ALPHA BITS

The Monthly Newsletter of the Tennessee Valley Homebrewers
October 2007

ABOUT TVHA

The Tennessee Valley Homebrewers Association is for homebrewers and beer enthusiasts in the Knoxville area. Our members represent all levels of home brewing experience and invite like-minded folks to join us. We typically meet once a month at various locations.

We sometimes meet at member's homes for brewing demonstrations and tasting sessions, at local Brewpub, and Taverns with a wide variety of brewed beverages.

You might find some of us at Downtown Grill and Brewery or Calhoun's at any time!

Look for details about of our next meeting on the Calendar or visit our website at http://www.knoxhomebrewer.com.

You can also contact us at mailto:info@knoxhomebrewer.com.

CALENDAR

October 13th - Brewer's Jam!

October 23th (Tuesday) 3rd In Club Open Competition

November ??

December - In Club Open Competition/ and Christmas Party (Yule for the Druids amongus)

Club Officers

Bill Walton	**El Presidente**
Dennis Collins	**Equipment Frekn'er**
John Peed	**Treasurer**
Paul Hethmon	**Master of Webbling**
Jonathan Shireman	**Newsletter Editor**

See http://www.Knoxhomebrewer.com for information about entering the In Club Competitions

TVHA Dues are $15. You can send your dues payment to our treasurer:

John Peed,
30 Outer Drive
Oak Ridge, TN 37830

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Make your check out to ***Tennessee Valley Homebrewer's Association***.

Your dues can be paid at any time by sending a check to John. Your dues help us in our mission to encourage homebrewing, help -homebrewers improve their brewing skills, educate non-brewers in their appreciation of craft-brewed beer. By paying your dues you provide support to club events including brewing seminars, tasting seminars, and homebrew competitions.

In-CLUB COMPETITION

The In Club competitions have been held at Calhoun's on Bearden Hill June 21st and August 22nd. The next one is coming up fast, October 23rd. Pre-registration really helped in the first two so we're going to keep doing it that way. John Peed will be the organizer for the third, and we will be looking for someone to organize the fourth.

Send your beer information to John Peed (jrpeed@gmail.com) We have a few regulars (if 2 times counts as "regular") and a number of 1 time entrants, and we would like to see some of the one-time entrants enter a second and third time, so take a look at the beers you have stashed away, and pick a one out to enter. If you are

hesitant or intimidated by the task of picking the right style category, use the following process:

- Consider what kind of beer you intended to brew
- Go to http://www.bjcp.org/stylecenter.html and find that type of beer in the style guidelines
- Read the characteristics of the beer you intended to brew
- Sit down with the beer and a beer judging score sheet and the style guidelines and do the "S"es (swirl, smell, sip and spit (or swallow))
- Write down notes about the intensity of the basic characteristics of the beer
    - Malt aroma and flavor
    - Hop aroma and flavor
    - Presence or absence of yeast character (fruitiness, diacetyl,
- Using the style guide judge whether you beer fits with in the parameter bars of the style.

Usually a beer style is marked by a dominance of one characteristic. IPAs are dominated by hop flavor and aroma, with enough malt to give a nice body and grainy after taste. Scottish ales are dominated by malt and a slight ester character from the yeast, but do not have a heavy body, and the hops are way in the background. Decide which character dominates and enter it in the category that seems to have that character accentuated. You can always bring the beer to an emergency meeting and get the opinion of the crowd.

To enter of a beer in the competition, contact the organizer by e-mail and give your name, the BJCP style of beer you are entering and your contact information. The next competition is going to be held October 23rd and as of this writing, just 4 short weeks away. We did announce it a month ago so you should have been brewing something!

Bring your beer to the competition site the day of the competition, and find the registration table, registration starts at 6:00pm.

Go have a beer. The Judging will start at 6:30 and should be done by 7:30 pm.

The compilation of the scores to date is provided at the end of the newsletter.

2008 National Homebrew Competition will be held in Cincinnati, Ohio .June 19 - 21

Given the fact that Cincinnati is only a few hours away the Tennessee Valley Homebrewer's Association should be able to put together a contingent to attend. And we should be concentrating on having a few members entering the qualifying rounds, to hopefully, enter the NHC. First round entries are due in April, and we want to get those beers perfected by then. In the next few months we will be covering topics related to planning, brewing and shipping to win a competition. As with successfully completing any task, planning is key.

