strong hop flavor and aroma, and Leningradskoe was a strong light lager with a vinous and strong hop flavor. Under the dark beers category were two dark lagers, Ukrainskoe, with a strong pronounced malt aroma, and Martovskoe (synonymous with Märzen, although a darker beer), with a slightly sweet flavor and strong malt aroma. The two top-fermented styles remained black, or near-black: porter, a strong beer with a malt aroma and hop bitterness, and Karmelnoe (Caramel, which would



VELVETEEN CARAMEL

INGREDIENTS

for 5 U.S. gallons (19 liters)

7.0 lb	(3.175 kg) Pilsner Malt
0.75 lb	(340 g) Chocolate Malt
0.75 lb	(340 g) Caramel 140° L
1.0 lb	(450 g) Demerara Sugar
1.8 oz	(51 g) Sinamar
1.5 oz	(42 g) any noble hops, 3% a.a.
	(60 min)

WLP004 Irish Ale (for clean version), or WLP630 Berliner Weisse Blend or Wyeast 3191 for lactic version

Original Gravity: 1.053 (75% efficiency)

Final Gravity: 1.030

IBU: 14

DIRECTIONS

Mash at 156° F (69° C). Ferment at 68° F (20° C) for 2-3 days. Alternatively, ferment with yeast for clean version with a Lactobacillus culture added. Allow to ferment to a gravity of 1.030. Crash cool, centrifuge, or pasteurize to stop or inhibit further fermentation.

Extract Version: Substitute 4.85 lb (2.2kg) Pilsner Malt Extract for the Pilsner Malt. Steep remaining grains.

be renamed later as Barkhatnoe, meaning Velvet) a low alcohol beer that was brewed quickly, sometimes with lactobacillus as well as yeast, pasteurized, and with a sweet flavor, syrupy aftertaste, and malty aroma. These styles survived the Great Patriotic War of 1941-45, and some still survive to this day (Zhigulevskoe, Moskovskoe, Martovskoe, Porter). See tables for style details.

INGREDIENTS

Soviet beer production insisted on the use of malt, preferably barley, although in times of shortage, malted wheat and rye were acceptable. Unmalted grains,

corn, and rice were acceptable as long as adjuncts did not exceed 25 percent of the grist. In the case of Karamelnoe, sugar or sugar syrup was acceptable for up to 10 percent of the recipe. Rye was used heavily in the 1920s when the Soviet Union faced grain shortages, as the climate and soil conditions were, in many cases, better disposed to the production of rye. The 1938 standards allowed for the use of specified adjuncts (with specified percentages) in certain styles. Grain was either domestically produced and malted, or imported.

Hops had to be used in order to satisfy the classification for being beer (meaning that kvas wasn't beer despite being grain-based). Those used needed to be cultivated, and the use of wild hops was forbidden. Hops used in Soviet beer included the imported European noble varieties from Germany, Czechoslovakia, Poland, and Belgium; British hops; and a domestic noble variety, Serebrianka (meaning "little silver one"). The British and European hops will be familiar to contemporary brewers, but Serebrianka is an interesting variety. It continues to be

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MARXEN

INGREDIENTS

for 5 U.S. gallons (19 liters)

10.0 lb	(4.54 kg) Pilsner Malt
2.0 lb	(0.9 kg) Munich Malt
1.0 lb	(0.45 kg)
	Caramunich 60°L
0.75 lb	(340g) Rye Malt
0.37 lb	(170g) Carafa II
1.8 oz	(50 g) Serebrianka*
	3.5% a.a. (60 min)
0.5 oz	(14 g) Serebrianka*
	3.5% a.a. (20 min)

WLP820 Octoberfest/Marzen or Wyeast
2000 Budvar Lager

*If Serebrianka is unavailable substitute
Saaz

Original Gravity: 1.074 (75% effi-
ciency)

Final Gravity: 1.019

ABV: 5.7%

SRM: 17

IBU: 37

DIRECTIONS

Mash at 152° F (67° C). Ferment at 50°
F (10° C) for two weeks. Lager at 32°
F (0° C) for an additional two weeks
(reflective of Soviet brewing at the time).

Partial Mash: Substitute 2.0 lb (900 g)
Pilsner Malt and 4.85 lb (2.2 kg) light dry
malt extract for the Pilsner malt. Perform
a partial mash at 152° F (67° C) with
remaining grains. Add malt extract at
the beginning of the boil.

cultivated in Russia, and has recently been
grown in the U.S. Perhaps more interest-
ing still is that it is one of the parent hops
of Cascade, which was bred from it in the
U.S. and released in 1972.

Yeasts are a little harder to pin down,
although it seems that the bottom-fer-
mented yeasts had come from Germany
and Austria, often brought by the immi-
grants who had established breweries
in the Russian Empire, while ale yeasts
came from British breweries, and were

often those used by the foreign-owned
porter breweries before the Revolution.
As a case in point, the yeast used to brew
Sinebrychoff Porter (Finland was part
of the Russian Empire before 1917) and
Stepan Razin Porter originally came from
the Guinness Brewery in Dublin.

RECREATING SOVIET BEERS

The included recipes are based on the
style parameters and information from
a number of sources. The All-Union
Standardization documents can be found
in Gosudarstvennyi Arkhiv Rossiiskoi
Federatsii (State Archive of the Russian
Federation), in the Russian State Library,
and have been published online. The
Stepan Razin Brewery in St. Petersburg,
now owned by Heineken, has its own
museum and archive, and was helpful in
providing information for this article.

Additionally, brewpubs in Russia have
been recreating lost styles. Brewers at
Zhiguli, Khmeleff, and Tinkoff in Moscow
have been invaluable in giving insight into
traditional Soviet beer styles (Khmeleff is
notable for the resurrection of Chernoe-
Barkhtnoe or "Black Velvet," while Zhiguli
brews to the old standards and customers
drink beneath a photograph of Leonid
Brezhnev's hunting party consuming the
iconic Zhigulevskoe).

Soviet beer did not stop with World War
II, and some of these beers live on. After
World War II there was a greater prolifer-
ation of light lagers, although other styles
did not disappear altogether. In any event,
Soviet beer was the product of adaptations
of styles from elsewhere, using indigenous
as well as imported ingredients. But it was
distinct, and intriguing.

Dr. Alastair Kocho-Williams, Ph.D.
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University of the West of England,
Bristol. He is the author of several
books about 20th century Russian his-
tory, as well as a homebrewer and
BJCP judge.

REFERENCE

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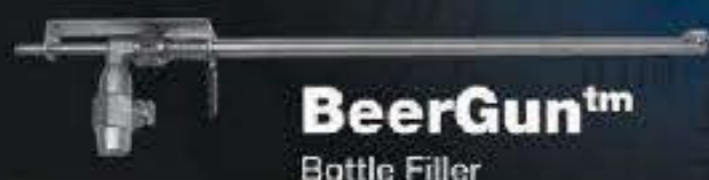
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It's Trouble, Brewing in *Paradise*



Ryan Ackerman and Courtney Cargill lead a sort of double life. They spend most of the spring and summer in the Boston area, working to save money. Their other life begins in the fall, when the young married couple returns to their rented house in Mal País, Costa Rica, on the balmy Nicoya Peninsula.

There they wake up early, before the sun gets too hot, and fire up the brew kettles twice a week. In the afternoons, they often grab their boards and go surfing.

Sounds like paradise, right? Not if you're a homebrewer.

"When I told a former expat brewer we were planning on starting a brewery on the beach in Costa Rica—and learning how to brew—he told me I was out of my mind," Ackerman said. "He described it as 'the most hostile natural environment you could brew in,' and spent the next hour trying to talk me out of the idea."

Ackerman was not dissuaded. Now he belongs to a relatively exclusive club of homebrewers trying to make it work in countries where hops don't grow, nobody malts barley, there are no homebrew shops, groundwater is warm, and refrigeration can be prohibitively expensive.

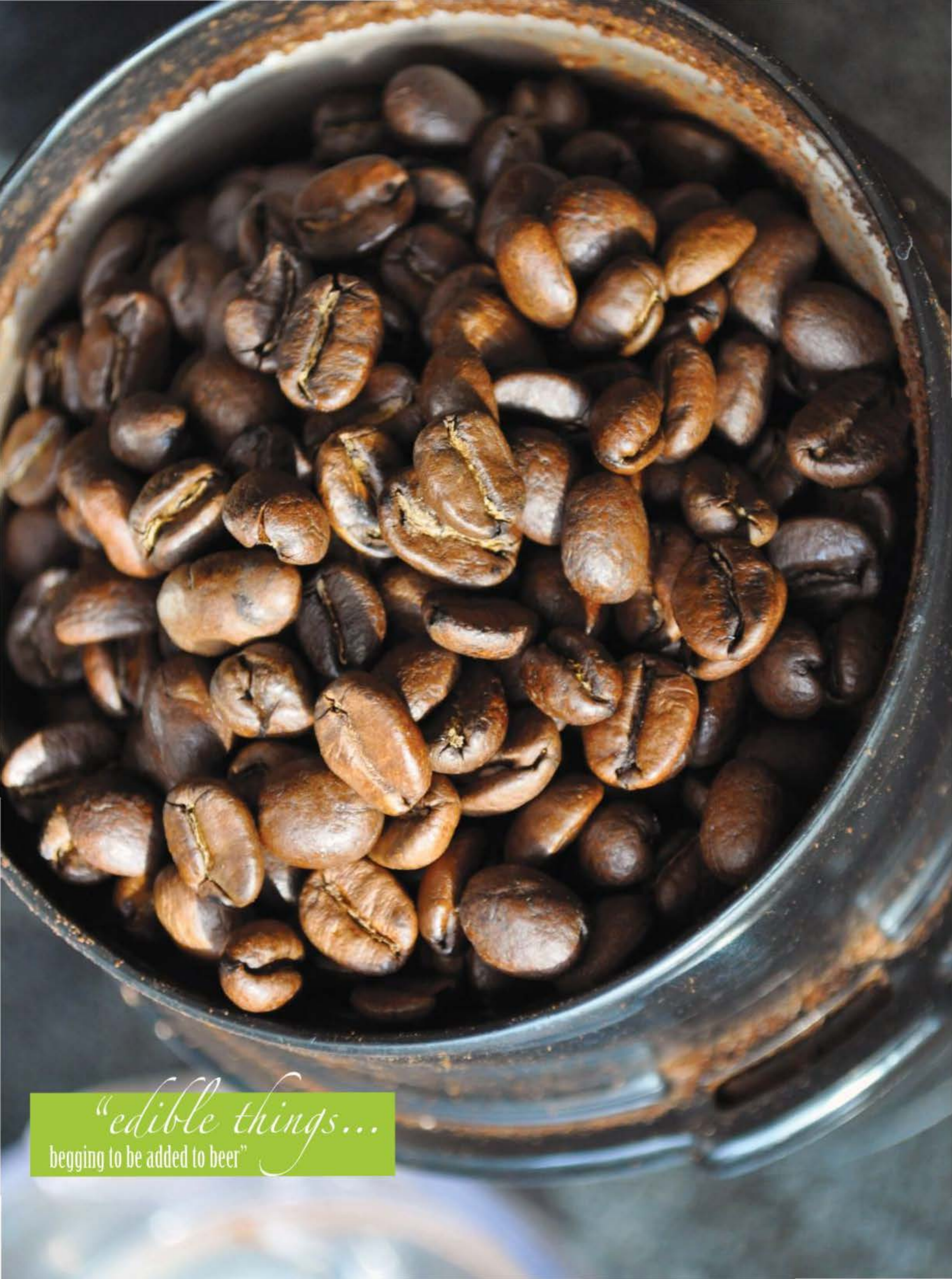
Welcome to tropical homebrewing, where the hobby is kissed by the sun but fraught with limitations.

For more than a year, Ackerman and Cargill have been navigating the red tape necessary to open a nanobrewery called La Perra Hermosa. But dense bureaucracy is an art form in Costa Rica, and it could take months to line up all their stamps and ribbons. Meanwhile, they hone their skills on a half-barrel system, their process loaded with quirks to overcome the jungle environment.

By Joe Stange

*"the most hostile
natural environment you could brew in"*





"edible things..."
begging to be added to beer"

"We spent much of last season brewing out in the open sun because it took me four months to finish the construction of our brewing area," Ackerman said. "Sweat is not a flavor people really desire in their beer."

Ackerman had some interesting advice for homebrewing in Costa Rica and other tropical locales.

"Don't brew around monkeys if you can avoid it," he cautioned. "They will try to piss and sh-t in your beer. On purpose. Iguanas too—they can express a surprisingly large quantity of liquid. 'Take cover' is the theme here. While an errant leaf in the boil kettle is not something we bat an eyelash at, there are plenty of stray missiles shooting for your pots."

Leave No Suitcase Unfilled

Flying monkey missiles are only the most colorful problem. The most common one, by far, is the scarcity of basic ingredients—malt and hops—taken for granted in temperate climes. In Costa Rica and other countries near the equator, growing hops is either impractical or impossible since they need the longer summer days found farther north and south. Barley is rare, to say nothing of malt.

How do you get these precious commodities? In a place like this, there are basically three ways: 1. Pay an arm and a leg for international shipping (plus the occasional bribe to customs officials); 2. Travel a lot and stuff the goods into a suitcase; or 3. Convince visiting friends and family to do the same.

Costa Rican homebrewer Luis Arce has tried all three ways and met others who have done the same. "If you look on the internet you can find all these posts from Costa Rican guys saying, 'Where can I find these ingredients?'"

Arce is luckier than most. His job occasionally sends him to Chicago, and before each trip he orders ingredients online and has them shipped to his hotel. Even so, he can only bring home so much.

It was the same for fellow *tico* Sebastian Alonso Garcia, who visited his brother in

Dallas last year and came home with Mr. Beer and some cans of extract. He was immediately hooked. A few months later, his brother came to visit and brought more cans and some Cascade hops.

"Then, after some months, in desperation, my friend and I ordered from Amazon various cans of dry malt," said Alonso. "But then we realized our mistake. One can of Coopers, which costs in Miami like \$17, to get it here cost nearly \$70. The whole order cost like \$220. The shipping simply hung us.

"Then, when it got here, they didn't want to let it pass through customs. They asked us for a medical reference, permission

from the Ministry of Health, permission from the veterinary college. It was all a bit of crap because they didn't even know what it was."

