

FOR THE HOMEBREWER & BEER LOVER

19 RECIPES YOU CAN MAKE |

zymurgy®

GADGETS BREW IT YOURSELF 2021

BALTIC PORTER

MIXED-CULTURE
SAISON

COOKING AND
PAIRING WITH BEER



JANUARY/FEBRUARY 2021

VOL. 44 • NO. 1



HomebrewersAssociation.org



YOUR BREW DAY JUST GOT FASTER. THE NEW G30 220V.



Reach mash and boil temperatures faster with the NEW Grainfather G30 220V*. Save time and conduct a more vigorous boil on this higher voltage and more efficient, all-in-one brewing system!

Now available in the US for the first time: shop.grainfather.com

* The Grainfather G30 220V all-in-one electric brewing system requires a receptacle that is rated for 220-240 volts.

THE MAGAZINE OF THE AMERICAN HOMEBREWERS ASSOCIATION®

Publisher | Brewers Association™

Editor-in-Chief | Dave Carpenter

Technical Editor | Kaylyn Kirkpatrick

Spanish Translation Editor | Pablo Gomez

Art Director | Jason Smith

Marketing Director | Ann Obenchain

ann@brewersassociation.org

Sales Director | Kevin Doidge

kevin@brewersassociation.org

**Business Development Manager
for Advertising & Sponsorship**

(East) | Kevin Doidge

kevin@brewersassociation.org

(West) | Kari Harrington

kari@brewersassociation.org

Sales Activation Manager | Joe Damgaard

Senior Marketing Manager | Rachel Staats

Marketing Manager | Jeb Foster

Operations Manager | Dan Goloback

AMERICAN HOMEBREWERS ASSOCIATION

Vice President | Ryan Farrell

Associate Director | Duncan Bryant

Competition Manager | John Moorhead

Project Coordinator | Megan Wabst

AHA GOVERNING COMMITTEE MEMBERS

Jen Blair, Debbie Cerda, Sandy Cockerham, Denny Conn, Shawna Cormier, Chris Hummert, Annie Johnson, Jill Marilley*, Amy Martin, Gail Milburn, Donna Reuter, Cassie Salinas, Elmer "Goose" Steingass, Roxanne Westendorf*, Carvin Wilson.

*Indicates representative to the BA Board of Directors.



POSTMASTER

Send address changes to:

**Zymurgy, 1327 Spruce Street
Boulder, CO 80302**

Printed in the USA.

Published by the American Homebrewers Association, a division of the Brewers Association. The purpose of the Brewers Association is to promote and protect small and independent American brewers, their craft beers, and the community of brewing enthusiasts. The Brewers Association is a not-for-profit trade Association under Section 501(c) (6) of the Internal Revenue Code. Offices are located at 1327 Spruce Street, Boulder, CO 80302 USA. Membership is open to everyone. **Zymurgy** (ISSN 0196-5921, USPS 018-212) is the bi-monthly journal of the American Homebrewers Association and is published six times per year. Periodicals Postage Paid at Boulder, CO and additional mailing offices. Canada Post Agreement Number 41197537. Annual memberships are \$49 U.S. and \$63 international and include a subscription to **Zymurgy**.

Changing your address? Let us know in writing or e-mail your address changes to info@brewersassociation.org.

Zymurgy® welcomes letters, opinions, ideas, article queries and information in general from its readers. Correspondence and advertising inquiries should be directed to **Zymurgy**, PO Box 1679, Boulder, CO 80306-1679, (303) 447-0816, zymurgy@brewersassociation.org, www.HomebrewersAssociation.org. All material ©2020, American Homebrewers Association. No material may be reproduced without written permission from the AHA. Reg. U.S. Pat. & TM Off.

The opinions and views expressed in articles are not necessarily those of the American Homebrewers Association and its magazine, **Zymurgy**.

BrewPilot

- 3bbl - 5bbl Options
- Steam or Indirect Electric Heat
- Turnkey Solutions Available
- Simple to Operate

FROM GARAGE TO GURU ABE HAS YOU COVERED



ABE
BEVERAGE EQUIPMENT

Call TODAY for your complete solution: **402.475.2337**

ABEbeverageequipment.com | [Facebook](#) [Instagram](#) [YouTube](#) [Twitter](#)

NEW!
JANUARY 2021



**IT'S JUICY. IT'S HAZY.
IT'S WICKED.**





An Ode to DUCT TAPE

O duct tape, save my brew day once again!
Thy multifaceted utility
Doth bind a vinyl hose to racking cane
As fast as doth epoxy PVC.
Art thou eggcorn, mondegreen, elision?
Fields twixt consonant voices run afoul,
As ducks aspire to ducts and back again,
Would follow not but were it for a vowel.
To name another for restor'tive jobs
Jeopardizes humiliating gaffe,
Masking, electric, surgical, and Scotch
Adhesives that compared to thee are naff.
A gummy tack, a shimm'ring argent hue,
This above all: to thine own self be glue.

*Dave Carpenter is
editor-in-chief
of Zymurgy.*



WELDED TC PORTS WITH PURE FLOW VALVE



SsBrewtech.com

FOAM INJECTED DOUBLE WALLED STAINLESS

Infusion

— Mash Tun —

YOUR ORANGE COOLER IS READY FOR RETIREMENT.

Pro features like a 5° sloped floor with center drain, zero deadspace design, etched volume markings, integrated thermowell, thermometer, and the ability to incorporate mash recirculation result in the most thoroughly engineered and efficient mash tun available.

Features



34

GADGETS 2021

Homemade contraptions are as integral to homebrewed beer as malt, water, hops, and yeast. Every year, we celebrate homebrew ingenuity in Zymurgy's gadgets issue, and this year we're delighted to share more than 20 of the pieces of equipment you shared with us.

By Zymurgy readers



46

FIND YOUR BALTIC BLISS

Barrel-aged, conditioned with fruit, smoked, or simply plain, Baltic porter should be a part of every homebrewer's portfolio, especially for those who live in colder climates. Serve it at cellar temperature from a tulip glass and find your Baltic bliss.

By Mark Pasquinelli



52

MASH LOW, CARB HIGH

A good saison is dry and assertively hoppy, balancing yeast-driven complexity with the subtle richness of Pilsner malt. When done well, mixed-culture saisons introduce extra complexity while retaining the character of the base beer.

By Noland Ryan Deaver



58

COMPETITION IN THE TIME OF COVID-19

A global pandemic has forced us inside, but homebrewing continues. Competition coordinators have reacted to safety restrictions by staging homebrew competitions that conform to public health guidelines and still offer valuable feedback to entrants. Learn how one club pulled it off.

By Robert Giaquinta

WHITE WHEAT MALT

PARTNERSHIP • TRADITION • PASSION



TASTE THE QUALITY OF CANADIAN WHEAT

A traditional wheat malt with a **RICH BREADY FLAVOR** that adds **SMOOTHNESS** and **FULLNESS** to any beer, our White Wheat Malt helps ensure better **HEAD RETENTION** and **FOAM STABILITY**. Try it in your next German-style wheat beer and **EXPERIENCE THE DIFFERENCE!**



FLAVOR INTENSITY



HAZE INTENSITY



BODY CONTRIBUTION



Distributed exclusively by



COUNTRYMALTGROUP.COM



Columns

3

EDITOR'S DESK

An Ode to Duct Tape

By Dave Carpenter



Departments

23



27



Cover Photo
Jason Smith

Vol 44 • No. 1
January/February 2021

LAST DROP

Thirty Years of SNOBs

By Jay O'Neill

8 NOW ON TAP

15 DEAR ZYMURGY

23 YOU CAN FERMENT THAT!

27 BEER SCHOOL

66 RELAX, DON'T WORRY,
HAVE A HOMEBREW!

71 FERMENT ON THIS

79 ADVERTISER INDEX



SNOBs 30th Anniversary Wet-Hopped IPA	12
Preserved Lemons	24
O'Davey Irish Red Ale	28
Full Stop Stout	32
Baltic Bliss	50
Smokeska Porter	51
Spelt Saison #2	56
Petite et Légère	57
Hardgrove's Basement	61
Autobahn Lager	62
Kuhn's Pilsner	72
Corn Chowder	72
Easy Peasy	73
Strawberry Salad	74
Strawberry Mead	75
Ekstedt Pizza	75
I Got Your Stout	76
Stout Brownies	76
Olde Sloppyknickers	78



ON THE WEB
Find these homebrewing recipes
and more on our website @
[HomebrewersAssociation.org/
homebrew-recipes](http://HomebrewersAssociation.org/homebrew-recipes)

zymurgy®

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

NOW ON Tap



New Product

GRAINFATHER G30 220 V

It's finally here—the oft-requested 220-volt Grainfather G30. More voltage means faster heating, and faster heating means a shorter brew day. And who doesn't like a shorter brew day?

With a capacity of 8 gallons (30 liters) and support for up to 20 pounds (9 kg) of grain, the Grainfather G30 220V is capable of producing up to 6 gallons (23 liters) of wort at once. The new Grainfather G30 220V is compatible with the Grainfather Connect app, so you can sit back, relax, not worry, and have a homebrew all while monitoring the brew day from your phone.

To take advantage of this high-voltage Grainfather G30, available now for the first time in the U.S., you'll need 220-volt or 240-volt service with at least a NEMA 6-15R (15-amp) or NEMA 6-20R (20-amp) outlet or a suitably certified adapter with a ground connection.

The Grainfather G30 220V starts at \$999 and is available on [Grainfather.com](#) or at a homebrew retailer near you.

	220V G30	110V G30
Voltage	220–240 volts	110 volts
Power	2000 watts	1600 watts
Current draw	10 amps	14.5 amps
Frequency	60 Hz	50/60 Hz
Time to reach mash temperature [155°F/68°C]*	45 minutes	65 minutes
Time to reach boil temperature [212°F/100°C] after sparge*	25 minutes	45 minutes

* Times are approximate and are based on tests conducted on a 5-gallon (18.9-liter) batch at room temperature (68°F/20°C) at sea level.

Lockdown Entertainment

2020: A VIRTUAL MALTING ODYSSEY

The good people over at Great Western Malting have created a new experience they're calling the Virtual Malting Odyssey, a virtual reality video that starts in the barley fields of Idaho and ends at Great Western's malting facility in Pocatello.

The journey starts with a virtual tractor ride through green waves of grain; continues through harvest, steeping, germination, and kilning; and ends in the quality control lab. All the while, virtual tourists can explore the world around them, with views in all directions, using a virtual reality headset, a touchscreen, or an old-fashioned mouse.

For more information, visit [greatwesternmalting.com/virtual-malting-odyssey-by-great-western-malting](#).

VIRTUAL MALTING ODYSSEY



Lockdown Entertainment

IN HOPS WE TRUST

In Hops We Trust is a new YouTube beer documentary series from New Jersey-based Ambassador Studios in which host Ralph Sano, Jr., explores the world of craft brewing.

Season one features trips to New Jersey breweries Bolero Snort Brewing, Hackensack Brewing, Climax Brewing, Hoboken Brewing, Ironbound Hard Cider, Ship Bottom Brewing, Cape May Brewing, and The Thirsty Quaker homebrew and bottle shop. The crew also make brief stops in Pennsylvania to visit Lion Bines Hop Farm, in and New York to hit up the Hops Scotch Bottle Shop in Deer Park and Artisanal Brew Works.

In Hops We Trust explores the people behind the beer and celebrates their passion for brewing. Filming for season two is already underway, with trips to Nashville, Texas, New York, and, naturally, more New Jersey.

To learn more and view episodes, visit inhopswetrustfilm.com.



Gifts for Yourself or Someone Else

Depending upon when you read this, you may be scrambling for a last-minute gift or searching for some knowledge to pair with that new bit of homebrew kit Santa left for you. Either way, the American Homebrewers Association has a handful of great deals available for those looking to join or renew.

For a limited time, purchase of a one-year new membership or renewal entitles you to your choice of *Simple Homebrewing* by Drew Beechum and Denny Conn, *Modern Homebrew Recipes* by Gordon Strong, or *Brewing Classic Styles* by Jamil Zainasheff and John Palmer. Visit HomebrewersAssociation.org/membership-book-offer to take advantage of this promotion, but don't wait. The offer ends January 4.

Our Master Homebrewer package pairs a year of AHA membership with John Palmer's classic *How To Brew* for just \$49.00, a savings of more than 25 percent off the cost of buying these goodies individually. Just go to HomebrewersAssociation.org/master to get the deal.

Can't fit any more books on the shelf? Electronic gift cards are available at HomebrewersAssociation.org/membership/gift-membership and are delivered via email instantly upon purchase. They're the perfect solution for socially distanced gifting.



SafAle™ BE-134

IDEAL FOR FARMHOUSE
OR SAISON TYPE BEERS

- Produces ester/fruity notes with a soft phenolic character
- High-attenuation capacities to create dry beers





Focus on Saison

BY FERMENTIS

Historically seasonal saison beers are available year-round if you're looking for intense, sparkling, refreshing, dry, and exceptionally aromatic beers with moderate bitterness and alcohol strength.

Originally produced in 17th-century Belgium, in French-speaking Wallonia, saison beers were designed for consumption by field workers during the farming and harvest seasons. True craft beers that used local farm-produced ingredients, these farmhouse ales had low alcohol levels and aimed to refresh field workers without inebriating them.

Saison began to diversify into higher-strength versions and other variations after World War II, and today, we can break this family down into two categories: traditional and contemporary saison. If you are a fan of Belgian ales, you will thoroughly enjoy the saison spectrum and its impressive diversity, with numerous variations available on today's shelves.

Belgian beer lovers are, of course, yeast lovers, and that's another reason you'll enjoy saison-style beers, since yeast is a key factor in the sensory expression of this very special beer style. It will deliver intense fruitiness, spiciness, and a very dry finish. Generally speaking, it is a yeast variety in particular, *Saccharomyces cerevisiae* var *diastaticus*, which plays a major role in the flavor development. Diastatic yeasts can also deliver that bone-dry finish for which saison is so famous.

Although saisons are usually rich in spicy phenols, actual spices are not typically added. It is mainly the yeast—and, occasionally, certain hop varieties—that will provide this attribute to the final beer. However, modern saisons may be produced with added herbs, flowers, and other flavorings. Grist are typically based on barley but can contain other grains such as wheat, oats, rye—and, traditionally, spelt—that also provide spicy flavors and its precursors for the yeast.

Adjuncts such as sugar and honey can also boost dryness. Today it is easy to find heavily kettle- and dry-hopped versions, in which yeast character is paired with an extra charge of flavor from modern hops, although Continental European hops are preferred for traditional interpretations.

To add even more diversity, modern saison beers are sometimes produced with mixed fermentations. Historically, single-strain fermentation would have been unusual, and today's brewers are returning to those roots by intentionally adding wild yeasts such as *Brettanomyces*. Such microorganisms add additional layers of funky complexity to an already spicy, fruity beer. (For more, see "Mash Low, Carb High" by Noland Ryan Deaver in this issue of *Zymurgy*.)

If you want to be creative and experiment with the incredible world of beer yeasts and flavorful ingredients, saison may be for you!

Radegast Club of the Year Entries

Homebrew clubs host events that introduce the public to our hobby, mentor new homebrewers to help them brew better beer, and generate funds for local charities. Clubs deserve recognition for all they do, which is why the AHA is proud to once again present the Radegast Club of the Year Award, generously sponsored by Yakima Chief Hops.

If you are a member of a homebrew club that is doing great things, let us know about it by submitting an entry for the Radegast Club of the Year Award. The winning club earns a trophy from Yakima Chief Hops and splits a \$1,000 cash award with the charity of the club's choice.

Entries are due by March 31. We'll announce the winner of the 8th annual Radegast Club of the Year Award during the awards ceremony at the 2021 Homebrew Con in San Diego, Calif., on June 19. See the Clubs section of HomebrewersAssociation.org for more details.



The Society of Northeast Ohio Brewers (SNOBs) won the 2020 Radegast Club of the Year Award.



Brew
This!



SNOBs 30th Anniversary Wet-Hopped IPA

Fresh-hop IPA

Recipe courtesy of Mike Ontolchik.

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.069 (16.8°P)
Final gravity: 1.013 (3.3°P)
Efficiency: 72%

Color: 6 SRM
Bitterness: 70 IBU
Alcohol: 6.5% by volume

MALTS

9.75 lb. (4.42 kg) pale malt
9 oz. (255 g) crystal malt, 15°L

9 oz. (255 g) Briess Carapils
4 oz. (113 g) crystal malt, 30°L

HOPS

1 oz. (28 g) fresh Centennial, 2.5% a.a.
@ 80 min
0.75 oz. (21 g) Chinook, 15.9% a.a. @ 80 min
1 oz. (28 g) fresh Centennial, 2.5% a.a.
@ 15 min
0.25 oz. (7 g) Citra, 13.6% a.a. @ 15 min
0.25 oz. (7 g) Mosaic, 12.25% a.a. @ 15 min
8 oz. (227 g) wet/fresh Centennial, 2.5% a.a.,
whirlpool 20 min @ 150°F (66°C)
1 oz. (28 g) Mosaic, 12.25% a.a.,
whirlpool 20 min @ 150°F (66°C)
0.5 oz. (14 g) Cryo - Citra, 25% a.a.,
whirlpool 20 min @ 150°F (66°C)

1 oz. (28 g) Citra, 12% a.a.,
7 days into primary for 2 days
0.6 oz. (17 g) Cryo - Mosaic, 22% a.a.,
7 days into primary for 2 days
1 oz. (28 g) Citra, 12% a.a.,
10 days into primary for 3 days
1 oz. (28 g) Mosaic, 12.25% a.a.,
10 days into primary for 3 days
0.6 oz. (17 g) Cryo - Citra, 25% a.a.,
10 days into primary for 3 days
0.6 oz. (17 g) Cryo - Mosaic, 22% a.a.,
10 days into primary for 3 days

ADDITIONAL ITEMS

8 oz. (227 g) rice extract syrup

YEAST

White Labs WLP001 California Ale

Mash 75 minutes at 150°F (66°C). Lauter,
sparge, and collect approximately 6.8 gal. (25.7
L) of pre-boil wort. Dissolve rice extract syrup
into the hot wort and boil 90 minutes, adding
hops as indicated.

Chill wort to 64°F (18°C) and ferment until
specific gravity stabilizes at or near 1.013
(3.3°P), adding primary hops as indicated. Bottle
or keg with 2.3 vol. (4.6 g/L) CO₂.

EXTRACT VERSION

Replace pale malt with 8.6 lb. (3.9 kg) pale
liquid malt extract. Steep remaining malts for 30
minutes in 150°F (66°F) water. Remove grains
and fully dissolve malt extract and rice extract
syrup in the resulting wort. Top up to desired boil
volume and proceed with the boil.



READ THE FULL STORY

Check out the Thirty Years of SNOBs story in Last Drop on page 80.



2021 Calendar

The new year is upon us! Be sure to save
these important dates on your 2021 calendar:

- **February 17–March 3:**
AHA National Homebrew Competition entrant application, registration, and payment window
- **March 31:**
Deadline to vote in AHA Governing Committee election
- **Mid March:**
AHA Homebrew Con™ San Diego registration opens
- **March 31:**
Deadline to submit entries for the AHA Radegast Club of the Year Award (*see HomebrewersAssociation.org/homebrew-clubs* for details)
- **March 29–April 9:**
AHA National Homebrew Competition shipping window
- **April 27–May 2:**
AHA National Homebrew Competition judging
- **April 30:**
Deadline for Homebrew Shop of the Year Award nominations
- **May 1:**
Big Brew
- **June 17–19:**
AHA Homebrew Con San Diego
- **August 1:**
Mead Day
- **October 7–9:**
Great American Beer Festival®
- **November 6:**
Learn to Homebrew Day

Meet the AHA Director

BY RYAN FARRELL

Hi there, I'd like to introduce myself—I'm Ryan Farrell, the new director of the American Homebrewers Association (AHA)! I couldn't be more honored to serve in this role with the amazing AHA staff, the AHA Governing Committee, and you, the incredibly passionate and dedicated members who make our association what it is. That's a long-winded way of saying hello and thank you for making this great organization possible.

Before becoming the AHA director, I had already been with the Brewers Association (BA) for 13 years, most of which time was spent as the BA's and AHA's human resources person. Early on in my Brewers Association journey, I got certified as a BJCP judge and took the Certified Cicerone exam (and failed). I'm a happily married father of two young kids (Lincoln, age three, and Cecilia, age one) and live in Longmont, Colo.

One of the qualities I admire most in homebrewers is your do-it-yourself (DIY) spirit. I love that dedication to pour yourself into something and make it your own while learning and exploring along the way. A writer named Leo Babauta said that parenting is the ultimate DIY project, and I think he's right. For my wife and me, the whole point is to do the thing ourselves, to live the experience with all its imperfections. Are our kids perfect? Of course not. But they're ours and we made them; that's better than perfect. And like homebrewers with their beers, I'm almost pathologically inclined to want to tell you about my kids.

So, as a parent and a relapsed brew-in-a-bucket homebrewer with a symbiotic culture of bacteria and yeast in his closet, I say it is great to be on this journey with you, and I can't wait to meet and talk with more of you along the way. You can reach me directly at ryan@brewersassociation.org.



Ryan Farrell is director of the American Homebrewers Association.

Make Homebrewing **FUN** Again!



BrewRO System
Available For City and Well Water
4-Stage Portable RO System

HbrewO.com

Say Goodbye To:

Hard Water
Chlorine
Chloramine
Unbalanced Minerals
Taste & Odor
Water Testing
Complex Spreadsheets

Save 10% Off
Entire Order
10ZYMURGY

Easy Solution to Water Treatment



Great Beer Starts
With Great Water

NEW AMERICAN HONEY MALT

A MODERN TAKE ON A TRADITIONAL STYLE

- Traditional melanoidin-style malt
- Intense malty sweetness with honey, sweet bread, and biscuit flavors
- Perfect for styles from light lagers and ales to malt-forward beers like dark lagers, red, and Scottish ales



All Natural Since 1876

Learn more about this new product at
BrewingWithBriess.com/American-Honey

©2020 Briess Industries, Inc.

