



BARON MIND

The Monthly Publication of the Beer Barons of Milwaukee

August 2002

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Witbier: Belgian White

by Martin Lodahl

As the North American beer consumer has grown in sophistication, it is only natural that the Belgian styles have become hot items. The Belgian brewing tradition is remarkable for its variety and imagination; whatever characteristics you may want in a beer, there is some Belgian style that either now has or once had those characteristics. This time of year, when the emphasis is on beers of relatively light body and a refreshing crispness, the hottest of the Belgian styles is that superb cooler, the "white" beer.

Called biere blanche in French and Witbier (or simply Wit), in Flemish (pronounced somewhere between the English "wit" and "wet"), this type of wheat beer was once the dominant style in the area east of Brussels, from which the city of Louvain and the village of Hoegaarden shipped competing variants of the style to the rest of Europe (1). In the 18th and 19th centuries the advantage went to "biere blanche de Louvain," with more than 30,000 tonnes (approximately 6,400 bbl) shipped annually to Brussels, where for many years the beer was sold by the cask in an open-air market appropriately called La Place de Louvain. A Brussels city ordinance, dated "1 Floreal An VI" (20 April 1798) in the short-lived calendar of the French First Republic, banned the open-air trade in blanche de Louvain in any location adjoining a public street, ending the curious custom. The "blanche de Hougaerde" of the time was quite similar but never enjoyed the same popularity as its rival, presumably because of the larger town's greater resources for production and distribution.

As happened with many distinctive beer styles, the lager revolution of the 19th century made serious inroads into the traditional Witbier markets, and in the years immediately following World War II the style was on the brink of fading away. Jackson reported that the last of the Hoegaarden breweries producing this style had been closed some 10 years when Pierre Celis revived the style in 1966 (2), though one Louvain brewery soldiered on into the mid-1970s.

The revival was a complete success; there are now many beers of this style, brewed both inside the style's traditional homeland and out. Celis's De Kluis brewery, producer of Oud Hoegaards (sold in North America as Hoegaarden White) is now part of the Interbrew brewing giant. Celis meanwhile has started a new brewery near Austin, Texas, which produces the elegant and crisply beugiling Celis White.

The Character of Wit

So what is this style? First, it's a type of wheat beer. As with most wheat beers, the relatively high protein content leads to haze, giving the beer a light golden color and hence its name. Traditional recipes describe the grist as around 54% malted barley, 41% unmalted wheat, and 5% unmalted oats, though considerable variation was surely present (1). The malt was the extremely pale "wind malt," air-dried rather than kilned, and made from two-row barley. Modern formulations rarely use this malt because it is expensive and difficult to obtain. Original gravity is usually around 11-12 degrees P (1.044-1.048), and it is lightly hopped (<20 IBU) with low-alpha hops, generally Styrian Goldings, Saaz, or Kent Goldings.

Hops are far from the only flavoring, though. In a practice harking back to before the days when beer was universally hopped, Witbier is spiced, usually with coriander and the peels of both sweet and bitter oranges and frequently with at least one more "secret spice" known only to the brewer and the brewer's herb merchant.

Historical evidence suggests that these beers were once intensely sour, and although modern examples tend to be dry, few are more than lightly tart. The lightness of body from the wheat and a firm tartness from the hops, bitter orange, and yeast offset perfectly the smoothness of the oats and the sweetness of the sweet orange, making this among the most refreshing of beer styles.

In its heyday, it was hugely popular with the grain and beet farmers in the area where it was made, and today's examples combine the crispness of a hot-day refresher with a delicacy and complexity that makes them a delight to the palate at any time.



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See *Witbier*, page 3

Upcoming Events

Meeting Dates and Style-of-the-Month:

August 28th: Weiss & Wit Biers
September 25th: Oktoberfest
October 23rd: TBA
November 20th: Style Groups
December 18th: Holiday Party



Tastings, Competitions, etc...

August 30 – 31, 2002; Glendale, Wisconsin - 14th Annual Sprecherfest

- Fundraiser for Friends of Channels 10/36

Location: Old Heidelberg Park, 700 W. Lexington

Admission: \$5 Friday; \$3-5 Saturday

Time: Friday: 4 PM - Midnight; Saturday: Noon - Midnight

Contact: (414) 964-7837

September 2, 2002; Cedarburg, Wisconsin - Cedarburg Maxwell Street Days

September 4 – 7, 2002; Chicago, Illinois - 17th Annual Berghoff Oktoberfest

Location: Federal Plaza, Dearborn & Adams

Contact: (312) 427-3170

September 7 - 8, 14 - 15, 21 – 22, 2002; Glendale, Wisconsin - United German Societies of Milwaukee Oktoberfest

Location: Bavarian Inn, 700 W. Lexington Blvd

September 15, 2002; Glendale, Wisconsin - Jolly Stein Hunters Beer Stein Show & Sale

Location: Bavarian Inn, 700 W. Lexington Ave.

