



HOPLINE

Newsletter of the Crescent City Homebrewers Club

July 2020

Next Meeting: Wednesday, August 5th

Location: Deutsches Haus, 1700 Moss Street, New Orleans, LA 70119

2020 Edition

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PRESIDENT'S CORNER – JULY 2020

Crescent City Homebrewers,

I hope everyone is keeping safe and brewing lots of homebrew. Last week we had our first general meeting since the pandemic started. It was held outside of the Deutsches Haus and was successful. As long as the Haus allows it, we will continue to hold meetings in that fashion.

The most current news is, Emerald Coast Beer Festival will be canceled for Thursday and Friday. The Saturday beach party is still on at this current time. That date is 12 September.

In other news, we will not be doing a bus tour this year, but instead we are thinking of doing a bus-less bus tour. If anyone has any suggestions for this, please send them our way.

Cheers,

Hector

BREWOFF SCHEDULE FOR 2020 (Subject to Change, Really)

Date	Style	Host	Location	Brewmaster
2/8/20	Scottish Ale	Deutsches Haus	1700 Moss St. NOLA	Matt Ault
3/7/19	Rye Something	Monk	7967 Baratavia Blvd Crown Point, LA	William Thompson
4/11/20	Currahee Socially Distant Brewoff	A great bunch of Home brewers	At a Home brewer's house near you	An even greater bunch of Brewmasters
	Covid Sucks	I mean it really stinks	Can't believe I had to cancel two Brewoffs	
6/20/20	Saison BIABS	Neil Barnett	5636 Hawthorne Pl New Orleans, LA 70124	Neil Barnett
July	Off			
8/29/20	BIABS Session IPA	Barney Ryan	101 Garden Rd. River Ridge, LA 70123	
9/19/20	German Alt or Kolsch			
10/17/20	Stout			
11/7/20	Learn to Home Brew Day		At a Brewery near you!	

*BIABS = brewing in a bathing suit

Standard Wort price \$30.00 Standard Lunch price \$10.00

For any new members, a Brewoff is a group event in which we make 50 gallons of beer with the Club equipment. The wort is then split up into ten, 5 gallon units. The units are given out to the Host(1), Brewmaster(1), Chef(1), Equipment Movers(2), and Grunts(5). Guests and Alternates are encouraged to sign up and join in the fun. Wort participants must bring their own 5 gallon fermenter, and yeast. If you are interested, email me at neilwbarnett@yahoo.com or sign up at the meetings. [Buy a truck](#)

CCH CALENDAR: <https://crescentcityhomebrewers.org/calendar/>

BREWOFF NEWS AND SUCH FOR JULY

"All right, brain, I don't like you and you don't like me-so let's just do this and get back to killing you with beer" - Homer Simpson

Hey Buckaroo's,

The long wait is over, and the club has gone back to its decadent practice of making large amounts of beer, drinking large amounts of beer, eating mass quantities of (gluten free) food, and talking at length about our favorite pass time. All the angst and loneliness of the last few months of 'Stay at Home' orders, were washed away on a sunny Saturday at my humble abode. I am of course talking about the Brewing in a Bathing Suit Brewoff.

The fearless lads, and ladies, began arriving a little before 0800, and with the precision of a drill team, started mashing in. The grist consisted of Belgian Pilsner, Cara Pils, and Vienna Malts. We hit our mash temperature of 149-151 on the first try, and left it for one hour. This was the christening of our new mash tuns, courtesy of Will Lambert. After a 20 minute recirc, we started filling up the kettle. We had two hop additions of Belma, at the start and 30 minutes in. We also added Whirlfloc and Agave Syrup with 20 minutes to go, and lime zest at knockout. We nailed our OG at 1.055, and the Saison yeast is doing the rest. Mike Malley smoked some chicken and ribs, and served it up with both a green and pasta salad. A variety of home brews were consumed, and no one violated the Speedo policy in the pool. I would like to thank my movers, Richard, Carol, and Will, and my Grunts who helped make this such a nice event.

We will be taking July off, and coming back on August 29th. for the second BIABS event at Barney and Diane Ryan's house. The style will be a session IPA and we need people to sign up for every position. This is one of my favorite events and I love to come as a guest. Don't make me have to work! Sign up now.

September 19th is now penciled in for a German style Ale, and October 17th for a Stout. If you would like to host, be Brewmaster, or do another job, let me know.

November 7th is learn to Homebrew Day, and we hope to celebrate the event with a Brewoff demonstration. The event last year at Urban South was very well attended, and a lot of fun for all involved. We will be in contact with some Breweries to see if they would like to host us. More information will be forthcoming.

