



# BARON MIND

The Monthly Publication of the Beer Barons of Milwaukee

July 2001

visit us on the worldwide web at <http://beerbarons.tripod.com/beerbaronsofmilwaukee/>

## ◆ FROM THE PRESIDENTS DESK ◆

Fellow Beer Enthusiasts,

I would like to thank everyone who makes the effort to attend summer meetings. Even though we are a little less than winter months, we are still doing quite well. There was another double booking last month at Clifford's. Remember we do not pay for that room, so when they send us upstairs, we should still remain happy. There was plenty of room anyhow. Just a little warmer.

Shirt orders are finally being placed. Each of you who ordered will be getting a call to confirm. I am doing this because the lag time has been so long, that some of you may have changed your minds. We are ordering

extra t-shirts too. So you may get another opportunity to buy some over the next year.

State Fair Contest is now past. I have not seen the results, but I bet if you attend the July meeting, you will know more than those who do not. :-) The number of entries were lower than in the past. We will try to figure out why, and fix that for next year.

We have some name tags at the next meeting. We have talked about this a few times, and will try it out this month. Let me know what you think. There will be stick on ones, and a marker. Just fill out your name (or whatever) and

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### Upcoming Events

#### Meetings

**July 25th:** Capital Brewing's Kirby Nelson

**August 22nd:** Wiess

**September 26th:** Octoberfest

**October 24th:** Belgian Style Group

**November 28th:** TBA

**December 19th:** Christmas Party

#### Tastings & Competitions, etc.

#### July 24, 2001 - West Allis, Wisconsin; Great Dane Beer Tasting

- Meet VP & Brewmaster Rob LeBreglio and Salesmanager Dave Boyer

**Location:** Benno's Genuine Bar & Grill  
7413 W. Greenfield,

**Hours:** 7-10 PM

**Contact:** (414) 453-9094

#### July 27, 2001 - Milwaukee, Wisconsin; Grand Opening ACME Art Gallewry

**Location:** Acme Building, 804 E. Wright St.

- Harbor City & Lakefront Tasting. Meet Matt Thompson-Harbor City & Jim Klisch-Lakefront

**Hours:** 5 PM - Late

**Contact:** (414)899-5906 or [info@TheACMEBuilding.com](mailto:info@TheACMEBuilding.com)

#### August 11, 2001 - Madison, Wisconsin; 15th Annual Great Taste of the Midwest

**Location:** Olin-Turville Park

Enjoy the second longest-running craft beer festival in North America. 90-100 breweries/brewpubs are expected to be serving about 400+ different

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### July Meeting

The Wednesday, July 25th meeting will be held at Clifford's Supper Club, 10448 W. Forest Home Ave, Hales Corners, at 7:30pm.

The usual \$5.00 fee will be assessed.

This month Kirby Nelson from Capital Brewing will be speaking on Lagers. He'll be bringing along a 1/4 barrel of his Summer Dopple. The club will also be serving Capital Brewing's Weiss, Dopple, 1900, and Brown Ale.

### 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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throw them away after the meeting.

Kirby Nelson will talking about his products. I think we will be tasting lagers, but I may be wrong. I forgot to take good notes at that part of the meeting. :( We will also have an informal talk on the awards. If you won, you have to bring a sample of what you entered. :( (Not really, but we won't turn it down.)

The picnic is coming up. I will be asking for a committee at the next meeting. Please volunteer to help out. Roasting a pig is SO much more work than chickens. After all, you have to stare at the pig while it turns, while the chickens have to be put on the grill, taken off, put on, taken off, put on, taken off ... Did I mention we will be having roasted pig this year? We finally have a location, it is at the Root River Parkway. Directions will be given in a couple of months. Please note that the date is moved to Sept 15th. This was due to not finding a location on the 8th. Although the final decision is not in stone, we are thinking about charging \$10 for a single ticket, and \$15 for 2. Kids will still be free. We are looking for door prizes. If you know anyone who has stuff to give away, let us know.