Time: Noon - 5 PM

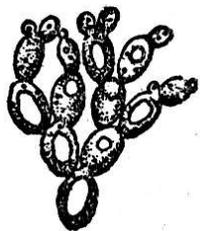
September 27 – 29, 2002; West Allis, Wisconsin - Harvest Fair

Location: Wisconsin State Fair Park

Event dates courtesy of Cream City Suds - creamcitysuds.com

Reusing Your Yeast: PART 3 of 4

by Mike Schwartz



This is part three of the four part series on reusing and getting the most from your yeast. It focuses on yeast storage for healthy non-mutated yeast. The key factors are storage media, temperature, and time frame. There has been a lot of discussion on the best methods for storage of yeast with the three main methods being storage in sterile distilled water, saline solution, or in replenished wort. A lot of the information available on the internet is just

unsubstantiated opinion and brings to mind the old adage about opinions... This is a summary of the good (substantiated) information that I've been able to find on these storage methods.

Storing the Yeast

Yeast are living organisms and require good care to maintain their health.

Specifically the best environment for yeast is low in oxygen, CO₂, and alcohol, has little or no bacteria and a temperature between 33 and 38EF. Oxygen makes the yeast break down faster. CO₂ is toxic to yeast at concentrations above those achieved at normal atmospheric pressure. Alcohol is toxic to yeast as anybody who has tried to brew a reaaaalllyyyy high gravity beer knows. Higher temperature makes yeast do everything faster, including die and break down.

Sterile Distilled Water

After you wash your yeast it's in sterile distilled water. Many claim this is the best media for storage. Proponents of this method claim storage times of 6 months or longer, some say indefinitely. The belief is that the yeast become dormant because there is no food. Evidence shows that yeast lasts about 30 days (in some cases it lasts up to 60 days) and lager about 10 - 15 days (at 50% viability) in sterile distilled water at 34EF. Beyond these times the yeast degrade quickly. Unfortunately, dormant doesn't mean suspended animation. Yeast banks like Wyeast and White Labs keep the yeast at -60EF in cryogenic freezers to stop the yeast degradation. While yeast banks freeze the yeast you shouldn't! They put the yeast in a solution of 15% glycerol and sterile distilled water to prevent the yeast cells from rupturing. Don't think you can copy them unless you have one heck of a freezer. The break down of yeast doesn't stop until -50EF.

Saline Solution

The idea behind saline storage is that the osmotic pressure (generated by the difference in concentrations of chemicals across a permeable membrane) is balanced by the salt and causes less stress to the yeast. If you add NaCl (sodium chloride or table salt) or KHP (potassium hydrogen phosphate) to create a 2% solution in sterile distilled water the yeast, particularly lager yeast, last slightly longer but the difference isn't enough to justify the extra work.

Replenished Wort

Two weeks appears to be a key time frame for storage. If you're going to use your yeast stored in sterile distilled water within about 30 days for ale yeast or 2 weeks for lager yeast, then you need do nothing extra. If you want to store it longer than these time frames then the yeast need to eat, drink, and be merry just like us. To store the yeast longer it's best to pour off the sterile distilled water after the yeast have settled for a week or two, then add wort (yeast starter) at a gravity of around 1.030 to 1.040. Repeat this every two weeks with fresh wort and you'll be able to keep your yeast for at least several months. Just be very careful about sanitation.

How I Do It :)

I like to keep yeast in sterile mason jars and use the plastic caps from mayonnaise jars. You can drill a hole through the plastic cap for an air lock. I make up a big batch of wort and can it in beer bottles, about 8 ounces per bottle. I also keep a 2 liter bottle of sanitizing solution mixed so it's ready when I need it. Just rinse the jar and cap with the sanitizer before opening it to change the wort. Pour off the old wort (now beer!) and pour in a new bottle of wort. Even when I get lazy and only add wort every month or so the yeast seem to be fine. I've found that my yeast only last around six months or so if I don't reuse it by then. If I keep reusing the yeast it lasts for at least four generations and sometimes up to ten.

The best things to get from this are store your yeast in the refrigerator in sterile containers with some fresh yeast starter every once in a while and brew regularly with each yeast.

The last installment in this article will be on propagation. How to build your yeast up for pitching and making sure that you have enough healthy,

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Beer Good For Sex Life

A Czech doctor says that by drinking beer every day men may keep their sex lives active. "If men drink two beers a day they can stave off impotence," says Dr. Pavel Zemek of the Czech Center of Gerontology in Prague.