If you would like to sign up, contact me at neilwbarnett@yahoo.com. Take care and keep Brewing. The Dude

BREWSTOCK



• 2020 •
HOMEBREW CUP

www.brewstock.com/competition

JUDGES AND PRIZES FROM:



DROP OFF ENTRIES AT BREWSTOCK BY:

SEPTEMBER 6, 2020

Brewstock is excited to announce a **homebrew competition!** We're bummed out that we're missing our regular summer beer competitions, so we decided the void needed to be filled. This competition will be remote collection style. That means you drop off or mail in your beer, we'll hang on to it, and it will be judged on September 6th.

We want to make this competition as inclusive as possible, so, there will be **no entry fees**, AND, if you don't have a great way to get your beer in bottles, we will be **accepting kegs, growlers, cans, tupperware?**, any sealed container, just get it to us **between August 15th and September 5th**.

Judging!

We reached out to some friends, some of the industry's finest to judge the competition.

Karl Hartdegan, VP of Operations at NOLA Brewery, and longtime CCHB member.

Charles Hall, head brewer at Brieux Carré Brewing Co.

Eric Jensen, owner and brewer at Parleaux Beer Lab.

Mitch Grittman, head brewer at Zony Mash Beer Project.

Judging will be based on BJCP score sheets. Each beer will receive a standard score out of 50. Three top scores will be chosen based on best score, and one Best in Show will be chosen.

Prizes!

Winners will receive Brewstock Gift Cards, AND, winners will also receive brewery prize packs

- 1st place: Your choice of Brewery package and a \$100 Brewstock Gift Card
- 2nd place: Your choice of remaining brewery package a \$25 Brewstock Gift Card
- 3rd place: Your choice of remaining brewery package and a \$25 Brewstock Gift Card
- Best in Show: Remaining brewery package and a \$25 Brewstock Gift Card

Wanna show off even more?

Take a video of yourself brewing, drinking, reviewing, talking up... everything and anything about your beer, and send it to us. We'll feature you in a "virtual homebrew festival."

The nitty gritty:

- No entry fee
- Any homebrewed beer will be accepted.
- All beer styles welcome, including defining your own style of beer.
 - Note: *Choose your style carefully. Defining your own style of beer may result in skewed scores if the judges don't know what it is.*
- Judging will be based on BJCP Scoring.
- All beers will receive a standard BJCP score out of 50
- Categorically low scores that are still good beers also have a chance at advancing to Best in Show.
- Please supply no less than 36 oz of beer.
- Beers will be accepted any time during business hours between August 15th and September 5th.
- We will accept any type of packaging.
 - Note: *Choose your packaging wisely. Providing your beer in suspect containers could result in off flavors the longer it sits around at Brewstock.*

Registration: Fill out the information section of the form found at www.brewstock.com/competition and drop it off with your beer at Brewstock between August 15th and September 5th. Forms will also be available at Brewstock to fill out in person. Submitting your recipe is optional, but encouraged.

MEMBER'S HOMEBREW RECIPE SPOTLIGHT – JULY 2020

“Belefonte Ale” Belgian Pale Ale – Greg Hackenberg

Belgian Pale Ale

First a note about the style. A response to spread of pilsner and other lager beers after WWI, BPA drew on the British pale ale tradition to create a more drinkable, lighter colored, dryer beer than other Belgian styles. They emphasize the malt profile, with toasty and biscuit flavors common from Belgian malts, and Pilsner malts. Moderate phenols and esters from Belgian yeast strains, typically spicy and fruity notes, but far more restrained than other Belgian styles. Hops are typically noble.

Belefonte Ale

This is a beer that is in my regular rotation and was scaled up for a brew off in 2017. A good crowd pleaser. Use a simple single infusion mash at around 148 degrees. About a 1.052 O.G. and around 25 IBU's.

5.5 gallons

6 lbs Belgian Pilsner Malt

2 lbs Vienna malt

1 lb Carared

8 oz Biscuit Malt (Belgian)

4 oz Aromatic Malt

2 oz Chocolate Malt

8 oz Toasted rolled oats (optional and not to style, but amps up the toasty notes)

Water: N.O. tap filtered with 3 oz Calcium Chloride

1 oz (or so) Northern Brewer or other not overly dominant hops for about 20 IBU's

.75 oz Saaz Boil 20 min.

1 oz Saaz Boil 5 min.

Yeast...Okay the best and ultimate is, well, not available: WPL515 Antwerp Ale. Currently in the vault. This is the yeast from the De Koninck Brewery, which makes one of the best examples of the style. My second favorite is probably WPL550 Belgian Ale Yeast which is from the Achouffe brewery (excellent beer, look for the gnome). You want some Belgian character, but a bit more subdued. The Abby yeasts, IMHO, are too strong. Maybe a blend? Have at it.

