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DREGS FROM THE KEG

August 2013

STRAND BREWERS BREWING ON THE STRAND

(TRY SAYING THAT TEN TIMES QUICKLY)

In This Issue

Foam at the Top

Rives Borland, Strand President

I hope everyone has been enjoying their summer. It seems to me like it has been flying by. I can't believe it's already August! I recently moved to a townhouse at 182nd and Hawthorne, Torrance, CA, (near Total Wine in North Redondo Beach). So I've been busy trying to get settled in. Unfortunately, this has slowed down my personal brewing. I don't have all my equipment set up yet, but I'm sure I'll be rolling again soon.

An interesting bit of news related to my new location is that there is a new brewery called Coastline Brewing Company that is opening up like one block away. This should be an interesting perk and I'm looking forward to trying their beers.

We kicked off July with our monthly meeting at Monkish Brewing Co. Henry and Adriana Nguyen were excellent hosts and we had a very informational tour and Q and A session with Henry. They are making some really interesting beers there, with an ever changing lineup. So I encourage everyone to go back and visit them again. I think people enjoyed mixing up the club meeting location. We'll be back at South Bay Brewing Supply (SBBS) for the August meeting, but I'm hoping to take advantage of all the great new local breweries to host another one of our upcoming meetings sometime soon.

Ryan Penrod gave a very cool presentation on coffee roasting and using coffee in beer at the July meeting. He put a lot of effort into preparing several different samples for us to try of the same base beer with coffee made in different ways and added to the beer with different techniques and in different amounts. He also had some concentrated coffee samples for us to play around with by adding them to a commercial oatmeal stout in different amounts. It was a very informative presentation and I'm hoping to see more like this by other club members in the future.

Henry Nguyen explaining the brewing process at Monkish Brewing Co.

One topic that has been requested several times for discussion at our club meetings is water. There are many subtopics that could be explored here, so we may need several presentations and Dregs articles. John Palmer and Colin Kaminski are currently working on a new book about water as part of the Brewing Elements series to be released soon. I'm hoping to put something together for later this year or next year on the topics of water and yeast counting, ranching, harvesting and isolation. I encourage everyone to go out and research a topic that interests them and then report back to the club on their findings. We even have small amounts of money available for funding experiments. Also, as I previously mentioned in another Dregs article, the AHA has a new Research and Education fund and will

give you money to carry out brewing related research or experiments.

Jim Wilson and I spent several hours on three separate days over the course of the past few weeks experimenting with oxygenation. We tested several commonly used methods for adding oxygen to wort prior to fermentation and measured results with my dissolved oxygen (DO) meter. I am assisting Jim in writing an article about it, so look for something in the near future. I'm sure we will have a presentation on it at an upcoming meeting.

On Saturday, July 13th, we had our Annual Club Brew on the Strand at Alex Schlee's place in Manhattan Beach. Once again a great time was had by all and we were treated to another amazing German lunch buffet prepared by Alex's wife, Bernadette. I'm already looking forward to next year. We brewed 10 gallons of a Russian Imperial Stout, 5 gallons of which stayed with Alex for fermentation and 5 gallons went home with Rick Wirsing. I can't wait to try the beer several months from now.

Alex Schlee checking on the brew.

Tammy Minion and I are enrolled in a mead judging study class taught by my friend, Travis Hammond of Quality Ale and Fermentation Fraternity (QUAFF). The class meets four times at White Labs prior to our scheduled exam on September 28th. I don't currently have much experience making mead, but I'm looking forward to learning a lot more about it and making a lot more in the future. The first class went well and it seemed like a great group of people, some with impressive accolades for their meads already. The format of the exam is similar to the old traditional Beer Judge Certification Program (BJCP) beer exam, but it is strictly pass/fail and does not affect your beer judge rank. There are currently only 113 BJCP Mead Judges nationwide and, as far as I can tell, none of them live in Los Angeles County. So that will make Tammy and me the first two, assuming we pass.

Before the next mead class, I am going to drive down to San Diego early in the morning and participate in another exciting opportunity. A few months ago, I supported the kickstarter for a new San Diego based brewery called Modern Times Beer. My reward is to brew a pilot batch with Michael Tonsmeire, the Modern Times brewer in charge of sour and wild ales. I've been following Michael's blog, The Mad Fermentationist, for several years now. He is probably one of the most knowledgeable and experienced homebrewers on the topic of making sour and wild ales and is currently writing a book on the subject. If you have any specific question you would like me to ask Michael while I am there, please let me know.

On Saturday, August 3rd, I judged in the LA County Fair. While it was a little disorganized, it was a good experience overall. I was very proud to see that we had five Strand Brewers club members there (Tammy Minion, Donna Boyce, Jim Wilson, Jay Ankeney and me)! Let's also make a good showing at the next major competition coming up, the Pacific Brewers Cup on September 15th at Smog City. Don't forget to register your entries!

Lastly, remember that the BBBBBB… event is coming up on Saturday August 17th.

