
The Hopline



Crescent City HomeBrewers

Volume 24, Issue 5

May, 2014

Editor: Monk Dauenhauer



MEETING LOCATION

Deutsches (Half-Way) Haus

1023 Ridgewood Street

Metairie, LA

May 7, 2014 @ 7:00 P.M.

Our Club Officers For 2014 are:

Richard Doskey – President

Jack Gonzales – Vice President

Brandl Charbonnet – Secretary

Marcel Charbonnet – Treasurer

Keith St. Pierre – Quartermaster

???-Web Master



SHARE YOUR BEER

Bring your brew to the meeting.

When you bring your creation to the meeting, please sign the BROUGHT BEER sheet, legibly, with your name and the style(s) you bring.

Last Meeting we had:

Meeting Note: When you come to the meeting at the Deutsches Haus realize that for the past 20 years they have allowed us to use their facilities free of charge. *The only thing they ask is for us to patronize the bar.* So, we encourage you to have your first beer from their taps. They have a quality selection.

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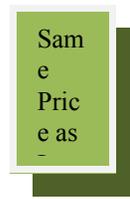
Web Site Links to Some of Our Sponsors and Brother Clubs.

- [Deutsches Haus](#)
- [Southern Brewing News](#)
- [New Orleans Brewing Company](#)
- [Heiner Brau](#)
- [Abita Brewery](#)
- [Crescent City Brewhouse](#)
- [Gordon Biersch](#)
- [NOLA Brewing Company](#)
- [BrewStock](#)
- [BR club-Brasseurs a la maison](#)
- [Dead Yeast Society – Lafayette](#)
- [Bicyclebrewclub](#)
- [Louisianahomebrewers](#)

Maltmunchingmashmonsters



**HOW DO WE GET NEW MEMBERS?
BY ASKING OUR FRIENDS NOW, NOT
TOMORROW**



Dues R Due

Use the membership form on page 6 of this rag or on our web site

www.crescentcityhomebrewers.org
Bring it to the meeting or mail it to:
Crescent City Homebrewers, Inc.
1213 Curtis Drive, Harvey, LA 70058
Makes checks payable to:
CCH

A Continuing Series from **Greg Hackenberg**

MAY 2014

This month's topic is sugar.

I'm not talking about the Molasses, Panela, Piloncillo, Cane Syrup or those other exotic and interesting types that require a trip to the ethnic market. This month I'm going to talk a bit about that nasty, cheap ingredient that we all know has no place in the brewing of good beer; sugar. Yes, the white (and not quite white) stuff. If you've read my diatribes before, you can probably guess that I'm about to tell you that, in fact, sugar is not nasty and cheap, but is an incredible resource for the brewer, adding flavors, color and consistency. But, sadly it is one that's use has been largely ignored and openly derided.

To start we (or at least, I) must ask; why does the average home brewer or craft brewer sneer when sugars in beer is brought up? A couple of reasons, I would suppose. First we have all heard the stories of early home brewing and those beginner kits which paired large quantities of white sugar with malt extracts and the "cidery" flavors that result. Next I think there are some subliminal effects of the Reinheitsgebot and that idea of all-malt being the only "real" way to brew. In addition there continues to be an attitude that anything the big FYS brewers do, we must do the opposite! Therefore adjuncts of any sort must be reviled and discarded.

And then there's this, which seems to be embedded in the DNA of home brewers. As my tattered copy of The Complete Joy of Home Brewing attests, sugar is used to save money, boost alcohol and "lighten" the flavor of beer. So, is that really the case? Let's take a look.

In commercial brewing sugar is not used to cut costs. Any cost savings are negligible, and depending on malt prices, sugar might actually cost more per pound of extract. It certainly is true sugars can produce alcohol without imparting much in the way of flavor, and sometimes that is a worthy goal (Belgian Tripple, anyone?). But rice would do the same a lot more economically. And that cidery flavor? Outside of one of those basic sugar bomb kit beers, has anyone really tasted that "cidery" flavor? And if you did, are you really sure it was caused by sugar, or is that just what you've always been told caused it? Questions, questions...