EDITOR'S LOCAL BEER SPOTLIGHT – July 2020

Sel Noir

Brewery: Second Line Brewing

Style: Cascadian Rye IPA ABV: 7%

Description: Light-bodied, pours black with spicy rye notes and hop aromas.

Brewer's Comments – Kevin Schmunk

Second Line Brewing utilizes a one-barrel pilot system for a lot of the beers showcased in our beer garden. Brewing on that system an average of twice a week really allows us to play with different recipes, become creative with off-the-wall ideas, and perfect in-house favorites. One of those has become our Cascadian Rye IPA.



That malt bill for this one seems to have remained the same with a 70% base malt Pilsner, 17% flaked rye, 3% Special W and a 10% addition of Carafe for that black hue. As for the hops, those have varied nearly every time we brew. We shoot to stay around 60-70 IBUs, allowing the rye to spice things up. US-05 works well for the yeast, although we have played with other variations including lager yeast as well as brut enzymes.

It's up to the brewer as to which direction they want to take this beer. The end result is a light bodied beer with deceptive black color and spicy rye undertones.

-Enjoy, Kevin

CCH Member Contribution: Carol Rice

Gastro Obscura Destination Guide: **England**



The debate over which is Britain's oldest pub is fueled by the impossibility of a definitive ruling. **COURTESY OF YE OLDE FIGHTING COCKS**

For centuries-old bars, a pandemic is nothing new.

How the Black Death Gave Rise to British Pub Culture

"I'll buy you a beer when this is all over," declares Christo Tofalli, the landlord of Ye Olde Fighting Cocks, which lays claim to the contentious title of Britain's oldest pub and is no stranger to pandemics. While closed, Ye Olde Fighting Cocks, in the historic city of Saint Albans, has become a Community Supply Point, providing much-needed groceries and offering free delivery to the elderly. They are even delivering Sunday Roast dinners to residents in lockdown. The threat posed by coronavirus may feel unprecedented, but Tofalli, who manages the pub, says he has been looking to the past for inspiration.

In the summer of 1348, which was some hard-to-specify number of centuries after Ye Olde Fighting Cocks served its first beer, the Black Death appeared on the southern shores of England. By the end of 1349, millions lay dead, victims of what medieval historian Norman Cantor describes unflinchingly in *In the Wake of Plague* as "the greatest biomedical disaster in European and possibly in world history." Medieval society could muster little response, Cantor

writes, except to “Pray very hard, quarantine the sick, run away, or find a scapegoat to blame for the terror.” Nobility and wealth was no defense: Princess Joan of England was struck down on her way to marry in Spain, while the newly appointed Archbishop of Canterbury perished shortly after being ordained by the Pope. The plague even halted (temporarily) the perpetual conflict between the French and English. This pestilence returned repeatedly too; Cantor writes that “there were at least three waves of the Black Death falling upon England over the century following 1350.”

According to historian Robert Tombs, author of *The English and Their History*, one of the many repercussions was especially pertinent to establishments like Ye Olde Fighting Cocks: the rise of pub culture in England. When the plague arrived in 1348, drinking beer was already a fundamental component of Englishness. In his tome, Tombs writes that the English fighting the Norman invaders at Hastings in 1066 were suffering from hangovers. Drinking was even enshrined into the Magna Carta of 1215, which “called for uniform measures of ale.”

Drinking pre-Black Death, though, was comparably amateurish. In *Man Walks Into a Sociable History of Beer*, beer journalist Pete Brown writes that “Society revolved around popular celebrations known as ‘ales’: bride-ales, church-ales ... were gatherings where plenty of alcohol was drunk, and they frequently degenerated into mayhem.”

Anyone could brew up a batch of ale in their home, and standards and strengths varied wildly. Homebrewed ale was advertised with “an ale stake,” Brown adds, which consisted of “a pole covered with some kind of foliage above the door.”

By the 1370s, though, the Black Death had caused a critical labor shortage, the stark consequence of some 50 percent of the population perishing in the plague. Eventually, this proved a boon for the peasantry of England, who could command higher wages for their work and achieve higher standards of living. As a result, the alehouses that were simply households selling or giving away leftover ale were replaced by more commercialized, permanent establishments set up by the best brewers and offering better food. “The survivors [of the Black Death] prioritized expenditure on foodstuffs, clothing, fuel, and domestic utensils,” writes Professor Mark Bailey of the University of East Anglia, who also credits the plague for the rise of pub culture, over email. “They drank more and better-quality ale; ate more and better-quality bread; and consumed more meat and dairy produce. Alongside this increased disposable income, they also had more leisure time.” Not every establishment looked like a modern pub: Alehouses were often still literally brewers’ homes, inns offered ale and accommodation, and taverns were a sort of medieval wine bar, a lasting legacy of the Roman *Taberna*.