The Green Bay Rackers are sponsoring a Wisconsin Home Brewers meeting. It will take place October 6th at Gallaghers in DePere. The main topics for discussion will be organizing the state's clubs and planning an annual meeting. Possibly rotating the location each year to a different city. The goal is to have a State Homebrewer's Convention like was here in Milwaukee a few years ago. Everyone is welcome to attend and bring suggestions. I have been to Gallaghers, and the beer is very good.

Hope you are all having a great summer, and making great beer. I keep threatening to make beer, and then the weekend comes and goes, but still no beer! I MUST bottle my mead this weekend. The good part of that is that I get to taste it. It is about 1.5 years old now, so it should be really ready for tasting. Hopefully I don't taste all of it in one sitting. :-)

A Good Beer to All, and to All a Good Beer!  
*Jeff Kane*



**August Meeting**

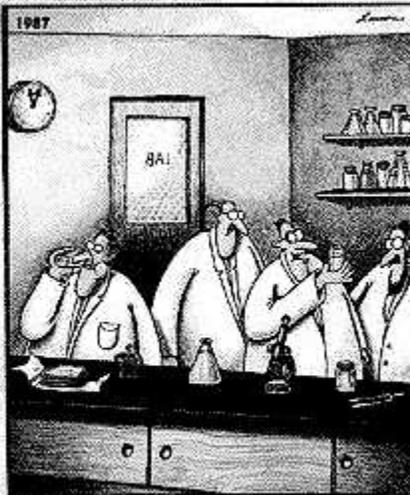
The month of August 2001 has five Wednesdays in it. I hope everybody knows that the meetings are held on the 4<sup>th</sup> Wednesday of each month and not on the last Wednesday of each month. This means that the August meeting will be on the 22<sup>nd</sup>. Mark your calendars accordingly.

**August Officer's Meeting / Social Hour**

Date: Thursday, August 9<sup>th</sup>

Time: 7:00 for officers, social hour at 8:00

Place: Milwaukee Ale House  
233 N. Water St.  
Milwaukee, WI



"What the? ... This is lambic! Where's my culture of amoebic dysentery?"

**Style Groups**

There's nothing new to report on Larry Tischer's Belgian Ale style group or Jeff Kane's Porter group. However, Mike Schwartz had his Bock/Marzen style group met a few weeks ago. The following is a report from Mike:

Vlada Ljubic was the only one who showed up but he was really interested and learned a lot. Had a great brewing day, things went smoothly and I think we'll have two great batches of Oktoberfest. We brewed two batches using essentially the same recipe for an extract and an all grain batch. It'll be interesting to compare the two. I have everything to brew an all grain Dapplebock as well but we didn't get to it due to the lack of people. I guess it's going to be tough to get people to show up for something like this on a beautiful summer day.

If you're interested in any of the style groups, you can contact the group heads at the next meeting or contact: Larry @ 414-327-7014, Jeff @ 262-238-9073 and Mike @ 414-357-8702.

**Club Shirts**

If you're still interested in getting club polo or t-shirts, fill in the order form below and bring it to the next club meeting or send it along with payment to:

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

**Shirt Order Form** (Enter number of each & size: S, M, L, XL, XXL, XXXL)

Polo Shirt: \$32.00 Color: Ash \_\_\_ Teal \_\_\_ Burgundy \_\_\_

T-Shirt (Large logo on front): \$11.00 Color: Ash \_\_\_ White \_\_\_

T-Shirt (Small logo on breast w/ large logo on back): \$14.00

Color: Ash \_\_\_ White \_\_\_

Total Order: \$ \_\_\_\_\_

Name: \_\_\_\_\_

Phone No.: ( ) \_\_\_\_\_

**Club Picnic**

The 5<sup>th</sup> annual club picnic will be held on September 15<sup>th</sup> at Root River Parkway, Site 1, in Greendale. Site 1 is located east of the intersection of 92<sup>nd</sup> & College Ave on Root River Parkway. Hopefully I'll have a map in the August issue of Baron Mind.

Many of the details still need to be worked out and will be a point of discussion at the July and August meetings. We will be asking members to form a picnic committee to finalize the details. Last year's Holiday Party committee did a great job and we're sure that the club members can do an equally fine job on the Summer Picnic.

Tickets for the picnic will be available at the August meeting or can be purchased at the picnic. Further details will be published in the August newsletter.