Zemek says his research shows beer can have a "powerful effect" to stop the arteries becoming blocked. "On the basis of clinical tests we can say moderate amounts of beer lessens arterial sclerosis, one of the causes of erectile dysfunction," he told a local newspaper.

As others do when discussing beer and health, he warns against excessive drinking. "Drink too much beer in one go and the positive effects are negated," he says, "but, as the saying goes, a little bit of what you fancy does you good."

Born-On Date: 2400 B.C.

Japanese brewer Kirin has revived a 4,400-year-old beer recipe taken from ancient Egyptian hieroglyphics, but with the idea of selling it. "The Old Kingdom Beer" is the color of dark tea and about 10% alcohol, about twice the strength of "average" beer. "It also has a taste very different from today's beer," Kirin spokesman Takaomi Ishii said. "It tastes a little like white wine." The beer is brewed with barley, like modern beers, but without hops.

Kirin has no plans to sell "The Old Kingdom Beer" commercially. The 30 liters (8 gallons) brewed in the current batch will be presented at an October conference of the Master Brewers Association of America in Texas.

Kirin developed the beer with Sakuji Yoshimura, a noted Egyptologist at Waseda University in Tokyo, using a recipe from 4,400-year-old Egyptian wall paintings. Evidence of beer making in Egypt dates back to the 10th century B.C.

Students Invent Powdered Beer

Two Purdue University students have developed a freeze-dried beer spice. Michelle Kelly and Luke Meyers developed the non-alcoholic (*sorry*) spice as their senior research project for the class Agricultural and Biological Engineering 556: "Food Plant Design and Economics." Freeze-dried beer has been developed before for non-commercial uses, but this is thought to be the first freeze-dried beer developed as a spice.

So far the students have created from both light and dark beers. The lighter version is a cream color and the dark beer powder is a darker shade of brown.

"It could be used for dips, sauces, in breads or batters, or sprinkled on popcorn or potato chips," Kelly said.

Source: Real Beer Page – www.realbeer.com



September Officer's Meeting / Social Hour
Date: Thursday, September 5th
Time: 7:30pm for Officers
Social hour at 8:30pm
Place: The Tasting Room
1100 E. Kane Street
Milwaukee

Witbier, from page 1

Making a Wit

Ingredients: This is a style that can work well with customary brewing equipment and processes, though the materials require some special handling in many systems.

Unmalted materials. Naturally, the first consideration is the use of raw wheat, which is likely to prove troublesome in a British-style single-temperature infusion mash, with poor yield and an awkward (or simply stuck) sparge. Decoction mashing has proven to be a very successful way to approach this material, but it is labor-intensive and beyond the capability of many brewhouses. Some sort of temperature program is very desirable with raw wheat, so if your system isn't capable of it, flaked wheat may be a better choice.

Using wheat malt will produce a rather different effect and a beer that resembles the familiar American wheat (3) more than a Witbier. I've read reports of attempts at the style using malted wheat, in which the product bore the clovelike phenolic notes of a Weizen. My own experience has been somewhat different, tending more toward a greater palate fullness than is desirable in a Wit, along with greater sweetness. The cloviness of a Weizen is a yeast effect.

Almost any variety of wheat seems to work reasonably well. White wheats and winter wheats generally provide the least protein. The raw wheat should be milled to about the same degree of crush that would be used for wheat malt. The kernels, however, are much harder, so you can expect it to be a significant strain on your mill. If your mash involves a protein rest, don't be terribly concerned about the amount of flour produced, unless your mash tun is susceptible to stuck mashes. In any case, it is best to go a little easy on the unmalted ingredients used and on the depth of the grain bed in the lauter tun until you know what your equipment can handle.

Rolled or steel-cut oats can be used with a decoction mash, but it is perhaps best to stick with the rolled oats for other mash types.

Malts. Traditionally, two-row pale malts have been the base malt in a Wit grist, but at least one commercial brewer today is using six-row as well, presumably for its additional diastatic power. The diastatic power of North American domestic two-row pale malt, however, is not that much less than that of its six-row counterpart, and it seems to work well in this role. A more authentic flavor can be gained by using the excellent Belgian Pils malt now available (4), though at the expense of as much as 20 degrees Lintner of diastatic power. I do not recommend using pale ale malts; they are both too low in diastatic power and have too much caramel flavor for the style.

Hops. This is not a hoppy style, but it uses hops to dry the flavor by balancing malt sweetness. The principal addition, then, should be for bittering. If late hopping is done it should be with a hop that accents spicy notes, such as Saaz, rather than one emphasizing the floral, such as Cascade.

