

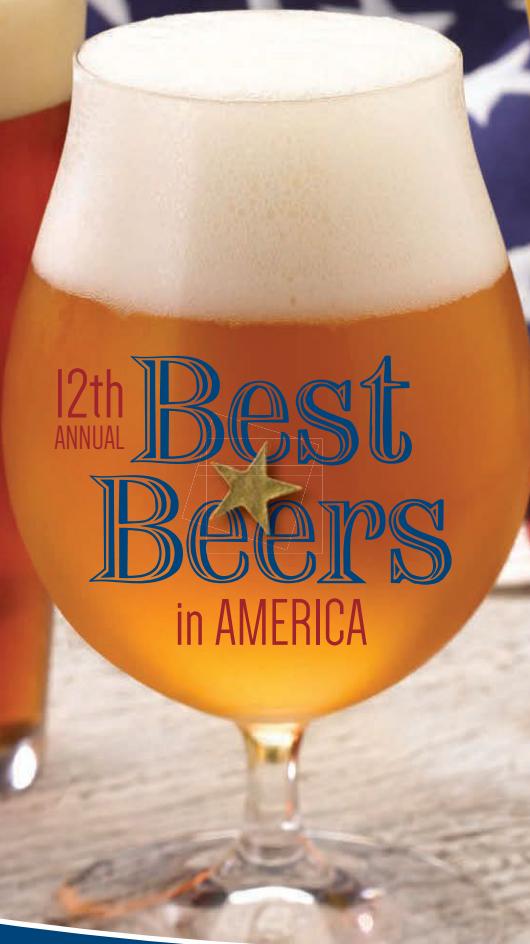
FOR THE HOMEBREWER &amp; BEER LOVER

# zymurgy®

The Journal of the American Homebrewers Association®



12th ANNUAL **Best Beers  
in AMERICA**

A Publication of  
the Brewers Association[www.HomebrewersAssociation.org](http://www.HomebrewersAssociation.org)

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# THE BREW MAKERS 3-PIECE SUIT





# Onward and Upward

**A**s I write this, the Brewers Association has just wrapped up a record-setting Craft Brewers Conference in Denver. More than 9,000 attendees converged on the Mile High City April 8-11 for educational seminars, a trade show, official and unofficial conference events, the World Beer Cup, and camaraderie.

The overall theme that pervaded the conference was the tremendous growth in the craft brewing industry. As reported in the May/June issue of *Zymurgy* in Beeroscope, craft beer grew by 18 percent in volume, and barring quality issues, there seems to be no end in sight for the growth potential.

"It's amazing everywhere, this disruptive, transformative change," proclaimed Colorado Gov. John Hickenlooper. "Craft beer is affecting almost every part of our culture." Hickenlooper started homebrewing 43 years ago, co-founded the Wynkoop Brewing Co. in Denver in 1988, and recently installed what is believed to be the first tap system in a governor's mansion in the United States.

A look at some statistics: At the end of 2013, there were 2,768 craft breweries operating in the United States. In all, 413 new breweries opened, and the BA's database showed 1,744 breweries in planning.

"The people who will succeed will be the ones who wake up thinking about beer, who dream about beer all night," said Brewers Association director Paul Gatzka, as he emphasized the importance of quality for new brewers on the scene. Gatzka has said that the past few years have been a "golden time" for new brewers to enter the scene. And indeed, never before has there been such a wide variety of commercial beers for AHA members to

choose from in our annual Best Beers in America poll, presented in this issue.

"We are all living in the greatest age of beer in the history of the world," summed up Deschutes Brewery founder Gary Fish.

Homebrewers and beer lovers, of course, are a driving force behind the innovation and consumer demand for craft beer. According to Brewers Association statistics, an estimated 1.2 million Americans are homebrewers, collectively producing about 2 million barrels of beer per year.

"We've become a nation of brewers and the world is watching," said AHA founder Charlie Papazian.

One of those homebrewers is Michael Pollan, author of *The Omnivore's Dilemma*, who gave the keynote address at the conference. Pollan calls himself "a homebrewer of no particular distinction," and wrote about his experience making mead and beer in his most recent book, *Cooked*.

"Brewing is part of this larger journey to understand cooking—the art of transforming the stuff of nature into delicious things to eat and drink," said Pollan.

*Cooked* delves into the four classical elements: fire, water, air, and earth, and their transformative relationship to cooking. Although the section on brewing falls in the Earth segment of the book, Pollan acknowledges that it's much more than that. "The unique thing about beer is that it involves all four of these transformations. This puts beer at the very pinnacle of the human art of transformation."

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

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

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**COLUMNS****2 | EDITOR'S DESK**

Onward and Upward

By Jill Redding

**11 | FROM THE GLASS**

AHA Governing Committee

By Gary Glass

**73 | WORLD OF WORTS**

Perfect IPA

By Charlie Papazian

**80 | LAST DROP**

Saccharomyces for the Soul

By Jeremy Mattfeld

**FEATURES****26 | 12th Annual Best Beers in America**

The results are in! Each of the past 12 years, we've asked Zymurgy readers to vote for their favorite beers. Which beer took the crown in 2014? Plus, clone recipes.

By Jill Redding and Amahl Turczyn Scheppach

**36 | Saison Resurgence**

American brewers have been inspired to rediscover the connection between crafting a farmhouse-derived beer and exploring new eco-regional opportunities.

By Jason Yester

**46 | America's First Trappist Brewery**

Just 10 abbeys around the world can brew authentic Trappist beer. The Spencer Brewery in Spencer, Mass. is far from the Trappists' homeland, some 3,500 miles away.

By Horst Dornbusch

**54 | Isolating Wild Yeast Strains**

In the latest report from the AHA's Research and Education Fund, the author experiments to see whether truly "wild" yeast can have positive fermentation attributes.

By Mike Lentz

**DEPARTMENTS****4 | BEEROSCOPE****15 | DEAR ZYMURGY****17 | DEAR PROFESSOR****19 | STYLE SPOTLIGHT****61 | WINNERS CIRCLE****64 | CALENDAR****69 | COMMERCIAL CALIBRATION****79 | ADVERTISER INDEX****QUICK RECIPE GUIDE**

A Slice of Hefen .....	6	Savant D'été .....	41
Project Dank IPA .....	7	Patersvaatje Refectory Ale .....	52
Dark Greeting Yorkshire Stingo.....	20	New England Cider.....	61
Firestone Walker Wookey Jack Clone .....	29	Indian Summer-Raspberry/Blackberry Melomel.....	62
Founders All Day IPA Clone .....	32	Perfect IPA (all-grain recipe) .....	73
Russian River Pliny the Elder .....	33	Perfect IPA (malt extract recipe) .....	76
Savant Fou .....	39		

## >> GET THERE!

### BEER CAMP ACROSS AMERICA

Sierra Nevada Brewing Co. has invited every craft brewery in the country—more than 2,800—to take part in a multi-weekend traveling beer festival this summer. Beer Camp Across America is a celebration for the entire craft beer community, bringing together brewers and the fans who have buoyed their success.

"We're about to open a second brewery in North Carolina, and while that's exciting for us, it's an even greater reason to celebrate the future of craft brewers everywhere," explained Ken Grossman, Sierra Nevada's founder. "We've watched and learned from each other for decades, and together we've seen tastes change and craft's momentum snowball. Beer Camp Across America is our way of reflecting on this—with thousands of brewers, fans, and great beers."

Beer Camp Across America will feature seven stops—in cities with thriving craft beer cultures—moving geographically west to east, much like the craft movement has historically spread. Each tour stop will feature that city's local and surrounding regional brewers. The festivals will appropriately begin and end at Sierra Nevada's two brewing locations, kicking off in Chico where it took root in 1980, and culminating in Mills River, N.C. for the grand opening of its East Coast brewery. The festival schedule includes:

**July 19:** Northwest Edition at Sierra Nevada Hop Field in Chico, Calif.

**July 20:** Southwest Edition at Embarcadero North in San Diego, Calif.

**July 25:** Rocky Mountain Edition at Sculpture Park in Denver, Colo.

**June 26-29**  
**9th Annual North American Organic Brewers Festival**  
 Portland, OR  
[www.naabf.org](http://www.naabf.org)

**July 12**  
**Shipyard Old Port Summer Fest**  
 Portland, ME  
[www.oldporthalfmarathon.com/summer-festival](http://www.oldporthalfmarathon.com/summer-festival)

**July 19**  
**Naperville Ale Fest**  
 Naperville, IL  
[www.napervillealefest.com](http://www.napervillealefest.com)

**July 20**  
**A Night to Remember**  
 Denver, CO  
[www.copperkettledenver.com](http://www.copperkettledenver.com)

**July 23-27**  
**Oregon Brewers Festival**  
 Portland, OR  
[Oregonbrewfest.com](http://Oregonbrewfest.com)

**July 26**  
**Breckenridge Summer Beer Festival**  
 Breckenridge, CO  
[www.breckenridgebeerpestival.com](http://www.breckenridgebeerpestival.com)

**August 8-9**  
**Belgium Comes to Cooperstown**  
 Cooperstown, NY  
[www.ommegang.com](http://www.ommegang.com)

**August 16**  
**Stone Invitational Beer Festival**  
 Escondido, CA  
[www.stonebrew.com](http://www.stonebrew.com)

**August 22-24**  
**Seattle International Beerfest**  
 Seattle, WA  
[Seattlebeerfest.com](http://Seattlebeerfest.com)

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



**July 27:** Midwest Edition at Navy Pier in Chicago, Ill..

**August 1:** New England Edition at Thompson Point in Portland, Maine

**August 2:** Mid-Atlantic Edition at Penn Treaty Park in Philadelphia, Pa.

**August 3:** Southeast Edition in Mills River, N.C.

Each festival will feature up to two beers per brewery, food vendors, and live music. Tickets are on sale at [www.SierraNevada.com/BeerCamp](http://www.SierraNevada.com/BeerCamp) and are limited to 5,000 per venue. Tickets cost \$65 for general admission, which includes a tasting glass and unlimited tastings (in most locations; see the website for full details). A designated driver ticket is available for \$30.

## >> BREW NEWS

### UPSLOPE BREWING CO. HELPS PIONEER GREENHOUSE

Upslope Brewing Company in Boulder, Colo. has paired with Boulder-based Superior Ecotech to build the brewing industry's first CO<sub>2</sub> powered algae greenhouse. The proprietary system, designed specifically for use at craft breweries, allows algae to soak up waste CO<sub>2</sub> and convert it to Omega-3 oils in a cost-effective, sustainable manner.

By providing the award-winning startup the perfect location for its pilot-scale algae grower, Upslope not only reaffirms its commitment to the environment, but also shows its support for Boulder's entrepreneurial spirit.

"Whenever we have the opportunity to do something that's environmentally responsible, we look at it very seriously," said Upslope founder Matt Cutter. "The Superior Ecotech team presented a fascinating technology that grabbed our attention from the very beginning. This symbiotic relationship has the potential to help breweries, and other industries, reduce their carbon footprint for years to come. We are excited to have been chosen as the host site for these student entrepreneurs to prove their concept."

Superior Ecotech, founded by a group of University of Colorado and Iowa State students, launched its \$10,000 crowd-funded Kickstarter campaign at Upslope's Flatiron Park tap room in April. Superior Ecotech uses a unique combination of proprietary technologies to convert CO<sub>2</sub> emissions into pure algae oils that can be used in a wide range of consumer products that include cosmetics and vegan omega-3 supplements. Its long-term goal is to create a significant source of renewable energy through cost-effective algae production. For more information visit [SuperiorEcotech.com](http://SuperiorEcotech.com).

**"Our people are experimenters. They're the guys in the bomber section buying a bunch of weird sh-t."**

—Joe Whitney, director of national sales for Sierra Nevada Brewing Co., referring to the brewery's customers



## >> GREAT NEW PRODUCT: FROM HOMEBREWING.COM

### 5-GALLON CRAFT WHISKEY BARRELS

HomeBrewing.com has exclusively partnered with Balcones Distilling of Waco, Texas to resell their recently dumped 5-gallon whiskey soaked barrels. The barrels have been aged for a minimum of six months with Balcones' award-winning whiskey.

Balcones' barrels ship ready to fill with homebrewed beer and are ideal for beer makers looking to age barleywine, porter, stouts, or sour projects. The barrels are made of American white oak and have been charred on the inside, which imparts vanilla, oak, and smoke flavors.

"Especially as longtime homebrewers, we're excited to be able to provide premium barrels to other home-

brewers," said Balcones founder and head distiller Chip Tate. "I know from personal experience that these barrels are ideal for barrel aging beer without over-wooding the beer."

Balcones Distilling was awarded the title of World's Best American Whiskey in the 2014 World Whiskies Awards for its Balcones Brimstone Resurrection.

Check availability for the barrels on [homebrewing.com/equipment/whiskey-barrel.php](http://homebrewing.com/equipment/whiskey-barrel.php). The \$159 suggested retail price includes a stand and a rubber bung.





## >> CRAFT BREWER PROFILE: JEFF ERWAY

BY TOM HART

For breweries these days, unless the beer shines, it's all just froth and foam. Gone are the days when cold and fizzy would do. Today it's about the pint that dazzles the palate and piques the imagination. Jeff Erway, founder and president of La Cumbre Brewing Company in Albuquerque, N.M. understands that everything flows from that truth. "It's all about the beer. No longer can a homebrewer expect to build a Frankenbrew system and have a successful brewery. We've come to expect more."

Erway began brewing while teaching music on the Navajo Nation. "Good beer was scarce out there, so on weekends my wife and I would go to

---

### A Slice of Hefen

RECIPE PROVIDED BY JEFF ERWAY, LA CUMBRE BREWING CO.

This is a traditional take on this Bavarian classic. Poured into a 23-ounce hefe glass, this beer is served *mit hefe* with a voluminous white head. The aroma is everything we love in the style: clove, banana, and vanilla. The body is rich and creamy, yet finishes fairly dry and is as refreshing as any beer you'll drink. By popular demand, this beer is now a year-round offering.

#### INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

4.4 lb	(2 kg) Durst Pils malt
5.0 lb	(2.27 kg) Rahr wheat malt
5.0 oz	(142 oz) Gambrinus honey malt
4.0 oz	(113 g) Weyermann acidulated malt
0.5 oz	(14 g) Sterling, 7% a.a. (60 min) Andechs Weizen yeast or similar Bavarian wheat yeast

**Brewhouse Efficiency:** 75%

**Boil Time:** 90 minutes

**Starting Gravity:** 1.052

**Final Gravity:** 1.012

**Final beer pH:** 4.1

#### DIRECTIONS

Mash using a step infusion with a 30 minute rest at 113° F (45° C), then raise to 156° F (69° C). Vorlauf until the wort runs clear (ish), usually about 20 minutes, and then run off over two hours, sparging with 166° F (74° C) water (we only collect 12 bbls for a 15 bbl batch to avoid any tannin extraction). We heavily acidulate our mash and hot liquor with both food grade phosphoric acid and CaCl<sub>2</sub> to counter our high level of CaCO<sub>3</sub>.

Knock out at 68° F (20° C) and oxygenate heavily. Pitch a very low count (3.5x1<sup>106</sup> cells/ml) of Andechs Weizen yeast. Let rise to 74° F (23° C) over the next 24 hours. On the sixth day transfer to secondary and crash to 32° F (0° C) for two days. Keg and carbonate up to 2.8 volumes CO<sub>2</sub> and serve immediately or bottle condition with 1.4 oz (40 g) dextrose/finished gallon.

#### EXTRACT VERSION:

Substitute 4.0 lb (3.63 kg) wheat malt extract syrup for the malt. Dissolve extracts completely and proceed with boil.

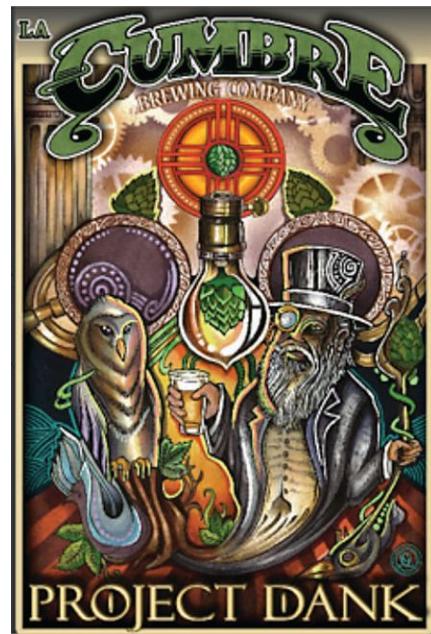
breweries in places like Durango, Colo. and Farmington, N.M. One weekend in Flagstaff I discovered Homebrewers Outpost. It had never crossed my mind to make my own beer, so I picked up John Palmer's *How to Brew* and remember telling Laura, 'I really think I could get into this.'

Three years later, he earned a degree from the American Brewers Guild and a job at Chama River Brewing Company in Albuquerque. There he took up the practical lessons of a working brewer. "Ted Rice was the head brewer at the time but was moving toward opening Marble (Brewery). So very soon I was given a ton of responsibility. Ted was a great mentor and taught me to see everything that could go wrong." Erway brewed nearly

1,800 barrels that year on a 5-barrel system and learned the fundamental lessons of producing outstanding beer.

Those lessons have obviously paid off. In his years as a professional brewer, Erway has earned numerous awards, including three silver and two bronze awards from the World Beer Cup; and three gold, one silver, and three bronze medals from the Great American Beer Festival. Most recently he was named the National IPA Championship 2014 winner with his Project Dank IPA.

"I try to be an artisan and am fortunate enough to not have to skimp on ingredients or process," said Erway. "My cost of goods is ridiculously high by any standard, but if that is what it takes, so be it."



## Project Dank IPA

**RECIPE PROVIDED BY JEFF ERWAY, LA CUMBRE BREWING CO.**

Project Dank is just that: a project. It is an ever-changing expression of our hoppiest endeavors. Each recipe is different, featuring different hops and hopping techniques. One thing will remain common...HOP INSANITY.

As this recipe varies from batch to batch, this is simply an example of a recipe that might have been and/or might be one of the projects. Use the hopping amounts as a boilerplate for what could make an astonishingly hoppy IPA.

### INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

<b>12.8 lb</b>	(5.8 kg) Canadian Superior Pils malt
<b>10.0 oz</b>	(283 g) Durst Vienna malt
<b>5.0 oz</b>	(142 g) Baird's 30° L Carastan malt
<b>1.0 oz</b>	(28 g) high alpha bittering hop (first wort)
<b>6.5 mL</b>	CO <sub>2</sub> hop extract (for example, HopShot) (90 min)
<b>2.0 oz</b>	(57 g) high alpha bittering hop* (10 min)
<b>3.0 oz</b>	(85 g) high alpha bittering hop* (whirlpool)
<b>3.0 oz</b>	(85 g) special aroma hop** (whirlpool)
<b>8.0 oz</b>	(227 g) special aroma hop** (dry hop)
	American or California ale yeast

Note: we use all pellet hops.

\*Suggested high alpha bittering hops: CTZ, Chinook, Centennial, Magnum

\*\*Special aroma hops: Simcoe, Citra, Mosaic, Sorachi Ace, Nelson Sauvin (NZ), Dr. Rudi (NZ), Waimea (NZ), Rakau (NZ), Southern Passion (South Africa), Southern Aroma (South Africa), J-17 (South Africa)

### DIRECTIONS:

Single infusion mash at 151° F (66° C) with a 30 minute rest. Vorlauf until wort clears and then run off over two hours, sparging with 168° F (76° C) water. We acidulate our hot liquor and our boil with phosphoric acid. We acidulate our mash with calcium chloride and our boil with calcium sulfate (gypsum).

Let whirlpool settle for one hour, covered. This is both to increase hop intensity and to let the hops fully fall out of solution to improve yield. Knockout at 60° F (16° C) with a moderate amount of American or California ale yeast and let rise to 68° F (20° C) over four days. On the sixth day, transfer to secondary with dry hops. Let rest on dry hops for four days. Crash to 32° F (0° C) and transfer to keg with biofine clear. Carbonate to 2.5 volumes.

### MINI MASH VERSION:

Substitute 10 lb (4.54 kg) pilsner malt extract syrup for pils malt. Mash Vienna with Carastan malt for 45 minutes at 155° F (68° C), rinse grains, dissolve extract completely, and proceed with boil.

**Brewhouse Efficiency:** 75%

**Boil Time:** 90 minutes

**Starting Gravity:** 1.070

**Final Gravity:** 1.012

**Alcohol By Volume:** 7.5%

## >> THE LIST

### WORLD BEER CUP® IPA AWARD WINNERS

American-style India Pale Ale (224 entries) was again the most hotly contested category in the 2014 World Beer Cup®, held in Denver, Colo. in April.

#### THE MEDAL WINNERS IN THE IPA CATEGORY WERE:

##### GOLD:

Hop, Drop, 'n Roll  
NoDa Brewing Co.,  
Charlotte, N.C.

##### SILVER:

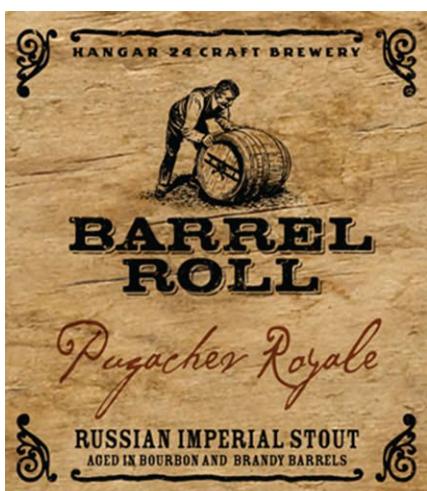
Head Hunter  
Fat Head's Brewery,  
Middleburg Heights, Ohio

##### BRONZE:

Citrus Mistress  
Hop Valley Brewing,  
Eugene, Ore.

## >> YOU'VE GOTTA DRINK THIS

### HANGAR 24 PUGACHEV ROYALE



The other night I had the honor of trying Hangar 24 Pugachev Royale (Russian imperial stout aged in bourbon and brandy barrels). It was mind blowing. Here is my description.

Bob Grider poured me some of his Royale (royale). It runs in our blood, that kind of stout that I just love, it gives a different kind of buzz. Let me be your ruler (ruler), you can call me King P., and barrel I'll roll, I'll roll, I'll roll, I'll roll. Let me sip that fantasy.

**Reviewed by Joe Stewart, Lake Arrowhead, 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](mailto:zymurgy@brewersassociation.org).

## JUST BREW IT!



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A few years ago, Erway was offered the opportunity to use unique South African hops. Without hesitation, Erway said, "Why not?" and created Elevated IPA (2011 GABF gold).

All of the brewery's beers are designed with that same eye for creative quality, and it shows where it counts: customer satisfaction. The taproom at La Cumbre is always humming. Three of La Cumbre's beers (Elevated IPA, Malpais Stout [2011 GABF silver], and A Slice of Hefen) are widely available in cans, with a growing offering of bottled specialty beers claiming coveted shelf space.

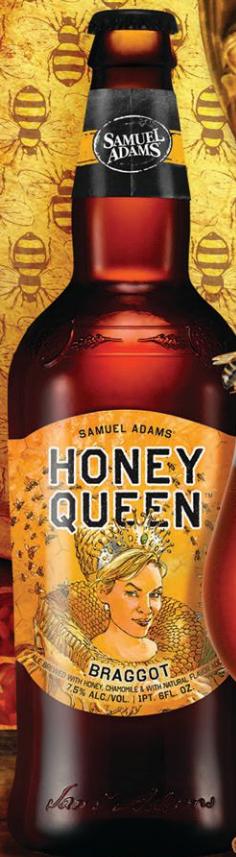
"If somebody had told me in 2004, when I was cranking out all that homebrew, that I'd have a brewery with 20 employees turning out 8,500 barrels a year, I would have asked, 'You mean my dream comes true?'" Erway says.

With an expansion currently in the works, Erway is quick to credit a long list of mentors, teachers, and brewers who influenced his approach to running a brewery, including Steve Parkes of the American Brewers Guild, longtime friend and La Cumbre head brewer Daniel Jaramillo, and author Stan Hieronymus, a former Albuquerque resident. But when asked who his brewing hero is, he grins.

**HIS IPA WAS  
THE INSPIRATION  
FOR THE IPAS I AM  
BREWING TODAY.**

"I'm sure he'll be really embarrassed by this, but it's a homebrewer named Bill Amonetti whom I met just after I brewed my first batch. Bill brewed three, four, maybe five of the best examples of any style I have ever tasted. His IPA was the inspiration for the IPAs I am brewing today."