BARON MIND is published by the Beer Barons of Milwaukee, a non-profit organization. Club officers are:

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The BARON MIND is published monthly for the Beer Barons of Milwaukee thanks to the efforts of Phil Rozanski, Jeff Kane, Rich Grzelak, and other club members who contribute articles. If you have an article or information that you would like to contribute to the newsletter, you can e-mail it to the newsletter editor or mail it to the clubs mailing address at: Beer Barons of Milwaukee, P.O. Box 270012, Milwaukee, WI 53227.

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in the Beer Capital of the Midwest in a beautiful lakeside setting with a view of the state capitol, with great food for sale, space to spread out on the grass in sun or shade to enjoy the beers and music, and a celebrity brewer dunk tank for charity. Tickets must be purchased in advance and are NOT sold at the gate. Tickets may be purchased at Wonder's Pub, Star Liquor, and The Cork and Bottle on the east side of Madison. On the west side, get them at The Wine and Hop Shop, Steve's Liquor (both locations), J.T. Whitney's Pub and Brewery, and Capital Brewery. If you aren't in Madison, mail orders can be sent to:

Great Taste!

Madison Homebrewers and Tasters Guild (MHTG)  
Post Office Box 1365

Madison, Wisconsin 53701-1365

Make checks payable to MHTG and you must include a self-addressed stamped envelope (SASE). No phone orders, no credit cards. Please allow 3-5 weeks for ticket processing.

Again, ADVANCE TICKET SALES ONLY. THERE ARE NO ONSITE TICKET SALES.

**Hours:** 1-6 pm

**Admission:** \$20 advance sales only

**Organization:** Madison Homebrewers and Tasters Guild

**Contact Name:** Mark Garthwaite

**Contact Email:** [greattaste@hbd.org](mailto:greattaste@hbd.org)

## August 24 - 26, 2001 - Chicago, Illinois; Goose Island Fest

**Location:** 1800 N. Kingsbury near Goose Island Brewery (1800 N. Clybourn, Chicago)

The event benefits the RANCH Triangle Conservation Association, which helps to support many local charities, parks, schools, and other worthy causes throughout this growing neighborhood. Food, bands, and 12 Goose Island beers on tap. Near the intersection of Sheffield and Clybourn, the venue for this event is flanked by the prestigious Lincoln Park/DePaul/Bucktown neighborhoods. This popular weekend festival features Goose Island Brewery's craft beers and sodas, several popular local eateries, and the best live music in the city! The Goose fest has a proven reputation for providing top-notch entertainment, with Los Lobos, Cracker, Big Head Todd & The Monsters, Soul Asylum, Maceo Parker, Guster, Bob Mould, Mighty Blue Kings, and The Iguanas appearing as headliners over the last four years. The event also features the return of the *Windy City Chili Cookoff*, with 50+ contestants vying for the title of "Chicago's Best Chili" and a shot at the National Championships. Last year, the event drew over 20,000 people on a mission to enjoy their "last taste of summer."

**Hours:** Fri. 5-10pm, Sat.-Sun. noon-10pm

**Admission:** \$10; \$5 before 3pm Sat.-Sun.

**For More Information:** <http://www.hitevents.com/2.3.html>

## August 31 - September 2, 2001 - Glendale, Wisconsin;

### Sprecherfest

**Location:** Old Heidelberg Park, 700 N. Lexington

**Contact:** (414) 964-2739

## Homebrew Contest Winners

The results for the 2001 Wisconsin State Fair Homebrew Competition are in. First off though we'd like to thank Jerry Uthemann and Larry Tischer for all their hard work. Thanks also go out to all club members that helped judge. It's always a great time.

This year's Best of Show honors go to Kenneth Lamping of West Allis for his European Lager. Second Best of Show goes to club member Carl Regenfelder of Hales Corners for his Kolsch. Many club members won blue ribbons for their entries. For a complete list visit the club website or visit the Homebrew booth at the State Fair.



## In The News

### Pioneer To The Rescue

Todd Krueger, Brewmaster, from Pioneer Brewing in Black River Falls reports that they have been contracted to supply two products from area breweries.