For Arce's part, his frustration finally led to this thought: "What if I opened my own homebrew shop?" Now, like Ackerman and Cargill, Arce is untangling a heap of red tape to import ingredients and open the country's first local homebrew shop. He says he won't quit his day job, but he hopes to get more people into the hobby by helping them avoid the litany of challenges.

"It's not just about opening a homebrew shop here," he said. "It's also about creating a culture."

Coffee-Nazi Espresso Porter

Recipe courtesy of C.S. Derrick, brewmaster,
Costa Rica's Craft Brewing Co.

Ingredients

for 11 U.S. gallons (42 liters)

18.3 lb	(8.3 kg) U.S two-row pale malt
2.2 lb	(1.0 kg) Crystal (30° L)
1.1 lb	(0.5 kg) Crystal (80° L)
1.1 lb	(0.5 kg) Munich malt
1.0 lb	(0.45 kg) Chocolate malt
0.22 lb	(0.1 kg) Roasted barley
0.1 lb	(0.05 kg) Black malt
1.87 oz	(53 g) Challenger, 10% a.a. (85 min)
1.8 oz	(51 g) Perle, 8.5% a.a. (30 min)
1.0 oz	(28.35 g) Saaz, 4% a.a. (0 min)
15.0 oz	(444 ml) espresso, brewed and cooled
White Labs WLP001 California Ale Yeast starter or 2 packets Safale US-05 dry yeast, rehydrated	

Original Gravity: 1.054
Final Gravity: 1.014
SRM: 25
IBU: 50
Efficiency: 70%

Directions

Single-infusion mash at 155° F (68° C) for 45 minutes. Draw 13.5 gallons (51 liters) and boil 90 minutes, adding hops at times indicated. Chill to fermentation temperature of 75° F (24° C) or lower if possible, depending on local circumstances. Add 15 shots (15-22.5 oz) of brewed espresso from Costa Rica's high-altitude Southern zone, cooled in a closed and sanitized container, to cooled wort. (Note: Derrick gets his espresso from a finicky local roaster known affectionately as the "coffee nazi.") Whirlpool and allow 15 minutes to settle before racking to fermenter and pitching yeast. Ferment for at least two weeks. Rack to keg and carbonate to 2.0 volumes or prime with 220 g of tapa de dulce or panela sugar and bottle.

Extract version: Substitute 13.5 lbs (6.1 kg) pale liquid malt extract for the two-row, and 0.75 lb (340 g) liquid Munich malt extract for the Munich. Steep other grains in 158 °F (70 °C) water for 30 minutes, strain, add malt extracts, bring to a boil, and proceed with the recipe as written.

A Bounty of Local Ingredients

Malt and hops may be hard to come by, but one of the joys of tropical brewing is the range of local ingredients. Possibilities include coffee and cacao, intense fruits like mango, passion fruit and tamarind, flowers such as hibiscus, and whatever oddities are on sale at the local markets. Biodiversity in these regions is immense, year-round, and there are edible things whose names the locals have forgotten. They are begging to be added to beer.

Tropical areas tend to grow sugar cane, so less-refined sugars are plentiful and cheap. They add instant fermentability to a malt-scarce situation, not to mention color and flavor to a beer. In Costa Rica, the unrefined sugar of choice is called *tapa de dulce*, also known as *panela*—rich, milky-brown, crystallized cane juice. Other locally grown (and affordable) options for the mash include corn, oats, rice, and a variety of sweet potatoes.

Hibiscus Mango Blonde

Recipe courtesy of Courtney Cargill and Ryan Ackerman,
La Perra Hermosa Coastal Brewery, Mal País

Ingredients

for 5 U.S. gallons (19 liters)

7.5 lb	(3.4 kg) U.S. two-row pale malt
1.12 lb	(0.51 kg) Crystal (20L)
0.75 lb	(.34 kg) Munich (10L)
0.75 oz	(21.26 g) Galena, 13.0% a.a. (60 min)
0.375 oz	(10.77 g) Cascade, 7.0% a.a. (30 min)
0.25 oz	(7.09 g) Cascade, 7.0% a.a. (5 min)
3 or 4	fresh (not overripe) mangos, pureed
13.3 oz	(377 g) dried hibiscus flowers
1 packet	Safale US-05 dry yeast, rehydrated

Original Gravity: 1.047

Final Gravity: 1.014

SRM: 7

IBU: 42

Efficiency: 70%

Directions

Single-infusion mash at 151° F (66° C) for 45 minutes. Draw 6 gallons and boil 60 minutes. Chill to 68° F (20° C) if possible. Whirlpool and allow 15 minutes to settle before racking to fermenter. After primary fermentation, rack onto pureed mangos. (Mangos change flavor as they age so it's important to get them from the same tree or source whenever possible. Overripe mangos make for a somewhat putrid final product. Their sweetness also varies depending on the exact type of mango—some are sweeter than others.) In separate muslin bag, add hibiscus and a couple of sanitized marbles for weight. Suspend bag from a string so it can be easily removed after three days (or longer if a spicier beer is desired). Ferment in secondary for three weeks. If possible, cold crash at around 45° F (7° C) for a couple of days to drop sediment. Transfer through muslin bag or other filter into keg or bottling bucket. Carbonate to 2.5 volumes or prime and bottle.

Extract version: Substitute 5.5 lb (2.5 kg) pale liquid malt extract for the two-row malt and 0.5 lb (227 g) liquid Munich malt extract for the Munich malt. Steep crystal malt in 158 °F (70 °C) water for 30 minutes, strain, add malt extracts, bring to a boil, and proceed with the recipe as written.

Saison Tropicale

Recipe courtesy of C.S. Derrick,
brewmaster, Costa Rica's
Craft Brewing Co.

Ingredients

for 5.5 U.S. gallons (21 liters)

9.7 lb	(4.4 kg) Pilsen malt
1.1 lb	(0.5 kg) White wheat malt
0.33 lb	(0.15 kg) Rolled oats
0.6 oz	(16 g) Sterling, 9% a.a. (85 min)
0.5 oz	(14 g) Saaz, 4% a.a. (30 min)
White Labs	WLP568 Belgian Style Saison Ale Yeast Blend starter, or one packet
	Safbrew S-33 dry yeast, rehydrated

Original Gravity: 1.053

Final Gravity: 1.012 or lower

SRM: 4

IBU: 22

Efficiency: 70%

Directions:

Single-infusion mash at 150° F (66° C) for 60 minutes. Draw 6.75 gallons (26 liters) of wort and boil 90 minutes. Chill to fermentation temperature of 70-80° F (21-27° C). Whirlpool and allow 15 minutes to settle. Ferment in open container (i.e. non-pressurized, for example with loose foil over the carboy mouth) for the first few days in primary. Add airlock after high krausen and ferment for at least three more weeks. Carbonate to 2.5 volumes or prime and bottle.

Tropical options:

1. Sour fruit saison: Add 2 lb (907 g) or more of fresh-from-the-tree, unwashed mango, guava, tamarind, soursop, or other tropical fruit to open fermenter. Rack to secondary after one week.

2. Local spice saison: Add 10 grams of flor de jamaica (hibiscus) and 5 grams whole black peppercorns at flameout.

Extract version: Substitute 6.8 lb (3.1 kg) liquid Pilsner malt extract for the Pilsner malt and 1.0 lb (454 g) liquid wheat malt extract for the wheat and oats. Add malt extracts to water, bring to a boil, and proceed with the recipe as written.



Con cerveza
no hay tristeza

With beer
there is no sadness

Gringo Breakfast Foreign Extra Stout

Recipe by Joe Stange

Ingredients

for 10 U.S. gallons (38 liters)

19.0 lb	(8.62 kg) British pale malt
2.0 lb	(0.91 kg) Flaked barley
1.5 lb	(0.68 kg) Chocolate malt
1.5 lb	(0.68 kg) Victory malt
1.0 lb	(0.45 kg) Black barley
1.0 lb	(0.45 kg) Crystal (40° L)
1.7 oz	(48.2 g) Sorachi Ace pellets, 12.1% a.a. (60 min)
1.0 oz	(28.4 g) East Kent Goldings, 5.0% a.a. (0 min)
2 packets	Danstar Nottingham or Safale US-05 dry yeast, rehydrated

Original Gravity: 1.068

Final Gravity: 1.016

SRM: 43

IBU: 32

Efficiency: 70%

Directions

Single-infusion mash for 60 minutes at 158° F (70° C), draw 12 gallons (45 liters). Boil for 60 minutes. Chill to fermentation temperature, 75° F (24° C) or lower if possible, depending on local circumstances (acceptable results have been reported with US-05 yeast up to 80° F/27° C). Whirlpool and allow to settle for 15 minutes. Ferment for at least two weeks. Rack to secondary or keg, crash cool and keep in refrigerator for at least one week. Carbonate to 2.0 volumes in keg or prime with 3 oz (85 g) of tapa de dulce or panela sugar and bottle, conditioning for at least three weeks.

Mix-and-Match Tropical Options

1. Cold-extract 12 oz (355 ml) of locally grown coffee and add to secondary.
2. Extract and sanitize 12 oz (340 g) of cacao nibs or zest of two limes in just enough guaro or other local liquor to cover; set aside for a few days. Add to knockout, primary, secondary, or all three.
3. Make a syrup from 2 lb (907 g) of tapa de dulce, panela or other local sugar and (a) add to pre-heated brewpot to caramelize before topping with wort, (b) add at knockout, and/or (c) add to primary after a few days of fermentation. (Note that sugar should bring OG to an estimated 1.077).
4. Parti-gyle. Draw off 6 gallons (23 liters) of approximately 1.090 wort for an imperial stout and 6 gallons (23 liters) of approximately 1.045 wort for a dark mild (which could be additionally beefed up with local sugar). Adjust hopping accordingly.

Extract version: Substitute 13.3 lb (6 kg) pale liquid malt extract for the pale malt. Steep other grains in 158° F (70° C) water for 30 minutes, strain, add malt extract, bring to a boil, and proceed with the recipe as written.

Alonso said he has been malting corn and rice and adding them to his extract beers. "The result was incredible," he said. "Tasted like a weissbier but with a local touch, and it opened our minds to keep exploring this area."

Tips for Homebrewing in Paradise

The following tips represent the collected common sense of homebrewers in Costa Rica and elsewhere in Central America. They apply equally well to other tropical spots, but are potentially useful to anyone, anywhere—especially those looking to simplify and save a few bucks.

Sanitation times infinity. Important anywhere, it's *absolutely critical* in the tropics. All manner of life prospers here, especially bacteria. Infection thrives. Don't put the kit away wet, since everything is prone to mold or rust.

Waste not. With malt and hops at a premium, proper storage becomes crucial. "Six months of rain and intense humidity requires absolute isolation, to the best extent we can, from the elements," Ackerman said. So he and Cargill keep all their grain locked into 30- and 55-gallon barrels that seal up tight. They also sweep up loose grains immediately, since weevils and other bugs are a constant problem.

Less malt, more beer. Session beers offer more quantity for less of that precious malt. The warm climate begs for lower-gravity, more refreshing beers anyway.

Parti-gyle. The inefficiency of a stronger recipe is hard to justify, so this traditional technique gets more beer from the same grist. An all-grain brewer making a strong ale here might be foolish to draw early runnings and toss the rest. An extra keg's worth of beer is waiting there to become reality. Capping the grains with specialty malts, adding local sugar, or blending the beer with a stronger one are all ways to beef up the lighter beer if desired.

Know your water. With some exceptions, H₂O tends to come in two varieties in Costa Rica: slightly dirty or highly treated. Rural water is often safe despite traces of sediment. Urban water tends to



have loads of chlorine and chloramine. Charcoal-filtering, Campden tablets, or bottled water are all viable options.

Chill! Groundwater tends to be warm. Many use simple ice baths with good results. For those using plate or immersion chillers, one option is to pre-chill the water by running it first through an additional immersion chiller submerged in ice water.


Dry yeast is your friend. Liquid yeast is not a reliable option as it is unlikely to survive the long shipping process. The upside is that Costa Ricans don't have to sweat the bewildering variety of strains available these days. There is some comfort in being limited to dry yeasts and getting to know them well. Not having to make starters also eliminates fuss.

Expensive electricity can make refrigerated temp-control too costly, so many tropical brewers make do with the coolest closet they can find. Thus the heat tolerance and cleaner profile of Safale US-05, the American ale strain, make it a popular choice. While not ideal, good results are possible at temperatures up to 80° F (27 C), possibly even higher.

David Falkenstein, a brewer in El Salvador, noted that dry yeast is cheaper and easier to handle. "I have brought down some liquid yeast on a couple of occasions and had good results, but it is a bigger hassle and you never know if it will make the trip alive," he said.

"Americans also have a tendency to over-complicate even the simplest things," he added. "Living here in the Third World, this is something we certainly can't afford."

