

FOR THE **HOMEBREWER & BEER LOVER**

zymurgy®

The Journal of the American Homebrewers Association®

HOMEBREWER INNOVATION

10TH ANNUAL
GADGETS ISSUEA Publication of
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13

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Technical Editor.....	Gordon Strong
Art Director.....	Jason Smith
Graphic Designer	Ashley Peck
Operations Director.....	Stephanie Johnson Martin
Sales & Marketing Director.....	Barbara Fusco barbara@brewersassociation.org
Business Development Manager for Advertising & Sponsorship (East).....	Tom McCrary mccrary@brewersassociation.org
Business Development Manager for Advertising & Sponsorship (West) ...	Kari Harrington kari@brewersassociation.org
Advertising & Sponsorship Associate.....	Joe Damgaard
Marketing Coordinator.....	Jeb Foster jeb@brewersassociation.org
Member Services/Circulation Manager	Dan Goloback

American Homebrewers Association

Director.....	Gary Glass
Assistant Director.....	Steve Parr
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Homebrewers Shine at GABF

While the nation's professional craft brewers take center stage in Denver for the Great American Beer Festival each year, homebrewers also have their time in the spotlight.

"There is no GABF without homebrewers; there is no craft beer without homebrewing," stated Jake Keeler, a member of the Brewers Association board of directors and AHA governing committee who spoke at the media luncheon during GABF.

Boston Beer founder Jim Koch is also quick to acknowledge the role that homebrewers played in shaping the craft beer movement and the GABF. "The roots of the craft brewing movement are firmly planted in homebrewing," said Koch in announcing the winners of the Samuel Adams LongShot American Homebrew Contest.

Though Koch has built the second-largest craft brewery in the U.S., brewing more than 2.5 million barrels each year, he's still very much plugged into the homebrewing community. "I read my *Zymurgy* every month looking for cool ideas," he said.

Ground zero for homebrewers at the GABF are the American Homebrewers Association booth and the Pro-Am booth. In the Pro-Am Competition, AHA members team up with craft breweries to scale up their homebrew recipes and submit those entries for judging. This year, 91 entries were judged in the Pro-Am; all of those entries were on tap at some point at the Pro-Am booth during the three-day event. For more on the competition and to see the winning recipes, go to page 58.

In this year's Samuel Adams LongShot competition, AHA members Tim Thomssen and Kevin Nanzer were announced as the winners along with Samuel Adams employee

Colin Foy. Thomssen's Raspberry Berliner Weisse and Nanzer's Belgian Golden Strong Ale will join Foy's Flanders Red Ale in the 2016 LongShot Variety Pack available nationwide next spring.

"There's no better time than now to be an American craft brewer or homebrewer," Koch stated. "This year's LongShot American Homebrew Contest winners serve as shining examples of that passion and American homebrewing ingenuity." Koch brewed the first batch of Boston Lager in his kitchen in 1984.

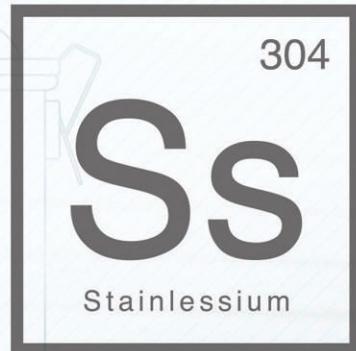
In other news from the GABF, Brewers Association chief economist Bart Watson announced that there are now more than 4,000 breweries operating in the U.S. In November, we eclipsed the all-time high of 4,131 U.S. breweries set in 1873. Currently, breweries are opening at a rate of two per day in this country. Watson forecasted that craft brewers will have 12 to 13 percent market share by the end of 2015; the Brewers Association has a goal of 20 percent by 2020.

Since homebrewers are driving much of the growth in the craft brewing industry, in this 10th annual Gadgets issue we take a look at Frankenbrew, a low-key, no-frills equipment approach to opening a craft brewery. Author Tom Hennessy, the founder of Colorado Boy Brewing Co. in Ridgway, Colo., has helped open 70 breweries through a mentoring program offered at three Colorado breweries.

In addition, we had a record number of submissions for our Gadgets feature. Thanks to our always-inventive readers for submitting their creative gadget ideas for this annual issue.

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





BREWING TECHNOLOGIES



3 IN. TC PORT

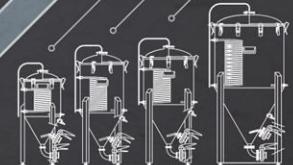
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By Andrew Luberto

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Zymurgy readers share their homebuilt homebrewing tools for solving problems and making the brew day go just a little bit more smoothly.

By Zymurgy readers

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Many homebrewers dream about going pro, but decide against it after seeing the price of a turnkey brewing system. There is, however, another way.

By Tom Hennessy

50 | Dunkenweizendoppelbock

This big, delicious sipping beer with a warming and lingering alcohol glow makes it ideal for relaxing in front of a crackling fire on a dark winter's evening.

By Horst Dornbusch

58 | Going Big: GABF Pro-Am Competition

The 91 beers judged in the 2015 GABF Pro-Am Competition all began life in kitchens, garages, and backyards around the country. Three of them got their time on the big stage.

By Dave Carpenter

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HOME BREWERS GEAR FOR BEGINNERS TO EXPERTS



>> GET THERE

BEER DRINKER OF THE YEAR COMPETITION

After a two-year hiatus, Denver's Wynkoop Brewing Co. will once again crown the Beer Drinker of the Year on April 2.

The competition—a search for “America’s most passionate beer drinker” that began in 1997—pits three finalists against each other in a battle of beer knowledge and appreciation. Past finals have included blind beer tastings, beer interpretive dance, beer whispering, brewing knowledge, and beer trivia. Prizes include free beer for life at the Wynkoop, and a chance to brew a beer with the Wynkoop’s head brewer.

“Winning Beer Drinker of the Year was a huge honor,” said Cody Christman, the 2009 champion. “It’s a chance to see what you know and go up against the best in the nation.”

Submissions for the competition are being accepted through midnight on January 31. New this year, applicants must submit a video, which will count toward the review and consideration of this year’s submissions. To learn more, go to wynkoopbdoy.com.



January 7-9
Big Beers, Belgians and Barleywines Festival
Vail, CO
bigbeersfestival.com

January 22-23
Great Alaska Beer & Barley Wine Festival
Anchorage, AK
auroraproductions.net

January 23
SoCal Winter Brewfest
Anaheim, CA
socalwinterbrewfest.com

January 9
Brew on the Bay
Key Largo, FL
keylargobrewonthebay.com

January 22-31
San Francisco Beer Week
San Francisco, CA
sfbeerweek.org

February 6
Queen City Brewers Festival
Charlotte, NC
qcbeerfest.com

January 16-23
Kalamazoo Beer Week
Kalamazoo, MI
kalamazoobeerweek.com

January 23
World Beer Festival
Columbia, SC
allaboutbeer.com/craft-beer-events

February 11-20
Arizona Beer Week
arizonabeerweek.com

January 22
Pour for a Cure
Pittsburgh, PA
pourforacure.org

January 23
Atlanta Cask Ale Tasting
Atlanta, GA
classiccitybrew.com/acat.html

February 19-28
New York City Beer Week
New York, NY
newyorkcitybrewersguild.com

>> For more craft brewing events, go to CraftBeer.com

>> YOU'VE GOTTA DRINK THIS

NEW ENGLAND BREWING CO. GANDHI-BOT DOUBLE IPA

I have been lucky enough to try Heady Topper and Pliny the Elder within a few weeks of each other. While there is no question these are incredible double IPA offerings, I always find myself coming back to Gandhi-Bot as what (for me) is the pinnacle of the style. It's got a huge floral nose, upfront piney and spicy notes, and finishes with a bitter bite that stops just before it overwhelms. Its body is solid enough to keep me warm during Connecticut winters and light enough that it's not too heavy for a summer BBQ. Cheers!

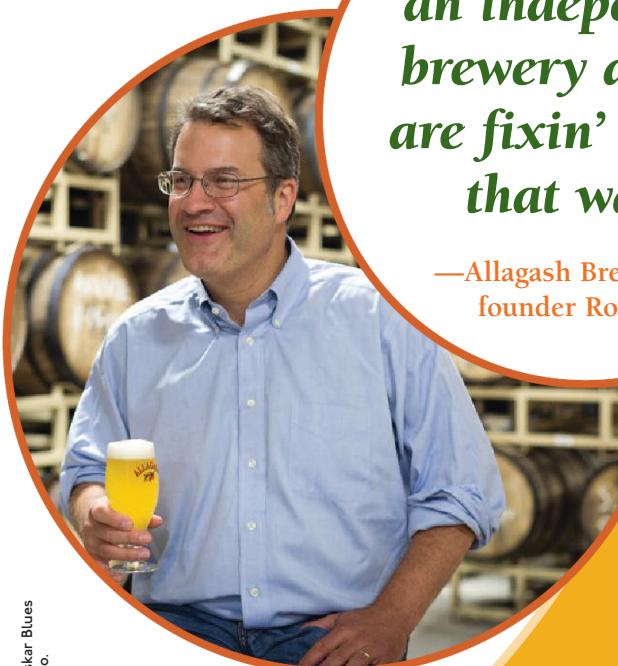
Reviewed by Michael Hrdlicka, Branford, Ct.





>> GREAT PAIRING

Blistered coconuts (pictured above left) filled with flambéed stone fruit, almond cake, spiced rum, and whipped cream, paired with Oskar Blues Death by Coconut (recently introduced in cans). Presented at the Oskar Blues Brewmaster's Weekend at Vail Cascade on July 25 in Vail, Colo.



BEER QUOTE

*"We are
an independent
brewery and we
are fixin' to stay
that way."*

—Allagash Brewing Co.
founder Rob Tod



SHARE YOUR FAVORITE BEER WITH US!

Send your description, in 150 words or fewer, to zymurgy@brewersassociation.org.
Photos are welcome and encouraged!

GREAT PRODUCT:

WHAT'S NEW FROM BREWCRAFT USA

GENESIS FERMENTER

The new Genesis Fermenter was designed with safety in mind. Built-in handles allow for ergonomic lifting. The Genesis Fermenter Inner Liner provides an additional barrier against unwanted oxygen and bacteria.



The U.S.-made fermenter has an industry-leading 5.9-inch wide (15 cm) mouth and a 6.5-gallon (24.6 L) capacity. When used with the sanitary Inner Liner, the double layer offers additional protection against bacteria exposure, while reducing the need for cleanup.

The Fermenter Bundle includes the HDP (high density polyethylene) fermenter, lid, lid gasket, inner liner, rubber stopper with airlock hole, and s-shape airlock. The Genesis Fermenter Bundle retails for \$54.99. To order go to brewcraftusa.com.

>> BREW NEWS:

ZYMURGY NEEDS YOUR SUBMISSIONS!

We're currently planning content for 2016, and Zymurgy could use your help! We need submissions for Last Drop as well as the You've Gotta Drink This segment in Beeroscope.

Last Drop is a lighthearted look at homebrewing, submitted by our readers. Entries must be between 500 and 600 words; (high-res) photos are encouraged. Last Drop submissions are welcome at any time for consideration; email zymurgy@brewersassociation.org to submit or for more information.

Have you tried a commercial beer you just have to tell the world about? Consider doing a short write-up about the beer and submitting it for our You've Gotta Drink This section. Please limit submissions to under 150 words; photos are encouraged. Send your submission to zymurgy@brewersassociation.org.

Thanks in advance for helping to make Zymurgy great in 2016!



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Every beer lover deserves a taste. But the time and precision it takes to brew each bottle make it one of our most limited offerings. Will you be one of the lucky few?



By Gary Glass



Mr. Glass Goes to Washington

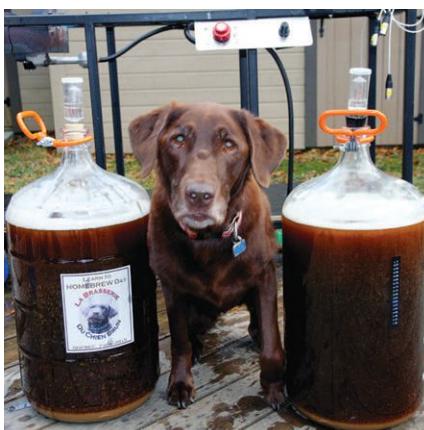
This past October, I traveled to our nation's capital to give a briefing on homebrewing to staff members of representatives and senators on the House and Senate Small Brewer Caucuses. It was a great opportunity to convey the importance of our nation's homebrewers to the larger beer community. I explained some of the issues that homebrewers face on the state level and the potential impact for homebrewers if legislation is passed allowing the United States Postal Service to ship beer. The briefing had a fairly large turnout for this type of event, with 40 or more staffers attending from House and Senate offices on both sides of the aisle. Several of the staff members who attended are homebrewers.

While the AHA has been involved in legislative issues in a number of states in the past, this is the first time we have had this degree of involvement on the federal level. I am grateful to my colleague at the Brewers Association, federal affairs manager Katie Marisic, for setting up the briefing and the reception that followed. This is a great example of how fortunate we are that the organization that represents homebrewers in the U.S. is a part of the Brewers Association.

Learn To Homebrew Day

Learn To Homebrew Day, celebrated on November 7 (always the first Saturday in November), set new records for participation. This day of service, in which homebrewers around the world help introduce friends and family to our beloved hobby, saw a record 360 registered sites teaching 5,931 new homebrewers the ropes of making beer at home.

Thanks to everyone who hosted a Learn To Homebrew Day site in 2015!



Homebrew club Brasserie du Chien Brun in Québec City, Canada, hosted its first Learn to Homebrew Day. Fourteen people brewed 42 liters (11 U.S. gallons) of Scottish ale named Saint-Laurent after the river that flows south of Quebec City. It was the first homebrewing experience for about half of the participants.

Homebrewing Legalized in Puerto Rico

Congratulations to the homebrewers of Puerto Rico, where legislation legalizing homebrewing was passed in November. The new law has the same production limits as U.S. federal law and has similar allowances for removal of homebrew for competitions and other events.

Colorado Legal Update

In my November/December 2015 column, I indicated that I anticipated there would be a bill in Colorado in the upcoming legislative

session to clarify homebrew laws. Since I wrote that column, the Liquor Enforcement Division (LED) has had several conversations with homebrew shop owners, the executive director of the Colorado Brewers Guild, AHA assistant director Steve Parr, and me. They now have a much better understanding of what the homebrewing community is all about. LED drafted a Q&A document with input from the AHA that helps clarify what the state's homebrewers can and cannot do. We have posted that document in the Homebrewing Rights section of HomebrewersAssociation.org and

sent a message to all AHA members, clubs, and shops in the state.

Ultimately, little has changed, and for the average homebrewer, it will be hobby as usual. There are some specifics that affect club meetings and serving of homebrew at homebrew shops that clubs and shop owners should be aware of, but for the most part, the Colorado homebrewing community can continue doing what it has been doing.

Q3 Shops Survey

Since 2008, the AHA has conducted surveys of homebrew supply shops to gain insight on trends within the hobby. In most of the past several years, the survey indicated double-digit growth. The last couple of years have shown slowdown in that growth. Last year, the AHA introduced short quarterly surveys to get more timely data on how business is going for homebrew retailers. The survey for the third quarter of 2015 was the first time we saw declines in revenue when compared to the same period the previous year for every retail segment we look at, including those businesses that are primarily selling online. Hardest hit are the brick and mortar stores that have been around for five or more years.

It seems strange, with more people than ever before now homebrewing, that we are seeing these declines in revenue at the businesses that sell us our supplies. I think there are a few factors at play here that help round out the story and give us a better idea of what is happening.

With the explosion of information available to homebrewers, we have seen the rate of advancement within the hobby accelerate. Our shops surveys have shown steady decreases in the use of extract for making beer, meaning more and more homebrewers are using all-grain techniques. All-grain brewing is fantastic, because it allows homebrewers maximum control over the brewing process and ingredients. However, the downsides of all-grain brewing are that it takes a lot more time than brewing with extracts, and requires more equipment. That time factor is certainly an issue, particularly as the economy has improved and unemployment has fallen. Homebrewers in

The advertisement features a festive background with gold stars. At the top, the "BeerBox" logo is displayed in a brown, rounded rectangular frame. Below the logo, the text "HAPPY NEW YEAR!" is written in large, bold, orange letters. Underneath that, "HAPPY NEW WAY TO STORE YOUR BEER!" is written in green letters. To the right of the text, there is a brown plastic keg with a black CO2 tap and a glass of beer next to it. Below the keg, there is a smaller image of two brown kegs with their respective CO2 injectors and adaptors. To the left of the kegs, the text "Standard BeerBox™ Kit for a 5 Gallon Batch of Home Brew" is written, followed by a list of included items: "Includes: Two 2.75 gallon sturdy HDPE BeerBox™, one CO2 injector, five CO2 (16 gram) cartridges, and one Hose Tap Adaptor with Hose & Tap." At the bottom, there is a circular logo for "BREWING TOOLS" featuring a beer glass and hops, with the text "Ask The Home Brew Shop Near You For The BeerBox™ Visit Us At BrewingTools.com". Social media links for @BrewingTools and Facebook.com/BrewingTools are also present.

general are not brewing as frequently as they used to, probably because they have less time to devote to the hobby—and all-grain brewing takes a big chunk of time.

A recent survey of craft beer drinkers conducted by the AHA to gauge interest in homebrewing showed that the biggest deterrents to getting into the hobby are concerns about having the time to brew and that it would be too difficult. These perceptions are likely influenced by friends and acquaintances who are brewers—more than one in 200 adults are homebrewers in the U.S., which means most adults probably know someone who is a homebrewer. For these non-brewers, seeing their friends' elaborate brewing systems and the time it takes to brew all-grain beer can be intimidating.

As a long-time all-grain homebrewer who has at times found life getting in the way of

brewing, I have become a strong proponent of getting back to brewing with extracts. Every time I finish an extract batch, I'm awestruck by how easy it was and how quickly I'm done and moving on to other things. Sure, you are giving up some control, but not as much control if you are drinking someone else's beer instead! I've toured a malt extract plant and can attest to the quality of the extracts being produced, so I am not in any way concerned about sacrificing quality by brewing with extracts.

So, if you are an all-grain brewer who finds it challenging to brew as frequently as you'd like, give extracts a try. If you are showing a friend or family member how they can get into the hobby, let them know that extract brewing makes great beer, while requiring less time and avoiding the intimidation factor of all-grain brewing. Go visit your local homebrew shop—I know they'll be glad to see you.

2016 Calendar

The New Year is upon us, and the AHA has many events planned for 2016. Use this list to help plan out your homebrew calendar for the coming year.

February 1-7

National Homebrew Competition
Entrant Registration

Mid-February to March 31

AHA Governing Committee Election
Ballots accepted

Early March

National Homebrewers Conference
Registration

March 11-April 17

National Homebrew Competition
First Round Judging

March 31

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

May 7

Big Brew/National Homebrew Day

June 9-11

AHA National Homebrewers Conference
Baltimore, Md.

August 6

Mead Day

October 6-8

Great American Beer Festival
Denver, Colo.

November 5

Learn To Homebrew Day



Visit the Calendar on
HomebrewersAssociation.org
for the most up-to-date listing
of events, including upcoming AHA
Rallies and AHA/BJCP sanctioned
homebrew competitions.

Until next time, happy homebrewing!

Gary Glass is director of the American Homebrewers Association.

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by Our Readers

A Fond Farewell to a Friend

Dear *Zymurgy*,

My family and I recently lost our beloved brew hound, Bauer, and we are hoping to give him one last toast with a stout (his favorite style) and an appearance in *Zymurgy* (the photo is from one of our earliest brews).

Bauer was a loyal and loving friend, not to mention one hell of a brewer! I've been brewing for about seven years, which is how long we were lucky enough to have this gentle giant in our lives. Brewing without him just won't be the same. We'll miss you, big guy!

Best,

Matt Welz

Stevens Point, Wis.

>> CLUB NEWS
FERMENTOLOGISTS COLLABORATE WITH DAD & DUDE'S

The Fermentologists' Novebrew Club, Centerville, Colo.

FOR IT WAS IMPORTANT THAT WE COLLABORATE WITH A BREWERY THAT FITS OUR PHILOSOPHY OF PRIDE IN EDUCATION, COMMUNITY, AND COMPETITION."

— Scott Denevan,
club president and co-founder

WLP 800 Icicle Blood "This blood orange beer is a double IPA with two types of hops. Some hops used would include Citra and Amarillo. The spiciness from the hops is balanced by the citrusy notes. Blood orange zest, and a touch of citrus juice are added to complement the fruity flavors."

On March 8, club president and co-founder Scott Denevan hosted a meeting with an opportunity to sell about ten recipes. Members included people from various states, including Colorado, California, and Connecticut.

WLP 800 Icicle Blood "Produced beer as well as after eight sessions. Fermentation did not stop after the first session. This produces low levels of citrus phenolics and a more complex flavor profile."

After the brew day, the brewer was asked if the beer was done fermenting. The judge panel consisted of Brian Connery, head of brewing operations at Dad & Dude's Brewhouse.

ZYMBURG | HomebrewersAssociation.org

Bloodrocuted

Dear *Zymurgy*,

In the September/October issue you shared a recipe for Bloodrocuted [blood orange saison] in the Club News article. There is no mention in the directions, however, of how the blood orange purée or zest is used (i.e., boil, secondary, or packaging). Could you expound on that for clarification, please?



Thanks,
Stephan "Tank" Emswiler
Bartlett, Tenn.

Zymurgy editor Jill Redding responds:
I checked in with Stefan Hatfield of The Fermentologists, and he clarified that the recipe should actually include 1 cup of blood orange purée and 1 tablespoon of

blood orange zest for a 6.5-gallon batch. The purée and zest should be added to the primary before pitching the yeast. Brian Connery, head of brewing operations at Dad & Dude's Brewhouse, said the brewery added blood orange purée at the end of the boil in its scaled-up version of the recipe. No zest was used in the brewery's version of the brew.



More Brew Dogs

Dear *Zymurgy*,

Meet our two Bouvier des Flandres, Simcoe and Saaz—aka the Howling Brothers. Although they are not very interested in the brewing process itself, during brew day they are on constant watch for anyone coming near the brewing tower.

My wife and I got engaged in the Flanders region of Belgium, at the Saint-Sixtus Abbey. When we decided we wanted a dog, this breed was the perfect choice!

Cheers,
Ryan Carrick
Atlanta, Ga.

Dear *Zymurgy*,

This is Eddie Fitz, named after my wife's favorite beer from Great Lakes Brewing (Edmund Fitzgerald Porter). Eddie loves it when it's Eddie Fitz clone day!

Brian LaGoe
Ypsilanti, Mich.

Dear *Zymurgy*,
Here is a picture of my co-brewer and brew blog mascot, Liam. He is overseeing the plate chiller in this picture.

Cheers!
Mathew Wisner
Shoreline, Wash.

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

Hey homebrewers! If you have a homebrew label that you'd like to submit for the Dear Zymurgy section, send it to magazine art director Jason Smith at jason@brewersassociation.org.



