

The Worthouse News



A PUBLICATION OF THE EDMONTON HOMEBREWERS GUILD

January 2003

**Our Next Meeting is at Alley Kat Brewing, 9929-60 Ave, Edmonton
Monday – January 6th - 7:30 pm**

The Edmonton Homebrewers Guild Executive (Sept 2002 to June 2003)

President.....Roxy Hastings
Vice-President.....Neil Herbst
Secretary.....Boyd Oberhoffner
Treasurer..... Robert Carminati
Competition Chair..... Glen Hannah
Newsletter..... Günther Trageser

Club Meetings

EHG meetings are held on the first non-holiday Monday of a month, from Sept. to June, at Alley Kat Brewing, 9929-60 Ave, Edmonton. Meetings start at 7:30 pm. A few meetings for this season are planned to be held at local beer establishments well known for the quality of the beer they serve.

Contributions

The Worthouse News is a monthly publication of EHG, mailed to paid members, club sponsors and sister Brew Clubs.

Articles in the Worthouse News may be used in other homebrewing newsletters providing credit is given to the author and EHG.

Submissions to the Worthouse News may be sent to the editor/publisher.

Anyone who has not yet renewed his/her membership, please do so at the next meeting.

Membership fees are due and are still at a bargain price of \$25.00. Please bring a cheque or cash.

Let's hop it won't malt too soon!

Ed.

Finally we got some snow. And what does that have to do with beer, you may ask – a lot. To make beer, you need malt, right? To make malt, you need barley – and not just barley. You need the right varieties and the grain has to be of the highest quality. That means there has to be enough moisture in the ground at sowing for good germination – and that's what we need the snow for... lots of it. So, as you crawl to work after the holidays through freshly fallen snow, SMILE! It's needed for good homebrew!

Welcome back to all to a **Hoppy Brew Year!** I hope you all had a great relaxing holiday week or so with plenty of excellent homebrew some fine wine and maybe some other cockle warmers that our friends of the saccharomyces family and their cousins have inspired mankind to concoct – all accompanied by delicious food and inspiring conversations or a good read.

The downside? That's obvious: the holidays are over and it's back to the old grind. The upside: except for probably Roxy, the beer stores are low and there are new brew sessions to be planned and looked forward to. Brew up a storm!

The old homebrewnews@shaw.ca has been rather busy over Christmas, and that is good news for the newsletter. Essays by our apprentice judges have been pouring in... I may even have enough for two newsletters. Thanks, guys!

Competition News

Kevin Zaychuk

We are very fortunate to have Glen Hannah step forward and take on the challenge of the position of Competition Chair for the ABC2003. Also, since the ABC has grown by pints and quarts over the past few years we have decided to try forming a committee to assist the Chair in organizing. The committee consists of myself, along with Harry Wagner, Richard Bruins, Neil Herbst, Bruce Sample and Greg Wondga. Our goal is to divide some of the responsibilities amongst the

members to take some of the heat off of the organizer and make this one of our best events ever. All though we don't have the official word yet it also looks like we will once again be hosting the MCABVI qualifier for Canada as part of our competition. Of course, to make everything work as smoothly as it has in the past, we will need the support of all the members who can contribute some time to judging and stewarding (and drinking some great beer). We are also going to have a good number of freshly malted judges straight out of Roxy and Neils BJCP course (which by the way will give us the honour of the most judges of any province in Canada). So make sure you keep your brew kettles fired and some spare time for the weekend of the 6th, 7th and 8th in June to support the competition. And don't forget to thank Glen for taking on the Competition Chair position.

P.S. For those of you who won a gold in ABC2002, you are eligible for the MCABV competition this year. If you haven't received any information on how to enter please contact me or go to the website at www.burp.org.

The Mod Squad: Barley, Maltsters and Modification

Kevin Zaychuk

Malt can be considered the 'soul of beer'. However, before a brewer can convert barley to beer, a maltster must convert barley to malt. They do this through a controlled germination or modification of the barley. Modification is defined by the degree of conversion of the starchy endosperm in the barley to soluble malt starch. Upon steeping the barley in water to bring the moisture content to approximately 45%, enzyme synthesis is triggered. The first enzymes synthesized migrate into the starchy endosperm and hydrolyze the cell walls. The proteolytic enzymes (or protein degrading enzymes) are next and lastly the amylases that degrade the starch to produce maltose.

The process of modification must fulfill two key requirements. The first is comprehensive hydrolysis of the cell walls, which softens the grain and facilitates its milling and extraction. The second requirement is that the protein must be substantially broken down to eliminate the potential of haze forming materials. The breakdown of protein also results in amino acids, which are utilized by the yeast.