BEER STYLE OF THE MONTH
Oktoberfest

Oktoberfest beers started appearing in stores about three weeks ago, and Big River Tavern tapped their Oktoberfest September 20th. You may wonder what's up with that, shouldn't Oktoberfest be in October? Well no, Oktoberfest is a two week festival which *ends* the first Sunday in October, and begins close to the first day of Fall. This year's dates are September 22nd to Oct 7th.

The Oktoberfest beers are copper lagers which have a strong malt flavor and aroma and an assertive hop bitterness, but little to no hop aroma and a subdued hop flavor. Malt flavors should be complex, with a dry grainy flavor complemented with hints of caramel and toasted malt or biscuit. Hop flavors should be subdued slightly earthy or spicy typical of Hallertau hops. The finish is dry, but the pallet may be softened by the slight alkalinity of the brewing waters. An Oktoberfset should not be a sweet beer, but should be a rich filling beer that easily complements schnitzel, kartoffelpuffer, and Black Forest Cake.

Beer Style of the Month Calendar

January	New for the New Year
Febrewary	Brown Ales
March	American Ales
April	Pale Ale and IPA
May	European Lager
June	German Ales
July	Lawn Mower Beer I
August	Lawn Mower Beer II
September	Stout and Porter
October	**Oktoberfest**
November	Light Hybrid Beer

BJCP STYLE (2004)	Min OG	Max OG	Min FG	Max FG	Min ABV	Max ABV	Min IBU	Max IBU	Min SRM	Max SRM
3.B. Oktoberfest/Märzen	1.050	1.056	1.012	1.016	4.8	5.7	20	28	7	14
5A. Miabock/Helles Bock	1.064	1.072	1.011	1.018	6.3	7.4	23	35	6	11

A stronger version of the Oktoberfest beers is Miabock, also a fest beer, but served in the spring rather than the fall. Miabocks are bigger beers, with a richer malt character and a slightly higher hoping level.

LOOKING AHEAD TO DECEMBER WINTER WARMERS

American Barleywine

Assume 75% grain extraction rate. These recipes assume you are using pellet hops; increase the hop amounts by about 25% if you are using leaf or plug hops.

Suggested yeast: Wyeast 1056, (WPL001
Estimated original gravity: 1.115
Estimated IBU: 110

If you cannot get dry malt, replace it with about 1.4 X liquid malt (i.e. replace 3 lbs dry malt with 4.25 lbs liquid malt extract)

Extract: 10.5 LB dry light malt for the malts And 3 lbs 40L Crystal Malt 6.5 oz of Cascade at 6 AAUs (30 HBU) 2.5 oz of Cascade at 6 AAUs (12 HBU) 4 oz of Cascade at 6 AAUs (18 HBU) 2 oz of Cascade at 6 AAUs (12 HBU)	Steep specialty grains at 150°F in 4 quart of water for 15 minutes. Strain add sprage with 2 quarts water at 170°F. Do not squeeze. Add more water to have a total of 2.5 gallons of wort. Add the dry malt extract. Proceed as for the Partial Mash.
All Grain: 18 lbs American 2-Row malt 3 lb 40 L Crystal malt 5 oz of Cascade at 6 AAUs (30HBU) 2 oz of Cascade at 6 AAUs (12 HBU) 3 oz of Cascade at 6 AAUs (18 HBU) 2 oz of Cascade at 6 AAUs (12 HBU)	Mash at 150°F by combining 7 gallons of water at 164 ° F with the grain. Rest for 60 minutes. Sparge with water at 170 F to collect 655 gallons. Boil the wort for 10 minutes. Add 5 oz Cascade hops, boil 45 minutes. Add 2 oz. Cascade, boil 14 minutes add 3 Oz. Cascade. Chill to fermentation temperature, aerate and pitch yeast. Put 2 oz Cascade in secondary 1 week before bottling.
Partial-mash: Substitute 8.25 lbs light dry malt 1 lbs American 2-Row malt 3 lbs 40L Crystal Malt 6.5 oz of Cascade at 6 AAUs (30 HBU) 2.5 oz of Cascade at 6 AAUs (12 HBU) 4 oz of Cascade at 6 AAUs (18 HBU) 2 oz of Cascade at 6 AAUs (12 HBU)	Mash at 150° F in 6 quarts of water at 164F for 30 minutes. Sparge with water at 170° F to collect 1.5 gallons. Add more water to make 2.5 gallons. Add the dry malt extract. Boil the wort for 10 minutes. Add 6.5 oz Cascade hops, boil 45 minutes. Add 2.5 oz. Cascade, boil 14 minutes add 4 Oz. Cascade. Chill to fermentation temperature, aerate and pitch yeast. Put 2 oz Cascade in secondary 1 week before bottling.