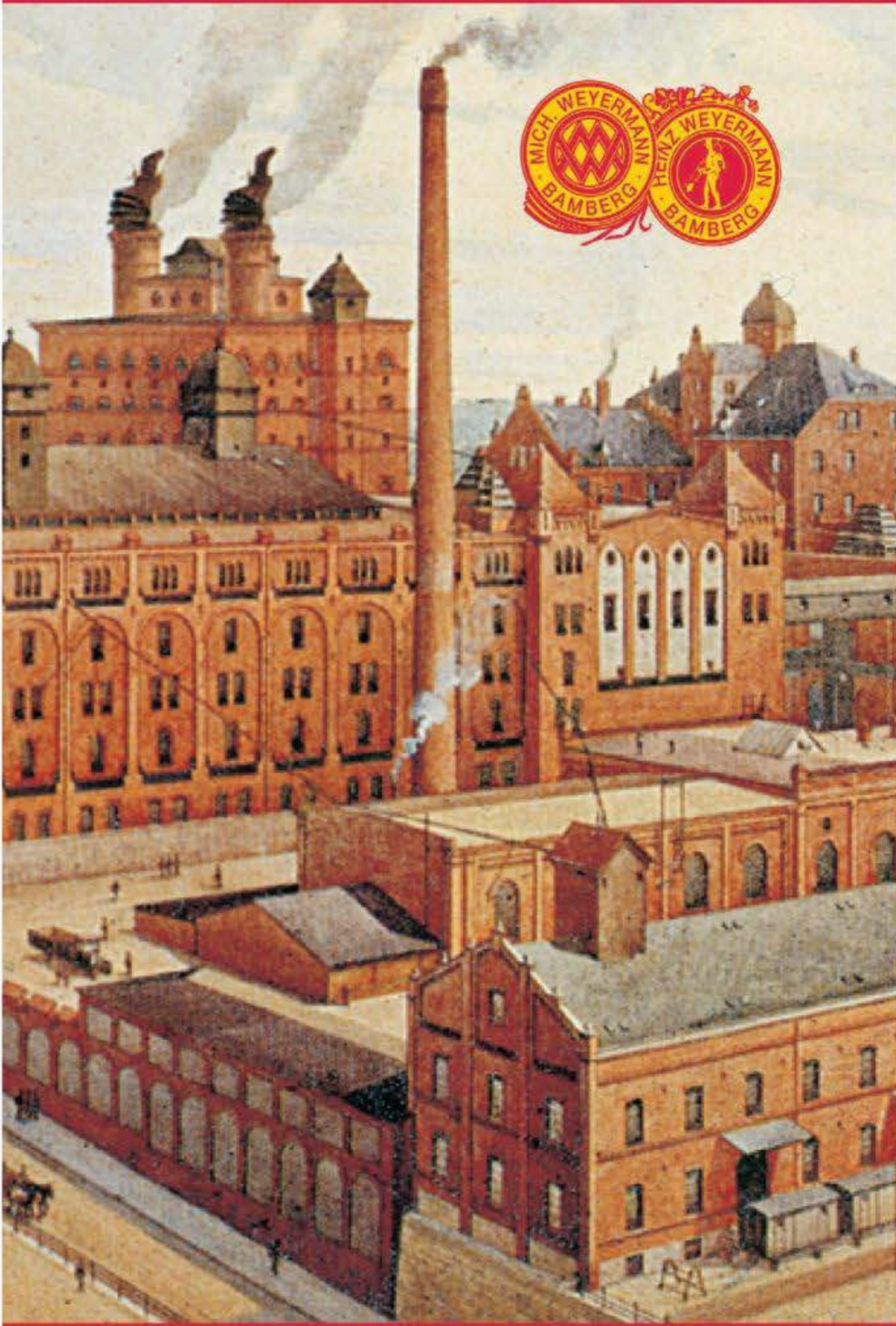
A freelance writer and editor, Joe Stange's first *Zymurgy* article ("Heavenly Brews of Belgium," with Roy Stevenson) appeared in the May/June 2009 issue. He is the co-author of *Around Brussels in 80 Beers*, and also contributed to *1,001 Beers You Must Taste Before You Die*. He lives and homebrews in Costa Rica, and blogs at thirstypilgrim.com.



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**AN
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TO**

Orval

AUSTRALIAN HOMEBREWERS RECREATE A CLASSIC BELGIAN BREW

We brewers sometimes feel the need to venture beyond our stylistic comfort zone, often inspired by a classic commercial beer. What we can fail to take into account is that any commercial beer, great as it may be, is an industrial product. Beneath the romance of the beer's image lies a careful synthesis of ingredients and process that is engineered to an exacting degree.

Appreciating this is one of the many keys to understanding a beer. By thoughtfully reverse-engineering a beer, it is possible to approach its very heart. In this article, we relate the story of stripping a classic beer down to its essentials.

In a country famous for idiosyncratic beers, Belgium's Orval stands out as combining several qualities from apparently disparate styles, yet emerging as an integrated and intriguing whole. It has been widely discussed in the brewing literature, and excellent descriptions can be found in Stan Hieronymus' *Brew Like a Monk* and Michael Jackson's *Great Beers of Belgium*, among other texts. In brief, it features malt and fermentation characteristics akin to a saison, hop character reminiscent of an English pale ale, complete with dry hopping, topped off by a *Brettanomyces* secondary fermentation adding a lambic note redolent of fresh leather. The unique qualities of the resulting combination are famously summed up in the phrase "*le goût d'Orval*" (the taste of Orval), suggesting a style unto itself. It has even been memorably dubbed "God's homebrew," perhaps with a nod to the monastic community from which it sprang.

Our interest in brewing a beer along the lines of Orval was awakened by a presentation by Jess Caudill of Wyeast at the inaugural Australian National Homebrewing Conference in Melbourne in 2008. Caudill outlined the various challenges involved in approaching the style, and kindly sent us his recipe after the conference, including a warning about the high level of carbonation (about 5 volumes) and consequent need for careful bottle selection. The Wyeast recipe is now accessible at www.wyeastlab.com/hb_lambicbrewing.cfm, and suggests use of a "mild Belgian ale strain" for the primary fermentation combined with *Brettanomyces lambicus* for secondary/bottle fermentation. Options have expanded since then, with White Labs releasing the Bastogne yeast (WLP 510), reportedly the Orval primary yeast. In addition, Wyeast has several Brett strains available.

BY ROSS MITCHELL AND STEPHEN "KURTZ" NEILSEN

In setting out to emulate Orval, we were guided by *Brew Like a Monk*, with valuable input from Gordon Strong, based on his recent visit to the abbey. At the outset, it is clear that Orval brews a base beer with the primary yeast, then adds the Brett culture at bottling. Since the quality of the base beer is paramount, we chose to brew a pilot batch with several goals: fine-tuning of ingredients, particularly hop selection, malt character, and color; and to cycle the yeast through a brewing generation to boost cell count and generally groom it for the production batch. Our overall approach was to avoid slavish adherence to ingredients and methods suggested by the background literature, in favor of adaptation of available ingredients and known system performance in emulating the main characteristics of the product.

PILOT BATCH

The malt bill was formulated keeping in mind the need for a firm backbone, against which substantial hop bitterness and some finishing tartness are balanced. We chose Dingemans Pils as the base malt, with middle malt firmness and com-



The authors.

plexity provided by Weyermann Abbey and Thomas Fawcett dark crystal, the latter providing a light toffee note, but also partly for color. Further color was added using amber candi sugar that we had on hand, although reports indicate that Orval

THE MALT BILL WAS FORMULATED KEEPING IN MIND THE NEED FOR A FIRM BACKBONE, AGAINST WHICH SUBSTANTIAL HOP BITTERNESS AND SOME FINISHING TARTNESS ARE BALANCED.

uses only pale candi sugar. This suggests that Orval use somewhat more (or darker) specialty malts than in the present formulation, particularly given that our adjunct level (5 percent in the production batch) is substantially lower than the original (perhaps as high as 16-17 percent).

Hops used by Orval reportedly combine English varieties or derivatives (particularly Styrian Goldings) with noble continental hops such as Hallertauer. Based on availability and freshness, the pilot batch used English Northdown and Challenger for bittering, Hallertauer Mittelfrüh for flavor, and a late addition of Northdown for aroma.

Primary yeast was a fresh vial of WLP

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510, stepped up twice in stirred oxygenated starters of starting gravity 1.036 and volumes of 1.0 and 3.5 liters respectively, giving an estimated cell count of around 350 billion, leading to a pitching rate in the 24-liter (6.3-gallon) pilot batch (14 °P, SG 1.056) of close to 1 million/ml/°P. The yeast was pitched at 16 °C (61 °F), with the temperature allowed to rise naturally over a period of 24-36 hours, then capped at 21 °C (70 °F). Fermentation was finished after seven days, when the terminal gravity was 1.011, after which the beer was raked and conditioned for a week at 4 °C (39 °F) before evaluation.

ASSESSMENT OF PILOT BATCH

The first impression of the pilot batch was one of dryness, due to a combination of the 81 percent apparent attenuation and a finishing pH of 4.02. Since measurements on Orval samples showed a final pH in the range of 3.8-4.0, this raised a problem given the expected decrease in pH caused by the Brett secondary fermentation, with the risk of ending up with an excessively sour beer. In addition, some allowance has to be made for extract to be fermented by the Brett, and we felt that a little more body in the pre-Brett base beer was required. To address both these issues, we decided to lower the fermentation temperature cap from 21 to 20 °C (70 to 68 °F), and to reduce the candi sugar level slightly. The latter tweak had the helpful side effect of lightening the color from deep to mid-orange (about 7 SRM) in line with the original, and increasing the depth of the malt backbone.

Hop character showed up in some unpleasant harsh bitterness, perhaps cohumulone related, that we've noted with a few high-alpha English hops such as Target, Northdown, and Challenger. Although experience shows that this fades quite quickly with cold conditioning, we elected to replace the Northdown/Challenger bittering combination with the equivalent IBU level of German Northern Brewer. Having portrayed the pilot batch as a troubleshooting yeast starter, we should add that it was a good beer in its own right. In fact, a fellow brewer who tasted it with us was so impressed that he asked for the recipe, then brewed his own version!



KROrval

Ingredients

for 11 U.S. gallons (42 liters)

17.4 lb	(7.9 kg) Dingemans Pilsner
2.25 lb	(1 kg) Barrett Burston Galaxy (Australian Pale)
1.1 lb	(500 g) Weyermann Abbey (17L)
0.45 lb	(204 g) Thomas Fawcett Dark Crystal (74L)
1.1 lb	(500 g) Amber candi sugar (55L)
1.4 oz	(40 g) Northern Brewer 8.2% a.a. (60 min)
0.88 oz	(25 g) Hallertauer Mittelfrüh 4.8% a.a. (30 min)
0.75 oz	(21 g) Hallertauer Mittelfrüh 4.8% a.a. (10 min)
0.75 oz	(21 g) Northdown 7.8% a.a. (10 min)

Primary: WLP 510 Bastogne Belgian Ale

Secondary: Wyeast 5112 *Brettanomyces Bruxellensis*

Original Gravity: 1.055 (75% efficiency)

Final Gravity: 1.009

IBU: 27

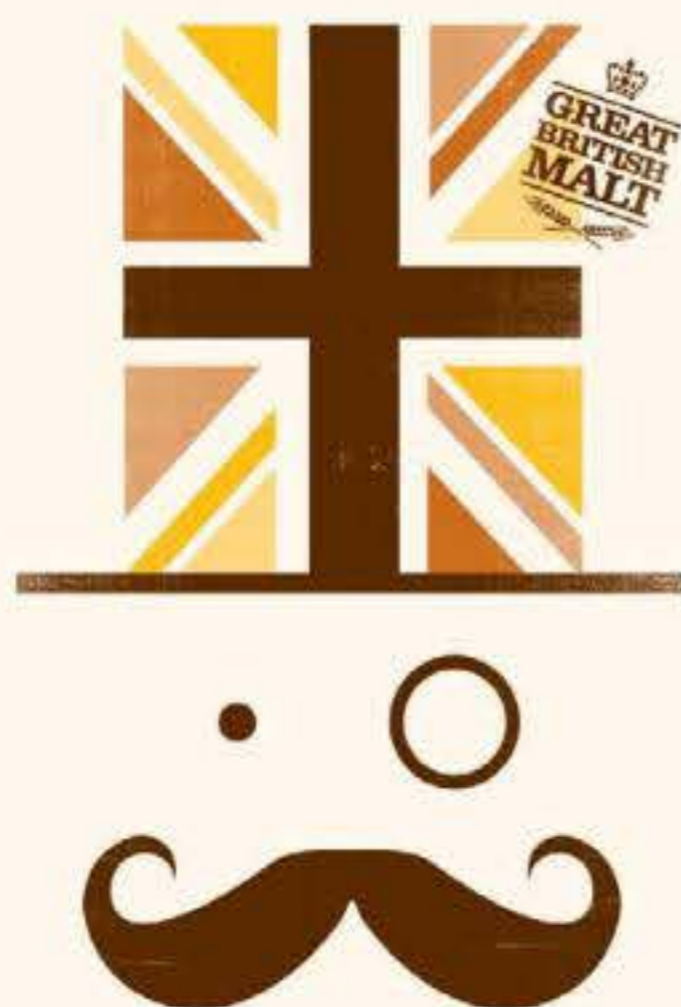
SRM: 7

Directions

Treat water with CaSO_4 and CaCl_2 to obtain 100 ppm Ca^{++} and a sulfate to chloride ratio of 2:1. Mash in at 52 °C (126 °F) with liquor to grist ratio 2.9 L/kg (1.4 qt/lb). Hold for 30 minutes, then raise to 64 °C (147 °F) and hold for 60 minutes; then raise to 71 °C (160 °F) and hold for 20 minutes. Sparge with treated water at 75 °C (167 °F). Boil for 90 minutes with hop additions at 60, 30, and 10 minutes.

Pitch yeast at 15 °C (59 °F); allow to rise to 20 °C (68 °F), then hold. After primary fermentation is complete, rack and condition at 0-4 °C (32-39 °F) for a week or more. Rack again and inoculate with Brett culture, prepared as described above. Condition at 8-12 °C (46-54 °F) for 3 months, then rack again and bottle with fresh yeast at 2 million cells/ml, preferably priming with reserved sterile wort to achieve carbonation of 3 volumes. In the present case, this required a priming ratio of 8.6% or 86 ml/L (2.8 fl oz/qt). Hold bottles at 15 °C (59 °F) for 3 weeks before returning to cellar temperature; refrigerate when desired flavor development is achieved.

Extract version: Substitute 13 lb (5.9 kg) liquid Pilsner malt extract for the Pilsner malt, and 1.75 lb (794 g) pale liquid malt extract for the pale malt. Steep the remaining grains in 158 °F (70 °C) water for 30 minutes, strain, add the malt extracts and sugar, bring to a boil, and follow the recipe as written.



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PRODUCTION BATCH

Although the pilot batch resolved a number of issues, it didn't address the Brett dimension. To keep some flexibility in this area, we decided to split the production batch two ways post-primary, pitching each with a different Brett strain, specifically *B. Bruxellensis* (Wyeast 5112) and *B. Clausseni* (Wyeast 5151-PC). This departs from the Orval practice of introducing the Brett at bottling, but gave us the advantage of monitoring flavor development from each strain, and keeping open the possibility of blending prior to bottling.

WATER

Ionic concentrations of Orval water were reported in *Brew Like a Monk* as 96 ppm Ca^{++} , alkalinity 287 ppm as CaCO_3 and a sulfate-to-chloride ratio of about 2:1. Canberra water is quite soft, with 18 ppm Ca^{++} and alkalinity 50 ppm as CaCO_3 . We took the approach of treating the water to achieve a Ca^{++} level of 100 ppm and sulfate to chloride ratio of 2:1, via additions of gypsum and calcium chloride. No attempt was made to match the alkalinity, which constitutes a problem in pale mashes, leading to undesirably high pH levels, and is the probable reason that many Belgian brewers (including Orval) find it necessary to add acid to the boil. In the event, mash pH was in the range of 5.5-5.6 at 20 °C (68 °F), i.e., in the ideal range of 5.2-5.3 at mash temperatures; wort to fermenter pH was 5.4.