August Meeting

August 14th at 7 pm

1311 POST AVE TORRANCE, CA 90501

Competition Calendar

Jeff Sanders, Strand Vice-President

Iron Brewer Challenge Ingredients

Round 6
October 9, 2013 Club Meeting
El Dorado Hops, Crystal Malt and Sour Cherries

Local Competitions: in order of entry deadline

Santa Cruz County Homebrew Competition
Watsonville, CA **Entries due August 14th.**
Judging: September 7th. Entry fee: $5.
Contact: Margie Lyn-Freshner.
Phone: (831) 588-1319.
Email: margie@skyhighway.com

Tulare County Homebrew Contest
Tulare, CA **Entries due August 23rd.**
Judging: September 8th. Entry fee: $0.
Contact: Richard Gleason Jr.
Phone: (559) 734-2716.
Email: rgleasonjr@att.net

PACIFIC BREWERS CUP 2013
Long Beach, CA **Entries due August 31st.**
Judging: September 14th. Entry fee: $7.
Contact: Enrique Piceno.
Phone: (626) 497-8390.
Email: enriquepieno@sbcglobal.net

Judging at the Pacific Brewers Cup 2012

OC Fest of Ales Home Brew Challenge
Anaheim, CA **Entries due September 10th.**
Judging: September 14th. Entry fee: $5.
Contact: Shelley Reeves.
Phone: (714) 956-3586.
Email: downtownshell@yahoo.com

University City Home Brew Contest
San Diego, CA **Entries due September 27th.**
Judging: Ocotber 5th. Entry fee: $10 for first, $5 for each additional entry.
Contact: Michelle Lolly.
Phone: (858) 922-3302.
Email: mflolly@wilsonlolly.com

The Big Fresno Fair Homebrew Competition
Fresno, CA **Entries due September 15th.**
Judging: September 22nd. Entry fee: $0.
Contact: Mathew Humann.
Phone: (559) 618-5848.
Email: matt.humann@gmail.com

Oaktoberfest
Oakland, CA **Entries due September 15th.**
Judging: October 5th. Entry fee: $8.
Contact: Brian Cooper.
Phone (209) 612-4185.
Email: brewerbrian@sbcglobal.net

Queen of Beers
Placerville, CA **Entries due October 1st.**
Judging: October 12th. Entry fee: $TBD.
Contact: John Pyle.
Phone: (916) 316-5811.
Email: jkpyle@comcast.net

California State Homebrew Competition
San Franciso, CA **Entries due October 12th.**
Judging: November 2nd. Entry fee: $8.
Contact: Bryan Gros.
Phone: (510) 336-3377.
Email: statecomp@nchfinfo.org

National Organic Homebrew Challenge
Santa Cruz, CA **Entries due October 15th.**
Judging: October 19th. Entry fee: $8.
Contact: Cary Sunberg.
Phone: (831) 454-9665.
Email: 7bridges@breworganic.com

Many more competitions are going on around the country and around the world so……
Go to www.homebrewersassociation.org for a

complete list. For a complete list of BJCP competitions, go to http://www.bjcp.org/apps/comp_schedule/competition_schedule.php

Spent Grains

Brian Kellough, Strand Treasurer

No significant changes to report. We enter August with about $3,500 in the bank. Inflows included $45 in raffle money from the last meeting. We have some great prizes coming up at the raffles, so get your tickets at the meetings and let's have a great year for the raffle!

To get reimbursed for club expenses please bring receipts to the meetings and I'll write you a check or scan your receipts and email them to treasurer@strandbrewersclub.com and I'll send you a check through online billpay.

Membership Renewal Time!

We have members from 2012 that have not yet renewed their memberships. You know who you are. Dues are $35 ($37 through paypal) for individual membership and $45 ($48 through paypal) including a spouse. TO MAKE IT EASIER FOR YOU, WE HAVE AN ONLINE PAYMENT OPTION THROUGH PAYPAL! Click here for information. It is nominally more expensive, but infinitely more convenient for all involved! If you don't like paying online, still fill out the application form electronically and email it, then just mail a check made out to "Strand Brewers Club" to me at 10890 Whitburn St, Culver City, CA 90230. You can also hand me a check or cash at the next club meeting (however, all applications should still be submitted electronically).

Attention returning and current members: If you think your contact information is different than what we have on file, please fill out the online membership application at the link above. It is a fillable pdf you can save and keep for your records. Annually we'll ask renewing members to check their forms and make sure the information is current.

Prizes, Prizes, Buy Your Raffle Tickets for Prizes!

What's On Tap

Tammy Minion, Strand Activities Director

August 17th
BBBB. The Strand Brewers Club annual bike, beach, beer tour along the Strand will be hitting the following locations: Simmzy's in Manhattan Beach at 10:30AM, Abigailes in Hermosa Beach at 12PM, Mediterraneo in Hermosa Beach at 1:30PM, Naja's in Redondo Beach at 3PM and Select Beer in Redondo Beach at 5PM. The times are approximate, but I will try to keep to the schedule and will not skip any place. You can call or text me at 310-303-9686 to find our location during the day of the event.