2015 BATTLE OF THE BOTTLE LABELS WINNER

Heath Gelinas — Vernon, CT

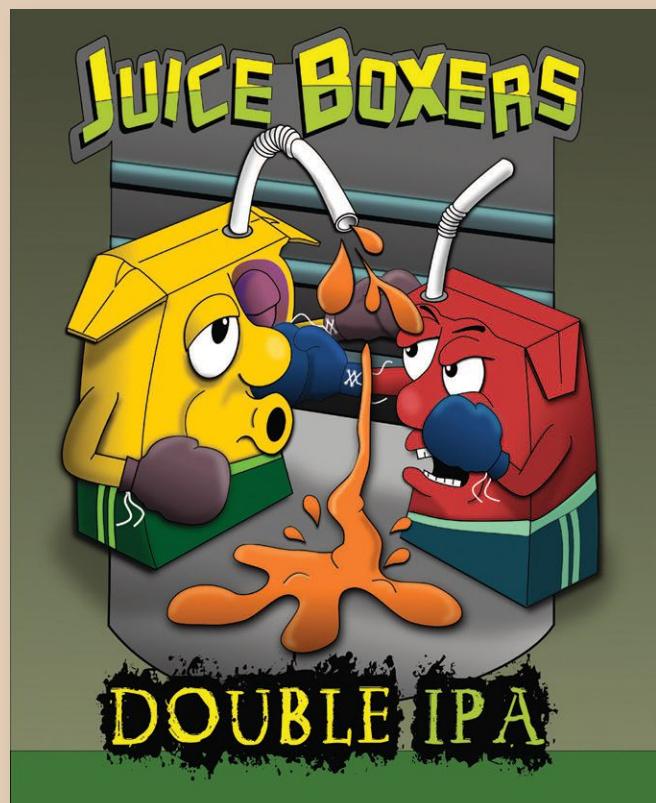


Not long after finishing his first brew session on a snowy December day in 2010, Heath Gelinas and his homebrew partners—brother Jason and sister-in-law Stacey—formed their own little homebrewery they dubbed Bottom-Side-Up Brewing Company. They progressed from pushing the creative envelope of recipe formulation to the pursuit of brewing high-quality, hop-forward styles, but this was preceded by a passion to create an identity for their amateur brewery.

"In all honesty, we had two labels designed before we even brewed our first batch of beer," shared Gelinas.

Project engineer for an aerospace components company by day, Gelinas doesn't have much formal background in graphic design, but a lifelong passion for drawing sparked his journey down the road to beer bottle label design. The team of three will spend hours riffing on different names and concepts for their homebrew creations before bringing the ideas to life in the free design software Inkscape.

Juice Boxers Double IPA is an East Coast-style India pale ale with a hefty dose of Amarillo and Simcoe hops, which Gelinas says creates the impression of drinking a glass of juice. Building from the beer's hop profile, and the common descriptor "juicy" used to denote fruity, hop-forward beers, Gelinas and company came up with the idea of Juice Boxers.



2015 BATTLE OF THE BOTTLE LABELS RUNNER-UP

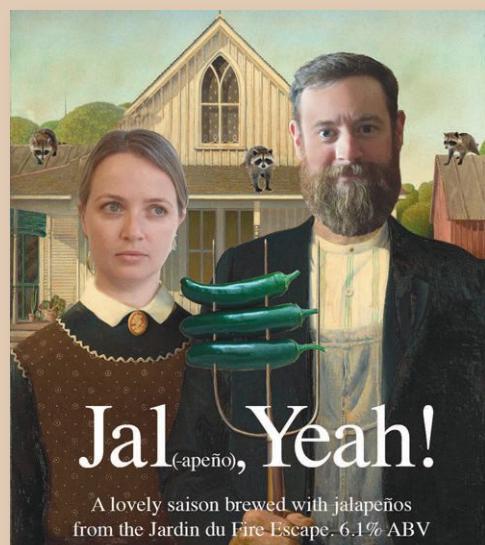
Lily Alt — Brooklyn, NY



You know what they say...the couple that homebrews together, stays together. Lily Alt and her now-husband Kevin started homebrewing together three years ago when they attended a few homebrewing classes at the Brooklyn homebrew shop Bitters & Esters. They ended up sticking with the date-night activity and have continued to make an array of beer styles in their Brooklyn apartment.

Alt is a photo director of *Parents* magazine and studied visual arts and painting in college, so she is no stranger to visual creativity.

Jal(-apeño), Yeah! is a farmhouse saison with notes of jalapeño pepper flavor and aroma, but without the heat. The homebrew was submitted into a competition hosted by Sixpoint Brewery in Brooklyn and won the Peoples Choice Award.



A lovely saison brewed with jalapeños from the Jardin du Fire Escape. 6.1% ABV



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by Professor Surfeit



Bottling with a Beer Gun



Dear Professor,
About a year ago, my brewing buddy and I bought a Blichmann Beer Gun™ so that we could bottle directly from the keg. I've noticed that the beer seems to lose a bit of carbonation once it is transferred into the bottle. I'm assuming this is due to the headspace (that pressure is going to come out of the beer until the headspace is of equal pressure to the beer). I've come up with two possible solutions and am wondering which one is better: I can either carbonate the beer at a higher pressure prior to bottling, or I can leave less headspace.

I don't know if it is related or not, but I've also noticed that since I've been using the Beer Gun, some of my bottles seem to gush when poured. This seems to happen more in the summer than the winter, so I am thinking it has something to do with storing them warm after they were force-carbonated cold. I store the bottles in my

garage, which at times can reach 85° F (29° C) and tends to average 75° F (24° C) in the summer. Any advice?

Thanks,
Darren Duke

Dear Darren,
Beer stored at 85° F (29° C) is never a good idea. It can result in undesirable continued fermentation, not only by the good yeast in your beer, but also by any not-so-good micro-critters that might be present. This will create more gas and more gushing as you experienced. So the first step is to not store any kind of beer at those high temperatures.

Of the two options you suggest, I'd bump up the pressure while bottling, but be sure not to exceed recommended pressures. Always use safety goggles to protect your eyes. Use gloves as added protection. Be sure the beer is as cold as you can manage to get it. Make sure the bottles are cold too. Cover the open-

ing with clean aluminum foil and chill in the refrigerator before using.

Leaving less airspace is a good theoretical approach, but will likely not significantly impact the issue you have.

*It's always a gas,
The Professor, Hb.D.*

Still Prickly About Pears

Dear Professor,
The July/August 2015 Dear Professor has a section on prickly pears that I have great interest in. I live in southern New Mexico where prickly pears are everywhere!



I'm curious how Mr. Bucca processes them. I've done it once and ended up freezing them first, producing a juice, but it's extremely labor-intensive and I'd like to know how I can do it more efficiently. Perhaps they need to be harvested before they are entirely ripe? Also, if you use them fresh, how do you treat the outside of the fruit since they have a lot of stickers? Do you just scrape the outside with a knife to get rid of them?

Ron Harmening
Las Cruces, N.M.

Dear Ron,

I believe Ralph splits the fruit in half and uses a food drier to dry them. This should be easier in New Mexico than in Maryland where Ralph lives. You could also sun- or air-dry them on a screen.

It's best to have them fully ripe before harvest. I either use them fresh or freeze them whole. I process them in a Cuisinart, slicing them into small pieces. No need to scrape, just chop with the food processor. Then I add them to boiling water—pulp, seeds, and juice. After boiling, I strain out the solids. Boiling reduces some of the sliminess. During fermentation, hairy spines drop as sediment to the bottom and are not an issue.

I've never had an issue with spines, except when picking them. Don't use leather or any kind of gloves—you'll ruin them. I use tongs to pick them.

I met a guy who said he ate them once without peeling. Big mistake. He was in serious trouble for several weeks.

Slimy time in the kitchen,
The Professor, Hb.D.



Oxygenating Dry Yeast

Dear Professor,

You had a lot of good information in the September/October 2015 issue about oxygenating wort being beneficial to the yeast, but a lot of homebrewers don't think oxygenating is necessary for dry yeast. What's your take on oxygenating dry yeast?

Cheers,
Steve Ruch

Dear Steve,

No need to aerate with dry yeast. Here are some excerpts from Charlie Papazian's books with more information:

From Homebrewers Companion, 2nd Edition: Before yeast is introduced, it is crucial to oxygenate the wort to provide the yeast sufficient oxygen for its initial metabolic phases. During this lag phase, yeast cells take up the oxygen and nutrients required for later growth and fermentation. When using dried yeast, the lag phase is not as crucial because the dried

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yeast has gone through the lag phase during culturing and already possesses stores of oxygen and nutrients when it is packaged. This is one reason why dried yeast seems to “take off” within an hour or two when introduced to fresh wort. It jumps right into the growth and fermentation stages much more quickly.

From The Complete Joy of Homebrewing, 4th Edition: One can significantly maximize the performance of dried yeast (and consequently the flavor of your beer) by properly rehydrating it. Do this by boiling 1½ cups (355 ml) of water for five to 10 minutes, pour into a sanitized glass jar (washed and boiled for about 15 minutes), cover with clean foil, and let cool to 100 to 105° F (38 to 41° C). Do not add any sugars. Add dried yeast and let rehydrate for 15 to 20 minutes. Bring the temperature of the rehydrated yeast close to that of the wort and pitch.

Airing it out,
The Professor, Hb.D.

Concerned About Cold Break

Dear Professor,

I'm getting ready to upgrade my pot and cooler system with significantly larger kettles. This means I'm going to have to upgrade my chiller size. I know pros tend to use counterflow systems and that ends up putting the cold break into the fermenter. As homebrewers we frequently begin with immersion systems with recirculation and keep the cold break in the kettle. Should I move to a more efficient counterflow system and let the cold break go into the fermenter?

Buck Buchanan
Trenton Falls, N.Y.

Hi Buck,
Charlie Papazian answered your question while at the Great American Beer Festival in September (available at [youtube.com/watch?v=LbTlmlmi9A](https://www.youtube.com/watch?v=LbTlmlmi9A)), but here's the gist of what he said in that response:

Hi Buck, I wouldn't be too concerned about it. Seeing how you just upgraded, you're going to be dealing with a lot of other issues that have to do with a matter of size and fluid dynamics. Don't worry about the cold break. Actually, a little bit of cold break has been found to enhance fermentation; yeast like the stuff in the

cold break. Those precipitated proteins are going to sediment out at the bottom of the fermenter. You might not make a super-clean American-style light lager, but you're probably not making those kinds of beers anyway. You're probably brewing full-bodied and full-flavored ales and lagers. But you will not notice the nuances of what the cold break will do in the fermenter.

I've been brewing since 1970—45 years!—and I don't worry about the cold break in my fermenter. Ramp it up; go for the bigger size. Things are going to be dif-

ferent and you're going to have to adjust your recipes. Just remember to relax, don't worry, and have a homebrew.

Go big or go home,
The Professor, Hb.D.

**Send your questions to professor@
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By Amahl Turczyn

Festbier and Märzen-Oktoberfest

As far back as the Middle Ages, when Bavaria was a Dukedom under the reign of the Guelph Dynasty, brewing was mainly a monastic pursuit. By the 13th century, beer became a source of tax revenue; no longer controlled by the church, it was taken over by government-owned and private family breweries. Breweries cropped up all over Western Europe, wherever there was a good water source, but Germany, and especially Bavaria, remained the spiritual home of brewing. By the end of the 15th century, Munich alone had 38 breweries.

All during this time, Bavarian brewers had no notion of yeast or spoilage bacteria. They only knew that beer brewed in the cold months of winter tasted better than the beer brewed in the heat of summer. March marked the end of the brewing season, because that was the last month the beer they made tasted good—if they could keep it cold. So they worked overtime to produce large quantities of March, or Märzen, beer, which they set aside in icy caves or cellars at the foot of the Alps for cold storage. In conjunction with the low temperatures, Märzen's 5 to 6.2 percent ABV strength helped preserve its quality.

Some brewers even saved ice from the previous winter and packed it into the caves along with the precious beer casks. This was the origin of the practice of lagering, and it allowed the beer to keep from spoiling. Brewers also found that the longer casks were kept at near-freezing temperatures, the better the beer tasted. According to the German Beer Institute, not all Märzen beer was matured for the whole summer. It was gradually released in late spring to early summer for thirsty drinkers who could not wait. But the casks that were allowed to mature the longest were clean and smooth when they were finally tapped.



By the time the grain harvest was completed in October, Märzen left over from the previous spring had reached peak flavor. Since empty casks were needed for the resumption of the brewing season, beer enthusiasts of the day found themselves with several good reasons to celebrate the fall harvest, and Märzen bier began to be known as Oktoberfestbier.

This name was formally adopted on October 12, 1810, the day Bavarian Crown Prince Ludwig married Princess Therese of Saxony-Hildburghausen. The couple opened their wedding party to the entire city, celebrating it on a meadow outside the city gates, where 40,000 citizens showed up. They repeated this festival every year on the same date, and on the same meadow, which was dubbed Theresa's meadow, or *Theresienwiese*. This meadow, known locally as the *Wies'n*, remains the site of the annual Munich Oktoberfest. While there wasn't any beer for the first few years of the event, according to most sources, beer style and event

soon became synonymous. Oktoberfest now lasts two weeks and attracts crowds from around the world.

A Style Evolves

In the Middle Ages, Märzen was probably a dark, turbid, perhaps even smoky brew due to primitive malt kilning methods. While the style slowly evolved and improved over the centuries, it wasn't until 1841 that it took a significant leap forward in quality. Friends Gabriel Sedlmayr, owner of Munich's Spaten Brewery, and Anton Dreher, owner of Vienna's Dreher Brewery, cooperated to lighten their versions of Märzen-Oktoberfest by using a paler, more lightly kilned malt now called Vienna malt. Perhaps most importantly, the two brewers came to recognize the importance of yeast in brewing, specifically cold-fermenting lager yeast; Sedlmayr used only this yeast for his Märzen-Oktoberfest, and Dreher soon adopted the practice. This new, lighter-colored lager was still called Märzen in Bavaria, but Sedlmayr claimed his was brewed "in

the Vienna way," to set it apart from rival Märzens from other Munich breweries. Dreher's new revamped style was basically the same beer, but was henceforth known as Vienna lager.

These popular beers were not quite as pale as the Pilsner first brewed by the Burgher Brewery in 1842, but they gained such a following in their local markets that Dreher soon reached capacity at his Vienna location, and opened up new breweries in Bohemia and Budapest to meet demand. David Miller, author of *Continental Pilsener*, points out that the new cold-fermenting lager strain was a key element in the success

DARK BEERS REMAINED BEST IN BAVARIA, AND PILSNERS TASTED BEST WHEN MADE FROM THE SOFT WATER OF BOHEMIA.

of Pilsner beer. But even as Munich brewers saw Pilsner's popularity skyrocket, eclipsing even their famous, dark Münchner beer, attempts at brewing their own hoppy, pale

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Pickelhaube Märzen

INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

5.5 lb	(2.49 kg) Vienna malt (47.8%)
3.5 lb	(1.59 kg) 10° L Munich malt (30.4%)
2.5 lb	(1.13 kg) 20° L Munich malt (21.7%)
1.25 oz	(35 g) Tettnang pellets, 4.5% a.a. (FWH, 90 min)
0.25 oz	(7 g) Tettnang pellets, 4.5% a.a. (15 min)

Bavarian or Munich lager yeast (2 L starter)
RO water treated with 1g/gallon calcium chloride

Original Gravity: 1.056 (13.75° P)

Finishing Gravity: 1.010 (2.5° P)

IBUs: 23.5

SRM: 10

ABV: 6%

Boil Time: 90 minutes

Assumed Brewhouse Efficiency: 75%

DIRECTIONS

Mash in for a protein rest at 122° F (50° C) for 20 minutes. Pull your first decoction of about 9 quarts (9 L) and boil for 15 minutes. Add back to main mash and equalize at 150° F (66° C). Hold at that temperature for 60 minutes. Apply heat or boiling water to mash out at 168° F (76° C) for 10 minutes. Sparge, boil 90 minutes, and add hops at stated intervals. Chill and oxygenate when wort temperature falls below 80° F (27° C). Pitch a strong starter of yeast at 48° F (9° C). Fermentation temperature may be allowed to rise to 50° F (10° C). As fermentation slows, bring to 55° F (13° C) and hold three days for a diacetyl rest. When the gravity reaches 1.012 (3° P), crash to lager temperatures (35° F or 2° C) and lager the beer for two to three months or until Oktoberfest.

EXTRACT VERSION: Dissolve 4.25 lb (1.93 kg) Pilsner malt extract syrup and 4.25 lb (1.93 kg) Munich malt extract syrup in RO water completely. Proceed with boil and hop additions.

The New

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lager failed. They had no way of knowing that when mashed, the lightly-kilned Moravian pale malt that was such an intrinsic part of the Pilsner style did not have enough acidity to counter the relatively high alkaline water of Munich. Without the ability to alter water quality, brewers had to keep making what worked best in their respective regions: dark beers remained best in Bavaria, and Pilsners tasted best when made from the soft water of Bohemia.

However, Sedlmayr and Dreher's Vienna-style lager fell somewhere between Pilsners and Märzen, and therefore became a true challenger even to the famous Münchner beer of Bavaria. The same Moravian barley used for Pilsner was kilned to the light yellow-orange Vienna color range, and had just enough acidity to achieve a proper mash pH, even with Munich water.

But the style soon evolved again. The Spaten Brewery decided to change its Märzen by introducing a slightly darker, toastier version of Vienna malt that now goes by the name Munich malt. Their darker, reformulated Märzen was released

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exclusively as Munich Oktoberfest. With all the reformulation and competition that surrounded these styles as they evolved, it's not surprising that there was confusion as to what differentiated one style from another. What distinguishes Oktoberfestbier from Märzenbier, for example, or Märzen from Märzen-Oktoberfest is cause for contention to this day. But at least there is a legal distinction

now: German and EU regulations protect the term Oktoberfestbier as an appellation for beers produced within Munich city limits for consumption during Oktoberfest. Breweries outside Munich (at least within the European Union) must call their versions Märzen, or some other variation of the term.

Brewing Parameters

Subcategory 6A Märzen, as an Amber Malty European Lager, still has its place in the updated BJCP 2015 Style Guidelines, and includes the darker export version of Oktoberfest. But now there is a new category called 4B Festbier that joins 4A Munich Helles and 4C Helles Bock in the Pale Malty European Lager category. Festbier has been included because of yet another, fairly recent stylistic transformation to the Märzen-Oktoberfest beer family. In the 1970s, Munich breweries like Paulaner began to notice that paler versions of their Oktoberfestbier were selling better than the classic, full-bodied, copper-colored brew. One can only surmise this is evidence of that era's capitulation to worldwide Pilsner dominance.

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So Paulaner initiated a return to the more Vienna-style Oktoberfest of Dreher's time, which was lighter in body and color, in an attempt to make it still taste great and yet be...less filling. Not to cast aspersions, however—this modern, golden-hued take on Oktoberfest, adopted in 1990 as the event's official beer, deserves a place among its revered brethren. Festbier provides a wonderful opportunity to fine-tune the balance between malty flavor, clean lager character, crisp though not quite bitter noble hop accents, and drinkability. Humorously, the 2015 guidelines even quote the head brewer from Paulaner as saying he wanted to make the beer "more poundable."

Märzen, on the other hand, favors elegance over poundability, and elegant certainly applies to the best commercial examples of the style. It combines a richer, breadier, toastier mélange of malt flavors and aromas, with a darker, fuller body that still dries to a festively drinkable finish.

To achieve its golden hues, Festbier uses Pilsner malt as the base grain, with small additions of Vienna and/or Munich malt to add some maltiness without pushing it into Märzen's color territory: 4 to 7 SRM is the range for Festbier as opposed to Märzen's 8 to 17. With all the high-quality German malts available to home and craft

brewers today, Festbier and Märzen may be the perfect excuse to explore the delicate nuances of highly kilned malts from several different malting houses. Weyermann®, Best Malz, and the more recently available Avangard, among others, make some fantastic Vienna and Munich malts, in addition to the indispensable standby Pilsner. In such pivotal style classics as Fred Eckhardt's *A Treatise on Lager Beers*, published in 1970, and even in George and Laurie Fix's *Classic Beer Style Series: Vienna, Märzen, Oktoberfest*, published in 1991, the variety of quality, high-kilned malts was for the most part unavailable to homebrewers, and the recipes in those publications reflect that. (With all due respect to those classics, crystal malt has no place in Märzen, Oktoberfest, or Vienna lager!) Fortunately, with the recent availability of top-quality ingredients made possible by the craft renaissance, we can now choose from a variety of new malts and hops.

Speaking of hops, they are secondary considerations in these beers, as aromatics and flavors should both be malt-focused. Aromatic emphasis should be on bready, doughy malt, perhaps with a touch of toasted malt, and an "impression of sweetness." Festbier can have a bit of low to medium-low hop bouquet,

along with low to medium bitterness. "Floral, herbal, or spicy" hops are preferred, preferably of the German noble variety, so Spalter or Hallertau (floral), Saaz (herbal), or Tettnang (spicy) would be my top choices. A broad range of both imported and domestic aroma varieties would do well for this style, too. The trick is to keep within the 18 to 25 IBU range, and avoid any hop bursting or whirlpool additions—this is not the place. First wort hopping, however, would not be out of place.

For Märzen, the guidelines make hop aromatics very simple: "No hop aroma." Instead, you want the bready, doughy notes of Festbier, but also the darker toasted and bread crust aromatics of Munich malt. Hops in a Märzen should only balance malt sweetness, and the 18 to 24 IBU contribution should be mostly from early kettle additions. First wort hopping works quite well here.

Strength-wise, Festbier's 5.8 to 6.3 percent ABV range matches Märzen's. Saccharification should be long and low for both beers, right around 150° F (66° C) to maximize fermentability. A well-attenuated finish is necessary to produce a malty, drinkable beer that makes one thirsty for more. While not strictly necessary, a decoction

Pickelhaube Festbier

INGREDIENTS

for 5.5 U.S. gallons (20.82 L)

7.0 lb	(3.18 kg) Pilsner malt (63.6%)
4.0 lb	(1.81 kg) Vienna malt (36.4%)
1.0 oz	(28 g) Hallertau pellets, 4.8% a.a. (FWH, 90 min)
0.5 oz	(14 g) Spalter pellets, 4.5% a.a. (10 min)
Bavarian or Munich lager yeast (2 L starter)	
RO water treated with 1g/gallon calcium chloride	

Original Gravity: 1.055 (13.5° P)

Finishing Gravity: 1.010 (2.5° P)

IBUs: 21

SRM: 4.1

ABV: 5.9%

Boil Time: 90 minutes

Assumed Brewhouse Efficiency: 75%

DIRECTIONS

Mash in for a protein rest at 122° F (50° C) for 20 minutes. Pull your first decoction of about 9 quarts (9 L) and boil for 15 minutes. Add back to main mash and equalize at 150° F (66° C). Hold at that temperature for 60 minutes. Apply heat or boiling water to mash out at 168° F (76° C) for 10 minutes. Sparge, boil 90 minutes, and add hops at stated intervals. Chill and oxygenate when wort temperature falls below 80° F (27° C). Pitch a strong starter of yeast at 48° F (9° C). Fermentation temperature may be allowed to rise to 50° F (10° C). As fermentation slows, bring to 55° F (13° C) and hold three days for a diacetyl rest. When the gravity reaches 1.012 (3° P), crash to lager temperatures (35° F or 2° C) and lager the beer for two to three months or until Oktoberfest.