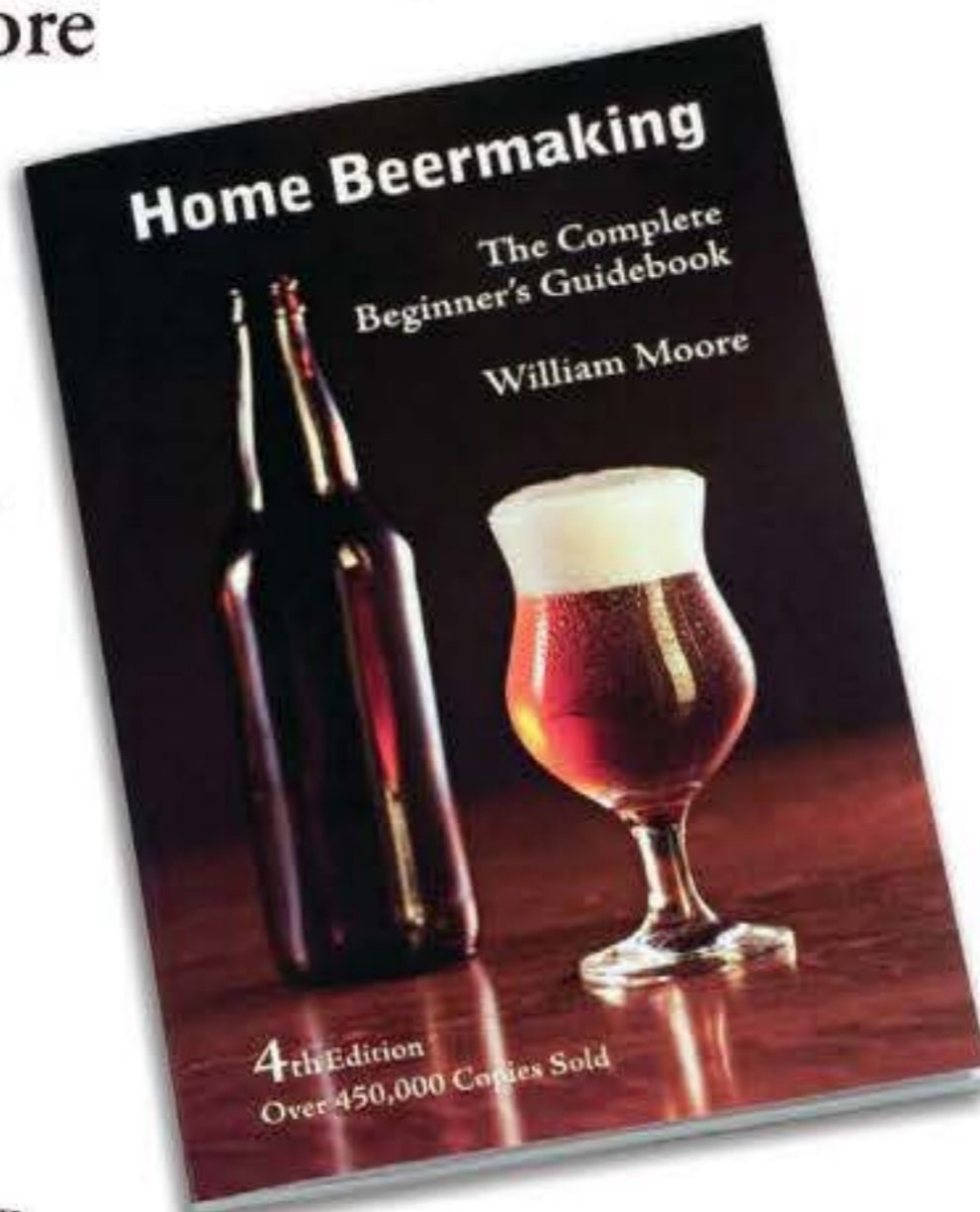
MASH AND BOIL

Although Orval reportedly uses a simple two-step mash with rests at 63 °C (145 °F) and 72 °C (162 °F), we elected to add a protein rest at 52 °C (126 °F) for 30 minutes. This was based on experience with our system, and was in line with many other Belgian breweries where high adjunct additions can lead to lower-than-desirable available protein levels (also referred to as free amino nitrogen or FAN). As evident in the studies of Taylor⁵ and Bamforth¹, deficient FAN leads to lower-than-desirable pH buffering with a potentially large and poorly controlled pH drop during fermentation. Very high FAN levels induce enhanced yeast growth and also lead to low final pH values, due to the excretion of organic acids accompanying yeast growth. For Orval, where a substan-

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tial pH drop is needed to ensure a crisp finish, FAN levels at the high end provide this as well as ensuring adequate yeast nutrition; hence the rationale for a significant protein rest. Subsequent mash steps were 64 °C (147 °F) for 60 minutes and 71 °C (160 °F) for 20 minutes, followed by sparging with treated water at 75 °C (167 °F). Boil was a standard 90 minutes with hop additions at 60, 30, and 10 minutes.

FERMENTATION AND CONDITIONING

The wort was cooled to 15 °C (59 °F), oxygenated at 2 L/min for two minutes through a 2 micron stone, then pitched at about 1.2 million cells/ml/ °P. This arguably represents overpitching, and may account for somewhat lower ester levels than in the prototype. Fermentation temperature was allowed to rise until capped at 20 °C (68 °F), reached after 36 hours. Primary fermentation took five days with terminal gravity at 1.011. The beer was then racked into two 5-gallon kegs and conditioned at 0 °C (32 °F) for one week to reduce suspended primary yeast, then racked into fresh kegs, brought to ambient temperature (15-18 °C; 59-64 °F), when each was inoculated with one of the two Brett strains. Prior to this, starters for the Brett cultures were made by acidulating 7 °P wort to pH 4.2 using food-grade phosphoric acid; these starters were also oxygenated and stirred. Both showed good activity, somewhat surprising given that the manufacture date on the *B. Brux* smack pack was April 2007! Although Orval is dry hopped, we elected not to attempt this, due to indifferent past results and uncertainty as to the quality of available hops in this role. Fresh New Zealand hops are a future possibility, taking care to avoid varieties exhibiting citrus or passionfruit notes.

After conditioning at cellar temperatures (8-12 °C, 46-54 °F) for three months, side-by-side tasting of the two kegs in June 2010 showed that the *B. Brux* version had excellent Brett/hop/malt balance, nice complexity, good "session" character, and firm mouthfeel. The *B. Claussenii* version was less convincing, with a slightly cloying fruitiness, sulfur, funkiness, and less developed Brett character overall. Accordingly, plans for blending were

abandoned, and we decided to bottle the *B. Brux* version straight.

For Orval, both bottling yeast count (3 million cells/ml) and carbonation (5 volumes) are unusually high. These factors result in the original stirring up yeast sediment on opening, as well as making pouring a challenge. With competitions in mind, we opted to reduce the cell count to 2 million cells/ml and the carbonation to 3 volumes. Although Orval reportedly primes its bottles with sugar, we used reserved wort, a method almost

universally used by weizen brewers and one we've found to work well for a range of styles. The presence of some original wort with the full spectrum of sugars and proteins gives the yeast a better start than plain sucrose in what is a fairly hostile environment. We bottled with a fresh culture of the primary yeast (WLP 510), and also some fresh *B. Brux*, then held the bottles at 15 °C (59 °F) for three weeks before removal to cellar temperature, and with the approach of warmer weather, chilling. The pH measured at bottling was 4.16, a little higher than measurements

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of the prototype (3.8 to 4.0). We anticipated a further fall in the bottles due to continued Brett activity, although later measurements on a few bottles suggest that this is not very significant. Apparent extract at bottling (before priming) was 2.3 °P (SG 1.009).

EVALUATION

The first serious tasting was conducted a month after bottling, alongside the genuine article. Our version was somewhat lighter in body, with less Brett

in the aroma, but sufficient in flavor. English hop notes in the aroma dissipated quickly, clearly less than desirable from most descriptions of the style, although it has to be said that the hop character in the original is the first casualty of the long trip Down Under, so the available reference bottles had modest hop aroma levels. There was also the impression of somewhat less ester complexity compared with the original. The overall impression was of an easy drinking, session version of the style.

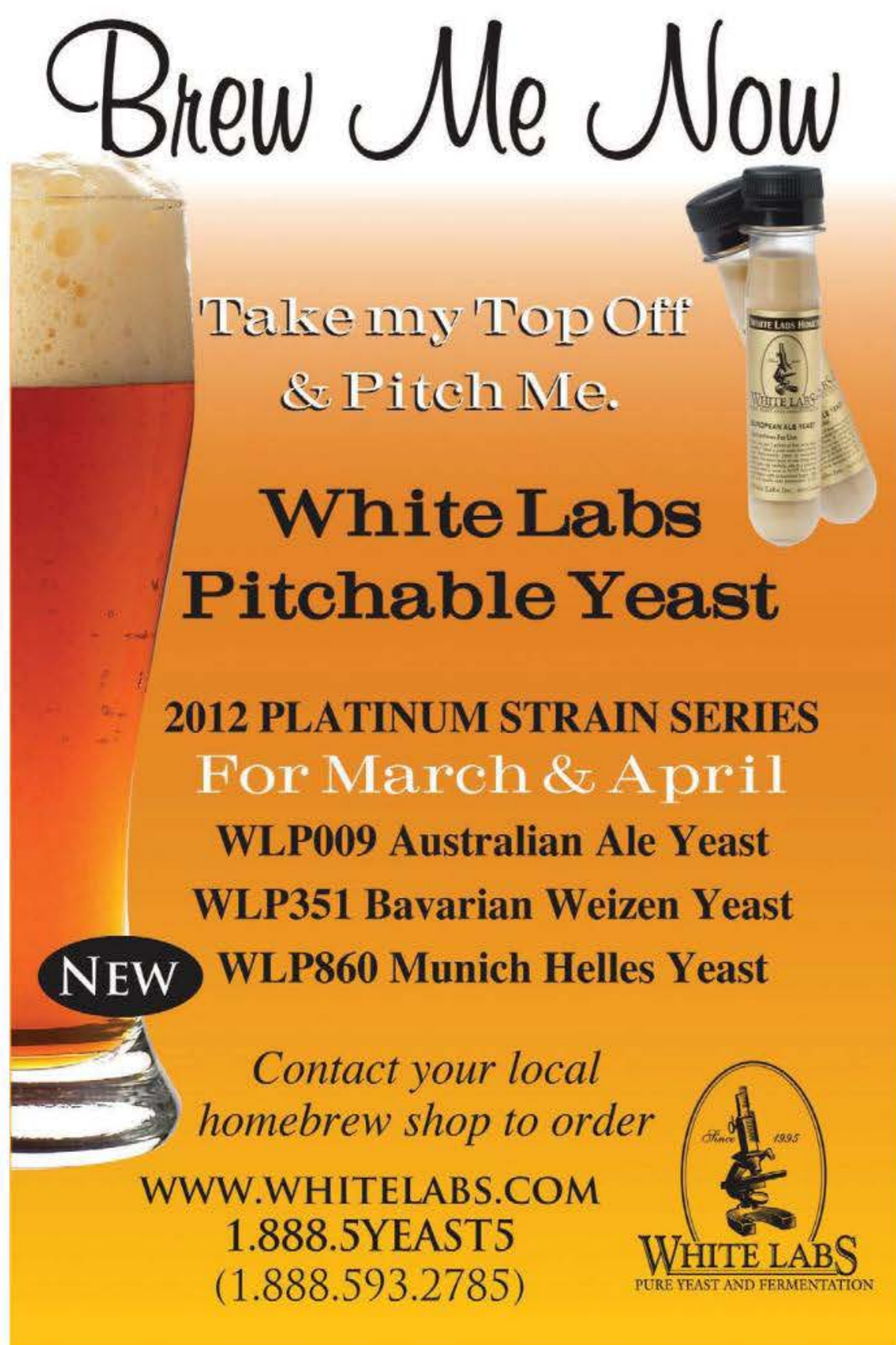
In October 2010, the second Australian National Homebrewing Conference was held in Melbourne, alongside the annual Australian Amateur Brewing Competition (Nationals). Having survived a near-death experience at the ACT qualifying competition (let's just say it is a difficult style to judge well unless you know *le goût d'Orval*), our KROrval made it through to the Nationals in the Specialty category, one of the 18 place getters from the six competing states. We're happy to report that it placed first, with a gold medal score of 123/150!

We came away buoyed by the success of having brewed a good beer along the lines of a Belgian icon. Needless to say, this is not the end of the journey. As we write, cellared in suburban Canberra lies our homage to another Trappist brewery and its beers: the KRestmalle Extra (Single), Dubbel, and Tripel.

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Ross Mitchell works as an atmospheric scientist in Canberra, Australia, and has been all-grain brewing for over 20 years. He brews a range of styles, with a bias toward German ales and lagers over recent years. He is a BJCP National judge. Stephen Neilsen (known as Kurtz) lives, works, and brews in Canberra. Stephen has been all-grain brewing for about 12 years and is a BJCP Certified judge. His brewing is best described as broadly British with a wide palette of hops. Both Ross and Stephen are active members of Canberra Brewers.



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MALT Turkey Shoot



Turkey Shoot judges enjoy smoked turkey prepared by member and judge coordinator Mike McMahon.

The Maryland Ale & Lager Technicians (MALT) held their annual Turkey Shoot competition on November 6 at Hugh Sisson's Heavy Seas brewery. The club got a great selection of Grand Master and National ranked and other judges at this AHA and BJCP sanctioned event, thanks to their location (and the fact that MALT actually feeds their judges turkey at the Turkey Shoot). Out of the 155 entries, Joe Schork's "South Cyde Brown" Southern English Brown ale took top honors, as well as a \$100 cash prize. The New Hyde Park, N.Y. resident generously shared a few details about himself and his Best of Show brown.