It seems Milwaukee Ale House can't keep up with the demand for Louie's Demise so it's now

rolling off the production line at Pioneer and should be selling all over Milwaukee right now. What's next...bottled Louie's?

Pioneer has also been brewing and bottling JT Whitney's GABF medal winning Badger Red. Look for it on your store shelves in mid to late July.

### Dana Wolle Joins Gray Brewing

Dana has joined Gray Brewing as brewmaster. Dana had been an assistant brewer at Wisconsin Brewing for 3 years, and since 1987, was brewer and microbiologist at Delafield Brewhaus, where he worked with John Harrison to develop Gold Medal winners in both the 2000 World Beer Cup and the 2000 Great American Beer Festival.

### Over 2000 Homebrewers Unite For Big Brew 2001

In honor of the 13th anniversary of National Homebrew Day 1,864 homebrewers recently took part in the American Homebrewers Association's fourth annual Big Brew celebration on May 5th. Representatives from 40 American states and 6 foreign countries—including Japan, Australia, South Africa, and Poland—gathered at 182 brewing sites for a day of simultaneous brewing. This year's Big Brew participants brewed 239 batches for a total of 5,185 gallons of beer brewed this year.

### July Is American Beer Month

The second annual American Beer Month has begun and continues through July. When we talk about the appreciation of beer we usually start by thinking about taste, but there are many factors just as important – the food you enjoy it with, the setting, the pleasure of looking at attractive labels, etc.

It's not hard to find an excuse to drink a beer or to make it American, and American Beer Month certainly must be about drinking beer. With that in mind, organizers of American Beer Month have announced plans for the inaugural Great American Beer Toast, when "anyone and everyone from Maine to Hawaii can raise a glass of any great American beer to toast the heritage and future of American brewing." The simultaneous toast is set for midnight EST July 29, 11 p.m. Central, 10 p.m. Mountain, 9 p.m. Pacific, 8 p.m. Alaska and 7 p.m. Hawaiian-Aleutian.

### Perfect Pint: New Pub In Town

Mike O'Conner's Perfect Pint (257-1898) just opened up at 8423 W. Greenfield in West Allis. Mike is running nine taps (soon up to 14 and is currently pouring Guinness, Newcastle, Hoffbrau Munchener Kindl, Woodchuck, Harp, Bass, Boddingtons, Killian's and Rolling Rock. Specials include Tuesday \$2.50 imports and Monday \$1.50 domestic Bottles. Coming soon: suds and soups. Raise a pint to Mike!



### State Fair Homebrew Booth

I'm sure you'll agree that homebrewing is a great hobby. The thing we love most about the hobby is the brewing itself. Following that, the next thing we love is talking about brewing. If you're anything like me you'll talk about brewing to anybody who'll listen. Well, there's a perfect place

for you to brag about your favorite hobby. The Homebrewer's Booth at the Wisconsin State Fair. I've worked at the booth for the past 4 years and take it from me it's great fun.

There will be a sign-up sheet at the next meeting or call the Purple Foot at (414) 327-2130.

Even if you decide not to sign up, visit the booth located in the Wisconsin Products Pavilion.

## Lager: Pale Pilsner to Malty Munich

*This beer is cool, clean, and smooth.*

Most homebrewers begin by brewing ale, and their entire exposure to lager is limited mostly to American light lagers. Even many imports are often brewed to offend as few palates as possible. This sometimes leads people to think that by brewing a lager they're brewing a Budweiser.

The spectrum of delightful nectars belonging to the lager family is as varied and rich as that of the ale world, and the number of options for beermaking equally vast (and sometimes puzzling). If you prefer to stick to traditional lager styles, you're still free to brew beverages ranging from pale pilsners to malty Munichs and to choose from the complete range of hop bitterness and aroma. The small amount of fermentation by-products produced by lager yeast, combined with extended aging periods at very cold temperatures, make for a delightful beverage unprecedented in clarity and smooth, clean taste. These characteristics may account for the tremendous popularity of lager the world over.