DEAR
Zymurgy

License to Relax



Dear Zymurgy,

My first batches of homebrew were in 1992. Life took over and I dropped the habit until 2009, since which time I have again been active making beer, cider, and mead. I am a member of two homebrew clubs, the Carolina Brewmasters (inaugural Radegast Award winners) and the Upper Palmetto Zymurgy Society. I actively enter, steward, or judge in competitions and volunteer at beer festivals.

I always wanted to get a personalized license plate, as the extra \$30 per year supports planting wildflowers along highways in the state. For the longest time I could not decide what I wanted, but I finally came up with a few of which I could be proud (I never could commit to anything with the permanence of a tattoo).

I honestly expected that another homebrewer in my state would have beaten me to it, but when I typed it into the North Carolina Department of Transportation's website, it said the plate was available. I was ecstatic and proud when it arrived in the mail.

I want to thank Charlie for his life's work and commitment to one of the greatest hobbies in the world, and all the other homebrewers for making it just plain fun. And when we make a mistake, we all know what to do. RDWHAHB!

Cheers!
Mike Schenk
Pineville, N.C.



Mike Schenk



ADAPTING TO COVID-19

Dear Zymurgy,

I just wanted to share a story about finding a way through this pandemic. With events, concerts, festivals, and competitions being canceled en masse this year, our club made the decision to try to make it work rather than give up.

We hold an annual lager-only competition for which many people from the region and across the nation brew months in advance. In March, as things with the novel coronavirus became more surreal every day, we already had entries in for our September competition. We were told the pandemic might shut things down for "months," so we figured it would be over by September and forged on.

By late July, it was evident we would still be under some level of restrictions here in Washington State, so we decided not to let COVID-19 win again.

We capped our competition at just 80 entries, as only a limited number of judges could gather in one place. We made sure we had enough judges willing to venture out—restaurants and bars were open at 50 percent capacity, but not everyone shared the same comfort level.

Our club made sure the brewery that had promised the space was still on board, and we made screens to shield our judges, along with a stewarding plan to eliminate handing bottles back and forth. We garnered a new hand sanitizer sponsor (a first for me) and made custom masks for everyone.

All in all, it went well. We found a way to make it work and I couldn't be prouder of my club!

Brian Le Huquet
President,
Beer Renegades of Everett Washington (BREW)
Lake Stevens, Wash.



DEAR ZYMURGY

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



READER FEEDBACK

Dear Zymurgy,

I really enjoyed Felicity Beaumont's article, "British Hops: Traditional and Modern," in the Sept/Oct 2020 issue. I was particularly fascinated at how newer hops varieties were developed from Goldings. It made me wonder about the relationships between heirloom British barley varieties like Maris Otter and Golden Promise and newer varieties like Optic, Halcyon, and Pearl. How different are these varieties of barley? What is the impact of the malting process on the character different English base malts impart to the beer in the glass?

These questions have all the more urgency because I recently went to my local homebrew shop to pick up a 25 kg bag of Maris Otter, but they were out of what I usually buy. I've brewed through enough 25 kg bags of floor-malted Maris Otter to appreciate that there can be quite appreciable differences from different maltings.

William Carter
New Hope, Pa.

Zymurgy editor-in-chief Dave Carpenter responds: I'm glad you enjoyed the article about British hops!

If you don't already own a copy of Malt: A Practical Guide from Field to Brewhouse by John Mallett (Brewers Publications, 2014), I'd recommend picking up a copy. In Chapter 9, Dan Carey of New Glarus Brewing Co. says, "Send Optic and Maris Otter to a traditional floor malthouse and I would be willing to bet that you could (still) taste a difference. And if I was wrong that would mean that there are a lot of really stupid businesspeople that run these small breweries because everybody is paying a huge premium for Maris Otter; if it was simply the malting process then all the maltsters will be putting in floor malt houses and running the cheapest barley through them."

Variety and malting technique both influence the finished product. Fortunately for us, malt is finally starting to get the respect it deserves. Why should the hopheads have all the fun?



Dear Zymurgy,

Here in Sacramento, we have an apple-growing region called Apple Hill, and I always purchase several gallons of unpasteurized, unfiltered apple juice for no other reason than that a 1-gallon fermenter is included in the purchase! I was contemplating what to do with only 1 gallon, and then I came across the Short Cider recipe in the Sept/Oct 2020 issue: a perfect fit! Thank you for a simple, easy cider recipe with no big equipment or process needed. A true winner!

Tim Mosbarger
Sacramento, Calif.



Dear Zymurgy,

I know this is a magazine about fermentation, but the only reason breweries make hard seltzer as a “malt beverage” is so it can be taxed and sold as beer. We’ve got six pages of instructions (Beer School, Zymurgy, Nov/Dec 2020) on how to ferment plain sugar and pump it full of preservatives—you couldn’t fit in one paragraph on the infinitely easier method that homebrewers who keg can use? Mix vodka and filtered water to desired ABV in a keg, flavor as described in the article’s final section, and pressurize to the desired level of carbonation.

Alex McCool
Huntsville, Ala.



FOUR LEGS (OR TWO!)

This is Beatrice, manager of lauter ops at the Lesterbrau Haus, bringing respect back to the breed after those embarrassing Spuds years. Here, she serves as quality control officer for anything that falls on the floor.

Dale Lester Anderson
Rocklin, Calif.



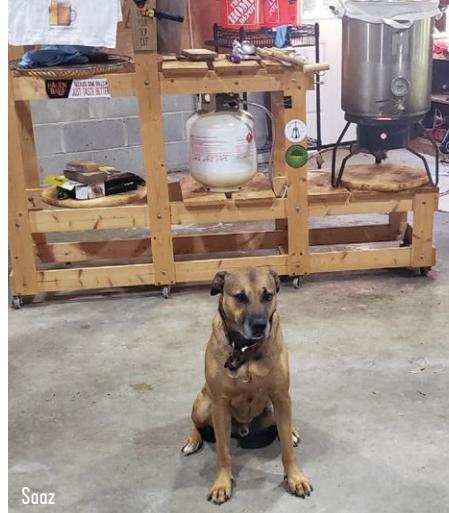
Arnold is our head of quality control. He gets paid in delicious spent-grain dog treats.

Cheers!
Jon Sobel
Hillsborough, N.J.



This is Finley, my brew assistant and head of quality.

Shawn Lussier
Hudson, N.H.



This is Saaz. He stands guard so no one messes with my mash. Today, we made a peppercorn rye bock à la Sam Calagione.

Mike Drago
Powhatan, Va.



I've had lots of help from dogs and cats on past brew days, but this is the first time a mama hen and her chicks have shown any interest in the process beyond scarfing down the spent grains.

Scott Purviance
Granite Bay, Calif.

This is Zoey, a German Shepherd-Pitbull rescue and my furry, four-legged brewing assistant. Here she is supervising the final weeknight boil of a kettle-soured Flanders red.

Cheers!
Ross Davis
Ann Arbor, Mich.



THE ★★★ CRUCIBLE™ CONICAL FERMENTOR

Conical bottom collects yeast, hops, and trub

Eliminates need to transfer to secondary fermentor

Collect and reuse yeast

Tri-clamp bottom dump

Rotating racking arm for sediment-free transfers

Durable stainless steel construction

Embossed level markings never wear off

TWO SIZES AVAILABLE



THE PRO LOOK,
NOT THE
PRO PRICE.

STARTING AT ONLY
\$275

ANVILBREWING.COM

ANVIL
BREWING EQUIPMENT

HOMEBREW LABEL SUBMISSIONS



This is actually the new logo for my homebrews. I lost my cat this year (after 10 years) and I wanted to have an awesome way to pay homage to her. Her name was Moose.

Josh VanBlaircom
Lafayette, Ind.



SUBMIT YOUR LABEL

Do you make custom labels for your homebrew? Want it featured here in the pages of Zymurgy for all to see your work?

Send them to us at HomebrewersAssociation.org/magazines/submit-bottle-label and we will take it into consideration!

HOMEBREW LABEL SUBMISSIONS

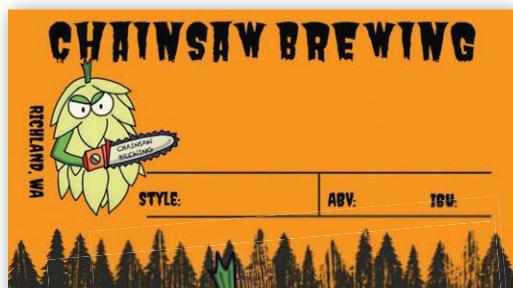
My friends planned a homebrew festival in one of their apartments, and I wanted to brew something special for it. We got together and tried to push the limits by brewing an extremely strong, but balanced and drinkable, stout. We aimed for between 18% and 20% ABV. It came out fantastic, and I thought it was so special that I designed and hand drew this label.

David Hubbard
Littleton, Colo.

I decided to make custom write-on can labels for my setup and incorporated my logo—a cartoon-style hop with a chainsaw arm—with a Pacific Northwest theme.

I know chainsaws aren't used to cut down hop bines, but "Chainsaw" is a long-time nickname that my friends back in high school gave me. Living in the heart of hop country, I had to incorporate a hop somehow. Check out all my brewing adventures on Instagram (@chainsawbrewing). Cheers!

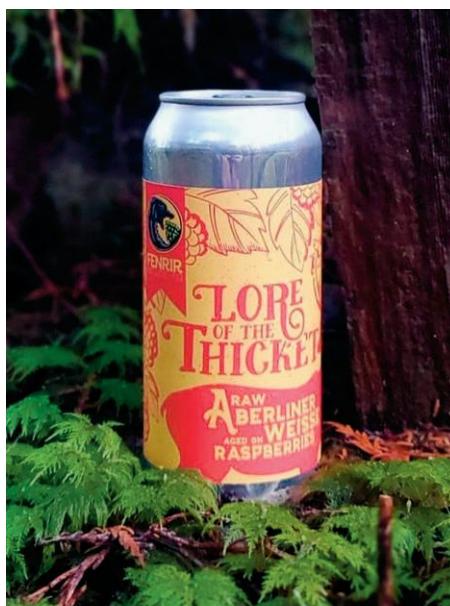
Robby Narquis
Mid-Columbia Zymurgy
Richland, Wash.



HOMEBREW LABEL SUBMISSIONS

My wife and I started brewing about five years ago when she bought me a home-brew kit for Christmas, and we haven't looked back. She does all the graphics for our homebrewery and is also an award-winning homebrewer herself! All of her labels are hand drawn in Adobe Illustrator. We love coming up with ideas for the labels as much as brewing the beer itself. We recently started canning, which has taken the labels to a whole new level.

Garrett Wippel
Browns Point Homebrew Club
Ketchikan, Alaska



**HOME
BREW
CON
2021**

**MARK YOUR
CALENDAR**

**JUNE 17-19
2021**



**Registration opens
winter 2021.**

Learn more at HomebrewCon.org

43rd Annual National
Homebrewers Conference





CRYO HOPS® PELLETS



MAXIMIZE YOUR HOP IMPACT

At Yakima Chief Hops, we're committed to finding tangible solutions for the brewing community to enhance your beers and increase efficiency. Using industry-leading lab facilities, we have identified key varieties that maximize the effects of yeast biotransformation. These specific varieties unlock the full flavor and aroma potential of yeast and hop interaction, carrying more hop characteristics into your finished beer.

By concentrating these already efficient varieties into our Cryo Hops® pellets, the hop impact is truly maximized, making them the perfect choice to take your IPA, NEIPA, or Pale Ale to new heights.

VARIETIES INCLUDE:

- MOSAIC® Brand
- SIMCOE® Brand
- SABRO® Brand
- LORAL® Brand
- CENTENNIAL

ASK YOUR LOCAL RETAILER ABOUT THESE CRYO HOPS® VARIETIES OR
VISIT SHOP.YAKIMACHIEF.COM FOR YOUR NEXT HOME BREW.



PRESERVED LEMONS

By Amahl Turczyn

The lemon tree originated in North Africa and the Mediterranean, whence it spread to other parts of the world along with a method for making its fruit last longer in the pantry. Most people associate preserved lemons, or lemon pickles, with Moroccan cuisine, but they are important to many food cultures beyond the Arab world, including India, Russia, North Africa, and China, where they are also used in medicine. The tartness and astringency are said to cleanse the kidneys and aid with nausea, so they are often prescribed for morning sickness. If you've never tried preserved lemons, they are a versatile culinary treat to have in your fridge.





Ferment This!

Preserved Lemons

Recipe courtesy of Amahl Turczyn.

Batch volume: 1 US qt. (1 L)

EQUIPMENT

1 qt. sanitized Mason-style jar with lid and ring

INGREDIENTS

- | | |
|----------|--|
| 8 | large organic lemons, preferably Meyer |
| 6 tsp. | non-iodized salt |
| 1 stick | cinnamon (optional) |
| 1/2 tsp. | whole coriander seed (optional) |
| 3 | bay leaves (optional) |

PROCEDURE

Wash the lemons well and trim off the stems. Slice each fruit lengthwise into quarters, but not all the way through: leave about half an inch of the rind to connect the pieces at the end. Sprinkle a teaspoon of salt (or a half teaspoon if you prefer a less salty pickle) evenly over the inside of each quarter, and pack tightly into your quart jar. When the solids come up to about an inch from the rim, juice as many extra lemons as you need to cover the fruit with juice. Tap out any air bubbles and screw on the lid snugly, but without tightening. This will allow any gas from fermentation to escape. Keep in a cool, dark place for three weeks.

Check the jar daily for the first three or four days, using a clean spoon to push fruit down below the level of liquid and to circulate the brine a bit. After a few days, this shouldn't be necessary, and you can let fermentation continue, topping up the liquid with more fresh lemon juice if necessary.

After three weeks, store in the fridge for at least one more week and then remove, rinse, and taste your pickles, discarding any seeds. You can also keep adding extra, clean lemon rinds or fresh wedges, making sure to push them to the bottom of the jar to keep the ferment going and allow the fully cured pickles to rise. Always make sure everything is submerged in salty lemon juice.



SPICES

It's not necessary to include spices, but cinnamon, coriander seed, bay leaves, peppercorns, cloves, allspice, and chiles can all be added to the jar for extra flavor dimensions. Whole spices work best because they continue to add influence over the ensuing weeks and months of fermentation and storage.

USES

The Moroccan tagine is perhaps the highest calling for preserved lemons, but many other dishes can benefit from their mellow, tangy flavor. Many people discard the flesh of the fermented lemon slices and just use the peel, as it has a better texture and a more lemony flavor, but you can also add whole slices, flesh and all, to a blender to make a puree. (Just be sure to discard any seeds, which tend to add unpleasant bitterness.) Stews, soups, and sauces all benefit from this hollandaise-like puree, as do salad dressings, hummus, any dish with seafood, and even fruit-based desserts. It adds a subtle lemon flavor that doesn't overpower; but do consider the significant salt content when seasoning the dish.

TECHNIQUE

Speaking of salt, how much to add is a matter of preference. Recipes vary from as little as one-quarter teaspoon per lemon to as much as a tablespoon. The more salt, the lower the risk of the fermentation becoming invaded by mold or other unwanted microbes, but over-salted lemons limit their versatility somewhat. Unlike other similar pickling techniques, this lactic acid bacteria fermentation starts with a very low pH from the lemon juice itself; there are recipes for preserved lemons that use a pre-mixed brine, but for small batches at home, we can make a better, more flavorful ferment with no water added—only lemon juice.

It is therefore recommended that you purchase about eight large fruits. Six of these are cut and added to





a one-quart glass Mason-style jar with the salt, and the others are juiced to ensure sufficient brine to cover the solids. Sanitize the jar and lid, wash the lemons well, and slice off the stems of the fruit. Then quarter each lemon, but not completely—leave about a half inch at the opposite tip to hold the quarters together. Then, using non-iodized salt (sea salt works well), sprinkle the flesh of each quarter evenly. The lemons can then be pressed into your jar. You may have to squash them a little to get them to fit, but that's fine. I also usually quarter one or two completely and use the slices to fill in any gaps between the whole fruit.

You should end up with enough juice to almost cover everything. You can juice enough extra fruit to top up the jar. Tap out any air bubbles, fit the lid, and tighten snugly, but not tightly. The jar should rest in a cool, dark place for about three weeks, after which it can go into the fridge for long-term storage. For the first three or four days of fermentation, you should check the lemons and press them down below the level of liquid with a

clean spoon if needed. This discourages unwanted microbes from spoiling your lactic ferment and redistributes the brine.

After a week in the fridge, for a total of four weeks, you can taste the lemons and begin to use them in your cooking. You can even add more lemon peels to the jar to keep it topped up if you wish: fermentation will continue slowly, softening and mellowing the new additions. Be sure to use a clean spoon, not your fingers, to remove the pickles; stainless steel and wood are fine. Many people rinse the lemon quarters before use to reduce the salt.

There is a species of white mold that can tolerate the salty, acidic environment, but fortunately it is not harmful, and doesn't contribute any flavor of its own; if present, just wash it off. You can then either puree the skin and fruit as suggested above, discarding the seeds, or just use the peel, dicing it finely before adding it to your favorite dish.

Amael Turczyn continues to brew and write at his home in Lafayette, Colo.



TEST SMARTER, BREW BETTER



exact iDip®
SMART PHOTOMETER SYSTEM™
with **Bluetooth®** SMART



Certified to
NSF/ANSI Standard 50



It's the perfect tool to properly test your water with lab quality results before beginning the brewing process. The Smart Brew® Professional Kit, is the first test kit to incorporate Bluetooth® connectivity with both a hand-held photometer and multi-probe meter for the most complete water test kit.



(800) 861-9712
SMARTBREWKIT.COM



SENSAFE



ITSESENSAFE



Download on the
App Store

GET IT ON
Google play

iPhone is not included. eXact iDip is a registered trademark of Industrial Test Systems, Inc. Rock Hill, SC 29730 USA ©2019 Industrial Test Systems, Inc. App Store is a service mark of Apple Inc. "SENSAFE" is a trademark of Sensafe in the United States and other countries. Android and Google Play are service marks of Google, Inc. Facebook and Twitter are registered trademarks in the United States and other countries.

R0719



BOTTLE STRAIGHT FROM THE TAP



ITEM N° GF883

COUNTER PRESSURE
BOTTLE FILLER

Tapcooler



Order online:

GREATFERMENTATIONS.COM/TAPCOOLER





SMOOTH OPERATOR

By Dave Carpenter

By the time you read this, less than three months will remain until St. Patrick's Day, at which time my thoughts will have turned to soda farls, colcannon, gur cakes, and, of course, Irish ales. A hallmark of Ireland's most famous brewery is the famous cascading dispense that delivers a creamy head of tight bubbles that persist from the first sip to the last. That effect is brought to you by the most abundant gas in Earth's atmosphere: nitrogen.

Not long ago, I virtually discussed draught systems with San Diego's QUAFF homebrew club, and much of our Q&A concerned nitrogenated beers. That discussion inspired me to jot down a few notes to hopefully inspire you, dear reader, to brew your St. Patrick's Day beers now and serve them with a nitro pour on *Lá Fhéile Pádraig*, should you wish. →

WHAT IT IS

What's the whole point of all this nitro stuff? What does nitrogen do that good, old-fashioned carbon dioxide (CO_2) can't?

It's less about the nitrogen itself than it is about cranking up the serving pressure. You may recall Henry's Law, which observes that the amount of gas dissolved in a liquid is proportional to the pressure of that gas above the liquid—for our purposes, the pressure in the headspace. The more you increase the pressure of a gas in contact with your beer, the more that gas will dissolve into said beer.

When you operate a direct-draw draught system (which is what virtually all homebrewers have) with 100 percent carbon dioxide, CO_2 both (1) maintains carbonation in the keg as it is emptied of beer and (2) provides the necessary pressure to propel beer out of the keg, through the draught lines, and into your glass.

Most of our home draught systems are built and balanced for a combination of serving temperature and pressure that suits a wide range of beer styles. A good, all-purpose carbonation level for many beers is about 2.5 or 2.6 volumes (5–5.2 g/L) of CO_2 , which at a serving temperature of

38°F (3°C) means applying a gauge pressure of about 11 to 12 psi (760–830 mbar) of CO_2 if you live at sea level. Readers who live at high elevation need to add 0.5 psi for every 1,000 feet, or 11 mbar per 100 meters, of terrain gain.

Now, what if you wanted to increase that serving pressure to, say, 40 psi (roughly 2,800 mbar)? (Just assume for a moment that you do—we'll get to why in a second).

If you simply dialed up the pressure on your regulator and kept everything else the same, your beer would eventually stabilize at a carbonation level of more than 5 volumes (10 g/L) of CO_2 , which is far too much, even for the most highly carbonated of beers. What is one to do?

Enter nitrogen. Unlike carbon dioxide, nitrogen is only minimally soluble in cold liquids like beer, which is one reason



O'Davey Irish Red Ale

Irish red ale

Recipe courtesy of Dave Carpenter.

This is my standard Irish red ale. I enjoy the simplicity of using dry yeast and like the results I get from Nottingham here. If you'd prefer to use liquid yeast, any of the Irish ale strains will work just fine, as would a clean American ale yeast.

Batch volume: 5 US gal. [18.9 L]

Color: 17 SRM

Original gravity: 1.054 [13.8°P]

Bitterness: 24 IBU

Final gravity: 1.012 [3.1°P]

Alcohol: 5.5% by volume

MALTS

10 lb. pale ale malt

6 oz. 45°L crystal malt

4 oz. 160°L crystal malt

2 oz. 80°L crystal malt

2 oz. 550°L roasted barley

HOPS

0.75 oz. [21 g] Willamette, 6% a.a. @ 60 min

1 oz. [28 g] East Kent Goldings, 4.7% a.a. @ 10 min

YEAST

1 sachet Lallemand Nottingham Yeast

BREWING NOTES

Mash at 152°F (67°C) for 60 minutes. Boil 60 minutes, adding hops as indicated. Ferment at 64°F (18°C) until specific gravity stabilizes at or near 1.012 [3.1°P]. Package with 1.1 vol. [2.2 g/L] of CO_2 and optionally serve on nitro.

EXTRACT VERSION

Replace the pale ale malt with 8 lb. 3.6 kg] Maris Otter liquid malt extract. Steep the crystal malts and roasted barley for 30 minutes at 155°F (68°C) in 1.5 gal. (5.7 L) water. Remove the steeping grains and thoroughly dissolve the malt extract in the resulting wort. Top up with water to desired boil volume and proceed with the boil as above.

bars commonly use nitrogen to dispense draught wine that should not have bubbles.