Schork got into brewing after an inspirational brewery tour at Switchback Brewing Company in Burlington, Vt. The brewer seemed to live an ideal life. "Here

this guy was, drinking beer, making beer, talking beer, and hanging out with his dog," Schork recalls. "Sure, he may have been working on a Saturday, but man, was he loving life." Schork dove right in with his first batch, but initial impressions were somewhat lower than expected. "It was horrible, and you needed a toothpick after drinking it."

Obviously, things got better in a hurry, and Schork now brews nearly twice a month. However, his living situation does not allow for brewing operations, so he travels an hour-and-a-half away to his aunt and uncle's house to conduct the boil. His car-conditioned ales are then basement fermented, "usually on the warm side," bottled, and aged for four weeks. "Unless I get impatient," he adds. "Then it is only two."

"South Cyde Brown" Southern English Brown Ale

JOE SCHORK II,
NEW HYDE PARK, N.Y.
BEST OF SHOW BEER,
2011 MALT TURKEY SHOOT

INGREDIENTS

for 10 U.S. gallons (37.85 liters)

14.02 lb	(6.36 kg) Maris Otter malt
2.0 lb	(0.9 kg) 80° L crystal malt
1.26 lb	(571 g) 120° L crystal malt
1.0 lb	(454 g) Special Roast malt
0.76 lb	(345 g) pale chocolate malt
0.2 lb	(91 g) Carafa Special II malt
1.98 oz	(56 g) East Kent Golding pellet hops, 4.5% a.a. (60 min)
	Wyeast 1968 London ESB ale yeast

Original Gravity: 1.061 (85% efficiency)

Target IBUs: 14

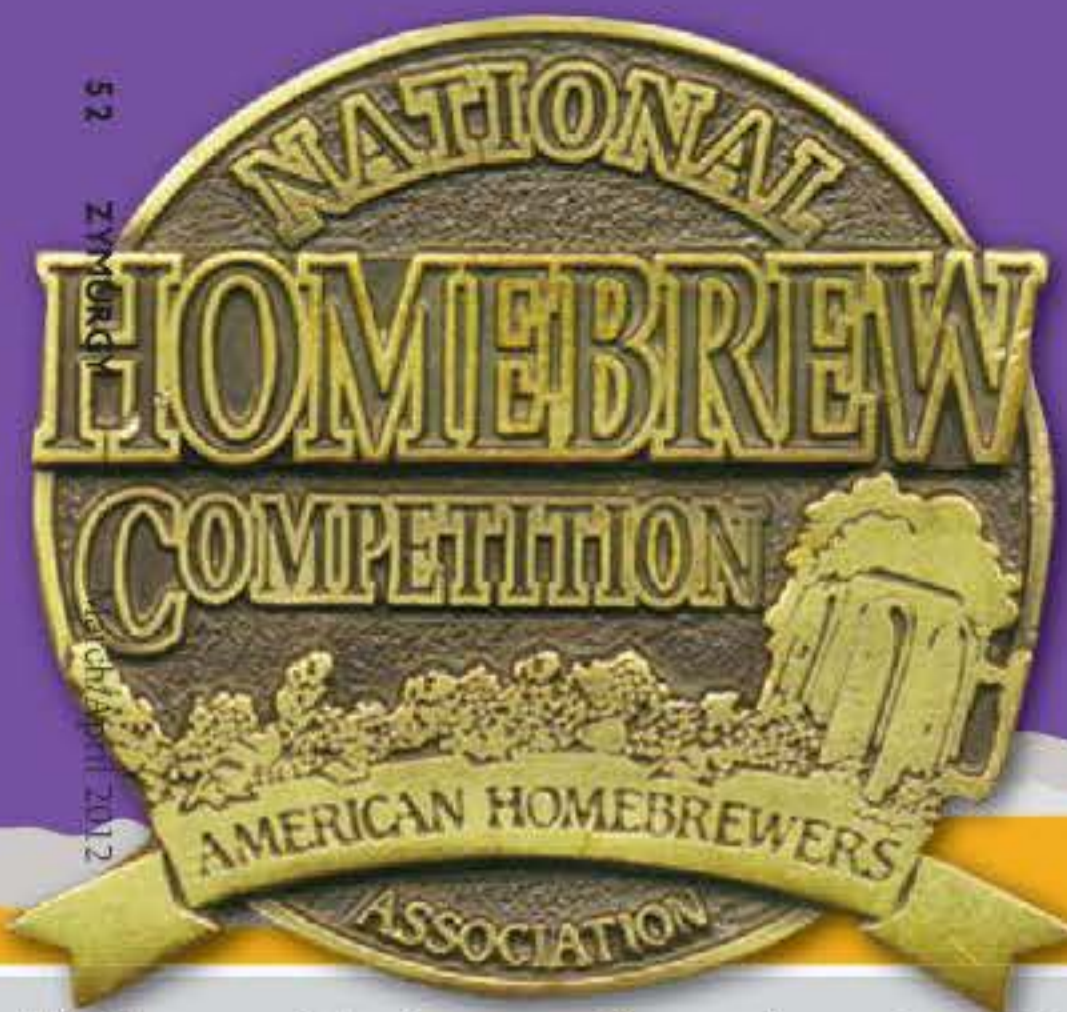
Target SRM (est): 26

Boil Time: 90 minutes

DIRECTIONS

Mash grains at 152° F (67° C) for 45 minutes. Ferment at around 68° F (20° C).

Extract version: Substitute 12.6 lb (5.7 kg) pale liquid malt extract for the Maris Otter malt. Steep remaining grains in 158° F (70° C) water for 30 minutes, strain, add malt extract, bring to boil, and proceed with recipe as written.



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June 21

AHA National Homebrew Competition Final Round, Seattle, WA

June 21-23

AHA National Homebrewers Conference, Seattle, WA

August 4

AHA Mead Day

October 11-13

Great American Beer Festival, Denver, CO

October 11-13

Great American Beer Festival Pro-Am Competition, Denver, CO

November 3

AHA Learn To Homebrew Day

Lautering is conducted in an 84-quart cooler, and the wort is boiled in a 15-gallon stainless steel kettle. Thus, his 10-gallon batches have plenty of elbow room for hop utilization. And that's a good thing, because "I love to brew hoppy beers. But none of my friends enjoy them, so I try to brew other styles."

A culinary-minded friend sometimes guides the decision, pairing certain dishes with the beer styles on hand, and sometimes the reverse. Of his Best of Show winner, Schork recalls, "This time, he chose pork and since I cannot ferment lagers properly, the only option I saw was a Southern English Brown." He based the recipe on one from the always-reliable Jamil Zainasheff recipe archive. After a few tweaks, "South Cyde Brown" was born, and the rest is history.

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WA State Amateur Brewers Competition, 134 entries—*Philip Brandenburg*, Perth, WA, AU.

BrewMasters Open, 462 entries—*Ryan Stansbury*, Atlanta, GA.

2011 Big Fresno Fair Homebrew Competition, 64 entries—*Sean Railing*, Clovis, CA.

October 2011

Rapid City Bierbörse Homebrew Competition, 70 entries—*Brian LaMunyon*, Rapid City, SD.

The Dixie Cup, 1,117 entries—*James Wolfe*, Katy, TX.

Australian Amateur Brewing Championship, 261 entries—*Barry Cranston*, Sydney, NSW, AU.

Brunswick Beer Show, 59 entries—*Peter Dyson*, Brunswick, VIC, AU.

2011 Spooky Brew Review Homebrew Competition, 355 entries—*Ray Gonzalez*, Chicago, IL.

Hoppy Halloween Challenge, 464 entries—*Jason Hatfield*, Cincinnati, OH.

Oregon Brew Crew Fall Classic, 277 entries—*John Huck*, Vancouver, WA.

November 2011

Beer Quest Winter Ale 2012, 20 entries—*Elliott Spilker & Dave McGrath*, Omaha, NE.

The BBG Skirmish in the Triad, 264 entries—*Brad Petit*, Columbia, SC.

California State Homebrew Competition, 390 entries—*Bud Tourville*, Rocklin, CA.

Badger Brew-Off, 182 entries—*Charles Hall*, Madison, WI.

The Dig Pub 4th Annual Monster Homebrew Competition, 55 entries—*Bob Kapusinski*, Round Rock, TX.

2011-2012 Rocky Mountain Homebrew Club Only Challenge, 411 entries—*Scott Werner*, Monument, CO.

BURP Real Ale Competition, 47 entries—*Bill Ridgely & Wendy Aaronson*, Rockville, MD.

Dark Side of the Beer, 8 entries—*Tim Collins*, Grand Island, NY.

Knickerbocker Battle of the Brews, 276 entries—*Kevin George*, Brookline, MA.

London & South East Craft Brewing Competition, 104 entries—*Tom Greasley*, London, UK.

Land of the Muddy Waters, 325 entries—*Phil Sullivan*, Detroit, MI.

Spirit of '76 Challenge, 67 entries—*Dave Darity*, Atoka, OK.

Beer for Boobs, 241 entries—*Mike Yingling*, Northfield, OH.

All About Ales, 104 entries—*Jonathan Thibault*, Quebec, CA.

South African National Homebrew Competition 2011, 72 entries—*Christoff Marais*, Western Cape, ZA.

Best of Mississippi Homebrew Competition, 45 entries—*Randy Loudon & Paris Miller*, Grenada, MS.

FOAM Cup, 628 entries—*Pete Polczynski*, Tulsa, OK.

McHale's Monthly Mashout - November, 7 entries—*Daniel Garwacki*, Ridgecrest, CA.

4th Festival de la Cerveza Artesanal Somos Cerveceros estilo "Dorada Pampeana," 32 entries—*Bruno Ferrari*, Bariloche, Río Negro, AR.

4th Festival de la Cerveza Artesanal Somos Cerveceros estilo "Oktoberfest," 22 entries—*Tio Limongi*, Quilmes, Buenos Aires, AR.

4th Festival de la Cerveza Artesanal Somos Cerveceros estilo "Irish Red Ale," 32 entries—*Favio Brollo*, Santa Fé, Santa Fé, AR.

December 2011

Biere de Rock, 119 entries—*Tom Thorpe*, Parker, CO.

Humpy's Big Fish Homebrew Competition, 117 entries—*Tim Strayer & Don Lewellyn*, Anchorage, AK.

Lucette Brewing Company Winter Home Brew Competition, 39 entries—*Mike O'Keefe*, Cedarburg, WI.

The Great Dickens Christmas Fair Best of Brew, 59 entries—*Erich Schmidt*, San Jose, CA.

3rd Annual TVHA Homebrew Competition, 237 entries—*David Crane*, San Diego, CA.

3rd Annual Fugetaboutit Homebrew Competition, 309 entries—*Jeff Long*, Sterling, VA.

Happy Holidays Homebrew Competition, 483 entries—*Michael Marino*, Burlington, MA.

Manjimup Cherry Harmony HB Competition, 53 entries—*Albert & Kathryn Fritz*, Manjimup, WA, AU.

Holiday Homebrew, 16 entries—*Joe Damgaard*, Westminster, CO.

Schork's best advice for brewing? "The only advice I can give is to be clean and sanitary, as much as possible. You can never be too clean." He also advocates a good pitching rate, and always makes up a yeast starter a day or two before brew

day. On with the recipe!

Amahl Turczyn Scheppach is a former craft brewer and associate editor for *Zymurgy*, and now brews at home in Lafayette, Colo.



AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR

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



March 2

America's Finest City Homebrew Competition

San Diego, CA. Entry Deadline: 2/22/12.
www.quaff.org/AFC2012/afc0.html

March 2

Homebrew @ the W.E.B.

Frankenmuth, MI. Entry Deadline: 2/19/12.
www.crhbc.com

March 3

Bockfest Cincinnati

Cincinnati, OH. Entry Deadline: 2/24/12.
Bockfest.brewcompetition.com

March 3

The Coconut Cup

Miami, FL. Entry Deadline: 2/24/12.
www.miami-homebrew.org/coconut.html

March 7

Kona Brewers Festival Homebrew Competition

Kailua-Kona, HI. Entry Deadline: 3/1/12.
sites.google.com/site/konabrewcontest

March 10

Drunk Monk Challenge

Aurora, IL. Entry Deadline: 3/2/12.
knaves.org/DMC/index.htm

March 10

Joint Cascade Brewers Cup & Puget Sound Pro-Am

Seattle, WA. Entry Deadline: 3/3/12.
www.wahomebrewers.org/competitions/388-2012-joint-cascade-brewers-cup-and-puget-sound-pro-am

March 22

Ultimate Brew-off Homebrew Challenge

Halifax, NS, CA. Entry Deadline: 2/27/12.
garrisonbrewing.com/brew-off.html

March 23

Amber Waves of Grain

Buffalo, NY. Entry Deadline: 3/9/12.
www.awoghomebrew.com

March 23

Bluebonnet Brewoff

Irving, TX. Entry Deadline: 2/24/12.
www.bluebonnetbrewoff.com

March 24

AHA Club-Only Competition: Stout It Out Loud!

Castle Rock, CO. Entry Deadline: 3/17/12.
www.homebrewersassociation.org/pages/competitions/club-only-competitions

March 24

March Mashness

St. Cloud, MN. Entry Deadline: 3/11/12.
www.cloudytownbrewers.org/competition

March 24

19th Annual Peach State Brew Off

Atlanta, GA. Entry Deadline: 3/3/12.

March 24

Celebrewtion!