In the 1800s lager brewing gained popularity in Europe when economical refrigeration made year-round production possible. Many emigrants to the United States brought their love for lager making with them, thankfully. During the 1850s through the 1870s, lagers took off in the States. The growth of lager breweries for the next two decades must have resembled what we see today with the microbrewery explosion, with more than 4,000 facilities in place by 1870. The following decade saw the introduction of commercial refrigeration equipment that nearly eliminated restrictions on both brewing season and location.

### What Makes a Lager?

With beer now a generic term for all ales, lagers, and "hybrid" malt beverages, it's easy to get confused about the differences between ale and lager. The single biggest distinction between these two great families of malt beverages is the yeast used to make them. The key to any lager is bottom-fermenting yeast. Ales are fermented with top-fermenting yeast. But if you've made beers with both lager and ale yeasts, then you've noticed something pretty puzzling: When either yeast is used and wort is fermenting, the bubbles of carbon dioxide come off the bottom of the carboy.

One reason for this is that there are many millions of yeast cells in a five-gallon fermenter, and the yeast is actually distributed throughout the fermenter - top, middle, and bottom. Many ale yeast cells rise close to the surface of the wort, but with lager yeast, a far greater percentage settle toward the bottom. During active, primary-stage brewing, these preferences in yeast migration can't really be seen.

Bottom-acting lager yeasts prefer much cooler working temperatures than ale yeasts. Because lager yeast works best in the 50° to 55° F range, the chemistry of fermentation is quite different than with ale yeasts, which work best at 60° to 70° F. The result: Beer that's lager, not ale.

There are many recipes and beermaking kits that specify lager yeast. Brewing these recipes by fermenting for three days at 70° F will not produce a lager. It's the difference between slipping quail in a stone oven to roast and popping chicken in the microwave. One says candlelit dinner for two, the other, hot wings. It isn't an issue of one being "better" than the other, but there's no question they are different.

### The Lagering Process

For the homebrewer there are three goals of the lagering process:

1. To allow yeast, haze-forming proteins, and any other suspended materials to drop out of the beer.
2. To improve and mellow the flavor of the beer.
3. To carbonate the beer.

After primary fermentation passes through high krausen (the period of peak activity) and begins to subside, some brewers carefully remove as much of the trub-laden surface foam as possible. This is a good time to rack the beer to Cornelius kegs for secondary fermentation. Cornelius kegs are especially handy because they can be easily sealed and set up with an adjustable pressure relief valve. The tank is purged with carbon dioxide, the fermenter racked in, and the keg lid sealed.

The adjustable relief valve is set to maintain the tank pressure at about 10 pounds per square inch and attached to the "in" fitting on the top of the keg. Because this fermentation cycle is conducted under pressure, the beer also becomes saturated with CO<sub>2</sub> at this time, a process called natural conditioning. After a reasonable period (about seven days) of secondary fermentation at normal temperatures (50° to 55° F), keg temperature is slowly reduced to 30° to 32° F. The lagering period, which can last from one to three weeks, provides ample opportunity for the yeast and haze particles to settle and for the beer flavor to further mellow.

An alternative carbonation method is to complete secondary fermentation using an airlock and carboy, then rack the beer to a Cornelius keg. For a five-gallon batch one to two quarts of actively fermenting "new" beer is then added, the keg purged with CO<sub>2</sub> and sealed. In this procedure, known as krausening, the addition of actively

fermenting beer has two purposes. One is to provide a fresh source of fermentables. The other is to add very active yeast to the beer to reduce the diacetyl, a buttery flavor produced during primary fermentation.

During any normal fermentation yeast make both desired and unwanted by-products. Beer style largely determines whether the by-products are expected, desired, or considered faults in the beer. Because it has very little if any positive taste contribution to beer, diacetyl is a by-product that most brewing processes are designed to eliminate.

Luckily, the same yeast that produces diacetyl also has the ability to reduce it. During a typical ferment cycle diacetyl levels rise as the yeast become more active, then lower due to yeast enzyme action. Controlling fermentation temperature keeps initial diacetyl production low enough so that, during secondary fermentation, most of it can be eliminated. This is one of the attractions of lager brewing, although ale brewers have no problem with diacetyl they follow correct fermentation procedures.