One of the great things about nonreactive gases is that they act independently of one another and obey the law of partial pressures. That means as long as you apply the correct CO₂ pressure to maintain the desired carbonation level, you're free to muck around with any other gases that may be present without affecting carbonation.

If we wanted to serve our beer at 40 psi, then, without changing the carbonation level, we could just leave the CO₂ set at 11 or 12 psi and make up the remaining 28 or 29 psi (subtract 11 or 12 psi from 40 psi) with nitrogen. That's what nitro dispense does—it lets you adjust the serving pressure while maintain a desired carbonation level.

(Strictly speaking, you can do this with any nonreactive, food-safe gas. Some welder homebrewers have been known to use argon from time to time because they have it on hand. But most of us don't keep argon around, and the beverage gas industry is well-equipped to give you nitrogen.)

Now back to why you'd want to increase the serving pressure in the first place. If you've ever enjoyed an English-style real ale served from a beer engine, you've seen the bartender use a hand pump to pour beer from a swan-neck faucet and into your glass. Poured properly, such pints are initially quite creamy, like a glass of foam. But as the pint settles, the foam gradually breaks into a bright body with a tight, white or off-white head. This is the result of applying a great deal of pressure (via the piston in the beer engine) to an ale of fairly low carbonation.

The nitro pour simulates the high-pressure action of a beer engine's piston. To be sure, the two are not interchangeable, but it isn't a bad approximation, particularly for a bar that's already equipped for CO₂ dispense and may not have the infrastructure or turnover to make a proper cask program feasible. As homebrewers, we can do as we like, but for many of us, the nitro pour is a delight in and of itself, neither better nor worse than a cask pull—simply a different sensory experience.

In theory, you can get a good nitro-style pour by increasing the gauge pressure on your normal CO₂ regulator to 30–45 psi, depending on your system, each time you pour a beer. But then you'd have to remember to turn it back down to 5–8 psi between pours or your beer would become overcarbonated. I don't trust myself to do that, so I stick with what's simpler.

THE BLICHHMANN
GRAIN MILL
NOW AVAILABLE

CRUSHIN' IT 2X FASTER

60LB HOPPER CAPACITY	MICROFLUTE TECHNOLOGY
720LB/HR (12 LB/MIN) THROUGHPUT	HARDENED STEEL ROLLERS

ONLY
\$995

THE PROOF IS IN THE CRUSH.

Designed for nano brewers, the Blichmann Grain Mill is rugged, durable, and compact. The 60lb hopper and 720lbs per hour throughput is faster than any grain mill in its class. The gear-driven, hardened steel rollers with microflutes eliminate grain shear for a perfect crush every time.

**WATCH THE
TESTIMONIAL VIDEO**



bit.ly/32eVYdW



blichmannpro.com

WHAT YOU'LL NEED

Your nitro experience begins with a draught system, so we'll assume you're already running a balanced kegerator, keezer, converted fridge, or something similar. Furthermore, we're going to assume you're using semi-permanent hardware with fixed shanks—no picnic taps. If all these assumptions are met, then there are just three things you need for a nitro pour.

Stout Faucet

You can't pour a nitro beer using standard beer faucets. Well, actually, you *could*, but you'd make a mess and wouldn't achieve the desired result.

What makes a stout faucet a stout faucet? It's all about the restrictor plate. When you disassemble a stout faucet (which you should do between every keg for cleaning), you'll find a small, perforated disc between the main body of the faucet and the nozzle. This little piece of kit decelerates the flow of beer and knocks carbon dioxide out of solution, which is what creates the magic cascading effect and tiny, persistent bubbles (the same idea as a sparkler on a beer engine). In fact, if you remove the restrictor disc,

your stout faucet can pour regular ol' CO₂ beer.

Stout faucets connect to shanks in the same way as standard beer faucets, so the only thing you have to do on the liquid side when you want to serve a nitro beer is swap faucets, for which you need only a faucet wrench.

Mixed-Gas (Nitro) Cylinder

Your CO₂ cylinder probably isn't rated for the high pressures associated with nitrogen storage (nitro cylinders can have as much as two to three times the maximum service pressure as dedicated CO₂ tanks), so you're going to need a new cylinder with a valve that can accommodate a nitrogen regulator (more on that shortly).

You can certainly purchase your own nitro cylinder, but it has been my experience that gas suppliers are much less interested in filling these for homebrewers than they are in filling CO₂ tanks. My recommendation here is to shop around for a gas supplier you trust and enroll in a cylinder swap program with them. They own the cylinder and are responsible for having it periodically recertified, and you only have to come in and trade it out. The downside is you may end

The advertisement features a large image of a copper-colored stainless steel brewing system with various components like a kettle, chiller, and fermenter. To the right, there is a circular logo for "DELTA BREWING SYSTEMS" with a stylized red triangle in the center. Below the logo, text reads: "GET YOUR HOMEBREWERY ORGANIZED AND UNDER CONTROL WITH DELTA BREWING SYSTEMS. FROM HIGH QUALITY STAINLESS STEEL TABLES TO GLYCOL CHILLERS, KETTLES TO FERMENTERS, DBS HAS QUALITY EQUIPMENT YOU CAN RELY ON. GET YOUR BREW ON!" At the bottom, contact information is provided: "(630) 310-5786", "DELTABREWINGSYSTEMS.COM", and "INFO@DELTABREWINGSYSTEMS.COM".



Stout Faucet

the BREWDECK podcast



CHECK OUT THE
LATEST EPISODE!



Scan the QR code
to see all episodes



People you know, products you love, shenanigans possible...
Inspiring Your Craft, one episode at a time.

countrymaltgroup.com/the-brewdeck-podcast



Brew
This!



Full Stop Stout

Dry Irish stout

Recipe courtesy of Dave Carpenter.

This dry stout toes a line between the upper bounds of dry Irish stout and the lower bounds of Irish extra stout. Unapologetically dark and bitter, it's my homage to Wrasslers XXXX Stout brewed by Dublin's Porterhouse Brew Co. Full Stop is great from a bottle or served from a standard CO₂ setup, but nitro dispense takes it to the next level.

Batch volume: 5 US gal. (18.9 L)
Original gravity: 1.053 (13.1°P)
Final gravity: 1.014 (3.6°P)
Color: 56 SRM
Bitterness: 50 IBU
Alcohol: 5.2% by volume

MALTS

6.5 lb. Maris Otter pale malt
2 lb. flaked barley
1.5 lb. 550°L roasted barley
4 oz. 550°L black malt

HOPS

0.75 oz. (21 g) Nugget, 11% a.a. @ 60 min
0.5 oz. (14 g) Galena, 11% a.a. @ 30 min
0.5 oz. (14 g) East Kent Goldings, 4.5% a.a.
@ 10 min

YEAST

Imperial A10 Darkness

BREWING NOTES

Mash at 152°F (67°C) for 60 minutes. Boil 60 minutes, adding hops as indicated. Ferment at 64°F (18°C) until specific gravity stabilizes at or near 1.014 (3.6°P). Package with 11 vol. (2.2 g/L) of CO₂ and optionally serve on nitro.

EXTRACT VERSION

Replace the Maris Otter and flaked barley with 6.5 lb. (2.9 kg) Maris Otter liquid malt extract and 1 lb. (454 g) Carapils. Steep the Carapils, roast barley, and black malt for 30 minutes at 155°F (68°C) in 2 gal. (7.6 L) water. Remove the steeping grains and thoroughly dissolve the malt extract in the resulting wort. Top up with water to desired boil volume and proceed with the boil as above.

up with a much larger cylinder than you really need. But, hey, fewer trips to the gas store, right?

Speaking of gas, nitro cylinders are filled with a blend that goes by many names: beer gas, nitro blend, Guinness gas, G-mix, and so on. All you really need to know is that it's about 75 percent nitrogen and 25 percent carbon dioxide, though some places prefer a 70/30 mix. Just go with whatever blend of beer gas your supplier sends to local bars.

Nitro Regulator

In my house, serving nitro beer means using a dedicated nitrogen regulator. Yes, you *can* purchase adapters that allow you to connect a CO₂ regulator to the valve of a nitrogen tank, but this has always seemed a little sketchy to me. For one thing, it's another seal that could potentially leak, and given the cost of beer gas, I prefer to reduce possible failure points.

Furthermore, I always keep my CO₂ regulator attached to a CO₂ tank, not just for carbonating and dispensing beers, but also for other brewery chores: purging kegs, pushing beer from one vessel to another, and so on. I'm going to need a second regulator anyway for that mixed-gas tank, so why not just go with a dedicated nitro regulator in the first place?

My recommendation: if you want to repurpose a CO₂ regulator to dispense nitro

beer, make sure you know what you're doing. As for me and my clumsy ways, I'll just maintain separate systems, the same way I keep dedicated plastic gear for Brett and sour beers.

Other Considerations

Depending on your particular setup, you may need to adjust the length of your beer lines to pour nitro beers, but in all likelihood, you don't. The restrictor plate supplies a great deal of resistance that, in my experience, is enough to offset the higher pressure of the nitro pour. As long as your system is balanced for CO₂ pours, you should be in the right ballpark for nitro.

Once you have the necessary hardware, you hook up a nitro setup just as you would a standard CO₂ draught setup. All of my gas lines have in-line quick connectors, so I just disconnect the CO₂ and hook up the nitro regulator when I'm ready to pour a stout.

WHAT TO SERVE

Nitro beer can be somewhat polarizing, and I've met a nonzero number of folks who don't want anything nitrogenated ever. That's OK. To each their own.

I love to serve a handful of malt-focused styles using a nitrogen dispense. Irish stout and Irish red ale are obvious



Dave's Full Stop Stout.

choices, and I've included my house standard recipes for those styles with this article. But Scottish ales can be excellent served this way, as can English bitters, American brown ales, and even—provided you aren't beholden to the Reinheitsgebot—Munich dunkel and Czech-style dark lagers.

Nitrogen dispense mutes hop character, so I usually shy away from serving IPAs and other hop-forward styles with nitro. I also don't like to put high-gravity ales on nitro—I feel that the luxuriously silky texture you get from this type of pour makes for too rich an experience when paired with wee heavy, barleywine, and the like. But, that's personal preference. If you want to pour a double IPA using nitrogen, be my guest!

KEGGING AND SERVING NITRO BEER

So, how do you prepare one of your homebrews for a nitro pour? The mechanics of racking to the keg are the same as for your conventionally dispensed beers, but when it comes time to apply gas, you'll want to aim for a carbonation level that's on the lower end of the spectrum, around 1 to 1.2 volumes (2 to 2.4 g/L) of CO₂. How you

achieve that in the keg is up to you. If you want to preserve beer gas exclusively for dispensing, you can connect a conventional carbon dioxide source or prime with corn sugar just to get CO₂ into the beer.

The easiest and laziest path, however, is to just hook up your keg at serving temperature to the supply of blended beer gas and wait a couple of weeks. This method, though slow, reduces the risk of over-carbonating. Then, when you go to pour, it should be smooth sailing.

Assuming a serving temperature of 38°F (3°C) and a 75/25 beer gas blend, setting your nitro regulator to 35–40 psi will give a carbonation level of about 2.3–2.4 volumes (4.6–4.8 g/L) of CO₂, much of which will be knocked out as the beer passes through the restrictor plate under such high total pressure. (These beers are often better served warmer than 38°F/3°C, but as I normally have a standard CO₂ beer on the other line, I just keep everything cold.)

Pouring from a nitro faucet is simple. Angle the glass at 45 degrees, open the faucet, and let beer flow as you normally would. When the pint reaches about two-thirds full, turn off the faucet and place the glass beneath it for a minute or so to allow

the pint to settle. During this time, you can admire the cascading effect that has mesmerized so many travelers to the Emerald Isle.

When things have more or less settled down, leave the glass standing below the faucet and then open the faucet once more, allowing beer to fall straight down and into the glass. Fill the pint right up to the rim and then immediately place the glass in front of your guest to allow them to enjoy the visual display before they take a sip.

IS IT WORTH IT?

A nitro setup means shelling out a bit of money and making changes to your system each time you want to serve a beer this way.

Ultimately, you have to decide for yourself whether the cost and logistics are worth the end product. Beer connoisseurs sometimes speak about nitro beer with the same fervor they would normally reserve for the debate over decoction mashing. Opinions are fine. As for me, I'm going to sit out the debate and enjoy a pint of homebrewed Irish stout with those mesmerizing cascading bubbles.

Dave Carpenter is editor-in-chief of Zymurgy.



WE BREW WITH YOU.™

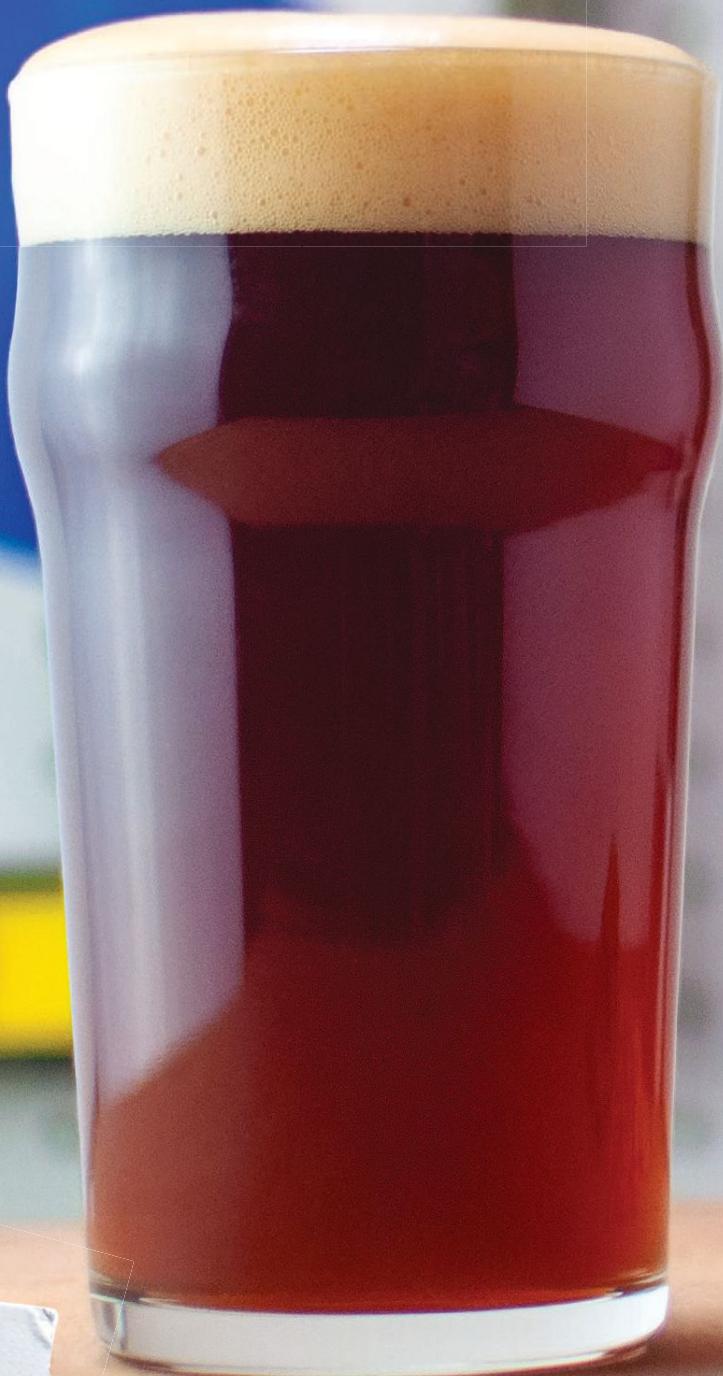
Lallemand offers unmatched purity and technical support, helping brewers exercise their full creativity in achieving the exact flavors and aromas desired. Each sachet is vacuum-sealed to minimize packaged air, adding a substantial level of protection to the yeast and maximizing performance throughout the life of the products.

www.lallemandbrewing.com

LALLEMAND

GADGETS 2021

15th Annual Homebrew Gadgets





Zymurgy's annual Gadgets issue showcases the creative DIY spirit of homebrewing.

By Zymurgy readers

Our homebrewing heritage is chockablock with innovative creations, and we're not just talking about the beer. Homebuilt gadgets, contraptions, and devices are as important to the history of homemade beer as malt, water, hops, and yeast. Every year, we celebrate homebrew ingenuity in *Zymurgy*'s annual gadgets issue, and this year we're delighted to share more than 20 of the pieces of equipment you shared with us. Thank you to everyone who submitted gadgets this year. Please keep sending us your stories for the 2022 issue, and check out HomebrewersAssociation.org and the AHA Forum for more great DIY ideas. →

Brew Day

REVERSE OSMOSIS WATER BRACKET

Having grown tired of hauling around 5-gallon jugs of reverse osmosis (RO) water, I was looking for a way to streamline my process and put less stress on my back. I realized that if I extended my RO tubing, I could fill my brew kettle directly from my RO water filter. All I needed was a way to mount the float valve.

Looking around my basement, I found a section of perforated slotted angle that I could use as the horizontal portion of the bracket. After a visit to the hardware store, I located a section of perforated flat bar for the vertical portion of the bracket. I also found a threaded knob to allow me to easily adjust the quantity of RO water in my brew kettle without using tools.

With the aid of my angle grinder, I cut the slotted angle and flat bar to length. I notched the slotted horizontal angle to fit over the lip of my brew kettle for stability. After mounting the float valve and connecting up the RO tubing, I am able to pre-fill my brew kettle with RO water the night before my brew day.

Raymond Nonnie
Urban Knives of Grain
Carol Stream, Ill.



DRAIN POWER

I'm a BIAB brewer and was having trouble draining my grain bag without making a mess. My large strainer wasn't getting the job done, so I got a large stainless salad bowl, added some stainless "wings," and drilled some holes in the bottom. It sits nicely on a 5-gallon bucket and drains properly. I hold the drawstring with a ratchet setup and let it drain.

Ken Hamel
Muddy River Mashers
Bismarck, N.D.



CHILL OUT

This is a very easy way to cool down your wort fast even on hot days. All you need is a bucket filled with ice water, a submersible pump with a hose bib connection, an immersion wort chiller with tubing, and a hose end connection.

Darrell Ades
Oceanside, Calif.



#FILTER

Here's the best ever trub and hops screen for your boil pot. I've tried many of the so-called screen filters that are supposed to keep trub and hops out of your plate chiller and out of the fermenter. They all were less than adequate, so I made my own out of a couple of 13-inch pan splatter screens I got on Amazon.

I have used this screen in more than twenty 12-gallon batches with my Blichmann BrewEasy system. It has exceeded my expectations: I can get almost every drop out of my boil pot! I have made some batches with close to 20 ounces of hops in the boil kettle and whirlpool, and this filter has never clogged. I get all the wort out and keep my plate chiller clean! The image shows how much gunk this thing captures.

Jeff Gaastra
Newberry
Springs,
Calif.



WATER TANK

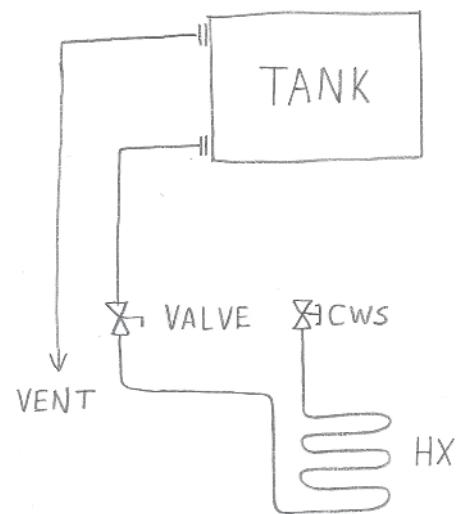
As an energy efficiency engineer, I've always felt bad about letting warm water from the wort chiller run down the drain. When I finally built out a dedicated brewing space in the basement, I decided to incorporate a storage tank to make it easier to reuse this water.

I found a 10-gallon RV drinking water storage tank (\$30) that fits perfectly between my floor joists, but any type of tank will work as long as it has a low drain fitting and a high vent fitting. The drain line goes to a shutoff valve (\$8), and the overflow/vent line drains to a sink. In cooling mode, the "out" hose of the wort chiller (or heat exchanger) connects to fill the tank. In cleanup mode, I disconnect the wort chiller and connect a short hose with a spray nozzle. Ten gallons is more than enough for cleaning the equipment and giving the floor a quick mop.

I've never brewed back-to-back batches, but you could use the water to start the next mash, similar to preheating the hot liquor tank in a commercial brewery.

The actual cost savings in Chicago is probably less than \$1 per brew day, but it could save considerably more in places with higher water and energy costs.

Ben Heymer
Chicago, Ill.



Brew Day

SOUS VIDE MASH TUN

I bought an 800-watt sous vide stick for cooking, but I grew curious to see how well it could maintain mash temperatures and step mashes. My cooler mash tun loses only 2°F (1.1°C) over the course of a 60-minute mash, so the ability to maintain mash temperatures with the sous vide device was not my primary goal.

I tested the idea using warm water and a recirculating pump since the sous vide's little propeller didn't seem up to the task of recirculating water in a 10-gallon cooler. To my surprise, I was able to get a 3°F (1.7°C) temperature rise every 5 minutes. It's not enough power for step mashes, but I could add hot water to get to the next rest more quickly. To keep the grain away from my sous vide stick, I used a 400-micron stainless steel hop filter. I also repurposed my insulated enamel pot lid, in which I cut a slot, to help maintain the heat inside my mash tun.

I recently used this sous vide setup for a brew with a target mash temperature of 151°F (66.1°C). The sous vide stick held the temperature to within 1°F (0.6°C) for my 60-minute mash. There is a separate thermowell midway down the mash tun, and I use an Inkbird to display the temperature. The Inkbird showed a consistent 150°F (65.6°C), only 1°F from what the sous vide showed. After my mash was done, I was surprised how clean the sous vide internals were. A quick cleaning with Bar Keepers Friend brought it back to new condition.

Overall, I am happy with my sous vide mash tun setup. By recirculating the mash, it is ready to transfer to the brew kettle after the mash is complete.