**Tom Hart lives, writes, and brews in Corrales, N.M. A National BJCP judge, Tom was a founder and head brewer of Rio Grande Brewing Company in Albuquerque, where he built a Frankenbrew system to create award-winning beers.**



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By Gary Glass



# New AHA Governing Committee Seated

**C**ongratulations to Drew Beechum, Martin Brungard, Jeff Rankert, Aimee Richard, Susan Ruud, Tom Schmidlin, Roxanne Westendorf, and Kim Wood on winning election to the AHA Governing Committee this year. Martin, Jeff, Aimee, and Kim are newcomers to the Governing Committee, each starting their first three-year term. Thanks to all of the 25 candidates who ran, and to the record number of members who voted in this year's election.

I especially wish to thank the Governing Committee members who are stepping down this year. Chris Graham, Harold Gulbransen, Bob Kauffman, and Jamil Zainasheff have exhibited great commitment to the hobby and the AHA membership through their tenure.

The committee held an in-person meeting focused on long-term planning for the AHA's future on June 11 in Grand Rapids, Mich. immediately preceding the 2014 National Homebrewers Conference. Committee members also meet monthly via conference calls and communicate via email year-round through the main group, as well as through eight sub-committees.

Those interested in running for election to the Governing Committee can submit nominations this fall for the 2015 election.

## AHA Rallies

In 2005, Saint Arnold Brewing Company held the first ever AHA Rally. Earlier this year we celebrated the 10th annual AHA Rally at Saint Arnold, recognizing founder Brock Wagner for pioneering the rallies a decade earlier.

AHA Rallies are fun events where members can gather at a local brewery and get VIP



AHA Rally at Foothills Brewing Co., March 2014



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tours of the facility, sample beers, meet fellow homebrewers, receive AHA giveaways, and have a shot at winning fabulous raffle prizes. In addition, many rallies feature something special, like a homebrew competition, wort giveaway, presentations by brewing book authors, or a drawing to brew a collaborative pro-am beer.

By the end of 2013, the AHA had hosted 118 rallies, averaging 13 per year. This year we are planning for a big increase, with a goal of 30 rallies in 2014. Last year, we held first-time rallies in Connecticut,

Georgia, Kentucky, Ohio, and Washington, D.C., and in 2014 Virginia and New Jersey hosted those states' first rallies.

You can find a list of upcoming events in the AHA Rally ad on page 76 of this issue of *Zymurgy* or online under the Events section of HomebrewersAssociation.org.

### Big Brew

Thanks to all of the homebrewers who helped make the 17th annual Big Brew the biggest yet! On May 3, 8,000 homebrewers, representing 14 countries, brewed

17,550 gallons of homebrew at 437 sites. At noon Central time that day, clinks could be heard around the world as homebrewers united in a toast to our shared hobby.

Big Brew, which takes place annually on the first Saturday in May, is the AHA's annual celebration of National Homebrew Day, which officially falls on May 7. The AHA publishes special Big Brew recipes for homebrewers to brew on that day.

Thanks to all of the homebrewers around the globe who participated in this year's Big Brew!

### Homebrew Club Insurance

For those of you who are members of homebrew clubs, you know how important your club has been in allowing you to share your brews with fellow club members, learn to be a better brewer, and have a great time with top-quality homemade beer. Drinking homebrew is obviously a big part of homebrew club meetings and events, but any time you get a group of people together partaking of alcoholic beverages there is some degree of risk—risk to the venue hosting the club meeting or event, and risk to the club itself if an accident were to occur following the gathering.

To address that risk, some clubs have taken it upon themselves to obtain insurance coverage. However, insurance for individual clubs can be expensive. For more than a decade, the AHA has investigated options for a nationwide insurance plan for clubs. We have finally found an insurance product that we think is the right fit. This option provides participating clubs with general liability insurance (\$1 million/occurrence; \$3 million aggregate) and liquor liability insurance (\$1 million/occurrence; \$3 million aggregate) that cover both club meetings and club-sponsored events for up to 1,000 attendees at a cost to the club of just \$3.50 per member.

Clubs must enroll during the open enrollment period that will go through late July or early August, with the insurance going into effect 30 days after the close of the enrollment period (a second enrollment period will take place over the following six months). We will have more specifics available on HomebrewersAssociation.org.

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We are truly excited to offer this affordable insurance option to clubs nationwide. It would not have been possible without the hard work and dedication of AHA Governing Committee member Chris P Frey, who has made finding viable club insurance a mission during his time on the committee.

## Legislative Update

The Kansas legislature passed Substitute for House Bill 2223, allowing for homebrew to be removed from the home for homebrew competitions or for sharing with friends or guests at a private event, such as a homebrew club meeting. Gov. Sam Brownback signed the bill into law April 17. The bill signing wrapped up a two-year effort by homebrewers around the state, with additional help from Missouri homebrewers whose clubs meet in Kansas. While the AHA assisted with this effort, Mike McVey, Steve Cook, and Philip Bradley took the lead in making the passage of homebrew legislation in Kansas a reality. Thanks to them and to all of the Kansas homebrewers who contacted legislators to help get this bill passed.

Georgia passed a homebrew bill for the second straight year. Last year's bill officially allowed for homebrew at events, like competitions, though it required local governments to issue a special events permit to hold a homebrew event—a provision that has proved a major stumbling block for many of the competitions previously hosted in the state. The newly passed bill, HB 737, adds a provision allowing homebrewers to transport up to a six-pack of homebrew at a time from their residence for personal use.

On April 9, California Homebrewers Association (CHA) president Christy Elshof and I were in Sacramento to testify before the Assembly Governmental Organization Committee on behalf of AB 2609. The bill, if passed, would once again allow for homebrewer organizations like the AHA and the CHA to host private events for homebrewers where homebrew is served, such as the Southern California Homebrewers Festival and the National Homebrewers Conference. (See the "From the Glass" column in the May/June 2014 Zymurgy for more details.) The bill passed

out of committee unanimously and, of this writing, is making its way through the legislature.

By law, California bills must be limited in scope, so this bill addresses only the issue of homebrewer-hosted events. Additional issues facing California homebrewers surfaced when the California Alcohol Beverage Control (ABC) posted an FAQ on homebrewing earlier this year. Chief among those would be that ABC interprets current law as not allowing for homebrew to be brought onto the premises of businesses holding any

form of alcohol beverage license (i.e. breweries, restaurants, pubs, distributors, etc.) and not allowing homebrew supply shops to host brewing demonstrations or serve samples of homebrew to customers. Resolution of such issues will have to be addressed in separate legislation.

The Minnesota governor signed a homebrew bill that explicitly allows for homebrewers to enter competitions and bring their brews to events, including public festivals. The previous law was very succinct, allowing for the making of wine and beer at home without a license or payment of

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tax. The new law, which closely resembles the federal law, was added to SF 2336, a Senate omnibus bill containing several alcohol-related bills. This new homebrew bill was spearheaded by Steve Benson and the Boreal Brewers homebrew club, after they were prohibited from serving homebrew at an event run by their city's Chamber of Commerce.

### Keep it Legal!

It's imperative that homebrewing remains legal and gets fair legislative treatment, and one way to do this is by ensuring

homebrewers are not doing things that are blatantly illegal. One of the challenges to fixing the law in California mentioned previously is that Alcohol Beverage Control has been confronted with situations where homebrewers are selling their homebrew. While there are limited circumstances under certain state laws that allow for homebrew to be used to raise funds for non-profits, it is always federally illegal for an unlicensed brewer to receive any kind of compensation (i.e. not just cash) for alcoholic beverages he or she has made. Selling homebrew to

retailers, selling homebrew to friends, and taking donations for homebrew are all illegal. These illegal activities are unfortunately becoming more prevalent—hopefully, in most circumstances out of ignorance of the law—and are tainting the image of the homebrewing community.

Another area where homebrewers are running into trouble is when homebrew is served to the public. With the proliferation of homebrewing, beer festival organizers are naturally looking to incorporate homebrewing into their events. Unfortunately, in most states it is illegal for homebrew to be served to the public. If you or your club are asked to serve homebrew at a public event, be sure to insist that the event organizer check with the relevant state alcohol beverage regulatory agency to ensure that what you will be doing is actually legal.

For those lucky homebrewers who live in states that allow homebrew to be served to the public, be proud of your homebrew status! Let the event attendees know that they too can make great tasting beer at home. Homebrewers who are legally serving their beers at public events should not pose as commercial brewers (that goes for homebrewers hoping to open a brewery in the future as well). Homebrewers posing as commercial brewers causes confusion among consumers and can be a source of irritation for commercial craft brewers required to have licenses, pay taxes, be subject to inspections, and make a product that their customers will buy. Traditionally in the U.S., amateur and professional craft brewers have had great relationships—we are all part of the same community of brewers. However, that relationship is put at risk when homebrewers intentionally blur the lines between amateur and pro. We need the support of our professional brewing brethren whenever our homebrewing rights are threatened; let's make sure that support will be there when we need it.

Be proud to be a homebrewer. I am. Until next time, happy homebrewing!

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

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by Our Readers

# Cheers to the AHA Rally

Dear Zymurgy,

I have been here in Houston, Texas for about eight years now and this city has changed tremendously with regards to the craft beer industry. I am Czar of The Kuykendahl Gran Brewers (KGB) Homebrew Club in Houston and have been brewing actively for the last nine years. Joining the AHA has taught me many things about the craft beer industry and brewing community.

As one of the members of the few homebrew clubs in Houston, I would like to thank the AHA for their outreach and support of the industry and also to all our local members and craft beer-related business. The latest AHA Rally was hosted at Saint Arnold Brewing Co. with great success and participation. On behalf of the KGB club, I would like to extend our thanks to Brock Wagner for his continued support of the local homebrew clubs and Houston's beer enthusiasts.

Robert Chan

Czar, The Kuykendahl Gran Brewers (KGB) Homebrew Club, [www.TheKGB.org](http://www.TheKGB.org)

Zymurgy editor Jill Redding responds: We also extend our thanks to Brock Wagner and Saint Arnold Brewing Co, who hosted the very first AHA Rally in 2005 and have done so every year since then. We appreciate their great support of the AHA and homebrewing!

## A Warning about Carbon Monoxide

Dear Zymurgy,

I had a great brew day recently. It was my first lager and I was very excited to finally do one. I have a temperature controlled fermentation chamber so I was ready to roll. I mashed in and hit my temps perfectly. I then batch sparged and collected the required amount of wort. I boiled



The Kuykendahl Gran Brewers (KGB) Homebrew Club at Saint Arnold Brewing Co.

for 90 minutes in my garage [using a burner that came with a turkey fry kit and standard propane tank] and did my hop addition. When the boil was done, I took my boil pot with immersion chiller into my basement where I have a utility sink to hook into. Since it had been very cold here in Colorado, my tap water was cold enough to chill down to 45 degrees. I pitched my yeast starter, also at 45 degrees, and placed the fermenter into the chamber. This was the time that my brew day got very interesting.

All at once, three carbon monoxide alarms inside my house started blaring. It startled me and my three-year-old son. Of course my immediate reaction was to look and see if the batteries were failing. As I found out, only one of the CO detectors was battery powered, and the other two are hard wired into the electrical lines of the house. I got very concerned and grabbed my son, along with coats and blankets, and ran outside to our car. My oldest son and wife were not home at the time. I quickly called 911 and was transferred to the fire department.

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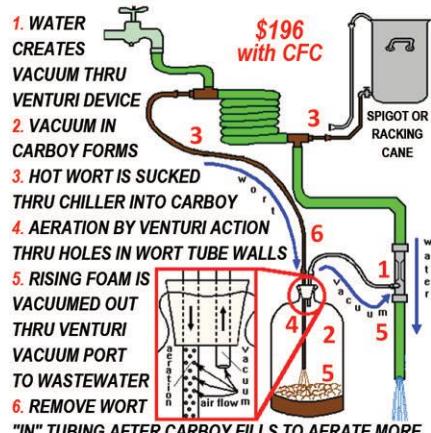
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The fire department was there within five minutes and, to the delight of my three-year-old, arrived in the “big truck.” They opened all the windows and doors in my house and proceeded to take CO readings. They of course were interested in where the furnace and hot water heater are located. After about 10 minutes of searching the house, they came out and asked me what I thought was an odd question at the time: “Did you brew today?”

I must have had a perplexed look on my face as I answered “Yes.” They asked if I boiled in the garage and I said yes. They opened the garage door, where they read the highest levels of CO in the entire house. As a common practice when I brew in the garage, I open the garage door a little bit and then open up another door on the opposite side of the garage that leads to a patio. I figured that would be plenty of “venting” for any amount of CO. Turns out, I was wrong. Besides being completely embarrassed, I could’ve unintentionally hurt my son. This is a feeling that no parent ever wants.

How could a hobby that I have been doing so long, and absolutely love, turn out to

have the potential to be harmful to myself and my family? I am buying another CO monitor just for the garage for winter brews. It is now a rule in our family that if the weather is nice, I will be brewing on the patio, outside. I oftentimes stay in the garage while the boil is going so that I can monitor the boil, do hop additions, etc. Sometimes, my two sons even join me.

I have to think that I am not the only homebrewer who brews in the garage during the colder months, or when it is raining or too windy to brew outside. I am very fortunate that my experience turned out well for my family but it really makes me wonder if many of us are putting ourselves, and our families, at risk unknowingly. Granted, common sense is the best course of action along with a portable CO detector in the garage and good ventilation when brewing.

Kevin D. McHugh  
Lakewood, Colo.

### Konfused about Kumquats

Dear Zymurgy,  
I was reading my first issue of Zymurgy (as a member, that is) and was intrigued

by the Kumquat Amarillo Wheat recipe (March/April 2014). My question comes from the amount of fruit that is supposed to be added. In the ingredients list, you list 2 lb or about 48 fruit as the amount, while in the brewing instructions it calls for 24 fruit to be added to the secondary. Which is it? Looking forward to some clarification so I can give this a try!

Pat Maloney

Zymurgy editor Jill Redding responds: *It should be 24 kumquats. When we reduced the batch size from 10 gallons to 5 gallons, we neglected to update that portion of the recipe. Thanks for the great catch!*

### Not So Nicie in Price

Dear Zymurgy,  
I am a new subscriber and was very excited when I got my first issue. Your magazine is great and I look forward to receiving many more copies. Furthermore, I will use Zymurgy as a reference for brewing recipes.

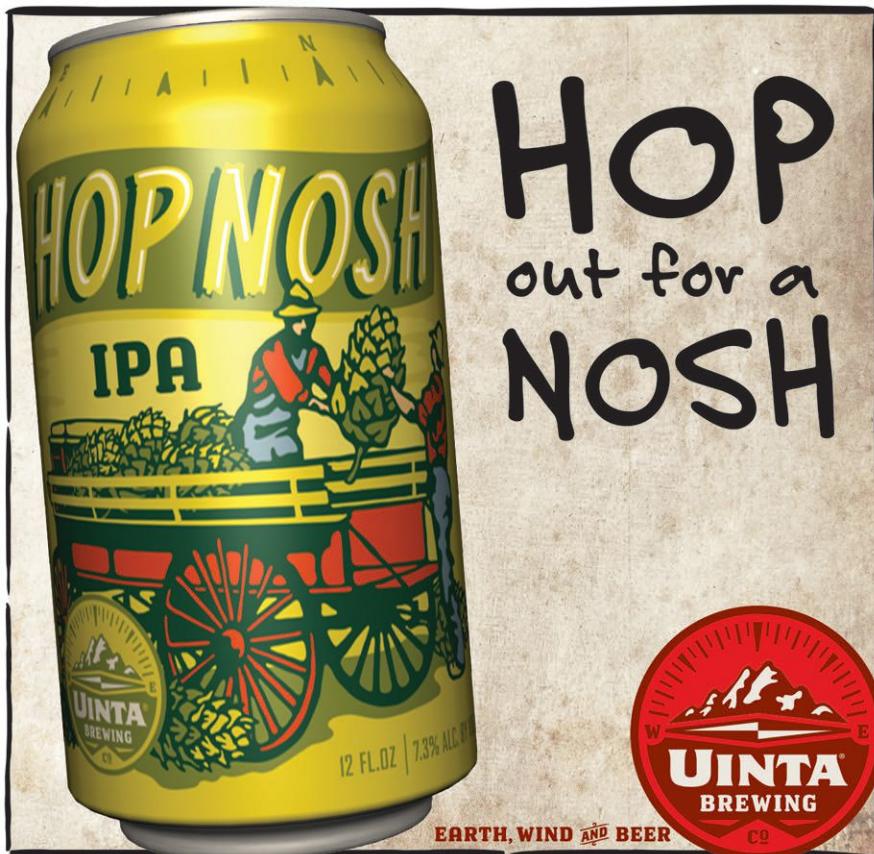
In your March/April 2014 issue, there was a recipe for a brew titled Pretty Nicie, Pretty Spicie. I read the article and thought that I would like to give it a try. My excitement was short lived when I started to acquire the ingredients. I could not even find the green, pink, and white peppercorns. Therefore, the prices for those three ingredients are from Amazon.com. The other prices are from walmart.com.

4 oz. ground coriander seed: \$4.19  
1 oz. black peppercorn: \$4.44 for 9 oz.  
1 oz. green peppercorn: \$9 for 4 oz.  
1 oz. pink peppercorn: \$12 for 4 oz.  
1 oz. white peppercorn: \$8 for 5 oz.  
1 bag of oranges: \$5  
6 lemons: \$3

The total for just these ingredients is \$45. Your magazine is great, but please publish recipes that the average homebrewer can afford to brew.

Mark Flores  
Milton, Fla.

**Send your Dear Zymurgy letters and homebrew labels to [zymurgy@brewersassociation.org](mailto:zymurgy@brewersassociation.org). Letters may be edited for length and/or clarity.**



by Professor Surfeit



# Polyphenols, Brett, and Oxidation

Dear Professor,

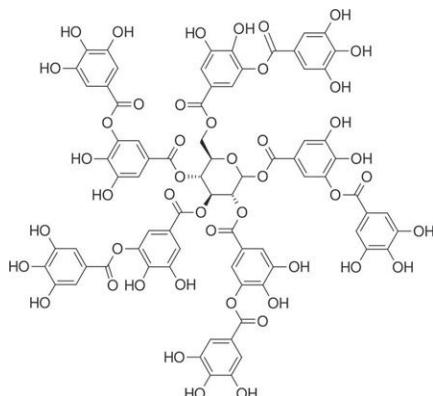
I found the article "An In-Depth Look at Chill Haze" (January/February 2014) to be very helpful. One tidbit that struck me was "polyphenols are excellent antioxidants." Does this mean that they scavenge oxygen and therefore reduce oxidation?

On a related note, all of my beers that have been infected with *Brettanomyces* (and there have been many of them!) seem to hold up for years without oxidizing. I've had five-year-old Brett-infected IPAs that tasted just as good as when they were fresh. Is there any documentation regarding Brett's influence on oxidation? Or is the Brett's "horse-blanketness" simply masking the cardboard notes?

Sincerely,  
Ben Schwallb  
Severna Park, MD

Hi Ben,  
Much research has focused on the role of polyphenols in beer character. Polyphenols affect mouthfeel, flavor, foam, color, stability, appearance, and a lot more. For homebrewers, it's probably best not to overreact to any one conclusion, because more or less of polyphenols in any part of the process of making beer can both enhance and detract from the overall character of beer.

A certain amount of polyphenols in beer can create and prevent oxidative reactions in the beer making and aging process. But an overabundance can create undesirable flavors and other characters. This is the part of brewing that is an art; figuring out what and how much to put in of any ingredient or brewing aid in order to make the beer you want and help stabilize it so that it doesn't oxidize and stale so quickly.



**Tannic acid, a type of polyphenol.**

To answer your first question directly, yes, polyphenols can be antioxidants by way of scavenging, reacting with, and reducing other compounds that are precursors of oxidation reactions. There is an excellent article in Volume 116, Issue 4 of the Journal of the Institute of Brewing (October 9, 2012) called "A Discussion of Polyphenols in Beer Physical and Flavour Stability" by Patricia M. Aron and Thomas H. Shellhammer. It concludes, in part, "Both attractive and unattractive flavour properties have been attributed to beer PPs [polyphenols]; some report antioxidative roles for PPs in beer flavor while others report pro-oxidative roles."

Regarding your second question, I too have noticed that typical oxidation character does not develop in many types of "wild" and *Brettanomyces* inoculated beer. My hunch is that higher acidity inhibits beer oxidative reactions.

On a personal note, I have been told by knowledgeable brewing professors that adding polyphenol-rich ingredients like cinnamon and coriander to the mash reduces oxidation-related reactions that can occur in

the mash and also in the packaged beer. Of course using too much of these types of ingredients can lead to astringency and undesirable flavors, so one has to take everything into consideration and balance process and handling accordingly.

Polygraph me if in doubt,  
The Professor, Hb.D.

## Pot Stickers

Dear Professor,  
I'm adding my two cents to your reply to Bill Bartman and his scorched pot problem (March/April 2014 Dear Professor).

After some careless mashing last week, we wound up with some tough scorch marks on a nice stainless steel pot. Having read that you shouldn't use steel wool or stainless steel scrubbers on stainless steel pots, I tried using nylon scrubbers and soaking in [Five Star Chemicals] PBW with very little success. Then I found some Bar Keepers Friend® in the local hardware store, sprinkled some on the dampened surface, and let it sit a few minutes. I was amazed at how easily the scorch marks came off with the nylon scrubber.

Great column!  
John Coloe

Dear John,  
Thanks for the compliment and for passing along that helpful tidbit.

Bar Keepers Friend is a keeper,  
The Professor, Hb.D.

## The Fine Print about Saisons

Dear Professor,  
I'm doing test batches of saisons to determine which one I want to brew

for my wedding in a year. I of course dove into the back issues of *Zymurgy* online to find a few recipes. I decided on two, Tom Fitzpatrick's Last Saison (September/October 2013) and Saison of Zen (November/December 2012).

I brewed both beers (cutting the 10 gallons back to 5 gallons) and hit the OGs right on point. The problem I ran into was more of a mental issue rather than a physical one. Saison of Zen has an OG of 1.066

and ABV of 5.5 percent; Tom Fitzpatrick's Last Saison has an OG of 1.057 and ABV of 7 percent. Both beers use the same yeast, yet the one with the higher OG has the lower ABV. Where did the alcohol go? Does it have something to do with the mashing temperatures/processes with one not creating enough fermentable sugars?

Cheers!  
Brad O'Donnell  
Austin, Texas

*Yo Brad,*  
*Thanks for your questions. It appears you were spot on in spotting spotty recipes. I'll let our expert homebrewer and Zymurgy associate editor, Amahl Turczyn Scheppach, explain what was going on. Probably a set of circumstances many of our readers could encounter themselves.*

Amahl responds: Great catch! Here's the story. Drew Beechum's "Brewing on the Ones" feature came with 12 recipes, and it was my job to make sure they all yielded consistent results. His original version of Saison of Zen included 11.5 pounds of Weyermann Pils malt and 1.5 pounds of flaked oats for a 5.5-gallon batch. His stated OG was 1.053. This looked a little low to me, and sure enough, the brewing software I was using back then stated that he would have to have a mash efficiency of 60 percent to achieve a 1.053 gravity with that grain bill.

Most folks see closer to 75 percent efficiency, so I adjusted the OG accordingly to 1.066. Unfortunately, Drew had also included an ABV stat: 5.5 percent. That would have been in range for a 1.053 beer, but not for a 1.066 beer. My brewing software back then was not sophisticated enough to predict finishing gravity or % ABV based on individual yeast strains, so I probably should have just removed that alcohol percentage from the recipe.

Fortunately BeerSmith2 does make that calculation, so I can now confidently state that with that yeast, mash schedule, and a healthy fermentation in the proper temperature range, one can expect closer to 7.1 percent ABV; and with the extract version, 6.5 to 6.8 percent ABV, depending upon extract brand and quality. So even with all the potential variables, your suspicions that something wasn't quite right with that recipe were spot on. Thanks for keeping us honest!

*So there you have it,  
The Professor, Hb.D.*

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

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By Amahl Turczyn Scheppach

# Yorkshire Stingo



**S**tingo is an archaic term for a kind of strong ale generally associated with Yorkshire, England, though versions have also been brewed outside the region. This historic style of beer dates back before the 1700s, and many agree that although it was probably aged extensively to smooth out its formidable strength of around 9 percent ABV, the name may have come from the remaining “sting” of alcohol. There was a Watney’s pub called the Yorkshire Stingo in Marylebone, London, and indeed Watney’s also brewed a fairly famous version of Yorkshire Stingo. More recently, Boulevard Brewing and Pretty Things Beer and Ale Project collaborated on a “re-invention” of the style that also incorporated wood aging and a hint of tartness; some historical accounts indicate that the acidity, which undoubtedly

helped to cut malt sweetness in historically accurate versions of the beer, was the origin of the “sting” in Stingo.