August 1st
National IPA Day at Smog City Brewery. Celebrate with Smog City as they tap their cask of Dr. Hoo-Mango Hoptonic IPA. They used mango and peach juice as the sugar source for the cask refermentation and generously double dry-hopped with Simcoe and Chinook hops.

August 4th
Meet the Ballast Point Brewer at the Congregation Ale Houses; Pasadena – 1PM, Azusa – 2:30PM and Long Beach – 5PM.

August 8th – 15th
Naja's IPA Festival. Naja's will have commemorative glassware and will be tapping different casks every couple of days.

Tammy Minion handing out Spent Grain Dog Biscuits to excited passersby at the Strand Brew on the Strand.

August 8th
Anchor Day at Select Beer. Anchor Brewing Co. beers and pizza.

August 9th
Brew at the LA Zoo – 6PM to 10PM. Spend the evening wandering the zoo, sampling beer and listening to DJ MORNINGSTAR and live local bands. Pub-style grub will be available for purchase. Tickets are $45 pre-sale online, $50 at the door (subject to availability) and $25 for Designated Drivers. http://www.lazoo.org/brew/

August 10th and 11th
Downtown Beer Crawl. This event is sponsored by the Beer Chicks and includes unlimited pours of over 100 craft beers at seven downtown bars. Details and ticket purchases at http://lacraftbeercrawl.eventbrite.com

August 10th – 18th
14th Annual Belgian Beer Festival Part II at Luck Baldwins. Details at http://www.luckybaldwins.com/

August 22nd
Dog Days of Summer at Total Wine & More – 6:30PM to 8:30PM. This class is all about the many craft beers that have 'dog' in their names. $15 per person. http://www.totalwine.com/eng/event/18848

August 22nd
New Belgium at Select Beer. New Belgium Brewing Co. beers.

September 14th
The 2nd Annual Drink Good Beerfest. Over 60 rare and/or unique craft beers from 30+ breweries will be offered. Tickets are $25 pre-sale until August 21st, general admission for $35 before the event, and $40 at the door. Admission includes ten 4 oz. tasters, live music, beer forums, demonstrations and a commemorative glass. For more information visit http://www.thefactorylb.com/The_Factory_Gastrobar/Events.html or email Natalie Gutenkauf at TheFactoryLB@yahoo.com.

September 15th
3rd Local Craft Beer Festival at Rock & Brews, El Segundo. 15 local craft breweries will offer up their flaghship and rare beers. Bring the whole family! Great beer, food, music, games and freakshow costumes all rolled into one great event. Admission is $50 for adults and $10 for kids. http://rockandbrews.eventbrite.com/

For more events check the Strand Brewers Beer Events calendar: https://www.google.com/calendar/embed?src=tammy.minion%40gmail.com&ctz=America/Los_Angeles.

Brewing the Best Damn Beer

Strand Brewer of the Year Points Standings

Mike Haisma, Strand Communications

Hey, guys & gals! This month's standings haven't changed too much except for some more competition results rolling in and Jim Hilbing coming back with even more medals!

These standings are only as accurate as the information they are based upon, so I need everyone's help to keep them up-to-date. If you or someone you know has participated in a points-earning activity (see the full list in the January 2013 edition of the Dregs), please send me an email (communications@strandbrewersclub.com) and I will update accordingly.

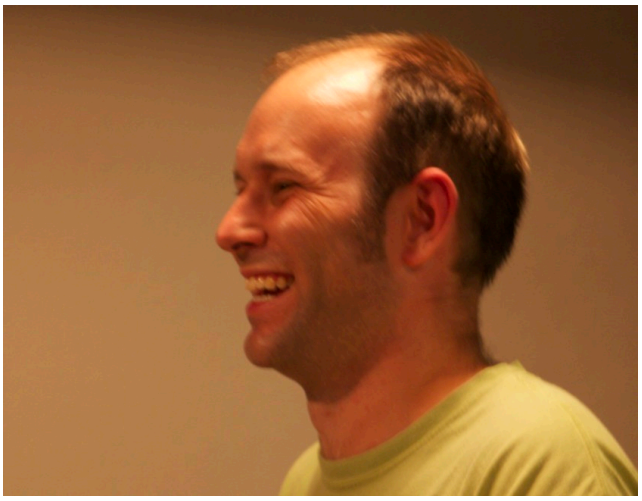
Name	Points
Jim Hilbing	148
Rives Borland	80
Jeff Sanders	43
Jim Wilson	42
Mike Haisma	39
Hunter Thacker Steve Fafard	19
Ryan Penrod	18
Bob Wilson	14
Tom Kulzak	11
Rick Wirsing Nate Federman	10
Ryan Ferrasci Dave Peterson	9
Steve Gardner Jared Carson Eddie Martinez	7
Rich Thornton Jim Webster Jay Ankeney	6
Adam Pike	5
Micheal Litsey Donna Boyce David Eaves	4
Tammy Minion Steve Dehart Janet Fukumoto	3
Wally Senff Victor Pyter Lisa Cooper Lee Richardson Doug Toperzer Charlie Thacker	2
Rory Dewan Ron Cooper Robert Hernandez Jimmy Gullenback Graham Hebson Ethan Allen Dan Bottoms Christian Sims Charlie Wallace Brian Basye Brendan Binns	1