The maltster must control the modification to allow sufficient breakdown of the proteins, degradation of the cell walls and synthesis of starch degrading enzymes **but** not excess growth of the embryo. The degree of modification may be expressed as a ratio of the length of the acrospire (shoot) to the length of the grain. A ratio of 1.0 indicates fully modified malt. Full modification is at the expense of malt yield, however, undermodified malt requires the brewer to include a protein rest during the mash. This is essential to develop the necessary amino acids for the yeast.

In short, highly modified malt means less complex proteins, less potential for haze in the brew and more amino acids for the yeast. Undermodified malt means potentially more soluble starches to convert but comes with a protein rest requirement to reduce the possibility of a slow or stuck fermentation.

However, to add another twist to modification, George Fix writes that malt modification significantly affects foam stability and flavour. They both decrease with increasing modification. Lager beer made with highly modified malt can result in flavours that were judged to be 'dull', 'unfocused' and 'lacking in fullness'. This is in comparison to continental lager malts which are less modified than U.S. and UK malts (but apparently the continentals are modified much more today than they were in the past). In fact, continental malt is modified only to 50-75%. This retains more of the endosperm for fermentation and creates greater nitrogen complexity although reduces activity of the enzymes.

In summary, the degree of malt modification can affect a number of factors that must be considered by the homebrewer. These range from the affect on fermentation, to the amount of protein haze in the beer and most importantly, the overall taste of the brew.

Battle of the German Ales: Alt vs. Kölsch

Kevin Zaychuk

The Altbier and Kölschbier are German style ales and are unique in that they both use top fermenting ale yeast combined with a period of 'lagering' or secondary fermentation at very cold temperatures. This period of cold conditioning reduces

fermentation by-products and produces a cleaner palate than most ales. One slight exception is that the primary fermentation temperature of an Altbier is lower than that of the Kölschbier and tends towards the low range for an ale yeast.

Another unique characteristic shared by these two beers is that they are each tied to very specific regions in Germany.

Kölsch originates from the Köln (Cologne) area of Germany. Cologne has the honour of having more brewing companies than any other city in the world and most specialize in the Kölsch style. There are 24 designated Kölschbier breweries in the region and the Brewers Association of Cologne protects the name. The beer is pale golden coloured, lightly fruity in the nose, with a soft palate and dryness to slight sweetness in the finish. Hop aroma is low from German hops with low to no maltiness. The fruity-winey bouquet is a very important aspect of this beer and may be enhanced (along with good head retention) through the use of small amounts of malted wheat (10-20%). Using very soft water and an original gravity of approximately 1046 the brew should finish well attenuated with an alcohol content of 4-5% by volume. The bitterness should be in the upper reaches of 20-30 IBU's.

Kölsch makes a good apéritif and in Germany it is served with 'Cologne Caviar' (blood sausage) or steak tartar.

Commercial examples include P.J. Fruh, Malzmühle and Kuppers.

Just as Kölsch is to Cologne, the Altbier is to Düsseldorf. The word 'Alt' is German for 'old'. The beer is made in the way before the 'discovery' of lager yeast. It is copper coloured, has light to medium body and is full of hop character with considerable bitterness without acidity. The all malt mash and the period of cold conditioning at 8°C produce a smoother, cleaner less fruity character than in most Belgian or British-style ales. An Altbier should have an O.G. of 1046 with 5% alcohol by volume and 40-60 IBU's.

Commercial examples include Zum Uerige and Zum Schlüssel.

A slightly lighter in character and less bitter Altbier variation is brewed in N. Germany. They more

closely resemble a moderately bitter brown lager. Commercial examples include DAB Dark and Grolsch Autumn Amber.

References:

Bamforth, Charles W. 1998. *Beer: Tap Into the Art and Science of Brewing*. Plenum Press.

Fix, George. 2001. Malt Modification *in* Kobb – Knights of the Brown Bottle Newsletter, Jan.2001

Jackson, Michael. 1988. *The New World Guide to Beer*. Courage Books.

Papazian, Charlie. 1991. *The New Complete Joy of Homebrewing*. Avon Books.

Wolfe, Edward, et al. 1998. BJCP Exam Study Guide.

Internet with an article about the history of beer in the Czech Republic.

Düsseldorf Alt, California Common and Special Bitter

Tim Oborn (Calgary)

Duesselderfer is an altbier or "old beer" that is similar to a British Pale ale. It is lagered during secondary fermentation and thus has less fruitiness, yeastiness and acidity than the pale ale. Taste is assertively bitter (IBU 40-60) and supported by Munich malt flavors, described in the BJCP study guide (1998) as "a grainy, even harsh or astringent malt flavor". The aroma of the beer is very slight in this beer, including hop aromas which are low to moderate at best. A "restrained fruitiness" and some Munich malt aroma may be detected.

California Common uses a bottom fermenting yeast to ferment at higher ale-like temperatures. A toasted malty flavor is balanced with a strong hop bitterness (IBU 35-45) and a woody or rustic hop flavor owing to the use of the Northern Brewer hop. Aroma may also be woody or rustic. They may also have moderate toasted malt aroma as well as

restrained fruitiness (like the Duesseldorfer Alt). Low diacetyl is acceptable in this style.