A scene from the Peasants’ Revolt, which is often explained as a reaction to elite efforts to control serfs’ and laborers’ rising wages.

DUNCAN1890/GETTY

Richard assumes the command of the rebels.

1215,

Pub: A

In spirit, though, the pub was there. Peasants had the time and money for better food, drink, and leisure. “More ale was drunk, and beer (with hops) was introduced from the Low Countries. Brewing became more commercialized, with taverns and alehouses for drinking and playing games,” writes Tombs. “The English pub was born.”

Over time, parts of all three combined into the idea of the house,” regulated by authorities. of the simple ale stake, Brown Richard II made it mandatory to sign. “Gradually, commercial started to build bigger houses that busy meeting places, hence the ‘public house’ ... If you look at pubs you can see the community aspect that is the legacy of the alehouse, the architecture and sense of national heritage of the inn, and the tavern tradition of spending the evening with your peers getting slowly rat-arsed and talking about nothing with increasing conviction as the night wears on.”



A classic pub, Ye Olde Trip to Jerusalem allegedly dates back to the 1100s. IMMANUEL GIEL/CC BY-SA 4.0

“public
In place
writes,
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brewers
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term
today,

This communal legacy can be felt in the food deliveries keeping the staff of Ye Olde Fighting Cocks busy today. “Booze and food have been on offer here through the centuries,” says Tofalli, “even in times of war, panic, and disease.” Other traditional pubs, which face similar stresses of having to stay closed and pay rent, without knowing when they can fully re-open, are hosting virtual trivia nights and staying involved in people’s lives in other ways.

For Brits, a pub has always been more than just a place that sells beer, and the threat of closure is keenly felt for reasons beyond having a drink. “This goes beyond heritage,” Tofalli says, “it goes right into the core of our society.” For Brown, “The pub itself defines this country, remaining a focal point for our social lives even among nondrinkers.” But even a millennium of longevity cannot provide any certainty. “No one really knows what’s going to happen,” says Tofalli. “We can just put our best foot forward, do the right thing.”

by [Richard Collett](#) May 22, 2020

ANOTHER ARTICLE FROM CAROL RICE

<https://www.atlasobscura.com/articles/are-there-beer-historians?fbclid=IwAR1cvszsspt27SxJ3c6I0YFsd90UDaKW2YyAlrF11x3alpc2xZTiRtEdob4>

24-hour Houston Beer Tour – Rich Szydlo

Last Year, for my birthday, my wife surprised me with 24 hrs in Houston for breweries and a Vampire Weekend Concert. And by Surprise, I mean surprise- no idea where were going until I had to get on the plane, no idea we were going to the concert (or who I was seeing) until I was in line for the venue. But we managed to get in plenty of beer and breweries, so if you find yourself with 24 hours and a taste for some new brews, Houston is a great destination.

First stop- Jackson St BBQ

Of course, we needed a base, and I wasn't missing some good Texas BBQ. Jackson St BBQ is located right next to the Astros Ballpark, so make sure its not a game day. Being in the shadow of the Stadium, I tried Karbach Brewing's Crawford Bock, a Texas special. Its in partner with the Astros' Charities, and the label looks like the old Astros 80s star uniforms. It's a nice amber bock, 4.5%, and just sweet enough to balance the tangy BBQ sauce.

SIDE NOTE- I'm a sucker for a good t-shirt, and I had to buy the one that said "Jackson St BBQ- We cure Vegetarianism"



Haha, vegetarians...

Next Stop- St Arnold Brewery

Yup, that St Arnold, which has the best beer garden/patio I have been to in a while. Its huge, plenty of seating, manicured hedges and walkways to separate big groups, and a cool-ass fountain right in the middle. We chose the lazy lawn chairs to get a good seat to watch the Astros game on the big screen. I went with the Citrodos IPA, a lower ABV IPA, lots of aromatic hops, ended up being a really nice patio beer out in the Texas heat. The Lady went with the Raspberry AF, deliciously fruity with just a hint of tartness.



Cool ass fountain.

Next stop- Holler Brewing

Holler Brewing is a small tap room in an industrial/ art part of Houston, next to a cool coffee shop. Chalkboard tap lists, garage doors open, and pretty crowded. And their lights over the bar were hop cones, pretty nice touch. We had the flight of 6, a hefeweizen, ESB, Milk stout, a Pils, and 2 IPAs. All were solid, good flavor, and I appreciated the variety of styles. Nice little off-the-beaten-path taproom, but definitely worth the stop.