Coffee Roasting and Beer

Ryan Penrod, Roaster Extraordinaire

I think for many of the same reasons I started brewing beer, I roast coffee. Buying green coffee and roasting it is significantly less expensive than buying quality roasted coffee. It is one of the best ways to learn how roasting and coffee processing methods affect the flavors of coffee. Starting with green unroasted coffee gives you a greater variety of options because you can choose the coffee's origins and processing methods so as to get the flavor profile you want. And of course we end up with a tasty product to share.

Additionally, green coffee has a shelf life of about one year whereas roasted coffee lasts less than three weeks from roasting before becoming stale. The initial cost outlay can be very minimal and roasting is easy.



Ryan Penrod lecturing on coffee roasting.

You can see the difference between stale and freshly roasted coffee. In Figure 1 just off boil water poured over stale coffee is shown.

Figure 1. Brewing stale coffee in an Aeropress.

In Figure 2, the same volume of just off boil water poured over the same amount of fresh ground coffee on the right is shown. The fresh coffee has a thick layer of foam from the coffee releasing gasses as it comes in contact with hot water. As roasted coffee ages it oxidizes and eventually this will not happen as seen in Figure 1.

Figure 2. Note the visible bloom caused by the fresh coffee.

Figure 3 shows some examples of green coffee. These two coffees were grown on the same farm, Kilimanjaro in El Salvador, but the coffee fruit was processed differently. Finca Kilimanjaro was the 1st place winner in the first Cup of Excellence held in El Salvador, 2003.

Figure 3. Green Coffee.

Brewing Coffee. The Specialty Coffee Association of America (SCAA) has published a chart to calculate water volume for extracting optimal flavor from coffee. It is shown in Figure 4. This basically works out to 10 grams of coffee per 6 ounces of water. Yielded brewed coffee will be less than 6 ounces due to the coffee absorbing some water. Water temperature should be between 195 degrees F and 205 degrees F (Rao, Scott; The Professional Barrista's Handbook; 2008).

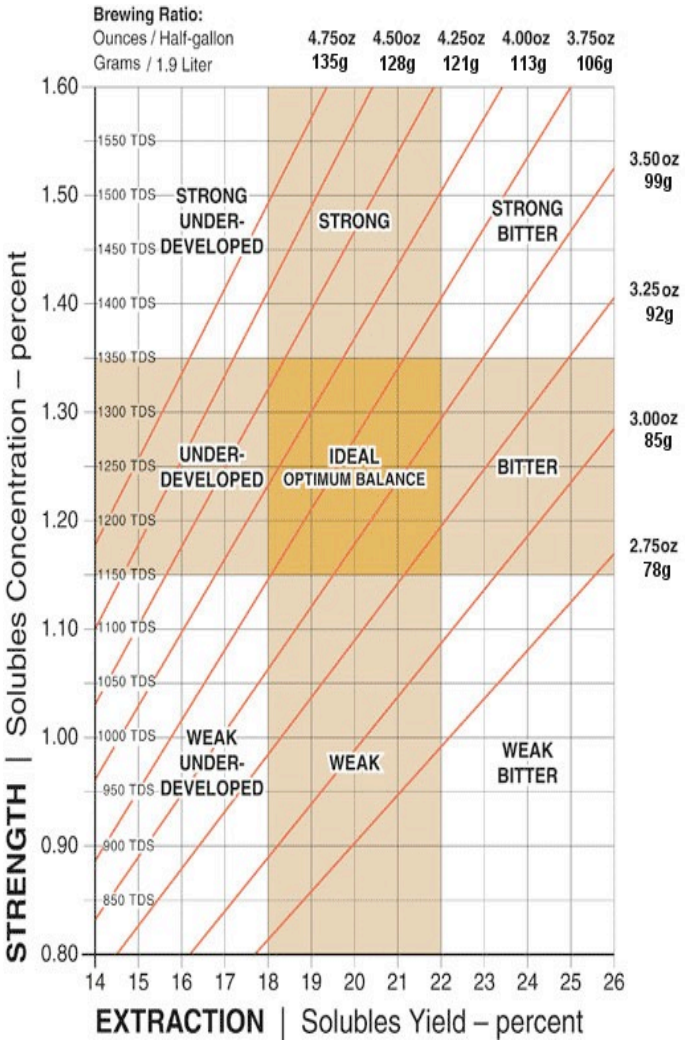


Figure 4. Calculating water volume for extracting optimal flavor from coffee.