PARTIAL EXTRACT VERSION: Mash Vienna malt at 150° F (66° C) for one hour using RO water. Drain, rinse with hot RO brewing liquor to desired boil volume, and dissolve 5.5 lb (2.49 kg) Pilsner malt extract syrup completely. Proceed with boil and hop additions. Resulting beer may be slightly darker (4.6 SRM) but still within style range.

mash can add a dimension of maltiness not accessible with infusion mashing, as well as adding a certain German authenticity. One thing to keep in mind when decoction mashing a Festbier is not to develop too much color; a single decoction is enough to develop a rich, layered malt complexity without ending up with a darker color than 7 SRM. The guidelines clearly state, "Should not have amber hues." For this reason, and to more clearly distinguish Festbier from Märzen, I tend to favor Vienna malt in the grain bill over Munich malt.

With Märzen, both Munich malt and amber/orange/copper hues are preferred, with Vienna and/or Pilsner malt making up the balance. Carafla can be used in slight amounts (less than 3 percent) for color if you prefer a darker beer, or you can rely on a long double or even triple decoction to develop color. The included Märzen recipe uses roughly 50 percent Vienna, 30 percent 10° L Munich, and 20 percent 20° L Munich, and still manages 10 SRM, just within the 8 to 17 SRM range. Half dark Munich will result in even more toasted character, but I prefer to have some light Munich involved for the bread crust complexity it brings. Note that dark Munich toast aromas and flavors can be pretty intense in young Märzen, but this will blend, mingle, and mellow with other malt nuances during lagering. A final note on malt: remember that diastatic power for most Munich malts, especially the darker variety, is relatively low. Vienna is perfectly capable of converting itself. Munich malt should be able to, barely. But I have had mashes with a high percentage of Munich malt take longer to completely convert than those based on Pilsner or two-row, so I'm going to recommend a minimum one-hour rest at beta amylase temperatures, especially for the Märzen.

Water should be soft for both styles; I recommend starting with RO or distilled. The usual benefits apply with a modest addition of calcium chloride: richer, maltier beer, better clarity, and less lagering time. One gram per gallon will yield 72 ppm calcium and 127 ppm chloride. Neither recipe should require mash acidification with acid malt or lactic acid. The native acidity of Munich and Vienna malts should serve that purpose sufficiently.

Yeast can be any Bavarian or Munich lager strain. A large starter will allow the luxury of pitching at or near fermentation temperatures to minimize fruity esters in the beer. Fortunately these strains tend to finish dry, and the low mash temps will also help retain the critical crispness of the finish.

These classic German lagers are my dedication to friend and mentor Fred Eckhardt, who was sometimes seen wearing a Pickelhaube. I think he would have approved of these recipes.

Resources

1. German Beer Institute, "Oktoberfestbier," germanbeerinstitute.com.
2. Eckhardt, Fred. *A Treatise on Lager Beers*, Hobby Winemaker, 1970.
3. Fix, George and Laurie Fix. *Classic Beer Style Series: Vienna, Märzen, Oktoberfest*, Brewers Publications, 1991.
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Amahl Turczyn is associate editor of Zymurgy.

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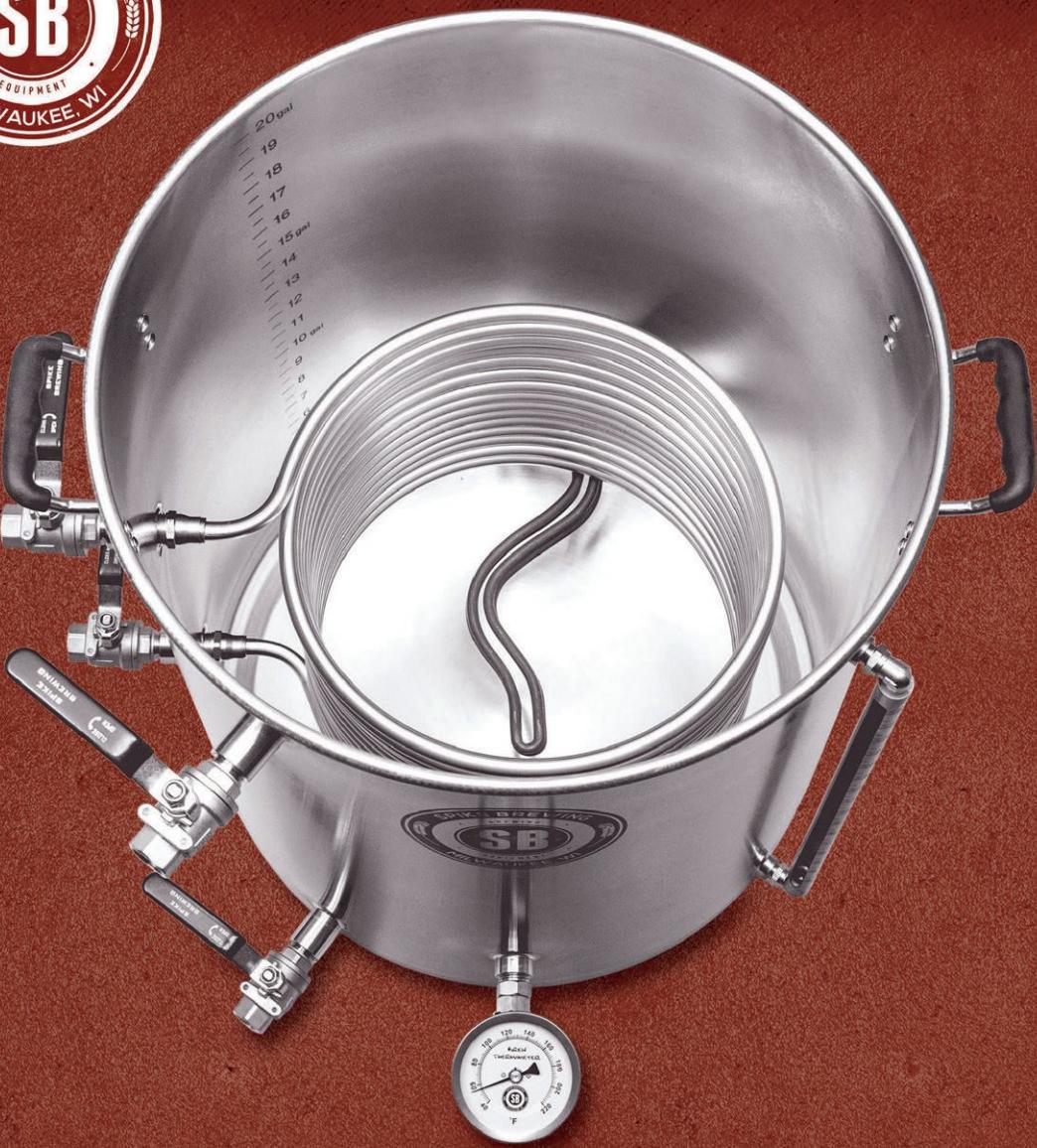
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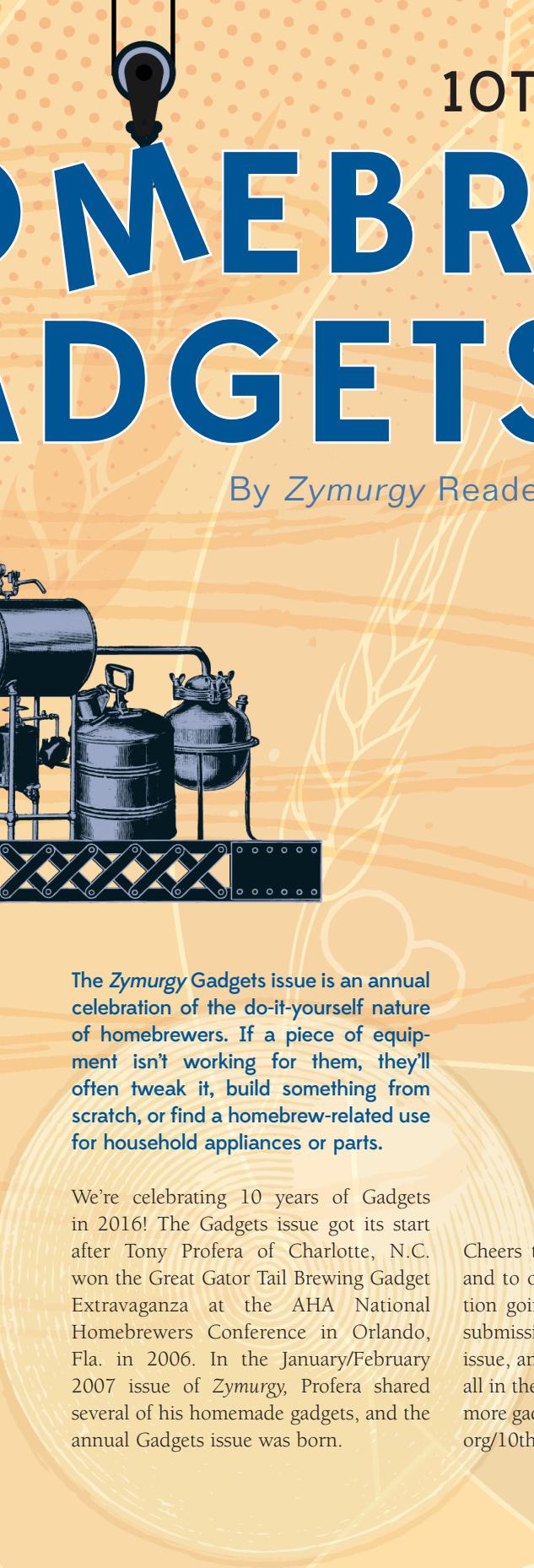
HOME BREW GADGETS

By Zymurgy Readers



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

We're celebrating 10 years of Gadgets in 2016! The Gadgets issue got its start after Tony Profera of Charlotte, N.C. won the Great Gator Tail Brewing Gadget Extravaganza at the AHA National Homebrewers Conference in Orlando, Fla. in 2006. In the January/February 2007 issue of *Zymurgy*, Profera shared several of his homemade gadgets, and the annual Gadgets issue was born.



Cheers to Profera for getting us started, and to our readers for keeping the tradition going. We had a record number of submissions for the 10th annual Gadgets issue, and unfortunately couldn't fit them all in the magazine. However, you can see more gadgets at HomebrewersAssociation.org/10thgadgets.

1 PORTABLE KEGERATOR

Ever have a couple of Corny kegs of beer you want to bring to an outing with fellow beer geeks and you want to keep the beer cold...and deliver it cold?

I took a 150-quart Igloo cooler, drilled two holes in the lid for the delivery lines, and removed the drain plug to bring in the CO₂ line. The cooler accommodates two Corny kegs and two or three bags of ice. I place the kegs in a 30-gallon plastic bag so that when the ice melts, it keeps the cold water and remaining ice in contact with the kegs.

During our family reunion last summer, I kept both kegs cold for three days (outside temperature in the low 80s) and by mid-week, I only had to add two more bags of ice. (But the beer only lasted four-and-a-half days.)

Peter Priniski

Ludington, Mich.

Pour Souls Homebrew Club



2 HOSE CLAMP

From MIG to TIG welding to plasma cutting to PIDs to Peltier modules, I've made nearly every piece of equipment in my home brewery. This idea is probably my favorite because it's so simple and one I use in several different processes every single brew day. Five dollars and a five-minute build will keep your silicone hose tightly in place without kinking whether you're pumping boiling liquid at full speed or gravity feeding from your HLT. It works on every vessel in my brewery.

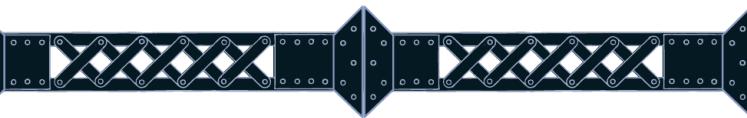
Materials:

- 1 - 3-inch plastic spring clamp
- 1 - 1/2-inch PEX bend support
- 1 - 10-24 x 2-inch machine screw
- 1 - 10-24 nut
- 1 - #10 flat washer

Place the plastic spring clamp jaws in a vise or have someone hold onto them tightly (the spring is pretty strong). Remove stock screw and nut. Replace with 10-24 x 2-inch screw and flat washer inserted through the PEX Bend Support. Tighten nut and remove excess screw with hacksaw.

Byron Ritchason
Batavia, Ill.





3 PARTY BUTLER

Since retiring to North Carolina, I have had time to brew more, and brew bigger batches. A few times a year I bring one or two 2.5-gallon kegs to an event sponsored by our local homeowners association. I'll brew up a 7.5-gallon batch and keg 5 gallons for me and 2.5 gallons for my neighbors to enjoy. It also gives me an opportunity to experiment with different yeasts by fermenting the 5- and 2.5-gallon splits differently.

The last HOA event was a mess. I wheeled over two small kegs in my cooler, hooked up the picnic taps, and put cups on a table. The first few pours went fine, then the taps kept getting mixed up—a neighbor thinking he had a cream ale mistakenly got an IPA. Things went downhill from there. It is hard enough to get the BMC crowd to try homebrew without mixing up the taps. So off I went into the corner



with a pen and cocktail napkin to sketch out a plan for the Party Butler.

I went to my local box store and bought \$12.18 worth of ¾-inch PVC fittings and pipe. What came out was a handy stand that fits under my cooler. The stand has two ¾-inch tees that each hold a picnic tap with the beer line threaded through the tee, a cup holder, and a sign holder so folks know what is coming out of each tap. The next HOA party went perfectly as far as serving beer. Cups were right by



the taps, the taps didn't get tangled and mixed up, and everyone knew what they were drinking. The Party Butler works for a single- or two-keg setup and could be expanded. I like my neighbors, but not enough for a third keg.

Jim Hill

Ocean Isle Beach, N.C.

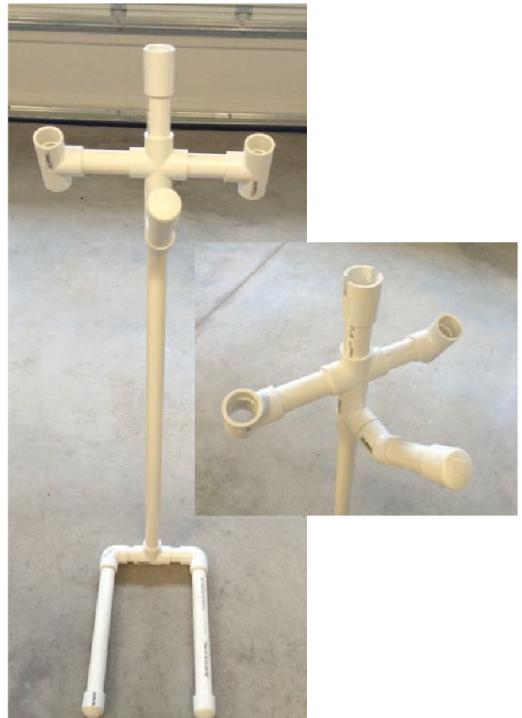
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4 POOR MAN'S COOLING JACKET

This setup easily kept my temps in the low 60s in a 90+° F garage this summer. The jacket is made of ½-inch x 20-foot soft copper tubing (Lowe's) attached to a submersible pump in a 10-gallon cooler. The pump is connected to the copper tubing by 3/8-inch high temp silicone tubing. The tubing is wrapped around my conical. Attached to the conical is a tri-clamp cross with a 20-inch thermowell with a temperature probe within it and an Auber two-stage temperature controller. The copper tubing can be surrounded by neoprene for additional insulation (not shown). When it's in use, I add daily (sometimes twice daily) fresh ice to the cooler. (The cooler can also be placed in a kegerator.)

Jeff Roach
Chestnut Hill, Mass.
Bräuukline



Michael Heitt
Baltimore, Md.
Brewtherville Labs

5 MILLED GRAIN HOPPER

Since starting all-grain brewing, I've felt the hardest part of brewing alone is mashing-in without making dough balls or spilling milled grain on the floor. I decided I needed to make some sort of hopper system so I could gradually add milled grain to the mash tun while continually stirring away. I repurposed a dog food dispenser into a milled grain hopper by hanging it in my brew shed over my mash tun. I had to screw 1x1 wood strips inside and outside the plastic container so the hangers wouldn't tear through the plastic. I mill the grain directly into the hopper, hang it up, pump my hot liquor into the mash tun, and then pull the hopper chute with one hand while mixing with the other. It worked perfectly the first time I used it.

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6 DIY HOIST SYSTEM

My gadget is a back-saver hoist system I installed over my fermentation chest freezer. In my 8-foot-wide storage room, I installed a side-to-side support made of 1.25-inch galvanized steel pipe (\$20 at Lowe's) braced with pieces of 2-inch x 4-inch wood screwed into wall studs on each side. On top of the pipe I used a V Groove 4-inch Steel Caster (\$19 on Amazon) to which I attached an eye bolt. From the eye bolt hangs a 500-pound manual hoist (\$40 at Harbor Freight) and from the hoist is my Little Vault fermenter with 11 gallons of beer held by a DIY harness. The hoist works great and will hopefully allow me to continue brewing when I'm too weak to lift a full bucket of wort.

Bob Sweeney

Mobile, Ala.

Random Acts of Brewing



7 FLY SPARGING HOT LIQUOR MANIFOLD

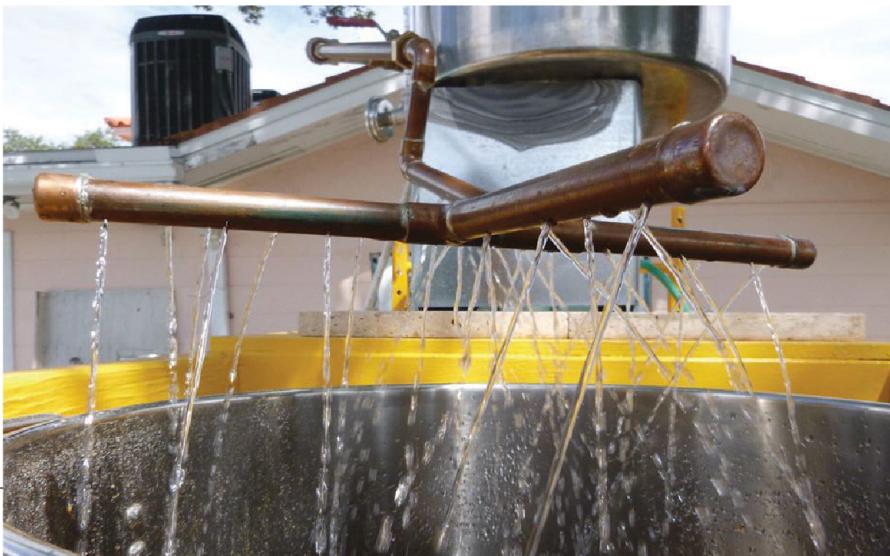
This is a fly sparging hot liquor manifold for a gravity brew system. The manifold is made of ½-inch copper pipe, fitted with two tees, three end caps, two 90-degree elbows, and a threaded union. A second extension tube that connects the manifold to the hot liquor kettle is made of approximately 16 inches of ½-inch copper pipe fitted with a threaded male pipe fitting on one end (to attach to the hot liquor kettle), and the complementary end of the threaded union on the other end. The manifold is drilled on the bottom with 5/64-inch to 3/32-inch holes, staggered to provide an even distribution of flow over the mash/lauter kettle.

The threaded union allows the apparatus to be assembled one piece at a time. This minimizes conflicts for clearance that would be caused by attempting to spin the threaded fittings onto or off of the hot liquor kettle while they are stacked on the gravity flow brew stand. The tees of the manifold are angled along their long axis, so the manifold maintains a more consistent height above the mash kettle, allowing for the downward angle of the gravity flow out of the hot liquor kettle.

Dale Raven (aka Ravenbräu Homebrew)

St. Petersburg, Fla.

PUBGUILD (Pinellas Urban Brewers GUILD)





8 FOUNTAIN PUMP WORT CHILLER

Here in Pennsylvania, the tap water will get up to 75 to 80° F (24 to 27° C) in the summer. As we usually make 10 to 12 gallons (38 to 45 L) of wort at one shot, this makes chilling the wort to pitching temperatures difficult, if not impossible. We can get the wort from boiling to 100° F (38° C) in about 10 minutes with no problem. It's getting from 100° F to pitching temperature that is the challenge. To get around this problem, we now use a two-step process to efficiently chill our wort to pitching temperature. We use a stainless steel immersion coil for the first phase of cooling to bring the wort temperature down to 100° F. For the final phase we use a 40-plate chiller, cooled by recirculating ice water, to reduce the wort temperature to its final pitching temperature. A nice byproduct of this new process is that we are also able to conserve water.

A small 264 gph (4.4 gpm) fountain pump was purchased from Harbor Freight for under \$20. The flow rate of this pump is more than ample for the plate chiller. To simplify storage of the pump, it was modified by attaching a short 4-inch hose section with a male hose end to the ½-inch tubing adapter that came with the pump. In addition, two 5-foot hose sections were built with hose connections on both ends. These will be used to connect the plate chiller with the fountain pump.

The stainless steel immersion coil is placed in the boil kettle 15 minutes before the end of the boil cycle to kill off any nasties that may be harbored on the outside of the chiller. At the completion of the boil, a garden hose is attached to the immersion coil and with constant stirring of the wort the temperature is reduced to roughly 100° F in 10 minutes. Another benefit of the stirring is that the whirlpool created by stirring causes the trub to collect in a neat pile in the bottom center of the boil kettle as the whirlpool settles down.



The modified fountain pump is then connected to the plate chiller with the custom hoses. The drain hose is placed back into the cooler to recirculate the water. The fountain pump is then dropped into the cooler and covered with ice: 40 pounds for 10 to 12 gallons. About one inch of water is added to the cooler so that the pump has something to draw from at the beginning of the cooling cycle.

The fountain pump is plugged into a GFI-protected outlet to establish a flow of ice water through the plate chiller. The wort

pump is turned on and the flow of wort is adjusted to achieve the desired pitching temperature of the wort as it flows into the fermentation bucket. With this new pump and ice water, we are now able to run the wort pump valve almost at full flow, effectively cooling the wort as fast as the pump can push it. Happy fermenting.

William Hartzell

North Wales, Pa.

Douglas Johnson

Lansdale, Pa.

(father-in-law/son-in-law)



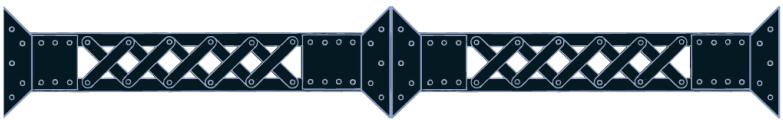
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9 KEG ROCKER

Having moved to a 10-gallon brew system, my son Chris and I found shaking two 5-gallon Cornys to carbonate to be quite exhausting. I designed this Keg Rocker after rocking in a chair and determined that this would be an easier way to carbonate my homebrews. I built this from several 1 x 8-inch planks and a lot of thought. I put a handle at each end and later determined that one would do just

fine. I find that sitting on the floor on a bucket and rocking it with my foot for 15 to 20 minutes works great. I attach a gas line to the liquid-in post of each keg to get maximum absorption. I usually let the keg sit in the cooler overnight still hooked to the CO₂ cylinder. By the next day the beer is ready to drink.