Special or Best Bitter is to be moderately to strongly bitter (IBU 20-45). It should have evident malt flavors (often crystal malt in nature) but the balance shifts from even to "decidedly" bitter. Aroma will have moderate fruitiness and should have some malt aroma. It may or may not possess hop, caramel or diacetyl aromas.

Taste differences between the above three would be as follows; Dusseldorf Alt and Special Bitter should be balanced to the bitter side while California Common is all about balance between hop bitterness and malt character. Dusseldorf Alt has more of a malty balance than Special Bitter and has a characteristic Munich malt taste. Special Bitter also should have much more hop flavor than Dusseldorf Alt.

With aroma, Dusseldorf is to have little. California Common should have a pronounced woody hop and a toasted malt aroma. Special Bitter also has malt aroma but also a moderate fruitiness, uncharacteristic of Dusseldorf or California Common.

	Duesseldorfer Alt	California Common	Special Bitter
bitterness	Very strong	strong	medium to strong
hop flavor	Low to medium	Medium to none	medium
maltiness	Intense malty	medium malt	Low to medium malt
BALANCE	highly bitter and malty	Well balanced malt, hop and bitter	More toward bitter and hop
aroma	low	Woody, malty	Malty, fruity

Give the name of the German purity law, its provisions, historical significance and current status.

Glen Hannah

The original German Purity Law "Reinheitsgebot", was actually created by the Bavarian government in 1516 to protect the privilege of the nobility of pure Bavarian beer, and control the price of beer to protect the consumer. Hence, not originally German

but Bavarian! The Bavarians whom at the time referred to their land as the "Free State of Bavaria", were proud of their beer, and its purity law, refused to join the Federation of German States in the late 19th century without the inclusion of "their" purity law Reinheitsgebot. Its mandate allowed only three ingredients to be used in the process of making beer: water, barley and hops. Yeast at the time wasn't known. Later in 1603 wheat was admitted into the law to consume the over production of the crop in Bavaria.

The modern version of Germany's laws on the ingredients of beers were drawn up from a mixture of economic and public health motives as city and state governments were formed in the late medieval period. This applied to all German brewers making beer for consumption in their own country. Once yeast was discovered as a main ingredient in the making of beer, the law required that four basic ingredients be admitted in the process of making beer: malted barley, hops, water and yeast. In any given region there were and still are many alternate grains containing starches that are abundant and need to be consumed which are less expensive than malted barley that can be used in the brewing process. Corn, wheat, oats, and rye to name a few. Until the late 1980's Germany was the only country in the world to strictly enforce against using anything but the four basic ingredients. Now that Germany is a member of the European Economic Community (EEC), Reinheitsgebot is an option.

Differentiate ale and lager yeast in fermentation characteristics and taste of beer.

Ale yeast is top fermenting (*Saccharomyces Cerevisiae*) that is best used in temperatures between 55-70 degrees F (13-21 C). Some strains of ale yeast will flocculate at the top of the beer during the first few days of fermentation before settling to the bottom of the fermenter. They form colonies, which are supported by the surface tension of the wort and create a very thick, rich head. They ferment glucose, fructose, mannose, galactose, maltose, sucrose, xylulose, and maltotriose, and partially ferment the trisaccharide raffinose. They split off and ferment the fructose molecule from raffinose, leaving the disaccharide melibiose. Ales are typified by a rich, full-bodied profile with a fruity nose and taste. Each strain has unique characteristics, which can be enhanced or

minimized depending on formulation and fermentation temperatures and variations in the pH.

Some Guinness was spilled on the bar room floor as the pub was closed for the night. Out from his hole crept a wee brown mouse and stood in the pale moonlight. He lapped up the frothy brew from the floor and back on his haunches he sat. And all night long you could hear him roar "Bring on the God damn cat!!!"

After the Great Britain Beer Festival, in London, all the brewery presidents decided to go out for a beer. The guy from Corona sits down and says, "Hey Senor, I would like the world's best beer, a Corona." The bartender dusts off a bottle from the shelf and gives it to him. The guy from Budweiser says, "I'd like the best beer in the world, give me 'The King Of Beers', a Budweiser." The bartender gives him one. The guy from Coors says, "I'd like the only beer made with Rocky Mountain spring water, give me a Coors." He gets it. The guy from Guinness sits down and says, "Give me a Coke." The bartender is a little taken aback, but gives him what he ordered. The other brewery presidents look over at him and ask "Why aren't you drinking a Guinness?" and the Guinness president replies, "Well, I figured if you guys aren't drinking beer, neither would I."

Q: How many Irishman does it take to change a light bulb?

A: Two. One to hold the bulb, and one to drink until the room starts spinning.