Raymond Nonnie
Urban Knaves of Grain
Carol Stream, Ill.



EASY MASH TUN

I built a mash tun from a 5-gallon bucket, a grease splash screen, and a lint screen that would normally go on a washing machine drain. When I purchased the bucket, I also grabbed a screw-on lid. I cut and bent the grease screen to fit the bucket and installed a ball valve. The washing machine drain screen keeps the small number of stray grains from making it into the ball valve. In the images, you can see the mash tun ready for use, the screen at the bottom in the dead space, the grease screen, and the screw-on lid.

Keith McAuslan
Rhode Island Brewing Society (RIBS)
Pawtucket, R.I.



DRAIN PIPE

This is a low-tech solution for draining residual wort from the malt pipe of an Anvil Foundry system. Once the malt pipe is mostly drained over the Foundry, there is always a little bit more. Rather than subject the mashed grain to the heat and steam of the boil after the mash out, I set the residual wort over a bucket, the center of whose lid has been removed with a Dremel. It is the perfect size for the malt pipe and it allows residual wort to drain out into the bucket which then gets added to the boil. No waste and no sticky wort on the patio.

René Miller
Long Beach Homebrewers
Long Beach, Calif.



Transferring and Packaging

HEAVY LIFTING

I created this brew hoist to do the heavy lifting on brew day and when moving carboys and kegs in and out of my keezer and fermentation chest freezer. It uses an electric cable hoist and barn door trolley/rail system so I can move whatever I'm lifting laterally as well as up and down.

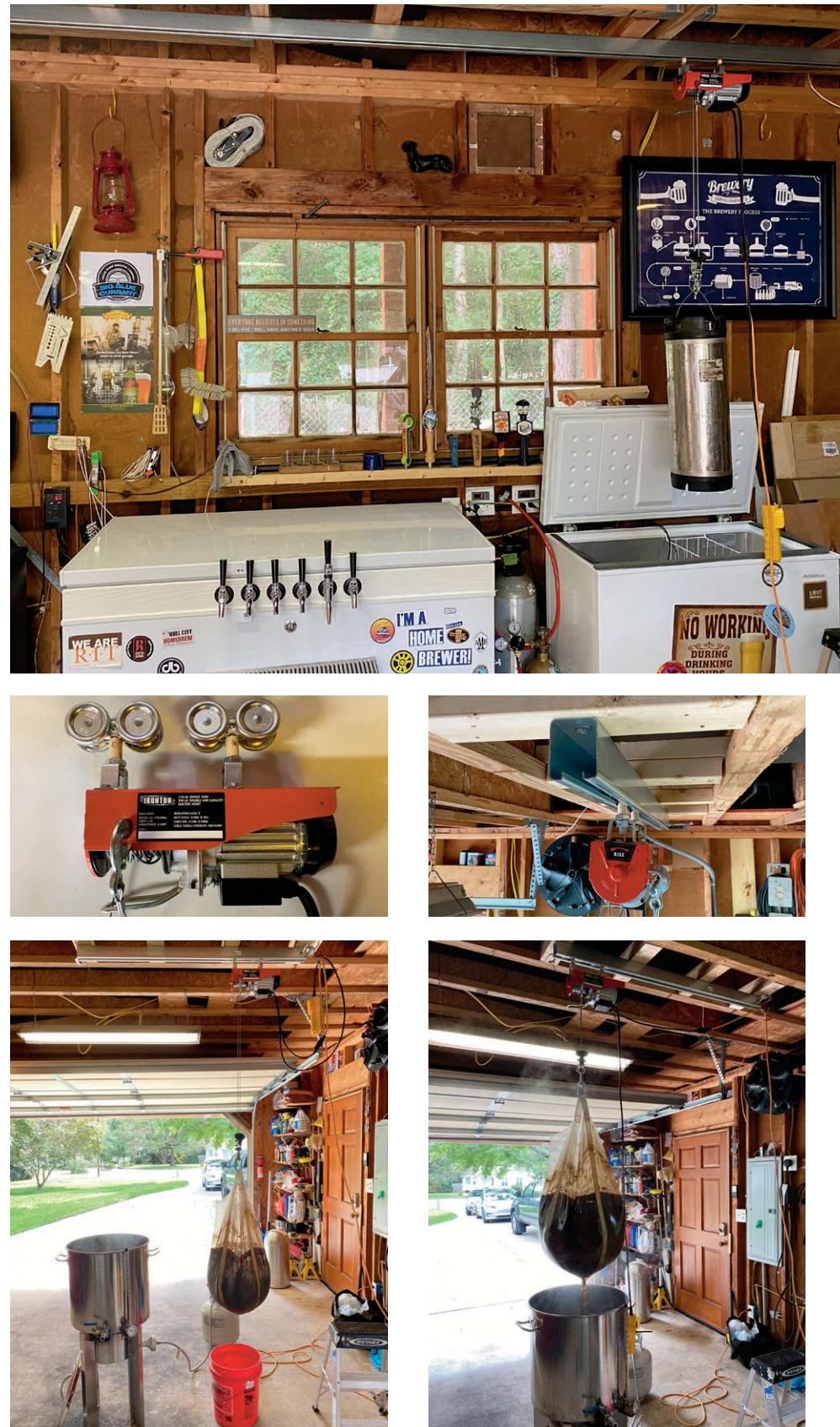
The hoist rides in a barn door rail, which comes in lengths of 8, 10, or 12 feet, and you can combine them to get any length you need. I use one rail over my BIAB setup to hoist the bag out of the brew kettle and then off to the side. I use a longer second rail over my fermentation chest and keezer to move fermentation vessels or kegs in and out. If you use rails in multiple locations, you can move the trolley from one rail to another to save the cost of a second hoist.

To construct, simply drill holes in the hoist mounting brackets and mount the hoist to the two trolleys. Mount the rail(s) where needed, ensuring you attach with sufficient holding power for the amount of weight you'll be lifting. I use $\frac{1}{2}$ " \times $2\frac{1}{2}$ " lag screws spaced every two feet or so.

PARTS:

- Northern Hardware
IronTron Cable Hoist
Item #58921
Good for up to 220 pounds.
\$70
northerntool.com/shop/tools/product_200730133_200730133
- Lowe's Hardware
National Hardware Barn Door Rail
Item #48208 (8'), #48207 (10'),
#48206 (12')
\$25–32
lowes.com/pd/National-Hardware-8-ft-L-x-2-4-in-W-x-1-88-in-H-Plated-Steel-Plain-Square-Tube/1000390757
- Stanley
N112-128 Barn Door Hanger
Includes two trolleys.
\$60
amazon.com/gp/product/B002C89X3I/ref=ppx_yo_dt_b_asin_title_o08_s00?ie=UTF8&psc=1
- $\frac{1}{2}$ " \times $2\frac{1}{2}$ " lag screws

Brian Gillan
Cary, N.C.



Transferring and Packaging

CONTENTS UNDER PRESSURE

My buddy and I have been using Speidel fermenters for a few years. We really like them, but we wanted to do closed transfers for racking and kegging.

I came up with the idea to put a stainless elbow and fitting on the top of the fermenter with CPC quick disconnects. This goes to the CO₂ tank to apply some pressure at the top of the fermenter. At the exit, we added a dip tube and ball valve with camlock disconnects to connect to either a secondary or a keg.

Once connected, we open the valve slightly and apply about 2 psi to the fermenter, which pushes the beer to its destination without allowing any oxygen into the system. It really cleaned up our IPAs. Now I guess we need a better stand for the fermenters!

Mike Syverson
Lakewood, Colo.



IT'S A GAS

Ever need to ...

- Fill an empty keg with CO₂ before filling?
- Purge a keg's headspace with CO₂ after filling it with beer?
- Send some CO₂ through the lines before filling a keg?
- Connect a Blichmann QuickCarb to a CO₂ tank?
- Spray a little gas to cover your Berliner weisse as it is kettle souring?
- Take a sample out of your fermenter without introducing oxygen?
- Add some pressure to a conical to push beer into a keg?
- Fill the occasional bottle for aging or judging with the Blichmann BeerGun?

Well, this simple gadget will do it all. It has four gas-out lines: one ends in a ball-lock gas quick disconnect, one has a drilled stopper for the fermenter, and one connects to the QuickCarb gas line or BeerGun. An extra outlet is there for future use.

It was made with spare 2×4 pieces screwed into a 1' × 1' × ½" base. The 5-pound CO₂ tank is strapped to the 2×4 with an adjustable vent pipe ring, while a couple of screw-in hooks wrangle the hoses. There is a handle on the back to help with carrying, but I usually just keep it on a movable shelving unit.

Oxygen bottles never stand up by themselves, so, using the same process as for the CO₂ rig, I made a stand to keep the O₂ canister upright. To make my life even easier, I used a rolling cart I had laying around and attached the CO₂ gadget, O₂ gadget, a no-prime transfer pump, the QuickCarb and a Chugger Pump.

The whole thing can be rolled to kettles, fermenters, my kegerator, or anywhere else it's needed. Quiet, handy, and easy to build.

Bob Wallace
Primary Fermentors
Excelsior, Minn.



GREAT CRATE

This was an invention of necessity, something on which to mount a wort pump with an on-off switch and a longer power cord. There are two ways to use it. In the first configuration, the pump is raised 16 inches off the ground. In the second, a mash tun or other vessel can rest on top.

All electrical components are encased in silicone, and the outlet is GFCI. The 15-foot power cord fits in the crate for easy storage.

Joel Null
Cedar Rapids Brewing Society
Monticello, Iowa



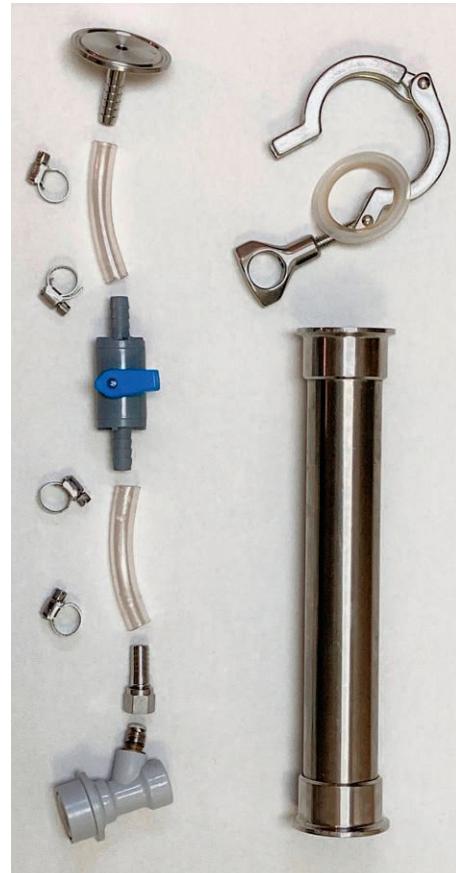
OXYGEN-FREE KEG ADDITIONS

This is a simple device for adding liquid (finings, hop oil, priming sugar, etc.) to your kegged beer without introducing oxygen. The fluid is added through the keg's gas-in port by attaching a gas disconnect to a liquid reservoir. There are many ways to do this.

I use a 1½" stainless sanitary spool tube as the reservoir and direct the liquid to the keg through a vinyl tube containing an inline PVC ball valve. The parts are easy to obtain and assemble as shown in the photos. All tubing and barbs shown are ¾" except for the 1½" tri-clover connection to the reservoir and the attachment to the disconnect, which uses a ¼" FFL swivel nut.

To use the device, fill the reservoir with the liquid, including the tubing down to and through the disconnect, and close the inline ball valve. Release any pressure in the keg, and then connect it to the keg's gas-in plug and open the valve to dispense the liquid. Close the valve before air gets through the line. I have used this method successfully to add finings numerous times, and it could be used to safely add any liquid to your keg.

John Wicks
Society of Akron Area Zymurgists
Wooster, Ohio



ON THE WEB & AHA FORUM

Please keep sending us your stories for the 2022 issue, and check out HomebrewersAssociation.org and the AHA Forum at HomebrewersAssociation.org/forum for more great DIY ideas.

Swords

O HAPPY DAGGER!

I discovered a slight problem while using my FastFerment conical fermenter. The drain valve tends to get plugged. What can you do other than siphon the contents? The solution is simple: I used my Crusader Knight of St. John Ceremonial Sword. It was the perfect length and width to unclog the drain port without disturbing the majority of the settled material.

Kent Halloran
Columbus, Ohio



Simplicity at Its Finest

BUNGED

I added a carboy bung to a Blichmann BeerGun to allow for easy counter-pressure bottle filling!

Mark Brandt
Underwood, Iowa



BENT

I wanted to have more control over the hose of my RoboBrew and I also wanted an easy way to do whirlpools. Sure, I could've bought the whirlpool arm attachment, but some clamps and this small soldered piece of copper gave me more flexibility. I've been able to conduct fairly decent whirlpools with this, and it's been handy for cooling as well. All in all, this cost me only \$10 CAD in parts.

Chris Saunders
Hamilton Ontario Zymurgy Enthusiast Ring (HOZER)
Hamilton, ON, Canada



HOOKED

I needed to get a stuck rubber stopper out of a carboy. It had gotten pushed in a little too far. Looking around for something with which I could make a hook, I thought I'd try the metal wire handle from a 5-gallon bucket. It worked great, and I'll always have one around if I ever need it. The handle comes off more easily on one side than on the other—look for the slot in the bucket, and then rotate it out of the hole on the other side.

Dan Heil
The Grain Trust
Los Gatos, Calif.



Gadgets in Situ

CUSTOM BREWERY

I spent several years working off and on to build a brew-room addition for my house, where I built everything myself from the ground up. I incorporated mementos from when I lived in Germany in an epoxy shelf atop the brick ledge, as well as glassware I have collected in my travels.

The brewery is a 15-gallon, natural-gas-powered, three-tier, gravity-fed system with dual boil kettles for splitting a 10-gallon batch in two. I finished this at the end of February 2020, which was perfect timing, as this room now does double duty as my home office. My brew room is now where I spend most of my time in my home—I can't say a bad thing about that!

Steven Harvey
Golden Anti-Sobriety Society
Golden, Colo.



Gadgets in Situ

VENT 'N' FERMENT

Here are my custom-built, power-vented boil station and my insulated fermentation chamber.

Wayne Pasmick
Ely, Minn.



TRIPLE THREAT

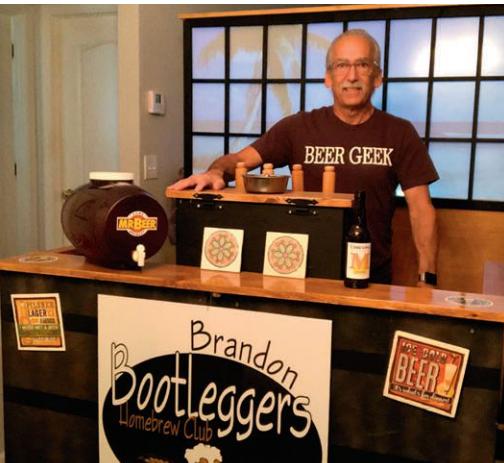
I have three gadgets to share.

1. **The 2020 Beer Booth:** Insulated keg holder with four-tap system and built-in glass rinser. It breaks down like a theater set for easy transport. The Brandon Bootleggers homebrew club were going to bring this to Club Night at Homebrew Con™ 2020. Maybe 2021?

2. **The Barrel Tap:** A converted plastic rain barrel with single tap that holds a keg and CO₂.

3. **Beer Cooling System:** A simple speed-controlled fan fits within the cooling coil in the brew pot helps speed up the cooling time.

Peter Terian
Brandon Bootleggers
Brandon, Fla.

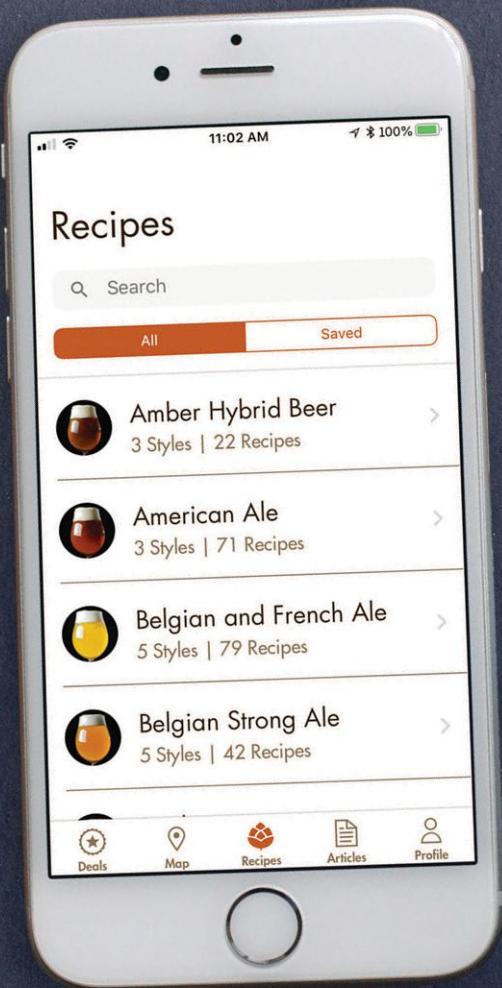


ROCK-SOLID RECIPES



Commercial craft beer clones

Search for beer styles, substyles, or keywords



National Homebrew Competition Winners

Save your favorites for later

DOWNLOAD FOR FREE!



BREW GURU®





Find Your Baltic Bliss

By Mark Pasquinelli



*M*y love affair with Baltic porter began nearly two decades ago. While browsing through the import section of a beer supermarket, my wife-to-be and I stumbled upon a cache of strange bottles. In my craft beer education, I was at a coming-of-age period of innocence and naïveté. Unjaded by dogma and petty prejudices, everything was new and exciting.

Until then, I'd only heard of the style in passing. The word *Baltic* merely conjured up thoughts of a sea in Europe and a low-rent avenue in Monopoly. But the beer's origin appealed to our mutual Polish heritages, and the price was right. We purchased several bottles.

Once home, we found the brew to be anything but low rent. It poured dark brown, with a thick, toffee-colored head and a full, creamy mouthfeel. Notes of sweet malt, chocolate, caramel, and molasses mingled with dark fruit. Roast flavors and hop bitterness were minimal. Yet, despite its richness, the beer finished dry, with a pleasant warming sensation from a robust 9.5% ABV.

It reminded me of a lyric from a favorite song. With apologies to Pink Floyd, we'd never known a lager to compare to this—a true state of bliss.

That beer was Źywiec Porter, and it was a game changer. →

The beer geek in me had to learn the origins of this “newly discovered” style. Baltic porter is a descendant of the mid-18th century porters that were all the rage in England. The beer of the working classes, porter rode in on the power of the emerging Industrial Revolution and was made and aged in massive quantities, taking the job of brewing out of the pubs. Enterprising British brewers, like their colonialist compatriots, expanded their territories—making porter the world’s first international beer style.

The stronger, more alcoholic “stout porters,” while a big hit at home, proved to be even more popular in the northern latitudes—the countries bordering the Baltic Sea: Scandinavia, Estonia, Latvia, Poland, and western Russia, where folk appreciated their robust, warming qualities.

Naturally, brewers in these countries wanted to cash in on the craze, which was further heightened by the shortage of British porter caused by Napoleon’s early 19th century blockade. Thus, capitalism and necessity collaborated to give stout porter its distinct regional interpretations. Those brewed in the Scandinavian countries were mostly top fermented and had more of a stout-like roasted character. The strongest Russian porters morphed into imperial stout. History, technology, and terroir, however, seemed to coalesce for the style in Poland.

Due to Poland’s geography, the country has perpetually found itself to be the object of conquest. In the 19th century, it was Germany and Austria’s turn. The Poles adopted the brewing technology of these countries, replacing Porter’s estery English ale yeasts with clean lager strains. Advances in kilning technology allowed malt to be made darker without imparting smokiness, causing brown English malts to be replaced by pale or dark malts. Hops from the fields of Silesia in western Poland contributed yet another flavorful level of complexity. All told, these hybridized Polish variations, with their mellow smoothness, combined to create a style that mimicked German doppelbock far more than English Porter.



Chocolate Rye Malt

Curiously in Poland, the name *porter* isn’t always accompanied by the word Baltic (*Baltycki*). That’s an invention of famed beer writer Michael Jackson, who wished to distinguish these varieties from traditional English porters.

On the home front, demands on my life made it more difficult to obtain my beloved Žywiec or other brands like Okocim. A nearby craft brewery also retired its interpretation of Baltic porter. As I’d realized before as a homebrewer, the only way to ensure myself of a steady supply, much as the inhabitants of eastern Europe and Scandinavia had discovered, was to make my own. Yet that task seemed impossible.

Even though I had nearly 15 years of homebrewing experience under my belt, I’d yet to attempt a lager. That was the realm of hardcore homebrewers who could control fermentation temperatures and then age their creations. Then serendipity intervened with two minor miracles.

My workplace offered me a perfectly good double-door refrigerator that it was about to discard. Not only could I say goodbye to bottling and hello to kegging, but I could lager my homebrews. Next, I stumbled onto San Francisco lager yeast (White Labs WLP810 or Wyeast 2112), which is used for brewing California common. This strain retains lager characteristics up to 65°F (18°). It looked to be a godsend. With those once insurmountable hurdles out of the way, I could begin brewing my Baltic porter.

Gleaning magazines and surfing the internet for recipes, I compared and contrasted ingredients and roughed out a first draft, starting with an old favorite, Maris Otter, to pay tribute to the style’s English origin. I then added equal amounts of Continental malts—Weyermann Munich Type I and Type II—to reflect the style’s evolution and to complete a solid malt backbone. Extract brewers will have no problem duplicating this profile. For specialty malts, an addition of Crisp’s Amber Malt was another a tip of the hat



Temperature controlled fermenter for the smoked Baltic porter.



While a saison cold crashes on the left pump, the temperature is slowly ramped up for the smoked Baltic porter on the right.

to the early brown British malts. Special B for dark fruit flavors and 60°L crystal malt to enhance caramel notes were both no-brainers. Finally, I added a dose of wheat malt to ensure good head retention and fortify the mouthfeel.