One last stop- Platypus Brewing

This was a last minute addition, because we had time before the concert, and it was walking distance from Holler Brewing. But probably had my favorite beer of the trip. Platypus specializes in Australian styles. Which is basically any style of beer but with Australian /New Zealand specific hops. And their red ale was fantastic- nice and malty, and the Australian hops left a citrusy/grassy aroma, not too bitter. We also had the Tim Gunn Rye Saison, because my wife is a "Project Runway" fan, and I like Rye, but that was pretty fantastic as well. The space is a quirky patio with a gritty vibe, very happy to have stumbled onto this one.

One for the road – Celis Raspberry

We had to have something for the hotel room after the concert, so a 6 pack of Celis raspberry it is! I love Celis White, and this is brewed with a ton of raspberries. Some of the cans made it home, but they didn't last long after that.

Hope you enjoyed the whirlwind brewery tour of Houston as much as I did- feel free to use this as a guide for your next excursion!

Session Beer Recipes – All Grain

by Mike Retzlaff

These recipes are for 5 gallon batches and are based on 75% brewhouse efficiency. Scale up or down depending on your system. Add kettle finings and do all the normal things required to brew a batch of beer. Don't forget to acidify your sparge water! (See **Astringency** in Hopline 8/2014)

Shady Deal Schwarzbier

German Pilsner malt	6# 4 oz.
German Dark Munich	12 oz.
Aromatic malt (or Munich 20)	2 oz.
Briess Midnight Wheat (550 °L)	6 oz.
Sterling hops ~6% aa (60 min.)	1 oz.
Sterling hops ~6% aa (10 min.)	1 oz.
W-34/70, or Wyeast #2124	
Mash/grist ratio 1.2 : 1 (9 qts.)	
Mash temp. 142 °F – 30 min. / 152 °F – 60 min.	
90 min. boil	
OG 1.040 (4.44% abv) FG 1.006	
IBU ~30 Color 20 °SRM CO ₂ 2.4 – 2.6 volumes	

Höoter Fest

US 2 Row barley malt	2#
US Vienna	3# 11 oz.
US Munich 10	1#
CaraMunich I	6 oz.
Dark Wheat (Weyermann)	3 oz.
Special Roast (Briess)	3 oz.
Chocolate Rye	1 oz.
Tradition hops ~4.3% aa (FWH)	1 oz.
Tradition hops ~4.3% aa (20 min.)	1 oz.
W-34/70 or Wyeast #2633	
Mash/grist ratio 1.2 : 1 (9 qts.)	
Mash temp. 142 °F – 30 min. / 154 °F – 60 min.	
90 min. boil	
OG 1.040 (4.3% abv) FG 1.007	
IBU ~28 Color 8.3 °SRM CO ₂ 2.4 – 2.6 volumes	

Trappist Single

German or Belgian Pilsner	6# 12 oz.
Sterling hops ~6.1% aa (60 min.)	1 oz.
Sterling hops ~6.1% aa (15 min.)	0.5 oz.
Sterling hops ~6.1% aa (5 min.)	0.5 oz.
WLP530 or Wyeast #3787	
Mash/grist ratio 1.18 : 1 (8 qts.)	
Mash temp. 153 °F – 60 min.	
60 min. boil	
OG 1.038 (4.3% abv) FG 1.005	
IBU ~32 Color 2.5 °SRM CO ₂ 2.6 – 2.9 volumes	

Pale Mild

Briess Ashburne Mild	6#
Black Patent Malt	2 oz.
Lyle's Golden Syrup 8 °L	11 oz.
Glacier hops ~5% aa	1 oz. 60 min.
Goldings hops ~5% aa	1 oz. 30 min.
S-04, Wyeast #1028	
Mash/grist ratio 1.18 : 1 (7.25 qts.)	
Mash temp. 153 °F – 60 min.	
60 min. boil	
OG 1.037 (3.8% abv) FG 1.008	
IBU ~34 Color 11.5 °SRM CO ₂ 1.4 - 2.0 volumes	

DL Crystal Bitter

Maris Otter Pale Malt	4# 8oz.
Carastan Crystal Malt 35 °L	8 oz.
Pale Wheat Malt	4 oz.
Lyle's Golden Syrup 8 °L	4 oz.
Glacier hops ~5% aa	1 oz. 60 min.
Goldings hops ~5% aa	0.5 oz. 30 min.
Goldings hops ~5% aa	0.5 oz. 5 min.
Bullion hops	0.5 oz. dry hop
Wyeast #1968 or WLP002	
Mash/grist ratio 1.19 : 1 (6.25qts.)	
Mash temp. 152 °F – 75 min.	
90 min. boil	
OG 1.035 (3.5% abv) FG 1.008	
IBU ~30 Color 5.4 °SRM CO ₂ 1.4 - 2.0 volumes	

None of these recipes are “bumped-up” Small beers.