Spices. One of the most difficult things to do in the Wit style is to get the spicing right. A Wit with no spices is no Wit at all, but one in which the spices (especially sweet orange) are overdone tastes cloying and heavy, lacking the deft touch that's a primary characteristic of the style. Especially when brewing commercial-sized batches, it is a good idea to start with a smaller scale prototype batch, keeping in mind that spice scaling is decidedly nonlinear. In scaling up it would be wise to err on the side of caution and have a batch that's at least salable, if not as assertive as desired.

It is possible to do some postboil correction for wimpy spicing by soaking the material in an unflavored vodka to make what Randy Mosher refers to as "potions." In his outstanding new book (5), Mosher suggests using a liqueur to provide the citrus flavors, but my own experiments

See *Witbier*, page 4

Yeast, from page2

uncontaminated yeast.

References:

The Large Yeast Experiment; Dave Whitman - <http://www.user.fast.net/~dwhitman/yeast/>
Harvesting and Storing Yeast; David Sohigian - <http://brewpubmag.com/98jul/craftbrewer.html>
Yeast Care - http://www.brewingscience.com/yeast/yeast_care.htm
Yeast Washing for the Home Brewer; Wyeast - <http://www.wyeastlab.com/hbrew/hbyewash.htm>
Sterile Distilled Water Yeast Storage; Dave Whitman - <http://www.brewery.org/brewery/library/SterileDW1096.html>
Keep Your Yeast Healthy Longer; Christopher White - <http://brewpubmag.com/00sep/craftbrewer.htm>
Long Term Storage of Yeast Stocks; J. Howe and C. Helms - http://hdcklab.wustl.edu/lab_manual/yeast/yeast2.html

Witbier, from page3

along those lines have been unrewarding, the liqueur providing too much residual sweetness without the firm bitterness of the dried peel. When adding the bitter orange in the kettle, however, the use of liqueurs would be an excellent way to add sweet orange flavor.

Two entirely different types of orange are used by the traditional producers of this style, one of which has been much harder to get than the other. The sweet orange, available as dried peelings, appears to be little, if any, different from the standard grocery store orange. The bitter, or Curacao orange, is grown in Spain, Italy, and North Africa, and although well known in Europe has been very difficult to find in North America. This situation has begun to change, however; some brewing suppliers now import it from Belgium. If you locate some of it, don't be put off by its appearance; it has a grayish, putty-like color, looking not at all like it came from an orange. Another promising possibility is a domestic bitter orange that a spice dealer mentioned to me. Apparently, it is primarily used for making marmalade, and I have yet to taste a batch of beer made with it. A good starting point for bitter orange is around 0.75 oz in a 5-gal batch (and no more than 4.5 oz/bbl in larger volumes), perhaps a little more for the sweet.

The other traditional spice is coriander, which should be ground freshly before use. A good starting point for this spice is also 0.75 oz in a 5-gal batch. You will develop your own "trademark" Wit flavor by balancing these three spices.

You may want to experiment with some other spices as well, preferably at levels so far in the background that the spice can't be individually identified. Good candidates include cumin, cardamom, anise, and black pepper. All spices should be added at the knockout of the boil or in the last 15 min before knockout to try to retain as many of the aromatics as possible.

Sour-flavor contributors. One other significant flavor should not be overlooked -- tartness, or sourness. The fashion for very sour white beers has passed, and neither customers nor judges are likely to welcome its return, but a little sourness agreeably dries the flavor and seems to boost the contribution of the orange and the hops.

Traditionally, the sourness came from a Lactobacillus infection of some sort. At least one producer today inoculates the beer with a Lactobacillus culture after primary fermentation, then pasteurizes to arrest its action when the desired degree of sourness is reached. Without this pasteurization, it would continue to sour, with unpredictable results. Many commercial brewers are appalled by the idea of deliberately introducing a lactic culture into their brewing environment; such cultures have a way of being easier to introduce than to get rid of.

One technique that's been tried by amateur brewers is to sour the mash by adding some whole malt to it and allowing the microflora on the malt husks to multiply in the warm mash. Although I have heard of some

successes, I have tasted more failures and suspect that you have as good a chance of being hit by lightning as of getting what you want from it.

At least some of the souring effect can be achieved through judicious additions of food-grade 88% lactic acid, though to my palate the result seems less pleasingly complex than the result of a good lactic infection. In a 5-gal pilot batch, 10 mL is a good starting point, adjusting to taste. By the time you reach 25 mL, the beer will definitely be sour.