The SCAA also recommends a brew time for the water to be in contact with water. I cannot find a reference for this but for a pot of coffee it is around 6 minutes, and when brewing an individual cup, less. The SCAA certifies machines that brew within their standards. Currently, readily available machines include the Techinivorm Moccamaster, the Bonavita 1800, the Bunn phase brew, and the Behmor Brazen (not yet certified and it appears to have some problems with manufacturing, but appears to meet or exceed every SCAA requirement). There may be a few other machines certified by the SCAA but I believe they are all significantly more expensive than the 100 plus dollars the ones listed retail for. I recommend brewing coffee with a pour over coffee filter and a hot water kettle, as it costs significantly less and the results are good.

Roasting Basics. Let me begin with a warning. Roasting coffee is a fire hazard. Coffee is roasted to at least a temperature of ~415 degrees F and to a state called 1st crack when the roasting coffee becomes exothermic. Never ever leave roasting coffee unattended.

There are two basic methods to roast coffee characterized by how heat is transferred to the coffee beans, fluid air bed and drum roasting. There are many appliances for sale to roast coffee ranging from about $100 to over $1,000. In general, home air roasters take around 6 minutes to complete a roast and are faster than drum roasters, while drum roasters take 10-15 minutes to roast, but have a larger capacity. Many people start home roasting by using a heat gun with a stainless steel bowl and wooden spoon, or a stovetop or electric popcorn popper. These roasting methods are all much less expensive than a roasting appliance, so it is how I recommend starting. If you use an air popcorn popper to roast coffee, make sure it has metal slits in the side of the roast chamber so the hot air agitates the beans like the one shown in Figure 5. And understand you are voiding any warranty on the machine and creating a fire hazard.

Roasting coffee will produce a distinct smell and chaff. Some find the roasting smell pleasant, but most prefer to roast near a well-ventilated window or outside. Chaff is a fine skin encasing the coffee bean that comes off during roasting. It can create a large mess if the coffee roaster is not attentive.

Figure 5. A popcorn popper suitable for roasting coffee. The dark patina on the inside of the popper is from coffee oils.

Roasting Process. There are many good resources available on the web for information about coffee roasting. The following description of roasting is drawn from some of these sources.

Unroasted coffee looks similar to the coffee shown in Figure 2. As the coffee is roasted it will turn whiter and then yellower. During this phase the coffee is drying. As the beans yellow, steam may be emitted as internal water begins to dissipate. Initially, a grassy smell may also be detected. As the coffee continues to yellow, a more hay like smell is emitted. Next the coffee beans begin to swell, turn tan and toasty aromas (such as toasted grain or bread) may be present. The coffee will start to produce chaff. Some also call it silver skin. As the coffee continues to roast, the sugars in the bean will start to caramelize and Malliard reactions occur turning the beans browner. Different sugars will begin to caramelize at different temperatures: fructose at 230 degrees F, glucose and sucrose at 320 degrees F and maltose at 356 Degrees F. When 1st crack is reached the coffee temperature is around 356 degrees F and there is an audible popping. The sound is similar to popcorn popping and occurs because water is rapidly leaving the coffee beans. During the browning stage and 1st crack, the bean's surface texture is rough and color is uneven as seen in Figure 6. Once 1st crack is completed, or any point afterward, the roasting process can stop and the coffee can be considered finished.

Figure 6. A light roasted coffee that did not enter 2nd crack.

As the roast continues past 1st crack, the coffee bean expands and the surface smooths as seen in Figure 7. Caramelization of the sugars continues (370 degrees F is sugars' melting point). Roasting beyond 1st crack develops sweetness and chocolate flavors. Eventually, a second point is reached where popping is heard. It is called the 2nd crack. This is when the cell structure of the bean breaks down. When 2nd crack is reached roast flavors will start to dominate the coffees' flavor. Coffee roasted into second crack will eventually develop oil spots on bean surfaces. The roast can continue past the start of 2nd crack. About 10 seconds into 2nd crack is what is considered a Vienna roast. This corresponds to a bean temperature of 446 degrees F. Roasting much beyond a Vienna roast results in all varietal flavor being lost and quickly progressing to charcoal.

Figure 7. The smooth surface and rounded edges indicate this coffee was roasted into 2nd crack.

After roasting is finished the coffee should rest for about three days to allow flavors to develop. The coffee will rapidly release CO_2 gas during this phase and caution should be used if storing in an airtight container. The coffee will reach peak flavor sometime between three and ten days from roast and stay fresh for up to 20 days.

Coffee and Beer. Coffee is a common additive to stouts and porters because the dark roasted malts and toasted barley produce coffee like notes in the beer, so the coffee flavors harmonize with the flavors already present in the beer. Commercial examples include Alesmith Speedway Stout, Smog City Groundwork Coffee Porter, and Lagunitas Cappuccino Stout. This is not an exhaustive list. Recently there have been some interesting releases of coffee flavored beers that are not traditionally flavored with coffee. These include Dayman Coffee IPA (the result of a collaboration among Aleman Brewing, Two Brothers Brewing Co., and Stone Brewing Co.) and Allagash Brewing Co. Coffee Curieux. There is even a brewery in Prague, Pivovarsky Dum, that makes a coffee lager. There was also a coffee flavored beer event on Father's Day in the Los Angeles area that featured six different breweries each making a beer flavored with coffee from different roasters.