There is a balance in these recipes which really pleases me. Try them out as written first. Afterward, swap out the malt, hops, and yeast as you see fit.

I find that the liquid yeasts don't outperform the W-34/70 dry yeast in most lager applications . . . your mileage may vary. Both lager recipes list a step mash. Start the mash in your kettle at the lower end. After the rest, stir the mash while slowly heating to the saccharification temp. You can then transfer it to your mash tun to continue the conversion.

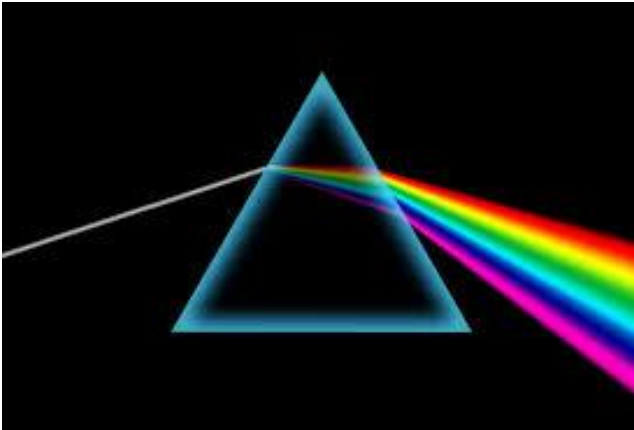
World Market (among other retailers) sells Lyle's Golden syrup in squeeze bottles and the recipes reflect the weight of the syrup. You really can't substitute brown sugar or pancake syrup for it. Greg H. has a fine article in the Hopline (8/2014) on inverting sugar. It is worth exploring and will broaden your perspective.

None of these recipes are complicated or tricky so relax and have some fun with them.

*nota bene (Ref. Hopline 7/2019 Session Beers)

Too Big for the Hopline

This article is too long for a newsletter!



Nope! It's not about Pink Floyd.

I have a genuine copy of the published treatise -

LIGHT AND COLOUR THEORIES

by Jos. W. Lovibond.

This particular issue was printed in 1915. His color scale is still being used today, not just for beer brewing, but throughout the food, drug, textile, plastics, cosmetics, and petroleum industries. It may be of little help in your quest for the perfect tippie, but it sure is interesting. Send me a request by E-mail and I'll send you the file.

mickey.61@cox.net (Mike Retzlaff)

Build a Burton Union System: Projects

by Forest Whitesides BYO article from 2006

Our homebrew interpretation of a Burton Union system can be used for harvesting yeast or reclaiming beer that would have been lost out the blow-off tube. Save the beer for your glass, not your floor.

The Burton Union system derives from England. The setup circulates yeast blow-off into a collection vessel then back into the primary fermenter. Here you can see the scaled-down version that we created for home-brewing.

Of the many unique and often complex fermentation systems over the long history of beer making, perhaps none can match the style and distinguished legacy of the famed Burton Union system. At present, you'll have to travel to the Marston, Thompson and Evershed brewery in England's Burton-upon-Trent to see a working Burton Union fermentation system in operation. The brewery,



which produces the world famous Marston's Pedigree ale (among others), is the only known commercial brewery still using the Union system.

Traditionally, a union system (later referred to as a Burton Union after becoming linked to its use in the Burton area) is a network of several wooden casks and troughs interconnected via copper plumbing. All of the casks work in union during fermentation, commingling their beer and yeast. As the beer ferments, pressure pushes some liquid up into long troughs above the casks (like blow-off in a homebrew setup), where the yeast settles out of suspension and the remaining volume of beer trickles back into the casks. This allows for easy harvesting of yeast — essentially a form of top cropping — for immediate reuse. It also minimizes the loss of beer through blow-off.

We can make use of two of the biggest advantages of a true Burton Union at home:

easy yeast harvesting and minimal loss of brew volume. The second advantage also allows for brewing a given batch size in a smaller carboy — or use every bit of available volume in a larger carboy — because most of the blow-off liquid will be returned to the carboy during fermentation. In my experiments with this system, liquid loss from blow-off is kept at about 3–4 ounces (84–112 g) per 5 gallons (19 L) of wort. Volume loss from siphoning, however, is not affected by the union setup.

For this project, it is assumed that the carboy will be maxed out in terms of volume. This will give better results as far as yeast reclamation is concerned and will ensure that plenty of wort gets cycled through the collection vessel.