So as you might expect this installment will deal with the British use of sugar (I'll have more about other traditions along the way). Wait? You're suggesting that there's sugar in British beer? Certainly, not! Why, look at these recipes, look at these guidelines, there's no sugar anywhere, just as it should be! Yes, that might be, but there's a reason. When those beer style guys phoned in their research, sugar was denounced as Mass Marketed Capitalist Beer Decadence, and the apparatchik diligently began expunging it from recipes and brewing history. They never bothered to look at exactly what all these British brewers had been adroitly including in their beer since the "Free Mash Tun Act" of 1880 removed the restrictions on sugar and adjuncts in beer.

And all those old brewing records they conveniently ignored clearly and unequivocally show the widespread use of brewing sugars, right on up to the present day. And they show very particular types of sugar...No. 1, No. 2, and No 3. What are these? It's not white sugar. These are invert sugar syrups.

Invert syrups involve a bit of chemistry. Sucrose (regular old sugar) is two simpler sugars glucose and fructose joined together. Unlike maltose which is two glucose molecules, yeast need to flip the glucose-fructose bond to break it and get at those simple sugars. That takes time and extra effort by the yeast and if you've read my bit on British yeasts, they hate extra effort. But the good news it can be easily done on its own in with heat in an acid environment, which we call "inverting" the sugar which will result in a syrup at room temperature. In my opinion the "extra effort" by the yeast is overstated for two reasons. No one has ever really quantified exactly what this extra effort actually produces that would be bad. And that acidic environment and heat? That would be your boil. Boil the sugar in the wort and it will be inverted. So why bother with a syrup? Well there's a lot going on in making the actual syrup the inversion.

First thing that needs to be shouted from the ramparts is these Invert syrups are and were not the simple syrups made from white sugar, which are used mostly in baking. In baking a shelf stable clear invert sugar syrup finds a home, in beer...not so much. So don't fall for the apparatchik substituting refined sugar for the old school inverts.

These syrups begin with the slightly unrefined Demerara, or "Sugar in the Raw" as it's sold in the US. Yes, a light brown cane sugar with a subtle molasses quality. David Line (I've mentioned this guy before, wrote an incredibly visionary book on home brewing in the 1970's) employed Demerara sugar in a number of his recipes, but he kind of missed the boat on this. Given the somewhat secretive nature of British brewers this is understandable, but he was pretty close. Demerara was only the base of these syrups, and a pretty good base it is.

But it's those numbers; they indicate varying shades: No. 1 is a not so light 12-16 SRM, No. 2 30-35 SRM, No 3. a molasses like 60-70 SRM. There are even notes to "black invert" and a No. 4. Many logs contain references to proprietary types of which we can only guess. But they open a world of flavor contributions.

We know, or you should know, that it is through the Maillard Reaction (browning) and process of caramelization that a lot of the flavors we love in beer come about. This occurs in the raw ingredients; the base malts, specialty malts, sugars, etc. and again in the brew kettle. Same applies to sugar all by itself, and that's how invert syrups are produced. The acidified sugar is heated and "cooked" at 240 degrees. The inversion part happens pretty quickly, but in these those Maillard and caramelizing reactions are allowed to run riot.

These are the notes from an invert sugar experiment (not mine, but rather descriptive) for tasting at set intervals.

7 minutes: Frosted flakes, biscuity? caramel?

10 minutes: Chocolate! and caramel

pH — What is it and where can I get some?

By Mike Retzlaff

The term pH expresses the degree of acidity or alkalinity of a solution, in which “p” is the negative logarithm of “H,” hydrogen concentration ($\text{pH} = -\log[\text{H}^+]$). It being expressed as a logarithm is similar in concept to the Richter scale to measure earthquakes. Each number is ten times the value of the previous number. A pH of 6 is ten times more acidic than a pH of 7. Now you can relax; that’s about as technical as I’ll get in this article.

pH runs on a scale of 1 to 14 with 7 being neutral. Most municipal water supplies have a pH of slightly over 7 which keeps pipes from corroding. The pH level affects enzyme function, hop extraction, and yeast vitality. It also affects the drinkability of your finished beer! We’ve all read or been told that we want a pH of 5.2 to 5.5 in our mash. Different enzymes which break down the components of malted and unmalted grains require different pH levels that work best with the individual enzyme. A compromise is made in brewing to give the enzymes a fighting chance to do their job. pH 5.3 is probably the best level to shoot for in this quest. This pH goal is measured at mash temperatures.