Methods for Adding Coffee to Beer. I started home brewing when I was already roasting and one of my initial brewing experiments was to combine my two hobbies and make a coffee stout. When I first began researching online for beer recipes that included coffee I was disappointed because most suggested adding ground coffee to the boil. However, when I was doing research for this article I found plenty of other ways to add coffee. Ground coffee can be added to the mash, the boil or the finished beer. Hot brewed coffee, cold brewed coffee or espresso can also be added at any of these stages. I felt the flavor of early coffee additions would be lost during a boil and fermentation, and adding ground coffee to the boil would add bitterness but not the flavor and complexity that is possible in coffee. Instead I opted to add brewed espresso to my finished beer. I made an oatmeal stout divided the beer and added espresso at a ratio of ~4 ounces to 5 gallons and ~8 ounces to 5 gallons. I found both beers enjoyable and received generally good feedback. I continue using this method to add coffee to beer.

In conducting research for this article, I found an article published by Brew Your Own entitled, "Brewing With Coffee." It includes three recipes that do not add coffee until after fermentation is complete. In the article Doug McNair, of Redhook Breweries notes that it is a big challenge ". . . to get a harmonious roast note from the coffee without picking up the harsh acidic flavors." He said, "I found that mash or kettle additions always picked up way too much harshness, not unlike that office pot of coffee that has been sitting around too long. We settled on doing the additions on the cold side in the cellars (secondary fermentation) and the results were much better — nice roasted characters blending with the roasted malt flavors to yield a complex multi-layered flavor profile." This supports my assertion that adding coffee to the boil is not ideal. In general I find the article accurate and well written, but I do take a few issues with it. Sumatra and Guatemala Antigua coffees are described as light blends. Sumatra is actually a coffee growing region that produces coffees that consistently hold up very well to dark roasts (beyond 2nd crack). Guatemala is also a region and Antigua is a coffee cultivar. Depending on where it is grown and how it is processed, it can easily be roasted to the verge of 2nd crack, something I would consider a medium roast. The article also suggests adding flavored coffee to beer, for example, a mint chocolate flavored coffee. I think it preferable to use coffee to add the coffee flavor and mint and chocolate for those flavors, rather than a mint chocolate flavored coffee.

Many beer recipes with coffee additions appear to have been developed with the coffee as an afterthought. I found a recipe that used cold brewed coffee, but didn't take into account that the ground coffee will absorb a significant amount of water. For instance, to make ~6 ounces of concentrated cold brew from 80 grams of coffee, I use 10 ounces of water.) Another recipe called for a number of ounces of brewed espresso, but did not specify any details about the espresso. The varietal and

the strength of the espresso will greatly affect the beer's flavor. For example, Espresso Vivace in Seattle uses 20+ grams of coffee to brew <20 ml of espresso, whereas other cafes may make 60 ml of espresso from the same amount of ground coffee.

In my opinion, Smog City Groundwork Coffee Porter is delicious. At the Tustin Brewing Company Monster Brew sponsored by Pacific Gravity I was able to chat with Jonathan Porter, Smog City Head Brewmaster. I learned that he adds ground coffee to the finished beer in the keg to add coffee flavor to his porter. John also talked about adding an Ethiopian coffee to a pale beer to highlight the fruity flavor these coffees can have and getting a beer that had blueberry flavors. This caused me to revisit how a homebrewer should add coffee to beer. The potential for cold brewed coffee to produce a superior product in less time was exciting.

The home brewer has different constraints than a commercial brewery. For instance, brewing espresso to add to 5 gallons of beer has required about an hour of my time. This isn't ideal but certainly manageable. But when scaling to commercial volumes, it seems rather prohibitive. When John and I talked about his coffee porter he mentioned working with the coffee roaster to insure the coffee was sanitary and would not increase the potential for infecting the beer. A home brewer may not be able to engage a coffee roaster.

My initial decision to use brewed espresso to flavor beer was because hot brewed or drip coffee can have too much acidic flavor and the cold water used to brew cold brewed coffee doesn't extract all the flavor compounds. Another concern was how to deal with the oils present in coffee. Paper filtering coffee removes some of the oils that add flavor but can also affect head retention of beer. I chose to use brewed espresso with no paper filtering when adding brewed espresso to beer.

To revisit how a homebrewer should add coffee flavor to beer, I conducted a few brewing experiments. My goal for these experiments was to determine how much varietal character is carried into beer and is there an ideal way to add coffee to beer.

For the first experiment I brewed a 2 gallon batch of beer and divided it into fourths. I kept one unflavored as a reference, and added espresso, cold brewed coffee and hot brewed coffee respectively. I found that the more concentrated the addition of coffee, the richer the flavor. Whereas the more dilute additions of coffee resulted in drier more bitter flavors. Coffee flavors may be enhanced by using a brewing method like espresso or a moka pot where the brewed coffee is concentrated and brewed with hot water for a short time. There may be an advantage to flavoring beer with brewed coffee that has not been paper filtered, however the beer's clarity will suffer.