Sacramento, CA. Entry Deadline: 3/18/12.
www.goldcountrybrewers.org/celebrewtion.html

March 30

AHA National Homebrew Competition 1st Round

San Francisco, CA. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

March 30

AHA National Homebrew Competition 1st Round

Minneapolis, MN. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

March 30

AHA National Homebrew Competition 1st Round

St. Louis, MO. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

March 30

AHA National Homebrew Competition 1st Round

Indianapolis, IN. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

March 30

AHA National Homebrew Competition 1st Round

Alpharetta, GA. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

March 30

AHA National Homebrew Competition 1st Round

Philadelphia, PA. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

March 31

Great Arizona Homebrew Competition

Phoenix, AZ. Entry Deadline: 3/22/12.
www.brewarizona.org

March 31

Arizona Mead Cup

Phoenix, AZ. Entry Deadline: 3/22/12.
www.brewarizona.org

March 31

Olde Hickory Pro-Am

Hickory, NC. Entry Deadline: 3/23/12.
www.classhomebrewers.org

March 31

Iowa Brewers Union Open

Des Moines, IA. Entry Deadline: 3/24/12.
IBUOpen.com

March 31

Peak-to-Peak ProAm

Longmont, CO. Entry Deadline: 3/23/12.
www.indianpeaksalers.org

March 31

Brew Masters Competition

Florence, WI. Entry Deadline: 3/27/12.
www.tricountyfermenters.com

March 31

Great Lakes International Cider & Perry Competition

Grand Rapids, MI. Entry Deadline: 3/25/12.
greatlakescider.com

April 1

Ocean State Homebrew Competition (OSHC), 2nd Annual

Providence, RI. Entry Deadline: 3/17/12.
www.oshc.brewcompetition.org

April 9

2012 ALES Home Brew Open/AHA NHC Qualifier Competition

Regina, SK, CA. Entry Deadline: 4/5/12.
www.alesclub.com

April 13

AHA National Homebrew Competition 1st Round

San Diego, CA. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

April 13

AHA National Homebrew Competition 1st Round

Pittsburgh, PA. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

April 14

World Cup of Beer

Oakland, CA. Entry Deadline: 3/24/12.
worldcupofbeer.com

April 20

AHA National Homebrew Competition 1st Round

Portland, OR. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

April 20

AHA National Homebrew Competition 1st Round

Denver, CO. Entry Deadline: 3/28/12.
www.homebrewersassociation.org/pages/competitions/national-homebrew-competition

April 21

South Shore Brew Off

Mansfield, MA. Entry Deadline: 4/7/12.
www.southshorebrewclub.org/

April 28

Hurricane Blowoff

West Palm Beach, FL. Entry Deadline: 4/6/12.
www.palmbeachdraughtsmen.com



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 II 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 V judge, principal author of the 2004 BJCP Style Guidelines and president of the BJCP board who lives in Beavercreek, Ohio.

ON THE WEB

Moylan's Brewery
www.moylans.com

Snake River Brewing Co.
www.snakeriverbrewing.com

BJCP Style Guidelines
www.bjcp.org

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

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

Two stouts were sent to our judges for this issue's Commercial Calibration.

First up was Dragoons Dry Irish Stout from Moylan's Brewery in Novato, Calif.

When brewmaster Denise Jones came to Moylan's a little over five years ago, Moylan's brewed a dry stout only as a seasonal. "I thought an American-Irish brewery needed to have a dry stout year-round," said Jones. "I brewed the first version at Moylan's in early 2007 and it won a GABF gold medal later that fall."


Dragoons Dry Irish Stout (named after the 4th Continental Dragoons of the American Revolutionary War, of which Stephen Moylan, ancestor of Moylan's owner Brendan Moylan, was a commander) is dry, roasty, and rich in flavor, comparable to the most famous dry Irish stout, Guinness. "Our version has a bit more roastiness and a shave more bitterness, specifically a West Coast edge to the initial flavor," said Jones. "Low in alcohol and full of rich flavor, it's the session brew

of choice for many that enjoy the traditional Irish grog."

Dragoons Dry Irish Stout checks in at 5 percent ABV.

Next up was Zonker Stout from Snake River Brewing Co. in Jackson, Wyo. Six months after the brewery opened in 1994, Snake River won a silver medal for Zonker Stout at the Great American Beer Festival, then won gold in 1995. Since then, it has racked up many other awards, including four more GABF medals.

Zonker Stout is a rich, well-balanced foreign style stout with a "huge" amount of roasted barley as well as chocolate, black, and caramel malts. Three varieties of hops, including Chinook, East Kent Golding, and Willamette, are used. The brew checks in at 5.4 percent ABV and 36 IBU.

The term "zonker" refers to a fishing fly to catch cutthroat trout, which can be found in abundance in the Snake River. 

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Moylan's Dragoons Dry Irish Stout—Moylan's Brewery, Novato, Calif.
BJCP Category: 13A Dry Stout

THE JUDGES' SCORES FOR DRAGOONS DRY IRISH STOUT



Aroma: Chocolate malt aroma dominates. No coffee-like roasted barley aroma. Low to medium earthy hop aroma. Low fruity esters. No diacetyl. No DMS. No apparent alcohol aroma. (10/12)

Appearance: Black with ruby highlights. Opaque. Dense, tan, long-lasting head. Almost like it was packaged on nitrogen, although it wasn't. (3/3)

Flavor: Chocolate/roasted malt dominates without coffee-like roasted barley character. Low earthy hop flavor. Medium hop bitterness. Very malty. Finishes a little sweet for a dry stout. Some mineral notes, chalky and a bit salty. Light acidic tang. Low fruity fermentation esters. Balanced toward malt. No DMS. No diacetyl. No apparent alcohol flavor. (17/20)

Mouthfeel: Medium body. Acidity creates a lighter mouthfeel impression. No alcohol warming. Creamy and smooth with a little chalky, mineral mouthfeel. Slight malt astringency. (4/5)

Overall Impression: A malt-focused stout emphasizing roasted malt rather than roasted barley at the upper end of the OG range for the style, but not the upper end of the bitterness range. Roasted barley would have added depth and complexity. Well made and very drinkable. Bigger than draught session versions of the style. This sweeter dry stout goes especially well with oysters and desserts. (8/10)

Total Score: (42/50)



Aroma: Mocha chocolate coffee at first, backed up with moderately strong brown sugar sweetness. Low notes of black currant esters; no diacetyl; no hop aroma. (10/12)

Appearance: Opaque deep black/brown with hints of ruby highlights when held to the light. Substantial brown head is somewhat persistent; it falls slowly to a fine layer of foam and a thick ring around the glass. (3/3)

Flavor: Cocoa powder and mocha coffee malt dominate at first, balanced by a medium-low dark brown sugar molasses sweetness in the background. No hop flavor, but a low bitterness becomes more pronounced as the sample moves across the tongue. A light roast acidity provides a pleasant, sharp, somewhat fruity black currant note, reminiscent of high quality, high-cocoa-content baking chocolate. (17/20)

Mouthfeel: Medium-full bodied, with a creamy texture and moderately low carbonation. A bit of astringency accentuates a dry finish with a suggestion of an almost chalky impression that never quite materializes. Very low alcoholic warmth. (4/5)

Overall Impression: Exhibits a well balanced blend of roastiness, dark chocolate, and coffee-like acidity, with a hint of black currants for complexity. This is a great food beer that would go well with chocolate raspberry cake, black cherry cordials, a roast beef sandwich, or even a veggie lasagne, but can serve equally well as a hydraulic sandwich on a lazy, rainy weekend. (9/10)

Total Score: (43/50)



Aroma: Lightly roasted coffee beans waft out of the glass, with a hint of bitter chocolate and vanilla underneath. No burnt notes or sharpness. The ester profile is clean, and there is no diacetyl. I do pick up some sulfur notes as it warms. (10/12)

Appearance: Pours with a bountiful, creamy, beige head. The clarity is pristine, the head retention is superb, and the black-opaque color is as expected. Nicely done. (3/3)

Flavor: Very smooth from start to finish, perhaps a little too much so. There are light roast malt flavors that include nutty, coffee, and chocolate notes, but the complexity is diminished compared to classic examples of the style. The bitterness is medium-low, which elevates the apparent sweetness rather than yielding a classic dry finish. Low fruit esters are present in just enough strength to benchmark this beer as an ale without interfering with other flavors. Light grainy and sour notes help round out the finish. (15/20)

Mouthfeel: Good creaminess from the excellent conditioning, and the light-medium body is appropriate without being too big for style. A little astringency would be welcome to add another dimension. (4/5)

Overall Impression: Solid example of a Dry Irish Stout, and this would be a very good session beer. A little more roast barley would enhance the aroma, bitterness, and mouthfeel without making the beer aggressively roasty. A little more hop bitterness might also be appropriate, but I would only tweak one aspect at a time since it is already an excellent beer. (7/10)

Total Score: (39/50)



Aroma: Smooth coffee roast with a caramelly-sweet accent and a hint of milk chocolate. No hops. Very little esters. Caramel character is a little unusual—has a toffee-like aroma. No sharp aromatics. Like a coffee with one of those caramel flavorings added. (9/12)

Appearance: Tall head with deep tan color, settled a bit fast. Brownish-black color. Opaque. (3/3)

Flavor: Smooth coffee and dark chocolate flavor with medium to medium-high bitterness slightly offset in finish with a light caramelly sweetness. No hop flavor. Very light esters. Off-dry finish. Aftertaste is mostly roast with a clean bitterness and a light toffee sweetness. Seems fairly clean. The bitterness isn't aggressive and the coffee character is subtle. (15/20)

Mouthfeel: Smooth, creamy palate. Light roast astringency in finish. Medium-high carbonation—seems on the high side. Medium-full body. Not warming. (4/5)

Overall Impression: The toffee quality is a little unusual but it does make it quite smooth and drinkable. The bitterness isn't over the top, and there is no harshness at all—great! Could be drier to my taste, but the roast does add a little dryness of its own in the aftertaste. Quite tasty. More like a Murphy's than a Guinness. Sweeter than many with less of a pure coffee flavor. Really does remind me of a not-too-strong coffee with caramel flavoring added. (7/10)

Total Score: (38/50)



THE JUDGES' SCORES FOR ZONKER STOUT



Aroma: Roasted malt and coffee-like roasted barley up front with light hop aroma and medium alcohol in the background. Medium fruity esters. No diacetyl. Some fleeting sulfur/vegetal notes dissipate fairly quickly. (8/12)

Appearance: Black. Opaque. Dense, rocky, tan, long-standing head. (3/3)

Flavor: Nice balance of roasted maltiness, medium-high hop bitterness, low-medium hop flavor, and alcohol with an acidic tang that lingers in the aftertaste along with the coffee-like roasted barley and malts. Sweet in mid-palate but drier finish with lingering bitterness. Medium ester profile. No diacetyl. Some fleeting sulfur/vegetal undertones. Rich, complex maltiness is the hallmark of this beer. (17/20)

Mouthfeel: Medium-full body. Acidity gives the impression of lighter mouthfeel. Noticeable alcohol warming. Creamy. Bitterness lingers in mouthfeel. (4/5)

Overall Impression: Very drinkable American version of the Foreign Extra Stout style. I found the acidity and initial aroma distracting. But this settled into a rich and complex flavor profile. A great accompaniment to a similarly rich chocolate dessert and welcomed on this cold evening. (7/10)

Total Score: (39/50)



Aroma: Roasty grain with very low evergreen and mandarin orange hop aroma. Very light spicy floral aromas and bold roast coffee. No diacetyl or off aromas. (9/12)

Appearance: Deep black-brown with a rocky, persistent tan head. Very clear to brilliant with hints of ruby highlights. (3/3)

Flavor: Roasty grain is pronounced with strong character of chocolate, subtle lightly sweet Italian-roast coffee character. Moderate hop bitterness lingers at the finish, accentuated with a light coffee-like acidity. No diacetyl. Low but present white fir tip, resinous hop flavor, and spicy rose alcohol presentation. Semi-sweet chocolate character balances a lingering hop bitterness and bold roast coffee fruitiness. (16/20)

Mouthfeel: Full bodied and creamy despite a somewhat prickly carbonation. Subtle alcohol warmth. A moderate astringency lingers into the finish, like that of rich roasted coffee. (4/5)

Overall Impression: This bold, brash beverage could take the place of morning coffee—in the right setting, of course—or serve as a meal in itself. A substantial foodstuff, it is still perfect for quaffing at the end of the day while watching the perfect sunset. A lovely pint. (8/10)

Total Score: (40/50)



Aroma: Notes of rich, dark chocolate and coffee are prevalent when the beer is poured. Hints of dark stone fruits in the background, but otherwise yeast/estery notes are neutral. No diacetyl evident, but some roast malt sharpness and alcohol become apparent as it warms. (10/12)

Appearance: Deep brown/black color. Beige head is appropriate for the style, although the retention is weak for a stout. Excellent clarity. (2.5/3)

Flavor: The initial sip starts with a rounded malt backbone, though not as substantial as classic examples of the style. This would be improved by serving on nitro. The emphasis is on roasted malt, with nutty, cocoa, and coffee flavors. The hop bitterness is appropriately medium-high. I pick up some burnt notes similar to the black malt bite I get in some porters, with an accompanying chalkiness. There are some of the dark fruit flavors I noted in the aroma, but the key components are the roasted malts with bittering hops to lengthen out the finish. (15/20)

Mouthfeel: Low-medium creaminess, as appropriate for the style, but it is offset by a little too much astringency from the roasted malts/grains. Low alcoholic warmth, but the style range is quite broad, so this is acceptable. (4/5)

Overall Impression: Very good example of the style, although it could be a little smoother in the finish. The roasted and burnt flavors linger just a little too long, as does the astringency. A more assertive malt backbone would add complexity and balance. This would be a great beer to take the edge off a lazy, Caribbean afternoon. (7.5/10)

Total Score: (39/50)



Aroma: Rich aroma—substantial malt with a strong roast component but there's an underlying malty-sweet richness, complemented by moderate esters and hops with a little bit of alcohol. Not as intense as an imperial stout but heading in that direction. The roast is slightly burnt with some dark chocolate in support. Not getting much coffee character. (10/12)

Appearance: Moderate-sized light brown head, tiny bubbles, retained well. Brownish-black color. Opaque. Lacing on the glass was nice as the foam fell. (3/3)

Flavor: Dark chocolate flavor with a lightly burnt quality but not acrid. Medium hop flavor with an earthy-citrusy quality—it doesn't clash but it does add a light acidity. Light esters. Bitterness is moderate with a hint of alcohol flavor. Not really getting coffee—seems like more of a roasty/burnt flavor. Dryish finish with lingering burnt flavors in the aftertaste and just a touch of hops. Fairly smooth and clean. (13/20)

Mouthfeel: Medium-full body. Medium carbonation. Lightly creamy but not in a heavy way. Warming alcohol is noted. (4/5)

Overall Impression: Malt flavor isn't quite as complex as the aroma suggests. With the burnt flavors, kept reminding me of a robust porter, although the hop flavors also made me think of an American stout. It seems a little between styles from a balance standpoint, but if you ignore that, it's a well made and nicely drinkable beer. The burnt flavors dominate, but it doesn't have the harsh, acrid quality that many dark American beers often have. (7/10)

Total Score: (37/50)