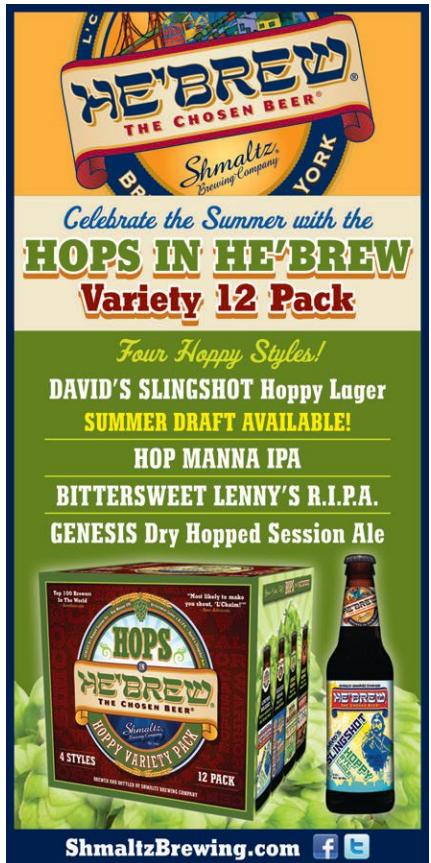
But probably the most famous and available modern version comes from Samuel Smith’s brewery in Tadcaster, England. Samuel Smith’s brews Yorkshire Stingo to a strength of either 8 or 9 percent by volume, alternating years (2013’s was 8 percent, 2014’s 9 percent) and aging each release for an entire year in ancient oak casks. It is fermented in open-topped Yorkshire Square fermentation vessels with the house ale strain, which lends toffee, coconut, raisin, plum, and brown sugar notes, along with a hint of buttery diacetyl common to the strain. Oak tannins counter the residual sweetness of the beer, which is bottled with live yeast to allow it to mature and condition further over the years. It’s got all the malty sophistication of a wee heavy, but is far easier to

drink, and for all its dark reddish-amber color, which approaches 30 SRM, there is almost no hint of roast character. That proves to be tricky when formulating a recipe, but we’ll get to that later.

First, a style question—what exactly differentiates Stingo from a strong mild, an old ale, a barleywine, or a winter warmer? Turns out there are many opinions on this somewhat controversial subject, and depending upon which side of the pond you hail from, debates can get pretty heated. While modern mild is generally known to be a low-strength, high-flavor session ale, historical brewery records refer to various strengths of mild ale, sometimes designated with one to five Xs, all the way up to 1.080 and beyond. The strongest of these are what *Mild Ale* author David Sutula refers to as “throwback milds,” and he cites the 5.8-percent Sarah Hughes Dark Ruby Mild and Bull Mastiff’s 7-percent Ebony

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## Dark Greeting Yorkshire Stingo

### INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

<b>12.0 lb</b>	(5.44 kg) Fawcett Maris Otter pale malt (82.8%)
<b>1.5 lb</b>	(0.68 kg) dark invert cane sugar (10.3%)
<b>6.0 oz</b>	(170 g) Fawcett 120° L dark crystal malt (2.6%)
<b>6.0 oz</b>	(170 g) 180° L Special B malt (2.6%)
<b>4.0 oz</b>	(113 g) Weyermann 400° L chocolate wheat malt (1.7%) – post mash
<b>2.0 oz</b>	(56 g) East Kent Golding pellets, 5% a.a. (90 min)
<b>1.0 oz</b>	(28 g) Fuggles pellets, 4.5% a.a. (20 min)
Irish moss	(10 min)
Wyeast 1469 West Yorkshire ale yeast or WLP 037 Yorkshire Square ale yeast	White Labs WLP007 Dry English ale yeast (optional, to increase attenuation)
Yeast 3278 Belgian Lambic or White Labs WLP665 Belgian Sour blend (optional)	
<b>0.25 oz</b>	(7 g) toasted oak chips, cubes, or spirals (optional, 1 week in secondary)

### DIRECTIONS

Mash all grains except chocolate wheat malt at 149° F (65° C) for 90 minutes. Powder chocolate wheat malt in a clean coffee grinder and sprinkle the powder over the top of the mash, then fly sparge as normal. Chill wort to 70° F (21° C), pitch yeast, and monitor for activity. As soon as fermentation begins, chill to 64° F (18° C) and make sure you've attached a blowoff hose, used Fermcap S, and/or left plenty of headspace. After fermentation is complete, rack to secondary and age four months to a year.

### EXTRACT VERSION

Substitute 9.56 lb (4.34 kg) Maris Otter malt extract syrup for pale malt. Steep crystal malts in 158° F (70° C) water for 30 minutes; mix in powdered chocolate wheat, strain and rinse thoroughly, then dissolve extract completely and proceed with boil. Expect a slightly higher finishing gravity with the extract recipe.

**Brewhouse Efficiency:** 75%

**Boil Time:** 90 minutes

**Original Gravity:** 1.080

**Final Gravity:** 1.019 (West Yorkshire ale yeast) to 1.011 (Dry English)

**ABV:** about 9%

**SRM:** 29

**IBUs:** 35

Dark Mild as examples. Ales of various strength (though usually stronger than 6 percent ABV) intended for long maturation become old ales, sometimes designated by strength with rows of Ks (presumably for Keeping) and their distinction from mild ales appears to be that intent—mild is intended to be consumed relatively fresh, and old ale is intended to be conditioned for months or years. These may or may not have been called “stock” or “stale” beers, to perhaps be blended with younger offerings in an attempt to tone down the sweet and cloying youngsters with aged brews that were perhaps tart, thin, oxidized, unpleasantly tannic, or inoculated with wild yeast and/or bacteria. Conversely, a very strong mild on its own, enjoyed too young, might be unpleasantly hot or exhibit “green beer” character; but if given time to condition, at what point does it cross over from “mild ale” to “old ale”?

Winter warmers, according to the BJCP, are a more modern invention, and usually refer to a brewery’s cold season offerings. Pinning down parameters like range of strength or color would prove difficult, but several years ago I was able to sample several at the Winter Warmer Festival at the White Horse Pub at Parson’s Green. Most fell within the 5 to 7 percent ABV range. Two memorable samples from that festival were Black Bat and Old Bat, from Bedfordshire’s Banks & Taylor; these were 6 percent and 7 percent respectively, sweet up front, full-bodied, with lots of dried fruit and nuts, a roasty dry finish, and plenty of the requisite warming.

And finally barleywine, which seems to be a catch-all term for the strongest of strong ales, is a term sometimes used interchangeably with Stingo. Hall & Woodhouse’s version, for example, was called “Stingo Barley Wine” on its label. The Watney’s label also uses both names. Some sources say the term “barleywine” was coined to distinguish British-made strong ales from that other kind of wine produced across the Channel. So perhaps the lesson here is that there are no hard and fast rules to outline distinctions between these styles.

The BJCP style guidelines place old ales at a lower range of alcoholic strength; 6

to 9 percent ABV vs. 8 to 12 percent for barleywines. Stingo exists in the narrow overlap between the two, so no help there. They also suggest old ales are more likely to exhibit “stale” oxidized character, including tartness, but that while old ale hop variety is relatively unimportant, East Kent Golding and Fuggle are more indicative of English barleywine. Again, it seems Stingo could fall either way. BJCP guidelines name Samuel Smith’s Winter Welcome and Sarah Hughes Dark Ruby Mild “Old Ale,” Robinson’s Old Tom, Young’s Old Nick and North Coast Old Stock Ale as “English barleywine”

and Anchor Old Foghorn and Bridgeport Old Knucklehead as “American barleywine.” Needless to say, you would be forgiven to assume each brewery’s designation for its strongest offerings tends to be somewhat arbitrary.

I was never fortunate enough to sample Watney’s Yorkshire Stingo, Higson’s, Wells & Winch, Ltd., Hall & Woodhouse, Phipps of Northampton, or any of the other brands of Stingo once produced. So most of my assumptions about this obscure beer come from the one or two surviving examples still being made, and

most prominently that of Samuel Smith's. But based on that beer and what little other information is available, we can still piece together a viable recipe.

Malt produced in Yorkshire seems an obvious choice. Thomas Fawcett & Sons in Castleford, West Yorkshire has an excellent product line, though from an historical perspective, it's fair to say today's malting technology isn't what it was in the 1700s. Back then they had brown malt; but unlike the modern version, it did have some diastatic power that we can assume was at least sufficient to convert its own starches to enzymes. I've made this recipe with brown malt, but to my taste, the acrid toast/roast quality takes over in a hurry, and as mentioned earlier, this is not a roasty beer. So I am willing here to sacrifice authenticity for a recipe that attempts to approximate Samuel Smith's Stingo, though the more historically-minded may scowl.

To achieve the same level of color without using dark malts, one can simply ramp up base and caramel malts, and hunker down for a two-hour boil. Kettle melanoidin production in wort of this strength can take you a long way toward that 30 SRM target, with two obvious caveats: convenience and a higher finishing gravity. This is a drinkable beer, so the target FG in my mind should not far exceed 3° P. I therefore propose a shortcut. Mash the

base malt with low amounts of dark caramel (very dark in fact, at 120° and 180° L, to encourage dried fruit character), then after conversion is complete, powder a husk-less black malt like Weyermann chocolate wheat or Briess Midnight Wheat in a coffee grinder, and sprinkle it on the mash just before sparging. Many brewers use this technique for black IPAs and black saison, just because it adds the dark color while minimizing roast flavor. You do get pronounced dark chocolate notes, but that's acceptably within Stingo's flavor profile. I've made a 9.2 percent ABV Stingo with Fawcett pale chocolate (1 percent), and Weyermann husk-less Carafa (3 percent), mashed with the base malts, and even though those grains brought in all kinds of interesting coconut and roast hazelnut nuances, it made the finished beer too black and roasty. (This may subside with age—we'll see where it goes in another year or two.)

Sugar is huge in this beer, and I'm convinced it needs to be dark invert cane at right around 10 percent of the total grain bill. Sugar will add caramel color and flavor, boost drying alcohol, and help the yeast to get down to that critical 3° P finishing gravity. Measure out your raw cane sugar and water per the "Making Your Own Invert Sugar Syrup" sidebar in the January/February 2014 Style Spotlight. You'll be taking the temperature up a bit further than 240° F (116° C); we want

dark, dark syrup this time, so after simmering for 30 minutes, let the temperature ramp up naturally (and slowly!) to 300° F (149° C). Candy makers call this the "hard crack" stage...nearly all the water will be boiled out of the syrup, and the color will darken quickly and dramatically. A heavy-bottomed saucepan is ideal to distribute heat evenly.

Make sure to turn your heat way down once you hit about 270° F (132° C), use extreme caution to avoid splashing or spilling, and when you begin to catch the faintest whiffs of burnt sugar, remove the syrup from heat. Theoretically you can actually take it on up to 310° F (154° C), but I usually err on the safe side and stop at 300° F (149° C). Then you have two choices. Pour the hot syrup into a parchment- or silicone-lined metal pan (glass may shatter), cool the sugar completely, then break it into shards and stir it into the brew kettle, making sure it doesn't burn on the kettle bottom (smart method). Or, you can do what I did once and pour 300° F syrup directly into the brew kettle, causing the whole volume of wort to erupt violently into a boil and quite possibly all over your brewery floor (not-so-smart method).

Hops should be Fuggle and/or East Kent Golding. I've played around with Mosaic and Calypso to encourage stone fruit aromas, but I've always gone back to Fuggle and Golding; the hops play a supporting role, but those two just taste "right." Kettle bitterness is very restrained from the 60-minute addition, and the final addition should be added no later than 20 minutes. You will get just a hint of those floral, marmalade hop flavors carrying through.

You don't need to get too fancy with water in this beer. A fairly neutral profile is best. I use 80 percent reverse osmosis and 20 percent boiled Denver-area tap water and never have any issues, but if I were to treat 100 percent RO with salts, I'd go with no more than 3 grams of gypsum and 3 grams of calcium chloride total for a 5.5-gallon recipe. Your big malt bill should provide most of what you need.

Finally, the yeast question. Wyeast 1469 West Yorkshire ale yeast or WLP 037

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Yorkshire Square ale yeast are the obvious choices, and are by far the most authentic. They both encourage nut and stone fruit (cherry and plum) flavors, a hint of diacetyl, an exaggerated malt palate, and a dry, mineral finish. The problem is that with Stingo, you'll be approaching the alcohol tolerance limit for these strains, so things may finish a bit heavier and maltier if the yeast quits early. Because these are true top-cropping strains, they will blow off heavily, and are fond of spending time floating on the surface of the beer during fermentation. So it is critical to have lots of head space in your fermenter and keep it on the cool

side: 64° F (18° C) is the low end of the range for these strains, so a healthy pitching rate is recommended. About 300B cells (147 mL slurry, or a 2L starter) should do the trick for this batch size.

Pitch at 70° F (21° C) to encourage fruity esters, then as soon as you see activity, drop down to 64° F. You will probably still see an astonishing amount of yeast exit your blowoff assembly. Ideally, once blowoff activity has subsided and signs of fermentation begin to slow somewhat, the temperature should be increased slightly to 66° F (19° C). This will help keep the yeast active and encourage a more com-

plete fermentation. But even with this treatment, and a long, highly fermentable mash at 149° F (65° C), I've had these strains struggle to reach their maximum 71-72 percent attenuation in high-alcohol beers. One solution is to have some fresh WLP 007 slurry on hand. This can be pitched soon after your Yorkshire strain has hit high krausen, and will help the big beer to finish nice and dry, while still preserving the fruity/mineral profile of the original strain. Of course, you can also just go 100 percent Dry English from the get go, but this will result in a cleaner, drier Stingo without its more interesting Yorkshire quirks.

And speaking of quirks, if you care to experiment with oak tannins and sourness, this is a great beer for it, and you'll really be honoring the historical tradition. Oak chips, oak spirals, bacterial cultures, lambic dregs—these can all be added to your fermented and aging Stingo to encourage a bit more sting. Soak some toasted French oak cubes in wine or port for a week and try adding them for a nice vinous/tannic blend. My only advice is to go easy, and perhaps consider pulling off a small amount (0.5 gallon) of the fermented batch, oak and sour it as you see fit, then blend it back into the main batch to taste.

Stingo should really begin to mature nicely after three to four months, whether you age it in bottles, casks, or kegs. Carbonation should be relatively light, to allow for the slow but continued yeast activity that will alter the beer subtly month to month and year to year. This beer has the potential to last many years, so be sure to sequester some away for future winters.

## Resources

Sutula, Dave. *Mild Ale. Brewers Publications, 1999.*

Cornell, Martyn. "So What IS the Difference Between Barley Wine and Old Ale?" Zythophile, Wordpress, 2010. (Web)

BJCP Style Guidelines, Category 19 Strong Ale. (Web)

**Amahl Turczyn Scheppach** is the associate editor of *Zymurgy*.

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## The Results Are In! 12th Annual Survey

BY JILL REDDING

*"Limiting the 'Best Beers in America' list to only 20 feels like this generation's Mission Impossible ... I accept."*—Zymurgy reader Hans Muecke

With more than 2,800 breweries now operating in the United States and countless new beers being introduced at a dizzying pace, AHA members have their work cut out for them when it comes to choosing the Best Beers in America. With voters able to choose up to 20 of their favorite commercial beers available for purchase in the United States, we received more than 25,000 votes for more than 6,000 different beers from 1,639 breweries in this year's annual poll.

"We are living in the best place at the right time for craft beer, on earth, ever," proclaimed New Belgium Brewing brewmaster Peter Bouckaert. "This is the most innovative country when it comes to brewing right now."

But despite the always-improving flavor and variety of craft beers, and despite



*"I'll be honest with you—we are blown away that Pliny has won the award six years in a row," said Russian River's Vinnie Cilurzo. "There are so many great beers out there. It is very humbling."*

the most recent trends—session beers, sours, saisons, and barrel-aged creations, to name a few—some things never seem to change when it comes to our readers' tastes: hops are still tops, and Pliny the Elder is still king.

Described by Zymurgy reader Brenton Day as "the DIPA that was cool before DIPAs

were cool," Russian River's Pliny the Elder double IPA took the number one spot in the poll. Again.

*"I'll be honest with you—we are blown away that Pliny has won the award six years in a row," said Russian River's Vinnie Cilurzo. "There are so many great beers out there. It is very humbling."*



## Top-Ranked Beers

(T INDICATES TIE)

1. Russian River Pliny the Elder
2. Bell's Two Hearted Ale
3. Ballast Point Sculpin IPA
4. Bell's Hopslam
5. The Alchemist Heady Topper
6. Lagunitas Sucks
7. Dogfish Head 90 Minute IPA
8. Stone Enjoy By IPA
9. Founders Breakfast Stout
10. Goose Island Bourbon County Brand Stout
11. Founders Kentucky Breakfast Stout
12. Sierra Nevada Pale Ale
13. Firestone Walker Wookey Jack
14. Three Floyds Zombie Dust
- T15. Lagunitas Little Sumpin' Sumpin'
- T15. Sierra Nevada Celebration
17. Firestone Walker Double Jack
- T18. Firestone Walker Union Jack
- T18. Arrogant Bastard Ale
20. Sierra Nevada Torpedo
21. Sierra Nevada Ruthless Rye
22. Russian River Blind Pig IPA
- T23. Deschutes Black Butte Porter
- T23. North Coast Old Rasputin
25. Boulevard Tank 7 Farmhouse Ale
26. Stone Ruination IPA
27. Dogfish Head 120 Minute IPA
28. Russian River Pliny the Younger
29. Left Hand Milk Stout Nitro
30. Russian River Supplication
31. Green Flash West Coast IPA
32. Surly Furious
33. New Belgium La Folie
- T34. Founders All Day IPA
- T34. Dogfish Head 60 Minute IPA
36. Oskar Blues Dale's Pale Ale
37. Stone IPA
38. Lagunitas IPA
- T39. Russian River Consecration
- T39. Tröegs Nugget Nectar
41. Deschutes The Abyss
42. Cigar City Jai Alai IPA
43. Bear Republic Racer 5
44. Oskar Blues Ten Fidy
45. Surly Abrasive IPA
46. New Belgium Ranger
- T47. Ommegang Three Philosophers
- T47. Great Lakes Edmund Fitzgerald Porter
- T49. Founders Backwoods Bastard
- T49. Odell IPA



Pliny the Elder was first brewed in 2000 for a Double IPA festival in Hayward, Calif. In making the beer, Cilurzo decided to use an experimental hop, YCR-014, which eventually became known as Simcoe. The rest, as they say, is history.

"Simcoe is such a unique hop," said Cilurzo. "I remember thinking that I had never seen a hop with such a distinct personality. It has such clean notes of pine, grapefruit, and tropical."

"Flawless. Magic. Perfect," is how Zymurgy reader Bill Brooks of Kailua, Hawaii described Pliny the Elder.

"Clean and delicious. This beer continues to set the standard for how a perfectly



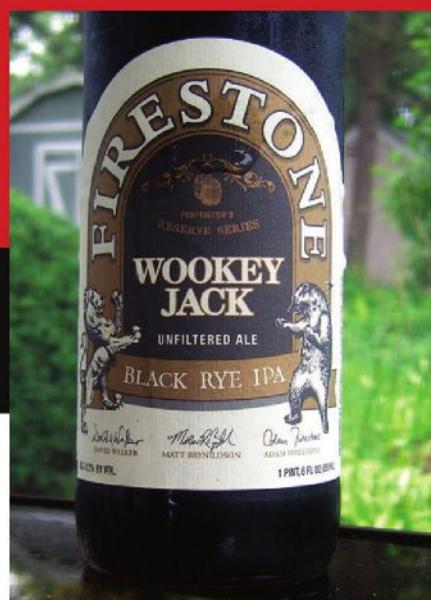
## Firestone Walker Wookey Jack Clone

RECIPE BY AMAHL TURCZYN  
SCHEPPACH

### INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

13.5 lb	(6.12 kg) pale two-row malt (81.1%)
1.66 lb	(0.75 kg) Briess rye malt (9.9%)
0.5 lb	(227 g) Weyermann 175° L Cara-Rye malt (3%)
0.5 lb	(227 g) Weyermann 525° L Carafa III malt (3%)
0.5 lb	(227 g) Briess 550° L Midnight Wheat malt (3%)
0.5 oz	(14 g) Magnum, 13% a.a. (90 min)
1.0 oz	(28 g) Citra, 12.4% a.a. (20 min)
1.0 oz	(28 g) Amarillo Gold, 8.5% a.a. (20 min)
1.75 oz	(50 g) Amarillo Gold, 8.5% a.a. (whirlpool 5 min)
1.75 oz	(50 g) Citra, 12.4% a.a. (whirlpool 5 min)
1.0 oz	(28 g) Amarillo Gold (dry hop days 1-3)
1.0 oz	(28 g) Citra (dry hop days 1-3)
1.0 oz	(28 g) Amarillo Gold (dry hop days 4-7)
1.0 oz	(28 g) Citra (dry hop days 4-7)
White Labs WLP007 Dry English Ale yeast, 2,500 mL starter	



Boil Time: 90 min  
Brewhouse Efficiency: 75%  
Estimated Original Gravity: 1.080 SG  
Estimated Final Gravity: 1.015 SG  
Estimated Color: 38 SRM  
Bitterness: 60 IBU  
Estimated Alcohol by Volume: 8.4%

### DIRECTIONS

Mash at 145-148° F (63-64° C) for 60 minutes. Increase to 155° F (68° C) for 10 minutes, then sparge. Ferment at 62° F (17° C) for 10 days. After fermentation is complete, add first two dry hops in a weighted hop bag. Steep for three days, then remove and add second two dry hops. Steep four days, then package.

### EXTRACT VERSION

Substitute 10.25 lb pale malt extract syrup for pale two-row malt. Mash rye malt with Cara-Rye and color malts for 45 minutes at 155° F (68° C). Rinse, dissolve extract completely, and proceed with boil. Expect a slightly higher finishing gravity with extract version.

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## Brewery Rankings

1. Russian River Brewing Company, Santa Rosa, Calif.
2. Bell's Brewery, Kalamazoo, Mich.
3. Stone Brewing Co., Escondido, Calif.
4. Dogfish Head Craft Brewery, Milton, Del.
5. Sierra Nevada Brewing Co., Chico, Calif.
6. Founders Brewing Co., Grand Rapids, Mich.
7. Firestone Walker Brewing Co., Paso Robles, Calif.
8. Lagunitas Brewing Company, Petaluma, Calif.
9. Deschutes Brewery, Bend, Ore.
10. New Belgium Brewing, Fort Collins, Colo.
11. Three Floyds Brewing Co., Munster, Ind.
12. Goose Island Beer Co., Chicago, Ill.
13. Ballast Point Brewing Co., San Diego, Calif.
14. Odell Brewing Co., Fort Collins, Colo.
15. Boston Beer Co., Boston, Mass.
16. Boulevard Brewing Co., Kansas City, Mo.
17. Oskar Blues Brewery, Longmont, Colo.
18. New Glarus Brewing Co., New Glarus, Wis.
19. Victory Brewing Co., Downingtown, Pa.
20. Avery Brewing Co., Boulder, Colo.
21. Surly Brewing Co., Minneapolis, Minn.
22. Great Divide Brewing Co., Denver, Colo.
23. Great Lakes Brewing Co., Cleveland, Ohio
24. The Bruery, Placentia, Calif.
25. Left Hand Brewing Co., Longmont, Colo.



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"executed double IPA should taste," proclaimed Emily Adriion of Baltimore, Md.

"You know it's a great beer when the people you've introduced Pliny to text you pictures of themselves whenever they get their hands on one." commented Michael Copp of Coronado, Calif.

Indeed, one could add "elusive" to the list of descriptors for Pliny the Elder. The beer is distributed only in northern and southern California, Oregon, Colorado, and Philadelphia, which only seems to add to its mystique.

"Pliny the Elder is about 65 to 70 percent of what we produce in total, and we can't make enough of it," lamented Cilurzo. "We are out of space at both breweries. Since we are at full capacity, we can't add any distribution and the truth is we don't even have enough Pliny for our own pub."

Two Hearted Ale, an IPA from Bell's Brewery in Kalamazoo, Mich., was again the runner-up in the poll. Like Pliny the Elder, Two Hearted Ale has a storied history. The brand was first brewed in 1988, but it veered down a different path in 1993, when Bell's employee Rik Dellerger, a keg washer who eventually became the lead brewer, brewed a homebrew for a birthday party (using an "obscene amount of hops," according to Bell's director of operations John Mallett) that became the inspiration for the revamped Two Hearted Ale. Like Pliny, that new version of Two Hearted also used a newly developed (at the time) hop that became known as Centennial.

"This was the first craft beer I ever loved, and it's still my favorite beer of all time," commented Zymurgy reader Mike Maxam of Liberty Township, Ohio. "It's wonderfully made, hoppy, not too bitter, and magical."

Reader Eric Regner of Eagle, Idaho, was confident in placing Two Hearted Ale at the top of his list. "One beer for the rest of my life? OK."

Ballast Point Sculpin IPA, fifth last year, moved into the number three spot for 2014, with Bell's Hopslam, a winter seasonal double IPA, finishing fourth for the second straight year.