The second experiment was to add espresso from different coffees to the same base beer and what coffee flavors would be imparted. This experiment clearly showed that different coffees produced different flavors in the beer.

At the Strand Brewers July meeting, members tasted the beers from the first experiment. I was surprised that each method had at least one member favoring it. There was no clearly preferred method. I draw from this and the results of the experiments that the best method and coffee to use for flavoring beer is dependent upon on the individual likes of the brewer.

Lots of tasting going on at the July meeting.

Keeps Cold Things Cold and Warm Things Warm

By Rick Wirsing, Green Frugal Brewer

Among the challenges of homebrewing is controlling fermentation temperatures. Most of us have learned through experience that temperature excursions above and below a yeast's preferred range can result in undesirable beer flavors and other bad characteristics. The summer is a particularly difficult time to control fermentation temperatures, but even the winter can be difficult depending on the yeast you are using.

A search of the internet will provide you with many designs and suggestions for controlling fermentation temperatures. They include: a corner in a closet, water baths with ice, chambers with ice, refrigerators, freezers and stainless steel fermenters with cooling and electric heating systems. Each of these has costs and benefits. For example, the closet is cheap, but doesn't provide much control. At the other extreme, the stainless steel fermenter with cooling and electric heating systems is very effective, but costly.

I decided that I wanted to have as much control as possible without getting too costly. As I usually do when I decide to design and build something, I look at the available equipment and parts I have accumulated from my prior attempts to design and build things. If I can use anything I already have, it justifies, at least in my own mind, that I am being frugal and green. I will have saved money by not buying something and I will have been green by repurposing something. Even if I have to later spend a lot of money making those things work, or have to replace them to make my design work, I have already satisfied my need to be frugal and green.

So here is what I came up with for fermentation temperature control. It is a water bath that utilizes an aquarium heater for heating and a pond pump that pumps water through a copper coil in the freezer of my refrigerator/kegerator for cooling.

I started with a Rubbermaid Brute 32-Gallon Trash Container. In it I put a submersible aquarium heater and a pond pump.

I put the fermenter on a dolly to make it easy to move around.

The aquarium heater and pump are at the bottom of the fermenter.

Water will be added to the fermenter container to the point where the carboy containing wort floats. The bungie cords and a Brew Hauler stabilize the carboy.

I use glass carboys for fermentation. I want the carboy to be totally suspended in the water bath, no direct contact with the fermenter container, to prevent direct heat loss or gain through the container walls and bottom. I fill the container with enough water that the carboy containing the wort actually floats. I use a Brew Hauler and bungie cords to stabilize the carboy. I find that floating the carboy is helpful too when I siphon from the carboy in the fermenter to another carboy for secondary fermentation or into a keg. The carboy in the fermenter rises up as it empties, which helps maintain the siphon.

I use a two stage electronic temperature controller with a temperature probe that monitors the wort temperature. Based on the recommended temperature range for the yeast, I set upper and lower temperatures. When the wort temperature reaches the lower set temperature, the aquarium heater is powered up. When the wort temperature reaches the upper set temperature, the pump is powered up and water is pumped from the fermenter, through a coil of half-inch diameter copper in the freezer and back into the fermenter for cooling. The installation of the coil required that I drill two holes through the side of the freezer. I checked to be sure that there were no electrical or cooling components of the refrigerator in that wall.

The copper coil extends through the sidewall of the freezer.

The fermenter sits next to the refrigerator/kegerator.

I use thick walled thermoplastic tubing for the cooling system. I had tried plastic tubing, but I found that it would kink and restrict flow. The tubing is long enough to allow moving the fermenter from the side of the refrigerator out to the front so as to allow me access to the things I inevitably drop behind it. The tubing extends through holes I drilled in the top of the fermenter container. I use tubing clamps to keep the tubing in place with respect to the top.

The cooling water return tube is on the left and goes to the top of the coil. Note that it does not extend into the water so as to allow the coil to drain.

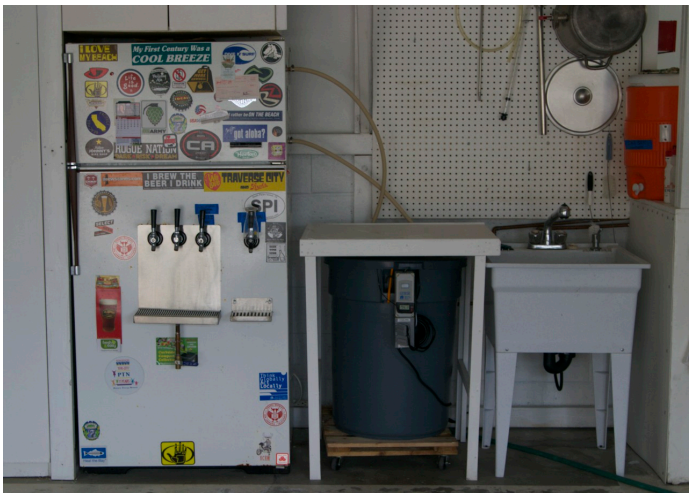
It is very important that the tubing for the flow of cooling water into the fermenter not extend into the water. When the pump turns off, the coil must drain back into the fermenter. Otherwise, water that stays in the coil will freeze. That will pretty much shut down the cooling system. I have had to make many adjustments to the cooling coil to make sure it drains completely. Even now, I have to be careful not to disturb the coil while moving things around in the freezer. I have considered shortening the coil and other modifications to prevent freezing. At the moment though, it is functioning fine, so I am not motivated to change it.