Aroma of The Month

Specialty Malts

Specialty malts are employed by all-grain and extract brewers alike to add extra dimensions of flavor, aroma, and body to beer. The most commonly used specialty malts are crystal malts and the roasted malts, chocolate, black patent, and roasted barley.

Crystal malts are produced by heating the wet, germinating (sprouting) barley to mashing

temperatures of 150 to 170 degrees for about 2 hours. The starch in the grain converts to sugar. Then the temperature is raised and the grains dry.

Varying the time and temperature of the drying produces crystal malts of various colors, ranging from very light (1.5 Lovibond) to rather dark (200+ Lovibond). The term "crystal malts" refers to the traditional crystal malts of English and American origin as well as brand names like "Special B", "Caramunich", and "Cara Pils". Some of the crystal malts easily found around town are described in the table below. In general, crystal malts add color, some sweetness, and body to beer. Depending on the degree of drying, some contribute other characteristics as well.

Roasted malts are produced by drying malt in a rotating roaster for various amounts of time (around 2 hours) and at different temperatures. Roasted malts include very light varieties (like "toasted", "biscuit", and "Victory" malt by Briess Malting Company). These add toasty or biscuit - like flavors to the beer and can be quite strong. These types of malts must be mashed as they have high starch and can contribute starch haze if they are merely steeped.

More roasty types of malts - the chocolate and black patent type malts - are produced by roasting for longer periods of time. Belgian "roasted malt" is essentially the same as black patent malt. Another variety that falls in this family is the roasted unmalted barley used for stouts, which is simply barley that is roasted for long periods of time without prior malting. These darker malts do not need to be mashed for use in beer.

Crystal Malts:

Briess Carapils (1.5 Lovibond) A pleasant, grainy aroma and mild grainy flavor (must be mashed)

Briess Caramel 40 (40 L) Adds a nice milk chocolate type aroma, very caramel flavor

Briess Caramel 80 (80 L) toasty flavor, lots of dark caramel, and resiny tobacco-like aroma

DeWolf-Cosyns Caramunich (55L) mildly fruity aroma, some toasted notes; fruity flavor

DeWolf-Cosyns Special B (75-150L) raisin and dark malt aroma, raisin and dark caramel flavors

Weyerman Caramunch I (42L) light raisin aroma, some fruitcake-like aroma; slight caramel flavor

Roasted Malts:

Briess Chocolate Malt (350L) dark malt and ripe fruit aroma; slight coffee; no sharpness/bitterness

Briess Roasted Barley (300L) coffee-like aroma and flavor, some dryness added to mouthfeel

Briess Black Barley (525L) strong coffee aroma and flavor, adds more dryness to mouthfeel than Roasted barley

(Reference: Al Korzonas' "Homebrewing Volume I", an excellent reference for beginners and advanced homebrewers alike.)

BJCP QUESTION OF THE MONTH

By Tom Karnowski

The Brewing Process
T15. Discuss the following brewing techniques. How do they affect the beer?

a) step infusion mashing
b) krausening
c) sparging
d) adding gypsum
e) fining

(a) Step infusion mashing consists of raising the temperature of the mash by adding quantities of boiling water. There are two or three steps performed in step infusion mashing. The first step, which is often omitted, is called the “acid rest” and, when performed, it is the initial rest the mash undergoes. The temperature of the mash is typically around 95 F, which causes the reduction of the pH for some malt types. Acid rests are performed in strict Rheinheitsgebot environments where chemicals or acids are not used to adjust for water chemistry. The desired pH is between 5.0 and 5.5. The next step performed, and often the first step performed, is the protein rest, where boiling water is added to bring the mash to a temperature around 130 F. The protein rest proceeds for about 30 minutes and causes large proteins to break down into smaller and medium sized ones. Again, it is desired that the pH be between 5.0 and 5.5; if it is higher than this, gypsum can be added, and if it is lower (which may be possible with darker beers), calcium carbonate can be added. The next step is the saccharification rest, which is performed by adding boiling water to raise the temperature to

145-158 F. In this temperature range, alpha and beta amylase convert the starches in the grains to sugar. A single infusion mash consists of no real infusions – rather it is the act of mashing in the grains to a temperature in the saccharification range. Infusions can be simpler to perform than just heating the vessel but they have two drawbacks: first, more volume is needed because you are adding more liquid, and this can also dilute the concentration of enzymes in the mash requiring longer starch conversion times. We should also note that the saccharification temperature is extremely important; lower temperatures encourage beta amylase, producing drier, more fermentable beers, and higher temperatures encourage alpha amylase, producing less fermentable, sweeter beers.