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Heady Topper, a double IPA from The Alchemist in Burlington, Vt., vaulted into the top five after finishing 16th last year. Heady Topper is the core beer produced by the brewery, which persevered despite the destruction of its Alchemist Pub & Brewery during Hurricane Irene in 2011.

Zymurgy reader Tim Broderick of South Hamilton, Mass. described Heady Topper as having “explosive hop flavor with enough sweetness to balance out the bitterness. The perfect beer for hop heads.”

“Nobody comes close to this hop profile,” proclaimed Brad Bostdorff of Hackettstown, N.J.

Following recent trends, eight of the top 10 beers in the poll are IPAs or double IPAs, with Founders Breakfast Stout and Goose Island Bourbon County Brand Stout as the exceptions.

Of course, many beer lovers have different favorites on different days.

“My favorite beer depends on the weather, the season, where I’m drinking it, what I’m doing, and my general mood,” summed up Hugh Bynum of Beaverton, Ore.

## The Best of the Best

As in years past, we also kept track of which breweries received the most votes in the poll. This year’s number one brewery is Russian River, which placed five beers in the top 50 (Pliny the Elder, Blind Pig I.P.A., Pliny the Younger, Supplication, and Consecration). Russian River celebrated 10 years at its Santa Rosa, Calif. brewpub in April, and added a production facility in 2008.

Finishing second among breweries was Bell’s Brewery, which, as mentioned, placed two of its beers in the top four.

“That homebrewers get what we do is way more important than any other group,” said Mallett. “Homebrewing is our roots, and we love that spirit of adventure and do-it-yourself exploration.”

As far as the Best Portfolio of beers, New Belgium Brewing in Fort Collins, Colo. had a mind-boggling 60 beers receive

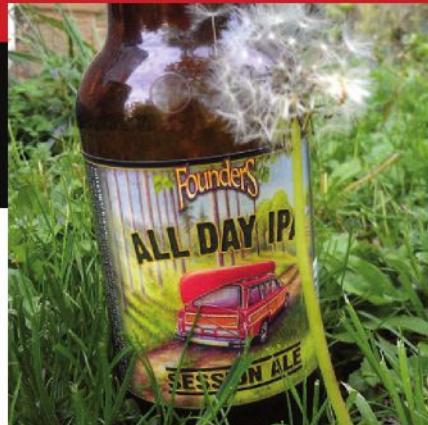
# Founders All Day IPA Clone

RECIPE BY AMAHL TURCZYN SCHEPPACH

## INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

6.75 lb	(3.06 kg) pale two-row malt (77.1%)
0.5 lb	(227 g) 60° L crystal malt (5.7%)
0.5 lb	(227 g) 20° L Munich malt (5.7%)
0.5 lb	(227 g) 9° L dark wheat malt (5.7%)
0.25 lb	(113 g) flaked maize (2.9%)
0.25 lb	(113 g) flaked oats (2.9%)
0.5 oz	(14 g) Simcoe, 13% a.a. (60 min)
0.5 oz	(14 g) Amarillo Gold, 8% a.a. (15 min)
0.5 oz	(14 g) Simcoe, 13% a.a. (15 min)
1.0 oz	(28 g) Amarillo Gold, 8% a.a. (whirlpool 10 min)
1.0 oz	(28 g) Crystal, 3.5% a.a. (whirlpool 10 min)
1.0 oz	(28 g) Amarillo Gold (dry hop 3 days)
1.0 oz	(28 g) Simcoe (dry hop 3 days)
White Labs WLP001 California ale yeast	



Boil Time: 60 min

Brewhouse Efficiency: 75%

Estimated Original Gravity: 1.043 SG

Estimated Final Gravity: 1.007 SG

Estimated Color: 6.9 SRM

Bitterness: 46 IBU

Estimated Alcohol by Volume: 4.7%

## DIRECTIONS

Mash at 148° F (64° C) for 60 minutes. Ferment at 67° F (19° C) for 7 days. Steep dry hops for three days, then remove and package.

## EXTRACT VERSION

Substitute 4.5 lb (2.04 kg) pale malt extract syrup for 6 lb (2.72 kg) of the pale malt. Mash remaining 12 oz (340 g) pale malt with wheat, crystal, and Munich malts, along with the adjunct grains at 155° F (68° C) for one hour. Rinse, dissolve extract completely and proceed with boil. Expect a slightly higher finishing gravity with the extract recipe.

votes in the poll. New Belgium placed two beers (La Folie and Ranger) in the top 50, and its vast portfolio includes the envelope-pushing beers in the Lips of Faith series.

“I am incredibly lucky to be the brewmaster at this brewery where we can crank out love and talent in creative quality,” said Bouckaert. “We put in two more brewhouses in the last two years, one around 8 gallons and one around 8 barrels, to make sure we can focus on quality of ingredients and new processes and to be able to fulfill new dreams.”

Bouckaert said the brewery will be somewhat constrained by capacity until the new brewery in Asheville, N.C. is up and running next year. “But you should start seeing more sour beers from New Belgium,” Bouckaert revealed. “In the last three years we quadrupled our wood cellar and those new foeders are really starting to deliver interesting stuff.”

The Boston Beer Company, aka Samuel Adams, received votes for 53 its beers in the poll. Boston Beer is celebrating its 30th anniversary in 2014, as Jim Koch brewed the first batch of Boston Lager in 1984.

# Russian River Pliny the Elder

RUSSIAN RIVER BREWING CO., SANTA ROSA, CALIF.

RECIPE PROVIDED BY VINNIE CILURZO

[Note: This recipe originally appeared in the July/August 2010 *Zymurgy*.]

## INGREDIENTS

for 6.0 gallons (22.7 L)

[Net: 5 gallons (18.9 L) after hop loss]

13.25 lb	(6.01 kg) two-row pale malt
0.6 lb	(272 g) crystal 45° L malt
0.6 lb	(272 g) Carapils (dextrin) malt
0.75 lb	(340 g) dextrose (corn) sugar
3.5 oz	(99 g) Columbus* 13.9% a.a. (90 min)
0.75 oz	(21 g) Columbus* 13.9% a.a. (45 min)
1.0 oz	(28 g) Simcoe 12.3% a.a. (30 min)
1.0 oz	(28 g) Centennial 8% a.a. (0 min)
2.5 oz	(71 g) Simcoe 12.3% a.a. (0 min)
1.0 oz	(28 g) Columbus* 13.9% a.a. (dry hop, 12 to 14 days total)
1.0 oz	(28 g) Centennial 9.10% a.a. (dry hop, 12 to 14 days total)
1.0 oz	(28 g) Simcoe 12.3% a.a. (dry hop, 12 to 14 days total)
0.25 oz	(7 g) Columbus* 13.9% a.a., (dry hop, 5 days to go in dry hop)
0.25 oz	(7 g) Centennial 9.10% a.a. (dry hop, 5 days to go in dry hop)
0.25 oz	(7 g) Simcoe 12.30% a.a. (dry hop, 5 days to go in dry hop)

\*Tomahawk/Zeus can be substituted for Columbus  
White Labs WLP001 California Ale Yeast or Wyeast 1056 American Ale Yeast

Original Gravity: 1.072

Final Gravity: 1.011

Extract Efficiency: 75 percent

IBUs: 90-95 (actual/not calculated)

ABV: 8.2%

SRM: 7

## DIRECTIONS

Mash grains at 151-152° F (66-67° C) for an hour or until starch conversion is complete. Mash out at 170° F (77° C) and sparge. Collect 8 gallons (30 L) of runoff, stir in dextrose, and bring to a boil. Add hops as indicated in the recipe. After a 90 minute boil, chill wort to 67° F (19° C) and transfer to fermenter. Pitch two packages of yeast or a yeast starter and aerate well. Ferment at 67° F (19° C) until fermentation activity subsides, then rack to secondary. Add first set of dry hops on top of the racked beer and age 7-9 days, then add the second set. Age five more days then bottle or keg.

## EXTRACT SUBSTITUTION

Substitute 6.5 lb (3.0 kg) of light dry malt extract for two-row malt. Due to the large hop bill for this recipe, a full wort boil is recommended. Steep grains in 1 gallon (3.8 L) of water at 165° F (74° C) for 30 minutes, then remove and rinse grains with hot water. Stir in dextrose and top up kettle to 8 gallons (30 L), and bring to a boil. Add hops as indicated in the recipe. After a 90 minute boil, chill wort to 67° F (19° C) and transfer to fermenter. Pitch two packages of yeast or a yeast starter and aerate well. Ferment at 67° F (19° C) until fermentation activity subsides, then rack to secondary. Add first set of dry hops on top of the racked beer and age 7-9 days then add the second set. Age five more days then bottle or keg the beer.



## Top Imports

1. Unibroue La Fin du Monde (Canada)
2. Guinness Draught (Ireland)
3. St. Bernardus Abt 12 (Belgium)
4. Westvleteren XII (Belgium)
- T5. Rodenbach Grand Cru (Belgium)
- T5. Duvel (Belgium)
- T7. Weihenstephen Hefe Weissbier (Germany)
- T7. Rochefort 10 (Belgium)
9. Chimay Grande Reserve/Blue Label (Belgium)
10. Duchesse de Bourgogne (Belgium)





## Best Portfolio

(T indicates tie)

1. New Belgium Brewing, 60 beers
2. Boston Beer Co. (Samuel Adams), 53 beers
3. Sierra Nevada Brewing Co., 49 beers
4. Dogfish Head Craft Brewery, 48 beers
5. Stone Brewing Co., 46 beers
- T6. Bell's Brewery, 41 beers
- T6. Short's Brewing Co., 41 beers
8. Deschutes Brewery, 40 beers
9. The Bruery, 38 beers
- T10. Avery Brewing Co., 37 beers
- T10. Boulevard Brewing Co., 37 beers
- T10. Goose Island Beer Co., 37 beers



### Foreign Affairs

Just as in 2013, no beers produced by breweries outside of the U.S. made the top 50. But unlike last year, the top two vote-getters did not hail from the hallowed brewing grounds of Belgium. Instead, Canadian brewery Unibroue's La Fin du Monde, a tripel, and Ireland's Guinness Draught were the top imported beers in the poll.

"True to its name, I wouldn't mind having this beer if it was the end of the world," commented Matthew Monfet of Hoboken, N.J., of the top vote-getter.

"Consistently beautiful in taste and mouthfeel," was the assessment of Harvey Raben of Austin, Texas.

Belgian beers rounded out the top five: St. Bernardus Abt 12, Westvleteren XII,

Rodenbach Grand Cru, and Duvel (the latter two tied for fifth place).

"Americans may make the majority of the best beers in the world, but this particular foreign beauty continues to top my list every year," commented Hans Muecke regarding St. Bernardus Abt 12.

### Beer, How Do I Love Thee?

Many craft beer aficionados have an ongoing love affair with their favorite beers. Here's a sampling of the "odes to craft beer" we found in readers' comments.

New Belgium Rampant: "Looks beautiful...tastes beautiful...hops hops hops." (Chris Teller, Albuquerque, N.M.)

North Coast Old Rasputin: "This beer changed my life." (Dave Otto, St. Cloud, Minn.)

Green Flash West Coast IPA: "Hoppy, balanced, beauty in a glass." (John Frank, New Baltimore, Mich.)

Oskar Blues Ten Fidy: "A dreamy darkness with a beautiful, rich black color and tan head." (Michael Travis, Haughton, La.)

River North B-Side Quandary: "Heaven in a glass. Sweet Belgian quad aged in oak whiskey barrels with sweet cherries added. Perfection." (Chris Ray, Parker, Colo.)

Stone Levitation Ale: "My beer epiphany Brought me back to brewing, with a passion." (Jon Hurst, Jacksonville, Ill.)

Olde Hickory The Event Horizon: "I have only had this beer once (2+ years ago), but I still think about it all the time." (Sam Wineka, Arlington, Va.)

Mountain Sun Resinous Rye: "If I had to marry a beer... this would be it." (Jarrod Szydlowski, Denver, Colo.)

### Recipes

As usual, we're providing clone recipes for some of the top beers in the poll. Zymurgy associate editor Amahl Turczyn Scheppach put together homebrew recipes for Firestone Walker Wookey Jack, a black rye IPA, and Founders All Day IPA, a session ale. Give them a try and see what you think!

It's been a while since the recipe for Pliny the Elder appeared in these pages (July/August 2010, to be exact), so we're also reprinting that here to save some digging. Bell's Two Hearted Ale appeared in July/August 2011. We've also run clone recipes in the past for many others in the top 50. Search the Zymurgy index or eZymurgy at HomebrewersAssociation.org to find the specific issues for recipes for some of those beers.

Thanks to all of the AHA members who voted in this year's poll, and for your many great comments that helped tell the story of why you love the beers on your list. And remember: it's not too early to start doing research for the 2015 Best Beers in America poll. Cheers!

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

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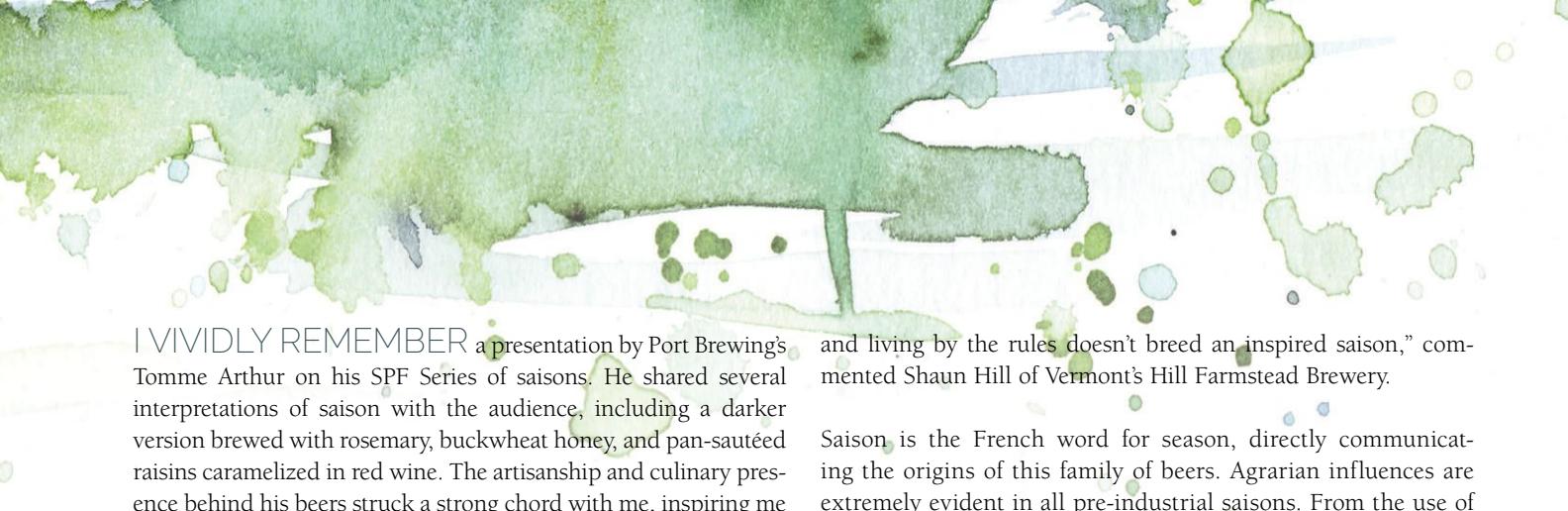


# Saison Resurgence

# ROOTS & REVIVAL OF A FARMHOUSE STYLE

BY JASON YESTER





I VIVIDLY REMEMBER a presentation by Port Brewing's Tomme Arthur on his SPF Series of saisons. He shared several interpretations of saison with the audience, including a darker version brewed with rosemary, buckwheat honey, and pan-sautéed raisins caramelized in red wine. The artisanship and culinary presence behind his beers struck a strong chord with me, inspiring me to explore the flexibility within the style.

At Trinity Brewing Co. in Colorado Springs, we've poured more than 80 different saisons in less than six years, and the pulse continues with a new recipe every three weeks. Like many brewers, we've been inspired to rediscover the connection between crafting a farmhouse-derived beer and exploring new eco-regional opportunities.

#### OUTSIDE THE BOX

Brewers choosing to make saison must embrace several facets of the style and also let go of traditional boundaries. "Being cautious

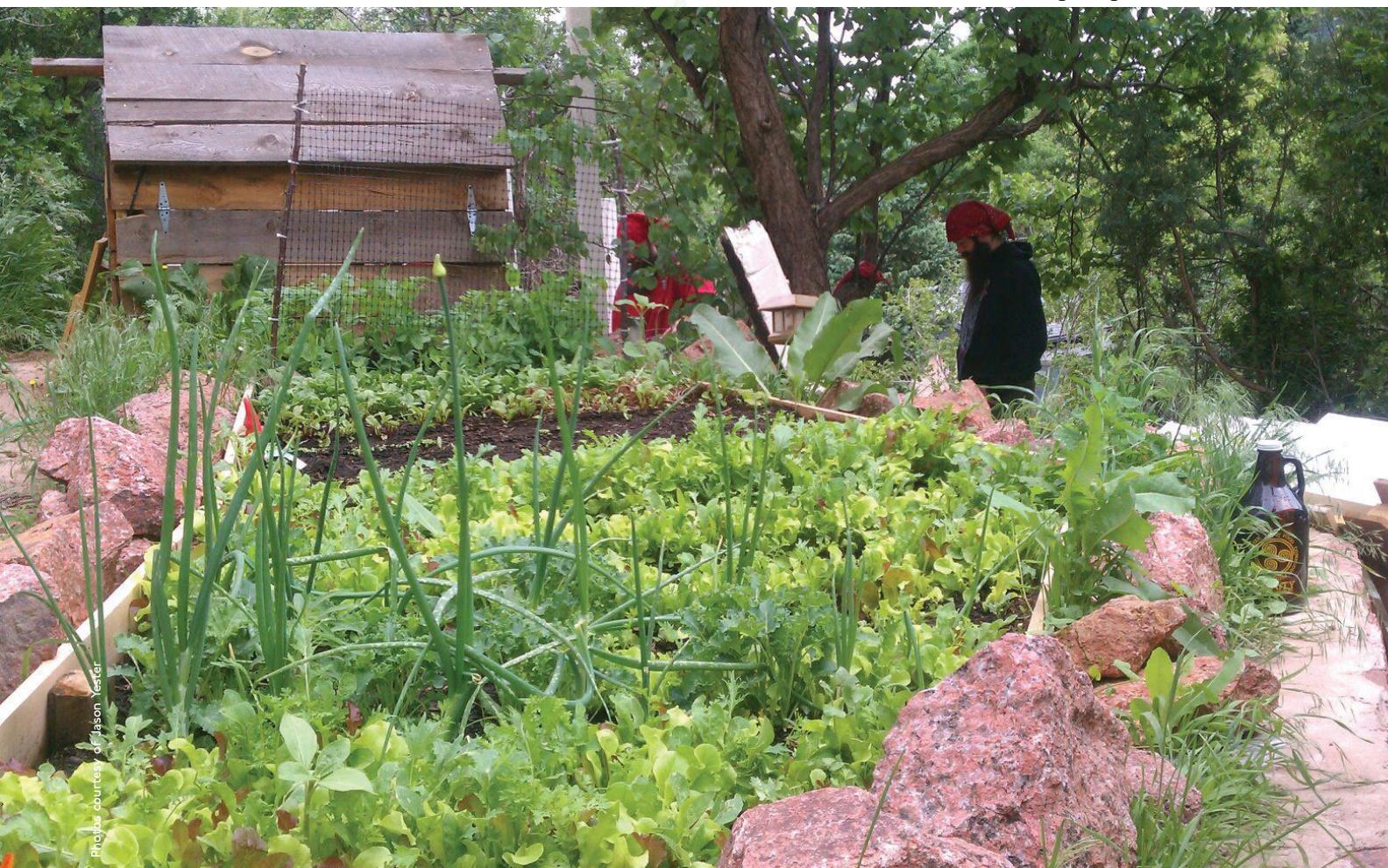
and living by the rules doesn't breed an inspired saison," commented Shaun Hill of Vermont's Hill Farmstead Brewery.

Saison is the French word for season, directly communicating the origins of this family of beers. Agrarian influences are extremely evident in all pre-industrial saisons. From the use of localized grains such as rye and spelt, the addition of regional adjuncts, and the likely presence of wild yeasts and bacteria, a primitive theme is consistent. These practical beers were made for and by farm workers and coal miners for simple enjoyment. Accessibility to raw materials was dictated strictly by what was grown on the farm. Creativity drawn from the brewers found expression in their recipes as they adapted to the unusual ingredients presented to them on the farms.

Prior to refrigeration, traditional saisons, often referred to as "provisional" or "vieille," were brewed during late fall and winter and aged through the cooler months to help prevent spoilage; brew-

**Left: Raising a toast to saisons at Trinity Brewing Co.**

**Below: Author Jason Yester in his organic garden.**





## SAISON YEAST STRAINS

These saison strains are all low to moderate flocculators, and most are low to moderate attenuators. Using these, it's usually necessary to use additional strains for full attenuation. I recommend blending a minimum of 10 to 25 percent of the original pitch with Wyeast 3711 French Saison or any strain of Brettanomyces.

- **WLP 565 (Dupont 2):** Earthy with overly sweet esters, bubble gum. Attenuation 65-75%.
- **Wyeast 3522 Belgian Ardennes (Achouffe):** A beautiful balance of delicate fruit esters and subtle spicy notes, with neither one dominating. Unlike many other Belgian style strains, this strain is highly flocculent and results in bright beers. Attenuation 72-76%.
- **Wyeast 3463 Forbidden Fruit (Hoegaarden):** Spicy phenolics with a full complex fruity ester profile, low flocculation. Attenuation 72-76%.
- **Wyeast 3711 French Saison (Bertus):** Aromatically citrus, spicy, no earthiness, low phenolics, extremely dry. Attenuation 77-83% (we've documented attenuation to above 90%).
- **Wyeast 3724 Belgian Saison (Dupont 1):** Sweet esters and very slow finishing yeast; needs a second strain. Attenuation 75-79%.
- **Wyeast 3725 Bier de Garde (Brasserie Fantôme):** Low to moderate ester production with subtle spiciness. Malty and full on the palate with initial sweetness. Finishes dry and slightly tart. Ferments well with no sluggishness. Attenuation 74-79%.
- **Wyeast 3726 Farmhouse Saison (Blaugies):** Earthy and spicy/peppery. Attenuation 74-79%.
- **Helper yeast:** Wyeast 3711 or Brettanomyces at 10-25% of original pitch. If those yeasts are not available, use a hearty American or English ale yeast at 5%. Slurry/mix with original yeast pitch to help achieve complete attenuation.

ers built up a large stock or "provision" of these beers. Timing of the brewing schedule depended upon on the harvest of grains, hops, vegetables, fruits, and flowers, making the beer connected as much to the land as the time of year.

The advent of mechanization, production lines, and shipping led to a dark age for saison. In the 1950s and 60s, a situation much like the American macrobrewery "takeover" took place in Belgium. Local farmhouse brewers and small cooperatives were either crushed or assimilated as most of them gave way to progress. A divergence between "farm and foam" developed as breweries began to produce bottles more for profit than provision. The connection to people, farm, season, and terroir was dissolved for the first time. Saison was produced year-round with a standardized recipe and thereby evolved into a beer of dogmatic precision, replication, and wide distribution rather than a beer of revered artisanship. The boutique existence of these romantic beers dwindled and faded into memory.

A present day campaign to revive the original philosophy behind farmhouse beers is alive and thriving, gaining more momentum daily. Led largely by American brewers, new regional and indigenous influences are intentionally being reincorporated.

- At Boulevard Brewing Co. in Kansas City, Belgian-born brewmaster Steven



**Steven Pauwels (left)** of Boulevard Brewing uses American hops in Tank 7. Raw materials should ideally be fresh and reflect the season. Trinity's cucumber saison is brewed with 700 pounds of peeled cucumbers.

Pauwels uses American Amarillo hops for his saisons. "We want them to be recognized as made by a U.S. craft brewer," said Pauwels. "I like the interaction between Belgian yeast esters and the fruity/floral characters of American hops."

- Agrarian Ales in Eugene, Ore., was founded on an organic farm owned by the Tilley family after 25 years of operation. They grow all of the hops for their beers on-site and source the grain within 30 miles. Several of their saisons feature herbs and spices also grown on-site, and a restaurant in their barn serves only food grown on the farm.
- At Trinity Brewing, we've been inspired by wild ingredients found on a local hike, including amaranth, mustard seed, and rose hips.
- Both Jester King Brewery of Austin, Texas and Mystic Brewery of Chelsea, Mass. have programs to cultivate their own local yeast and flora by isolating strains from native flowers or fruits for use in their saisons.