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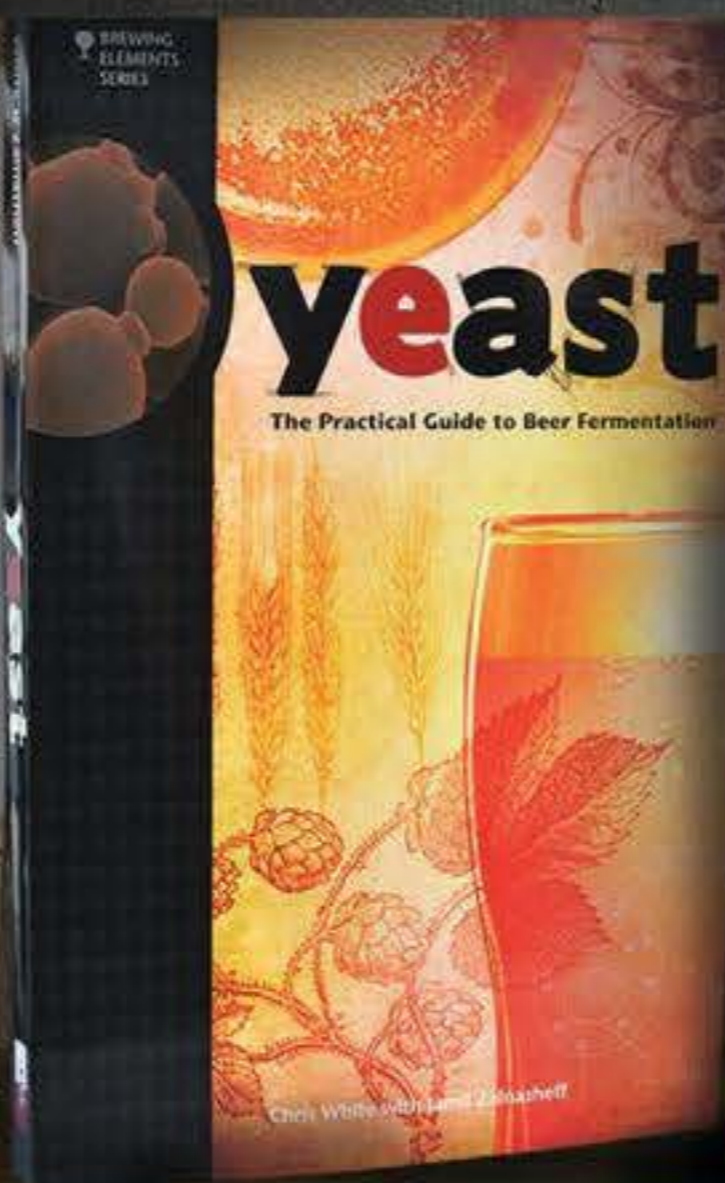
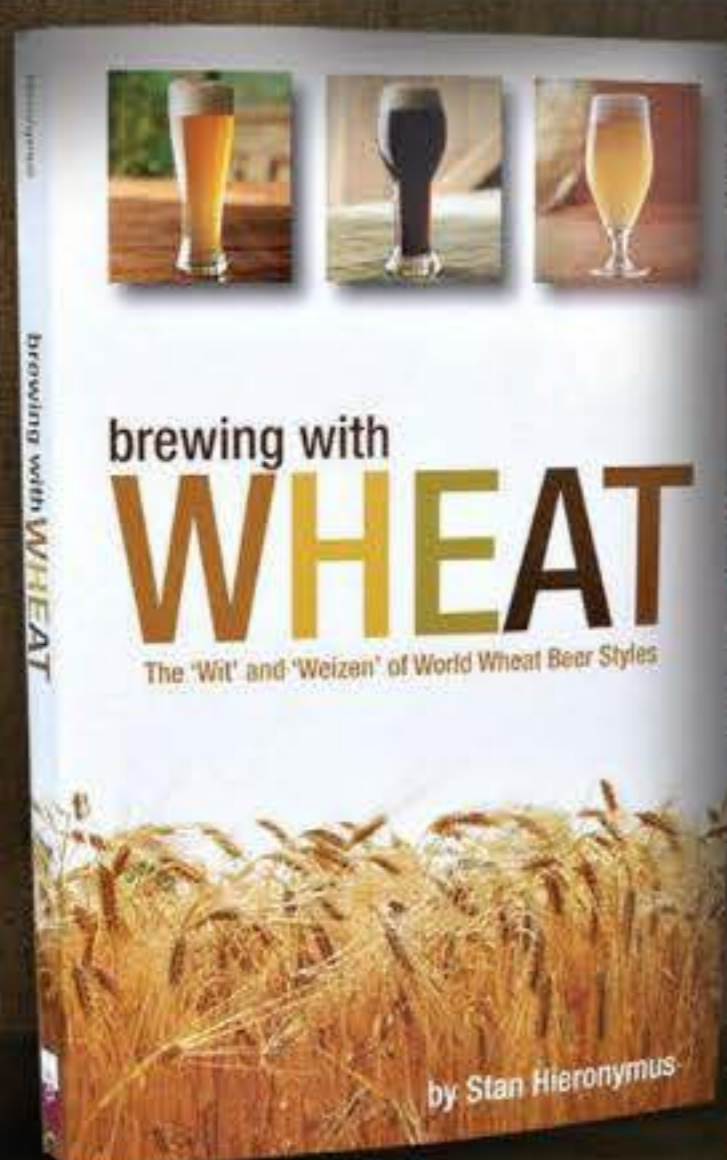
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by Charlie Papazian



Homebrewing a Classic Weissbock

The first World Beer Cup was staged by the Association of Brewers (now merged to the Brewers Association) in 1996. There were 600 beers entered into 61 beer categories by 250 breweries. By comparison, more than 3,600 beers are entered in the 2012 World Beer Cup, set for May 5 in San Diego.

Shortly after the inaugural event in 1996, I was asked to put together a book about the World Beer Cup and include recipes for the gold award winning beers and additional tasting notes for all silver and bronze winners. That was quite a challenge.

Tasting more than 160 beers and calling it work may seem like a dream job, but believe me, it was a long, wet summer of tasting and evaluating. Tasting and creative, accurate writing don't mix very well. Finishing the entire bottle of each of the 160+ beers was impossible. I was quietly ashamed of the extent of the criminal dumping of great beer. I was in daily fear of indictment for beer abuse during those several weeks of tasting.

Formulating recipes was a challenge I tackled with passion and fervor. Nearly every winning brewery provided me with ingredient information and sometimes much more detail than I would have expected. Also, I had each and every gold winning beer analyzed with sophisticated laboratory equipment for color, bittering units, original gravity, apparent extract (final gravity), and alcohol by volume. Every brewery also provided me with its own analysis. Armed with technical and ingredient information and my own tasting notes, I was able to formulate 5-gallon homebrew recipes for each and every beer with extraordinary accuracy.

The book, *Home Brewer's Gold*, was one

of the most challenging and thoroughly researched books I have ever written. As a beer recipe "clone" book, the sales were disappointing and never really took off.

It may have been ahead of its time. The book is still available in both print and electronic version. I'm hoping its pages see more of the light of (brew) day and

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Aventinus

MALT EXTRACT RECIPE

INGREDIENTS

for 5 U.S. gallons (19 liters)

10.0 lb	(4.5 kg) Wheat malt syrup extract (50% wheat, 50% barley malt)
0.3 lb	(136 g) German Chocolate malt 400 L or 0.1 lb (45 g) German 1200 L roasted malt
1.0 oz	(28 g) German Hallertauer whole hops (4.4% a.a.) (60 min)
0.29 oz	(8.2 g) German Hallertauer whole hops (steep in finished boiled wort for 2 to 3 minutes)
0.25 tsp	Irish moss
0.75 cup	corn sugar for priming in bottles. Use 1/3 cup corn sugar if priming a keg.
	Wyeast 3068
	Weihenstephan
	Weizenbier yeast

Original Gravity: 1.072 (36)

Final Gravity: 1.014 (3.5)

Alcohol by volume: 8%

Color: 2 SRM (42 EBC)

IBU: 15

DIRECTIONS

Steep crushed specialty grains in 2 quarts (1.9 liters) water at 150° F (65.5° C) for 30 minutes. Strain and sparge with enough 170° F (76.5° C) water to finish with a little over 2.5 gallons (9.5 liters) specialty grain liquor. Add the malt extract and bittering hops and bring to a full and vigorous boil.

The total boil time will be 60 minutes. When 10 minutes remain, add Irish moss. After a total wort boil of 60 minutes, turn off the heat, add aroma hops and let steep 2 to 5 minutes. Separate or strain out and sparge hops. Chill the wort to 65-70° F (18-21° C) and direct into a sanitized fermenter. Aerate the cooled wort well. Add an active yeast culture and ferment for 4 to 6 days in the primary. Transfer into a secondary fermenter and allow to age for two weeks or more. (The temperature of the fermentation and secondary aging is critical for controlling the level of banana esters and clove phenolics produced by the yeast. Every brewery must adapt a temperature schedule to their fermentation equipment. If not successful in producing the balance desired the first time, careful note-taking will help decide changes to make in the next batch.)

When secondary aging is complete, prime with sugar, bottle, or keg. Let condition at temperatures above 60° F (15.5° C) until clear and carbonated.

continue to provide insight into the brewing of and respect for world-class beers in the form of homebrew.

Here is an excerpt from the South German-style Weizenbock/Weissbock style winner and the formulation of a recipe based on 1996 information and beer.

Gold Cup Winner

Beer: Aventinus

Brewery: Weißbierbrauerei G. Schneider & Sohn KG

Brewmaster: Hans P. Drexler

Brewery established: 1872

[1996] Production level: 385,000 barrels (450,000 hl)

At the very same moment Christopher Columbus discovered the New World, Bavarians were enjoying almost nothing but Weissbier. Incredible as it may seem, its popularity almost drove it to extinction.

In the 1600s, brewing was a privilege reserved for nobility. Duke Maximilian opened the famous Hofbräuhaus in Munich intending to increase the popularity of weissbier by making it available to the masses. His success was copied by several other brewers, thus fueling its popularity at the time. But lager beers and fashion-conscious consumers challenged the popularity of weissbiers throughout Bavaria. Perhaps because it was considered a common beer, many wheat beer breweries went out of business. Weissbier almost became an extinct style of beer.

In 1872, Georg Schneider bought an existing brewery and with it the privilege for brewing Weissbier. It wasn't too long before he revived its popularity with good business sense and an improvement in quality. Schneider is credited by many as saving and helping to popularize this style of beer with quality wheat beers such as Aventinus, introduced as Bavaria's first wheat doublebock in 1907.

Character Description of [1996 World Beer Cup] Gold Winning Aventinus

Simple light brown color with a slight amber hue. Not particularly red or orange. Bottle-conditioned with a well-settled and compacted yeast. Yeast haze is dependent





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Aventinus

ALL-GRAIN RECIPE

INGREDIENTS

for 5 U.S. gallons (19 liters)

7.25 lb	(3.3 kg) German/Bavarian wheat malt
6.0 lb	(2.7 kg) German/Bavarian two-row malt
0.3 lb	(136 g) German chocolate malt 400 L or 0.1 lb. German 1200 L roasted malt
1.0 oz	(28 g) German Hallertauer whole hops (4.4% a.a.) (90 min)
0.29 oz	(8.2 g) German Hallertauer whole hops (4.4% a.a.) (steep in finished boiled wort for 2 to 3 minutes)
0.25 tsp	Irish moss
0.75 cup	corn sugar for priming in bottles. Use 1/3 cup corn sugar if priming a keg. Wyeast 3068 Weihenstephan Weizenbier yeast

Original Gravity: 1.072 (36)

Final Gravity: 1.014 (3.5)

Alcohol by volume: 8%

Color: 2 SRM (42 EBC)

IBU: 15

DIRECTIONS

A step infusion mash is employed to mash the grains. Add 13.5 quarts (12.8 liters) of 138° F (58° C) water to the crushed grain, stir, stabilize, and hold the temperature at 128° F (53° C) for 30 minutes. Add 7 quarts

(6.7 liters) of boiling water and add heat to bring temperature up to 152° F (67° C) and hold for about 60 minutes.

After conversion, raise temperature to 167° F (75° C), laut, and sparge with 4 gallons (15.2 liters) of 170° F (77° C) water. Collect about 6 gallons (23 liters) of runoff, add bittering hops, and bring to a full and vigorous boil.

The total boil time will be 90 minutes. When 10 minutes remain, add Irish moss. After a total wort boil of 90 minutes (reducing the wort volume to just over 5 gallons), turn off the heat, add aroma hops, and let steep 2 to 5 minutes. Separate or strain out and sparge hops. Chill the wort to 65-70° F (18-21° C) and direct into a sanitized fermenter. Aerate the cooled wort well. Add an active yeast culture and ferment for 4 to 6 days in the primary. Transfer into a secondary fermenter and allow to age for two weeks or more. (The temperature of the fermentation and secondary aging are critical for controlling the level of banana esters and clove phenolics produced by the yeast. Every brewery must adapt a temperature schedule to their fermentation equipment. If not successful in producing the balance desired the first time, careful note-taking will help decide changes to make in the next batch.)

When secondary aging is complete, prime with sugar, bottle, or keg. Let condition at temperatures above 60° F (15.5° C) until clear and carbonated.

on care of pour. Classic South German-style wheat beer aroma is profoundly evident; clove and subtle banana character with some smoky and chocolate malt notes. Overall very fruity with a flavor balance of roast malts and banana and chocolate characters. An obvious prickly and numbing sensation of alcohol is felt on the palate. Thoroughly a bock-strength brew. There is no hop aroma or flavor. Bitterness is achieved with noble hops and appropriately very low, yet adequate for balancing the refreshing undertone of acidity. Skillfully accomplished.

Mouthfeel and body are at a medium level, bordering on fullness. Aftertaste is a memorable banana fruitiness and tingling of alcohol while aroma continues with clove, banana, and subtle smokiness. As with all weissbiers, the quality of the yeast and controlled temperature fermentation is essential and must be executed without compromise.