(b) Krausening is the act of adding young wort back to the fermented beer at bottling time to prime the beer for carbonation. Many homebrewers will not do this; instead, we add corn sugar. However, in strict Rheinheitsbegot (Purity Law) reckoning, this is illegal, so the priming sugar must be malt-based. Although some homebrewers claim they can tell a difference between beers primed in this manner and those primed with corn sugar, most people do not seem able to tell the difference so long as the carbonation levels are equivalent.

(c) Sparging is a largely mechanical activity where the grains of the mash, after saccharification, are soaked with water to dissolve the sugars and separate the crushed grains from the sweet wort. In sparging, water is heated to 170F and acidified to pH around 5.7. A good rule of thumb is to use 1 gallon of sparge water per 1 gallon of the final batch of beer you are making. Conventional wisdom holds that sparging should consist of gently letting the water sprinkle onto the mash and collect the wort slowly, although some folks have begun performing “batch-sparge” where the water is added as fast as possible and flows out as fast as possible too. The efficiency of these latter brewers may suffer some (they get fewer extract points, or fewer sugars, per pound of grain) but in their homebrewing operations they say it is not worth the trouble. Oversparging (using too much water) can produce an astringent beer, as can sparging with water with too high a pH, because these operations extract tannins from the grain husks which lend a mouth-puckering, astringent character to the final beer.

(d) Adding gypsum acidifies the wort during mashing. The desired pH of the mash is 5.0 to 5.5; if the pH is outside this range, the beta and alpha amylase may not work correctly and thus the conversion of starches to sugars may not be completed, which can cause hazy beer (due to starches in the wor)t and improper attenuation of the wort. Gypsum is calcium sulfate. It should be noted that the calcium ions act to lower the pH, while the sulfate has a “side effect” of accentuating hop bitterness and adding a dry finish to the beer.

(e) Fining is the addition of agents to improve the clarity of the beer. The effect can be more than cosmetic because some fining agents can alter the flavor of the beer slightly. A popular fining agent is Irish Moss added during the last 15 minutes of the boil. It is recommended to rehydrate this agent by setting it in water prior to use. Irish Moss encourages protein coagulation and reduces chill haze. Other fining agents include polyclar, which is added during the conditioning phase (secondary fermentation); and bentonite, which is a clay-like substance that is added to the secondary as well.

Scores and Ranks By Competition

Name	Open Competition 1		Open Competition 2		Cumulative	
	Average Score 1	**Rank 1**	**Average Score**	**Rank**	**Score**	**Rank**
Graham Adams	40	8	41.7	9	81.7	17
John Peed	33	4	40.3	8	73.3	12
Jonathan Shireman	42	10	21.6	2	63.6	12
Bill Walton	41.3	9	20.5	1	61.8	10
Dennis Collins	31	3	39.3	6	70.3	9
Jay Schrade	39.3	7			39.3	7
Tomas Kurtz			39.3	6	39.3	6
John Yust	38	6			38	6
BJ Brock			39	5	39	5
Lisa Skelly	34.5	5			34.5	5
Brian Watson			36.2	4	36.2	4
Bob Hess			35.7	3	35.7	3
Mark Shoemaker	28.5	2			28.5	2
Randy Holtzclaw	25.5	1			25.5	1

An Interpretation of Beer Scores

World Class (45-50)	A world-class example of the style. A beer with great character and no flaws. These are the beers that everyone talks about after the competition.
Excellent (38-44)	Beers in this range may have no flaws but may be missing the intangibles for that world-class beer.
Very Good (30-37)	Beers in this range may have a minor technical flaw, or may be lacking in balance or complexity.
Good (21-29)	A satisfactory beer that is generally a good beer. Scores near the upper end of this range may have only a few minor flaws and also may be lacking in balance or complexity. Scores near the lower end of this range tend to have more flaws.
Fair (14-20)	This beer has its share of problems that may include off flavors and aromas, balance problems, contamination, or other major flaws. Scores near the lower end of this range exhibit more major flaws.
Problematic (0-13)	A beer with a major problem (usually contamination) that overwhelms all other flavors and aromas.