The parts

Our homebrew-sized system will be a union of just two vessels: a 5-gallon (19-L) carboy and a 2-liter blow-off collection vessel. For the sake of safety and convenience, I chose a 5-gallon (19-L) PET plastic carboy and a generic square HDPE (high-density polyethylene) plastic jar, respectively. The two vessels will be connected via food-grade tubing and two plastic bulkheads. One piece of

tubing delivers the pressurized blow-off foam (kräusen) from the carboy to the collection vessel. Once in the collection vessel, the foam returns to liquid form, allowing the yeast to settle to the bottom. The reconstituted wort is then returned, by gravity, to the carboy through the second piece of tubing.

Most of the parts for this project are available at many homebrew retailers (exceptions are noted). To find what you'll need to get your own Burton Union going at home take a look to the left, (assuming you already have a carboy and a standard airlock).

PARTS

- (1) 2-liter, square HDPE jar (available from scientific supply shops or from US Plastic at www.usplastic.com) \$4
- (2) 5/16-inch OD polypropylene bulk head fittings (available from US Plastic) \$3
- (4) Rubber gaskets, Grolsch bottle style \$2
- (1) Rubber airlock grommet from fermenter bucket lid \$3
- (1) 24-inch plastic racking cane \$3
- (1) plastic carboy cap \$3
- 4 feet, 5/16-inch tubing \$3
- 4 feet, 3/8-inch tubing \$3

A quick bit of drilling

First, we'll need to drill some holes: three to be exact, and all three will be approximately 1/2-inch in diameter. I used a 1/2-inch paddle bit, but anything that will make a 1/2-inch hole will do the job. **WARNING:** Always wear safety glasses when using power tools!

Drill the first hole approximately 1.25 inches (3.2 cm) from the bottom and the second hole approximately 2 inches (5 cm) from the top of the 2-liter square plastic jar (Fig. 2). Now drill a hole in the center of the jar's screw-off lid.

(FIG 1) Here is a common 2-liter HDPE plastic jar. This will be the yeast collection vessel for your Burton Union and costs about \$4.00 (U.S.).



(FIG 2) The collection vessel now has two 1/2-inch holes drilled to accommodate the bulkhead fittings.

Grommets, gaskets, and bulkheads

Unscrew the removable nut from one of the bulkhead fittings (Fig. 3) and slide a Grolsch-style gasket on the shaft until it is flush with the stationary nut (Fig. 4), and then push the shaft through the inside bottom hole of the square plastic jar (Fig. 5). Now slide another gasket onto the shaft until it is flush with the jar and then tighten the removable nut on the shaft to seal the bulkhead (Fig. 6). Repeat the same procedure for the top hole bulkhead fitting.

(FIG 3) Here are two 5/16-inch outside diameter polypropylene bulkhead fittings used to create tubing connections in the collection vessel.



(FIG 4) Here you can see the bulkhead with a gasket flush against the stationary nut, forming a tight seal that will lock over the outside of the yeast collection vessel.



(FIG 5) Here is the bottom bulkhead inserted into the collection vessel that will help circulate the yeast.



(FIG 6) The bottom bulkhead with the outer gasket seated for a snug fit.

To complete the seals on the collection vessel, fit the bucket lid grommet into the hole in the square jar lid (Fig. 7). Just add an airlock, and you've got a working blow-off collection vessel (Fig 8). We're halfway finished.

(FIG 7) The lid of the collection vessel drilled with a 1/2-inch hole and with the grommet seated.



(FIG 8) Here is the completed collection vessel, with both bulkhead fittings tightly in place and the airlock installed in the lid.



Plumbing the delivery system

Now we need to use the carboy cap, racking cane and tubing to create a system to get the blow-off to the collection vessel and provide a way for the wort to return to the carboy. The collection vessel needs to sit at least 6 inches (15 cm) or so above the carboy, so go ahead and figure out where you're going to be using your new Burton Union system. Once you have that determined, you'll be in a better position to determine how long your blow-off and return tubing should be.

(FIG 9) Here is the carboy cap with a modified racking cane inserted. This will allow for hook up to the collection vessel.



But before you cut the tubing, remove the small white caps from the orange carboy cap and slide the racking cane in the larger diameter center nipple. This will take a little bit of effort, but it will fit. The idea here is to slide the racking cane in far enough so that when the carboy cap is seated on the carboy, the racking cane will dip a few inches below the level of the wort during fermentation. You may want to fill the carboy with water to figure out exactly how far in to slide the racking cane. Once you have the racking cane at the right depth, use a felt-tip pen to mark a line on the cane approximately 2 to 3 inches (5–7 cm) above

where it sticks out of the carboy cap. Remove the racking cane and cut it on the line you marked. Depending on where your collection vessel is positioned in relation to the carboy, it may be advantageous to cut the bottom of the racking cane and leave the 90-degree elbow intact. Each setup will be unique, so use common sense in determining how to cut the racking cane.