There are about as many ways to help the yeast reduce diacetyl levels as there are brewers. All techniques have two main themes in common:

1. Ferment at low, lager temperatures to minimize diacetyl levels to begin with.
2. Ensure that after fermentation is complete there is enough active yeast in the beer to reduce most of the diacetyl initially produced.

Besides diacetyl, yeast naturally produce a number of sulphur compounds you've probably already noticed when fermenting very active ales in the house. Many a new lager brewer has experienced the foul aroma of a high sulphur producing yeast and worried about contaminated beer. During the lagering process, the cold temperature of the beer combined with increased acidity cause tannins, proteins, and sulphur compounds to come out of solution and drop out of the beer. This action is a big part of the mellowing that occurs during the cold storage process.

With 10 pounds per square inch of pressure maintained on your Cornelius keg lagering tank, you can use a standard picnic tap to sample your product about every two to three weeks. After four weeks at 31° F, the beer should be quite clear. A straw-colored pilsner won't be brilliantly clear, but certainly by six weeks there should be only very slight haziness.

### Lagring Equipment

By ale standards lagring requires a lot of time. Unfortunately, most of that time has to be spent at 45° F or below and so requires some form of refrigeration. The fermentation process can last a few weeks and is best done near the optimum yeast temperature, usually 45° to 50° F. That means your fridge needs to be large enough to hold your fermenter, at least. If you want to have draft beer on hand continuously, your cooler will also have to hold one or two dispense kegs.

After secondary fermentation is complete and the beer is racked to your lagring vessel, you'll need to store the beer at 30° to 35° F for up to three months. For most amateur brewers this means buying a new or used freezer chest.

A nine- to 10-cubic-foot chest will hold four five-gallon Cornelius kegs. If you're shopping for a used unit, it's very helpful to take a few Corny kegs with you to make sure they'll fit into the fridge you buy. Two kegs, side by side, require a minimum clearance of 17 inches.

If you opt for a freezer chest, you'll also need to add a thermostat to the unit to keep the temperature high enough. Most freezers can't be set to temperatures much above 0° F, and you'll want both 45° to 50° F and 30° F as options. Many brewer's supply and mail-order shops carry easily installed thermostats for about \$40 to \$70. Look for one with a "deadband" of at least 3° to 4° F. That means the thermostat won't turn on the refrigerator until the temperature is about 2° F higher than the setpoint and won't shut it off until it's about 2° F lower. A narrower deadband means the thermostat cycles the fridge more often, trying to maintain a more precise temperature. This causes undue wear on the system. The temperature of four or five gallons of beer will stay very uniform even with a 6° F or more deadband.

### Fermentation

Lager yeast isn't as energetic as ale yeast. There just never seems to be the huge burst of action that marks onset of high krausen, the large, foamy crest that marks a vigorous ale fermentation. Any distinction between the primary and secondary phases of fermentation is far more subtle for lagers. Note: Don't be tempted to get things going by warming up either your starter or your fermenter. The idea is to let the lager yeast do its work at cool temperatures, where yeast metabolism by-products are minimized.

After several days of steady fermentation, you will notice a reduction in krausen production, marking the end of the initial phase. The beer should be carefully racked into a secondary fermenter and the thermostat on the refrigerator clicked down about 1° to 2° F per day until stabilized at 30° to 35° F. Total time in the fermenter at this point will be between seven and 15 days. Now it's time to let the yeast do its work for about

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eight to 12 weeks. Be patient!

### Partial-Mash Brewing

If you're an extract brewer, then all you need is a recipe and the specified ingredients. Your usual process will work just fine, except after the boil you'll want to chill to as cool a temperature as possible.

### Kurzbrau

5 gallons

#### Ingredients:

- 7 lbs. light malt extract
- 1 lb. Munich malt
- 4 oz. dark crystal malt
- 2 oz. chocolate malt
- 2 oz. Hallertauer hops for 60 min.
- 1 oz. Hallertauer hops for 20 min.
- 1 oz. Hallertauer hops at end of boil
- Wyeast Bavarian Lager

#### Step by Step:

Add 3.5 gals. water to a 6-gal. pot (your brew kettle) and start the burner. Draw about 1.5 qts. of hottest possible tap water into a 2-qt. saucepan, and add the grains. Add just enough water to allow enough stirring to maintain temperature near 145° to 155° F.