Speaking of wheat, for the dark malts, I chose huskless chocolate wheat instead of traditional chocolate malt for softer flavors, and, in the same vein, huskless Weyermann Carafla II Special to add color without harshness.

Molasses is one of my favorite Baltic porter flavors, and in an epiphany that bordered on genius, I added it to my recipe to duplicate the flavor. It's become a signature ingredient, making my recipe stand out from the pack. One caveat, however: avoid using blackstrap, which has a bitter edge.

For someone who's spent much of his time refining whirlpool and dry-hopping techniques for IPAs, hopping my Baltic porter was a breeze. Magnum, as usual, was my choice for bitterness, and I kept that charge at nearly 90 percent of the IBUs. I also added an aroma/flavor addition late in the boil, going with my noble hop gold standard: Hallertau Mittelfrüh. Purists may wish to consider Polish varieties, such as Lubelski or Marynka.

Tweaking my water with mineral salts has upped my homebrewing game immensely, although it's imperative to know one's baseline water profile first. This can be accomplished by purchasing a do-it-yourself kit or sending a sample to a commercial lab such as Ward Laboratories.

Keep your water additions to a minimum and don't try to duplicate a historic water profile that may not be accurate. My water has almost no mineral content, so I added a teaspoon of calcium chloride to help showcase the style's maltiness and assist with mash conversion, along with a



Dry Weihenstephan
34/70 lager yeast.



10-liter starter of W-34/70
for the smoked Baltic porter.

half teaspoon of gypsum. I didn't add any carbonates to buffer the pH, since I used debittered dark malts.

I mashed thicker than usual, lowering the water-to-grain ratio to about 1.25 quarts per pound (2.6 liters per kilogram) and targeted a temperature of 153°F (67°C) for a compromise between body and fermentability. I saw little point in mashing at a higher temperature for more body since a 9-percent-plus ABV brew will have plenty. Whether you fly or batch sparge, add water judiciously so as not to dilute the wort. Otherwise, you'll need to extend the boil time and/or add malt extract.

Fermenting lagers, especially one high in alcohol, is where the rubber meets the road. I approached the task of choosing my yeast with equal parts of exhilaration and trepidation. The San Francisco lager strain checked all the boxes for me on my first attempt. Even now that I can control fermentation temperatures, it still delivers.

There are other candidates, of course, such as White Labs WLP830 or Wyeast 2124, and Fermentis Saflager W-34/70, which is a dry Weihenstephan variety. The possibility of experimenting with Kveik Lutra, which is said to ferment clean and lager-like, was intriguing, but it always seemed to be out of stock wherever I checked. Maybe better luck the next time.

The old rule of thumb for lagers is to use twice as much yeast as one would use for an ale. For the San Francisco lager strain, a decanted 5-liter starter sufficed nicely. I doubled down when using the colder fermenting Saflager W-34/70, making a 10-liter starter from two packs in a 3-gallon (11.4-liter) carboy. Since the starter's gravity was low, I didn't bother to rehydrate the dry yeast.

Brewing in early spring in Pennsylvania made it easy to keep the San Francisco

lager yeast at a comfortable 60–62°F (15–16°C). To be safe, I bumped the temperature up a few degrees for a diacetyl rest. The weather also cooperated enough to let the ambient temperature allow a respectable cold crash.

Nowadays, I'm a spoiled homebrewer and have lager temperatures available at my fingertips with conical fermenters and a glycol chiller. But those without such equipment needn't fret. For many years I was in the same position.

Lager temperatures, especially when one uses the San Francisco strain, can easily be maintained by low-tech means. Placing a carboy in a water bath inside a cooler and either heating or cooling with an aquarium heater or frozen water-filled soda bottles, respectively, can help keep the fermentation temperature within the preferred range. A fancier, more accurate upgrade can be added for a few more dollars with a hood thermowell for the carboy and a digital temperature controller.

I have many virtues, but patience isn't one of them. There are faster ways to make lagers than the traditional ones. I use the method championed by late homebrewing superstar Mike "Tasty" McDole. This method requires first calculating the total gravity points between the original and final gravities. For example, my smoked Baltic porter has an OG of 1.104 and an estimated FG of 1.025—almost 80 points ($104 - 25 = 79$) for the yeast to munch through.

Begin fermentation at 55°F (13°C) and continue until it's 50 percent complete (1.065). Bump the temperature up to 58°F (14°C) and ferment until 75 percent appar-

Brew
This!



Baltic Bliss

Notes of malt meld with caramel, dark fruit, and chocolate to create a silky-smooth and dangerously drinkable lager that begs to be quaffed instead of sipped.

Batch volume: 6 US gal [22.7 L]

Efficiency: 75%

Original gravity: 1.091 [21.8°P]

Final gravity: 1.024 [6.1°P]

Color: 34 SRM

Bitterness: 44 IBU

Alcohol: 8.8% by volume

MALTS

8.5 lb. [3.86 kg] Muntons Maris Otter

2.75 lb. [1.25 kg] Weyermann Munich Type I

2.75 lb. [1.25 kg] Weyermann Munich Type II

1.50 lb. [680 g] Weyermann Pale Wheat

1 lb. [454 g] Crisp Amber Malt

1 lb. [454 g] Dingeman's Special B

14 oz. [397 g] Briess Crystal 60

12 oz. [340 g] Weyermann Chocolate Rye

3 oz. [85 g] Weyermann Carafla II Special

HOPS

1 oz. [28 g] Magnum, 11.8% a.a., @ 60 min

1.5 oz. [43 g] Hallertau Mittelfruh, 3.9% a.a., @ 15 min

YEAST

5 L starter White Labs WLP810 San Francisco Lager

ADDITIONAL INGREDIENTS

1 lb. [454 g] baking molasses

WATER TREATMENT

For low-mineral water, add 1 tsp. calcium chloride and ½ tsp. gypsum.

BREWING NOTES

Mash at 153°F [67°C] for 60 minutes. Sparge, add molasses, and boil 90 minutes, adding hops as indicated. Ferment at 60–62°F [16–17°C] until completion and raise to 65°F [18°F] for 2 to 3 days for a diacetyl rest. Cold crash. If desired, transfer to a whiskey barrel for conditioning or add fruit as directed in the article. Add Safale US-05 yeast and 2.5 oz. [71 g] table sugar to bottle or keg to achieve 2.5 vol. [5 g/L] CO₂. Lager for two months at 35°F [2°C].

EXTRACT VERSION

Replace the Maris Otter, Munich malts, and Pale Wheat malt with 6.6 lb. [3 kg] Muntons Maris Otter LME, 4 lb. [1.8 kg] Munich LME, and 1 lb. [454 g] wheat DME. Steep the specialty grains for 30 minutes at 160°F [71°C]. Top up with water to desired boil volume and proceed as above.

ent attenuation, which would be 1.045 (75% of 80 is 60). Then, increase the temperature to 62°F (17°C) until 90 percent of the expected attenuation has been reached (1.033). Finally, raise the temperature to 66°F (19°C), which takes care of the diacetyl rest, and ferment until the specific gravity reaches its anticipated terminal value. The process only takes two weeks for one of the smoothest lagers I've ever tasted.

At this point, a homebrewer has several options. One can simply cold crash, keg or bottle, and wait for the luscious lager to condition. Or ...

My homebrew club, the PA Alers, likes to brew Baltic porters as a group and age them together in a bourbon barrel. Large, 53-gallon (200-liter), freshly emptied barrels are obtainable from a number of homebrew shops or from the many small



Smoked Baltic Porter
in tulip glass.

distilleries that seem to be popping up everywhere. On average for us, the turn-around time for large-barrel aging is about six months.

Barrels for those who homebrew solo or in smaller groups are quite affordable. These barrels expose the beer to more of the wood's surface area, relative to total volume, than larger ones, so conditioning times are shorter. A guesstimate is to age one week for each gallon of the barrel's capacity (roughly two days per liter), although tasting at regular intervals is the ultimate judge of when your Baltic porter will be ready for packaging. And, of course, there's always the tried-and-true method of soaking oak chips, cubes, or spirals in whiskey, adding them to your brew, and aging to taste.

Every group has someone who wants something different. In our club, that's my wife, who doesn't like bourbon and is not one to be ignored. She prefers to add fruit in a secondary fermentation. Berries are a wonderful addition to Baltic porter, as for example in Komes Raspberry Porter—the fruit pairs perfectly with the style's chocolatey flavors.

My wife, however, likes blackberries. For whole fruit (about a pound per gallon or 120 grams per liter), we prepare the berries by freezing, rinsing with hot water, and tossing them into a bucket filled with Star San foam. I then crush the berries lightly with a sanitized potato masher before racking the Baltic porter onto the berries for a few weeks of additional fermentation. We've never had an issue with clogging while siphoning to a keg. Fruit purees, such as those made by Vintner's Harvest and Amoretti, offer another easy option.

Going in yet another direction, I'm a big fan of smoked beers. The good ones, like Alaskan Brewing Co.'s Smoked Porter, are both exquisite and memorable. In Poland (where else), there's a new brewery named Widawa that already makes a legendary smoked Baltic porter. It's not available in the United States, and homebrewer that I am, I had to take a crack at making one like it.

This was technically my first attempt at a smoked beer, although a few years ago I brewed a Smoked Pumpkin Saison (*Zymurgy* July/August 2018) made with smoked pumpkin. I took Widawa's recipe as a template and customized its formula to mine. Using Weyermann's beech-wood-smoked malt was a no-brainer. (This wasn't the time to try smoking my own.) Although the malt's smokiness was readily apparent upon opening the bag, its flavor is said to be mild. Beers can be made using this malt as 100 percent of the grist. I wanted a more subtle version and went with just under 50 percent of the base grain bill.

Surprisingly, brewing and fermentation went according to according to Hoyle—the fears of making a 10-percent-plus ABV lager be damned. And if you've ever had a hankering to make a big, dark lager, this is the one. It was delicious just a few weeks after kegging, and I expect it to age with the grace of a fine wine, able to last a few years. But I also suspect I'll be making another batch in the near future.

Regardless of your preference—be it barrel-aged, made with fruit, smoked, or simply plain—Baltic porter should be a part of every homebrewer's portfolio, especially for those of us who live in the colder climes. Serve it at cellar temperature from a tulip glass—or pair it with a flavorful steak or a chocolate dessert—and find your bliss.



Smokeska Porter

This is the one that must be brewed. The upfront sweetness of raisins, molasses, and chocolate is balanced by a delicate, smoky finish. Sip Smokeska Porter from a tulip glass on a cold winter night while contemplating the complexities of the universe.

Batch volume: 6 US gal [22.7 L]

Efficiency: 70%

Original gravity: 1.104 [24.6°P]

Final gravity: 1.026 [6.6°P]

Color: 51 SRM

Bitterness: 56 IBU

Alcohol: 10.2% by volume

MALTS

8.5 lb.	[3.86 kg] Weyermann Munich Type I
7.5 lb.	[3.40 kg] Weyermann Smoked Malt
2 lb.	[907 g] Weyermann Munich Type II
1.25 lb.	[567 g] Dingemans Special B
1 lb.	[454 g] Weyermann Caraaroma
1 lb.	[454 g] Weyermann Chocolate Wheat
12 oz.	[340 g] Briess Crystal 60
3 oz.	[85 g] Weyermann Carafa II Special

HOPS

1.5 oz.	[43 g] Magnum, 11.8% a.a. @ 60 min
1.25 oz.	[35 g] Hallertau Mittelfrüh, 3.9% a.a. @ 15 min

YEAST

2 packs in 10 L starter Fermentis Saflager W-34/70

ADDITIONAL INGREDIENTS

1 lb.	[454 g] baking molasses
-------	-------------------------

WATER TREATMENT

For low mineral water, add 1 tsp. calcium chloride and ½ tsp gypsum.

BREWING NOTES

Mash at 153°F (67°C) for 60 minutes. Sparge, add molasses, and boil 90 minutes, adding hops as indicated. Ferment using the fast lager method in article. Cold crash. Add Safale US-05 yeast and 2.5 oz. (71 g) table sugar to bottle or keg to achieve 2.5 vol. (5 g/L) CO₂. Lager for two months at 35°F (2°C).

RESOURCES

1. Beechum, Drew and Denny Conn. *Homebrew All-Stars*, 2016. Quarto Publishing, pp. 187-188.
2. Carr, Nick, 2017, "Baltic Porter: The Robust Porter of the 18th Century Working Man," 6 November, [www.https://kegerator.com](https://kegerator.com).
3. Klemp, K Florian. 2002, "Stylistically Speaking Baltic Porters," 25 May, [www.https://www.allaboutbeer.com](https://www.allaboutbeer.com)
4. Stange, Joe. "Porter the Polish Way."

Craft Beer & Brewing, Dec.–Jan. 2020, pp. 62-63.

5. Weikert, Josh. "Baltic Indulgence." *Craft Beer & Brewing*, Dec.–Jan. 2020, pp. 58-61.

Mark Pasquinelli resides in the bucolic town of Elysburg, Pa., where he spends his time in varying degrees as a husband, writer, homebrewer, microbiologist, and manservant for six felines.



MASH LOW, CARB HIGH





By Noland Ryan Deaver

SAISONS AND THEIR MIXED-CULTURE DERIVATIVES

For many, the word *saison* conjures up images of an agrarian past—a simpler, bygone era when people were connected to the land in immediate and meaningful ways. Although beer historians might caution that this view of the style is oversimplified, anyone who's ever tasted a well-crafted saison can tell you that these beers do not owe their popularity to romantic appeal alone.

A good saison is dry and assertively hoppy, and it strikes a seamless balance between yeast-driven complexity and the subtle richness of Pilsner malt. When done well, mixed-culture versions of the style introduce extra complexity while retaining the character of the base beer.

INTRODUCTION

Like most homebrewers, my first beers were made from pre-configured extract kits. I was excited to brew, but the beers I was making were mostly unmemorable. When I made the switch to all grain brewing, I was pleasantly surprised to find that my first several batches were actually pretty good.

One beer in particular—a breakfast stout—was an absolute home run. I'll never forget how great it felt to see experienced members of my homebrew club smile and nod in approval after tasting it. Unfortunately, the feeling wouldn't last long. The next beer I brewed was a disaster. What was supposed to have been a West

Coast IPA instead became a solvent-y nightmare of nail polish remover and artificial banana. I dumped the whole batch.

How could there have been such disparity in the quality of this and my earlier batches? Had my early success been due to sheer dumb luck? Although I didn't know why my beer had gone off the rails, I was certain about one thing: I wanted to be a consistent brewer, not a lucky one. So, I grabbed a copy of Gordon Strong's *Brewing Better Beer* in hopes of finding some concrete advice about how to improve the quality of my beers.

I was taken aback, then, when instead of talking about more tangible aspects of brewing, Strong opened the book with a short treatise on the philosophy of homebrewing. Above all, Strong encouraged brewers to consider how their own experiences and interests outside of brewing might relate to and inform their brewing.

DECONSTRUCTING SAISON

Having grown up in a small farming community in rural Missouri, where the landscape is a patchwork of forests, cornfields, and pastures full of beef cattle, I've always been attracted to the idea of farmhouse brewing. My professional background is in microbiology, so I've also been interested in mixed-culture fermentations. A few years ago, I decided to bring these two experiences together by brewing mixed-culture versions of the most famous farmhouse ale of all: saison.





I dedicated a year and a half to brewing saisons almost exclusively, with the goal of creating a handful of base beers for use in secondary, mixed-culture fermentations. I quickly learned that saison is a broad style, and I began familiarizing myself with its characteristic ingredients, typically changing just one variable at a time from one brew to the next.

I brewed dark and light versions. I tried different base malts from different maltsters. I used different non-barley adjuncts at varying intensities. I tried New-World and Old-World hop varieties. I cycled through yeast strains. And although there were some memorable failures, I did eventually land on a formula that worked for me.

RECIPE FORMULATION

For a 5.5-gallon (20.8 L) batch of standard-strength saison, I start with 6.5 pounds (3 kg) of high-quality Belgian Pilsner malt and add 2.5 lb. (1.1 kg) of a non-barley adjunct. Wheat is the obvious choice, but I prefer rye or spelt. Rye imparts a characteristic dry spiciness—use either malted or flaked versions.

Spelt malt can be a bit hard to track down, but the unique, cracker-like graininess it imparts makes it worth the effort. If you can't find spelt malt, health food stores often have bags of unmalted spelt available, but if you decide to use unmalted spelt, be prepared to conduct a cereal mash to ensure conversion. Finally, tack on 1 pound (454 g) of Vienna malt to provide a little color, depth, and heft.

If you'd like to beef up the ABV while retaining a dry finish, feel free to add some honey or table sugar, enough to account for 5 to 10 percent of fermentable sugars. If, on the other hand, you prefer your beer on the lighter side, scale it down to table strength.

Making a flavorful table-strength beer is deceptively challenging, in part because the unique characteristics of most base malts aren't as evident in low intensities. You can avoid a bland table beer, however, by choosing an especially characterful base malt. I use fresh, floor-malted German Pilsner malt, about 4 pounds (1.8 kg) in a 5.5-gallon (20.8 L) batch. Some might argue that floor-malted Pilsner's distinctive flavor and aroma are out of place in

a saison, but at low intensities I think it's right at home. Then add a mix of non-barley adjuncts, about 2 pounds (907 g) of rye and 1 pound (454 g) of wheat.

I rarely tweak water chemistry for these beers, although I do plan to eventually experiment with softer water and more aggressive hopping. Keep things simple: if your water is good enough to drink, it's probably good enough for brewing. Filter or add metabisulfite salts if your water has been treated with chloramine or chlorine.

When it comes to hops, again, keep things simple. Noble hops are thematically appropriate in saisons, and East Kent Goldings paired with Styrian Goldings is a proven combo. Aim for around 25 IBUs, with 20 of those IBUs coming from the bittering charge and the remaining 5 from later additions.

Many brewers are proponents of the Dupont yeast strain (WLP565 or Wyeast 3724), which is famous for producing well-attenuated beers with a balanced blend of spice and fruit notes. It also happens to be



BREWERS PUBLICATIONS®
Get your copy of Gordon Strong's
Brewing Better Beer
at BrewersPublications.com.



notorious for stalling mid-fermentation and taking several sluggish weeks to finish out.

Fans of French saison yeast (WLP590 or Wyeast 3711) cite its monstrous attenuation and quick speed—I've used this strain to turn beers around in under five days when contest deadlines were tight. Critics of the French strain claim that the beers it produces can be one dimensional and lack the complex, balanced character achieved with the Dupont strain.

I sometimes take the middle road with Wyeast 566 (Belgian Saison II). This strain imparts a characteristic Belgian profile without the potential for stalling seen in WLP565/Wyeast 3724. Moreover, its attenuation and speed are comparable to those of the French strains. I've heard some complain that its aroma can lean too heavily towards bubble gum and fruit, but I personally enjoy the beers it produces. There are many other suitable strains—your mileage may vary.

Start with a single infusion mash on the low end, at 148°F (64°C). Sparge, boil for an hour, chill the wort to 68°F (20°C), aerate, and then pitch a healthy yeast starter. Once fermentation kicks off, ramp the temperature up a few degrees per day until the beer is in the high 70s to mid 80s Fahrenheit (mid to upper 20s Celsius), and hold at this temperature until stable. Saison yeasts are extremely attenuative (I've seen the French strain drop beers below an apparent final gravity of 1.000 on a few occasions), so be certain fermentation is complete before moving on.

MIXED FERMENTATION

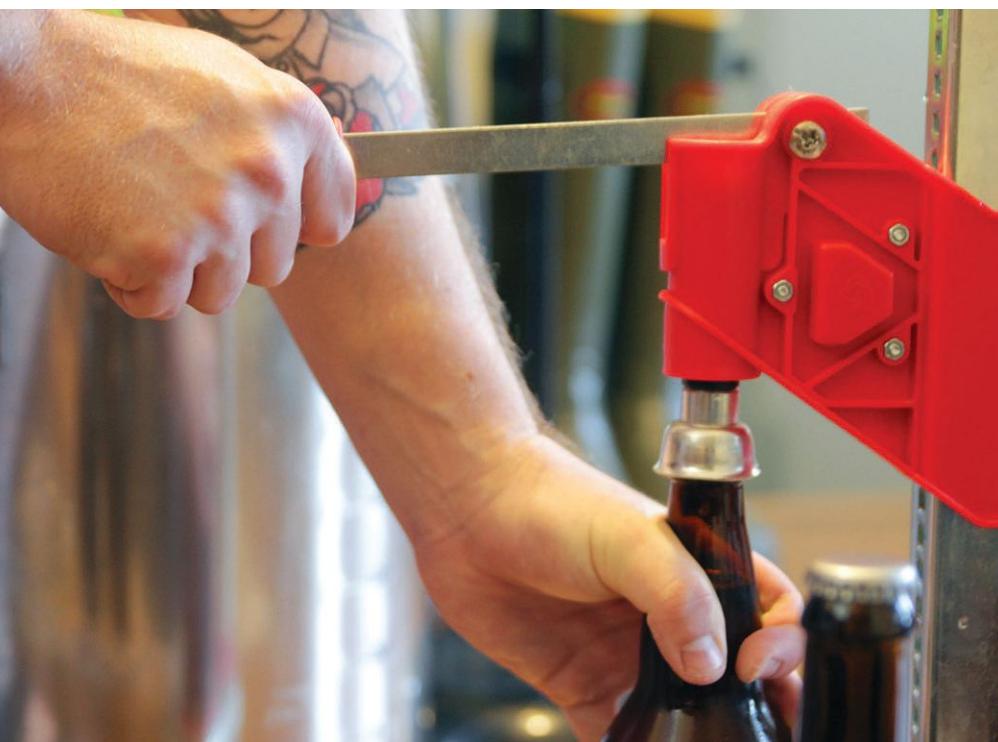
It took several months of trial and error, but once I was satisfied with the recipes and process described above, I was ready to introduce my base beers to more diverse microbial flora. I began by brewing a 5.5-gallon (20.8 L) batch of table-strength saison. Once it had finished fermenting, I racked half of the batch into a 3-gallon (11.4 L) carboy and packaged the remaining beer at a spritzy 3.1 volumes (6.2

grams per liter) of CO₂. Such high carbonation is integral to the style, so to avoid the potential for bottle bombs I invested in some extra-heavy bottles.