(FIG 10) An alternative collection vessel design, using a 2-liter Nalgene LEXAN square bottle.



Now replace the racking cane in the carboy cap with the cut end of the cane sticking a few inches above the large center nipple of the cap (Fig. 9). Connect the 5/16-inch tubing to the racking cane and measure off the appropriate length to connect it to the bottom bulkhead fitting on the collection vessel. Again, this length will vary from setup to setup. Now fit the 3/8-inch tubing over the smaller diameter nipple on the carboy cap and measure off the right length to connect it to the top bulkhead fitting. The Burton Union is complete.

Greed: wort volume vs. yeast

Choosing a recipe for use with your new Burton Union will depend on whether or not you are interested in using it primarily for minimizing brew volume loss or as a means to harvest yeast.

If your main objective is to end up with more volume, then any recipe will work just fine. All you need to do is make sure that the final volume that goes from your kettle into the fermenter makes the most use of the volume of the carboy. Fill the carboy up to approximately

2–3 inches (5–7 cm) below the bottom of the neck to be certain you get maximum utility from the wort-saving capabilities of the Burton Union system.

However, if your interest in this system lies in its ability to capture yeast during the height of fermentation, then recipe formulation is important in order to get the best results. Perhaps most critical is the choice of yeast. You should use a vigorous strain that is categorized as top-cropping. Possible yeast choices from Wyeast include WY1007, WY1010, WY1318, WY2565, WY3068, WY3333, WY3638, WY3787 and WY3944. Possible top-cropping strains from White Labs include WLP022, WLP300, WLP320, WLP350, WLP400 and WLP570. The preceding lists are a starting point and are by no means exhaustive. Any yeast that ferments vigorously and exhibits at least minimal top-cropping behavior will likely yield a healthy yeast deposit in the collection vessel. Pitching a large, healthy starter will help as well. Also, you may want to consider pellet hops when you formulate your recipe, as leaf hop particulate matter can easily clog the blowoff tubing.

I've tested this specific setup with several recipes, the most effective of which for yeast harvesting was a simple extract hefeweizen using a big starter of WY3333. If you can get enough yeast going into the collection vessel, it will overflow back into the fermenter, effectively repitching continuously during the height of fermentation. Another interesting consideration when using our small-scale Burton Union is that there are two simultaneous active fermentations happening in a more or less closed system: one in the fermenter and one in the collection vessel.

Alternative design considerations

The above guide for putting together a Burton Union system at home is just a general suggestion; just one way in which such a system could be put together. There are probably dozens, if not hundreds, of alternate methods to arrive at the same end product. For example, you could use a drilled carboy stopper instead of a carboy cap, or you could use a completely different type of container for the collection vessel. I actually designed a second yeast collection vessel using a Nalgene LEXAN square bottle (see fig. 10). Or, for a more true-to-the-original union setup, consider connecting two (or more) carboys to a single collection vessel. Yet another possibility includes leaving the top off of the collection vessel, creating a pseudo-open fermentation. Feel free to substitute the parts listed above with those you find available to you or parts you feel would better suit your specific brewing setup.

However there is one key design concept that should be followed in order to make things work: the positioning of the racking cane. The racking cane must dip below the wort in the fermenter in order for the Burton Union to work efficiently. The reason for this is because when the pressure from the CO₂ in the fermenter builds up, the kräusen is pushed up toward the top of the carboy. Positioning the bottom of the racking cane below the wort level allows it to act as a simple check valve.

The pressure building in the carboy is released much easier by blowing off the kräusen than by pushing out the much heavier wort. This keeps the blowoff coming out of the carboy in one tube and the wort returning to the carboy in the other. Just about everything else is configurable to your specific needs or whims.

Mike's Commentary – A Little More to Think About

Consider replacing the air lock on the collection vessel with a screen or piece of muslin under the screw cap. One of the features of the original Burton Union system is that it utilizes open fermentation. In Eric Warner's book, GERMAN WHEAT BEER, he stresses that German brewers get hundreds of generations of their yeast with no problems because of the open fermentation. When the same yeast is used under an air lock, the yeast will mutate after 5 to 10 generations.

I think the science behind this is CO₂ saturation. The tiny amount of extra pressure in the vessel because of the airlock is enough to maintain too much CO₂ gas in solution. It apparently takes a toll on the health of the yeast causing it to mutate or lose vitality. Even if this explanation is incorrect, we can still perform the "monkey-see, monkey-do" routine until one of us can figure it out.

Good luck,
Mike

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