Much like domaine wines, I expect an evolution of flavors indicating specific regions

## SAVANT FOU

### INGREDIENTS

for 10 U.S. gallons (37.85 L)

21.0 lb	(9.53 kg) Vienna malt
5.5 lb	(2.49 kg) local pumpkin pulp, cooked* (in boil, 60 min)
4.5 lb	local honey (59 min)
0.08 oz	(2.3 g) grains of paradise (45 min)
1.0 oz	(28 g) Styrian Golding hops (30 min)
0.3 oz	(8.5 g) dried hibiscus (dry, 1 week in secondary)
1 Tbs	calcium chloride
1 pkg	Wyeast 3711 French Saison ale yeast
2 pkg	Wyeast 3726 Farmhouse Ale yeast (if unavailable use 3463 Forbidden Fruit)

\*see Directions

Expected Efficiency: 70%

Boil Time: 60 min

Original Gravity: 16.5° P (1.068 SG)

Final Gravity: 1.0-1.5° (1.004-1.006 SG)

### DIRECTIONS

Mash at 145.5° F (63° C) for 30 minutes. Clean and section the pumpkin, place in a baking pan with a small amount of water, and cover with foil (I grow peanut pumpkins in my garden as they are my favorite for brewing). Bake at 375° F (190° C) for 45-60 minutes, until pulp is soft. When cool, scrape pulp away from pumpkin skin; discard skin. Loosely bag the pulp in fine hop socks before adding to the boil. Boil 60 minutes, adding bagged pumpkin and honey at beginning of boil. Ferment at ambient temperatures without cooling. When fermentation subsides, allow to rest at ambient temperatures for one more week after reaching terminal gravity.

### EXTRACT VERSION

Substitute 14.5 lb (6.58 kg) pale malt extract syrup for Vienna malt.

Special thanks to homebrewer extraordinaire Andy Carter for recipe translation.

# TYPES OF SAISON

- **Saison Provisional/Vieille:** Stored and aged saison. Many of these beers are aged in barrels with Brettanomyces and a low level of lactobacillus. Grist bill often consists of ancient choices: spelt, rye, oats, raw wheat. First recognized in the 1920s; brewed for migrant farm workers for nourishment. (5-7% ABV)
- **Saison Grisette:** Born in the late 1800s in Hainaut, the coal mining region of Belgium. Low alcohol and golden in color, also referred to as a table saison. These beers are refreshingly hoppy. Characterized by the diversity of a regional grist, most examples include a high level of wheat, rye, and buckwheat. (3-5% ABV)
- **Saison Regal/Super Saison:** 8% ABV and up; began appearing after 1954 when Dupont first brewed Moinette to 8.5% ABV.
- **Saison Hiver (winter), Saison Printemps (spring), Saison d été (summer), Saison Automne (fall):** Beers reflecting the seasons are commonly brewed with ingredients harvested during those seasons, and range from golden to black in color accordingly. (4-9% ABV)
- **Saison Savant:** Artisan/revivalist movement largely led by American brewers. These saisons are characterized by new regional/eco-regional influences: herbs, spices, vegetables, fruits, flowers, and nuts. (3-15% ABV)

or breweries to continue to develop within the saison style.

## WORKING WITH ADJUNCTS

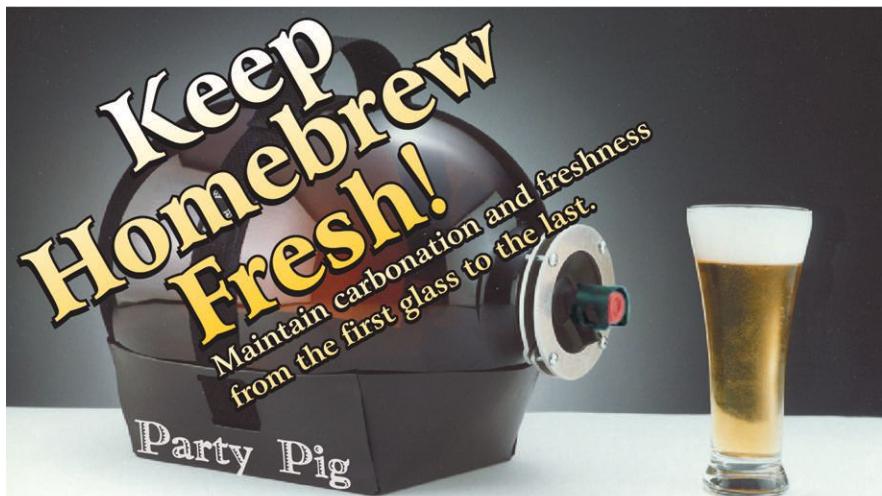
Having a firm grasp of distinctive raw materials is key to creating saison. Brewers are constantly researching, adapting, and evolving to make these beers, learning about ingredients from chefs and growers, and in many cases relying upon trial and error.

Adjunct flavors should be in balance with the rest of the beer and should never dominate. In general, if the added flavor created is higher than the yeast ester of weisse beer, the brewer has gone too far. "Spices are present in a saison only to enhance flavor; one should not be able to detect them individually," asserts Yvan De Baets of Belgium's Brasserie de la Senne.

Saison brewers continue to explore new horizons with adjuncts not typically associated with beer. At Trinity, our Elektrick Cukumbah summer saison uses more than 700 pounds of cucumbers. The first year we made the beer, it finished very grassy, with a high chlorophyll note. We changed the process, now peeling the cucumbers to eliminate the grassy flavor, and adding some lemon zest for brightness. The resulting beer is a delicious showcase of honeydew melon notes.

7venth Sun Brewing in Dunedin, Fla. has experimented with locally grown kumquats, the only citrus fruit that does not contain pith. The pith of other citrus fruits is extremely astringent and must be removed from the zest and meat of the fruit so the beer doesn't become overly bitter. "We elected to use the kumquats whole due to the volume required as well as their lack of pith," explained 7venth Sun's Justin Stange. "After visiting the farm where we got them, we learned it's not uncommon for people to eat them whole, so we decided to give it a shot."

Sometimes spices and adjuncts are added not for flavor but to enhance other aspects of the beer. Nearly all of our saisons at Trinity include Grains of Paradise (North African peppercorns) in the recipe at very low levels, which brings some astringency



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# SAVANT D'ÉTÉ

## INGREDIENTS

for 10 U.S. gallons (37.85 L)

6.0 lb	(2.72 kg) Vienna malt (3.5 SRM)
3.5 lb	(1.59 kg) Pilsner malt (2.0 SRM)
3.06 lb	(1.39 kg) rye malt (4.7 SRM)
2.75 lb	(1.25 kg) flaked oats (1.0 SRM)
2.5 lb	(1.13 kg) acid malt (3.0 SRM)
2.0 lb	(0.9 kg) rice hulls (in mash)
1.38 lb	(623 g) buckwheat (1.0 SRM)
1.38 lb	(623 g) spelt (1.0 SRM)
1.38 lb	(623 g) triticale (1.0 SRM)
1.38 lb	(623 g) flaked white wheat (1.7 SRM)
1.25 oz	(35 g) Styrian Golding hops, 195° F (91° C) wort held for 30 minutes
1 Tbs	gypsum
1 pkg	Wyeast 5112 Brettanomyces bruxellensis
1 pkg	Wyeast 3711 French Saison
1 pkg	Wyeast 3726 Farmhouse Ale (if unavailable use 3463 Forbidden Fruit)

Expected Efficiency: 65%

Boil Time: N/A (see Directions)

Original Gravity: 12° P (1.048 SG)

Final Gravity: 1-1.5° P (1.004-1.006 SG)

## DIRECTIONS

Dough in at 118.5° F (48° C) and hold for 60 minutes. Raise temperature to 131° F (55° C) and hold for 40 minutes. Raise to 145.5° F (63° C) and hold for 30 minutes. Sparge with rice hulls. Add hops and hold wort in kettle at 195° F (91° C) for 30 minutes. No boil. Ferment at ambient temperatures without cooling. When fermentation subsides, allow to rest at ambient temperatures for one more week after reaching terminal gravity.

This recipe is designed for an extremely visceral mouth-feel, both with the malt bill and the lack of boil; a very spicy profile (without using any spices); and a balancing/refreshing acidity. Enjoy this recipe young and during the summer. Buckwheat, spelt, and triticale can be found at bakeries or bulk bins at natural foods markets. Unmalted grains and rye malt will produce an extremely viscous mash; use rice hulls liberally to loosen the mash.

[Editor's Note: Due to the large percentage of adjunct grains, an extract version of this recipe is not recommended.]

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# WILD AND EXPERIMENTAL YEASTS

10-100% of primary pitch slurry. The use of Brettanomyces will guarantee attenuation, dramatically increase complexity, and assure cellaring potential/development.

- *Brettanomyces anomala*: Formerly known as *Brettanomyces intermedius*, this strain displays moderate funk and acidic tones. (Available at East Coast Yeast).
- *Brettanomyces bouckaertii*: Very low intensity that becomes spicy with age. A personal favorite for saison brewing, this variety of Brett was first isolated from a German Berliner weisse slurry. Woody, white pepper, earthy, musty, graphite notes.
- *Brettanomyces bruxellensis*: Medium intensity Brett character. Classic strain used in secondary fermentation for Belgian-style beers and lambics. Develops notable bitter leather with age.
- *Brettanomyces bruxellensis var Drei*: Produces a slightly tart beer with delicate fruit characteristics of mango and peach, high straw, wet wool, and some leather. Certainly the most aromatic Brett!
- *Brettanomyces claussenii*: Low intensity Brett character. Originally isolated from strong English stock beer in the early 20th century. More aroma than flavor contribution. Fruity, pineapple to light graphite flavor.
- *Brettanomyces lambicus*: High intensity Brett character. Definitive horsey, smoky, and spicy flavors. As the name suggests, this strain is found most often in lambic style beers, which are spontaneously fermented. Also found in Flanders and sour brown style beers.
- *Brettanomyces naardenensis*: Quickly creates an abundance of acidity with ripe fruit; mouse and acetic acid character will transition into a strawberry-like ester with age. (Available at East Coast Yeast).

and dryness. Pumpkin and/or squash pulp is often found in our recipes too. Added to the boil, it provides texture and creaminess, similar to the silkiness of an oatmeal stout.

## SIMPLE YET COMPLEX

With saisons, it often takes a lot of work to create the small subtleties that brewers and beer lovers have fallen in love with. Recipes often include raw grains like spelt for a viscous mouthfeel, and rye to enhance spiciness. Mashing regimens often must be done in steps to effectively handle these grains.

Saison is a very dry style and often fairly hoppy. The closest style structurally is Pilsner. In fact, the style structure is so similar that Bryan Greenhagen of Mystic Brewery crafted Saison Renaud by changing only the yeast from his Pilsner recipe!

Saisons should finish at an extremely low gravity. All of the saisons we brew at Trinity ferment to 1.0-1.5° Plato (1.004-1.006 SG), and it takes a couple of tricks

to get them that low. I recommend using very low mash temperatures for your conversion step to avoid extracting complex sugars, which would increase body. We mash all of our recipes at 143.6° F (62° C) during conversion. Another procedure we use to keep our finishing gravity extremely low is a short boil to avoid potential caramelization of wort. We keep our boil times to 60 minutes or less.

Using highly fermentable adjuncts (honey, most sugars, agave, etc.) in a recipe can also encourage a low finishing gravity. Trinity saisons are generally not brewed over 12-14° Plato (1.048-1.057 SG) with base grain. If brewing anything higher in ABV, we achieve a boost in gravity by adding fermentable adjuncts during the whirlpool. The final and most important step to keeping recipes dry is a multiple or mixed yeast strain fermentation. Many authentic saison yeast strains only attenuate to around 75 percent; with these, a helper yeast must be added during the original pitch to ensure the beer ferments out completely.



Jason Yester is captain of the pirate ship at Trinity Brewing.

Saison fermentations can be warm. Saisons were born before refrigeration and cooling systems, so in an effort to revive original fermentation scenarios, we never use any cooling at Trinity. (Saisons are a natural choice for homebrewers and those using systems without cooling.) At Trinity, we've recorded fermentation temperatures as high as 102° F (39° C)! Esters and phenols would usually be worrisome at those temperatures, but we've never had any issues. I attribute this mostly to our choice of yeast (for more on yeast selection, see the sidebar on page 38). The Blaugies Farmhouse Ale strain (Wyeast 3726) is our base yeast, making up 50 to 75 percent of our fermentation blends. We believe saison should be earthy, dry, and spicy rather than driven by high fruit esters and phenols, and 3726 works nicely to create that profile. If fruit character is desired in saison, simply add fruit rather than choosing a high-ester yeast.

As mentioned previously, it's often necessary to add helper yeasts during fermentation to drive down the finishing gravity and ensure complete attenuation. We commonly use Bertus (Wyeast 3711) for this purpose as it's spicy to neutral, and doesn't compromise the desired flavors from 3726 when used at 5 to 10 percent of original pitch. We've recorded attenuations

## FERMENTATION TRACKS

Each of our saisons at Trinity finishes at 1.5° Plato (1.006 SG) or lower.

- 9-13° Plato (1.036-1.053 SG): 66° F (19° C) climbs to 73° F (23° C), 3-4 days to primary finish
- 13-16.5° Plato (1.053-1.068 SG): 66° F (19° C) climbs to 79° F (26° C), 3-5 days to primary finish
- 16.5-25° Plato (1.068-1.106 SG): 66° F (19° C) climbs to 102° F (39° C), 4-6 days to primary finish
- Saké fermentation procedures for gravities over 16.5° Plato to ensure dry/complete attenuation.
- Allow batch to rest at room temperature for 1-2 weeks after fermentation.

higher than 90 percent with 3711, making it valuable for saison brewing.

Two years ago, we also started using Brettanomyces in all of our house saisons at 10 to 100 percent of original pitch. Brewmaster Peter Bouckaert of New Belgium was kind enough to give us access to one of his personal strains that

produces a heavy white pepper note. I personally won't brew another saison without Brett, as I love the complexity, attenuation, and cellaring potential created by the wild yeast.

### SAISON ESSENTIALS

While there is still much exploration to be done within the style, we've developed

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some general “rules of thumb” for crafting deliciously drinkable saisons.

- Saisons must be highly attenuated, exhibiting a dry finish and a refreshing character.
- A well-structured saison exhibits balanced spicy and earthy flavors. These flavors can be achieved through either spicing or yeast choice. Fruity esters or yeast phenols should be subtle.
- Color can range from golden to black, reflecting the seasons.

• Hopping is used only to enhance the character of the beer by creating dryness or complementing light fruit and spice flavors. Use European hop varieties for more traditional recipes and American hops to enhance saison character in locally produced New World versions (0-40 IBUs).

• Raw materials should be fresh and should ideally have a geographic connection to your region, or a thematic connection to the season in which the saison is brewed. Don’t be afraid to try anything raw and unusual—fruit,

vegetables, herbs, spices, nuts, flowers, grains—from a local farm.

• Pilsner or pale malt is common for the grist base at 50 to 100 percent. At Trinity we use Vienna as the base malt during colder seasons.

• Use your imagination with specialty malts! Avoid high percentages of caramel malts and dextrins to ensure a low finishing gravity and to prevent the recipe from becoming overly sweet (we almost exclusively use Special B in place of all caramel malts because of its lack of sweetness and low body contribution). For darker malts, focus on chocolate and de-bittered black. Roast should be used in very small amounts as the dry finish of saison will expose the acrid side of the malt and allow it to dominate a recipe.

• Yeast pitches can be blends of multiple strains, as traditional saison yeasts by themselves may not attenuate adequately. Adding one or more yeast strain(s) increases complexity, helps achieve a thorough attenuation, and (especially in the case of Brettanomyces) increases cellaring potential.

• Bottling a saison allows for a higher level of carbonation and refreshing effervescence. This is a living, breathing style of beer, and ideally it should be bottle conditioned in sturdy bottles at a lively 3.2 to 3.8 volumes of CO<sub>2</sub>.

## THE SPICE OF LIFE

Drinking saison is a provocative experience, and it's important to present this beer style with an insider's knowledge. When choosing glassware, a stemmed white wine glass should be the minimum requirement. A snifter is even better, but I prefer a Belgian globe. Since it is a highly carbonated style, glassware designed specifically for saison can heighten the experience.

Effervescence is essential to the palate of saison. It adds a much-needed dryness as with Champagne, tying the entire structure of the beer together. Be certain to pour saison properly: a medium to hard

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pour releases dissolved CO<sub>2</sub> in the beer, allowing the complex bouquet of aromatics to come alive!

Saisons can be paired with nearly every cuisine. By design, the astringency and effervescence of the style will cut heavy creams, oils, and fats, while spice nuances can easily match or contrast any dish.

Saison is a romantic and humble philosophy with a rather ambitious direction. With saison, we celebrate diversity, creativity, regional flair, and idealistic dedication. Being a saison brewer is extremely adventurous, challenging, and at times ridiculous, but we're addicted to the journey and are having a lot of fun living it.

**Jason Yester is the founder and president of TRiNiTY BREWiNG Company in Colorado Springs, Colo. He is a brewer, artist, foodie, and organic gardener. He tweets @saisonman and has been quoted as saying, "I love saison more than anyone."** 



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# AMERICA'S FIRST TRAPPIST BREWERY

BY HORST DORNBUSCH

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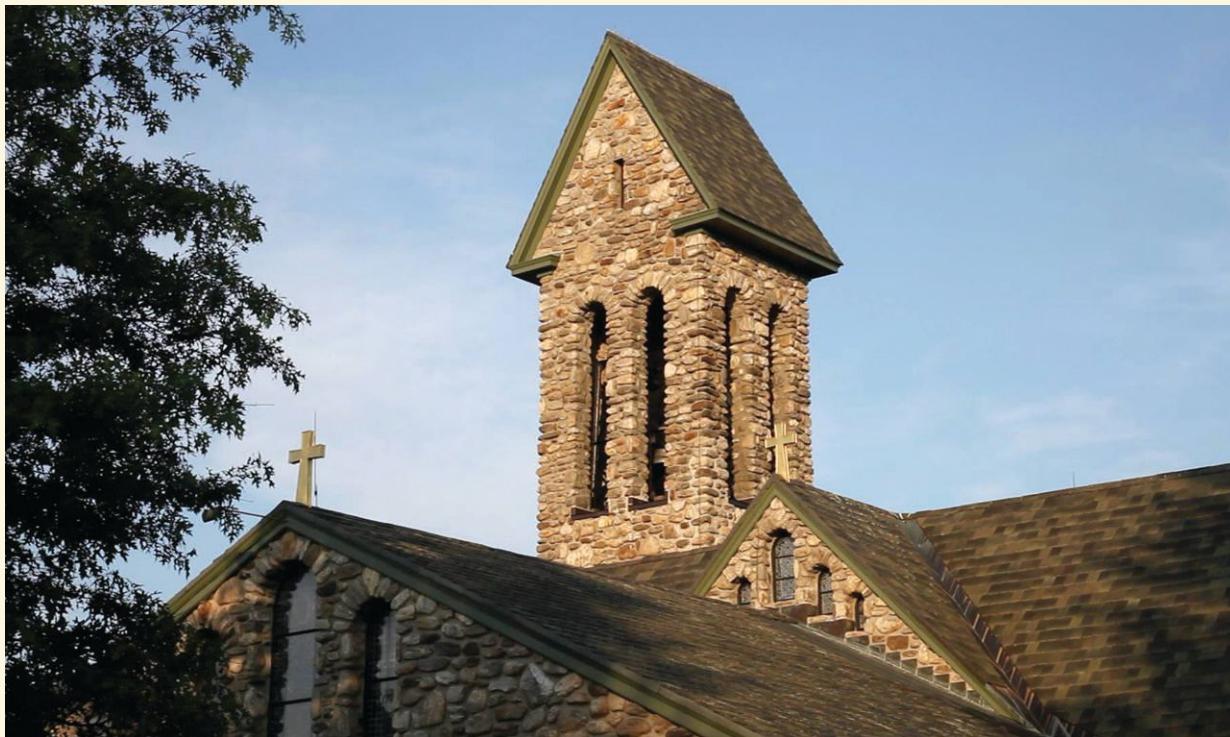
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Mentioning the term “Trappist ales” to a passionate beer lover usually results in an expression of rapture. Trappist beers are rare and universally adored. They are made only by pious, silent friars of the Order of Cistercians of the Strict Observance, the official name of the Trappist order. According to the Cistercians’ website ([ocso.org](http://ocso.org)), fewer than 2,000 Trappist monks live in some 100 abbeys around the world, but until just a few years ago, only seven of them made beer. These brewing abbeys were all clustered in a small northwestern corner of the European continent—in Achel, Chimay, Orval, Rochefort, Westmalle, and Westvleteren in Belgium, as well as in La Trappe/De Konigshoeven across the border from Belgium, in The Netherlands. However, all of that is now changing.



#### TRAPPIST BREWING EXPANSION

The group of ale-making Trappist abbeys operates almost like a closely held corporation. In fact, according to a Belgian court decision handed down in 1962, only breweries that are officially approved by the International Trappist Association (ITA) may legally carry the “Authentic Trappist Product” logo on their labels; and only these may call their beers *Trappistenbier* (Flemish) or *Bière des Pères Trappistes* (French). The ITA places several important restrictions on Trappist breweries: They may sell their beers only to support the monastery and its charities. They are not allowed to pursue brewing just to maximize profits. In addition, all Trappist ales must be brewed on the monastery premises—“*intra muros*” (within the walls)—

either by the monks themselves or by secular staff brought in from the outside but working under the supervision of the friars. Secular breweries that make Trappist-like beers must legally label their products *Abdijbier* (Flemish) or *Bière d'Abbaye* (French).

The number of Trappist breweries has remained stable for as long as anybody can remember. However, in May 2012, the ITA caught the beer world by surprise as it admitted a new brewery, the Engelszell Abbey in Engelhartszell, Austria, into its circle. Engelszell thus became the world’s eighth producer of Trappist beers, and only the second one outside of Belgium. Then, in December 2013, the ITA awarded the same privilege to two additional abbeys. One

was the Abdij Maria Toevlucht in Zundert, on the Dutch side of the Belgian-Dutch border, not far from Antwerp. The other was—and this was a big newsmaker—the Saint Joseph's Abbey in Spencer, in central Massachusetts, about an hour's drive west of Boston. With these additions, within a span of less than two years, the number of Trappist breweries had risen from seven to 10! There may even be an 11th Trappist brewery in the offing, the Abbaye du Mont des Cats, in Godewaersvelde, on the French side of the Belgian-French border, a few miles from Dunkirk. This abbey currently has its Bière de Mont des Cats brewed by Chimay, but it reportedly may establish its own beer-making facility soon. To date, only Saint Joseph's, among all of the Trappist breweries, old and new, is far from the Trappists' homeland, some 3,500 miles across the pond.

At the time of the ITA decision, the Spencer brewery was already fully operational. This is because the idea of making beer at Spencer evolved starting around 2000. Planning for the facility started in earnest, completely *sub rosa*, some five years ago, when only a few “out-

side” people—this author among them—were taken into the monks’ confidence to give advice. Where there is now a shiny, elegant, stainless-steel-and-glass, 36,000-square-foot brewing plant, next to the monastery’s central heating plant, the “energy center,” there was once just a quiet meadow. The system inside this modern plant is a fully automated 50-bbl Krones-Steinecker brewhouse, complete with a large fermentation cellar and a sophisticated Krones-Kosme bottling line.

Large lettering over the entrance to the plant proudly proclaims the official name: The Spencer Brewery. The first beer to come out of this facility is Spencer Trappist Ale, available in packs of four 33-ml (11.2 fl. oz.) bottles. An SKU expansion into a champagne-corked dinner bottle is currently under consideration. Initially, the beer will be available in Massachusetts only, but distribution into other markets is part of the plan, as the brewery ramps up to full production.

Overall brewing operations at Spencer are under the management of its director, Brother Isaac T. Keeley, a soft-spoken,

understated man with an infinite sense of humor. He reports to his “boss,” Abbot Damian Carr, who has been a monk at Spencer for more than 40 years. Running all daily, hands-on brewing activities is the responsibility of Hubert de Halleux, a (secular) Belgian brewmaster with extensive prior experience with start-up breweries—from Ukraine, to Russia, to Burkina Faso, to Nigeria. De Halleux’s work force consists of five younger monks from the Spencer cloistered community, two of whom have spent some time in Chimay and other Belgian Trappist breweries to learn about brewhouse, cellar, and bottling work. The other three monks specialize in warehousing, packaging, and logistics, as well as accounting and finance.

In addition, the monastery has the assistance of two committees of “outsiders.” As Brother Isaac explained, that includes the “Monastic Marketing Task Force of artists, academics, and intellectuals,” which develops packaging systems, brochures, and point-of-sale materials. There is also an administrative group, which holds regular strategy and risk management meetings.



The Spencer Brewery refectory

These were of particular importance during the construction phase of the project.