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

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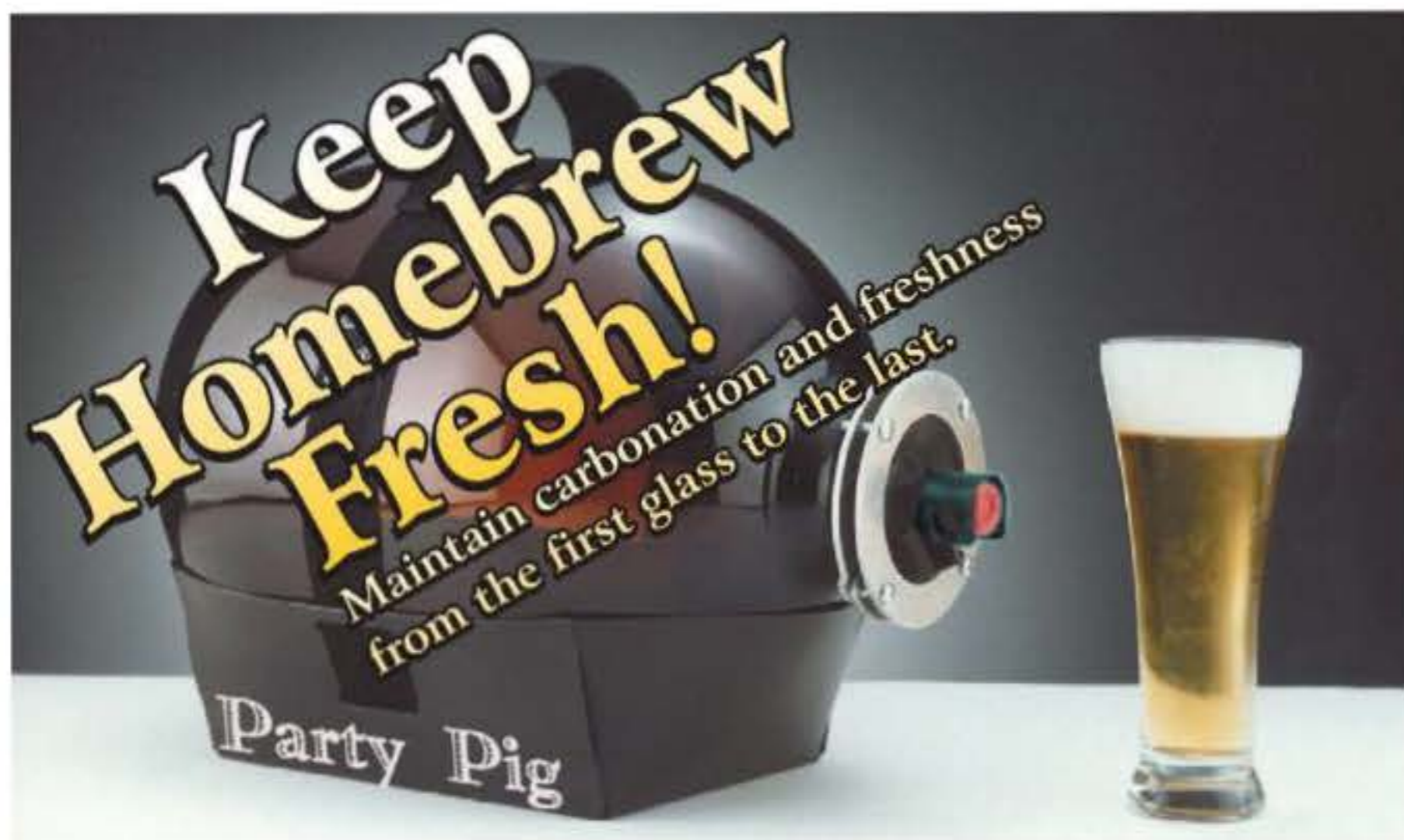
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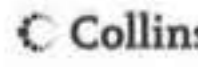


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American Homebrewers Association® 2012 Governing Committee Election



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

Candidates

Please read candidate statements at HomebrewersAssociation.org and cast your ballot online. For the 2012 election, there are nine candidates running for three open seats on the Governing Committee.

Bruce Buerger
Debbie Cerda
Denny Conn
Terry Denham
Dave Dixon

David Kidd
Terry Parker
Ron Price
Curt Stock

Election Guidelines

Balloting is done online. Go to HomebrewersAssociation.org, read the candidate statements, and cast your vote. Vote for up to three (3) 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.

All ballots must be submitted before midnight Pacific time, April 1, 2012.

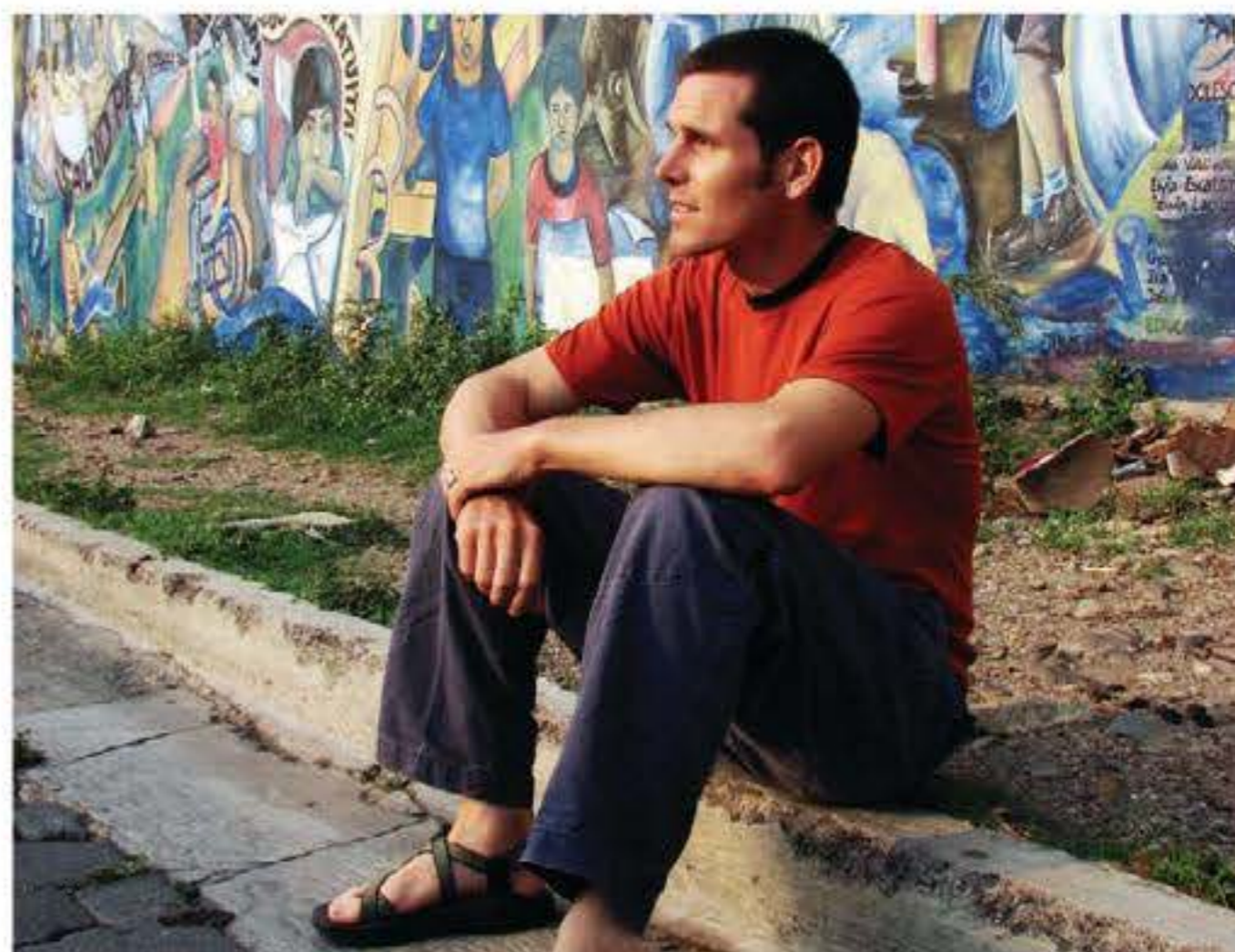
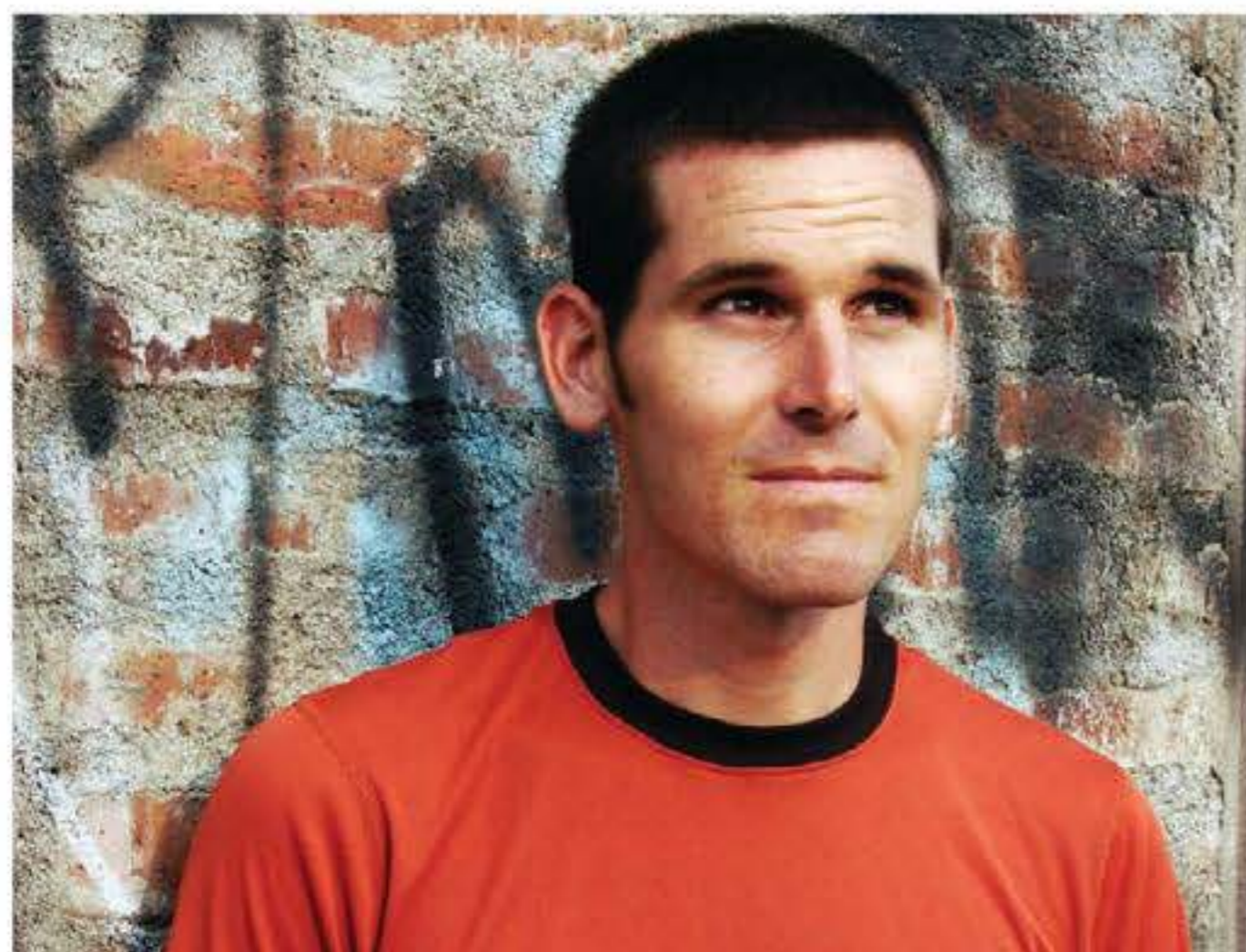
All AHA members voting in the election are eligible for an additional entry in the Lallemand Scholarship drawing for Siebel Institute's two-week Concise Course. Check the appropriate box on the ballot to submit your entry into the drawing. The drawing will take place June 23, 2012 at the AHA National Homebrewers Conference in Seattle, WA.



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Please Send Beer



What's the first thing you'll do when you get back to the U.S.?" asked one of my fellow foreigner friends.

"I'm going to get a good IPA," I replied with absolutely no hesitation.

In January 2011, I left the Edenic situation of having hundreds of beer choices at my lips, to having the grand variety of six or seven pallid brews here in Estelí, Nicaragua. In Wisconsin, I worked at a brewpub and always had a variety of fresh beer within my grasp. Now I'm living abroad in a country that produces three beers and imports about four more. I would die for an IPA of any brand.

I figured it might be a challenge to have access to so few beer choices, but I never thought it would be *this* hard.

At the brewpub, I had it good. After every shift, employees were allowed one free beer. With time, I took these free pints for granted, and often *opted out of them*.

Having quality beer at your fingertips is not a luxury that everyone has, but at least everywhere I've ever lived in the U.S., a

variety of high quality beer is accessible.

Things changed dramatically when I crossed the border. Here in Nicaragua, I choose among Toña, Victoria, Imperial, Corona, Modelo, and Heineken. I won't go into great detail on my opinion of these choices, but let's just say the Victoria has won by default and only because the temperatures—warm and hot—enhance the taste.

After only a month, I was on the internet trying to figure out if there were any other beers available in Nicaragua. Nope. I did read that Costa Rica has more of an import selection, so I braced myself when we made the trip there to renew our visas. I was giddy, imagining the bite and aroma of an IPA.

The first restaurant had Corona, Imperial, Toña, and Heineken, but the waitress said the grocery store had more of a selection. After dinner, we practically sprinted to the supermarket. It was true—there was a larger selection, but still not an IPA to be found. They did have a dark, Bavaria Dark. I bought one of these and a Hoegaarden for myself. My wife went

with the Stella Artois. The change of taste was more than welcome. The next night I tried the Bavaria Blue and an Imperial.

Could someone please send beer?

How about making it? What a divine idea.

Before I started working at the brewery, I homebrewed my share of stouts, IPAs, and wheats, and was always pleased with them. I began an online search for beer-making supplies in Nicaragua. No surprise that they don't exist. I could have them sent, but a carboy, capper, and malt would cost a load.

I've resigned myself to drinking what I have. Popping the top, pouring the straw colored liquid into my glass, examining the foam, noting the aroma, pulling in the first sip, and then rolling it around my palate.

I can't wait to taste that IPA.

Clint Cherepa is a homebrewer and ultramarathon runner who is currently doing volunteer work with his wife, Kate, in Estelí, Nicaragua.

Photos courtesy of Clint Cherepa

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