As the water in the kettle begins to boil, slowly add malt extract, watching out for sticking and boilover. After all the malt is added, continue to stir for 10 to 15 minutes to ensure no extract gets burned at the bottom of the kettle. When the kettle seems to be under control, carefully strain the mini-mash into the kettle using a large (six-inch) kitchen strainer. Try not to get any grain in the kettle, but don't worry about a few grains that spill in. Discard the drained mash.

Add 2 oz. hops to the kettle in three or four additions, putting each additional amount in only after the kettle seems to be under control. Begin the kettle timer when a full rolling boil begins. Boil 40 minutes. Add 1 oz. hops and boil an additional 20 minutes, adding the last 1 oz. of hops just prior to the end of the boil, or even after the burner is shut off. Chill the wort as you normally do, and rack to the fermenter with chilled water to yield 5 gals. in the fermenter.

Cover the mouth of the glass carboy with a plastic sandwich bag and rubber band, or if you're using a plastic bucket as a fermenter, lightly place the cover on top (don't seal it!). Put the fermenter in your freezer chest or refrigerator and allow the temperature to stabilize to your starter temperature (which should be around 45° F). Pitch the starter.

Monitor fermentation activity, and notice when the krausen forms, how quickly it forms, and when it appears to reach peak activity. With daily checks you'll notice when there is a slight reduction in surface foam.

If you use a carboy, rack the beer to a clean Cornelius keg if you have one, taking care to leave all trub, both floating and settled, behind. Attach the pressure relief valve to the keg, set for 5 to 10 psi if it's adjustable. Rack to a clean fermenter and place an airlock if you don't have a Cornelius keg. Avoid aerating the beer, which can lead to diacetyl production and staling.

Maintain the secondary at the same temperature used for the primary ferment for about two weeks. You may want to pull occasional samples for gravity readings if you ferment in a keg, or just CO<sub>2</sub> production if you ferment in a carboy. In one to three weeks there should be virtually no airlock activity at all. To remove diacetyl raise the fermenter temperature to about 55° F over a 24-hour period, and maintain at that temperature for 24 hours. Then lower the temperature two to five degrees per day to 30° to 32° F. Maintain at this temperature undisturbed for four to eight weeks for "normal" gravity beers or up to 12 weeks for bigger beers such as doppelbocks.

### All-Grain Brewing

Decoction is the traditional German mash style for lagers, but temperature program (sometimes called upward step) mashing is probably most common among American microbrewers.

This recipe calls for a double decoction, but it can also be used with a temperature program or single infusion mash.

### Pt.Fermin Pils

5 gallons

#### Ingredients:

- 5 lbs. German pils malt
- 8 lbs. Belgian pils malt
- 1.5 oz. Northern Brewer hops (7.3% alpha acid), for 90 min.
- 1 oz. Saaz hops (3.5% alpha acid) for 60 min.
- 0.5 oz. Saaz hops (3.5% alpha acid) for 30 min.
- 0.5 oz. Saaz hops (3.5% alpha acid) at end of boil
- Wyeast Munich Lager

#### Step by Step:

Add about 6 qts. of 145° F water to the grain, thoroughly wetting the mash. After mixing well, add another 3 or more quarts of 140° to 160° F water as needed to obtain a 95° to 105° F mash. Rest for 20 minutes, during which bring about 2 gals. of water to 150° to 155° F. Add half the 150° F water while gently stirring the mash. Measure the temperature while adding the remainder of the water to reach 122° F. Rest for 20 to 30 minutes.

After this protein rest is complete, use a large (six-inch) kitchen strainer to remove about one-third of the thick mash to a separate pot. Raise the temperature of this decoction over 15 minutes to 148° to 155° F and rest for 20 minutes.

Raise the decoction to boiling while stirring. Maintain a gentle boil for about 20 minutes, stirring to prevent scorching.