Dennis Stevens

Roanoke, Va.
Star City Brewers Guild



10 CARBOY FILLING WAND

This is a carboy filling wand with a quick disconnect fitting attached. I can sanitize the wand and carboy together while recirculating hot wort through my chiller, then just shift the return hose to the wand to fill the carboy—no dirty hose drooping into the carboy. I made it out of CPVC to avoid scratching the carboy.

Norman Lane

Ormond Beach, Fla.
VCHBG Homebrew Club



11 SERVING STRING

I love to make German Pilsners and take special care in the mash schedule to create the big, lacy, creamy head they are known for. However, I keg and dispense from a picnic tap. I have long sought a way to draw a pint of lager carbonated to the appropriate level without creating a pint of foam. Compounding the problem, I live at 6,000 feet, requiring an extra 3 psi on the beer to obtain the correct 2.5 volumes of CO₂.

The standard method of using 3/16-inch ID serving line PVC tubing with the claimed drop of 3 psi per foot wasn't working. Neither was the taproom practice used for filling growlers of placing a length of tubing on the end of the tap extending to the bottom of the glass. I got tired of dumping the keg's pressure to less than 1 psi prior to serving and then having to re-charge to 16 psi to maintain appropriate carbonation of future pours. The only thing I found to work was 20-foot serving lines. But coiling all that hose in my small refrigerator was an issue, as was the long hose's dead volume, causing the first roughly 4 ounces of a pour to be flat and stale if not serving every day.

My solution was weed whacker string. By simply unscrewing the top of the picnic tap, the internals of the serving line are exposed. One can easily insert the plastic string into the hose, running it the typical six feet of length. The string increases the surface area for the flowing beer, as well as reducing the effective diameter of the hose, raising resistance and slowing the beer down. The resistance occurs evenly over the entire length of the line and is thus gentler on the beer (gently handled beer is happier, less foamy beer) than a short restrictor. The string also reduces hose dead volume, causing less than 1 ounce to be stale.

I found the need to insert two strings to get the soft pour I desired. This is a little more difficult. Removing the sharp edges from freshly cut string, wetting the inside



of the hose along with the strings, and slightly staggering the string ends helped. I never found the need, but lightly soaping the strings (followed later by flushing, of course) may be useful.

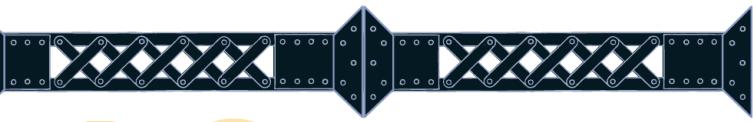
The only downside of this solution is a slow pour. It won't be the standard 8-seconds-to-bar-fill a pint. But 20 seconds observing that beautiful head developing is well spent.

I suggest running the string(s) the entire 6 feet of your serving line. If your carbonation pressure is low (say an ale) or you pour much slower than necessary to prevent foaming, pull a section of the string out from the picnic tap side with a pair of needle nose pliers, trimming its length until you reach the desired effect. I find a slow pour useful. I can create the exact

head I desire by manipulating the picnic tap above the glass.

After extended use, I have found the string imparts no detectable off flavors, even in delicate Pilsners. It can be sanitized using any standard method. As the string is purchased in coils and the coiling can make it difficult to insert two strings into a hose, I suggest boiling and then forcing the string straight while it cools. I would not suggest using the string currently in your weed whacker—you might impart a grassy, earthy, dandelion flavor to your beer.

Greg Terpay
Lone Tree, Colo.
Rock Hoppers Brew Club



12 WHIRLPOOLATOR

My homebrew gadget was developed to whirlpool my wort with ease. It's cheap and easy to make, but invaluable if removing the trub from the wort is an important step to your brew schedule.

I found that a whirlpool in a 15-gallon boiler for 15 to 20 minutes, or until the wort looks clear, will remove approximately 95 to 100 percent of trub. When it is time to draw wort from the boiler, draw the wort slowly enough to avoid disturbing the trub. When nearing the end, watch the wort being drawn until the trub in the middle starts to move near the draw tube, signaling you to shut off the valve. As a safety precaution, the

Whirlpoolator should be in place prior to the boil to avoid burns.

The Whirlpoolator was designed with 90-degree angles, which allows the intake to be easily accessible and the output to push wort along the bottom side of the boiler to create a whirlpool effect. The copper tube is $\frac{1}{4}$ inch with a female receptacle at the top to hold the connector for your tubing. Although I found that I can wedge it in my Blichmann boil kettle, a clamp works well.

David Lester

*Santa Clarita, Calif.
Maltose Falcons*



13 BOTTLE SPRAY SHIELD

This is a simple fix for people tired of being sprayed when removing their bottle brush from a bottle. Cut the top and bottom off of a large empty soda bottle. The top end should be wide enough to fit over the neck of the beer bottle, but not wide enough to fit over the body.

After you have put your bottle brush in the bottle and finished scrubbing, flip the empty soda bottle over onto the beer bottle.

Now when you withdraw the bottle brush, the bristles will fling their detritus against the inside of the soda bottle, leaving you clean and dry.

Bryan Fink

San Jose, Calif.



14 COMBINATION MASH TUN/KEG HOLDER

I was looking at my mash tun and thought it would be a good keg holder for festivals. So I cut a hole the size of a keg in the lid. I filled the inside of the lid with spray foam that seals windows. (Then I went to Home Depot to purchase a second lid.)

This setup keeps a keg cold for a good 24 hours. The mash tun uses a braided

food-grade hose with the plastic interior removed. I use a tee connector, which forms a circle. The keg fits perfectly within the tube.

David Scheil
Cedar Falls, Iowa
Cedar River Association
of Zymurgy Enthusiasts (CRAZE)



15 SERVING SCALE

I use this to determine how many pints I have left in my Corny keg. As you can see, it's a scale used for propane tanks. But with a little math, you can change the scale from working with propane and a propane tank to one that will work for beer and a Corny keg. You just need to know how many pounds a propane tank weighs both full and empty. Same for the Corny keg. It's not exact, but it works pretty well when you want to know how much beer you have left.

Mike Drago
Richmond, Va.
Mentoring Advanced Standards
of Homebrewing (MASH)





1 BREWCHILLA SYSTEM

I envy those with an empty basement, garage, or outbuilding that can be converted to a dedicated brew area, but such a luxury is not in the cards for me. My brewing activities are relegated to the kitchen that also serves to prepare my family's daily meals, so my brew sessions must fit entirely between cleanup from one meal and prep for the next. This led me to develop the Brewchilla system for brewing extract recipes.

My goals were:

- Easy setup, takedown, and cleaning
- Fast and efficient brew sessions
- Compact storage
- Makes great beer!

The system is comprised of a five-gallon brew kettle integrated with a novel and efficient immersion wort chiller. The chiller consists of two interlaced 10-foot x 3/8-inch copper refrigeration coils connected via half-inch solid copper pipe and various copper fittings. Standard hose fittings pass through the lid of the brew



kettle where the intake and output are connected with short hoses to the kitchen sink faucet and drain during chilling.

The geometry of the dual coils improves upon the standard single-coil wort chiller design. The two coils are overlapped to minimize hot spots in the center of the kettle, and cold water entering the system flows clockwise from top to bottom in one coil and counter-clockwise from bottom to top in the other. These features reduce temperature gradients in the wort, enabling fast cooldown times even with the relatively small amount of copper tubing.

Integrating the chiller with the brew kettle enables the chilling cycle to take place

with the brew kettle lid closed to minimize contamination risk and allows for compact storage when finished. Furthermore, the entire assembly fits in the lower rack of a dishwasher for easy cleaning and can be sanitized before use simply by placing the lid (and chiller) on the kettle for 10 minutes or so during the boil.



To date I have brewed more than a dozen batches using partial boil and extract/steeping grain recipes with this system and can attest to both the speed and efficiency of the process as well as the quality of the brews it has produced! The total cost was less than \$30 for the copper and fittings along with an hour or so of bending and soldering.

I'm currently working on adding a temperature sensor and a pair of high temperature food-grade submersible pumps

to circulate the wort during chilling and aerate it after, all controlled by an Arduino microcontroller. But that's a topic for another day!

Mark Forsyth
Fort Collins, Colo.



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GOING PRO WITHOUT GOING BROKE

BY TOM HENNESSY

I HAVE YET TO MEET A HOMEBREWER WHO HASN'T THOUGHT ABOUT GOING PRO. MANY FANTASIZE ABOUT GETTING PAID TO DO WHAT THEY LOVE—BREWING BEER—JUST ABOUT EVERY TIME THEY BREW A BATCH AT HOME. SOME MAY EVEN TAKE IT ONE STEP FURTHER AND BEGIN AN ONLINE SEARCH FOR BREWING EQUIPMENT. HOWEVER, ONCE THEY SEE THE PRICE TAG OF A TURNKEY BREWING SYSTEM, THEY ARE INCLINED TO SHUT DOWN THEIR COMPUTER AND DECIDE IT'S BETTER TO STICK TO THEIR CURRENT JOB BECAUSE IT SEEMS MORE REALISTIC.



There is, however, a way to go pro without going broke. I started teaching people how to put brewing systems together using invented or repurposed equipment back in 1995. That year I made a video called *Frankenbrew*. The main principles presented in that video still apply today, but I have learned a lot in the last 20-plus years—information that you can use to your advantage in creating your own professional brewery.

In this article, I present the basics of how to assemble a simple 7-barrel (11 hl)

professional brewing system. I will also give you a few ideas for going beyond that, with just a little bigger investment. I guarantee this will get you thinking, and perhaps redefine what is realistic.

BREW KETTLE

Let's begin with the heart of a brew system: the brew kettle. I prefer cylindrical as opposed to rectangular, so you can easily whirlpool and separate out the trub and hops from the wort at the end of the brew. With a rectangular tank, this separation is very difficult.

The choice of materials can be any grade 304 stainless steel. This happens to include most dairy processing tanks. The best place to find any tank is on eBay by searching “stainless steel tanks.” You can also visit a used dairy supply house. If you live in farm country, ask around or look on Craigslist.

If you look at the kettles that McMenamins in Oregon uses for all their breweries, you will notice that they are not insulated. In fact, my first kettle was not insulated. It was retrofitted with just a burner underneath and still works today after 20 years



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AN OUT-OF-COMMISSION KEG CAN BE REPURPOSED AS A GRANT (A CAPTURING VESSEL BETWEEN THE MASH TUN AND THE BREW KETTLE). A CENTRIFUGAL PUMP USES A VALVE RESTRICTION ON THE OUTLET SIDE TO REGULATE FLOW FROM MASH TUN TO GRANT TO KETTLE.

of service. Finding an un-insulated cylindrical tank is a good place to start. A video of how to convert the tank can be found at coloradoboy.com.

You may also opt for a new kettle. I have found sources for excellent U.S.-made standalone insulated kettles with all the bells and whistles for about \$9,000.

MASH TUN

You will need a vessel that can hold around 200 gallons (757 L). You could get by with 150 gallons (568 L); however, remember that larger vessels enable you to make higher gravity beers.

A dairy tank, commonly used for milk chilling, is the best bet for an inexpensive mash tun. The dairy industry doesn't use these anymore, so they are readily available and cheap. These can be found in farm country for around \$200, but more likely you will find them for about \$1,500 at companies that deal in used dairy equipment. While this may seem expensive, this tank needs no further modification. Happily, these vessels usually come with lids, and they are insulated. In fact, they are often jacketed, which comes in handy for other uses.

These tanks need one simple addition—a long pipe, about 1.5 inches (3.8 cm)

in diameter, extending the length of the inside of the vessel. Cut slits one inch apart into the pipe along the bottom. Hacksaw cuts are ideal for this purpose. The wort will pass through the slits and the grain will not. The pipe can be made from stainless steel or simple copper. It needs to be capped on one end. The open end is pushed into the outlet of the tank where the wort exits.

If using a round dairy tank, place the copper tubes in a grid pattern that enables flow to the outlet. (For a video on how to make a false bottom grid out of copper, go to coloradoboy.com.)

When I am doing a vorlauf (recirculation of wort) from the straight pipe, I get really clear wort almost immediately, as compared to the false bottoms that are screens. So you may find that recirculating your wort isn't really necessary.

You also need to make a sparge fixture for the mash tun. A sparge fixture is simply a showerhead that allows hot water (known as hot liquor) to flow evenly onto the mash.

The Frankenbrew method sweats copper tubes together in a grid or ladder shape that fits the style of mash tun being used. Holes are drilled in the pipes so the water showers over the mash. The sparge arm sits on top of the sides of the mash tun. This costs about \$30 in materials and about an hour to make.

Standalone mash tuns insulated with a sparge unit can be purchased for about \$6,000. I use a unit that is not insulated and it works well, with negligible heat loss during the mash process.

HOT LIQUOR TANK

This vessel is simple: it holds hot water used for sparging the mash. It can be any shape, and can be made out of almost any material, although I would recommend stainless rather than plastic.

For a 7-barrel (11 hl) system, a tank should hold 150 to 200 gallons (568 to 757 L) of water. It's beneficial if it is insulated, but not mandatory, as I have experienced very little temperature drop

A photograph showing two hands holding mugs filled with a golden-colored beer. The mugs are clinking together in a toast. The background is blurred with warm, glowing lights, creating a festive and celebratory atmosphere.

Cheers
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in the time the water is pumped to the hot liquor tank until it is used for sparge.

If the tank sits up on racks higher than the mash tun, you can gravity feed the water for sparging rather than pumping it.

Instead of using a heating element in the tank, you can heat the water in your brew kettle after you have completed the mash. The hot water is then transferred to the hot liquor tank. I suggest heating the water to 180° F (82° C) and transferring it to the hot liquor tank. The water that hits the mash is usually about 170° F (77° C).

You can save space and money by using the fermentation vessel as a hot liquor tank. If you decide to do this, you will need an extra pump. A simple March pump will do the job. Simply heat your sparge water in the brew kettle to about 180° F (82° C) and pump it into the fermenter you will be using that day. This hot water will not hurt your clean and sanitized fermenter. When it comes time to sparge, you will pump out of the fermenter to the sparge head. After sparging, chill your fermentation tank back down using the fermenter's glycol jacket.

FERMENTATION VESSELS

Two extremely important things must be considered regarding fermentation vessels. The first is a sanitary surface—there can be no scratches or dings where infection could occur. The stainless steel should have a mirror finish. This includes

TABLE 1: ESTIMATED COSTS: USED VS. NEW

BREW KETTLE	Converted Tank	\$4,000	New	\$9,000
MASH TUN	Dairy Tank	\$1,500	New	\$6,000
HOT LIQUOR TANK	Use Your Fermenter	\$0	New	\$850
FERMENTATION [2]	Dairy Tank	\$3,000	New	\$6,600
SERVING TANK [4]	Used	\$12,000	New	\$12,000
PUMP	Used	\$800	New	\$1,300
HEAT EXCHANGER	Used	\$2,000	New	\$3,500
GLYCOL CHILLER	Used	\$1,000	New	\$1,800
WALK-IN COOLER	Built	\$1,000	New	\$5,000
KEGS [15]	Used	\$1,200	New	\$1,500
PIECES/PARTS	New	\$1,500	New	\$1,500
TOTAL		\$28,000		\$49,050



A MILK CHILLER DAIRY TANK, LIKE THIS ONE SHOWN AT BIG CHOICE BREWING, IS A GOOD OPTION FOR A MASH TUN.



JACKETED DAIRY TANK
FERMENTATION VESSEL

all welds. When looking at tanks, inspect the inside very carefully. Take time to run your fingers along all the welds, under any manways, etc. to ensure that all are smooth.

The second is the tank's ability to be temperature controlled. As you are aware, during the fermentation process, temperatures increase. If the temperature goes above the yeast's temperature tolerance, off-flavors will develop in beer. The tank needs to be jacketed in some way, so that

if the temperature rises above about 70° F (21° C), coolant will circulate through the jackets, bringing the temperature of the beer back within acceptable limits.

One of the easiest options is a dairy tank. It is perfectly sanitary, insulated, and jacketed. All you need to buy is a racking arm that goes in the tri-clamp opening.

A horizontal dairy tank with lids, like one suggested for mash tun use, can also play the role of a fermentation vessel, with a few



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SLITS CUT INTO ONE SIDE OF PIPE FOR CONVERTED MASH TUN.



PIPE IN PLACE WITH SLITS FACING DOWN.

downsides. It takes up more room than a vertical cylindrical tank, for one thing, and harvesting yeast is a bit more difficult. However, I have used these tanks to brew beer that won medals at the World Beer Cup® and Great American Beer Festival®, so I know they make good beer.

About four years ago, I started looking at white wine fermenters. These tanks are jacketed but not insulated, and only 32 inches (81 cm) in diameter. I bought one to see if it would work for beer, and sure enough it did! I have talked most of my students into purchasing these tanks because they are fairly inexpensive and don't take up a lot of space. You still need

to buy a spray ball for the top for cleaning and you also need a racking arm.

HEAT EXCHANGERS

It is difficult to find a used commercial heat exchanger, so I recommend buying a new one. The size of the heat exchanger you will need depends on how warm your town's water supply is in the summer. If it is lower than 70° F (21° C), you could probably get away with a 60 or 70 plate exchanger. Ask the sales person to help you size the proper one for your town's water temperature.

If your water is above 70° F, you can pre-chill the water before running it through

the heat exchanger by placing a poly tank in the walk-in cooler and filling it the day before with tap water. Overnight, the water will chill to 36° F (2° C). Then you can pump the cooled water into your heat exchanger. I have found some poly tanks that are square and narrow and wouldn't take up much room in a cooler.

CONDITIONING/SERVING TANK

Many new brewers will just want to serve out of kegs from the onset, but I don't recommend this. One 7-barrel serving tank will hold 14 kegs of beer and will take up a lot less room. Plus, it's easier to clean just one vessel. A serving tank is worth the extra expense. Unfortunately, it's difficult to find used serving tanks, but check out the Brewers Association Forum (members only) or the Classifieds section of ProBrewer.com often and you may get lucky.

One of my students bought new Chinese tanks directly from the manufacturer for about \$2,400 each including delivery. That's a pretty good price.

Go with kegs if you have to, but buy at least one or two serving tanks. As you start earning money, you can build your inventory.

GLYCOL CHILLER

To chill your two fermentation tanks, a simple glycol trunk line chiller works great at a fraction of the cost of a typical commercial glycol chiller. I use a chiller with a 15-gallon (57 L) reservoir and a ¾ horsepower compressor. This combination costs about \$1,800 and has no problem cooling the fermentation tanks to at least 36° F (2° C) and holding them at that temperature. One of my students uses just one of these for four fermenters! I've been running mine now for three years without interruption.

WALK-IN COOLER

You will need a walk-in cooler to house serving tanks and kegs. An efficient arrangement is to set the taps right into the wall of the cooler and place the bar on the other side. A new walk-in cooler starts at roughly \$6,000. The Frankenbrew way, however, involves building your own cooler, which entails framing and insulating a room. To refrigerate it, a unit such as a CoolBot Walk-In Cooler Controller

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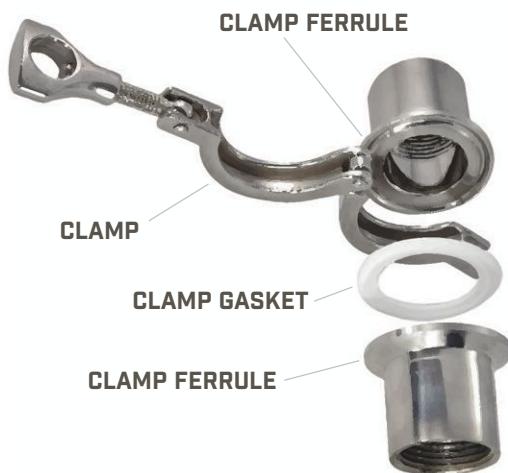
works with a household air conditioning unit. Many commercial breweries have used them for years.

PIECES AND PARTS

Tri-Clamps

A tri-clamp is the type of fitting used in most small American breweries. The most utilized size is a 1.5 inch (3.8 cm) tri-clamp. Brewing systems under 15 barrels really have no need for anything larger. Tri-clamp fittings have a recessed circular groove around the outer perimeter of the fitting.

TRI-CLAMP



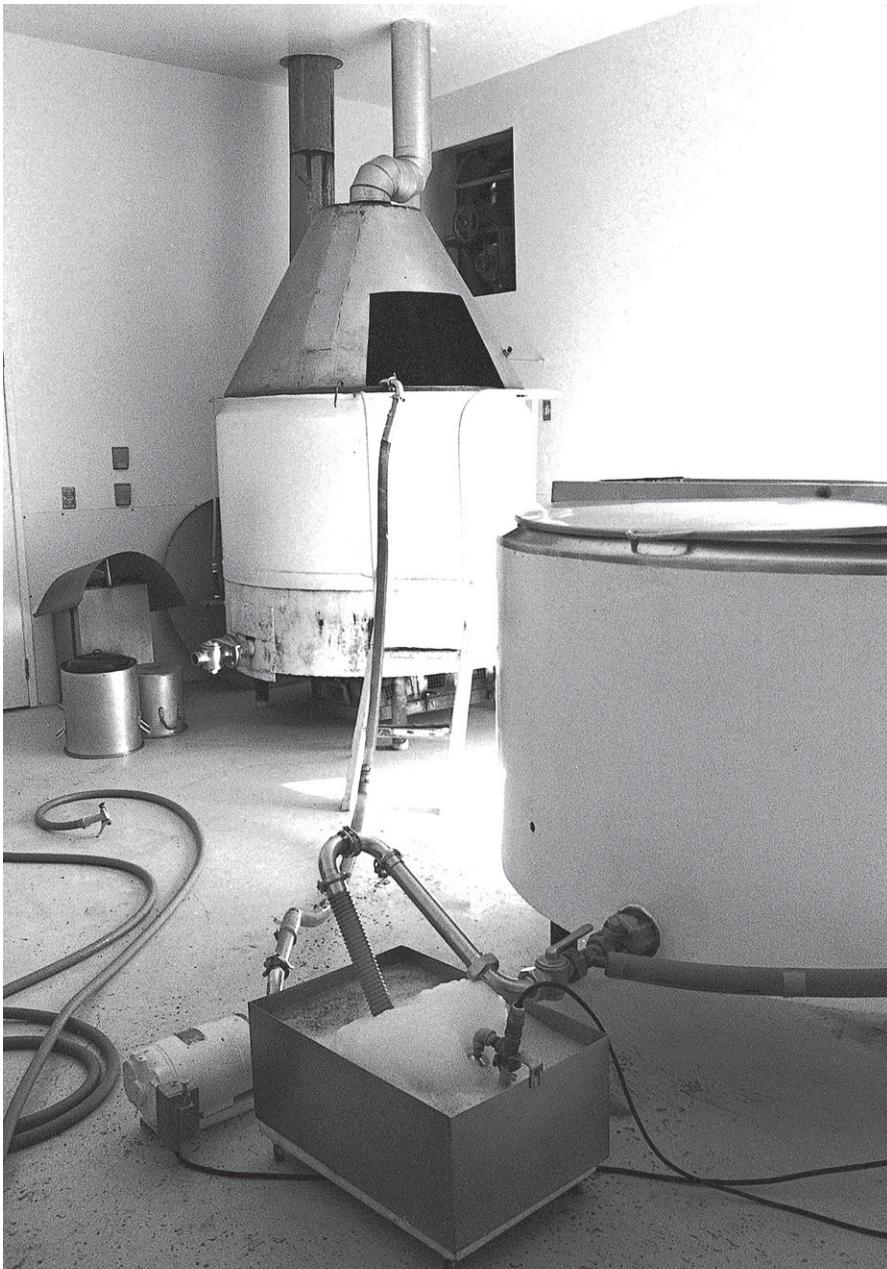
Many parts of a brewery fit together by putting two tri-clamp fittings together with a gasket in the middle and a clamp around the outside. Examples include attaching a pump to a hose, attaching elbows and tees to tanks, and attaching a beer hose to the bottom of a serving tank that goes to the taps.