#### BEER AND PRAYER

In late January 2014, a week after the inaugural release of Spencer Trappist Ale, Abbot Damian, Brother Isaac, and de Halleux sat down with Ben Vinken, editor of the Belgian beer magazine *Bierpassie*, and this author to talk about The Spencer Brewery, its beer, and its plans for the future. Abbot Damian explained how the monks arrived at their equipment choice: "When we built this facility, we said let's build it to last 50 to 100 years so that it will be here for the next generation and the one after that, and so on. We chose a 50-barrel brewhouse because, according to our calculations, it will give us sufficient capacity to create the income we'll need for the abbey and its charities. Eventually, we want to produce about 10,000 barrels annually, but we must be able to do so within our work schedule." Brother Isaac elaborated further: "And that was the big challenge for us. A 50-barrel system is objectively oversized for our projected output, but the rest of the system, including the cellar, is tailored exactly to get us to that volume."

The work schedule at Spencer is indeed taxing. It is true to the rules of *ora et labora* (pray and work) laid out by the order's founder, Saint Benedict, in 510 AD. The monks rise at 3:10 a.m. and retire for the night at 8 p.m. They spend most of the morning hours in prayer until work starts at 9 a.m. The time between 12:15 and 2 p.m. is devoted to a meal, contemplation, and more prayer. Work resumes shortly after 2 p.m. and ends at 4:30 p.m. The rest of the day is once again devoted mostly to prayer. With this kind of a daily rhythm, there is no way that the monks at Spencer could chase one batch after another through their system. There is just enough time for a single brew per day, and with a 50-barrel brewhouse, the monks can reach their annual target of 10,000 barrels with roughly 200 brew days per year.

In the past, the monks at Saint Joseph's derived virtually all of their income from making jams and liturgical vestments—no longer enough of a revenue stream to cover the running expenses of the community

"We decided to make an 'American' Trappist ale. This meant we had to reinterpret a refectory beer, especially if we were going to share it with the American public."



Brother Isaac



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and keep the Abbey in good repair. This is especially true since, as Brother Isaac pointed out, of the 66 monks currently at Spencer, not all of them can work. The Spencer Abbey has been self-sufficient for the past six decades, said Isaac, "but many of our brothers are now aging. Some are on canes, and some are in the infirmary." Beer making, as the Trappist abbeys in Europe have demonstrated, was an obvious choice for placing the Spencer Abbey on sounder financial footing.

#### AN AMERICAN TRAPPIST ALE

Currently, the Saint Joseph's Abbey makes only one beer, Spencer Trappist Ale, and there are no plans, for years to come, to add more beers to the portfolio. As Isaac suggested, the monks still have to fully master the craft of brewing. What style of beer is this new ale that the monks at Spencer are now brewing specifically for the American market? Traditionally, Belgian Trappist ales have come, for the most part, in three distinct styles: blonde, dubbel, and tripel. Though there are great variations in color and flavor among these, as a broad generalization, classic Trappist beers tend to be rather strong, with ABV values ranging from at least 6 percent to as high as 12 percent. Frequently, they also contain brewing sugar to bump up the original gravity, and alcohol. When poured, Trappist ales always have a dense, attractive, long-lasting, "mousseux" head. Their aroma is invariably spicy, not from spices but from the Trappists' proprietary yeast strains—with the possible exception of Rochefort ales, rumored to also contain a smidgen of coriander.

Trappist blondes are usually similar in character to Belgian strong golden ales, but with less alcohol (about 6.5 to 7 percent ABV). Their profile is very clean, almost lager-like. Dubbels, by comparison, are usually brown to deep sepia, with slightly malty-sweet, chocolate-like aromas, some fruity esters, a mild hoppiness, and an ABV of perhaps 6.5 to 7.5 percent. Tripels—considered the crown jewels of Belgian abbey-style brewing—are generally pale to medium-amber in color, almost like a blonde. Often bottle-conditioned, tripels have a complex and spicy aroma, a dry finish, and a substantial ABV of 7 percent and above. They can be aged,



The Spencer Brewery has a 50-barrel brewhouse.

after which they may acquire a slight, but pleasant, note of oxidation.

The monks at Saint Joseph's in Spencer, however, decided to take a completely different stylistic approach. Instead of following the traditional Trappist regimen of making blondes, dubbels, and tripels, which they considered either too sweet or too alcoholic, they settled on a traditional Trappist beer that is generally not available to the public. They

chose a *Patersvaatje* (literally, a "friar's barrel") as their lead beer, a style that Trappists often make just for their own consumption. Brother Isaac refers to it as a "refectory ale" (literally, a dining hall ale) designed to stimulate the appetite. The first *Patersvaatje* was apparently brewed in Achel in 1852. The Spencer *Patersvaatje* is a variant of that monastic table beer.

Though Brother Isaac insists that Spencer Trappist Ale is "less alcoholic"—which

 A historical illustration of a monk in chains, with a dogfish head logo and text about Dogfish Head Craft Brewery.
 

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# PATERSVAATJE REFECTORY ALE

## All-Grain Recipe

### INGREDIENTS

for 5 U.S. gallons (19 L)

9.9 lb (4.5 kg) pale two-row malt (90%)  
1.1 lb (0.5 kg) 10° L Munich malt (10%)  
0.5 oz (14 g) Nugget, 13% a.a. (60 min)  
0.5 oz (14 g) Willamette, 5.5% a.a.  
(10 min)

Trappist or Belgian ale yeast  
(see Directions)

Brewhouse Efficiency: 75%

Estimated Original Gravity: 1.060 SG

Estimated Final Gravity: 1.011 SG

Estimated Color: 8.5 SRM

Bitterness: 24 IBU

Estimated Alcohol by Volume: 6.5%

### DIRECTIONS

Single infusion at 152 °F (67 °C). Rest 75 minutes. Recirculate. Sparge slowly. Boil 90 minutes. Add bittering hops 30 minutes into the boil; add aroma hops 80 minutes into the boil. Whirlpool. Heat-exchange. Primary fermentation for 5-7 days at 68-72° F (20-22° C), depending on yeast strain. Yeast choices include

Wyeast 1214 Belgian Ale, 1762 Belgian Abbey II, 3522 Belgian Ardennes, and 3787 Trappist High Gravity, or White Labs WLP500 Trappist Ale, WLP510 Bastogne Belgian Ale, WLP530 Abbey Ale, WLP540 Belgian Abbey IV, and WLP550 Belgian Ale. Rack when fermentation is complete. Secondary fermentation for about three weeks at 46-50° F (8-10° C). Rack. Dissolve and sterilize about 1.5 oz (about 15 grams) Belgian brewing sugar or white table sugar in about 11 oz (0.33 liter) hot water. Cover solution, let cool off, and add fresh yeast to solution. Wait for yeast to show activity. Add primer with active yeast to finished beer. Package beer immediately (bottles or keg). Condition packaged beer for 3 weeks at 70 °F (21 °C). Optionally age the conditioned beer for another 3 weeks in a dark place at 46-56° F (10-15° C). Serve the beer at 45° F (10° C).

### EXTRACT VERSION

Substitute 8.3 lb (3.76 kg) pale malt extract syrup for pale two-row and Munich malts. Dissolve extract completely and proceed with boil.

is, of course, a relative term within the context of Belgian abbey beers—it still has an ABV of 6.5 percent, by design. “When you look at all the Trappist beers, each beer is really different,” said Brother Isaac. “In a sense, Trappist beer is just a collection of brews. Therefore, we said, we have to be distinct. We did not want to just imitate what was already out there. Who would need this? Nor did we want to come out with a very big beer the first time around. Instead, we decided to make an ‘American’ Trappist ale. This meant we had to reinterpret a refectory beer, especially if we were going to share it with the American public. Because we wanted the beer to be fashionable, we went for an alcohol content in the mid-range of the category. This meant we had to stay under 7 percent. That’s how we ended up with 6.5 percent.”

When asked if he had a benchmark for the concept or if the Spencer monks started from scratch, Brother Isaac explained,

“This was a bit of a challenge, because in our monastery, we drink alcohol only on big feast days; and then our beverage of choice has always been wine. As for beer, American lagers have never been popular in our group. In other words, we were constructing a beer that had to be accessible and delicious enough to appeal to persons who consider themselves wine drinkers, both inside our monastery and in the public.” Adds brewmaster de Halleux, “We wanted something simple, but complex. Just because the recipe is simple does not mean that the beer cannot be complex.”

### DECONSTRUCTING SPENCER TRAPPIST ALE

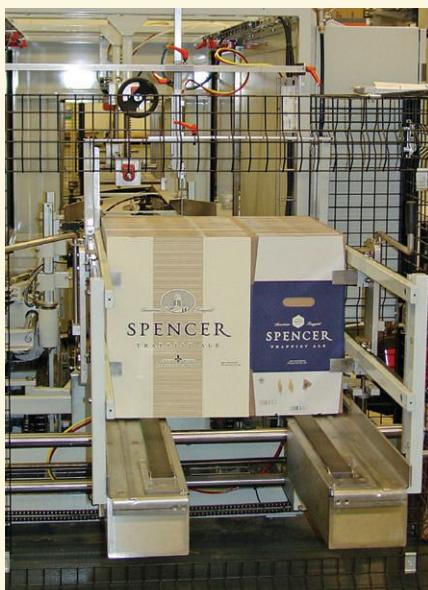
The Spencer brew is golden-hued and full bodied, with a distinct spiciness of black pepper. It is very refreshing, with a noticeable but restrained hop component. The base malt comes from Canada, the specialty malt from the United States, and the hops from the Yakima Valley. The water

is 18,000-year old, mineral-rich, glacial melt water from the Abbey’s own well. The yeast is imported from the Old World.

During the interview with Brothers Damian and Isaac and brewmaster de Halleux, it became clear that the key to the Spencer Trappist Ale is the yeast, the yeast, and nothing but the yeast! As the old adage goes: The brewer makes the wort, but the yeast makes the beer. How true! The Spencer yeast strain gives this brew its unique, spicy flavor and easy drinkability. “In Belgium, we did test brews of our recipe, using several different types of yeast,” explained Brother Isaac, “and then did blind taste tests with several brothers. In the end, a consensus emerged. We unanimously preferred the same test batch, which turned out to be the one brewed with our house yeast. This is the same yeast that you find, for instance, in Chimay ales. To our surprise, we all picked the tried-and-true microbe that had worked so well for us in the past in establishing the reputation of our Trappist brands. Naturally, this strain became the one for us to use in Spencer, too.”

Belgian Trappist-type ale yeasts are commonly known for their powerful but pleasant aromas and flavors, which stem from fruity esters and phenolics. The esters contribute distinct notes of citrus, rose petals, and some banana, while the phenolics contribute equally distinct, spicy notes of pepper and clove. The yeast used at Spencer clearly delivers all of these characteristics, but with a touch of tropical fruit and orange instead of banana. It complements the brews’ malt aromas from North American Pilsner and light caramel malts, as well as a gentle 24-IBU bitterness from Nugget up front plus rich aromas from Willamette in the finish. In Belgium, Trappist ales usually contain hops with “noble” or “British” characteristics; but in the unfiltered, mildly turbid Spencer Trappist Ale, both hops are traditional American varieties, which give the brew its outstanding complexity, delicacy, and drinkability.

To date, the Spencer strain of Trappist yeast is apparently not commercially available from regular yeast labs, which usually do not disclose the sources of



Initially, the beer will be available in Massachusetts only.

their strains. However, any experienced homebrewer should be able to propagate the Trappist “family” house yeast right out of a store-bought bottle—provided, of course, that the content of the bottle is still fresh and the yeast has not autolyzed. If a bottle of Trappist ale is kept in a cool and dark place and was not damaged during transport, the yeast should remain viable for cultivation for about six months after bottling.

As an alternative to breeding the authentic yeast at home, several commercial alternatives should give satisfactory results. In the Wyeast portfolio, for instance, suitable strains are 1214 Belgian Ale, 1762 Belgian Abbey II, 3522 Belgian Ardennes, and 3787 Trappist High Gravity. Likewise, White Labs offers WLP500 Trappist Ale, WLP510 Bastogne Belgian Ale, WLP530 Abbey Ale, WLP540 Belgian Abbey IV, and WLP550 Belgian Ale. The key to using these yeasts for optimum results is controlling the fermentation temperature. The objective is to prevent the formation of yeast-derived off-flavors such as green apple from acetaldehyde or butterscotch from diacetyl. As a rule of thumb, Trappist ales should be fermented at roughly 68 to 72° F (20 to 22° C). If the temperature rises much above this range, too many esters and fusel alcohols may be the result. If the temperature drops much below this range, the fermentation

may not start in time, which may lead to too much acetaldehyde, as well as harsh solvent-like flavors.

The silent brothers of Saint Joseph's in Spencer keep their exact recipe a secret, so we're providing our own Patersvaatje Refectory Ale recipe. When the French Benedictine monk Dom Pierre Pérignon tasted champagne for the first time, he is supposed to have exclaimed, “Brothers come quickly, I am drinking the stars.” Though this attribution is almost certainly historically inaccurate, may the information presented here bring you closer to the

first American Trappist ale, a drinkable new star on the American beer firmament.

**Horst Dornbusch is a consultant in the international brewing industry, an international beer judge, and the author of several books on beer, including *PROST! The Story of German Beer* (1997), *Altbier* (1998), *Bavarian Helles* (2000), and *Biersorten der Brauwelt* (2014). He is also the associate editor of *The Oxford Companion to Beer* (2010), as well as a frequent contributor to journals about beer in Europe and North America.**

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# Isolating **WILD** Yeast Strains

By Mike Lentz

**EDITOR'S NOTE:** This is the third published experiment from the AHA's Research & Education Fund. For more on the REF and to see other completed projects, go to [www.HomebrewersAssociation.org/community/research-and-education-fund](http://www.HomebrewersAssociation.org/community/research-and-education-fund).

"Wild" and spontaneously fermented beers are growing in popularity among homebrewers. Most of these beers are fermented by either pitching pure cultures of commercially available unconventional yeast and bacteria, or spontaneous fermentation using "captured" mixtures of local microbes. Spontaneous fermentation is unpredictable and can vary geographically as well as seasonally within a local environment. A small but growing number of homebrewers are experimenting with this method, with a mix of reported successes and failures.

Most homebrewers desiring to experiment with the wild side of brewing usually choose to ferment with one of the commercially available strains of *Brettanomyces* yeast (Brett), either as the sole fermenter or as part of a secondary fermentation. Compared to standard ale and lager yeast, limited strains are available for wild ales. Most of these strains can be traced back to one of the traditional sour ale breweries of Brussels or Flanders, or strains isolated from British stock ale, with a few newer isolates cropping up from other breweries. All of these available isolates have likely adapted to life in a brewery environment and have evolved there over decades or longer. One may wonder if they are still truly "wild." It could be argued that they are no more wild than traditional ale and lager yeast, but rather tamed or domesticated versions of a different animal.

Comparing commercial Brett to commercial ale or lager yeast is more like comparing a house cat to a pet dog, rather than comparing the dog to a wolf, or the cat to a lion. The observation that spontaneous fermentations can make good beer suggests that some truly "wild" yeast have positive fermentation attributes. Can pure strains of new yeast isolates make good beer?

Wort samples  
for test brews.  
↓





Pellicle on the  
original pindo  
palm fruit mixed  
culture.

1 liter starters of  
two Brettanomyces →  
strains.



#### *Isolation and Identification of Strains*

Working in a university biology department allowed me to put this question to the test. This AHA REF project aimed to determine the potential of pure strains of newly isolated wild yeast to successfully ferment new and unique beers. Yeasts with fermentation potential are known to inhabit the surface of a wide variety of fruits and grains. Samples of yeast were collected by swabbing fruit and inoculating a simple sterile growth medium, or by dropping berries or grain kernels directly into small liquid cultures. Not surprisingly, growth was evident in one to two days in most cases.

In the lab, these mixed cultures were plated onto solid agar culture plates to try to isolate individual strains. In some cases, samples yielded a single variety of microbe, but from most sources a variety of yeast and bacterial colonies were evident. Although each strain consistently produced the same type of colony, the colony appearance varied widely from strain to strain. Cells from single colonies were observed by microscopy to make tentative identification as yeast. Similar variation was observed in the cells themselves, and there was considerable variation for cell size and shape even within a particular strain. In all, 13 yeast strains were selected for further analysis, collected from pindo palm fruit, hackberry, blackberry, loquat fruit, and pale malted

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



**until I poured  
them a pint.**

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barley. In Table 1, the strains are named for the original source genus and species names, followed by an isolate number.

We wanted to know what yeast we were working with. A standardized method has been developed to identify many yeast isolates down to the species level using molecular genetic techniques. We amplified a region of each strain's DNA using the Polymerase Chain Reaction (PCR). The amplified DNA can then be analyzed and compared to published yeast databases. With this method, we were able to identify all of our isolates to the species level. Interestingly, nearly half are members of the *Brettanomyces* genus, with three isolates each of *B. bruxellensis* and *B. anomalus*. Four isolates are members of the *Candida* genus, two are *Pichia kudriavzevii*, and one was identified as *Issatchenkia terricola*. All of the identified species are common in the environment, and all are frequently isolated from alcoholic fermentations, especially wine.

### **Analysis of Brewing Potential**

In order to succeed as a brewing strain, yeast must exhibit some degree of alcohol tolerance. This property was analyzed by growing yeast in liquid microculture in the presence of increasing concentrations of ethanol. Alcohol tolerance was determined by observing growth in the cultures, which turned cloudy over two days as yeast cells accumulated. Considerable

↑  
The author  
mucking out  
the mash tun.

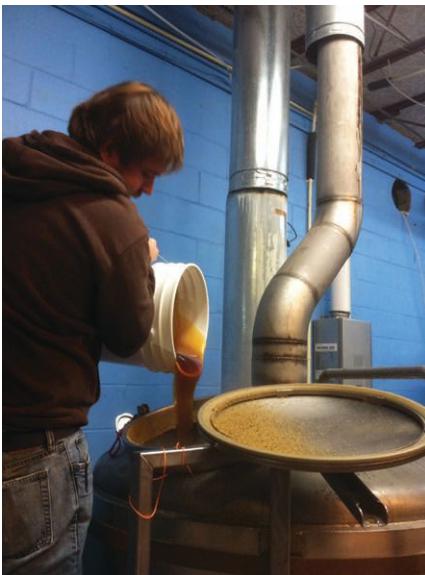
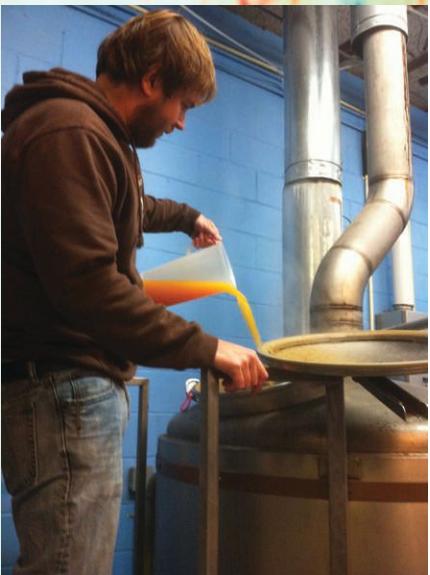


↑  
Wild yeast beer  
samples at Green  
Room Brewing.



↑  
Strain EjO2 starter for 30  
gallon brew at Green  
Room Brewing, along with  
homegrown lemongrass.





Eric Luman (Green Room Brewing head brewer) adding fresh-squeezed citrus juice and honey at knockout.

Transfer of 30 gallons of cooled wort from the main fermenter to the pilot wild yeast brew barrel.

Pitching wild yeast starter.

Finished 5 gallon “starter” beer with wild yeast. (right)



variation occurred among the different isolates for growth in ethanol. All of the *Brettanomyces* strains grew in 12-percent ethanol, the highest level tested. Other isolates varied in tolerance from poor growth above 4 percent ethanol, to efficient growth at 10 to 12 percent.

Yeast that naturally reside on fruit have ready access to simple sugars as a food source. Beer wort is a diverse mixture of simple sugars, maltose, other complex sugars, and dextrins. Efficient attenuation of beer wort will be required if new strains are to function in a brewery environment. Yeast isolates were used to ferment three different worts of original gravity (OG) 1.040, 1.048, and 1.056. The first two worts were prepared from Briess light dry extract and were unhopped, while the 1.056 wort was from an all-grain light amber mash hopped at 60 minutes to around 30 IBU. For the first two worts, fermentation took place in 50-milliliter culture tubes, while the third wort was fermented in 500-milliliter bottles (see next section).

Fermentation was allowed to continue for four weeks, after which apparent attenuation was determined using a refractometer. Considerable variation was found in fermentation potential among the different strains. Surprisingly, there was even variation within a single isolate for attenuation of the three different worts. These variations did not correlate with the OG, source of wort (all-grain or extract), or use of hops. Some strains may have particular preferences for oxygen content, which could not reliably be kept consistent in this experiment. One interesting observation is that the most efficient fermenter, Bc01 (*C. incommunis*) is also the least tolerant of growth in ethanol. Since our test worts would yield an alcohol concentration just within the tolerance range for this strain, higher gravity worts would likely result in poorer attenuation. Several isolates consistently fermented to apparent attenuation of at least 70 percent, indicating potential as a brewing strain.

### Brewing Wild Yeast Beer

Any given yeast could be both alcohol tolerant and fermentation efficient, but would not be of use to a brewer if the

**Table 1:** Sources of yeast isolates, their identification based on rDNA RFLP analysis, and brewing potential. Yeast strains are identified by the name of the source plant.

Strain	Source	Identification	Beer Potential
Bc01	Pindo palm ( <i>Butia capitata</i> )	<i>Candida incommis</i> <sup>a</sup>	Low
Bc02	Pindo palm ( <i>B. capitata</i> )	<i>Brettanomyces bruxellensis</i> <sup>b</sup>	Med
Bc04	Pindo palm ( <i>B. capitata</i> )	<i>Issatchenka terricola</i> <sup>a</sup>	Low
Bc07	Pindo palm ( <i>B. capitata</i> )	<i>B. bruxellensis</i> <sup>b</sup>	Low
Bc08	Pindo palm ( <i>B. capitata</i> )	<i>C. diversa</i> <sup>c</sup>	Low
Bc10	Pindo palm ( <i>B. capitata</i> )	<i>C. diversa</i> <sup>c</sup>	Low
Bc11	Pindo palm ( <i>B. capitata</i> )	<i>B. bruxellensis</i> <sup>b</sup>	Med
Rs01	Blackberry ( <i>Rubus sp.</i> )	<i>B. anomalus</i> <sup>b</sup>	High
Cs01	Hackberry ( <i>Celtis sp.</i> )	<i>B. anomalus</i> <sup>b</sup>	High
Hv01	Barley malt ( <i>Hordeum vulgare</i> )	<i>Pichia kudriavzevii</i> <sup>b</sup>	Low
Hv01	Barley malt ( <i>H. vulgare</i> )	<i>P. kudriavzevii</i> <sup>b</sup>	Low
Ej01	Loquat ( <i>Eriobotrya japonica</i> )	<i>Candida sp. (tentative)</i> <sup>b</sup>	Med
Ej02	Loquat ( <i>E. japonica</i> )	<i>B. anomalus</i> <sup>b</sup>	High

<sup>a</sup> Estevez-Zarzoso et al, 1999, *Intl. J. System. Bacteriol.* 49:329

<sup>b</sup> Pham et al, 2011, *J. Inst. Brew.* 117:556

<sup>c</sup> This study, by sequence analysis.

resulting beer smells or tastes bad! Wild yeasts are well-known for producing many metabolic by-products, in particular phenolic compounds that may have undesirable aroma and flavor properties. To assess potential for beer brewing, strains were used to ferment 400-milliliter test batches of the OG 1.056 wort described in the previous section. Fermentation was allowed to proceed for four weeks, after which the beer was bottled, carbonated, and chilled.

Beer characteristics were assessed by a panel of BJCP judges. Not surprisingly, many strains exhibited strong phenolic (plastic, medicinal, and burnt/smoky) characters. The strains that were shown to be poor fermenters exhibited the expected sweet, underattenuated worty character, in some cases with underlying fruity notes. But several of the strains produced beer with the complex, spicy, fruity, or “funky” character desired in wild ales. Due to the subjective nature of this analysis, the wild beers were categorized as having low, medium, or high potential as a brewing strain. The “low performing” group was dominated by undesirable (plastic, burnt rubber, and medicinal) phenolics. These characters were less evident in the group with medium potential. The highest performing group had much lower levels of undesirable phenols, and had additional characters of spice, low smoke, and/or fruitiness. There were three high potential isolates and all were *B.*

*anomalus* strains. The “beer potential” category is included in Table 1.