The next step was to inoculate the base beer with a mixed culture of several strains of wild yeast and lactic acid bacteria. In a pinch, I might have pitched bottle dregs from an unpasteurized mixed-culture beer. However, I prefer to stick with fresh cultures from a commercial supplier whenever possible. These fresh blends ensure that the microbes I'm pitching are viable, and most reputable suppliers such as The Yeast Bay, Bootleg Biology, and Mainaiacal Yeast provide detailed descriptions of the characteristics their cultures tend to produce, which eliminates some of the guesswork of trying new cultures. I found a blend that fit my palate, pitched it, and waited.

Nine months later, the beer was stable and tasting great. Subtle tartness and barnyard aromas complemented the residual character of the base saison beautifully, and at that point I could have bottled the beer, forgotten about it, and moved on to my next project. But this beer was too good to be a one-off, and, wanting to keep a steady supply on hand, I established my 3-gallon (11.4 L) carboy as a dedicated solera.





Solera is a technique used to produce many fermented beverages, wherein a vessel containing older, more mature product is partially emptied and then topped off with younger product. The resulting blend contains characteristics of both the young and old products. The technique has been adopted by many brewers of mixed-culture beers because it allows them to keep and maintain a culture with minimal effort while dependably and quickly producing beer with desirable qualities.

Many homebrewers associate the solera technique with large volumes of beer stashed away in huge barrels for years at a time. In reality, the process can be scaled down to a single, small vessel that can be tucked away discreetly, and which can produce drinkable beer surprisingly quickly. My take on the technique is primitive, but it works. Here's the process:

- When you've made and are almost ready to package your mature mixed-culture saison, brew 5.5 gallons (20.8 L) of the clean base beer as previously described, and let it ferment to completion.
- Bottle just under half of the clean base beer, packaging at 3.1 volumes (6.2 g/L) of CO₂. Leave enough clean base beer in the fermenter to fill the 3-gallon (11.4 L) solera.
- Rack the contents of the solera into a bottling bucket. For this and further steps involving the solera and its contents, I recommend using a separate set of equipment dedicated only to mixed-culture brewing. Be vigilant about sanitation.
- Top the now mostly empty solera off with the remaining clean base beer until full. You'll want to minimize headspace since this newly seeded batch will have to sit for several months. If you miscalculate and don't have enough clean base beer to completely fill the solera, don't panic—in a pinch you can top the carboy off with some of the mature mixed-culture beer you racked into the bottling bucket in the previous step.
- With the solera refilled, package the mature mixed-culture beer at 3.1 volumes (6.2 g/L) of CO₂. You can add some fresh Champagne yeast at bottling if you're concerned about not having enough viable yeast to carbonate the beer, but I've never needed to do this.

The beauty of if this approach is that you can continuously top off the solera with fresh base beer, with virtually no maintenance, indefinitely. Of course, if the idea of cycling beers through the same carboy over and over again without intermittent cleaning turns you off, feel free to periodically phase in a clean 3-gallon (11.4 L) carboy from time to time to facilitate cleaning—just be sure to seed the new carboy with a healthy pitch of mature mixed-culture beer if you do.

As before, wait until the beer is 100 percent stable before packaging. Wild yeasts can and will attenuate beers deep into sub-1.000 territory. You're trying to make good beer, not hand grenades, so be patient.



Spelt Saison #2

Standard-strength saison

Recipe courtesy of Noland Ryan Deaver.

You can make a mixed-culture version of this beer by racking half of the finished beer into a 3-gallon carboy and pitching a sachet of BBXMAD1 (The Mad Fermentationist Blend). Ensure that the beer is stable before packaging (this can take several months, and your mileage may vary). If you intend to make a dedicated solera, reference the instructions in the body of the article.

Batch volume: 5.5 US gal. [20.8 L]

Original gravity: 1.047–1.050 [11.7–12.4°P]

Final gravity: 1.000–1.002 [0–0.5°P]

Efficiency: 70%

Color: 3 SRM

Bitterness: 25 IBU

Alcohol: 6–6.5% by volume

MALTS & ADJUNCTS

6.5 lb. [2.9 kg] Franco-Belges Pilsen malt

2.5 lb. [1.1 kg] Best Malz spelt malt

1 lb. [454 g] Avangard Vienna malt

HOPS

1 oz. [28 g] East Kent Goldings, 5% a.a.
@ 60 min

0.5 oz. [14 g] Styrian Goldings, 3% a.a.
@ 15 min

0.5 oz. [14 g] East Kent Goldings, 5% a.a.
@ 5 min

1 oz. [28 g] Styrian Goldings, 3% a.a.
@ 0 min

YEAST

Wyeast 3711 [French Saison]

ADDITIONAL ITEMS

1/4 tsp. yeast nutrient @ 15 min

OPTIONAL INGREDIENTS

8 oz. [227 g] Dutch Gold orange blossom honey @ 5 min

Bootleg Biology BBXMAD1
(The Mad Fermentationist Blend)

BREWING NOTES

Mash at 148°F [64°C] for one hour. Lauter, sparge, and collect the wort. Boil for one hour, adding hops and other ingredients as directed. Chill to 68°F [20°C]. Begin the fermentation at 68°F [20°C] and allow it to free climb until it levels off. Ramp the temperature up a degree per day until you reach 75°F [24°C]; hold the beer there until stable, then wait a few days. Cold crash, then bottle with 3.1 vol. (6.2 g/L) CO₂.

Brew
This!



Petite et Légère

Table-strength saison

Recipe courtesy of Noland Ryan Deaver.

You can make a mixed-culture version of this beer by racking half of the finished beer into a 3-gallon carboy and pitching a sachet of BBXMAD1 [The Mad Fermentationist Blend]. Ensure that the beer is stable before packaging (this can take several months, and your mileage may vary). If you intend to make a dedicated solera, reference the instructions in the body of the article.

Batch size: 5.5 US gal. (20.8 L)

Original gravity: 1.030 (7.6°P)

Final gravity: 1.000 (0°P)

Efficiency: 70%

Color: 2–3 SRM

Bitterness: 25 IBU

Alcohol: 4% by volume

MALTS & ADJUNCTS

3.7 lb. (1.7 kg) Weyermann German Floor-Malted Pilsner malt

1.8 lb. (817 g) Weyermann German Rye malt

0.9 lb. (408 g) Mecca Grade Wickiup Red Wheat malt

HOPS

1 oz. (28 g) East Kent Goldings, 5% a.a. @ 60 min

1 oz. (28 g) Styrian Goldings, 3% a.a. @ 30 min

0.5 oz. (14 g) East Kent Goldings, 5% a.a. @ 0 min

0.5 oz. (14 g) Styrian Goldings, 3% a.a. @ 0 min

YEAST

White Labs WLP566 (Belgian Saison II)

Optional: Bootleg Biology BBXMAD1 [The Mad Fermentationist Blend]

ADDITIONAL ITEMS

1/4 tsp. yeast nutrient @ 15 min

BREWING NOTES

Mash at 148°F (64°C) for one hour. Lauter, sparge, and collect the wort. Boil for one hour, adding hops and other ingredients as directed. Chill to 68°F (20°C). Begin the fermentation at 68°F (20°C) and allow it to free climb until it levels off. Ramp the temperature up a degree per day until you reach 80°F (27°C); hold the beer there until stable, then wait a few days. Cold crash, then bottle with 3.1 vol. (6.2 g/L) CO₂.

OTHER CONSIDERATIONS

This method has its limitations. In particular, using a single, low-capacity carboy as a solera doesn't facilitate dry-hopping (which I think is a great flourish for these types of beers). If you want to dry-hop and don't want your solera to get permanently loaded with hop debris, you'll need to incorporate another vessel and get creative.

Speaking of hops, observant readers might ask, "Why bother including lactic acid bacteria, since the moderate hopping used in the base beer would inhibit their expression?" My hope is that after several generations in the solera (with some intermittent re-seeding), these bacteria will become more hop-tolerant and become more expressive. In the meantime, I guess they're in there for posterity.

Experienced brewers of wild and sour ales might note that, because of the low mash temperature and attenuative yeast strain used, the base beers I've described likely provide little in the way of residual dextrins to feed the wild yeast and bacteria in the solera. In my limited experience, however, it's this scarcity of leftover carbohydrates that keeps the expression of the wild yeast and bacteria slightly understated. Because the contributions of the wild yeast and bacteria stay low in the mix, the characteristics of the base saison are distinguishable in the finished beer, even after extended aging.

I became interested in this project in part because of the reflection I'd done on how different areas of my life could inform my brewing. The irony is that in doing that self-reflection, I now see how my brewing also relates to other parts of my life. I've learned that brewing, for me, can serve as a means of artistic expression, a way for me to reimagine my background as a scientist through a creative lens. I've made and enjoyed a lot of beers, but it wasn't until I tasted my base saison recipe side-by-side with its mixed-culture counterpart that I actually felt like I'd made something approaching art.

Noland Ryan Deaver is an environmental scientist in Washington, D.C. He's finally given up on trying to keep his two cats out of his brewing space, and small amounts of cat hair are now the secret ingredient in all of his saisons.





COMPETITION IN THE TIME OF COVID-19

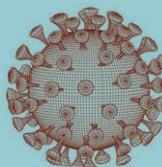
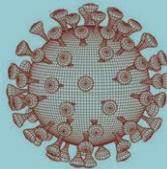
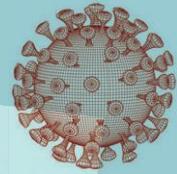
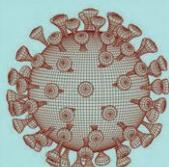
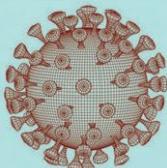
By Robert Giaquinta

In mid-May 2020, the *New Jersey Herald* announced, “The New Jersey State Fair, Sussex County’s signature summer event for the last 80 years, has become the latest casualty of the coronavirus pandemic that has shuttered businesses and forced millions of people out of work.” The state’s schools, restaurants, libraries, retail shops, and Department of Motor Vehicles had been closed for almost two months, and Governor Phil Murphy would not announce Phase 2 reopening for several weeks.

In anticipation of this news, Sussex County’s United Brewers and Alchemists homebrew club (SCUBA) had been holding off on planning its New Jersey State Fair Homebrew Competition. The competition would be in its 24th year, and with SCUBA’s involvement, it had grown to a two-day, BJCP-sanctioned competition with about 340 entries and more than 40 judges. Winners received medals, prizes, and co-brews with local breweries, and the competition was the final qualifier for the annual New Jersey Homebrew Club of the Year award.

For a moment, it seemed a relief. Organizing a large competition requires great effort in normal times. But now we were busy getting used to home quarantine, face masks, hand sanitizer, curbside takeout, and virtual club meetings. The New York metro area had been hit hard, and with the exception of essential workers, we were leaving the house only once a week for eggs, milk, and beer.

Prickly club veterans, however, were loath to see the competition become a COVID-19 castoff. The officers decided to pioneer SCUBA’s first virtual homebrew competition, one that would emphasize safety and distancing according to recommended and required public health practices. We would rely on the good relations we had developed with other local clubs, judges, brewers, and breweries. Here are the decisions we made and the lessons we learned. →





ENTRIES

A virtual competition would require that judges remain at home, which eliminated the logistical challenge of conducting in-person judging in a large space over two days. This radical change would affect the entrants experience in a number of ways.

Entry fees were reduced to \$5 from \$8 as we would not need to feed judges, buy cups and crackers, or print and send scoresheets. The major expense would be 26 each of the gold, silver, and bronze medals. With all of the new difficulties and unknowns, we decided to reduce the competition size by capping entries at five per entrant.

We would need three bottles per entry rather than the usual two. Each judge would receive their own bottle, and the third would be retained for a separate best-of-show (BOS) round. Even though we reduced the total number of entries, we now needed to deal with 50 percent more bottles per entry. Fortunately, most brewers complied with this departure from precedent, and only a few submitted just two bottles as they had done in previous competitions.

An unexpected upside was that we were comfortable allowing canned entries for the first time. Cans had been controversial in the past because so few of them were entered that they would be easily recognizable, possibly compromising blind judging. But we felt this was less of an issue in the more isolated environments of judges' homes.

COLLECTING, SORTING, AND DISTRIBUTION

To minimize the exposure of entrants and volunteers during the task of readying hundreds of bottles for the competition, we decided to combine drop-off, sorting, and boxing into a single event at a single loca-

tion. Previously, these events had occurred over a period of weeks, at multiple locations, so we made many adjustments.

For the drop-off of entries, a single location seemed the best solution, and a club member volunteered his home. We decided not to allow shipped entries to minimize demands placed upon our volunteer. We didn't feel comfortable asking homebrew shops to accept entries as we had done in the past (at the time, many businesses were offering curbside pickup only).

We required that all entries be dropped off during a three-hour window on the Saturday of the sort. To make this possible, we asked clubs to gather entries on their own and have one member bring all the entries to the sort. This worked exceptionally well, and only a few individual brewers dropped off six packs. Two of our neighboring New York clubs—the New York Homebrewers Guild (NYCHG) and the Brewminaries—combined efforts and ferried all their entries in one vehicle.

We conducted bottle acceptance and sorting outside. A table and a few coolers were set out beside the driveway, with a sign marked "leave entries here." SCUBA members were masked and gloved and remained at least six feet behind the table. We actually had a great time seeing our friends from other clubs and enjoyed some brief catching up at appropriate distancing, but no one lingered in the typical brewers' fashion (appropriately but unfortunately).

We had about 10 picnic tables and four canopies outside in the yard. We limited the group to around seven volunteers, all masked and gloved, and we maintained 6-foot bubbles as we mazed with our bottles through the tables. Tables on a lawn can be unbalanced and shaky, and the chance of bumping into a table increased as volunteers attempted to avoid contact. An unexpected upside of being outside, though, was that a bottle dropped onto a soft lawn can survive without damage!

Bottles were sanitized with a spray of 75% ethanol—the concentration recommended by the Centers for Disease Control (CDC)—after unboxing and again just before being placed in judge boxes. We tested our labels and printer ink for resistance to this solution ahead of time. Additionally, all boxes would sit untouched in a cellar for one week before being distributed to judges. Considering the time between boxing and distribution, we probably could have skipped the second spraying, but it was a simple task: why not be extra safe?



One bottle from each entry was placed in each of three boxes for the two judges and best of show. Judge table assignment had been done prior to sorting, so bottles from *both* tables and flights for each judge were put in the same box. The judge's name was taped to the outside of the box to make distribution easier. Boxes were sealed with tamper-evident tape to assure no human contact for one week until judges opened their own boxes.

An email to local clubs asked them to send one representative to pick up boxes for all of their judges on the following Saturday afternoon, minimizing exposure and effort of the club members who held boxes in their homes. The week between this date and the judging deadline allowed clubs some time to distribute.

Overall, outdoor sorting and storing entries were the toughest logistical hurdles of the virtual competition. We were lucky with the weather, but another local competition was forced to scramble when unexpected rain came down on the morning of their sort. Most club members' garages are a bit tight for larger competitions, especially since they're already full of brewing equipment! Similarly, finding a large, undisturbed, cool space for storing boxed entries for a week might be a challenge for clubs.

Combining drop-off and sorting affects the typical timeline of a competition. In the past, our schedule had been spread out over almost one month:

- Dropoff and close of registration lasted **two weeks** at multiple locations for entrants to drop off entries. They also had the chance to add, delete, or edit entries at the same time as they dropped off entries.
- Collection lasted **one week**, during which time club members picked up entries at local homebrew shops before sorting.
- Sorting and error resolution occupied **one week** before judging to fix problems such as missing, mislabeled, or unpaid entries.
- Table assignments were made over the course of **one week**, and we used real data of received entries to break categories into tables and assign judges

This year, most of these steps had to be completed in just one day. We would see the bottles for the first time in the morning and for the last time in the evening, when they were sealed in judges' boxes: no dress rehearsals, no do-overs, no last-minute tweaking.

Photos courtesy of Robert Giugniata, Dave Pascale, Steve Doremus, Mark Hefter, Chris LaSpada



HARDGROVE'S BASEMENT



Wood-aged imperial porter

Best-of-show, 2020 SCUBA Virtual Homebrew Competition

Recipe courtesy of Christopher LaSpada, Jim Dorward, and Jeff Hardgrove of MASH.

Each of the three brewers of this beer contributed 5 gallons (18.9 L) to a 15-gallon (56.7-liter) Dad's Hat Pennsylvania Rye Whiskey barrel, where the blend aged for 6 months. If you can't get your hands on a Dad's Hat barrel, use any freshly dumped rye whiskey barrel available to you.

Batch volume: 5 US gal. (18.9 L)

Color: 32 SRM

Original gravity: 1.097 (23.1°P)

Bitterness: 23 IBU

Final gravity: 1.022 (5.6°P)

Alcohol: 10% by volume

MALTS

20 lb.	[9.07 kg]	Golden Promise malt
1.25 lb.	[567 g]	Briess Victory malt
1 lb.	[454 g]	pale wheat malt
1 lb.	[454 g]	brown malt, 50°L
1 lb.	[454 g]	kiln coffee malt, 180°L
8 oz.	[227 g]	pale chocolate malt, 200°L
4 oz.	[113 g]	roasted barley, 500°L

HOPS

1.5 oz.	[43 g]	Magnum, 12% a.a. @ 60 min
---------	--------	---------------------------

YEAST

2 L starter White Labs WLP001 California Ale Yeast

BREWING NOTES

Mash grains at 152°F (67°C) for 60 minutes. Sparge with enough 168°F (76°C) water to collect approximately 6.5 gal. (24.6 L) of 1.084 (20.2°P) pre-boil wort. Boil 60 minutes, adding hops as indicated. Chill wort to 64°F (18°C) and ferment until specific gravity stabilizes at or near 1.022 (5.6°P). After fermentation, rack beer to a freshly dumped rye whiskey barrel and age 6 months before packaging in kegs or bottles with 2.3 vol. (4.6 g/L) of carbon dioxide.

PARTIAL-MASH VERSION

Reduce the Golden Promise to 2 lb. (907 g) and mash with the remaining grains for 60 minutes at 152°F (67°C), using approximately 2.5 gal. (9.5 L) of water. Lauter, sparge, and collect approximately 3 gal. (11.4 L) of wort. Fully dissolve 8.5 lb. (3.9 kg) of pale liquid malt extract in the resulting wort and top up with water to desired boil volume. Proceed with the boil as above.

Brew
This!



AUTOBAHN LAGER

International Pale Lager

Silver medal, 2020 SCUBA Virtual Homebrew Competition

Recipe courtesy Bob Smith of SCUBA.

Batch volume: 6 US gal. (22.7 L)

Original gravity: 1.043 (10.7°P)

Final gravity: 1.008 (2.1°P)

Efficiency: 75%

Color: 3 SRM

Bitterness: 23 IBU

Alcohol: 4.6% by volume

MALTS

8 lb. (3.63 kg) Weyermann Pilsner malt

8 oz. (227 g) Briess Cara-Pils malt

8 oz. (227 g) Briess Vienna malt

5 oz. (142 g) acid malt

HOPS

(0.42 oz.) (12 g) Magnum, 12.1% a.a. @ 60 min

[1.06 oz.] (30 g) Loral Cryo Hops, 23% a.a., whirlpool 20 min

WATER

Mash water: 4 gal. (15.14 L) reverse osmosis water with 1.2 g calcium chloride.

Sparge water: adjust to 5.5 pH with 10% phosphoric acid

YEAST

Escarpment Labs Autobahn Lager

ADDITIONAL ITEMS

1 tablet Whirlfloc @ 5 min

0.2 g Servomyces in primary

BREWING NOTES

Mash grains with 4 gal. (15.1 L) water at 148°F (64°C) for 75 minutes. Sparge with 5.2 gal. (19.7 L) of 168°F (76°C) water to collect 7.9 gal. (29.9 L) wort. Boil 90 minutes, adding hops and Whirlfloc as indicated.

Post-boil volume should be approximately 6.5 gal. (24.6 L).

Chill wort to 50°F (10°C) and ferment until specific gravity stabilizes at or near 1.008 (2.1°P). Optionally raise fermentation temperature to 57°F (14°C) for a diacetyl rest as fermentation nears completion.

After fermentation, lager the beer at or near 35°F (1.7°C) for four weeks before packaging in kegs or bottles with 2.6 vol. (5.2 g/L) of carbon dioxide.

PARTIAL-MASH VERSION

Reduce the Pilsner malt to 1 lb. (454 g) and conduct a mini-mash with it and the other grains for 75 minutes at 148°F (64°C), using approximately 1 gal. (3.8 L) of water. After the mash, lauter and sparge to collect approximately 2 gal. (7.6 L) of wort. Completely dissolve 5.5 lb. (2.5 kg) of Pilsner liquid malt extract in the resulting wort, top up with water to desired boil volume, and proceed with the boil as above.



An equally impactful change was that we needed to make judge table assignments before sorting because entries would be boxed according to judge name. This required that we close the registration period two days before drop-off rather than do so simultaneously with drop-off as we had done in the past.

Entrants had been accustomed to being able to wait until the last minute to edit their entries, or maybe even plead with the organizer to re-categorize, edit, or drop off an entry after sorting. Our departure from the normal timeline, though, clearly stated in the rules and registrations, took some brewers by surprise. Because of these unique logistical constraints, we were unable to offer any exceptions to the deadlines. Some brewers (even from our own club) were disappointed that they couldn't enter or modify their entries last minute. We learned that you must really highlight and disseminate any information that deviates from past years and from other local competitions.

JUDGING

We asked judges to meet virtually using Zoom or the videoconferencing technology of their choice. As usual, two judges would be assigned to each table and flight. We encouraged judges to meet on one designated weekend so organizers would be available to answer questions and address any problems (we did not receive any calls). Judges were free to judge at other times if necessary, but we required that all judging be completed by Sunday night. We held an early session on Wednesday, which helped us identify and fix a problem with the electronic scoresheets (more on that shortly).



WE SINCERELY MISS THE CAMARADERIE OF IN-PERSON JUDGING, BUT WE CONSIDER OUR VIRTUAL COMPETITION A WORTHWHILE SUCCESS.