Brewery Hose

You don't want to go cheap with the hoses you will use in your brewery. There are three types you will most likely need.

The first is a simple, but high quality, garden hose. This will be used for general cleaning, spraying down tanks, spraying down the floor, etc. They are not expensive and are easy to move around the brewery.

The most important hoses will be used on the hot side of the brewing process. These hoses are super heavy duty, can take heat and pressure, won't kink when hot, and won't contribute off-flavors to



SIERRA NEVADA'S FIRST BREW KETTLE

the product. They can be ordered in various lengths with tri-clamp fittings on each end. You will need at least two, depending on your brewery layout; one on the outlet of your kettle going to your pump, and one from the pump to the heat exchanger. The typical cost of this kind of hose is about \$12 per foot.

The third type of hose will be used to handle product under pressure and below 140° F (60° C). They also need to be made of high-quality material that

won't transfer any flavors. I recommend clear Nutriflo suction hose, as you can see the product move through. If you cannot get them with tri-clamp fittings, you can purchase appropriate tri-clamp-to-hose-barb adaptors and band them yourself. This type of hose is easy to cut and use, and costs around \$3.50 per foot.

Grant

This is an optional device, but one that I highly recommend. It is essentially

a capturing vessel between the mash tun and the brew kettle. It is used as an intermediary holding vessel because direct pumping from the mash tun can collapse the grain bed and result in a stuck mash.

To use a grant, take an elbow from the outlet of the mash tun and an extension that drops down into the grant so that the outlet is below the level of the wort in the grant. This will prevent aeration of the wort as it enters the grant. The wort moves from the grant to the bottom inlet of the brew kettle.

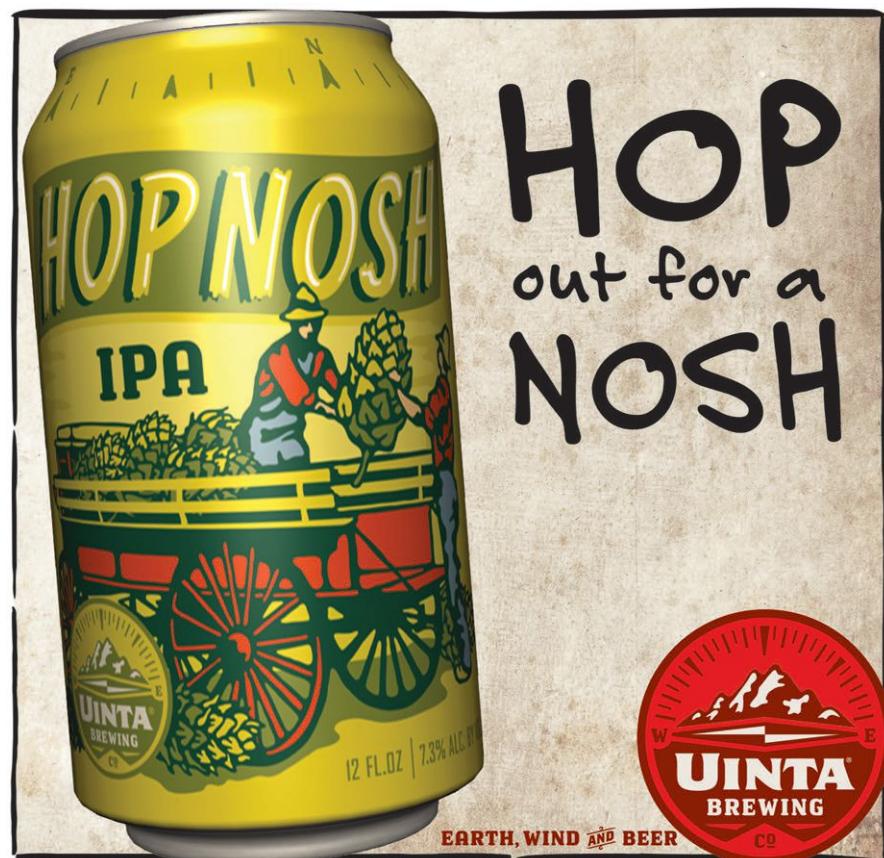
It is cheap and easy to make a grant. Simply take a battered, out-of-circulation keg and cut off the top. In the bottom of the grant on the side, add a 1.5-inch tri-clamp fitting.

Pumps

In brewing, only sanitary pumps are used. Most breweries use centrifugal pumps with stainless steel heads and 1.5-inch tri-clamp fittings on the inlet and outlet. For a small brewery, a $\frac{3}{4}$ horsepower motor is all you need. I have found used pumps on eBay. Look for a well-known brand like Thomsen or Tri-Clover, since spare parts and seals will be easier to find. Don't be surprised to spend \$1,300 on a new one. It's worth it, and reliability is priceless.

Many breweries started out with a Frankenbrew system—just look at the photo of Sierra Nevada's first brew kettle for proof. The money saved will allow you to open your doors for business. You might only use this system for a few years and then install new equipment as you can afford to upgrade. Or, you may end up keeping it for the next 10 years. The point is to start. That's being realistic.

Tom Hennessy is the founder of Colorado Boy Brewing Co. in Ridgway and Montrose, Colo. He leads a Brewery Immersion Course on how to open breweries (70 so far) at Colorado Boy, Echo Brewing, and Big Choice Brewing in Colorado. He is the author of *Brewery Operations Manual*. To learn more about Frankenbrew, go to coloradoboy.com.



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Dunkelweizen

A Strong, Dark Wheat Ale for a Cold Winter's Night





doppelbock

By Horst Dornbusch and Deborah Wood

The saying, “What *can* be done, ultimately *will* be done,” definitely applies to the limbo existence of an obscure beer style with a singularly long name, the dunkelweizendoppelbock. As an abstraction, this brew is a perfectly logical concept. Just think of it as a dark, super-strong, “imperialized” hefeweizen. An online search reveals that seemingly no one is making this beer. This fact alone turns the concept into a tempting challenge! Here is how we made a batch of this rare heavyweight of a beer in June 2015 in Montreal, Canada.

What's in a Name?

First, as a German derivative of a hefeweizen, a dunkelweizendoppelbock mash should contain at least 50 percent malted wheat, by law, at least in its country of origin. The large wheat content ensures a good protein body, as well as some residual sweetness in the brew’s long, mellow finish.

Second, it is a “dunkel,” meaning its color is dark from chocolate and roasted malts—barley-based and/or wheat-based—just as that of a regular dunkelweizen, a well-established beer style in Germany.

Next, it is not just a bockbier, but a doppelbock. This means that its original gravity should be in the upper 1.070s ($>18^\circ P$) for an ABV of at least 7 percent. As a big beer, it is likely to push the capacity limits of most mash tuns and likely requires an extended boil time for extra evaporation. Perhaps the closest and best-known commercial example of a brew resembling our concept is Schneider Aventinus, a wheat doppelbock made by the G. Schneider & Sohn Brewery of Kelheim, Bavaria. It, however, is more ruby than truly “dunkel” in color.





clove and banana flavors of authentic Bavarian hefeweizens.

Grain Bill

For the wheat portion of the mash, we selected a base of 27 percent pale wheat malt. This ensured the brew's dominant wheat character. To accentuate the wheat flavor further and to move the color toward the dark side, we also added 15 percent dark wheat malt. This gave the brew a smooth and complex texture. For additional opacity and depth of color, we selected a combination of specialty wheat malts: 7.5 percent Carawheat® and a fractional amount (1 percent) of roasted chocolate wheat malt. These contributed wheat-derived flavor intensity and a faint, deep-orange hue that was already apparent during the thick dough-in.

Conceptually, the only wheat beer stronger than a weizendoppelbock would be a weizeneisbock ("eis" means ice). This is a fully fermented weizendoppelbock that has been freeze-distilled to concentrate its alcohol and maltiness. Once again, the only brewery that approaches this concept

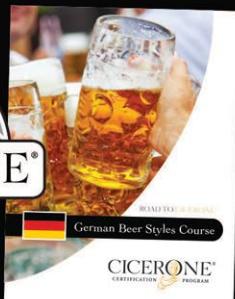
is Schneider, which makes a 12 percent ABV Aventinus Eisbock.

Finally, a dunkelweizendoppelbock should be fermented with a top-fermenting German wheat beer yeast, which is responsible for the classic

For the barley portion of the grain bill, we selected the highly aromatic Barke® Pilsner malt. It gave the mash good diastatic power and even more maltiness. This two-row spring barley malt made up 46.5 percent of the mash. To further

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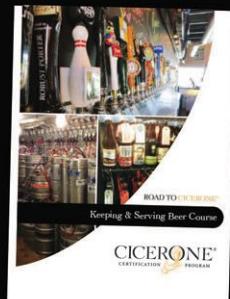
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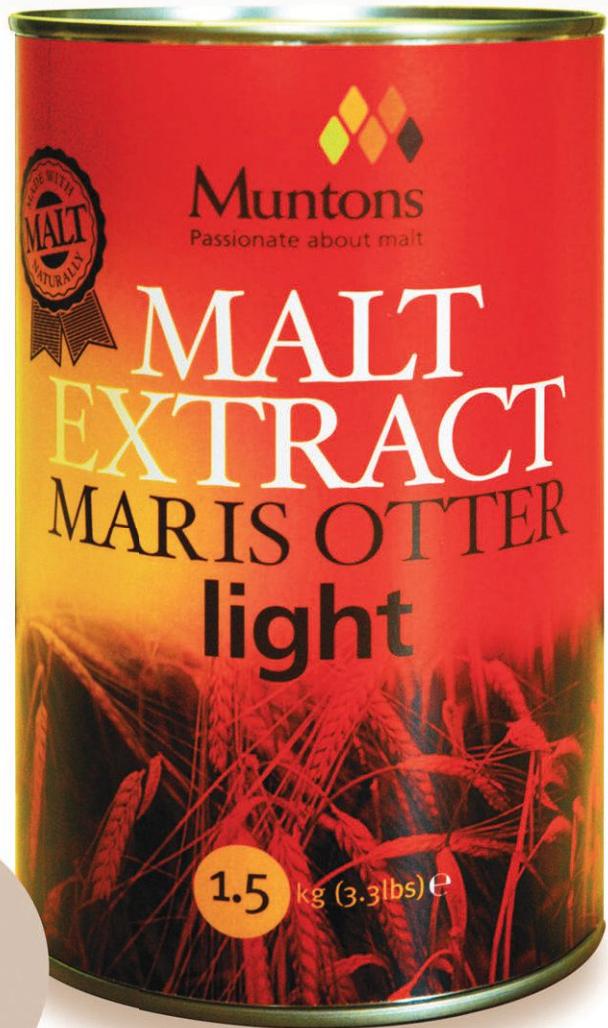
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Dunkelweizendoppelbock

All quantities and specifications in the recipe below are based on a nominal (!) system extract efficiency of only 55 percent, which we calculated ex post facto, and a target original gravity of 24° P (1.101 SG). Your homebrew setup may perform better or worse with this substantial grain bill! The best homebrew approach, therefore, should be: It is what it is, and you get what you get.

Ingredients

for 5 U.S. gallons (19 L)

9.28 lb	(4.21 kg) Weyermann® Barke® Pilsner Malt (46.5%)
5.39 lb	(2.44 kg) Weyermann® Pale Wheat Malt (27%)
3.0 lb	(1.36 kg) Weyermann® Dark Wheat Malt (15%)
1.5 lb	(680 g) Weyermann® Carawheat® Malt (7.5%)
0.6 lb	(272 g) Weyermann® Acidulated Malt (3%)
0.2 lb	(90 g) Weyermann® Roasted Chocolate Wheat Malt (1%)
1.6 lb	(723 g) rice hulls
0.5 oz	(14 g) Herkules, 14.5% a.a., 60 min
0.3 oz	(7 g) Saphir, 3.25% a.a., 10 min
0.8 oz	(21 g) Saphir, 3.25% a.a., 5 min
Fermentis WB-06 or Fermentis Safbrew Abbaye (see article text)	

Original Gravity: 24° P (1.101)

Final Gravity: 4.5 - 5° P (1.018 – 1.020)

IBU: 35

ABV: 10.1 to 10.3%

SRM: approx. 40 (100 EBC)

Directions

Dough-in at approximately 113° F (45° C) for a 30-minute hydration and beta-glucanase rest. To mitigate subsequent lautering problems, it is also advisable to add about 10 percent of the dry malt weight in rice hulls at dough-in.

After the cytolytic rest, infuse the mash with hot brewing liquor to raise the temperature to 122° F (50° C) for a proteolytic rest of 30 minutes at the peak performance temperature of protease.

Next, raise the mash to 149° F (65° C), the peak-performance temperature of beta amylase. This ensures the production of plenty of fermentables—and thus of alcohol. Allow 30 minutes for this diastatic rest.

Repeat the temperature rise a final time to reach the alpha amylase peak temperature of 162° F (72° C). Rest the mash again, this time for 15 minutes, for the conversion of the remaining starches into unfermentable dextrins for extra body in the finished beer.

The large grain bill in conjunction with the many hot-water infusions is also likely to fill the mash tun to the limit of its holding capacity.

Recirculate the wort thoroughly for perhaps 30 minutes. Then sparge and lauter simultaneously. Use the hot sparge liquor to raise the grain bed temperature to the mash-out temperature of 170° F (77° C). The run-off is likely to be slow! Stop sparging as soon as the kettle gravity is about 1.086 (20.75° P), assuming a 10 percent evaporation rate during a 90-minute kettle boil.

In some mash tun configurations—because of aspect ratios and false-bottom designs—a kettle gravity of 1.086 (20.75° P) may not be possible to achieve. In this case, simply sparge until the kettle is full. Then extend the boil until the net kettle gravity of 24° P is reached through evaporation. When weighing out the hop additions, adjust quantities to the projected actual net kettle volume.

Boil for at least 90 minutes (or longer if the original gravity at the start of the boil is an issue). Add bittering hops 60 minutes before the anticipated shutdown time. Add flavor hops with 10 minutes of boil time remaining. Add aroma hops five minutes before shutdown. Whirlpool. Heat-exchange.

Pitch about twice as much yeast as you normally would for a “regular” brew and aerate well. In our experimental batch, we used 1.5 oz/5 gallons (44 g/19 L) of dried yeast. Primary-ferment the brew at the middle of the preferred temperature range of the selected yeast for a total of three weeks.

At the end of primary fermentation, rack the brew into a clean tank for seven to eight days of secondary fermentation. Prime and bottle the brew. Alternatively, rack the brew into a keg and let it mature for two weeks under pressure. Finally, adjust the carbonation in the keg to 3.3 to 4.5 volumes (6.6 to 9 g/L) of CO₂ before dispensing it unfiltered from the keg.



accentuate the brew's dark beer flavors, we rounded the grain bill off with 3 percent barley-based acidulated malt. In the end, this mash produced a beer with a porter-like color of roughly 30 SRM.

Mash Process

As a big brew of great complexity, a traditional dunkelweizendoppelbock would probably have been triple- or even quadruple-decocted in Germany to ensure that everything that is convertible actually is converted! This, however, would require a complex brewhouse configuration with slurry pumps to move the mash in and out of a cooker. Because such equipment may not be available in many craft breweries and is not commonplace for homebrewers, we selected an elaborate multi-step infusion process instead. In about two hours, we took the mash from a thick dough-in at 113° F (45° C) to a relatively thin mash-out at 170° F (77° C).

Boil

We boiled the wort for 90 minutes for a thorough coagulation of unconverted proteins as well as the required evaporation needed to reach the relatively high net kettle original gravity of 24° P (1.101 SG) at the end of the boil. Depending on your setup, at kettle-full after lautering, the original gravity may be too low and only an extended boil time can evaporate the wort to its correct target original gravity—at the cost of a reduction in kettle volume, of course. Make sure you adjust the amount of hops to whichever net kettle volume you end up with.

Hops

A dunkelweizendoppelbock is by definition a very malty brew, but it must not come across as syrupy or cloying. Thus, we chose a bitterness value of 35 IBU, as well as a solid amount of aroma hops. The objective was to create noticeable hop counterpoints and some lingering hop aroma to the brew's sweetness without overpowering the brew's complexity. In deference to the German origin of weissbier, we selected Herkules (usually 12 to 17 percent alpha acids) for bittering. This is a modern hop, released in 2006 by the Hüll Hop Research Center in the Hallertau region. Its citrus and melon



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Suggested usage rates can be as much as 20% of the grain bill without overpowering many styles of beer. Don't be afraid to experiment – it's at home in both ales and lagers! Try 1-5% for depth in Pilsner, Oktoberfest and Bock; 6-10% for complexity in malt-forward beers; and up to 20% for intriguing softness and a slight rye-like character. Expect pale gold to dark copper hues.

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Dunkelweizendoppelbock

Partial Extract Recipe

Ingredients

for 5 U.S. gallons (19 L)

- 12.25 lb** (5.56 kg) wheat malt extract syrup (87.8%)
 - 1.5 lb** (680 g) Weyermann® Carawheat® malt (10.8%)
 - 0.2 lb** (90 g) Weyermann® roasted chocolate wheat malt (1.4%)
 - 1.0 oz** (28 g) Herkules, 14.5% a.a., 60 min
 - 0.3 oz** (7 g) Saphir, 3.25% a.a., 10 min
 - 0.8 oz** (21 g) Saphir, 3.25% a.a., 5 min
- Fermentis WB-06 or Fermentis Safbrew Abbaye (see article text)

Original Gravity: 24° P (1.101)

Final Gravity: 4.5 - 5° P (1.018 – 1.020)

IBU: 35

ABV: 10.1 to 10.3%

SRM: approx. 40 (100 EBC)

Directions

Wheat malt extract syrup is a blend of pale barley and wheat malts, so it should provide a suitable substitute for the base malts in the all-grain version. Omit rice hulls, dark wheat, and acidulated malts. Steep caramel and chocolate wheat malts for 30 minutes in 158° F (70° C) RO or distilled water. Strain out solids and dissolve malt extract in the sweet wort. Top off with RO or distilled water to desired boil volume. Cut boil time to 30 minutes and increase 60-minute bittering hops to 1 oz (28 g). Follow directions in all-grain version for remainder of recipe.



flavors complement the brew's caramel sweetness. For a flavor and aroma hop, we selected the low-alpha Saphir (2 to 4.5 percent alpha acids), also bred by the Hüll Hop Research Center and released in 2002. Saphir has a respectable total oil content of 0.8 to 1.4 ml/100g, composed of a good balance of myrcene, humulene, and caryophyllene. This oil combination contributes spicy, fruity, and floral aromas to the brew, lingering pleasantly in the finish.

Yeast

Naturally, the first yeast choice is a standard German hefeweizen strain. However, other phenolic yeasts beckon with their spicy-peppery aspects. Thus, we decided to split the experimental green beer into two same-size batches and ferment one the German way, with Fermentis WB-06, and the other the Belgian way, with Fermentis Safbrew Abbaye. In our experiment, both fermentations started extremely vigorously, with the Abbey yeast throwing a particularly rocky head. Both batches underwent a rapid gravity drop of about 70 percent in only two days, and almost 80 percent in three days. In the end, the Abbey yeast was the more attenuative of the two, finishing at 1.018 (4.5° P), whereas the wheat beer yeast finished at 1.020 (5° P). We bottle-conditioned both batches at room temperature for about four weeks.



Tasting Notes

Bottles from both batches opened with a satisfying pop from a good amount of accumulated effervescence. In appearance, both versions were dark brown to deep mahogany, and almost impossible to distinguish visually. Both sported a nice, creamy head and left plenty of lace in the glass. The bouquet was clean, rich, complex, and malt-aromatic with alcohol evident in the nose, especially in the brew fermented with hefeweizen yeast.

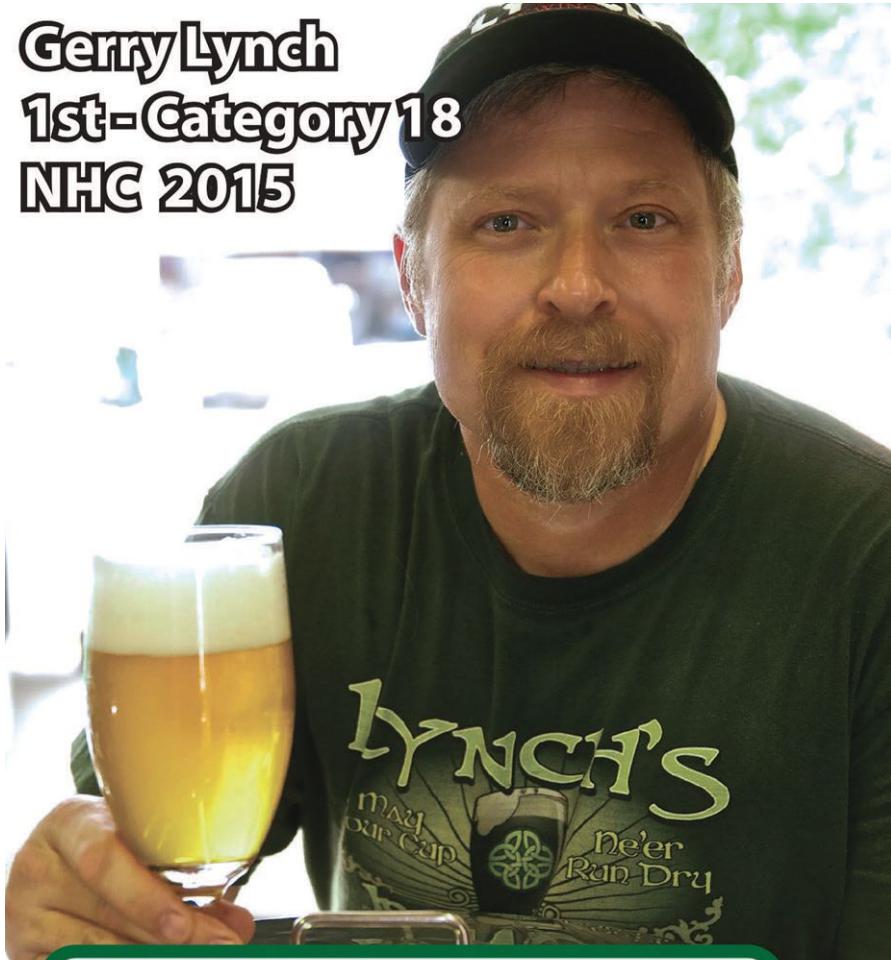
On the palate, both brews were well-balanced, smooth, and slightly sweet in the finish, as one would expect from a bock-style beer. The brew fermented with Abbey yeast showed distinct, aromatic notes of malt, with a background of fruity esters, a gentle hop profile, and noticeable alcoholic warmth. The brew fermented with the hefeweizen yeast was fruitier on the palate, with stronger caramel and chocolate notes, and a stronger presence of alcohol, against a mild hop background. The body of both brews was medium, but with a complex structure reflecting the complex grain bill. Overall, both brews turned out to be big, delicious sipping beers with a warming and lingering alcohol glow, which makes them ideal for relaxing in front of a crackling fire on a "dunkel" winter evening.