After the decoction boil is complete, return the decoction to the main mash in two or three steps, stirring gently and measuring mash temperature. Total mash temperature should be maintained near 150° F. This can be adjusted with a boiling water infusion, another small decoction, or external heat. Rest for 20 minutes.

Pull about one-half of the thin mash and raise it to boiling over 20 minutes. Boil for 5 minutes and return the decoction to the main mash. Stir the main mash gently and maintain at 160° to 168° F for about 15 minutes, then begin to sparge.

Bring the wort to a boil and add Northern Brewer hops. Boil for 30 minutes. Add 1 oz. Saaz hops and boil an additional 30 minutes. Add 0.5 oz. Saaz hops and boil 30 minutes. Add last 0.5 oz. hops at end of boil.

Cool and pitch as in the Kurzbrau recipe.

#### Tips and Alternatives

Some brewers may not have access to a freezer chest that can be devoted to the most noble of duties, and regular refrigerators are very difficult to adapt to fermenting, lagering, and dispensing. There are several alternatives that might work for you.

If you live in cold-weather country, your basement may stay cool year-round. If fermentation can be kept in the low 50s, then lagering can be done in Cornelius kegs, which are more easily cooled than fermenters. This would provide a compromise that could produce good beer.

Another alternative is to simply scale down for lager brewing. A number of two- to three-gallon food containers are available that would more easily fit into a standard refrigerator.

At one time you may not have believed good beer could be brewed at home. Now that you know better, you should be ready to accept the challenge of making your own cool, satisfying lager. If you can manage the equipment needed for proper fermentation and cold conditioning, then you're ready. Just apply what you've already learned about brewing, and take the time to let the beer lager. Then sit back and enjoy the reward you deserve. 🍺

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## Briefly Defining A Few Beer Terms

Here are a few beer terms that can describe in a paragraph or less.

**Belgian (or Brussels) lace:** The latticework of foam from the head of the beer that is left on the glass after a drink of beer has been taken. Reflects both the care taken in brewing the beer and the cleanliness of the glass from which it is being served.

**Bomber:** A 22-ounce bottle, particularly popular with microbrewers who cannot afford full-fledged bottling lines.

**G-Mix:** A mixture of CO<sub>2</sub> and Nitrogen (usually 70/30) used to dispense draft beer. We'll discuss the pluses and minuses of using Nitrogen another time, but many pubs have moved from employing straight CO<sub>2</sub> or just plain O<sub>2</sub> to push beer -- often at the urging of Guinness draft technicians.

See *Terms*, page 6



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#### Terms from page 5

**Growler:** Many know brewpubs use these 64-ounce glass containers to sell beer to go, but wonder about the history of growlers. The term became slang for a pail of beer at the turn of the last century, with children and women often being sent to a bar to bring home beer. "Rushing the growler" referred to repeated trips back to the saloon.

**Krausening:** A traditional method of naturally carbonating beer. Freshly fermenting beer at a state of high krausen is added to a beer near the end of fermentation to rekindle fermentation. The brewer then closes the fermenter to allow the natural buildup of carbon dioxide. The method -- which as you can guess from the name, dates back to early German brewing -- is seldom employed anymore.

**Original gravity:** Wort (which will become beer with the aid of yeast) contains fermentable and unfermentable sugars and some other solids

dissolved in it. It is heavier than water, which has a specific gravity of 1.000. OG (as you'll hear it called) measures the potential for alcohol in a beer. However, the final gravity, alcohol content and body will be influenced by the ratio of fermentables to non-fermentables and the yeast used. An "average strength" beer with an OG of 1.045 will usually have an alcohol content around 4.5% (by volume).

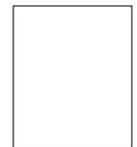
**Reinheitsgebot:** This 1516 German law requires that beer be made only from water, malted grain and hops. It was struck down by the European Union. Curiously, in the early '90s some brewpubs and microbreweries marketed the fact they adhered to the Reinheitsgebot in order to set themselves apart from large American breweries that use adjuncts such as corn and rice. However, most also made British-style ales, and the Brits have never been shy about using adjuncts (though seldom corn or rice). Nor are the Belgians. 🍺

Source: *Real Beer Page* - [www.realbeer.com](http://www.realbeer.com)

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