Each judge was assigned two flights, and they would remain paired with the same judge for both to minimize scheduling difficulties. To help maintain blind evaluation, especially during sequestered judging, judges who belonged to the same club were not paired up. Arranging their own judging sessions would be a new task for judges, so detailed emails were sent ahead of time listing the changes and demands that virtual judging would require:

- Finding a clean, quiet spot with reliable internet and sufficient table space
- Familiarizing oneself with the electronic scoresheet and filename conventions
- Having one's judge partner's phone number in the event of bad internet connections
- Making sure appropriate food is available
- Rounding up appropriate glassware for judging

We did not provide judges with the standard plastic cups we typically use. This is a plus for the environment (and the budget), but this variable can degrade the uniformity of the judging process.

Overall, virtual judging was well received. There are many benefits, including that home judging eliminates the need to get judges safely home after a day of evaluating beer. We learned that virtual

judging sessions generally took longer than in-person sessions. And, of course, one judge spilled beer on his computer keyboard—judges should be encouraged to have ample space and a physical barrier between liquid and technology.

ELECTRONIC SCORESHEETS

Replacing paper with digital scoresheets was one of the best-received changes to our competition. Judges often admit that their handwriting deteriorates as the day progresses, and we all know the frustration of receiving a barely legible scoresheet.

At the time, our competition management software, Brew Competition Online Entry & Management (BCOEM), did not have digital scoresheet capability (see below for recent developments), so we converted the standard BJCP scoresheet to a form-fillable PDF and attached it to the “judge instructions” email. We asked that judges

- Copy and name each scoresheet for each entry on their pull sheets *before* judging began to avoid accidentally overwriting a sheet with the subsequent entry’s information.
- Name files using a specific convention to simplify automated batch processing of the scoresheets and facilitate uploading to BCOEM.

We hit a major snag during our test session when all of one judge’s scoresheets had failed to save and came back blank, but further troubleshooting allowed us to fix that error. In the end, we only lost one judge’s flight sheets to technology, and we could assure affected entrants that their beers had been properly judged, composite scored, and awarded, despite missing the one scoresheet.

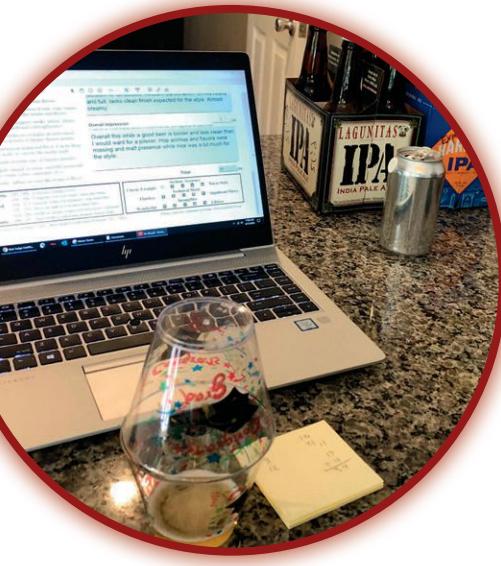
As always, processing the scoresheets was a big task, one that recent software developments have hopefully rendered obsolete. Judges emailed scoresheets and pull sheets as attachments, which we saved into a single folder. We then paged through every scoresheet to ensure the filename and entry number matched and that the composite scores, mini-BOS, and medals matched the pull sheets.

Feedback from judges, entrants, and volunteers overwhelmingly confirmed that digital scoresheets improved the judging experience.

BEST OF SHOW

Other than sorting, best-of-show judging was the most difficult component to adapt to pandemic restrictions. Under normal circumstances, gold-medal winners from each table are considered side by side after all other judging is complete. Only one bottle per entry is left for BOS judging, and because all gold-medal winners are poured at once, judges sit together at a large table.

We were fortunate to have access to a large warehouse space. Each of the five judges had his own 6-foot table, all of which were sanitized and arranged in a wide circle. Two gloved, masked stewards stood in the middle of this ring to serve the beers. Other than these precautions, the round was similar to those of prior years, and it went off without a hitch.



with local breweries to brew their recipes professionally. We eliminated this option because local breweries in New Jersey were stressed as they scrambled to replace taprooms with outdoor seating and faced diminished sales to restaurants when indoor seating was forbidden.

DEMOGRAPHICS

There were some significant demographic shifts in our 2020 competition versus previous years. A full 90 percent of entries came from club-affiliated homebrewers across 12 local clubs, and there was increased participation from clubs that are an hour or more distant from Sussex County. Previously, we had seen more unaffiliated and geographically diverse brewers. We assume these shifts are a result of requiring that clubs consolidate their entries and of having eliminated homebrew store drop-offs and shipping.

Likewise, we saw the return of some distant judges who had in recent years stopped traveling to rural New Jersey because new competitions closer to their homes popped up. These judges probably returned because their clubs were responsible for getting the entries to them, and they didn't need to make a trip to a judging event. Another local competition noticed a large increase in judge volunteers as well. The convenience of at-home judging may be responsible for this beneficial outcome.

ADAPTATIONS CONTINUE

In the past few months since our competition, two of the popular competition management software programs, Reggie eJudging and a beta version of BCOEM, have integrated virtual judging components, including online scoresheets and direct entry of scores and medals by judges. This eliminates the compiling and uploading of scoresheets emailed by judges, which was a significant task at our competition. Having judges directly enter scores eliminates one of the more tedious (and human-error-prone) tasks common to both in-person and virtual competitions.

In November, our neighboring club, the Morris Area Society of Homebrewers (MASH), conducted its annual Motown Mash competition. The organizers faced similar constraints and challenges to ours, but they also reacted to developing conditions. Restrictions on businesses and indoor activities had eased somewhat by autumn, and New Jersey had a relatively low number of COVID-19 cases.

MASH judges were paired according to geography so that they might opt to con-

duct one-on-one in-person judging (while respecting current COVID-19 protocols, of course). Most judges chose to meet virtually. The new “virtual judging” features of BCOEM were used, which eliminated the bulk of post-judging office work. They also enjoyed more freedom in finding space for the best-of-show round, as indoor spaces in restaurants had become accessible.

Judge coordinator Eric Blaine summed up his experience with the new format, saying, “Normally, the really stressful part of the competition is the few days before and the day of judging. With a virtual competition, the stress is the sort and getting entries to judges. The logistics of getting entries to judges is not to be underestimated. Lots of personal emails, route planning, and time driving. The alternative was to force judges to come pick up, which would have severely limited our judge pool.”

In the end, Christopher LaSpada, Jim Dorward, and Jeff Hardgrove from MASH won best of show with Hardgrove’s Basement, a barrel collaboration, and were awarded a wood-carved tap handle trophy depicting a face-like hop cone sporting a crown and, appropriately, a mask. Additionally, we were able to keep the three-competition New Jersey Club of the Year circuit intact, and the engraved trophy keg passed from SCUBA to the Garden State Homebrewers.

We sincerely miss the camaraderie of in-person judging, but we consider our virtual competition a worthwhile success. All of us at SCUBA hope our experiences can help all clubs and brewers adapt to changing circumstances, and we look forward to a time when we all, in safety and good conscience, can share a beer poured from the same bottle.

FURTHER READING

1. The Minnesota Home Brewers Association has posted a working draft of “Conducting Virtual Homebrew Contests” at mnbrewers.com/wp-content/uploads/2020/07/Conducting-Virtual-Homebrew-Contests.pdf
2. Nelson Crowle at Reggie has posted a virtual judging guide at reggiebeer.com/ReggieVirtualJudging.php

Robert Giaquinta has been a homebrewer since 1990 and an AHA member since 2009. He has served as coordinator for five competitions and as a co-organizer of several more. He is a proud member of the SCUBA and MASH homebrew clubs. Robert is currently kind of on hiatus and is in need of a Pilsner.

Clubs planning virtual competitions should prioritize determining and securing a BOS location that will allow concordance with whatever COVID-19 restrictions are in place during their event.

AWARDS, PRIZES, MEDALS, AND SPONSORS

President Chris Shinn and organizer Paul McDonald presented awards in a Zoom session, with the SCUBA logo serving as a green-screen background. A slideshow aided in highlighting general information, sponsorship thank-yous, and category awards. About 40 people attended the virtual event; our in-person awards ceremonies in previous years had drawn about 100 people.

Medals represented the largest expense this year; in the past, food for two days of judging had been our biggest cost. To save on postage, we relied upon clubs to self-distribute the medals.

In years past, every judge and every medalist attending the awards ceremony in person would win a prize that could range from a bottle of Star San from Five Star to a BeerGun from Blichmann. Unfortunately, packing and shipping of such items would be unfeasible, so we eliminated these prizes.

We assumed that in a time of economic disaster, it would be inappropriate to ask companies for donations. However, Bobby Mierzejewski from BrewHardware.com reached out to us, unsolicited, and offered gift certificates for the best-of-show medalists. He mentioned that brewers were still buying gear and supplies by mail and curbside, so his business was not as threatened as others in the community. We learned that asking sponsors to contribute might have actually been OK.

In the past, best-of-show and certain category winners would have been offered the opportunity to collaborate

HOW to
MAKE

HARD SELTZER

REFRESHING RECIPES *for*
SPARKLING LIBATIONS



BY CHRIS COLBY

NOW
AVAILABLE

- > Recipes for Homebrewers
- > Creative Cocktails
- > Fun Serving Suggestions

Explore the latest titles
at BrewersPublications.com



BREWERS
PUBLICATIONS®



Relax, Don't Worry, Have a Homebrew!

That mantra rings as true today as it did in 1978 when Charlie Papazian cofounded the American Homebrewers Association with Charlie Matzen. Homebrewing can be as simple or as complex as you want to make it, but the first step is always to relax and not worry.

To aid your relaxation and help you get the most out of *Zymurgy*, here are some standard assumptions and methods for our recipes. Of course, when a recipe says to do something different, follow the recipe. But you can always fall back on these general tips to brew great beer.



ON THE WEB

For more detailed info, head over to HomebrewersAssociation.org and dive into our How to Brew resources.

BREWING WITH ZYMGURGY

MAKING WORT

Most recipes in *Zymurgy* offer an all-grain version and a malt extract or partial-mash alternative. Pick the procedure you prefer and prepare some wort! Some recipes

might include a water profile. If you can't (or don't want to) deal with water chemistry, don't worry about it: just go ahead and brew! Extract brewers needn't add minerals to water.



Malt Extract Recipes

Making wort from malt extract is easy.

- Crush specialty grains, if any.
- Place milled grains in a mesh bag and tie it off.
- Steep bag of grains in 150–160°F (66–71°C) water for 30 min. in your brew pot.
- Remove bag of grains from the pot.
- Fully dissolve extract in the hot, grain-infused water (if there are no specialty grains in the recipe, you can skip directly to this step).
- Top up with water to your desired boil volume. (Leave some room for foam!)

All-Grain and Partial-Mash Recipes

Unless otherwise specified, all-grain brewers can conduct a single-temperature infusion mash with these parameters:

- Water/grain ratio: 1.25 qt./lb. (2.6 L/kg)
- Mash efficiency: 70%
- Mash temperature: 150–153°F (66.7–67.2°C)
- Mash duration: 60 minutes

Partial-mash recipes make the same assumptions but use a smaller amount of grain and augment the wort with malt extract.

BOILING

No matter how you get here, everyone loves adding hops.



- Boil time is 60 minutes unless otherwise stated.
- Boils are assumed to be the full batch volume, but you can also boil a concentrated wort and top up with water in the fermenter.
- Hop additions are given in minutes before the end of the boil.

Brew Lingo

Every field has specialized language, and homebrewing is no different. Here are some of the key terms, abbreviations, and acronyms you'll find throughout Zymurgy.

AA – alpha acid

ABV – alcohol by volume

AHA – American Homebrewers Association

BBL – US beer barrel (31 US gal or 117.3 L)

BIAB – brew in a bag

BJCP – Beer Judge Certification Program

Chico – American ale yeast, AKA Wyeast 1056, WLP001, SafAle US-05, and others

CTZ – Columbus, Tomahawk, and Zeus: interchangeable high-alpha-acid hops

DME – dry malt extract

DMS – dimethyl sulfide, an off flavor similar to canned corn or cooked vegetables

DO – dissolved oxygen

EBC – European Brewing Convention (beer color)

FG – final gravity

FWH – first wort hops, added to the boil kettle as it fills with sweet wort after mashing

HERMS – heat exchange recirculating mash system

HLT – hot liquor tank

IBU – international bitterness unit

LHBS – local homebrew shop

°L – degrees Lovibond (malt color)

LME – liquid malt extract

LTHD – Learn to Homebrew Day

MLT – mash-lauter tun

NHC – National Homebrew Competition

OG – original gravity

°P – degrees Plato (density of wort or beer)

RIMS – recirculating infusion mash system

RO – reverse osmosis, a water purification process that removes most dissolved ions

SG – specific gravity (wort/beer density)

SMaSH – single malt and single hop

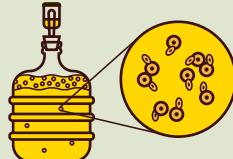
SMM – S-methyl methionine, precursor to dimethyl sulfide (DMS)

SRM – Standard Reference Method (beer color)

FERMENTING & CONDITIONING

Pitch yeast into chilled, aerated or oxygenated wort.

- Use twice as much yeast for lagers as you do for ales.
- Ales ferment at 60–70°F (15–20°C). Lagers ferment at 45–55°F (7–13°C).
- Condition ales at room temperature or colder for a week or two.
- Condition lagers at close to freezing for several weeks if you can (traditional but not required).



BOTTLING & KEGGING

If you bottle,

- Use 1 oz. of dextrose (corn sugar) per gallon of beer (7.5 g/L) for a good, all-purpose level of CO₂.
- Use less sugar for less fizz.
- Take care with higher carbonation levels—many single-use beer bottles aren't designed for high pressure.



If you force carbonate in a keg,

- Use the chart to dial in the gauge pressure on the regulator.



REGULATOR PRESSURES (PSI) FOR VARIOUS CARBONATION LEVELS AND SERVING TEMPERATURES

TEMP (°F)	VOL. CO ₂										
	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1
33	5.0	6.0	6.9	7.9	8.8	9.8	10.7	11.7	12.6	13.6	14.5
34	5.2	6.2	7.2	8.1	9.1	10.1	11.1	12.0	13.0	14.0	15.0
35	5.6	6.6	7.6	8.6	9.7	10.7	11.7	12.7	13.7	14.8	15.8
36	6.1	7.1	8.2	9.2	10.2	11.3	12.3	13.4	14.4	15.5	16.5
37	6.6	7.6	8.7	9.8	10.8	11.9	12.9	14.0	15.1	16.1	17.2
38	7.0	8.1	9.2	10.3	11.3	12.4	13.5	14.5	15.6	16.7	17.8
39	7.6	8.7	9.8	10.8	11.9	13.0	14.1	15.2	16.3	17.4	18.5
40	8.0	9.1	10.2	11.3	12.4	13.5	14.6	15.7	16.8	17.9	19.0
41	8.3	9.4	10.6	11.7	12.8	13.9	15.1	16.2	17.3	18.4	19.5
42	8.8	9.9	11.0	12.2	13.3	14.4	15.6	16.7	17.8	19.0	20.1

■ = PSI

Source: Brewers Association Draught Beer Quality for Retailers

MADE FROM AMERICA'S HOPS AND DREAMS.

Our bottles and cans may not have the flag.
But our beer is made with everything it stands for.
That's Independence You're Tasting.



#SEEKTHESEAL

@indiebeer_



2021
NATIONAL

HOMEBREW COMPETITION

The world's
largest homebrew
competition returns.



IMPORTANT DATES

Registration & Payment

February 17 to March 3

Shipping Window

March 29 to April 9

Judging

April 27 to May 2

Learn more at
HomebrewersAssociation.org/nhc



VIRTUAL MALTING ODYSSEY

Have you ever wondered about the source of the backbone of your favorite craft beer or spirit?

You're in luck - we invite you to go on a Virtual Malting Odyssey. You'll get to sit shotgun with an Idaho based farmer while seeding two-row barley in the field, getting perspectives you otherwise wouldn't be able to experience.

So take a sip of your favorite craft beverage, and strap on that VR headset because you're about to get unprecedented access to the odyssey of malt!



SCAN THE QR
CODE TO WATCH
THE VIRTUAL MALT
ODYSSEY

*VR headset recommended,
but not necessary.

*Headphones highly
recommended.

To see our entire selection of malts, visit:
www.greatwesternmalting.com

Meal Planning WITH BEER



+



+



+



By Steve Ruch

My wife Raven encourages me to do what makes me happy, even when it sometimes inconveniences her.

Early in our 33 years together, I figured out that I'd never have to doubt her love or that she'd always have my back. And she's certainly had a boatload of times to exercise her "You did what?" forgiveness muscles. I've also learned that just because a couple fights, it doesn't mean they don't love each other or that their relationship is on the rocks. She

inspires me to be the best person and husband that I can be.

"What does all that have to do with homebrewing?" you ask. Good question. First off, she's always been supportive of the time and effort I spend brewing (especially getting the ingredients I need on our tight budget) and the time I spend writing about it while I concentrate and remain oblivious to what's going on around me. Sometimes it doesn't take much concentration to make me oblivious to what's going on around me.

Raven's encouragement has inspired some of my best brews, as has her culinary skill: she's a whiz in the kitchen. My best early recipe creation effort came into being after a delicious meal that featured lemon-rosemary chicken. Wondering what kind of beer would pair well with lemon and rosemary led to my world-famous (famous in my world anyway) lemon-rosemary blonde ale. Dang, it's been far too long since I've brewed that.

Not long ago, she mentioned that her old family pizza recipe was so good that it should be shared with the world, especially the homebrew world. We had the idea to plan out a four-course meal with beer to complement each course. Going one better, we hatched the cunning plan to not just pair a beer with each course but to incorporate those beers into each course's recipe.

I've been working on this off and on since before the novel coronavirus took off, and I plan to serve all these courses again as a COVID-19 victory dinner once it's under control. But, for now, on with the meal!

APÉRITIF

As the dessert and main courses are fairly heavy, I decided an appetizer would be unnecessarily filling and a bunch of extra work. An apéritif would be more appropriate—something to whet the appetite and prepare the taste buds for the meal to come. A light-bodied, dry option works well to kick off a heavy meal, so I went with Pilsner. Other good beer apéritifs could be ordinary bitter, Australian sparkling ale, American light lager, Berliner weisse, gueuze, or gose. Pilsner, of course, should be served in a Pilsner glass.

Cook
This!

Corn Chowder

Recipe courtesy of Raven Ruch.

Yield: 4 servings

INGREDIENTS

6 oz.	(168 g) bacon, chopped
1	medium onion, chopped
2 cups	(473 mL) Easy Peasy lager
3	small potatoes, peeled and diced into 1/2" (1.25 cm) cubes
12 oz.	(340 g) frozen whole kernel corn
1 cup	(237 mL) evaporated milk
1 cup	(237 mL) water
1/2 cup	(118 mL) heavy cream
1 Tbsp.	(12 g) brown sugar
1/2 tsp.	(2.5 mL) paprika
	salt and pepper to taste

DIRECTIONS

In a large saucepan, cook bacon. Remove and reserve bacon, leaving drippings in pan. Fry onion in drippings until golden; remove onions and reserve. Pour beer into pan and bring to a boil. Add potatoes and cook for 20 minutes, covered, until potatoes are tender. Stir in the onions, corn, milk, water, cream, sugar, paprika, salt, and pepper. Simmer 20–30 minutes, until slightly thickened, and add the bacon. Serve with garlic toast if desired. Seafood lovers can add clams to turn this into clam chowder.



Kuhn's Pilsner

German-style Pilsner

Recipe courtesy of Steve Ruch.

Batch volume: 3 U.S. gal. (11.4 L)
Original gravity: 1.049 (11.3°P)
Final gravity: 1.007 (1.8°P)

MALTS

7 lb. (3.1 kg) Best Malz Pilsner malt

HOPS

0.33 oz. (9 g) Hallertauer Mittelfrüh, 4.3% a.a., first wort hops
 0.875 oz. (25 g) Hallertauer Mittelfrüh, 4.3% a.a. @ 60 min
 0.66 oz. (18 g) Hallertauer Mittelfrüh, 4.3% a.a. @ 10 min
 0.125 oz. (4 g) Hallertauer Mittelfrüh, 4.3% a.a., 30 min hop stand

YEAST

23 g W-34/70

ADDITIONAL INGREDIENTS

pinch Irish moss @ 10 min
 0.25 tsp. yeast nutrient @ 10 min
 3.75 oz. (106 g) corn sugar to prime

BREWING NOTES

Mill grains, dough in at 1.5 qt./lb. (3.1 L/kg), and mash at 150°F (66°C) for 90 minutes. Vorlauf until clear, add first-wort hops, and sparge with enough water to yield 3.5 gal. (13.3 L) in the kettle. Bring to a boil and add hops, yeast nutrient, and Irish moss as indicated. Add final hops at knockout and allow to steep 30 minutes. After 30 minutes, remove all hops, chill wort, and pitch yeast. After three weeks, bottle or keg.

EXTRACT VERSION

Replace Pilsner malt with 3.3 lb. (1.5 kg) Briess Pilsner DME. Heat 3 gal. (11.4 L) water to near boiling, add first hops and thoroughly mix in the extract. Bring to a boil and follow all-grain hopping schedule.



FIRST COURSE

We spent some time researching the soup recipes in Raven's recipe file and considering how to incorporate beer into, and pair, each one. We eliminated several possibilities like double IPA chicken noodle, lambic borscht (good name for a rock band, though), robust porter cream of asparagus, and imperial stout oyster stew. We finally decided on an old favorite of ours, corn chowder, which made the choice of beer easy peasy: American lager with a substantial percentage of corn.

To fit with the easy-peasy theme, I settled on an American lager recipe built around the American Lager liquid malt extract (LME) from William's Brewing, which is produced with 30 percent corn. The sweet,



Easy Peasy

American lager

Recipe courtesy of Steve Ruch.