Deborah Wood is the Eastern Canada technical sales manager for BSG Canada, Ltd., a trained brewster, and an international beer judge. She lives in Montreal. **Horst Dornbusch** is a consultant in the international brewing industry, an international beer judge, and the author of several books and hundreds of articles about beer. He is also the associate editor of *The Oxford Companion to Beer* (2010). The authors wish to thank BSG Canada, Ltd. for sponsoring the ingredients for this experiment. ☺



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Gerry Lynch 1st-Category 18 NHC 2015



I went through 4 recipe variations, entered several local competitions and took in everyone's advice before I entered the final version of my NHC Gold medal winning Tripel to the National Homebrew Competition. The one thing that didn't change is my use of PBW and Star San throughout the entire process. My guarantee to a clean brewing process every time.

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GOTTING



BY DAVE CARPENTER

THE BEST-KEPT SECRET AT THE GREAT AMERICAN BEER FESTIVAL (GABF) may well be the Pro-Am booth. While countless festival-goers scramble to queue up for predictably popular breweries around the exhibit hall, patrons of the Pro-Am plaza form a sort of nebulous swarm that huddles around more than 30 award-winning ales and lagers, all developed by homebrewers. The specific draft selections are different each session of the festival, rotating through the 90-plus entries in the Pro-Am competition.

The 91 beers judged in the 2015 GABF Pro-Am Competition all began life in kitchens, garages, and backyards around the country. Having already medaled at a Beer Judge Certification Program/AHA-sanctioned competition and been chosen by a professional brewer for the GABF competition, every single Pro-Am entry is, by definition, an award winner before it even gets to the Colorado Convention Center.

Only three of those winners, however, get to walk onto the stage of the Belco Theatre and receive a coveted GABF medal and a fist bump from Charlie Papazian.



2015 GABF
Pro-Am Competition

**Gold
Medal**

Muscat Love

Brian Giebel, Gold Medal, 2015 GABF Pro-Am
(with Great South Bay Brewery)

Ingredients

for 5.5 U.S. gallons (20.8 L)

Assumes 72% efficiency

14.8 lb (6.7 kg) Pilsner malt
1.5 lb (680 g) Munich malt
0.5 oz (14 g) Amarillo hops, 8.9% a.a. (60 min)
1.0 oz (28 g) Saaz hops, 4% a.a. (30 min)
1.0 oz (28 g) Saaz hops, 4% a.a. (15 min)
25.0 oz (709 g) Muscat grape juice concentrate (added to primary)
White Labs WLP500 Monastary Ale (3 liter starter)

Original Specific Gravity: 1.083

Final Specific Gravity: 1.011

IBUs: 25

SRM: 5.6

Boiling Time: 90 minutes

Directions

Mash at 148° F (64° C) for 75 minutes, collect runoff, and boil for 90 minutes. Ferment at 64° F (18° C) for three days, then add the muscat grape juice concentrate directly to primary. Rack to secondary when specific gravity stabilizes near 1.011, then bottle or keg.

Extract Version: Replace the Pilsner and Munich malts with 11 lb (4.99 kg) Pilsner liquid malt extract and 1.5 lb (0.68 kg) Munich liquid malt extract. Reduce boil time to 60 minutes and proceed according to the above directions.



2015 GABF
Pro-Am Competition

Silver Medal

Atahsaia

Mike Froehlich, Silver Medal, 2015 GABF Pro-Am
(with Odd13 Brewing)

Ingredients

for 5.5 U.S. gallons (20.8 L)

Assumes 80% efficiency

15.9 lb (7.2 kg) Rahr 2-row malt
11.0 oz (312 g) Crisp Extra Dark Crystal malt
4.0 oz (113 g) Simpsons Dark Crystal malt
2.5 oz (71 g) Chinook hops, 11.4% a.a. (first wort)
1.5 oz (43 g) Cascade hops, 6% a.a. (15 min)
0.5 oz (14 g) Cascade hops, 6% a.a. (0 min)
0.5 oz (14 g) Cascade hops, 6% a.a. (dry hop)
0.5 oz (14 g) Centennial hops, 10% a.a. (dry hop)
2 sachets Safale US-05
1 oak spiral, soaked for two weeks in whiskey
(Bulleit Rye or Stranahan's recommended)

Original Specific Gravity: 1.093

Final Specific Gravity: 1.015

IBUs: 98

SRM: 12

Boiling Time: 120 minutes

Directions

Mash at 150° F (66° C) for 75 minutes, collect runoff, add the first wort hops, and boil for two hours. Ferment at 68° F (20° C) for two weeks. Rack to secondary, add dry hops, and allow to infuse for five days. Remove dry hops, then add the whiskey-soaked oak spiral. Age on the spiral until the oak and whiskey character are to your taste, typically about a month, then remove the spiral. Condition for several additional weeks or months before packaging. It will only improve with age!

Extract Version: Steep the crystal malts for 30 minutes at 155° F (68° C), and replace the two-row malt with 12 lb (5.44 kg) pale liquid malt extract. To achieve sufficient attenuation, consider using 10.5 lb (4.76 kg) pale extract and 1.5 lb (0.68 kg) corn sugar instead of all extract.

GOLD: The Great Grape Ale

Gold medal-winning homebrewer and chemist Brian Giebel had been hoarding a can of grape concentrate for some time before the proverbial light bulb appeared above his head.

"I never got around to brewing what I had originally planned to make with that grape puree," said Giebel. "But then I started kicking around the idea of brewing a Belgian style with it. I read an article about collaborations between brewers and winemakers, and I realized that with its light body and high carbonation, Belgian tripel already has some wine-like character to begin with."



He then started searching online to see if others had tried it, and he kept running across the same argument: Why would you want to ruin a perfectly good Belgian tripel with grapes?

Fortunately, he didn't listen to the naysayers. Instead, he built a tripel around Muscat grape juice instead of Belgian candi sugar.

Muscat Love went on to grab the attention of Great South Bay Brewery in Bay Shore, N.Y. Several times a year, the brewery collaborates with the Long Island Beer & Malt Enthusiasts (LIBME) homebrew club and recreates an award-winning recipe on its 2-barrel pilot system. The beers are released in the tap room, and then the brewery selects one as its entry into the GABF Pro-Am Competition.

Phil Ebel, vice president of Great South Bay Brewery, said his brewers look for a



2015 GABF
Pro-Am Competition

**Bronze
Medal**

Citra IPA

Ryan Lotter, Bronze Medal, 2015 GABF Pro-Am
(with FATE Brewing Co.)

Ingredients

for 6 U.S. gallons (22.7 L)

Assumes 75% efficiency

7.0 lb	(3.18 kg) Golden Promise malt
4.0 lb	(1.81 kg) 2-row malt
1.0 lb	(0.45 kg) melanoidin malt
1.0 lb	(0.45 kg) Vienna malt
2.0 oz	(57 g) Ultra hops, 3% a.a. (first wort)
1.0 oz	(28 g) Citra hops, 12% a.a. (20 min)
3.0 oz	(85 g) Citra hops, 12% a.a. (5 min)
3.0 oz	(85 g) Citra hops, 12% a.a. (0 min)
3.0 oz	(85 g) Citra hops, 12% a.a. (first dry hop addition)
2.0 oz	(57 g) Citra hops, 12% a.a. (second dry hop addition)
Wyeast 1968 London ESB	

Original Specific Gravity: 1.061

Final Specific Gravity: 1.012

IBUs: 55

SRM: 6

Boiling Time: 60 minutes

Primary Fermentation:

7 days at 68° F (20° C)

Secondary Fermentation:

7 days at 68° F (20° C)

Directions

Mash at 152° F (67° C) for 60 minutes, collect runoff, and boil for 60 minutes. Ferment at 68° F (20° C) for 7 days, then dry hop with the first addition for four days. Remove the first addition and then dry hop an additional three days with the second addition. Remove the second addition before bottling or kegging.

Partial Mash Version: Mash the Vienna and melanoidin malts with 2 lb (0.9 kg) 2-row, then lauter and sparge. Add first wort hops and enough Maris Otter liquid malt extract to achieve a pre-boil gravity of 1.053, approximately 7 pounds. Boil, ferment, and package as described above.

Extract Version: Substitute 5 lb (2.27 kg) Maris Otter liquid malt extract and 5 lb (2.27 kg) Munich liquid malt extract for the grain malts. To simulate first wort hopping, bring wort to 150° F (66° C), add first wort hops, and hold for 30 minutes before bringing to a boil. Boil, ferment, and package as described above.

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recipe that they believe will do well at GABF, but also one that represents what Great South Bay is trying to achieve as a brewery.

"Brian is a scientist, and he takes homebrewing very seriously," said Ebel. "He takes the time to think about what he's doing, and you can taste it in his beers." While Giebel's homebrew version needed only 25 ounces of Muscat concentrate, considerably more was required at the 30-barrel level—specifically, about 200 liters (52.8 gallons).

"We used 17 homebrew-sized California Style Muscat wine kits from RJS Craft Winemaking to deliver the juice," Ebel commented. "In the end, our production run came in at about 11 percent alcohol, a touch higher than the 9.5 percent pilot version. But it's really cool when you brew something and it comes out tasting even better than you thought it would."

Giebel has been brewing off and on since the turn of the century. His most offbeat beer is a Bloody Mary Kölsch, which he continues to perfect now.

"Brew as often as you can, and don't fall victim to the myth that 10-gallon batches are better than 5-gallon batches," advises Giebel. "Sticking to five gallons frees you up to experiment without too much commitment. Don't be timid, keep on brewing, and if something doesn't work, change it up and brew it again."

SILVER: An Oddly Named Beer

Atahsaia is considerably easier to drink than it is to say. Pronounced "ah-tah-SYE-uh," it's a subtle nod to the commercial beer that inspired Mike Froehlich's silver-medal-winning barrel-aged barleywine. Atahsaia, you see, is the name of a cryptid found in the folklore traditions of the Zuni, and some scholars believe it to be a cultural cognate of the Pacific Northwest's Sasquatch, or Bigfoot.

"I knew I wanted to brew a big, barrel-aged beer after I tasted a barrel-aged vintage of Sierra Nevada Bigfoot," admitted Froehlich. "This was my third attempt at brewing a big barleywine. I've been home-

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brewing for 20 years, but this was my first time to make it to the national level."

Helping him get there were Ryan Scott and Brandon Boldt of Odd13 Brewing in Lafayette, Colo. Known for such, well, *odd* brews as Humulus Kalecumber (a Berliner weisse brewed with kale, cucumber, and mint) and Hawaiian Bartender (a dry-hopped sour ale with mango and pineapple), Odd13 nonetheless had their work cut out for them.



"Our system normally yields 10 barrels, but the grain bill for Mike's Atahsaia was so big that we only got seven barrels out of it," said Scott.

Nonetheless, perseverance paid off, and a half ton of malt later, Odd13 ended up with 7 barrels of 1.093 wort, which fermented down to 1.025 in about two weeks. Then it was time for aging.

Froehlich had originally developed his homebrew recipe using medium toast oak spirals soaked in Bulleit Rye whiskey. When it came time to scale up to the big leagues, Bulleit Rye barrels weren't available, but amazingly, Stranahan's Whiskey barrels were. After more than a year of patient aging in Stranahan's barrels, the barleywine that emerged had a final gravity of just 1.015 and an alcohol content of more than 10 percent by volume. The name may be hard to say, but once you've enjoyed a snifter or two, you won't care.

Froehlich has been brewing for two decades and still uses some of the equipment he received in his first homebrew kit 20 years

ago. The strangest (or is that oddest?) beer he has ever brewed was a peanut butter and jelly porter.

Froelich's advice? "Don't be afraid to fail. Keep your process clean and sanitary, and be willing to experiment. When you've brewed something you really like, try to do it twice. If it works, then you know you're onto something."

BRONZE: When in Doubt, Add More Hops

Bronze medal winner Ryan Lotter should

probably buy some lottery tickets. Having previously focused on malt-forward styles like stout and porter, he recently decided that it was about time he try his hand at a citrusy IPA. So he took one of the most in-demand hops out there and built his Citra IPA using a couple of techniques he'd never even practiced before. And he hit it out of the park on the first try.

"I'd read about different hopping techniques, so I decided to try first wort hopping and hop bursting for the first time with Citra IPA," he said. "I entered it into the



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Hop Barley and the Alers homebrew club competition, which is where FATE Brewing Company picks its Pro-Am selection."

FATE, based in Boulder, Colo., selected Lotter's hop monster to send to GABF because, according to head brewer Jeff Griffith, "We just like hoppy beers, and we wanted to submit something straightforward." But Griffith and his brewers did have to make a few slight modifications in scaling it up.

"There's just a tremendous amount of Citra in Ryan's recipe, and it was challenging to fit all of it in at the 10-barrel scale," Griffith said. "So we replaced some of the late kettle additions with first wort hops."

Citra hops, Griffith notes, have been notoriously difficult to acquire, and it has taken him a few years to get an allotment. Fortunately for Lotter, there was enough available this year for FATE to take his recipe all the way to GABF.

Lotter started homebrewing five years ago after a friend invited him over for a brew day and showed him the ropes, but he has only been competing for a couple of years. His brewing repertoire includes a carrot cake saison.

"Focus on the basics and get comfortable with the process from start to finish," offered Lotter. "Focusing on base styles will really help you understand why certain styles are brewed the way they are. And get involved with a club. Getting feedback from other homebrewers and professional brewers is an invaluable resource."

Dave Carpenter is a freelance writer from Fort Collins, Colo. Connect with him and learn more at davcarpenterbooks.com.

An advertisement for Charlie Papazian's brewing books. On the left is "The Complete Joy of Home Brewing" (Fourth Edition, Fully Revised and Updated). In the center is "The Home Brewer's Companion" (Second Edition, Fully Revised and Updated). To the right is "Microbrewed Adventures" (Also Available). Text overlays include "FOR THE ADVANCED BREWER" and "ON THE ROAD WITH CHARLIE".

An advertisement for the Brew Jacket. It features a "Miniature All In One Temperature Control System" with a "BREW JACKET" unit and a "BrewJacket.com" website. The headline "Lager Without a Refrigerator" is prominently displayed. Below the headline are four containers of different sizes (one 5-gallon bucket and three carboys) each equipped with a Brew Jacket unit. The text "Cool to any temp, as low as 35° F below room temperature" is at the bottom.

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by Matt Stinchfield

2015 Sower's Cup

Each year, homebrewers across the upper Midwest compete in a point series called the High Plains Brewer. Designated competitions in an eight-state region count toward cumulative points, and at the end of each year, the brewer with the most points is crowned. The club with the most total points won by its members is awarded the High Plains Club of the Year.

The region includes Minnesota, North Dakota, South Dakota, Nebraska, Iowa, Missouri, Kansas, and Oklahoma. Since the High Plains Brewer circuit started in 2005, the Saint Paul Homebrewers Club and the Fellowship of Oklahoma Ale Makers have won nearly all of the club awards. Nebraska didn't even have a signature contest, though brewers from the Cornhusker State were encouraged to enter.

However, Nebraska has a very active homebrewing community of its own. The Lincoln Lagers, the state's largest homebrewing club, introduced the Sower's Cup in 2014, partly so that Nebraska could better participate and compete in the High Plains circuit. The club also hopes to qualify the Sower's Cup as part of the esteemed Midwest Homebrewer of the Year points race, encompassing a 13-state region.

The Sower's Cup is named for the iconic statue that sits atop the capitol building in Lincoln and can be seen for miles in all directions. The theme of the statue harkens back to Nebraska's farmstead beginnings and also reminds brewers that beer ingredients are products of agriculture.

In its inaugural year, the Sower's Cup received 229 entries and featured ample prize packages. Fun auxiliary events surround the competition. This past October, entries shot up to 338, and organizers expect more than 400 entries in 2016.



ABOVE:

The Sower's Cup pays homage to the sower statue on top of the capitol building in Lincoln, Neb.

LEFT TOP TO BOTTOM:
Scott Strain and Bobby Kros win Best of Show; Doug Finke takes first in the Smoke & Wood Aged category; Drew Beechum congratulates Tim Thommsen on a second-place finish in the No Workaround Decoction category.

The first two years of the contest have been held in the brewery space at Ploughshare Brewing Co. in Lincoln. Like any good-sized competition, the Sower's Cup needs a place to receive, store, and sort entries. It requires ample space for judging in an odor-free environment. Ploughshare fits the bill with an 8,000-cubic-foot fridge in a 10,000-square-foot building, and is also able to feed the judges, entertain side events, and host a banquet and awards ceremony.

Any homebrew competition that receives hundreds of entries must also have a

solid registration and tracking system in place. To handle the load, office coordinator Chris Evans—an IT manager for the University of Nebraska—transformed Ploughshare's conference room, The Hop Room, into a command center in the days leading up to the contest. With the help of Brew Competition software, workflows were put into place to manage entries and tabulate results.

Building a solid prize list and sponsor base fell to sponsorship coordinator Brian Hoesing. His response to the amaze-



CLOCKWISE TOP LEFT:
The banquet dessert; Ed Bannister wins the Mead Best of Show award for his 2013 Dry Mead; Matt Stinchfield talks to the crowd about the banquet pairings.

ment at the prizes he solicited was, “I am trying to own my over-committal nature!” In addition, the Sower’s Cup featured a celebrity speaker for the second straight year, with homebrew author Drew Beechum making the trek from Los Angeles to entertain the group.

The Sower’s Cup also offers the chance to compete in special categories aside from Best of Show. The 2015 Cup had two

such categories: Sower in the Rye and No Workaround Decoction.

Sower in the Rye was dedicated to beers with an “evident, significant, or substantial” rye character. Brewers could use any form of rye—rye malt, flaked rye, raw rye, or even rye bread. The Sower in the Rye category received seven entries ranging from a rye witbier to a rye sahti. The winning beer was a German-influenced

ANY HOMEBREW COMPETITION THAT RECEIVES HUNDREDS OF ENTRIES MUST ALSO HAVE A SOLID REGISTRATION AND TRACKING SYSTEM IN PLACE.

rye ale called Paracelsus brewed by Lagers member Patrick McCabe. Judges noted that McCabe’s beer was like a rogenbier brewed with neutral yeast instead of weizen yeast.

The No Workaround Decoction category doubled as a Pro-Am competition, with the winner brewing his or her beer at Ploughshare for a chance in the 2016 GABF Pro-Am Competition. Brewers vying for this prize could enter a beer from 2008 BJCP categories 1 through 5, 15, and 22A, but the beer had to be brewed with a cereal or decoction mash. Common brewery workarounds, such as using an infusion mash schedule or adding melanoidin malt or pre-gelatinized grains, were not permitted—Ploughshare brewers are convinced that the best way to get the color, aroma, taste, and mouthfeel of these classic styles is to go “old school.” It makes for a long brew day, but the positive results are tangible in the glass, they believe.

Kalyke Blonde

Recipe by Scott Strain and Bobby Kros
2015 Sower’s Cup Best of Show

INGREDIENTS

for 11 U.S. gallons (41.6 L)

15.0 lb	(6.8 kg) German Pilsner malt (78.9%)
2.0 lb	(0.9 kg) rye malt (10.5%)
1.0 lb	(0.45 kg) flaked barley (5.3%)
1.0 lb	(0.45 kg) table sugar (5.3%)
0.93 oz	(26 g) Sterling, 5% a.a. (75 min) 8.4 IBUs
2.0 oz	(57 g) Sterling, 5% a.a. (15 min) 8.6 IBUs
0.26 oz	(7 g) Mt. Hood, 5.5% a.a. (15 min) 1.2 IBUs
Wyeast 3522 Belgian Ardennes yeast	

Original Gravity: 1.051

Final Gravity: 1.008

Est. ABV: 5.5% **Estimated Color:** 3.6 SRM **Estimated IBU:** 18.3

Brewhouse Efficiency: 80%

Estimated Mash Efficiency: 87%

Boil Time: 75 Minutes

DIRECTIONS

Mash at 152° F (67° C) for 45 minutes. Mash out at 170° F (77° C). Pitch yeast at 68° F (20° C) and let free rise to 72-74° F (22-23° C).

PARTIAL MASH RECIPE: Mash 2 lb (0.9 kg) Pilsner malt and 2 lb rye malt with 1 lb (0.45 kg) flaked barley at 152° F (67° C) for one hour. Drain, rinse grains, and dissolve 10.75 lb (4.88 kg) Pilsner malt extract syrup and sugar completely in wort. Top off with RO water to desired boil volume and proceed with recipe as above. Color will be slightly darker (4.2 SRM) with partial mash recipe.



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Judging in action during the 2015 Sower's Cup at Ploughshare Brewing Co. in Lincoln.

No Workaround Decoction entries ranged from Pilsners to bocks to hefeweizens. Judging was a hybrid of the GABF professional scoresheet and the BJCP scoresheet. After identification of the top three brews in the category, the final selection came down to a half-point difference between a doppelbock and a dunkelweizen. After it was determined that his dark wheat beer had a deeper malt character that showcased the malty, bready melanoidins,

homebrewer Clint Bruhn will be brewing Dunky Brewster at Ploughshare this spring. Second place went to Lagers member Tim Thomssen, an award-winning homebrewer who will soon become the brewmaster for the new Boiler Brewing Company in Lincoln.

"For the last three years of my life it's been homebrewing and homebrew competitions," said Thomssen, who was one of

the winners of the Samuel Adams LongShot competition in 2015 (see the Editor's Desk on page 1 for more information). "I look forward to the opportunity to share my beer with a much larger audience than I could ever reach brewing five gallons at a time."

Scott Strain and Bobby Kros have both brewed commercially for Nebraska Brewing, but recently the duo stepped back into homebrewing. As co-brewers,

2013 Dry Mead

Still, Dry Traditional Mead

Recipe by Edward Bannister

2015 Sower's Cup Mead Best of Show

INGREDIENTS

for 5 U.S. gallons (18.93 L)

14.24 lb (6.46 kg) Nebraska wildflower/clover honey
Lalvin EC-1118 wine yeast

Original Gravity: 1.098

Final Gravity: Unknown

Boil time: 0 minutes – see *Directions and Meadmaker's Notes*

DIRECTIONS

Boil 4 gallons (15.14 L) water to remove chlorine. Cool to 100° F (38° C), dissolve honey, then top up to 5 gallons (18.93 L) in a 6.5-gallon (24.61 L) glass carboy. Agitate must vigorously. Sprinkle yeast on surface, fit carboy with air lock, and ferment. After four months, rack to a clean 5-gallon carboy. Bottle after one year.

MEADMAKER'S NOTES: "I was the beekeeper who harvested this honey. It was not harvested in the fall as most honey is, but in the spring. It was some of the most aromatic honey I've ever experienced. The floral notes were outstanding, and for that reason I didn't boil the honey with the water. This and the wine yeast used preserved those florals quite well."