Process: I said before that when brewing in this style, using a temperature program has its advantages. Especially if using raw grains, more than enough protein will be present in the wort to create the desired haze, so a mash schedule that enhances the degradation of beta glucans can be used without making the finished wort too clear. I have had excellent results using the (decoction) mash schedule outlined by Eric Warner (6). Expect the sparge to be slow.

In recent years, a number of white beer yeasts have appeared on the market. Those that I have tried appear to be the yeast component of the pitching culture and have performed well in that role. Jackson describes the fermentation procedure at De Kluis as a week of primary fermentation at 18-24 degrees C (64-75 degrees F), followed by three to four weeks of warm conditioning at 12-15 degrees C (53-59 degrees F) (7). It is then dosed with glucose and a different yeast and left to condition for 10 days at 25 degrees C (77 degrees F). As with many Belgian styles, carbonation should be decidedly on the "spritzy" side.

Adventure Awaits

The Wit style is very brewable and very drinkable, especially in the hot season of the year. Though there are plenty of problems associated with brewing this style well, it can definitely be done by the brewer willing to explore a little.

Source: Real Beer Page – www.realbeer.com



Picnic Update

- ❖ Those of you that volunteered to make beer for this year's picnic need to let Bob Mountcastle know at the August meeting if it will be done in time. We need an accurate count to make sure that we have enough beer for the event.
- ❖ We still need raffle prizes for the picnic. If you have items that were donated or if you have something that you'd like to donate, please contact Rich Binkowski at the August meeting.
- ❖ If you're attending the picnic, please bring along a dish (potato salad, etc), or a desert of some sort to add to the dinner table.
- ❖ The reservation form deadline is August 31st. Either mail in your form to the club P.O. Box, or simply bring it along with the money to the August meeting. We need the reservations in by this date so we can order enough meat. Last year we did run short because of the large number of walk-ups that we had. In order to make the enjoyable for everyone, get you reservation in by the 31st.

Where Are The Corny Kegs?

We just can't seem to get a date that works for all parties in August for picking up the kegs, so pending any further problems, we're planning on a date in September. Hopefully they'll be available at the September meeting. If you'd like to get on the list, see Phil Rozanski at the August meeting.

6TH ANNUAL



CLUB PICNIC



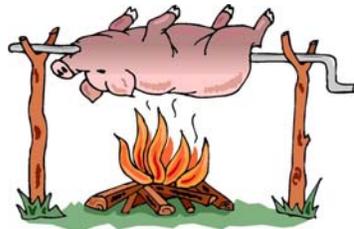
September 14th, 2002
1:00pm to ???



Root River Parkway – Site 1

East of the intersection of 92nd & College Ave.
Greendale, WI
(see map)

**FOOD
FUN**



BEER!



Reservation Form

Bring to August meeting or send with payment to:

Name _____

Treasurer
Beer Barons of Milwaukee
P.O. Box 270012
Milwaukee, WI 53227

Address _____

Number of Adults
\$10 for 1 Ticket **or** \$15 for 2 \$ _____

City _____ State _____ Zip _____

Number of Children under 18 (No Charge)

Notice: Advance payment must be submitted by August 31, 2002

This Month's Meeting

The Wednesday, August 28th meeting will be held at Clifford's, 10448 W. Forest Home Ave., Hales Corners, Wisconsin. The meeting will start promptly at 7:30pm. Admission to this meeting is \$5.00.

Weiss and Wit Biers are the featured styles this month. We are plan on featuring the following: Hacker-Pschorr Weiss, Erdinger Krystal Klar, Capitol Kloster Weizen, Blue Moon Belgian White, and Hoegaarden Wit.

Please Support Clifford's Supper Club With Your Patronage



**Clifford's allows us to
use their banquet room
at no charge to the
Milwaukee Beer Barons.**

**Our support will help
show our appreciation.**

Famous For Their Friday Fish Fry
Cocktail Hours: 3 to 6 p.m.

Membership Information

The Beer Barons of Milwaukee is open to anyone 21 years of age or older. Annual dues, which cover the cost of producing this newsletter, are \$15.00. In addition, we normally charge a \$5.00 fee for each meeting attended to cover the cost of the featured beer style we taste that evening. However, additional fees may be required to cover the cost of special events such as the annual party in December. Annual dues may be paid at the monthly meeting, or a check may be sent to:

**Treasurer, Beer Barons of Milwaukee
P.O. Box 270012
Milwaukee, WI 53227**

This newsletter will be sent free of charge to prospective members for 3 months. The date that appears on the address label of your newsletter is the date that your membership expires. We do not send out reminders, so be sure to check the date on the label to see when it is time to renew.

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