I use a submersible aquarium thermometer to monitor the temperature of the water bath. I have not conducted any experiments monitoring the difference between the water bath temperature and the temperature of the wort. I have observed, however, that typically during active primary fermentation, the temperature may differ by as much as two degrees. During later stages of fermentation, the difference may be less than one degree.

I have used this fermenter for an Oktoberfest and a Dark American Lager for which the fermentation temperatures had to be maintained at around 50 degrees F. Currently a Russian Imperial Stout from the Brew on the Stand is in the fermenter. The yeast we are using is the White Labs WLP090 San Diego Super Yeast. The optimum ferment temperature range for this yeast is 65 to 68 degrees F. I have the set temperature for cooling at 67 degrees F with one degree of differential. This means that the cooling pump turns on at 67 degree F and turns off at 66 degrees F. I have observed that the fermentation temperature has consistently been maintained in the range of 66 to 67 degrees. The set temperature for heating is at 64 degrees with one degree of differential, but I have not observed the aquarium heater operating.

The Russian Imperial Stout from the Strand Brewers Brew on the Strand is currently in the fermenter. You can see that cooling water is flowing.

I also built a table that slides over the top of the fermenter. This provides countertop space that is very useful when I am cleaning my brewing gear at the sink.



The refrigerator/kegerator, fermenter, table and sink; major components of my brewery.

References

By Rick Wirsing, Dregs Editor

No officer, I've not been drinking, but I did have a huge fruit salad. Not a good response to being pulled over you might think. But wait a minute, there is yeast in your guts. Endogenous ethanol production is the term for alcohol produced naturally within the body. Depending on diet (perhaps a lot of fruit) and other factors, up to about one ounce of pure alcohol can be produced within the body each day. That amount equals almost two standard drinks of beer, wine or liquor. Some studies suggest that in rare and extreme cases enough endogenous ethanol could be produced to result in a blood alcohol level high enough to qualify persons as legally drunk. Although California law recognizes the defense of involuntary intoxication, "auto-brewery syndrome" has not become an effective defense for drunk-driving. The problem is that in order to have such a high level of endogenous ethanol production, a person would have to have some rare condition leading to a very serious yeast infection that has probably put them in the hospital and unable to drive in the first place. Not enough endogenous ethanol could be produced in a relatively healthy person to significantly affect blood alcohol levels. So, there is no defense for drinking and driving! Just Don't Do It.

Want to be more attractive? Drinking beer is well known to do that, at least in the minds of those who are doing the drinking. A recent study showed that drinking a beer can also make you more attractive to mosquitos.

If you didn't already get your tickets to the Great American Beer Festival, you are too late. Public ticket sales sold out in 20 minutes. Approximately 49,000 people are expected at his year's event.

Another reason you've got to love Oregon. The cascade hop was developed at Oregon State University. Check out this You Tube.

Tell Us What You Are Doing

Your stories are welcome in The Dregs. Upgrade your brewery? Fine tune your practice? Take a road trip? Do well in a competition? Have recipes to share? Read a good beer book? Have club related pictures, especially for the Dregs cover? Send all those, or anything else you think would be interesting to Rick Wirsing. Thanks!

What We Stand For

The objectives of the Strand Brewers Club are to brew beer and share information about the brewing, presentation, consumption, judging and history of beer. We promote and encourage homebrewing competition and hope to foster general goodwill through the making and consuming of this noble and most excellent beverage. We aim to brew the best damn beer.

It is our policy to brew and consume beer strictly for fun. Under no circumstances does Strand support or condone in any manner the sale or barter of homebrewed beer, or the operation of a motor vehicle under the influence of alcohol by a member or a participant in any club event or the provision of alcohol to minors.

2013 Club Officers

President	Rives Borland	310-469-3634	president (at) strandbrewersclub dot com
Vice-President	Jeff Sanders	310-292-9301	vp (at) strandbrewersclub dot com
Treasurer	Brian Kellough	310-947-1855	treasurer (at) strandbrewersclub dot com
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Editor	Rick Wirsing	310-872-9915	editor (at) strandbrewersclub dot com

Mentors

The following members have volunteered to answer your brewing questions and to help beginning brewers learn the craft. You should take advantage of their expertise.

Bill Krouss	310-831-6352	bkrouss (at) cox dot net	Rancho Palos Verdes
Dave Peterson	310-530-3168	diablo390 (at) aol dot com	Torrance
Jay Ankeney	310-545-3983	jayankeney (at) mac dot com	Manhattan Beach
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