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1

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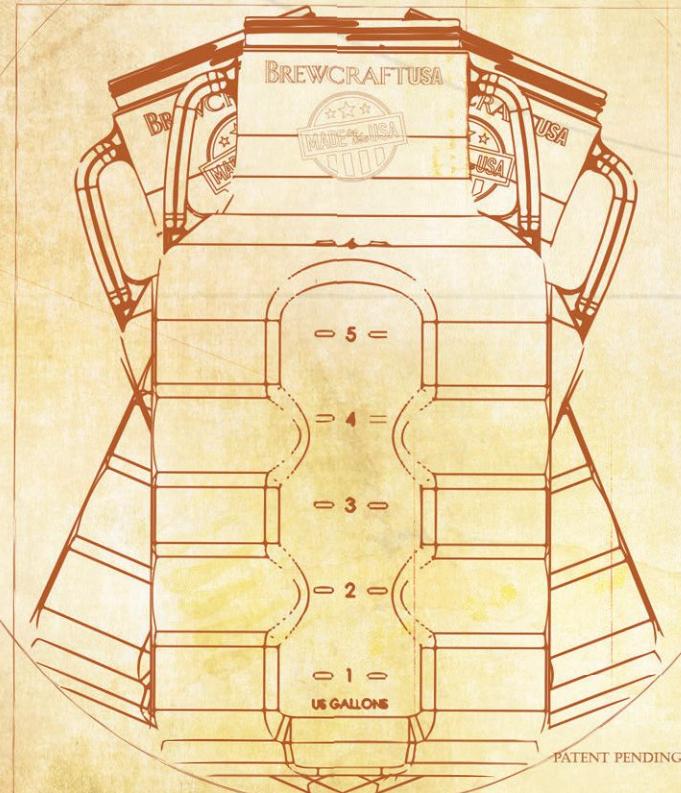
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TO FIND OUT MORE!

they pulled down three medals in the Sower's Cup, including Best of Show for their Kalyke Blonde, a Belgian specialty ale. The duo plans to open their own brewery, Kros-Strain Brewing Company in Omaha, in 2016.

Ed Bannister of the Lincoln Lagers captured the Mead Best of Show with his 2013 Dry Mead. Local meadmaker Claude Denn garnered three medals, including a gold for his Hot Mama "capsicumel." Denn is also jumping into the fray, and is currently searching for the right space to open his meadery in the Lincoln area.

The Sower's Cup has rapidly become a contest where emerging pro brewers and meadmakers are testing out their recipes and sharpening their skills...and we will all soon be enjoying the fruits of their labor.

Matt Stinchfield is the founder of Ploughshare Brewing Co. and an occasional contributor to Zymurgy and The New Brewer. When he's not imagining crazy mash schedules or picking stinky radishes, he represents the Brewers Association nationwide as its safety ambassador.

Paracelsus

German Rye Ale

Recipe by Patrick McCabe

2015 Sower's Cup Sower in the Rye Winner

Partial Mash Recipe

INGREDIENTS

for 6.5 U.S. gallons (24.61 L)

6.0 lb	(2.72 kg) Northern Brewer Rye Malt Syrup
1.0 lb	(0.45 kg) Rahr red wheat malt
1.0 lb	(0.45 kg) Franco-Belges Vienna malt
1.0 lb	(0.45 kg) Briess rye malt
1.0 oz	(28 g) German Tettnang, 5% a.a. (60 min)
1.0 oz	(28 g) German Tettnang, 5% a.a. (30 min)
1.0 lb	(0.45 kg) amber dry malt extract (15 min)
1 tablet	Whirlfloc (15 min)
2.0 oz	(57 g) Czech Saaz, 4.5% a.a. (5 min)
Wyeast 1007 German ale yeast and two packets of Saflager S-23 dry yeast	

Original Gravity: 1.053

ABV: 5.05%

IBU: 27.57

SRM: 8.94

Brewhouse Efficiency: 70%

Boil Time: 60 minutes

DIRECTIONS

Mash grains until conversion is reached. Mash out at 170° F (77° C). Strain, rinse grains, and dissolve rye malt extract completely. Dilute wort to desired boil volume and bring to boil, adding hops at stated intervals. Add dry malt extract at 15 minutes from end of boil. Chill to ale fermentation temperatures and pitch the two yeasts.

Dunky Brewster

Dunkelweizen

Recipe by Clint Bruhn

2015 Sower's Cup No Work Around Decoction (Pro-Am) Winner

INGREDIENTS

for 5.25 U.S. gallons (19.87 L)

8.0 oz	(227 g) rice hulls (4.1%)
6.0 lb	(2.72 kg) white wheat malt (49%)
3.25 lb	(1.47 kg) 10° L Munich malt (26.5%)
1.75 lb	(0.79 kg) Vienna malt (14.3%)
6.0 oz	(170 g) 60° L caramel malt (3.1%)
6.0 oz	(170 g) 350° L chocolate malt (3.1%)
1.0 oz	(28 g) Saaz, 3.75% a.a. (60 min) 12.3 IBUs
1.0 oz	(28 g) Saaz, 3.75% a.a. (15 min) 6.1 IBUs
0.5 tsp	yeast nutrient (10 min)

White Labs WLP380 Hefeweizen IV ale yeast

Original Gravity: 1.062

Final Gravity: 1.013

ABV: 6.4%

IBU: 18.3

SRM: 17.4

Brewhouse Efficiency: 74%

Boil Time: 60 minutes

DIRECTIONS

Use a single decoction mash, with rice hulls to aid lautering. Mash in with an acid rest at 111° F (44° C) and hold 15 minutes. Pull 9.5 quarts (9.0 L) of mash and bring decoction to a boil. Add back to main mash and stabilize at 152° F (67° C); hold for 45 minutes. Add heat to mash out at 168° F (76° C) for 5 minutes. Fly sparge at 168° F (76° C). Boil 60 minutes. Ferment at ale temperatures. Bottle with 4.2 oz (119 g) corn sugar to achieve 2.4 vol. CO₂.

PARTIAL MASH RECIPE: (Extract version is not recommended due to focus on decoction mash.) Omit rice hulls, Munich, and wheat malts. Mash Vienna, caramel, and chocolate malts at 152° F (67° C) for 45 minutes. Drain, rinse grains, and dissolve 2.5 lb (1.13 kg) Munich malt extract syrup and 5 lb (2.27 kg) wheat malt extract syrup completely. Top off with RO water to desired boil volume and proceed as above.

KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

August 2015

Oregon State Fair Homebrew Competition, 279 entries—*Jason Blair, Corvallis, OR*
Beer and Sweat, 317 entries—*Jack Smith, Baden, PA*
Deutzbier! German Beer, 22 entries—*Kieran Castelli*
Washington State Fair, 124 entries—*Jack Vincent, Kent, WA*
OC Fest of Ales - Brew My Brew Challenge, 189 entries—*James Bray and Brittany Kester, Santa Ana, CA*
Eastern Idaho State Fair Home Brew Competition, 88 entries—*Bill Baer, Salmon, ID*
Primer Concurso Interno del Club de Cerveceros Caseros de Uruguay, 40 entries—*Mariana Sosa, Montevideo, Uruguay*

September 2015

Competencia Amateur - Cerveza Mexico 2015 (Ronda Final), 64 entries—*J. Salvador Gonzalez, Guadalajara*
II Concurso Sul Brasileiro de Cervejas Caseiras, 359 entries—*Adriano Butzke, Joinville, SC*

1st Annual Champlain Valley Fair Homebrew Contest, 32 entries—*Michael Vita, Jericho, VT*
Schooner Homebrew Competition, 308 entries—*Matthew Lakota, Hawthorn Woods, IL*
4th Annual Labor of Love Homebrew Competition, 144 entries—*Richard Ward, Dallas, TX*
Western Australia State Amateur Beer Competition, 400 entries—*Philip Brandenburg, Perth, Western Australia*
Beer Quest SMAsh, 19 entries—*Tim Oehlerking and Jacob Miller, Lincoln, NE*
3rd Annual Grace Lutheran Bier Brauen, 61 entries—*Paul Waite, Riverton, UT*
Lonerider Brew it Forward VII, 41 entries—*Kevin Moore, Fuquay Varina, NC*
DRAFT Brewfest, 243 entries—*Ashley Whitney-Rawls, Beavercreek, OH*
UK National Homebrew Competition, 719 entries—*Matthew Dutton, Manchester*
Santa Cruz County Fair Homebrew Competition, 86 entries—*Ken Simmons, Scotts Valley, CA*
Blue Ridge Brew Off, 602 entries—*Zach Kossow, Wilmington, NC*

State Amateur Brewing Show of South Australia, 321 entries—*Daniel Bartholomaeus, Adelaide, Australia*
Picnique Belgique, 84 entries—*Jon Morman, Independence, MO*
The Great Frederick Fair, 79 entries—*Josh Ware, Frederick, MD*
Rocktoberfest Homebrew Competition, 69 entries—*Jason Barker, Beaverton, OR*
Fifty Fest Brewmaster's Choice, 210 entries—*Brian Murray, Cincinnati, OH*
Nez Perce County Fair, 32 entries—*Pete Ruppel, Clarkston, WA*
Overmountain Brewers Club Only #16,#17,#18, 10 entries—*Elmore Link, Abingdon VA*
Saskatoon Headhunters Brewing Competition, 256 entries—*Alvaro Reyes, Surrey, BC*
II Concurso Estadual da ACervA-ES, 26 entries—*Carlos Henrique Menezes E Silva, Vila Velha*
Texas Meadfest Competition 2015, 134 entries—*Jeff Oberlin, Friendswood, TX*
Southeast Alaska's Autumn Pour Homebrew Competition, 44 entries—*Grant Ficek, Juneau, AK*



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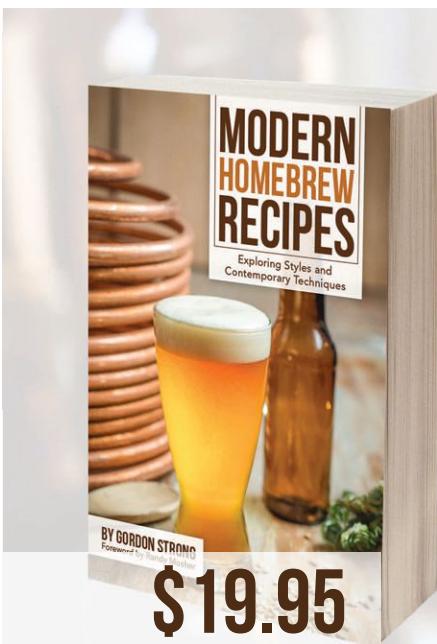
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LALLEMAND BREWING.COM

KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

- Tulsa State Fair Homebrew Competition, 85 entries—*David Thompson, Tulsa, OK*
- LJT's Rhymes & Vines Texas Music Festival & Homebrew Competition, 41 entries—*Shawn Graham, Ft. Worth, TX*
- Queensland Amateur Brewing Championship, 388 entries—*Nathan Semmens, Brisbane, Queensland*
- Roberts Cove Germanfest Homebrew Competition, 67 entries—*Ryan Speyrer and Kevin Vincent, Lafayette, LA*
- Kirkland Oktobrewfest, 108 entries—*Nikolaj Lasbo, Seattle, WA*
- 6 Concurso Estadual de Cervejeiros, 77 entries—*Jorge do Val, São Paulo*
- Keep Florence Beautiful BrewFest, 34 entries—*Joseph Chassereau, St. George, SC*
- Big Fresno Fair Homebrew Competition, 161 entries—*Sean Wood, Fresno, CA*
- HAZtoberfest, 163 entries—*Robert Hemphill, Colorado Springs, CO*
- NOLA on Tap Homebrew Competition, 78 entries—*Shan Guha, New Orleans, LA*
- Liffey Brewers German Beer Competition, 48 entries—*James Keane, Dublin*
- 2015 Maryland Microbrewery Festival Homebrew Competition, 157 entries—*Matt Cronin, Chevy Chase, MD*
- Pacific Brewers Cup, 458 entries—*Brett Gent, Newport Beach, CA*
- SouthYeasters' Spring Fest, 17 entries—*Russel Naude, Cape Town*
- Simon Lambert & Sons Stouts & Porters Competition, 40 entries—*Mark Lucey, Kildare, Ireland*
- October 2015**
- Bavarian Beer Bash Home Brew, 11 entries—*Rodney Kibzey, Portland, OR*
- GTA Brew Slam, 318 entries—*John Henley, Durham, ON*
- Michigan Mead Cup, 107 entries—*Paul Zimmerman, Ferndale, MI*
- Kingsport Oktoberfest Black Forest Brewoff, 55 entries—*Brent Dingus, Lebanon, VA*
- O'Zapft, 174 entries—*Keith and Pam Bradley, Austin, TX*
- Byggvir's Big Beer Cup, 181 entries—*Jordan Standish, Minneapolis, MN*
- Rotoberfest Homebrew Competition, 7 entries—*Dan Burnip, Philadelphia, PA*
- 2015 Sonoma County Harvest Fair Home Brew Competition, 65 entries—*Sean O'Conner, Glen Ellen, CA*
- Fresh Hop Ale Festival Homebrew, 36 entries—*Stephanie Rodriguez, Yakima, WA*
- Old Forge Big Beer and Odd Ale Competition, 34 entries—*Adam Kugler, Syracuse, NY*
- Alabama Brew-Off, 197 entries—*Shawn Scott, McAlester, OK*
- Ensenada Oktoberfest, 12 entries—*Samuel Ivan Gonzalez Romero, Tijuana Baja California Norte*
- Southern California Fair Homebrew Competition, 91 entries—*Sandy Banbury, Fallbrook, CA*
- Members of Barleyment & Beau's Oktoberfest 3rd Annual Homebrew Competition, 333 entries—*Mark Pennell, Wolfville, NS*
- Orpheus Cup MeadFest, 107 entries—*David Thiebault, Denver, CO*



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ABOUT THE AUTHOR

Three-time winner of the American Homebrewers Association Ninkasi Award, **Gordon Strong** is president and highest ranking judge in the Beer Judge Certification Program, and principal author of the BJCP Style Guidelines.



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KUDOS—BEST OF SHOW

AHA/BJCP Sanctioned Competition Program

- Brixtoberfest, 179 entries—Nick Konwerski, IL
- Sower's Cup, 338 entries—Scott Strain and Bobby Kros, Omaha, NE
- Celebrewtion, 60 entries—Christopher Norris, San Jose, CA
- Oaktoberfest, 81 entries—Keith Kost, San Francisco, CA
- Southern New England Regional Homebrew Competition, 405 entries—Douglas Gladue and Frank Bellonio, Guilford, CT
- Big Muddy Monster Brew Fest Homebrew Competition, 103 entries—Bryan Canavan, Paducah, KY
- TRASH XXV, 297 entries—Michael McCaffrey, Miamisburg, OH
- EduCate the Mash Heads, 26 entries—Paul Duddles, San Diego, CA
- I Concurso CervaSerra de Cervejas, 30 entries—Jocemar Gross, Caxias do Sul - RS
- Jacktoberfest, 96 entries—Rodney Kibzey, Portland, OR
- Made on American Street, 26 entries—Josh Nacey, Philadelphia, PA
- NEPA Conical Cup, 192 entries—David Richards, Montourville, PA
- Nevada State Homebrew Championship (NSHC) 2015, 94 entries—Jimmy Doyle, Las Vegas, NV
- Australian Amateur Brewing Championship, 342 entries—Ben Harmer, ACT
- 5th Copa Cerveceros Caseros de Chile, 74 entries—Verónica Carrasco and Diego Salvo, Santiago, Chile
- Ramona Homebrew Competition, 64 entries—Michael Nelson, Ramona, CA
- Oktobersbest Homebrew Competition, 207 entries—David Mangels, Loveland, OH
- Northeast Big River Homebrew Competition by the Northeast Brewers Alliance, 146 entries—Adam Meyers, MN
- Queen of Beer Women's Homebrew Competition, 95 entries—Mary Taylor, Valrico, FL
- Brews in the Burg, 90 entries—Brian Bergquist, Mineral, VA
- HomeBrew Fest In West, 35 entries—Nicholas Matulich, Bozeman, MT
- Ida Grove Wine & Bier Contest, 48 entries—Greg and Jennifer Woods, Greensboro, NC

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AHA/BJCP Sanctioned Competition Program

SFBC Harvest Homebrew Competition,

35 entries—*Seth Ratzleff, Kitchener, ON*

Valhalla: The Mead-ing Of Life 2015, 95 entries—

Ryan and Meghan Ludwig, Allentown PA

14th Annual Oregon Brew Crew Fall Classic,

356 entries—*Derrick Risner, Corvallis, OR*

Arizona Fall Classic Homebrew Competition,

248 entries—*Mark Peterson, Queen Creek, AZ*

10th Annual New England Regional Homebrew

Competition, 443 entries—*Tim Thomssen, Lincoln, NE*

Anchor Town Invitational Homebrew

Competition, 67 entries—*Thomas Spain, Anchorage, AK*

Pride of Southside Homebrew Invitational,

6 entries—*Joseph Parker, Irving, TX*

November 2015

2015 Barley & Hops Hoopla, 30 entries—

Mike Martel, Kirksville, MO

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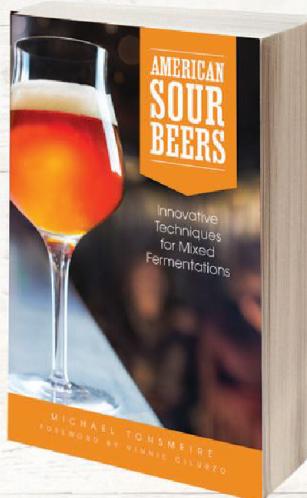
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FOREWORD BY VINNIE CILURZO

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**AHA/BJCP SANCTIONED
COMPETITION PROGRAM CALENDAR**

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



January 8
Big Beers, Belgians & Barleywines Homebrew Competition
Vail, CO. Entry Deadline: 1/25/2015.
bigbeersfestival.com

January 9
Belle City Winter Warmer
Racine, WI. Entry Deadline: 1/2/2016.
winterwarmer.org

January 15
Big Bend Brewoff
Tallahassee, FL. Entry Deadline: 1/8/2016.
nflb.org

January 16
Mardi Gras Casino 3rd Annual Homebrew Competition
Hallandale Beach, FL. Entry Deadline: 1/8/2016.
mardigrascasinofl.com

January 16
Heart of Dixie Open
Birmingham, AL. Entry Deadline: 1/8/2016.

January 16
Winterbrew 2016
Chicago, IL. Entry Deadline: 1/4/2016.
squarekegs.com

January 29
Mad Monk Mash-Up
DeLand, FL. Entry Deadline: 1/11/2016.
drinkvolusia.com/mad-monk-mash-up

January 30
Champion of the Pint
Maryland Heights, MO. Entry Deadline: 1/15/2016.
garagebrewers.com/champion-of-the-pint/

January 30
Minnesota Mash-Out XV (formerly Upper Mississippi Mash-Out)
St. Paul, MN. Entry Deadline: 1/16/2016.
mashout.org

January 30
Appalachian Home Brewers Bash
Johnson City, TN. Entry Deadline: 1/10/2016.
<https://www.facebook.com/homebrewersbash?rdr=p>

January 30
Stout Bout
Portland, OR. Entry Deadline: 1/10/2016.
pbcestoutbout.com

February 6
11th Annual Peterson Air Force Base Homebrew Competition
Colorado Springs, CO. Entry Deadline: 1/22/2016.
brewscene.com

February 6
Domras Cup Mead Competition
Savannah, GA. Entry Deadline: 1/27/2016.
savannahbrewers.com/domrascup.php

February 11
Great Northern Brew Ha Ha
Duluth, MN Entry Deadline: 2/1/2016.
greatnorthernbrewhaha.brewcomp.com

February 13
Sweethearts Revenge
Loveland, CO. Entry Deadline: 2/5/2016.
weizguys.com/revenge/

February 13
2016 GEBL IPA Bracket Challenge
Everett, WA. Entry Deadline: 2/6/2016.
gebl.org/articles/2016-gebl-ipa-bracket-challenge/

February 20
KCBM 33rd Annual Competition
Kansas City, MO. Entry Deadline: 2/5/2016.
kcbeermeisters.org/comp/

February 20
El Dorado County Fair
Placerville, CA. Entry Deadline: 2/5/2016.
eldoradocountyfair.org/brew-competition.html

February 20
Napa Homebrewers Classic
Napa, CA. Entry Deadline: 1/30/2016.
northnaparotary.org/napa_homebrewers_classic

February 20
2016 Midwinter Homebrew Competition
Milwaukee, WI. Entry Deadline: 2/6/2016.
midwinterhbc.com

February 27
Romancing the Beer
Thousand Oaks, CA. Entry Deadline: 2/12/2016.
toaked.com/competition/

February 27
23rd Annual Peach State Brew Off
Avondale Estates, GA.
chs.homebrewcomp.com/chs/psbo2016.html

February 27
The Coconut Cup
Miami, FL. Entry Deadline: 1/30/2016.
miami-homebrew.org/competitions/2016-coconut-cup/

February 28
SFBC Sub Zero Homebrew Competition
Waterloo, Ontario, Canada. Entry Deadline: 2/26/2016.
shortfingerbrewing.com/pages/subzero

March 5
Lethbridge Werthogs 17th Annual WertContest
Lethbridge, Alberta, Canada. Entry Deadline: 2/26/2016.

March 5
Concurso HomeBrew ACCE M16
Madrid, Spain. Entry Deadline: 2/28/2016.

March 12
26th Annual Hudson Valley Homebrewers Competition
Poughkeepsie, NY. Entry Deadline: 3/4/2016.
hvhb.brewcomp.com

March 12
Bluebonnet Brew-Off
DFW, TX. Entry Deadline: 1/28/2016.
bluebonnetbrewoff.org

March 18
6th Copa Cerveceros Caseros de Chile
Santiago Metropolitana, Chile. Entry Deadline: 3/11/2016.
minicerveceria.cl/sitio/index.php

March 19
Mazer Cup International Home Competition
Broomfield, CO. Entry Deadline: 3/4/2016.
mazercup.com

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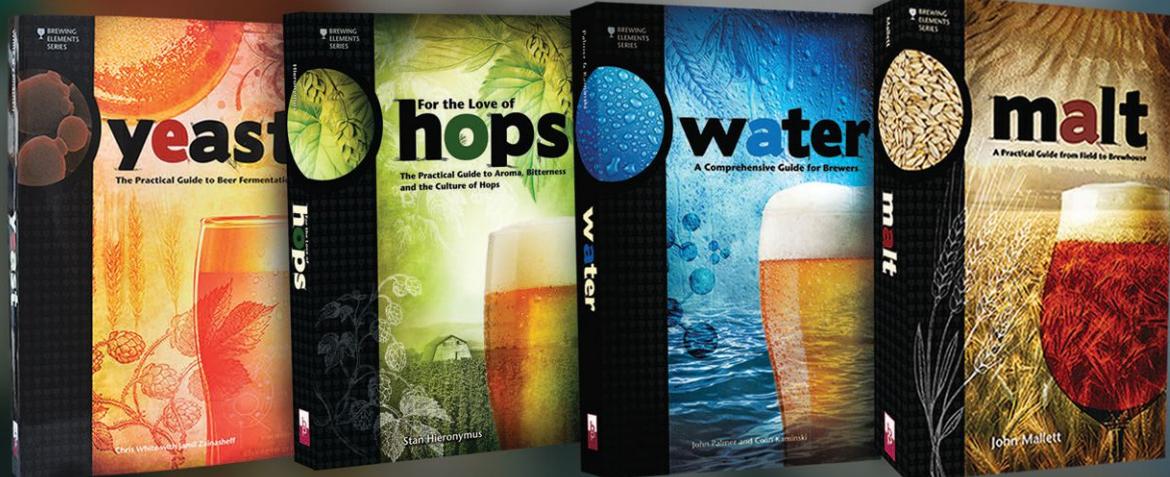
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COMMERCIAL CALIBRATION

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



This issue, our judges explored the newly created American Strong Ale category (22B). According to the BJCP 2015 Style Guidelines, American Strong Ale is “a strong, full-flavored American ale that challenges and rewards the palate with full malty and hoppy flavors and substantial bitterness. The flavors are bold but complementary, and are stronger and richer than average-strength pale and amber American ales.”