There are natural components in malt which cause the pH level to drop when the malt is mixed with water. Roasted grains are more acidic and cause the pH to drop more than paler malts. I used to check pH of the mash with litmus papers. Within the last few years, the papers I had been using became unavailable. All I can get now are the little plastic sticks with a test patch on the end. These work but reading them without proper lighting gives me fits. I bought a pH meter and my life got much easier. It is accurate and the guessing game is over. Because of my ability to check pH with certainty, I was encouraged to do something about the chemistry of my water. Fortunately there is only minor adjustment required to tune-in the water for most of what I brew. I started using John Palmer’s RA worksheet. One thing he stresses is the Residual Alkalinity of brewing water. Another is the Chloride/Sulfate ratio.

The concept of residual alkalinity was published in 1953 by Paulas Kohlbach, who determined that calcium and magnesium in brewing water react with malt phytin to neutralize alkalinity.

Alkalinity that is not neutralized by calcium and magnesium is termed “residual” alkalinity, and this residual alkalinity will drive the pH of the mash, and subsequently the beer, upwards. As mentioned before, this changes the beer’s flavor, dulling it or even causing it to be harshly bitter.

Residual alkalinity is not the balance of hardness to the alkalinity; it is the balance of alkalinity to the calcium and magnesium levels and the malts. For this reason, you need to know the individual calcium and magnesium levels in the water, not just the total hardness as CaCO_3 . It is the residual alkalinity and the natural acidity of the malts in the grain bill that determines the mash pH. Get a water chemistry report from your water supplier.

Another thing that Palmer stresses is the Chloride/Sulfate ratio. The chloride to sulfate ratio is known to be a strong factor for the taste of the beer. A beer with a ratio of chloride to sulfate of 0.5-1 will have a maltier balance, while a beer with a chloride to sulfate ratio of 1-2 will have a drier, more bitter balance. Jefferson Parish municipal water is already in the slightly bitter range of this ratio at about 1.58. ($\text{sulfate} \div \text{chloride} = \text{ratio}$)

Adding salts is one way to build the RA and flavor profile that you want for the beer. You may want to trade-off between different calcium salts to balance the anion content. For example, if the sulfate level gets too high from adding gypsum, use some calcium chloride instead. If the alkalinity is not high enough for a dark beer, try adding a combination of sodium bicarbonate and calcium carbonate.

Here is where the sulfate to chloride ratio is useful to help choose which salts to use in adjusting the RA. It works hand in hand with pH adjustment. If you are intending to brew a hoppy beer, use sulfate salts to move the balance toward the bitter end. If you are intending to brew a malt dominated beer, then use chloride salts to move the balance toward the malty end. Alternatively, you can use a combination of chloride and sulfate salts to keep the character balanced.

For best results, in all beer styles, the mash pH should be 5.1–5.5 when measured at mash temperature, and 5.4–5.8 when measured at room temperature. (At mash temperature the pH will measure about 0.3 lower due to greater dissociation of the hydrogen ions.) Darker malts have more natural acidity, and therefore require more residual alkalinity to balance them to arrive at the optimum pH. This relationship is a general one – different malts of the same Lovibond color value can have different amounts of acidity. You can use the calculated color of a beer recipe as a guide, but don’t rely on it as gospel to determine the appropriate amount of residual alkalinity; it is a general relationship, like cloud color and rain.

The pH of the wort drops with the addition of hops during the boil. The pH of the beer continues to drop during fermentation. Most finished beer should be about pH 4.6 or slightly less. Higher pH will cause the beer to taste dull or flabby. Think of it as squeezing a lemon on fish or a salad; it brightens the flavors. Many beer styles such as Wit and Stout should have a lower pH. There are a number of sour beers which normally range down to pH 3.2 because of a ferment inoculated with bacteria.