### Scaling Up

With proper resources, it's easy to isolate new strains of yeast from the environment. Based on the small sample size represented here, a small but significant portion of isolates are likely to be useful and interesting to the commercial or home brewer. It was somewhat surprising how frequently *Brettanomyces* strains were isolated from diverse environments. It is also of interest that of the Brett isolates, none of the *B. bruxellensis* isolates produced “drinkable” beer, while all of the *B. anomalus* isolates

could be used for brewing. A larger sample size may yield different results. Strains may also perform differently as secondary fermenters, or under different conditions of temperature or oxygen content. Further experiments will be needed to assess these different conditions.

Half-gallon batches of beer were brewed with the three *B. anomalus* isolates, which also served as starter cultures for five-gallon brews. The half-gallon brews were bottled and carbonated, then evaluated by the owners/brewers of Green Room Brewing in Jacksonville Beach, Fla. Based on this analysis, we brewed a “Florida saison” with orange blossom honey, Florida oranges, tangerines, and tangelos, and Florida-grown lemongrass. A 30-gallon portion of this brew was fermented with the *B. anomalus* yeast isolated from Florida loquat fruit (strain Ej02).

Florida Brett Saison was a popular beer in the taproom. In a final “step-up,” the yeast from this batch was used to ferment a full seven-barrel pale ale at Green Room Brewing. Eric Luman, Green Room’s head brewer, plans to keep the Florida Brett strain in regular rotation at the brewery.

**Mike Lentz is a member and past president of the Cowford Ale Sharing Klub (CASK) of Jacksonville, Fla. He is also a BJCP Exam Director and Grand Master I beer judge. He lives in Jacksonville, Fla.**



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by Amahl Turczyn Scheppach

# Washington Mead and Cider Cup

The 5th annual Washington Mead and Cider Cup was held in Bellevue, Wash. on March 8. This competition was founded by the Seattle, Wash.-area homebrew club Impaling Alers and passed onto the Greater Everett Brewer's League (GEBL) in 2012, to be organized by 2012 National Homebrew Competition (NHC) Cider Maker of the year Roger Kee.

The competition saw remarkable growth in 2012 and was then taken over by Laura and Tavish Sullivan, the 2013 NHC Cider Makers of the Year. In 2013 the competition, traditionally held in the fall, took a short break. This allowed for a move to a March judging so cider makers would have ample time to age their ciders properly from the previous fall pressing. The

competition has seen excellent growth over the last several years, garnering as many as 130 entries from as far away as Florida.

For the past two competitions, mead and cider judging clinics have been held prior to judging. This year's clinic was led by Tavish Sullivan and 2013 NHC Mead Maker of the Year Mark Tanner. The Best of Show judging panel included Master-ranked judge Randy Scorby,

National-ranked judge Tavish Sullivan, and Certified-ranked judge Bob Yeaw.

Every year, makers of the Best of Show mead and Best of Show cider/perry have each received a hand-blown glass chalice. The year's overall Best of Show winner was Jeff Newman with his Indian Summer-Raspberry/Blackberry Melomel. Mark Tanner took the Best of Show Cider honors with his New England Cider.

Newman has been brewing for about five years and has a background in cellular and microbiology research, which provides helpful skills for a brewer. He mainly makes beer, but since his wife, Carrie, is not a fan, he's always on the lookout for alternative fermentables.



Photos courtesy of Dan Stilwell



## New England Cider 2014 WASHINGTON MEAD AND CIDER CUP BEST CIDER RECIPE BY MARK TANNER, WIZA

### INGREDIENTS

for 5 U.S. gallons (19 L)

<b>5.5 gallons</b>	(20.82 L) fresh pressed cider blend from a 4,000 lb pressing of Spartan, Jonagold, Mutsu and Baldwin apples
<b>2.0 lb</b>	(0.9 kg) dark brown sugar
<b>0.5 lb</b>	(227 g) raisins
<b>0.5 lb</b>	(227 g) dates
<b>2 tsp</b>	Wyeast 4766 Cider Yeast yeast nutrient

### DIRECTIONS:

Add brown sugar, pitch yeast, and aerate well. Add raisins and dates after 50 percent of fermentation complete (3-4 days).

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## Indian Summer-Raspberry/Blackberry Melomel

**2014 WASHINGTON MEAD AND CIDER CUP BEST OF SHOW  
RECIPE BY JEFF NEWMAN, IMPALING ALERS**

### INGREDIENTS

for 5 U.S. gallons (19 L)

<b>20.0 lb</b>	(9.07 kg) wildflower honey
<b>9.0 lb</b>	(4.08 kg) fresh blackberries
<b>8.0 lb</b>	(3.63 kg) fresh raspberries
<b>2.6 gallons</b>	(9.84 L) water
<b>2 packages</b>	71B-1122 yeast +GoFerm for rehydration
<b>3 tsp</b>	yeast nutrient blend (one part Fermaid K to 2 parts diammonium phosphate)
<b>2 packets</b>	(0.6 g/packet) Lallzyme C max (pectinase)
	Potassium metabisulfite

**Original Gravity:** 1.160

**Final Gravity:** 1.021

### DIRECTIONS

Incubate crushed blackberries and 3 lb (1.36 kg) crushed raspberries with 0.6 g pectinase at 62° F (17° C) overnight. Add enough potassium metabisulfite to target 30 ppm of SO<sub>2</sub>. Whip together honey and water thoroughly. Pour fruit mixture into the honey/water mixture (Newman used a paint strainer bag to contain pulp, skin, and seeds). Add ¾ tsp of yeast nutrient blend. Rehydrate and add yeast according to manufacturer's instructions. Ferment at 62° F. After fermentation begins, punch down the fruit cap several times daily. Add ¾ tsp yeast nutrient blend daily until it is used up.

After two weeks, transfer to secondary atop 5 lb (2.27 kg) crushed raspberries treated with pectinase and potassium metabisulfite as above. Ferment an additional four weeks at 62° F then rack into a carboy and chill at 35° F (2° C) for several months. Depending on the level of sediment, it may be desirable to rack a second time.

This was Newman's first attempt at making mead. The recipe was inspired by and based upon the boysenberry melomel recipe contributed by Moonlight Meadery in the July/August 2013 Zymurgy. The final result is a reflection of the quality of the ingredients as well as Newman's skill as a brewer.

The honey and berries were locally sourced from small producers in the Puget Sound area. Patience was also essential. Originally, he planned to give this mead to friends for the December 2013 holiday season, but at that time it wasn't quite ready.

Next year's competition will again be held in March.

**Amahl Turczyn Scheppach is associate editor of Zymurgy.**

### AHA SPECIAL EVENTS

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

#### June 21

AHA Rally – NoDa Brewing Co.  
Charlotte, NC

#### July 13

AHA Rally – Schlafly Brewing Co.  
St. Louis, MO

#### July 17

AHA Rally – Revolution Brewing Co.  
Chicago, IL

#### July 20

AHA Rally – Samuel Adams Brewery  
Boston, MA

#### August 2

AHA Rally – Epic Brewing Co.  
Denver, CO

**Mead Day**

## KUDOS—BEST OF SHOW

### AHA/BJCP Sanctioned Competition Program

#### February 2014

SFHG's "Griz Tribute" Big and Small Comp, 23 entries—Karlo Berket, San Francisco, CA.  
Round Up 2014, 504 entries—Steve Cook, Calgary, Alberta, Canada.  
Newcastle Show Brewing Competition, 45 entries—Owen Griffiths, Newcastle, New South Wales, Australia.  
America's Finest City Homebrew Competition 2014, 555 entries—Peter Perrecone, San Diego, CA.  
Boston Homebrew Competition, 425 entries—Alan Hokanson, Coventry, CT.  
Extravaganza!, 199 entries—Chris Arnt, Chattanooga, TN.  
Beer Quest Irish & Scottish Ale, 21 entries—Tie: Bill Luhlman and Sam Bates, Lincoln, NE.

#### March 2014

Romancing the Beer 2nd Annual Homebrew Comp, 77 entries—Wade Anderson, Moorpark, CA.  
UK Club Only Competition - Stouts, 52 entries—Bristol United Brewers.  
GEBL IPA Bracket Challenge, 98 entries—Matt Smith, Everett, WA.  
Kailua Kona Homebrew Contest, 260 entries—Michael Franchini, Captain Cook, HI.  
Wizard of SAAZ VII, 442 entries—Tom Beach and Chip Berber, Rocky River, OH.  
Fermentationland Homebrew Competition, 55 entries—Brian Hall, Portland, ME.  
Washington Mead & Cider Cup, 64 entries—Jeff Newman, Mercer Island, WA.  
Louisiana Homebrew Club Competition, 58 entries—Wayne Odom, Baton Rouge, LA.  
Bockfest Cincinnati 2014, 63 entries—Guatam Bagchi, Columbus, OH.  
The 15th Annual Wert Contest, 263 entries—Brandon Hart, Calgary, Alberta, Canada.  
March Mashness, 173 entries—Jacob Schnabel, Annandale, MN.  
Shamrock Open XIX, 315 entries—Michael Just, Raleigh, NC.  
Brew Hut Annual, 258 entries—John Laverty, Denver, CO.  
Garrison's Ultimate Home Brew, 76 entries—Jason McDougall, Halifax, Nova Scotia, Canada.  
Beans and Brews, 48 entries—Rob Knighton, Columbia, PA.  
Salmonid St. Paddy's Irish Red Challenge (Club Only), 21 entries—Tom Clemmons, Idaho Falls, ID.  
World Cup of Beer, 524 entries—Mike Riddle, Napa, CA.  
Hudson Valley Homebrewers 24th annual Homebrew Competition, 262 entries—Chris Johnson, Maplewood, NJ.  
Arizona Society of Homebrewers Springfest Competition, 200 entries—Connor Foster, Phoenix, AZ.  
Blarney Brew Off, 45 entries—Brian Smith, Lees Summit, MO.  
Belgian Beerfest, 50 entries—Charles Johnston, Melbourne, Australia.

MiÁrciusi sörforradalom, 238 entries—Kelemen Ottó, Budapest, Hungary.

17 Annual Slurp & Burp Open, 302 entries—Caleb Cushing, Lake Oswego, OR.  
WCB Merica!, 28 entries—Jeremy Sambrooks, Yanjup, Western Australia.

Sewanee Beer Festival Home Brewing Competition, 386 entries—Paul Bushell, Lawrenceville, GA.  
Barley Legal Bocks and Other Lagers, 11 entries—Matt Pringle, NJ.

CCB Employee-Only Homebrew Competition, 13 entries—Matthew Brown, St. Petersburg, FL.

23rd Annual Charlie Orr Memorial Chicago Cup Challenge, 453 entries—Joe Kotvan, Warrenville, IL.  
To Helles and Bock: A Tribute to German Beers, 78 entries—Keith Wallis, Springfield, MO.

28th Bluebonnet Brew-Off, 1,310 entries—Mike Treadway and Sean Vreeland, Ft. Worth, TX.

National Brewing Championships, 392 entries—Roger Burslem-Rotheroe.

United We Brew: American Ales, 20 entries—David Farmer, North Olmsted, OH.

The Light and The Dark, 12 entries—Jack McGeachy, Gainesville, FL.

The Western NY Homebrew Competition Amber Waves of Grain, 603 entries—Michael Winter, Alden, NY.

DC HomeBrewers Club - Cherry Blossom Competition, 217 entries—Doug Nolan, Roanoke, VA.

2014 SNAFU Winterfest, 149 entries—Kevin Holder, Las Vegas, NV.

IBU Open, 449 entries—Nathan Briscoe, Holden, MO.

"Battle of the Brews Craft Cup" Presented by Active 20-30 Club Santa Rosa #50, 75 entries—Chris Kennedy, Fairfield, CA.

Peach State Brew Off, 303 entries—Jonathan Brewster, Fort Lauderdale, FL.

#### April 2014

April LIBME Monthly Club Comp, 10 entries—Brian Giebel, Patchogue, NY.  
Champion of the Pint, 280 entries—Dave McWilliams, St. Louis, MO.  
4th Annual Ocean State Homebrew Competition, 311 entries—Robert Burger, Branford, CT.  
SouthYesters Summer Festival - Wolfgang Cup, 33 entries—David Savage, Cape Town, South Africa.  
Edmonton Homebrewers Guild Club Only Pale Competition, 17 entries—Jarret Luft, Edmonton, Alberta, Canada.  
Colonial Cup, 301 entries—Alan Goble, Greensboro, NC.  
South Shore Brewoff, 225 entries—Frank Chenette, Quincy, MA.  
Snow Goose Spring Break-Up Homebrew Comp, 32 entries—Jeff Shearer, Anchorage, AK.  
ZZ Hops Brown Ale Club Only Competition, 23 entries—Brian Bixby.  
Bridging the Gap Pro-Am, 121 entries—Joe Martin, Davis, CA.  
Siciliano's 11th Annual Homebrew Competition, 203 entries—Elias TerHaar, Holland, MI.  
Thotcon Hacker Brew Contest, 10 entries—Ryan Merritt, Chicago, IL.  
MCAB XVI Championship, 204 entries—Michael Marino.  
Philly Beer Cup, 202 entries—Roberto Shimahara, Keedysville, MD.  
19th Annual St. Louis Microfest Homebrew Competition, 309 entries—Michael Wells, Kansas City, MO.

#### May 2014

East TN Homebrewers Lager-Only, 13 entries—Daniel Hillesheim, Knoxville, TN.

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## AHA/BJCP SANCTIONED COMPETITION PROGRAM CALENDAR

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



**July 4**

**Because Beer Homebrew Competition**  
 Hamilton, Ontario, Canada. Entry Deadline: 6/27/2014. [www.becausebeer.ca/competition](http://www.becausebeer.ca/competition)

**July 5**

**2014 Winter SABC Amateur Brewing Challenge**  
 Adelaide, South Australia. Entry Deadline: 7/2/2014.

**July 11**

**New York State Fair Homebrew Competition**  
 Syracuse, NY. Entry Deadline: 6/27/2014. [nystatefair.brewcomp.com](http://nystatefair.brewcomp.com)

**July 12**

**Amador County Fair Homebrew Competition**  
 Plymouth, CA. Entry Deadline: 6/28/2014. [brewangels.com](http://brewangels.com)

**July 12**

**3rd Annual MVHBC Homebrew Competition**  
 Lowell, MA. Entry Deadline: 6/28/2014. [www.mvhbc.com](http://www.mvhbc.com)

**July 12**

**ESB 2014 Home Brew Competition**  
 Sydney, NSW, Australia. Entry Deadline: 7/5/2014. [esbcomp.wordpress.com](http://esbcomp.wordpress.com)

**July 12**

**Indiana Brewers' Cup**  
 Indianapolis, IN. Entry Deadline: 6/26/2014. [brewerscup.org](http://brewerscup.org)

**July 12**

**Ohio Brew Week Homebrew Competition**  
 Athens, OH. Entry Deadline: 6/27/2014. [www.ohiobrewweek.com](http://www.ohiobrewweek.com)

**July 12**

**M.A.L.T. 2014**  
 Montreal, Quebec, Canada. Entry Deadline: 6/27/2014. [www.montrealers.ca](http://www.montrealers.ca)

**July 12**

**Clark County Fair**  
 Springfield, OH. Entry Deadline: 6/30/2014. [www.clarkcountycraftfair.org/Clark%20County%20Fair%20Homebrew%20Competition.html](http://www.clarkcountycraftfair.org/Clark%20County%20Fair%20Homebrew%20Competition.html)

**July 12**

**Beers Fest Invitational**  
 Colorado Springs, CO. Entry Deadline: 7/10/2014. [thebeersfest.com](http://thebeersfest.com)

**July 17**

**The Great Arkansas Beer Festival & Homebrew Competition**  
 Little Rock, AR. Entry Deadline: 7/15/2014.

**July 19**

**Central California Craft Beer Competition**  
 Tehachapi, CA. Entry Deadline: 7/11/2014. [www.TehachapiMountainBrewandGrillFest.com](http://www.TehachapiMountainBrewandGrillFest.com)

**July 19**

**Concurso Cervejeiro Caseiro Bierland**  
 Blumenau, SC, Brazil. Entry Deadline: 5/16/2014. [www.bierland.com.br](http://www.bierland.com.br)

**July 19**

**Deer River Bar-B-Que & Brewfest**  
 Deer River, MN. Entry Deadline: 7/19/2014. [deerriver.org/events/event.php?number=116](http://deerriver.org/events/event.php?number=116)

**July 19**

**2nd Annual Humpback Homebrew Competition**  
 Ocean Springs, MS. Entry Deadline: 7/11/2014. [competitions.gulfcoastbrewersleague.com](http://competitions.gulfcoastbrewersleague.com)

**July 19**

**El Paso County Fair Homebrew Competition**  
 Calhan, CO. Entry Deadline: 7/13/2014.

**July 19**

**2014 Battle of the Brews**  
 Harrington, DE. Entry Deadline: 7/6/2014. [delmarvabrewers.blogspot.com/p/blog-page\\_9.html](http://delmarvabrewers.blogspot.com/p/blog-page_9.html)

**July 19**

**E.T. Barnette Homebrew Competition**  
 Fox, AK. Entry Deadline: 7/16/2014. [www.mosquitobytes.com/Den/Beer/Events/Events.html#ETB](http://www.mosquitobytes.com/Den/Beer/Events/Events.html#ETB)

**July 19**

**BBQ & Brew**  
 Cedar Rapids, IA. Entry Deadline: 7/18/2014. [newbocitymarket.com/bbqandbrew](http://newbocitymarket.com/bbqandbrew)

**July 19**

**Dunn County Fair**  
 Menomonie, WI. Entry Deadline: 7/17/2014. [dunncountyfair.org](http://dunncountyfair.org)

**July 19**

**Arapahoe County Homebrew Contest**  
 Aurora, CO. Entry Deadline: 6/19/2014. [www.arapahoecountyfair.com](http://www.arapahoecountyfair.com)

**July 26**

**German Fest Stein Challenge**  
 Milwaukee, WI. Entry Deadline: 7/12/2014. [www.steinchallenge.com](http://www.steinchallenge.com)

**July 26**

**3rd Annual Crystal Coast Brew Off**  
 Trenton, NC. Entry Deadline: 7/21/2014. [ATFhomebrewclub.com](http://ATFhomebrewclub.com)

**July 26**

**Antelope Valley Fair Homebrew Competition**  
 Lancaster, CA. Entry Deadline: 7/19/2014. [www.braverybrewing.com](http://www.braverybrewing.com)

**July 26**

**First Coast Cup**  
 Jacksonville, FL. Entry Deadline: 6/27/2014.

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**July 26**

**18th Annual New Jersey State Fair Homebrew Competition**  
Augusta, NJ. Entry Deadline: 7/12/2014. scubabrewclub.com

**July 26**

**MASH Homebrew Competition**  
New Haven, IN. Entry Deadline: 7/14/2014. beercomp.triontavern.com

**July 27**

**Ventura County Fair Amateur Homebrew Competition**  
Ventura, CA. Entry Deadline: 7/26/2014. www.venturacountyfair.org

**July 28**

**National Capital Homebrew Competition**  
Ottawa, ON, Canada. Entry Deadline: 7/17/2014. nationalcapitalhomebrew.tumblr.com

**August 8**

**Kentucky State Fair Homebrew Competition**  
Louisville, KY. Entry Deadline: 7/1/2014. www.lagersclub.com/kystatefair/competition/

**August 9**

**Summer Smash II**  
Sonoita, AZ. Entry Deadline: 8/1/2014. buffalobrewclub.brewcomp.com

**August 9**

**Oregon State Fair Homebrew Beer Competition**  
Salem, OR. Entry Deadline: 7/31/2014. www.oregonstatefair.org/competition/beer

**August 9**

**Colorado State Fair Homebrew/Craft Beer Competitions**  
Pueblo, CO. Entry Deadline: 7/13/2014. www.coloradostatefair.com

**August 9**

**I Can't Believe It's Not Lager**  
Swords, Ireland. Entry Deadline: 7/24/2014.

**August 9**

**Austin ZEALOTS Homebrew Inquisition**  
Austin, TX. Entry Deadline: 7/6/2014. inquisition.brewcomp.com

**August 16**

**Mead Free or Die**  
Londonderry, NH. Entry Deadline: 8/2/2014. www.meadfreeordie.com

**August 16**

**WCB Belgium**  
Perth, Western Australia. Entry Deadline: 8/16/2014.

**August 16**

**MoM Hot Summer Brew Off**  
Kansas City, MO. Entry Deadline: 8/2/2014.

**August 16**

**The 21st Annual Dominion Cup**  
Richmond, VA. Entry Deadline: 8/2/2014. dominioncup.jrhc.org



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**August 16****For What It's Worth**

Bloomington, IL. Entry Deadline: 8/8/2014.  
[forwhatitsworth.com](http://forwhatitsworth.com)

**August 16****Primer Concurso Nacional de Cerveceros Caseros**

Montevideo, Montevideo, Uruguay. Entry Deadline: 8/15/2014. [cerveceroscaseros.com.uy/concurso](http://cerveceroscaseros.com.uy/concurso)

**August 16****Beer & Sweat**

Erlanger, KY. Entry Deadline: 8/8/2014.  
[bloatarian.com/bbl-competitions/beer-sweat/](http://bloatarian.com/bbl-competitions/beer-sweat/)

**August 16****Taste of Tennessee Homebrew Competition**

Nashville, TN. Entry Deadline: 8/1/2014.  
[www.tasteofTN.com](http://www.tasteofTN.com)

**August 17****6th Annual Beehive Brew-Off**

Salt Lake City, UT. Entry Deadline: 8/10/2014.  
[www.beernut.com/beercomp](http://www.beernut.com/beercomp)

**August 17****Copa Sudamericana De Homebrewer's - Uruguay 2014**

Montevideo, Montevideo, Uruguay. Entry Deadline: 8/15/2014. [cerveceroscaseros.com.uy/concurso](http://cerveceroscaseros.com.uy/concurso)

**August 23****East Idaho State Fair Homebrew Competition**

Idaho Falls, ID. Entry Deadline: 8/15/2014.  
[www.wildhops.webs.com](http://www.wildhops.webs.com)

**August 23****Picnique Belga**

North Kansas City, MO. Entry Deadline: 8/16/2014. [www.graintoglass.biz](http://www.graintoglass.biz)

**August 23****Garden County Irish Red Ale Competition**

Bray, Wicklow, Ireland. Entry Deadline: 8/10/2014. [www.nationalhomebrewclub.com/forum/index.php?topic=6177.0](http://www.nationalhomebrewclub.com/forum/index.php?topic=6177.0)

**August 24****Washington State Fair**

Puyallup, WA. Entry Deadline: 8/16/2014.  
[www.thefair.com](http://www.thefair.com)

**August 30****Good Time Brewers Classic**

Lake Charles, LA. Entry Deadline: 7/25/2014.  
[goodtimebrewers.com](http://goodtimebrewers.com)

**August 30****III Concurso Estadual de Cervejas Caseiras da ACervA Catarinense**

Blumenau, Santa Catarina, Brazil. Entry Deadline: 8/22/2014. [acervacatarinense.com.br/iii-concurso-estadual/](http://acervacatarinense.com.br/iii-concurso-estadual/)

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

**W**ith this issue, our esteemed Commercial Calibration panel is celebrating its 10th anniversary of evaluating beers for *Zymurgy*! Originally conceived by then-editor Jim Parker, the department debuted in the July/August 2004 issue. In that issue, our panel evaluated two iconic brands, Sierra Nevada Pale Ale and Anchor Steam.

What could we do to commemorate 10 years of Commercial Calibration? Our panel of judges decided they wanted to revisit the same breweries (and perhaps even the same brands, to see if and how they've changed over the years) as that

inaugural issue. We decided to turn our focus to brand new beers released by the breweries just weeks before our deadline. As luck would have it, both Anchor and Sierra Nevada had just debuted new IPAs.

Anchor IPA is a new year-round offering from the brewery, checking in at 6.5 percent ABV. Anchor describes it as “an adventurous new brew from America’s original craft brewery.”

Anchor IPA is hopped with Cascade, Bravo, and Apollo, and dry-hopped with Cascade, Apollo, Citra, Nelson Sauvin, and an experimental hop, 431.

Anchor has plans to build a new brewery on Pier 48 in San Francisco that is expected to open by fourth-quarter 2016, and Anchor IPA is part of the brewery’s attempt to shake up its product line to keep things fresh.

“Anchor has been around for a long time,” Anchor CEO Keith Greggory explained recently. “It had gotten very quiet. It was on a pedestal. People would walk by and salute it, not take it down and drink it.”

Sierra Nevada Brewing Co., of course, is in the midst of opening its second brewery location in Mills River, N.C. Like Anchor, the brewery continues to innovate, with Nooner Session IPA introduced as part of the new 4-Way IPA Variety Pack that also includes Torpedo Extra IPA, Blindfold Black IPA, and Snow Wit White IPA.

Nooner checks in at 4.8 percent ABV and 40 IBU. It’s hopped with Sterling, Centennial, and Chinook, and the brewery suggests pairing it with fish tacos, Cobb salad, and Asiago cheese.