Batch volume: 2 gal. (7.6 L)
Original gravity: 1.045 (11.3°P)
Final gravity: 1.010 (2.5°P)
Bitterness: less than 10 IBU
Color: 4 SRM
Alcohol: 4.6% by volume

EXTRACT
2.5 lb. (1.13 kg) William's Brewing American Lager LME

HOPS
0.25 oz. (7 g) Liberty, 4% a.a., steep 20 min

YEAST
13 g Fermentis SafLager W-34/70

ADDITIONAL INGREDIENT
2 oz. (57 g) sugar to prime

BREWING NOTES
Heat 2 qt. (1.9 L) water to near boiling and thoroughly mix in half the extract. Add the hops and steep 20 minutes. Remove the hops and thoroughly mix in the remaining extract. Add 6 qt. (5.7 L) ice cold water, pitch the yeast, and ferment at 50°F (10°C). Bottle or keg after three weeks.

ALL-GRAIN VERSION
There is no all-grain version, as that would defeat the whole easy-peasy idea.

FOR ALL YOUR HOMEBREW NEEDS

VISIT WWW.AtlanticBrewSupply.com



USE CODE ZYM2021 FOR 15% OFF Homebrew Orders!



FOR ALL YOUR PRO BREWER NEEDS

VISIT WWW.ABS-Commercial.com



CLEAN BEER STARTS HERE



**Five Star Chemicals
& Supply, LLC**

fivestarchemicals.com
support@fivestarchemicals.com
800.782.7019



Follow us @FiveStarChemicals

grainy character worked perfectly in the corn chowder, although the beer itself was a bit too corn-forward for my personal tastes. Next time I brew it, I'll use a portion of Pilsner LME to reduce the corn percentage to about 20 percent of fermentable sugars. Serve this one in a Pilsner glass, too.



Strawberry Salad

Recipe courtesy of Raven Ruch.

Yield: 4 servings

INGREDIENTS

8 cups	[340 g] fresh spinach
16	large strawberries, sliced
2 cups	[240 g] lightly toasted walnuts
1 cup	[120 g] crumbled blue (or other) cheese
1 cup	[110 g] bacon bits (optional)

VINAIGRETTE

1.5 cups	[350 mL] strawberry mead
8 Tbsp.	[120 mL] red wine vinegar
1 tsp.	[6 g] salt
1 tsp.	[2 g] pepper
1 tsp.	[4 g] onion powder
1 tsp.	[4 g] garlic powder

DIRECTIONS

Divide the main ingredients among four plates, laying down a bed of spinach and topping with the strawberries, walnuts, cheese, and bacon bits. Whisk together the vinaigrette ingredients and pour an equal amount onto each salad.



SECOND COURSE

The salad course took some discussion and finally came down to figuring out what would pair well with some eight-year-old strawberry mead I had stashed in the back of a cabinet. We decided on a fruit salad featuring more strawberries. As we were in the prime of strawberry season, we were able to find some nice California strawberries at the local supermarket. Most any fruit mead—or fruit beer—would work here by substituting the fruit in the brew for the strawberries, although I highly recommend



Strawberry Mead

Strawberry melomel

Recipe courtesy of Steve Ruch.

This was one of my first meads, and it came out remarkably good considering that I really didn't know what the heck I was doing. This batch was eight years old when we used it. If you don't want to wait that long, cut the ingredients in half and it should be ready in only a year or so.

Batch volume: 5 U.S. gal. (18.9 L)
Original gravity: 1.142 (35.5°P)
Final gravity: 1.022 (5.5°P)
Color: 6 SRM
Alcohol: 16% by volume

HONEY

19 lb. (8.62 kg) clover honey

YEAST

40 g EC-1118

ADDITIONAL INGREDIENTS

10 lb. (4.54 kg) fresh strawberries
1 tsp. yeast nutrient

MEADMAKING NOTES

Heat 5 gal. (18.9 L) water to near boiling. Thoroughly mix in the honey, add nutrient, chill must, and pitch yeast. When fermentation is complete, rack mead on top of strawberries in secondary fermenter. When secondary fermentation is complete, rack to a third carboy and bottle when clear.

the strawberry version. Serve your mead in a wine glass.

MAIN COURSE

My wife's grandmother created our pizza recipe ages ago. She passed it down to her mother, and then Raven's mother gave it to

her. In all of our travels, and in all the places we've lived, we've never come across any other pizza quite like this one, and we've never met anyone who didn't like it once they had a taste.

The beer to match with this pizza was an easy choice as, coincidentally, I had just



Ekstedt Pizza

Recipe courtesy of Raven Ruch.

DOUGH

4 cups (480 g) flour, divided
1/2 oz (14 g) active dry yeast
1.5 tsp. (9 g) salt
4 tsp. (16 g) sugar
1.33 cups (315 mL) Brümalte pale mild beer
2 Tbsp. (30 mL) olive oil

Mix 2 cups (280 g) flour, yeast, salt, and sugar in large bowl. Heat the beer and olive oil to 120°F (49°C). Add liquid to dry ingredients and beat for 2 minutes. Gradually stir in enough of the remaining flour to make dough. Turn out of bowl onto floured counter and knead for 4–5 minutes. Place in a greased bowl and let rise for 1 hour.

SAUCE

12 oz. (336 g) tomato paste
3 Tbsp. (35 g) sugar
1 Tbsp. (4 g) oregano
1/2 Tbsp. (6 g) garlic powder
1/2 Tbsp. (6 g) onion powder
3 Tbsp. (45 mL) soy sauce
1 Tbsp. (15 mL) Worcestershire sauce

Mix all ingredients in a bowl.

PIZZA

1 lb. (454 g) grated cheese (75/25 blend of cheddar/Swiss recommended)
1 lb. (454 g) ground beef
salt and pepper to taste
Parmesan cheese if desired

DIRECTIONS

Prepare dough and sauce as indicated above. Heat oven to 425°F (218°C). Cook ground beef in a large skillet, seasoning to taste with salt and pepper. Drain and cool.

Divide dough into thirds and spread onto three greased medium 13"×9" pans. Then spread the sauce, cheese, and ground beef evenly among the three. Sprinkle with Parmesan cheese if desired. Bake 10–15 minutes, or until crust is golden and cheese is bubbly.



Bake This!

Stout Brownies

Recipe courtesy of Raven Ruch.

INGREDIENTS

- 8 oz. (227 g) chocolate chips.
- 4 oz. (113 g) white chocolate
- 6 Tbsp. (85 g) butter
- 4 eggs
- 3/4 cup (144 g) sugar
- 3/4 cup (90 g) flour



3/4 cup (60 g) unsweetened cocoa
1.25 cup (295 mL) I Got Your Stout sweet stout
powdered sugar (optional)

DIRECTIONS

Heat oven to 375°F (190°C). Butter 8" square pan. In a large mixing bowl, melt together the two chocolates and the butter (a microwave works well for this). Blend in the eggs with a wire whisk, then whisk in the sugar. Sift the flour and cocoa together and add to mixture in the bowl. Whisk in adding some of the stout as you go. Add the remaining stout and whisk until very smooth. Pour into buttered pan and bake 40–45 minutes. When cool, dust with powdered sugar if desired.

Brew This!

I Got Your Stout

Sweet stout

Recipe courtesy of Steve Ruch.

Batch volume: 3 US gal. (11.4 L)

Original gravity: 1.068 (17°P)

Final gravity: 1.024 (6°P)

Bitterness: 33 IBU

Color: 40+ SRM

Alcohol: 5.9% by volume

MALTS & ADJUNCTS

- 5.5 lb. (2.49 kg) Irish stout malt
- 1 lb. (454 g) Briess Blackprinz malt
- 1 lb. (454 g) flaked barley
- 8 oz. (227 g) British crystal 60 malt
- 4 oz. (113 g) Briess Midnight Wheat malt

HOPS

- 1 oz. (28 g) WGV (Whitbread Golding Variety), 6.4% a.a. @ 45 min

YEASTS

- 1 sachet (6 g) Muntons Dry Ale Yeast
- 1 sachet (11.5 g) Fermentis SafAle K-97

ADDITIONAL INGREDIENTS

- 8 oz. (227 g) lactose @ 30 min
- 1/8 tsp. yeast nutrient @ 30 min
- pinch Irish moss @ 30 min
- 2.5 oz. (70 g) sugar to prime

BREWING NOTES

Mill the grains and dough in at a mash thickness of 1.5 qt./lb. (3.1 L/kg). Mash at 153°F (67°C) for 45 minutes. Vorlauf until clear and sparge with enough water to yield 3.3 gal. (12.5 L) pre-boil wort in the kettle. Bring to a boil and add hops, Irish moss, lactose, and yeast nutrient as indicated. Chill wort, top up with water to 3 gal. (11.4 L) if necessary, and pitch yeast. Bottle or keg after 3 weeks.

EXTRACT VERSION

Replace the Irish stout malt with 2.5 lb. (1.13 kg) light DME. Add 1 lb. (454 g) pale malt to specialty grains and mash for 30 minutes in 4 qt. (3.8 L) water at 153°F (67°C). Thoroughly dissolve the extract into the resulting wort and top up with water to 3.3 gal. (12.5 L). Boil according to the all-grain recipe.

**INSPIRED BEER RECIPES
FOOD RECIPES
& STORIES GALORE
FROM THE BORDERLAND**

AVAILABLE SOON!
in hardcover & paperback

THE HOMEBREWER'S BIBLE:
The essential guide to making a full range of beer styles, including lagers, stouts, pilsners, dubbels, tripels, and specialty beers!

ALSO AVAILABLE!

FOR THE ADVANCED BREWER

ON THE ROAD WITH CHARLIE

SIMPLE HOMEBREWING
GREAT BEER. LESS WORK. MORE FUN.

By Drew Beechum & Denny Conn

The book cover features a yellow background with a brown beer bottle and a glass of beer in the foreground, surrounded by hops and grains. Two circular inset photos show a smiling man with glasses and a beard, and another smiling man with a mustache.

**LESS WORK,
MORE FUN**

- Expert advice for brewers of all levels
- Time-saving techniques
- 40 recipes

**AVAILABLE
—IN—
PAPERBACK & EBOOK**

BREWERS PUBLICATIONS.

BrewersPublications.com

BrewBuilt™

X1 UNI

AMAZING FIT & FINISH | PRESSURE CAPABLE
REINFORCED LEGS | INNOVATIVE OPTIONS

AVAILABLE @ BREWBUILT.COM

BOILERMAKER G2

ORDER NOW!

WELDED TRI-CLAMPS << ARE HERE

Whether you're looking for our time-proven weldless NPT kettles or our **new robotically-welded tri-clamp fittings**, Blichmann Engineering has you covered. Meticulously engineered, seamlessly designed, and proudly made in the USA. If performance is what you want, the **BoilerMaker™ G2** is what you need.

Heavy Gauge 304 Stainless Steel Construction

High-Impact Nylon Grips

Sleek Brushed Finish

Glass Sight Gauge

Single-Piece Construction

Adjustable BrewMometer

NEW **Weldless or Welded Fittings Option**

Tri-Clamp Butterfly Valve

MADE IN THE USA

CUSTOMIZE YOUR KETTLE

Our online configurator provides easy customization in days, **not weeks**.

7.5 GALLON BREW KETTLES

STARTING AT
\$189



blichmannengineering.com

Brew This!

Olde Sloppyknickers



English-style barleywine

Recipe courtesy of Steve Ruch.

Batch volume: 3 US gal. (11.4 L)

Original gravity: 1.105 (26.3°P)

Final gravity: 1.018 (4.5°P)

Bitterness: 50 IBU

Color: 13-ish SRM

Alcohol: 11.3% by volume

MALTS

11.5 lb. (5.22 kg) Maris Otter pale malt

6 oz. (170 g) British crystal 60 malt

6 oz. (170 g) Briess Special Roast malt

4 oz. (113 g) Munich malt

HOPS

0.63 oz. (18 g) East Kent Goldings, 5.8% a.a., first wort hop

0.8 oz. (23 g) Phoenix, 10.8% a.a. @ 60 min

0.38 oz. (11 g) East Kent Goldings, 5.8% a.a. @ 10 min

0.5 oz. (14 g) WGV (Whitbread Golding Variety), dry hop

1 oz. (28 g) First Gold, dry hop

YEAST

28 g Fermentis SafAle S-04

ADDITIONAL INGREDIENTS

1 lb. (454 g) clover honey @ high Kräusen (primary)

pinch Irish moss @ 10 min

0.5 tsp. yeast nutrient @ 10 min

3.5 oz. (98 g) sugar to prime

BREWING NOTES

Mill the grains, dough in at 1.5 qt/lb. (3.1 L/kg), and mash at 150°F (66°C) for 50 minutes. Vorlauf until clear, add first-wort hops, and sparge with enough water to yield 3.5 gal. (13.3 L) in the kettle. Boil 60 minutes, adding hops, Irish moss, and yeast nutrient as indicated. After knockout, remove the hops, chill wort, and pitch yeast. Add the honey during primary fermentation at high Kräusen. Add the WGV dry hops two weeks after brew day. Three weeks after brew day, remove first dry hops and add the First Gold dry hops. Four weeks after brew day, remove the second dry hops and bottle or keg.

EXTRACT VERSION

Replace the Maris Otter malt with 7.5 lb. (3.4 kg) Maris Otter LME. Heat 3 gal. water to near boiling, add the first-wort hops, and thoroughly mix in the extract. Bring to a boil and proceed according to the all-grain instructions.

brewed a pale mild ale (see Del Norte Mild in the Sept/Oct 2020 issue of *Zymurgy*) to test out some Great Western Brūmalt Denny Conn sent me (thanks again, Denny). The smooth sweetness provided by the Brūmalt was a perfect complement to the pizza spices. My wife's grandmother probably wouldn't have approved—she was a staunch teetotaler—but you'll like it. Serve this mild ale in a nonic pint glass.

DESSERT

Many people—smart people, with-it people, hip people, people like you and me—consider dessert to be the most important part of any meal. What makes a good dessert? Unless you're on a diet, I'm talking about something sweet, rich, smooth, creamy, and luxurious. In other words, chocolate must be involved somewhere, somehow.

When my wife and I contemplate sweet, rich, smooth, creamy, luxurious, and chocolate, our thoughts invariably lead to brownies. What kind of beer goes with rich, chocolatey brownies? Why, cream stout, of course. I've experimented with brownies made with dry stout—Guinness and homebrew alike—but my preference is to use cream stout. Next time around I may try using a coffee stout or Baltic porter, but you could also bake decadent brownies using old ale, wee heavy, barleywine, bock, dubbel, or Belgian strong dark ale. Serve the cream stout in a nonic pint glass.

DIGESTIF

Digestifs are alcoholic beverages served after a meal to aid digestion. Common digestifs are brandy, fortified wine like sweet sherry, and liqueurs like Drambuie, Kahlua, or Jägermeister. But since this is for *Zymurgy* and not *Boozehound Quarterly*, we'll finish the evening off with a British barleywine. I hate to brag (not really), but Olde Sloppyknickers earned me the highest score I've ever received in competition. Serve this barleywine in a snifter.

The soup and salad courses could serve as meals on their own if served in large enough portions, so feel free to do just that if preparing so many courses in one day feels too daunting or if only one of these courses strikes your fancy. The pizza also makes a great dinner all by itself.

Steve Ruch lives in Crescent City, Calif., and has been homebrewing for more than 20 years. He is a regular contributor to *Zymurgy*.

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

Zymurgy (ISSN 0196-5921, USPS 018-212) is published bi-monthly by the American Homebrewers Association, a division of the Brewers Association, with headquarters at 1327 Spruce Street; Boulder, Colorado 80302. The Editor is Dave Carpenter with address same as above. The annual subscription price is \$43.00 and \$49.00 with a membership to the American Homebrewers Association. The publication is wholly owned by the Brewers Association, a not-for-profit corporation. The purpose, function and not-for-profit status has not changed during the preceding twelve months, and the average number of copies of each issue during the preceding twelve and the actual number of copies published nearest to the filing date (September/October 2020 issue) are noted below.

This information taken from PS Form 3526, signed by Jason Smith, Art Director, and filed with the United States Postal Service in Boulder, Colorado.

Item No. from PS Form 3526	Extent and Nature of Circulation	Avg No. Copies each Issue in past 12 months	Actual No. Copies Of Single Issue Publishing Nearest to Filing Date
a.	Total No. Copies (Net Press Run).....	37,577.....	35,339.....
b.	Paid and/or Requested Circulation		
	(1) Paid/Requested Outside-County Mail Subscriptions	33,343.....	31,396.....
(2)	Paid In-County Subscriptions.....	0.....	0.....
	(3) Sales through dealers and carriers, street vendors, and counter sales (not mailed)	565.....	492.....
(4)	Other Classes Mailed Through USPS.....	438.....	387.....
c.	Total Paid and/or Requested Circulation (Sum of b)	34,347.....	32,275.....
d.	Distribution by Mail (Samples, Complimentary and other free)		
	(1) Outside-country as stated on Form 3541.....	1,765.....	1,711.....
	(2) In-country as stated on Form 3541	0.....	0.....
	(3) Other classes mailed through USPS	836.....	808.....
	(4) Free Distribution Outside the Mail (Carriers or other means)	0.....	0.....
e.	Total Free Distribution (Sum of d)	2,600.....	2,519.....
f.	Total Distribution (Sum of c & e)	36,947.....	34,794.....
g.	Copies Not Distributed.....	42.....	34.....
h.	Total (Sum of f and g) 2	36,988.....	34,828.....
Percent paid and/or Requested Circulation (c/f x 100)		93%.....	93%.....

ADVERTISER INDEX

To advertise in *Zymurgy*, contact us at sales@BrewersAssociation.org

American Homebrewers Association	21,45,69	Five Star Chemicals & Supply, Inc.....	74
www.HomebrewersAssociation.org		www.fivestarchemicals.com	
ABE Beverage Equipment	1	Great Fermentations	26
www.AmericanBeerEquipment.com		www.greatfermentations.com	
ANVIL	18	Great Western Malting Co.....	70
www.blichmannengineering.com		www.greatwesternmalting.com	
Atlantic Brew Supply	73	GrowlerWerks	Cover 4
www.atlanticbrewsupply.com		www.growlerwerks.com	
Blichmann Engineering, LLC	29,78	Harper Collins	76
www.blichmannengineering.com		www.harpercivils.com	
Brewers Association	68	Hbrew0 Systems	13
www.BrewersAssociation.org		www.hbrewo.com	
Brewers Publicaitons	65,77	Industrial Test Systems, Inc.....	25
www.BrewersPublications.com		www.sensafe.com	
Brewers Supply Group (BSG)	Cover 2	Lallemand Inc	33
www.brewerssupplygroup.com		www.lallemand.com	
Briess Malt & Ingredients Co.....	14	LD Carlson Co	19
www.quietlightcom.com		www.ldcarlson.com	
Canada Malting Co.....	6	MoreBeer!	77
www.canadamalting.com		www.morebeer.com	
Country Malt Group	31	Samuel Adams	2
www.countrymaltgroup.com		www.samueladams.com	
Delta Brewing Systems	30	Ss Brewtech	4
www.deltabrewingsystems.com		www.ssbrewtech.com	
FERMENTIS By Lesaffre Yeast Corporation	10	Sun Brewing Co.....	76
www.brewwithfermentis.com		sunbrewingco.com	
		Wyeast Laboratories, Inc.....	Cover 3
		www.wyeastlab.com	
		Yakima Chief Hops	22
		www.yakimachief.com	



Thirty Years of SNOBs

Fat Head's Brewery and its owner and head brewmaster Matt Cole are proud, long-time partners of the Society of Northeast Ohio Brewers (SNOBs). One of Ohio's longest-standing homebrew clubs, the SNOBs are dedicated to promoting recreational brewing, offering homebrew education, and enjoying well-crafted beers. Not only did our club mark its 30th anniversary in 2020, but we also celebrated our recognition by the American Homebrewers Association as Radegast Club of the Year.

With Fat Head's Brewery so often serving as a second home—most notably for our annual "Son of Brewzilla" homebrew competition—Fat Head's felt it only fitting to collaborate on a brew with the SNOBs to acknowledge both well-earned honors.

Brewed to capitalize perfectly on hop-harvest season, SNOBs 30th Anniversary Wet-Hopped IPA is a 7.5% ABV wet-hopped IPA with tropical notes of passion fruit, pineapple, and melon up front, and dank, woody, resinous notes behind. There is a balanced sweetness, a coalescing of Citra, Mosaic, and Simcoe hops, and a slightly aggressive finish. The brew is dry-hopped with Centennial hops from Coleman Agriculture, a family-owned farm northeast of Salem, Oregon. We chose Centennial because it was a new-



at-the-time IPA hop that was released 30 years ago at around the same time the club was founded. The beer debuted at all Fat Head's locations on September 24.

We appreciated that several SNOBs members were able to join the Fat Head's brewing and cellaring crew to brew the beer together. After 30 continuous years and the efforts of many, our club is truly an established and well-respected fixture in Cleveland's beer community. This 30th-anniversary beer validates the work we've been doing to educate aspiring brewers and promote beer appreciation in the Cleveland area. We are extremely grateful to Matt Cole and Fat Head's Brewery for all they do for our club and for supporting the homebrew community.

Club member Blake Beharry offered, "Being invited to be a part of brewing this celebratory throwback beer was such an exciting experience, and one that I will never forget. I look forward to drinking the fruits of our labor with my fellow SNOB members and my friends, who I brag to regularly about our entire wonderful experience with Fat Head's."



We are excited to share our 30th-anniversary recipe with the members of the American Homebrewers Association. Mark your calendar for the next hop harvest and brew your own batch in 2021!

Jay O'Neill is President of the Society of Northeast Ohio Brewers (SNOBs).



RECIPE

Check out the recipe for SNOBs 30th Anniversary Wet-Hopped IPA in Now on Tap page 12.



PIONEERING
PREMIUM
YEAST

BEER



LIQUID YEAST FOR
BREWING

BE A PIONEER.

Elevate the quality of your homebrews with Wyeast Premium Liquid Yeast. One-of-a-kind Activator Smack-Packs™ double as a yeast viability test and proven quality control - allowing your craft brewing skills to ascend to new heights.

100 BILLION YEAST CELLS*



INOCULATES UP TO 5 GALLONS

Contains 125 ml (4.22 fl.oz. / 125 grams) liquid yeast and nutrients

GROWLER[!]WERKS™



GO BIG OR GO HOME small!

The uKeg GO now comes in both 64oz
and 128 oz sizes. And three colors.
GrowlerWerks.com