The category is termed a “fairly broad style” that can include modern double/imperial red and amber ales and “other strong, malty-but-hoppy beers that aren’t quite in the barleywine class.” It can include many East Coast versions of IPA if they are brewed with a consider-

able amount of crystal malt or have a malty-sweet finish.

Oskar Blues G'Knight, a dry-hopped imperial red ale, was created in 2006 and was originally called Gordon, in honor of Colorado craft beer pioneer and Vietnam veteran Gordon Knight. Knight perished in a 2002 helicopter crash while fighting a wildfire near Lyons, Colo. In 2013, the name of the beer was changed at the request of Gordon Biersch Brewery in order to avoid brand confusion.

G'Knight is hopped with Columbus in the kettle, and dry-hopped with Amarillo (two pounds per barrel, according to the brewery). The beer checks in at 8.7 percent ABV and 60 IBU. The brewery refers to G'Knight as a “Velvet M-80 with a nose full of aroma, a sticky mouthfeel, a malty middle, and unctuous hop flavors.”

Next up was Port Brewing's Shark Attack, a double red ale. The brewery calls Shark Attack a “stronger, more robust version” of the original Shark Bite Red Ale, brewed with roasted and caramel malts. Shark Attack checks in at 9 percent ABV and 70 IBU.

Imported crystal 60 and 77 malts are used in the brew, which is hopped with



Oskar Blues Brewery
www.oskarblues.com

Port Brewing Co.
www.portbrewing.com

BJCP Style Guidelines
www.bjcp.org

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

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

Centennial and Cascade. Port Brewing founder Tomme Arthur recommends pairing Shark Attack with pizza, wings, and football games.

THE SCORES

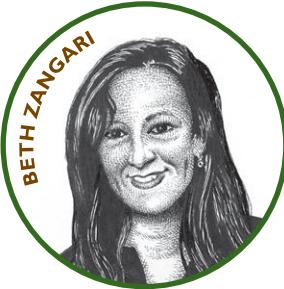


G'Knight—Oskar Blues Brewery, Longmont, Colo.
BJCP Category: 22B, American Strong Ale

THE JUDGES' SCORES FOR G'KNIGHT



DAVE HOUSEMAN



BETH ZANGARI



SCOTT BICKHAM



GORDON STRONG

Aroma: Assertive citrus and pine hop aroma dominates with caramel and two-row malt backbone. Moderately fruity fermentation esters. Noticeable but pleasant alcohol aroma. No diacetyl or DMS. Overall, a balanced and inviting aroma. (10/12)

Appearance: Bright amber color. Brilliant clarity. Dense, beige, long-lasting head. (3/3)

Flavor: Caramel maltiness up front with high citrus and piney hop flavor. High hop bitterness balances the malt sweetness with lingering sweetness and bitterness. Mineral saltiness in flavor and aftertaste. Moderate to high fruity esters blend well with the caramel and pale malts. Noticeable alcohol flavor; not hot or fusel. No DMS or diacetyl. (17/20)

Mouthfeel: Medium-full body. Lingering bitterness and smooth malt sweetness in mouthfeel without astringency. Warming alcohol. (5/5)

Overall Impression: A very tasty and drinkable beer. It hits all the marks for this newly defined BJCP style while maintaining its place as a double, or imperial, red IPA. A bit of roasted or toasted malts would add to the complexity. Pairs well with aged cheddar cheese. (8/10)

Total Score: (43/50)

Aroma: Pronounced tangerine zest, honeydew melon, and piney hops dominate first impression; notes of cedar, with lightly sweet caramel malt in the background. A hint of ripe guava emerges, then fades. (9/12)

Appearance: Very clear copper; a pale yellow misty foam peppered with various-sized bubbles persists. (3/3)

Flavor: Toasty rich crystal malt supports pronounced citrus-pine hop flavor, with an initially low, ripe, honeydew-casaba melon character that becomes more prominent with each sip. Well balanced among substantial toasty malt, assertive hop bitterness, and complementary complex, fruity, resinous hop flavor. Clean fermentation. Finish dances between toast and complex, characterful hop flavor and lingering bitterness. (16/20)

Mouthfeel: Medium body, creamy texture without astringency. Warming alcohol in the finish lingers, with a tingling sensation. (4/5)

Overall Impression: Assertive and vibrant hop character presents a complex array of fruits—tangerine, honeydew, and guava—that complements the big, toasty, sweet malt profile, presenting a smooth combination of bitter and sweet. The smooth, creamy texture masks the significant alcohol content, as does the complex hop character; dangerously easy to sip. (7/10)

Total Score: (40/50)

Aroma: Initial notes of caramel and toasted breadcrumbs, followed by pine and citrus hops. Perfumey and light solvent alcohol aromatics. Low level of roasted malt and light tropical fruit esters. Balance is tilted toward the alcohol. (8/12)

Appearance: Reddish-copper color with excellent clarity. Perfect conditioning, showcased by a low, light beige head that lasts very well. (3/3)

Flavor: Initial malt sweetness with toffee, caramel, and a hint of roasted malt. Pine and citrus hops with a slight grassy character. Alcohol is not as aggressive as expected from the aroma. Fermentation character is fairly clean, with low to moderate fruity esters. (16/20)

Mouthfeel: Moderately high alcoholic warmth. Light astringency, but not unpleasant. Moderate carbonation helps create a creamy mouthfeel. (3/5)

Overall Impression: Balanced caramel malt and American hops are overshadowed by the alcohol—particularly in the aroma. Some alcohol should be noticeable, but not overwhelming in this style. Overall, a pleasant and interesting sipping beer that has a home in the new American Strong Ale category. (7/10)

Total Score: (37/50)

Aroma: Strong hop aroma, quite fruity. Moderate pine and resin notes. Moderately strong malt with a toasty, caramel, sweet character. Moderate alcohol sharpness. Fruity esters include stone fruit and tropical notes, with mango and apricot. Clean fermentation character. (10/12)

Appearance: Moderate-sized beige head, decent retention. Reddish-copper color. Very clear. (3/3)

Flavor: Malty, fruity, bitter, and strong; nicely balanced. Clean malt character with toast and caramel flavors, yet not overly sweet. Dry finish. Strong fruity esters are prominent; many of them seem hop-derived. The fruit enhances the malt flavor—delicious. High bitterness, medium-high hop flavor with citrus and resinous notes. (17/20)

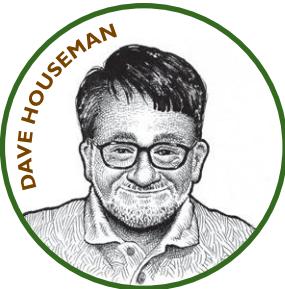
Mouthfeel: Full body, mouth-filling carbonation (high), with a heavy mouthfeel. Warming alcohol, not hot. Dryness improves drinkability. (4/5)

Overall Impression: Strong malt and hop flavors with high fruity notes. The hop varieties enhance the malt without clashing (a common problem in this style). Alcohol is quite high. Clean fermentation and malt profile. Big body, but drinkability is good. It's a difficult balance to achieve but this beer walks the line deftly. (9/10)

Total Score: (43/50)



THE JUDGES' SCORES FOR SHARK ATTACK



Aroma: Citrus and resin hop aroma up front with significant alcohol presence. Caramel and lightly roasted malts provide balance and support the hops and alcohol. Moderate fruity fermentation esters. No DMS or diacetyl. (10/12)

Appearance: Hazy and cloudy, although this settled for several days before serving at cool but not cold temperature. Amber color. Big, rocky, beige head lingers. (2/3)

Flavor: Malty sweetness gives way to high hop bitterness and resiny, citrus hop flavor. Caramel malt dominates, with low roast notes. Some yeasty elements result in a somewhat muddled character. Finish is balanced and bittersweet. High alcohol flavor, but not hot or fusel. Fruity fermentation esters. No DMS. No diacetyl. (16/20)

Mouthfeel: Medium-full body. Smooth, nearly creamy maltiness to mouthfeel. Lingering bitterness is clean without astringency. High alcohol warmth. (5/5)

Overall Impression: Complex malt profile. Pleasing hop balance. A very drinkable, fairly balanced big beer. With a bit more bitterness it could just as well be an imperial red IPA, or, with its alcohol level, an American barleywine. Perfect with spicy wings or nachos. (8/10)

Total Score: (41/50)

Aroma: Strong Douglas fir, orange, and mango aromas dominate the first whiff, followed by toasted bread malt as a background note. Pear and dried plum esters emerge on a swirl. (8/12)

Appearance: Lively, rough, pale yellow foam grows to three-fourths of the glass, topping the brilliant burnished amber liquid. Foam persists. (3/3)

Flavor: Rich toasty, bread malt dominates the first sip with notes of dried plums toward the middle and end. Balance dances between substantial hop bitterness and sweet malt mid-palate, then gives way to a substantial bitterness. The hop character presents with Douglas fir and citrus flavor, and balances the toasty, sugary malt sweetness, reminiscent of golden toasted marshmallow crust, accented with a light tropical fruit and dried plum character. (16/20)

Mouthfeel: Fluffy carbonation with moderately strong alcohol warmth that accentuates a prickly carbonation, and lingering, tingling finish. (4/5)

Overall Impression: Big, well balanced, and surprisingly strong, this beer continually dances between bitter and sweet, with a toasted, crystal malt flavor serving as a foundation. Warming. (7/10)

Total Score: (38/50)

Aroma: Hop-forward aroma, with pine and lemon. Aromatic alcohols lend perfume but also a touch of solvent character. Subtle caramel malt. Hint of roast character blends with sherry-like notes from oxidation. Low to moderate tropical fruit esters add complexity. (8/12)

Appearance: Deep copper color; a little hazy. Creamy off-white head lasts nicely, with a small layer of tight beads leaving lace on the sides of the glass. (3/3)

Flavor: Emphasis is on the hops, but malt backbone provides caramel and toast. Light roasted notes help dry out the finish. Moderately high citrus, floral, and lemon notes; hints of mango and pineapple. Tropical fruit esters add complexity. Moderately high hop bitterness. (17/20)

Mouthfeel: Creaminess envelops the palate. Alcoholic warmth is a little harsh and solvent-like, but not overbearing. Very low astringency from the high hop bitterness and perhaps the roasted malt. (4/5)

Overall Impression: Complex flavor profile leans toward the hops. The alcohol is essential in this style, but comes across as slightly harsh. Could be smoothed out with aging (although there is already some sherry character evident in the aroma). Creamy mouthfeel adds depth. (8/10)

Total Score: (40/50)

Aroma: Sharp aroma, deep toast, and grainy malt. Moderately fruity. Alcohol sharpness dominates. Hops are more in the background but are pungent, with a citrusy-resiny quality. Somewhat grassy. Aromatics don't seem well blended. Fruit character grows as it warms. (8/12)

Appearance: Fairly hazy. Opaque. Frothy beige head. Deep amber-red color. (2/3)

Flavor: Malty-sweet with deep caramel flavors and deep toasted notes; a hint of roast. Sharp bite in finish from dark malts and alcohol. Strong alcohol aftertaste. Bitterness is high but malt richness offsets it. Deep flavors of dried fruit and burnt sugar. Hop flavor is moderately high, somewhat resiny and fruity. (15/20)

Mouthfeel: Full body. High carbonation. Warming alcohol, somewhat masked by the full maltiness. Alcohol has a hot edge. (3/5)

Overall Impression: Dark malts, strong alcohol, and high carbonation make this a bit difficult to drink. Age could add some smoothness but the sharpness in the finish is unpleasant now. The darkness of the character malts could be adding a near-burnt flavor. Flavors seem to clash. Seems to be more about flavor intensity than how well the flavors work together. (7/10)

Total Score: (35/50)

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by Charlie Papazian



Visionary Mild

By the time you read this, more than 4,100 breweries will be operating in the U.S. Two new breweries are opening every day in this country. Those statistics, along with the mind-bending estimate of 1.2 million homebrewers in the U.S., are staggering.

This past October, the Great American Beer Festival drew more than 60,000 people over a three-day period to sample 3,800 beers from 750-plus breweries. More than 6,600 beers were judged in the Great American Beer Festival competition. That still pales in comparison to the 7,600 beers judged in the 2015 American Homebrewers Association's National Homebrew Competition.

"Charlie, did you ever foresee this happening?" is asked of me quite regularly. Up until now, my standard answer has been something along the lines of, "Yes, I did foresee this, but only when I drank too much of my own homebrew and started dreaming crazy dreams." Fundamentally, I'm coming to grips with reality; there is now another answer I would like to reveal. That answer is a simple "No!"

Me a visionary? Well, kind of. Maybe. But, wow! Now, one of every 200 American adults makes his or her own beer. I used to lead the cheer: "A brewery in every town! A homebrewer in every neighborhood!" I said it, and it came true. Did I consider myself a visionary? No, not at all. I was simply very enthusiastic about the quality of beer we were all making and about the homebrewing movement we were all rallying behind. To others I must have seemed like a ranting crazy person.

I am no more or less a visionary because it did come true. I could have just as well been dead wrong. In any case, it wouldn't have



BREW THIS ONE UP, GAZE INTO YOUR GLASS, AND WE'LL SEE WHAT THE FUTURE HOLDS, TOGETHER AS HOMEBREWERS.

diminished my enthusiasm for beer education, quality, and diversity. I would still be homebrewing, as I do now. If there were only 50 breweries in the U.S. and 10,000 homebrewers, I'd probably still be labeled a raving lunatic due to my enthusiasm.

But all of that brings us to now. Whatever we say now, whatever we predict, whatever we champion—it's all speculation. Isn't it? It doesn't hurt to speculate—look what we've achieved so far. The world of beer is changed forever—everywhere in the world! It is changing one five-gallon batch of homebrew at a time. As homebrewers, we continue to alter the beer paradigm.

As we watch the largest brewing companies in the world get bigger and their competitors disappear, the world of beer and the attitudes of beer drinkers are evolving. Something very dramatic is going to happen. There's a dichotomy out there that will not survive. That dichotomy will be bridged by small brewers, homebrewers, and beer drinking enthusiasts; not by the mighty.

To put it mildly, the people of the world want craft beer from homebrewers and small, independent brewers, so let's cut the shuck and jive and get on with the recipe.

I recently formulated a new beer called Visionary Mild. It's a mild light brown ale brewed with a relatively new type of crystal malt made by Simpsons called Double Roasted Crystal (DRC) malt, 120° L. It's a crystalized caramel malt of a similar genre as Belgian maltster Castle Malting's Special B and U.S. maltster Briess's Roasted Caramel Malts. All of them add a degree of mildly sweet, dark caramel along with raisin, prune, and dried fruit-like complexity to beer.

Also significant in the recipe is traditional English brown malt, which lends an unusual toasted, but not sweet, dryness to beers. If you are formulating beers that tend to head in the direction of sweet and fruity, a bit of brown malt has a good counter-balancing effect on the overall impression and drinkability.

Visionary Mild

ALL GRAIN RECIPE

INGREDIENTS

for 5.5 U.S. gallons (21 L)

6.5 lb	(3 kg) Maris Otter English 2-row malt
12.0 oz	(340 g) Simpson's Double Roasted Crystal 120° L
12.0 oz	(340 g) English brown malt
0.25 oz	(7 g) UK Northdown hop pellets, 6.2% a.a. (1.5 HBU/43 MBU) 60 min
1.0 oz	(28 g) UK Kent Golding hops, 6% a.a. (6 HBU/168 MBU) 60 min
1.0 oz	(28 g) UK Kent Golding hops, 6% a.a., 5 min
1.25 oz	(35 g) wild hops, add and steep after boiling
0.75 oz	(21 g) Crystal hop pellets, 5.5% a.a., dry hop
0.25 tsp	(1 g) powdered Irish moss
American ale yeast. I use White Labs WLP862 Cry Havoc yeast	
0.75 cup	(175 ml) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.040 (10 B)

Target Extraction Efficiency: 75%

Approximate Final Gravity: 1.009 (2.3 B)

IBUs: about 35

Approximate Color: 16 SRM (32 EBC)

Alcohol: 4.0% by volume

DIRECTIONS

A step infusion mash is employed to mash the grains. Add 8 quarts (7.6 L) of 140° F (60° C) water to the crushed grain, stir, stabilize and hold the temperature at 132° F (56° C) for 30 minutes. Add 4 quarts (3.8 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 10 minutes remain, add the Irish moss. When five minutes remain, add the five-minute hops. After the boil is finished, add the steep-after-boiling 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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Visionary Mild

MALT EXTRACT RECIPE

INGREDIENTS

for 5.5 U.S. gallons (21 L)

5.0 lb	(2.3 kg) light malt extract syrup or 4.3 lb (1.95 kg) dry light malt extract
12.0 oz	(340 g) Simpson's Double Roasted Crystal 120° L
12.0 oz	(340 g) English brown malt
0.25 oz	(7 g) UK Northdown hop pellets 6.2% a.a. (1.5 HBU/43 MBU) 60 min
1.25 oz	(35 g) UK Kent Goldings hops, 6% a.a. (7.5 HBU/210 MBU) 60 min
1.0 oz	(28 g) UK Kent Goldings hops, 6% a.a., 5 min
1.25 oz	(35 g) wild hops, add and steep after boiling
0.75 oz	(21 g) Crystal hop pellets, 5.5% a.a., dry hop
0.25 tsp	(1 g) powdered Irish moss
American ale yeast. I use White Labs WLP862 Cry Havoc yeast	
0.75 cup	(175 ml) corn sugar (priming bottles) or 0.33 cup (80 ml) corn sugar for kegging

Target Original Gravity: 1.040 (10 B)

Target Extraction Efficiency: 75%

Approximate Final Gravity: 1.009 (2.3 B)

IBUs: about 35

Approximate Color: 16 SRM (32 EBC)

Alcohol: 4.0% by volume

DIRECTIONS

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

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

Immerse the covered pot of wort in a cold water bath and let sit for 15-30 minutes or the time it takes to have a couple of homebrews. Strain out and sparge hops and direct the hot wort into a sanitized fermenter to which 2.5 gallons (9.5 L) of cold water has been added. If necessary, add cold water to achieve a 5.5 gallon (21 L) batch size. Aerate the wort very well.

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

Traditional English hops are used in order to not overshadow malt character; in other words, I'm not trying to overpower this beer with American citrus and fruity hop character. I personally have access to home cultivated transplanted wild hops, which with late hopping lend a mild protein-like deliciousness to beer (umami). American Crystal hops or UK Kent Golding are also good options for dry hopping. Avoid some of the traditional English ale yeast strains that tend to create diacetyl; it will collide with the malt complexity in this beer. American ale yeast is a cleaner and better option.

A visionary? Maybe. Brew this one up, gaze into your glass, and we'll see what the future holds, together as homebrewers.

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

STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION (REQUIRED BY TITLE U.S.C. 4369)

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	(1) Paid/Requested Outside-County Mail Subscriptions	36,525	32,437
	(2) Paid In-County Subscriptions	74	76
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d.	Distribution by Mail (Samples, Complimentary and other free)		
	(1) Outside-country as stated on Form 3541	1,241	1,281
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	(3) Other classes mailed through USPS	26	27
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e.	Total Free Distribution (Sum of d).....	1,305	1,533
f.	Total Distribution (Sum of c & e).....	42,163	38,131
g.	Copies Not Distributed	2,578	1,780
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Clubs are as Good as Gold



From left to right: Brian Giebel, Andrew Luberto, and Phil Ebel celebrate their victory.

We won Pro-Am gold," Phil Ebel, vice president of Great South Bay Brewery, texted me as my wife and I were boxing up kitchen items preparing for our move. I was so wrapped up in what I was doing that I wasn't really sure what he was talking about at first. Then it hit me: a gold medal at the Great American Beer Festival Pro-Am Competition. The beer had been created through a program conceived to achieve this very goal.

Most people would wonder why I would be ecstatic about a brewery I don't work at winning a gold medal using a recipe I did not create (Brian Giebel deserves that distinction; see his recipe on page 59). The answer to that question goes back about 24 months earlier when Rick Sobotka, brewmaster and founder of Great South Bay Brewery, sent me an email looking to implement a program with The Long Island Beer and Malt Enthusiasts (LIBME),

the homebrew club to which we both belong. Sobotka wanted to create a running collaboration with the club using the brewery's 2-bbl pilot system. He was clear in his goal: "I would like to closely work with homebrewers so that at the time of GABF, we can enter the Pro-Am Competition and bring home a medal."

LIBME has grown significantly since its inception in 2007, from eight people gathered in a living room to current monthly meetings of about 100. We're a fixture at local craft beer events and have become known for eclectic brews such as Kool-Aid beer and a ghost pepper lambic.

For the Great South Bay collaboration program, the club's approach was to encourage the experimental nature of brewing for which we have become known, with a monthly BJCP sanctioned competition. Each month's winning beer is brewed on Great South Bay's pilot sys-

tem. Entries have ranged from a hazelnut jalapeño Irish red ale to a wasabi maple weizenbock. Some experiments worked and some, well, not so much.

In June, Ebel, Sobotka, and I do a "best of show" tasting from the pilot batches to determine the GABF Pro-Am entry. The 2014 Pro-Am entry was an American IPA with basil by Chris Kelley. The recipe came about through an annual club competition that Kelley organizes based on the TV show *Chopped*. Teams of brewers are randomly assigned a style and two mystery ingredients to use in their brew.

In addition to the monthly competitions with Great South Bay, we have an opportunity at every meeting for feedback on recipes from BJCP judges. We encourage club members to socialize and step outside of their brewing comfort zone. Friendships are formed and great beer is crafted.

The glue that makes all of this possible, though, is being part of a locally-based homebrew club. In this digital age, thousands of people from all over the world can participate in brewing discussions from the comfort of home. But there are so many things an in-person club can provide that a virtual club or forum can never replace.

I highly encourage you to attend a meeting of a local club. If you don't have one, start one! You'll be surprised how many members it will attract and the experiences it will create—maybe even a GABF gold medal someday.

Andrew Luberto is a National BJCP beer judge and the education committee chair of the Long Island Beer and Malt Enthusiasts.



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We're so grateful to do what we love every day: making what we love to drink, and sharing it with you. From the first time we tried combining a few home brew IPA recipes at Home Brew Mart to the latest batch of Sculpin at our production brewery, we've dedicated every brew to the people we've gotten to share this beer with. Cheers, to all of you.

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