I don’t recommend fiddling with water chemistry without using something like Water Witch, Palmer’s RA worksheet, or a brewing software package. The mathematics can get quite involved and guessing could easily be worse than doing nothing at all. Besides, the water of the New Orleans metro area doesn’t need much help but you’ll never know how good your beer can be if you don’t give it a shot.

What pH is and how it works is not hard to understand. It is simply one of the indicators and tools we can use to brew better beer.

Recommend reading: (see if I’m full of poop!)

Fix, G., *Principles of Brewing Science*

Noonan, G., *New Brewing Lager Beer*

Palmer, J., Kaminski, C. *Water – A Comprehensive Guide for Brewers*



CRESCENT CITY HOMEBREWERS

1213 Curtis Drive, Harvey, LA 70058

Email - cchopline@aol.com

2014 MEMBERSHIP APPLICATION

Yearly Dues: \$30.00

Mission Statement and Purpose

To promote Homebrewing within the club; through public awareness and appreciation of the quality and variety of homebrew; through education and research; and through the collection and dissemination of information. To serve as a forum for technological and cross-cultural aspects of the Art of Homebrewing. Most importantly, to encourage responsible alcohol consumption.

New Member Returning Member (joined CCH in _____)

Name:

Home Telephone:

Home Address:

Cellular Telephone:

City, State, ZIP

e-mail Address

Date of Birth:

Spouse:

Occupation

Homebrewing Experience: Beginner Intermediate Advanced

Beer Judging Experience:

BJCP Ranking: # Apprentice Recognized

Certified National Master

Non-BJCP: None Experienced Professional Brewer

I FULLY UNDERSTAND THAT: My participation in the Crescent City Homebrewers is entirely voluntary. I know that alcoholic beverages are offered at various functions, and that my consumption of these beverages may affect my perceptions and reactions. I accept full responsibility for myself, and absolve the CRESCENT CITY HOMEBREWERS, ITS OFFICERS, DIRECTORS, AND FELLOW MEMBERS of any responsibility for my conduct, behavior, and actions.

SIGNED: _____ **DATE:** _____, 2014

Paid: \$ Cash Check #

For the responsible drinker, there is always another party.

Schedule of Events

2014 CALENDAR

May

CCH General Membership Meeting	Wed	7	7:00 pm	11:00 pm
Brew Off – Greg Hackenberg	Sat	24	8:00 am	

June

CCH General Membership Meeting	Wed	4	7:00 pm	11:00 pm
WYES Beer Tasting http://www.wyes.org/events/beer.shtml	Sat		6:00 pm	9:00 pm
Brew Off – The Barnett's	Sat		8:00am	

July

CCH General Membership Meeting	Wed	2	7:00 pm	11:00 pm
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August

CCH General Membership Meeting	Wed	6	7:00 pm	11:00 pm
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September

CCH General Membership Meeting	Thu	3	7:00 pm	11:00 pm
Pensacola Emerald Coast Beer Fest	Fri	5	TBA	TBA
Pensacola Emerald Coast Beer Fest	Sat	6	TBA	TBA
Pensacola Emerald Coast Beer Fest	Sun	7	TBA	TBA
Brew Off – Rick Doskey	Sat	13	8:00 am	

October

CCH General Membership Meeting	Wed	1	7:00 pm	11:00 pm
Club Brew	Sat	?	7:00 am	4:00 pm
Club Brew at Oktoberfest Grounds in Rivertown Kenner	Sat		2:00 pm	?:00 pm
Deutsches Haus Oktober Fest Last 3 weekends. Kenner Old Town October TBA 11:00 AM until ???				

November

CCH General Membership Meeting	Wed	5	7:00 pm	11:00 pm
CCH Winterfest @ Deutsches Haus	Sat	?	6:00 pm	11:00 pm
Club Brew	Sat	8	8:00 am	4:00 pm

December

CCH General Membership Meeting, Nominees from Floor, Election and Christmas Party Location Pending	Fri	5	7:00 pm	11:00 pm
Club Brew	Sat		7:00 am	4:00 pm

CRESCENT CITY

HOMEBREWERS

C/o Monk Dauenhauer.
7967 Barataria Blvd
Crown Point, LA 70072