While Nooner was judged as an American IPA, but with less alcohol, the BJCP Style Guidelines are expected to be updated with a new Specialty IPA category, 14D. The guidelines, which cover such IPA offshoots as white IPA, rye IPA, and session-strength IPA (3-5 percent ABV), were released for public comment in June, and should be finalized by the end of the year.

Since that 2004 issue, our panelists have all achieved at least Grand Master II status in the BJCP program, with Gordon Strong having the distinction of being the only Grand Master VIII judge on the planet. We appreciate their knowledge, enthusiasm, and dedication to *Zymurgy*, which helps our readers learn more about beer styles and become better beer judges, if they so desire. Cheers!

## ON THE WEB

Anchor Brewing  
[www.anchorbrewing.com](http://www.anchorbrewing.com)

Sierra Nevada Brewing Co.  
[www.sierranevada.com](http://www.sierranevada.com)

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

Commercial Calibration  
[HomebrewersAssociation.org/pages/zymurgy/commercial-calibration](http://HomebrewersAssociation.org/pages/zymurgy/commercial-calibration)

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**OUR EXPERT PANEL** includes David Houseman, a Grand Master V judge and competition director for the BJCP from Chester Springs, Pa.; Beth Zangari, a Grand Master II level judge from Placerville, Calif. and founding member of Hangtown Association of Zymurgy Enthusiasts (H.A.Z.E.); Scott Bickham, a Grand Master III judge from Corning, N.Y., who has been exam director or associate exam director for the BJCP since 1995; and Gordon Strong, a Grand Master VIII judge, principal author of the 2014 BJCP Style Guidelines and president of the BJCP board who lives in Beavercreek, Ohio.

# THE SCORES



Nooner Session IPA—Sierra Nevada Brewing Co., Chico, Calif.  
BJCP Category: 14B American IPA

## THE JUDGES' SCORES FOR NOONER SESSION IPA



DAVE HOUSEMAN



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

**Aroma:** Dominant skunked aroma up front. Low citrus hop aroma follows. Little to no malt aroma. No DMS, diacetyl, or alcohol aromas. Low fermentation esters. Other than the skunkiness, an understated version of an IPA. (5/12)

**Appearance:** Golden to pale amber color. Clear but a bit hazy; not bright. Dense, thick, rocky white head with excellent retention. (3/3)

**Flavor:** Grainy, biscuity malt sweetness with slight lingering roasted malt character in the background. Tangy, medium citrus hop flavor. Medium-high hop bitterness. Lingering bitterness following a medium-dry finish. Hop bitterness leads malt in the malt/hop balance. No DMS. No diacetyl. Low fruity fermentation esters. No overt alcohol. Skunky character also present in flavor but not as prominent as it is in aroma. (14/20)

**Mouthfeel:** Light to medium-light body. Soft, creamy malt mouthfeel. Light for an American IPA but fits the declared "session IPA" style. No alcohol warming. Lingering bitterness but not astringency. (4/5)

**Overall Impression:** The skunked character, if that's what it is, and not a new hop variety I haven't had before, is very unusual for a beer in a brown bottle, but not unheard of if exposed to UV light for a long time. This detracts from an otherwise interesting beer that takes the IPA character to a session beer. In doing so, the bitterness overshadows the malt presence so it's not as balanced as perhaps it would be with a bit lower hop bitterness or additional malt character. (6/10)

**Total Score:** (32/50)

**Aroma:** Pronounced bright, light perfume lemon blossom and grapefruit zest hop aromas overlay a clean, sweet, malty background. A hint of DMS floats in on first swirl, then vanishes. (7/12)

**Appearance:** Brilliant golden color and clarity. Fine white foam forms when poured, but falls quickly to clouds on the surface. (3/3)

**Flavor:** Clean, bready malt first dominates, then supports full, bright lemongrass and white grapefruit zest hop flavor from first sip through mid-palate. Hop character is fresh and green, with a firm, lingering bitterness. Clean fermentation. (15/20)

**Mouthfeel:** Light bodied, with spritzy carbonation that amplifies a low alcohol warmth. Finish is dry, but not astringent. (4/5)

**Overall Impression:** Elegant simplicity. The light body and fresh hop character lend a refreshing, quenching quality. Hop oriented without the alcohol wallop. On the light side of the IPA range at 4.8 percent ABV, but one I would reach for when there's still work to be done, or when an afternoon leads to lingering conversation to go with the lingering, pleasantly bitter finish. Pairs well with Mu Shu chicken. (8/10)

**Total Score:** (37/50)

**Aroma:** Balanced blend of malt and hops, lightly toasted notes, low levels of caramel, and some graininess. The hops lend some earthiness along with light citrus and a little piney resin. Light but noticeable fermentation aromatics add complexity; mainly floral and light strawberry and pear esters. The graininess is a little too much at the forefront. (8/12)

**Appearance:** Golden color with excellent clarity and a tightly beaded white head. (3/3)

**Flavor:** Malt character is understated, with light toasted notes, graininess, and a little sweetness. It is well hidden behind the layers of hops; rustic, woody, and earthy notes, along with a little tobacco. This seems more influenced by British pale ales than the American counterpart. As in the aroma, esters (light tropical fruits) add some complexity. The finish is somewhat dry, acceptable for a session beer. (15/20)

**Mouthfeel:** A good level of carbonation keeps the beer from being too heavy on the palate but without giving any sizzle. Very low alcohol is in accordance with the session designation. Malt graininess and high hop bitterness add a slight astringent bite to the finish. (4/5)

**Overall Impression:** A quite enjoyable beer that I judged in the vein of an English pale ale rather than a traditional IPA. In this particular beer, the hops are probably the closest to meeting that designation, although the balance ends up being skewed a little toward bitterness and a dry, slightly astringent finish. Nonetheless, an enjoyable and well-crafted session beer. (8/10)

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

**Aroma:** Huge hop nose, dry-hop character—fresh, grassy, citrusy. Mild, grainy malt sweetness far in the background. Clean fermentation character. Hops dominate the balance and have a fresh dry-hop character. Really quite inviting. (10/12)

**Appearance:** Crystal clear. Light golden color. Tall, persistent white head with a rocky texture. (3/3)

**Flavor:** Initial clean malt flavor quickly overcome by a very high hop flavor and a high hop bitterness. Grassy, citrusy-grapefruit hop flavor. Dry finish with lingering bitterness and hop flavor in the aftertaste. Balance is totally toward hops. Clean fermentation profile. The hops have a fresh, dry-hop flavor. The bitterness is high but not undrinkably so; enough malt is there to take some of the edge off. (16/20)

**Mouthfeel:** Medium-light to medium body; seems a bit fuller with the carbonation. Medium to medium-high carbonation. Lightly creamy. Light hop-derived astringency. (4/5)

**Overall Impression:** Like a dry-hopped pale ale on (or above) the upper end of bitterness. Has the overall balance of an IPA but is lower in gravity with less malt flavor and alcohol. Fresh dry hop aroma and flavor. Kind of reminds me of the first time I tried fresh Sierra Nevada Pale Ale in the early 1990s. Very clean, tasty, and drinkable. More of an aggressive pale ale than a small IPA, but could also pass for an IPA due to the hop balance. (8/10)

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



## THE JUDGES' SCORES FOR ANCHOR IPA



**Aroma:** Resiny, fruity, citrus hop aroma up front. Two-row and caramel malt background aroma is fairly light. No DMS. No diacetyl. Fruity fermentation esters blend with hop aroma. No overt alcohol aroma. (10/12)

**Appearance:** Amber with orange notes. Quite clear; not bright. Very dense, rocky, beige head with excellent retention. (3/3)

**Flavor:** Hops dominate flavor profile with elements of citrus and resins. Very fruity apricot notes. Hop bitterness is medium-high and lingers into the finish. Sweet maltiness with low-medium caramel notes nearly balances the hop presence. Malt seems primarily mid-palate, fading quickly to the bitter finish. No DMS. No diacetyl. Noticeable alcohol. (16/20)

**Mouthfeel:** Soft, fluffy mouthfeel with medium body. Medium-dry finish with a slick mouthfeel. Moderate alcohol warming. Bitterness lingers in mouthfeel without astringency. (4/5)

**Overall Impression:** Complex hop profile with a relatively simple malt profile. Although this beer fits the American IPA style very well, the blend of citrus, apricot, and resiny hops is a bit muddled. The hop varieties battle each other for prominence with the apricot winning. This might be the one IPA that would go well with a crème brûlée, with the fruity bitterness balancing the creamy sweetness of the dessert. (8/10)

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



**Aroma:** Toffee, peach, and almond esters and herbal, resinous, grassy, citrus hops hit at the same time, with hops dominating, reminiscent of freshly crushed lemon balm. Sweet, clean malt plays in the background. (7/12)

**Appearance:** Baltic amber (sans the fossils), brilliantly clear. Rocky, well-formed foam stand persists, lacing the glass with a pearly sheen as the volume falls. (3/3)

**Flavor:** Firm malt backbone, lightly sweet, supports the substantial hop bitterness. Tangerine zest and lemon blossom, with a note of earthy crushed grass hop flavor that dominates first impression; gives way to ripe pear ester in the middle, and the characteristic Anchor almond flavor with a bare hint of toffee. Big herbal-citrus hop flavor and bitterness linger; a substantial bitterness, pleasantly herbal, persists long after the last sip is gone. (16/20)

**Mouthfeel:** Medium bodied with creamy texture. Carbonation tickles the tongue and accentuates the hop character, both bitterness and flavor. Alcohol warmth seems low at first, then gradually emerges to a pronounced, almost numbing sensation. Not astringent or hot. (5/5)

**Overall Impression:** Hop character is extremely fresh, full of earthy, herbal citrus flavor, like lemongrass and zest. Malt backbone supports, provides a stage for the hops to dance on. The lightly fruity fermentation character adds complexity, and provides a comforting note as well. Makes me crave a toasted cheese sandwich on sourdough bread—preferably consumed at the Marin Headlands! (8/10)

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



**Aroma:** Moderately high levels of tropical esters such as papaya, melon, and mango. Honey malt underneath for support, along with a light toasted and biscuit character. The aroma is interesting but seems more like a winter warmer than a traditional IPA. (7/12)

**Appearance:** Light to medium copper color with perfect clarity. The head stays up well, but has a mixed texture with some beading around the outside. (3/3)

**Flavor:** Malt forward with enhanced levels of the toasted breadcrumb and toffee notes prevalent in Liberty Ale. Perhaps a little more roast in this beer. Low earthy hop flavors gradually yield to the fruit esters noted in the aroma. The tropical fruit character is a bit more understated here and fades into a very long finish marked by moderately high hop bitterness. (14/20)

**Mouthfeel:** Moderately high alcohol warmth, with a rounded mouthfeel from residual sugars and a medium carbonation level. Just a touch of astringency, but the finish is quite smooth for a well-hopped beer. (4/5)

**Overall Impression:** A very good beer that stands apart from classic American IPAs due to the emphasis on fermentation aromatics. One other aspect of this beer that should be highlighted is the long, clean hoppy finish that was accomplished without adding any appreciable astringency. Nicely done! (7/10)

**Total Score: (37/50)**



**Aroma:** Big fruity nose; plums and dried cherries. Moderate caramel sweetness. Medium hops, lightly citrusy but somewhat masked by the fruitiness. Otherwise clean. The overall impression is of sweetness, accentuated by fruity esters. (8/12)

**Appearance:** Brilliant clarity. Amber-orange color, kind of dark by modern standards. Frothy, off-white head. (3/3)

**Flavor:** High esters; fruity, like plums and strawberries. Moderate malt-sweet start with a sweet caramel flavor, ends with a medium-high bitterness and a moderately sweet finish. The overall impression is bittersweet. The big fruity character is evident throughout. The after-taste is quite bitter as the fruitiness fades. (13/20)

**Mouthfeel:** Medium to medium-full body; too big. Medium to medium-high carbonation. Mild warming notes. Not astringent. (3/5)

**Overall Impression:** Very fruity for an American IPA unless those notes are hop-derived rather than yeast-derived or oxidation-based—it's hard to tell without knowing the hops involved. Caramel flavors are also high, which makes me think oxidation, unless that was the brewer's intent. The heavy, bittersweet finish is off-putting. Both the body and residual sweetness are higher than typical, which makes this more difficult to drink. My major issues are that it's too sweet with too much fruit and caramel. More of a brewpub ESB than an IPA. I'm hoping this is just a mishandled bottle with oxidation rather than by design; it just doesn't drink like an IPA. (6/10)

**Total Score: (33/50)**

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by Charlie Papazian



# Brewing the Perfect IPA



## Perfect IPA ALL-GRAIN RECIPE

### INGREDIENTS

for 5.5 U.S. gallons (21 L)

<b>8.0 lb</b>	(3.6 kg) Maris Otter two-row English pale malt
<b>1.0 lb</b>	(454 g) 15° L English crystal malt
<b>1.0 lb</b>	(454 g) wheat malt
<b>4.0 oz</b>	(113 g) Belgian Special-B malt
<b>1.0 lb</b>	(454 g) wildflower honey
<b>0.5 oz</b>	(14 g) Amarillo hops, 8% a.a. (4 HBU/112 MBU) 60 min
<b>0.5 oz</b>	(14 g) Columbus hops, 19% a.a. (9.5 HBU/266 MBU) 30 min
<b>0.5 oz</b>	(14 g) Simcoe hops, 14% a.a. (7 HBU/196 MBU) 30 min
<b>1.0 oz</b>	(28 g) (homegrown, dried) Cascade hops, ~5% a.a. (5 HBU/140 MBU) 30 min
<b>0.75 oz</b>	(21 g) brown three-month-old vine dried Cascade hops, 10 min
<b>0.5 oz</b>	(14 g) (homegrown) Cascade hops, 5 min
<b>0.5 oz</b>	(14 g) Australian Galaxy hop pellets, 5 min
<b>0.75 oz</b>	(21 g) Australian Galaxy hop pellets, dry hop
<b>0.5 oz</b>	(14 g) Zythos hop pellets, dry hop
<b>0.25 tsp</b>	(1 g) powdered Irish moss
<b>0.75 cup</b>	White Labs Cry Havoc or American style ale yeast (175 ml) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

**Target Original Gravity:** 1.058 (14.3 B)**Target Extraction Efficiency:** 75%**Approximate Final Gravity:** 1.016 (4 B)**IBUs:** about 80**Approximate Color:** 14 SRM (28 EBC)**Alcohol:** 5.5% by volume

### DIRECTIONS

A step infusion mash is employed to mash the grains. Add 10 quarts (9.5 l) of 140° F (60° C) water to the crushed grain, stir, stabilize, and hold the temperature at 132° F (56° C) for 30 minutes. Add 5 quarts (4.7 l) of boiling water and add heat to bring temperature up to 155° F (68° C) and hold for about 30 minutes. Raise temperature to 167° F (75° C), lauter, and sparge with 3.5 gallons (13.25 l) of 170° F (77° C) water. Collect about 5.5 gallons (21 l) of runoff. Add 60-minute hops and bring to a full and vigorous boil.

The total boil time will be 60 minutes. When 30 minutes remain, add the 30-minute hops. When 10 minutes remain, add "10 minute" vine-dried hops and the Irish moss. When 5 minutes remain, add the 5-minute hops. After a total wort boil of 60 minutes turn off the heat and place the pot (with cover on) in a running cold-water bath for 30 minutes. Continue to chill in the immersion or use other methods to chill your wort. Strain and sparge the wort into a sanitized fermenter. Bring the total volume to 5 gallons (19 l) with additional cold water if necessary. Aerate the wort very well.

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



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driven me to settle on these beers. One of those top-of-mind reasons is that there are rarely any fresh commercial examples of several of these styles available for purchase for take-home enjoyment. Fresh is a key word in my reasoning. Rare is another. A hop-forward 3.8-percent English ordinary bitter and 4 to 4.8 percent hop-forward German helles are almost impossible to find. With Czech-style golden and dark lagers and German maibocks, freshness makes all the difference in the world. The comparison between fresh, unfiltered, unpasteurized homebrews and even three-month-old pasteurized, filtered versions is absolutely a "night and day" difference.

The same can be said regarding IPA and pale ales, though since most Americans on average live within 10 miles of a brewery, it's a lot easier to encounter fresh examples of these styles. Some of the major craft brewing brands go to great lengths to keep their beers cold and fresh through their distribution and retail systems. But the variation in character of what a pale ale or an IPA could be is hit-and-miss on what I'm particularly seeking in the balance of these hop-forward beers. Hop bitterness for bitterness' sake leaves me bitter about having spent my dollars for a mouthful of, well, bitterness without the skillful balance of everything that it takes to make what I consider a great IPA. After 44 years of homebrewing, I trust that I can get it right every time, even when I experiment with new hops (which I do a lot).

In the March/April 2014 issue, I shared one of my best helles recipes in this column. Here's another of my IPA recipes, called Perfect IPA. It's nothing out of the ordinary from the IPA recipes I've shared before—except for some subtle differences and revisions that seem to make a profound difference. Every time I take a sip of my dwindling draft supply of Perfect IPA, I can only think, "...this is perfect."

**Charlie Papazian is founder of the American Homebrewers Association. **



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## Perfect IPA

### MALT EXTRACT RECIPE

#### INGREDIENTS

for 5.5 U.S. gallons (21 L)

**6.25 lb** (2.8 kg) very light malt extract syrup or 5.25 lb (2.4 kg) light DRIED malt extract

**1.0 lb** (454 g) English crystal malt (10-15° L)

**1.0 lb** (454 g) wheat malt

**4.0 oz** (113 g) Belgian Special-B malt

**1.0 lb** (454 g) wildflower honey

**0.5 oz** (14 g) Amarillo hops, 8% a.a.  
(4 HBU/112 MBU) 60 min

**0.5 oz** (14 g) Columbus hops, 19% a.a.  
(9.5 HBU/266 MBU) 30 min

**0.5 oz** (14 g) Simcoe hops, 14% a.a.  
(7 HBU/196 MBU) 30 min

**1.0 oz** (28 g) (homegrown, dried) Cascade hops, ~5% a.a.  
(5 HBU/140 MBU) 30 min

**0.75 oz** (21 g) brown three-month-old vine dried Cascade hops, 10 min

**0.5 oz** (14 g) (homegrown) Cascade hops, 5 min

**0.5 oz** (14 g) Australian Galaxy hop pellets, 5 min

**0.75 oz** (21 g) Australian Galaxy hop pellets, dry hop

**0.5 oz** (14 g) Zythos hop pellets, dry hop

**0.25 tsp** (1 g) powdered Irish moss

White Labs Cry Havoc or American style ale yeast

**0.75 cup** (175 ml) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

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**Target Original Gravity:** 1.058 (14.3 B)

**Target Extraction Efficiency:** 75%

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

**IBUs:** about 80

**Approximate Color:** 14 SRM (28 EBC)

**Alcohol:** 5.5% by volume

#### DIRECTIONS

Place crushed crystal, wheat, and Special-B malts in 2 gallons (7.6 l) of 155° F (68° C) water and let steep for 45 minutes. Strain out (and rinse with 3 quarts [3 l] hot water) and discard the crushed grains, reserving the approximately 2.5 gallons (9.5 l) of liquid to which you will now add malt extract and 60 minute hops. Bring to a boil. The total boil time will be 60 minutes. When 30 minutes remain, add the 30-minute hops. When 10 minutes remain, add "10 minute" vine dried hops and the Irish moss. When 5 minutes remain, add the 5-minute hops. After a total wort boil of 60 minutes, turn off the heat. Immerse the covered pot of wort in a cold water bath and let sit for 15-30 minutes or the time it takes to have a couple of homebrews.

Strain out and sparge hops and direct the hot wort into a sanitized fermenter to which 2.5 gallons (9.5 l) of cold water has been added. If necessary, add cold water to achieve a 5.5 gallon (21 l) batch size. Aerate the wort very well. Pitch the yeast when temperature of wort is about 70° F (21° C). Ferment at about 70° F (21° C) for about one week or when fermentation shows signs of calm and stopping. Rack from your primary to a secondary and add the hop pellets for dry hopping. If you have the capability, "cellar" the beer at about 55° F (12.5° C) for about one week. Prime with sugar and bottle or keg when complete.

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American Homebrewers Association .....72, 74, 76 www.HomebrewersAssociation.org	Dogfish Head Craft Brewery.....51 www.dogfish.com	O-I .....Cover 4 glassislife.com
ARCHON Industries, Inc. ....65 www.ARCHONind.com	FastRack.....75 www.fastrack.ca	Pacific Merchants dba Krome Dispense .....13 www.kromedispense.com
Beer Meister .....25 www.BeerMeisters.com	Five Star Chemicals & Supply, Inc.....77 www.fivestarchemicals.com	Polar Ware .....18 www.polarware.com
Best Florida Beer .....31 www.bestfloridabeer.org	Grandstand Glassware • Apparel • Promotional .....29 www.egrandstand.com	Quoin Industrial (Party Pig) .....40 www.partypig.com
BH Enterprises .....63 www.winestat.com	GrogTag.....62 www.grohtag.com	Rebel Brewer .....14, 56 www.rebelbrewer.com
Blichmann Engineering .....60 www.BlichmannEngineering.com	Harper Collins.....76 www.harpercollins.com	Samuel Adams .....9 www.samueladams.com
Brew Central .....66 www.brewcentral.com	High Gravity Homebrewing & Winemaking Supplies....41 www.hightgravitybrew.com	Seven Bridges Cooperative .....67 www.breworganic.com
Brew Safe .....45 www.brewfloors.com	High Hops @ the Windsor Gardener .....11 www.highhops.net	Shmaltz Brewing Company .....20, 42 www.shmaltzbrewing.com
Brew Brothers Homebrew Products, LLC .....59 www.brewbrothers.biz	Home Brewery, The .....20 www.homebrewery.com	Sierra Nevada Brewing Co. ....35 www.sierranevada.com
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Carhartt.....1 www.Carhartt.com	Micro Matic USA, Inc. ....10 www.micromatic.com	White Labs, Inc. Pure Yeast & Fermentation .....12 www.WhiteLabs.com
Cicerone Certification Program .....45 www.cicerone.org	Midwest Supplies - Homebrewing and Winemaking ...64 www.MidwestSupplies.com	Wort Wizard .....15 www.wortwizard.com
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# Saccharomyces for the Soul

I don't actually make beer, I just put everything together: water, barley, hops. It's the yeast that does the real work and I need to pay my respects.

After greeting my wife and kids at the end of an exhausting day, my next task is the ritual I always perform following a brew day: all my equipment is cleaned and neatly put away. Just kidding—my backyard looks like the aftermath of a rummage sale and a water fight. "I'll get to all that later," I tell myself.

Instead, I head for the stairs leading down to the basement where my utility room doubles as a fermentation chamber. In my mind, the short, straight staircase transforms into the winding stone steps of a Trappist monastery in Belgium as I light my way with a lantern, the chanting of monks fading away above me. I reach the bottom of the stairs and a door with words in a foreign language painted in bold black script:

*Ssst . . . hier rijpt de trappist*

The phrase, borrowed from the bottle-conditioning cellar of the Abbey of Saint Sixtus of Westvleteren means, "Shhh... here matures the Trappist." I quietly open the door. I don't want to startle them.

It's a small, unfinished room with a cement floor and packed with a furnace, oil tank, chest freezer, small refrigerator, and storage shelves. Not very hospitable lodgings for my minions, but they don't seem to mind. In front of the furnace sits a large blue cooler filled with water around a 6-gallon glass carboy full of 1.087 OG wort and about 10 billion cells of *Saccharomyces cerevisiae*. I can almost hear them working away, metabolizing the



malt sugars and making CO<sub>2</sub> and alcohol. Their efforts take on the familiar sound of the bubbling airlock on top of the carboy.

To my right, the small refrigerator is outfitted with beer taps in the door. Grabbing a glass from the top of the fridge, I pour myself a pint of German lager as I inspect the progress of my Belgian tripel. The thermometer I use to measure the temperature of the beer says 75 degrees—a little high. Fermenting a high-gravity wort is a marathon and the over-eager yeast want to sprint.

*Take it easy little fellas—slow down.*

Reaching into the water in the cooler, I pull out an ice pack and put it in the freezer, exchanging it for a new frozen one. I don't want the yeast to get tuckered out

before they've finished their job—selfish, I know. I guess I should feel a little guilty for what I put them through—throwing them into the salt mines to satisfy my greedy thirst. This ritual helps me attain a kind of reconciliation with this slightly one-sided partnership. I'm not sure who gets the better deal; them, gorging on all that sugar in an orgy of fermentation before succumbing, exhausted; or me, patiently waiting for the result, a sublime fizzy beverage that delights the senses and the soul. I guess that's the reason why I come down here every day, to express some kind of gratitude for the miracle.

Now, about that mess in the backyard...

**Jeremy Mattfeld has been homebrewing for just over three years. He lives in Spokane Valley, Wash.**

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